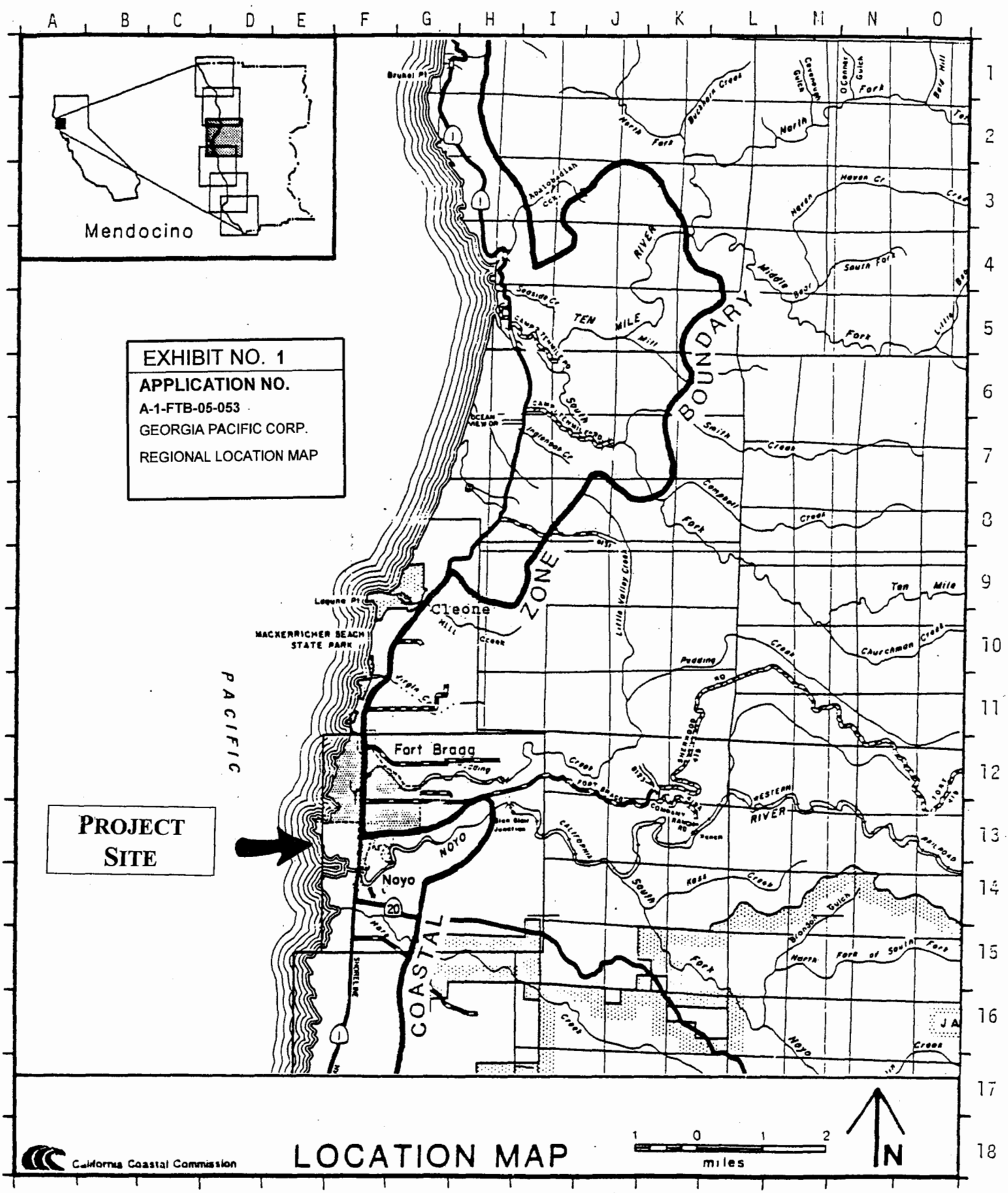
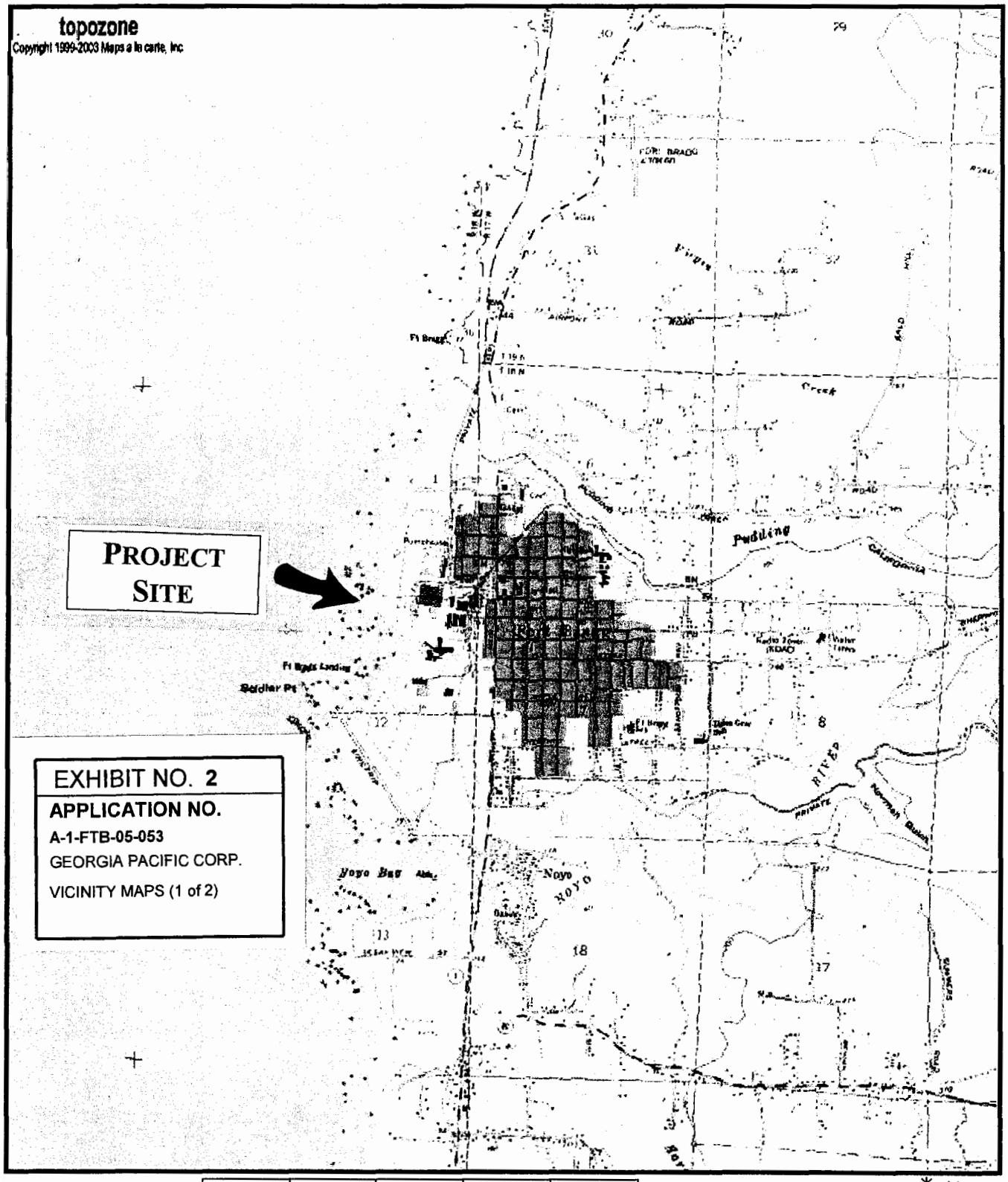


County of Mendocino

Sheet 3 of 6

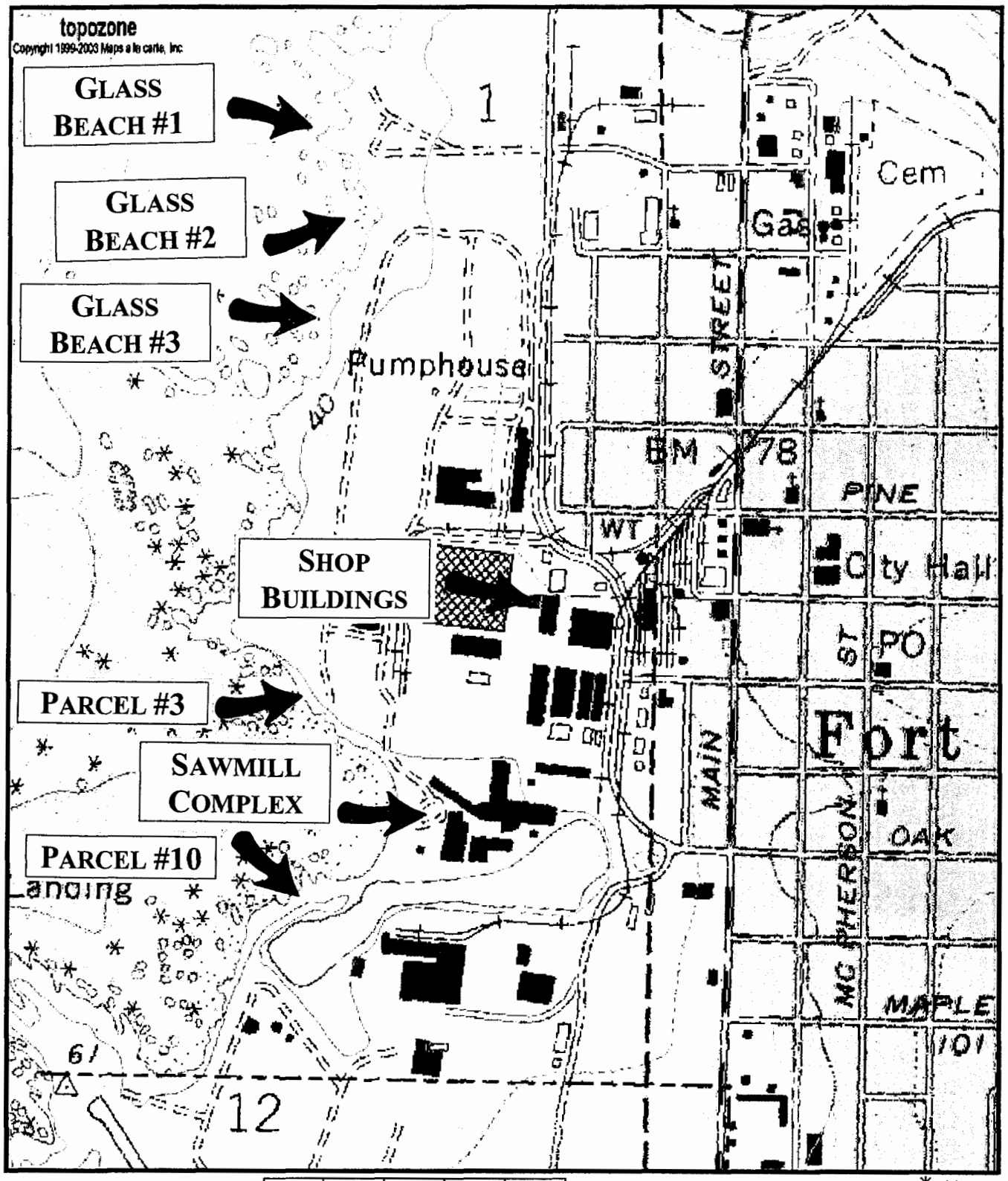


0 0.6 1.2 1.8 2.4 3 km

0 0.4 0.8 1.2 1.6 2 mi

Map center is UTM 10 430707E 4366550N (WGS84/NAD83)
FORT BRAGG quadrangle
Projection is UTM Zone 10 NAD83 Datum

M=15.796
G=-0.512



0 0.1 0.2 0.3 0.4 0.5 km

0 0.09 0.18 0.27 0.36 0.45 mi

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FORT BRAGG quadrangle
Projection is UTM Zone 10 NAD83 Datum

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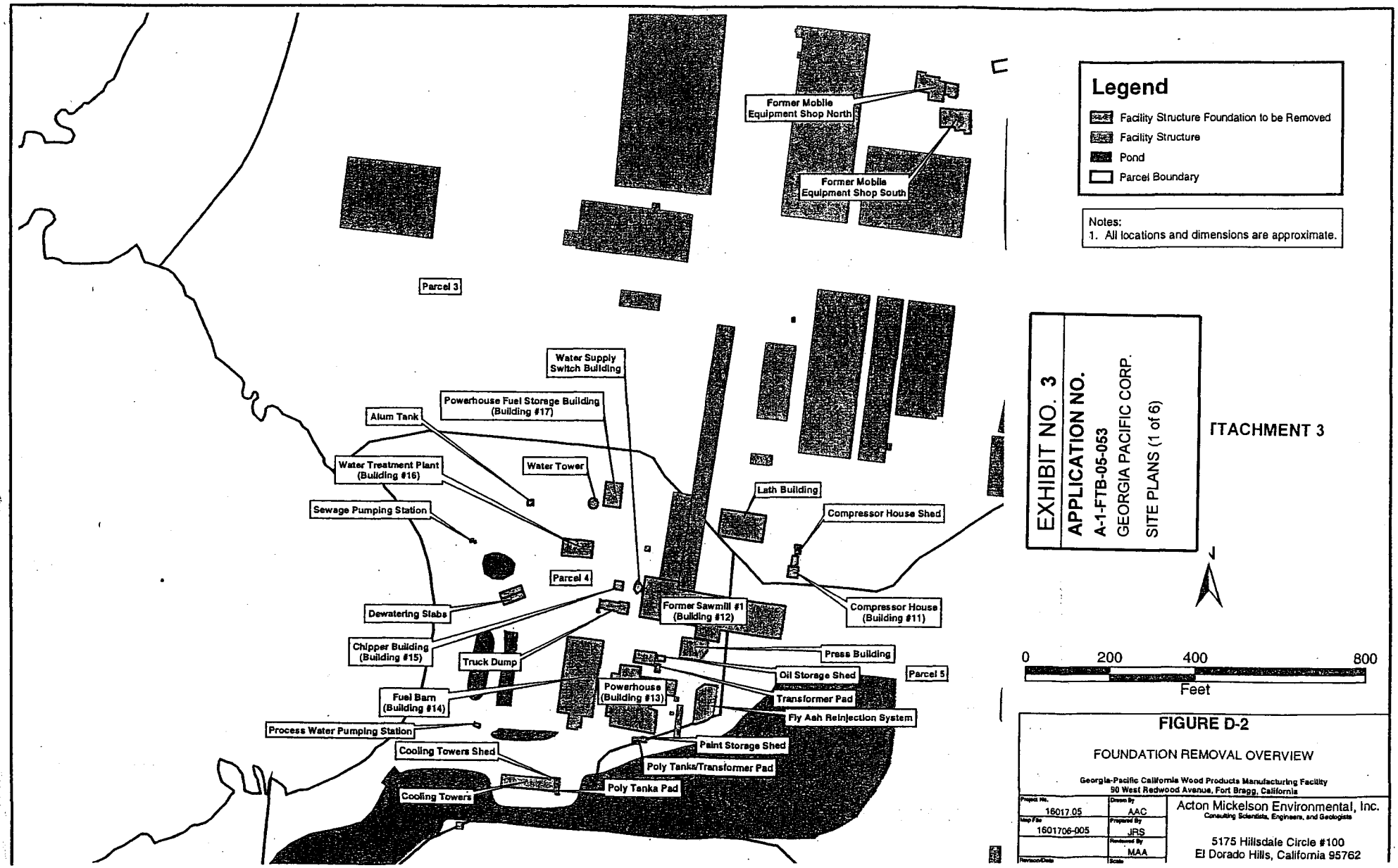
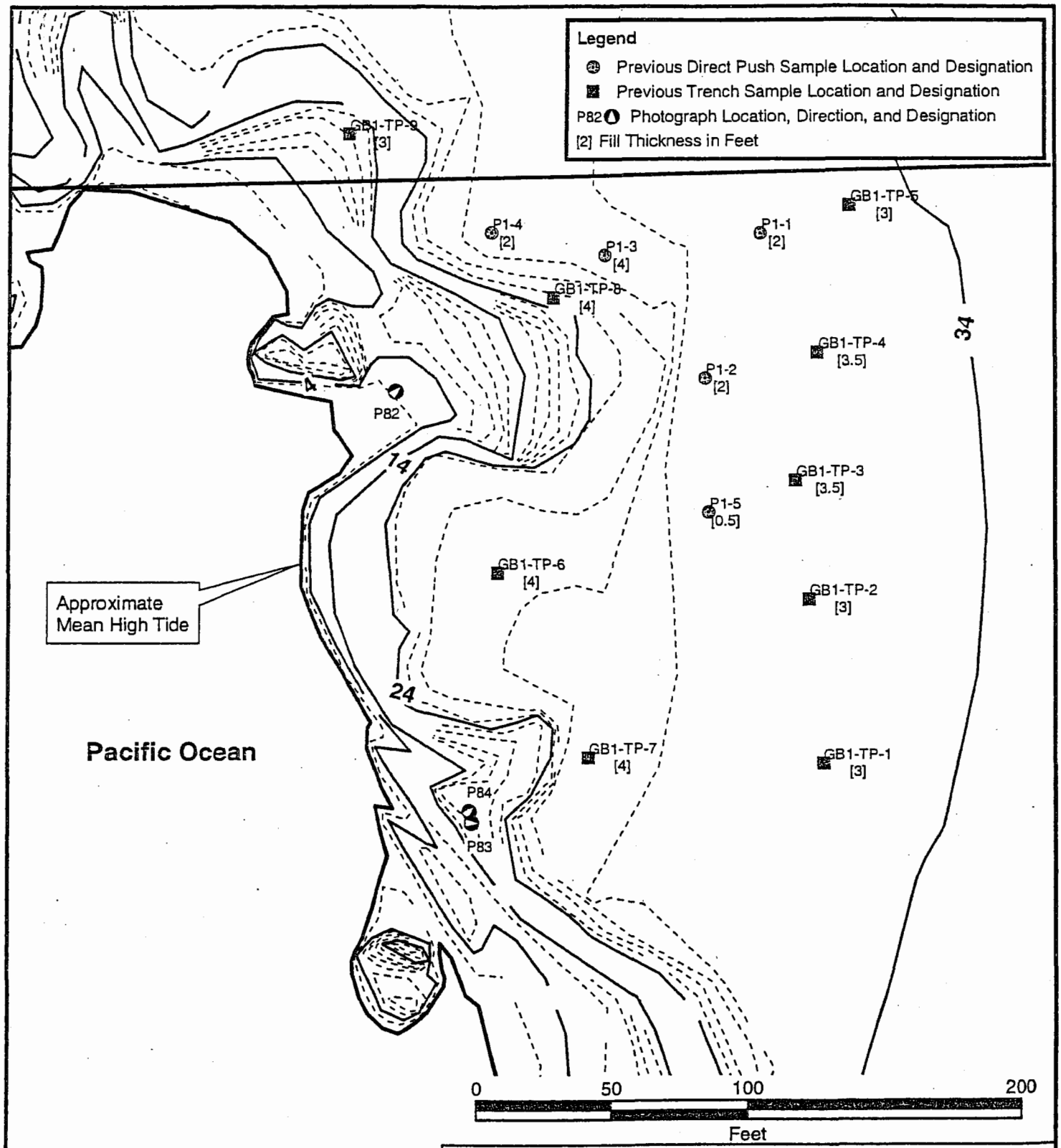

Legend
Facility Structure Foundation to be Removed
Facility Structure
Pond
Parcel Boundary
Notes:
1. All locations and dimensions are approximate.
Former Mobile Equipment Shop North
Former Mobile Equipment Shop South
Parcel 3
Water Supply Switch Building
Powerhouse Fuel Storage Building (Building #17)
Alum Tank
Water Treatment Plant (Building #16)
Water Tower
Sewage Pumping Station
Lath Building
Compressor House Shed
Parcel 4
Dewatering Slabs
Former Sawmill #1 (Building #12)
Compressor House (Building #11)
Chipper Building (Building #15)
Truck Dump
Press Building
Oil Storage Shed
Parcel 5
Fuel Barn (Building #14)
Powerhouse (Building #13)
Transformer Pad
Fly Ash Reinjection System
Process Water Pumping Station
Paint Storage Shed
Cooling Towers Shed
Poly Tanks/Transformer Pad
Cooling Towers
Poly Tanks Pad
EXHIBIT NO. 3
APPLICATION NO.
A-1-FTB-05-053
GEORGIA PACIFIC CORP.
SITE PLANS (1 of 6)
ITACHMENT 3
N
0
200
400
800
Feet
FIGURE D-2
FOUNDATION REMOVAL OVERVIEW
Georgia-Pacific California Wood Products Manufacturing Facility
50 West Redwood Avenue, Fort Bragg, California
Project No.
16017.05
Map File
1601706-005
Revision/Date
Drawn By
AAC
Prepared By
JRS
Reviewed By
MAA
Scale
Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists
5175 Hillsdale Circle #100
El Dorado Hills, California 95762



N

2 of 6

Notes:
1. All locations and dimensions are approximate.

FIGURE D-3

GLASS BEACH #1
FILL THICKNESS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC
Map File 1601705-021	Prepared By JRS
	Reviewed By MAA
Revision/Date 0 - 9/23/05	Scale As Noted

Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists

5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550

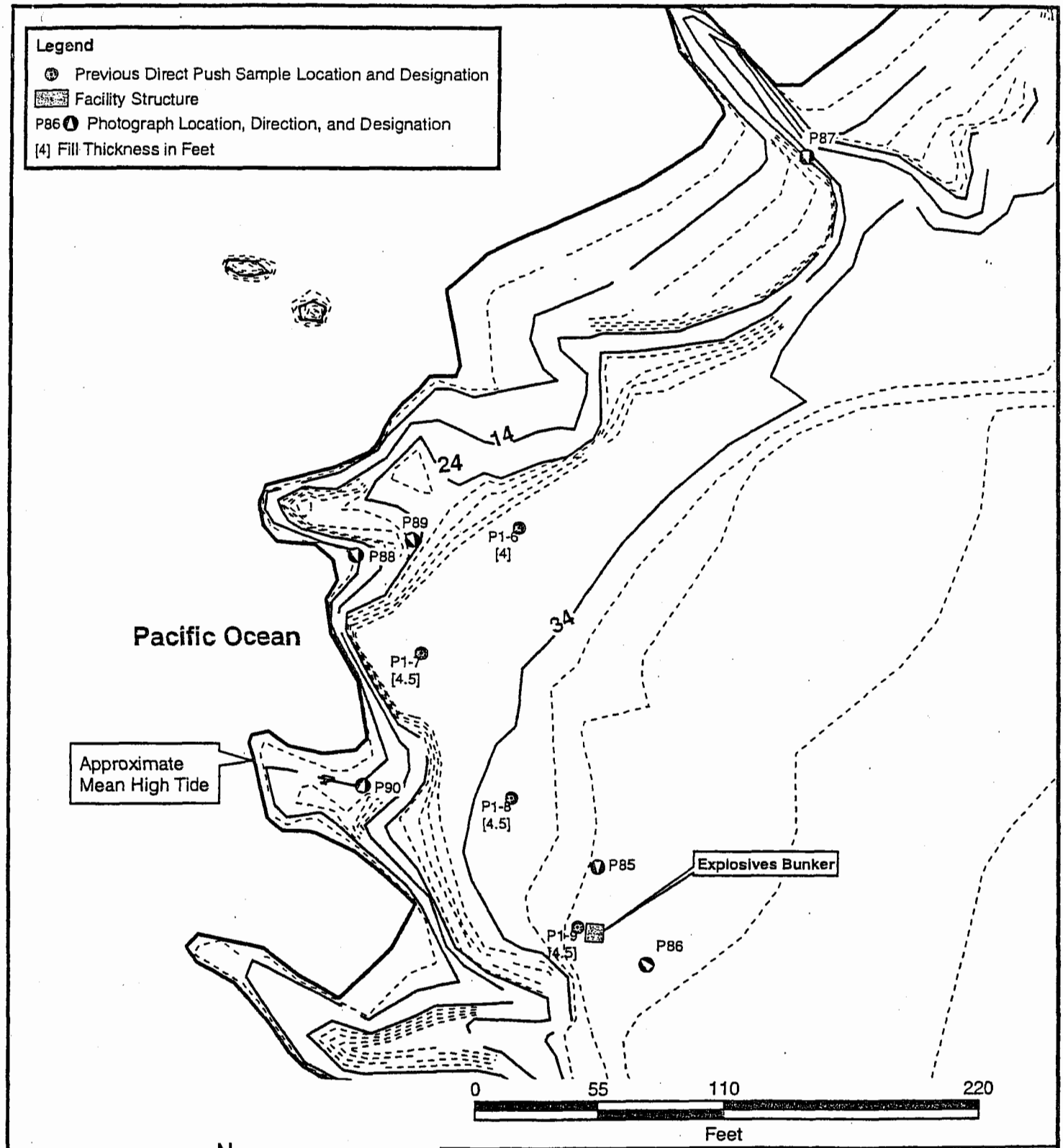


FIGURE D-4

GLASS BEACH #2
FILL THICKNESS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

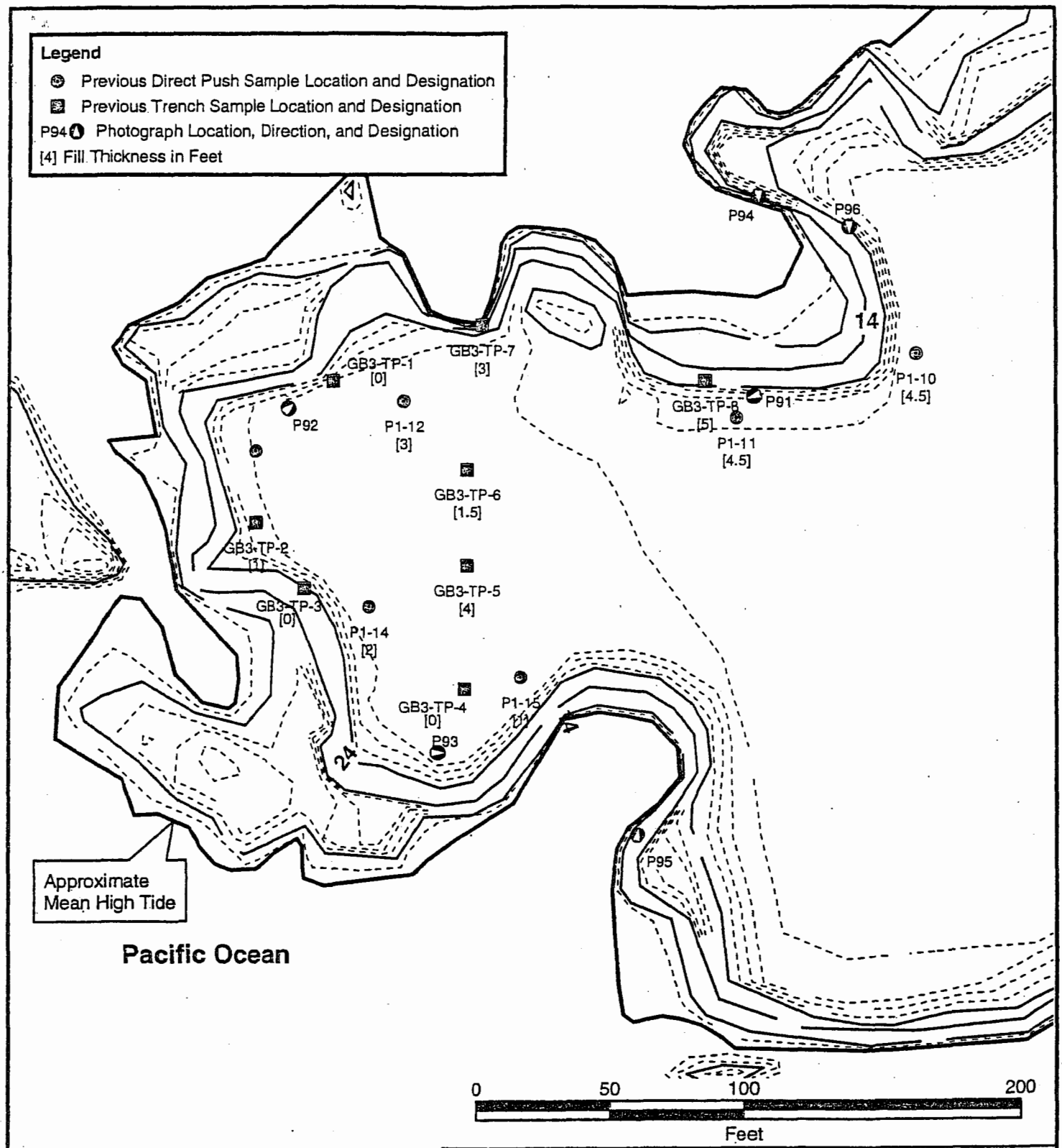
Project No. 16017.05	Drawn By AAC
Map File 1601705-022	Prepared By JRS
	Reviewed By MAA
Revision/Date 0 - 9/23/05	Scale As Noted

Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists

5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550

3 of 6

Notes:
1. All locations and dimensions are approximate.



N

4 of 6

Notes:
1. All locations and dimensions are approximate.

FIGURE D-5

GLASS BEACH #3
FILL THICKNESS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC
Map File 1601705-023	Prepared By JRS
	Reviewed By MAA
Revision/Date 0 - 9/23/05	Scale As Noted

Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists

5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550

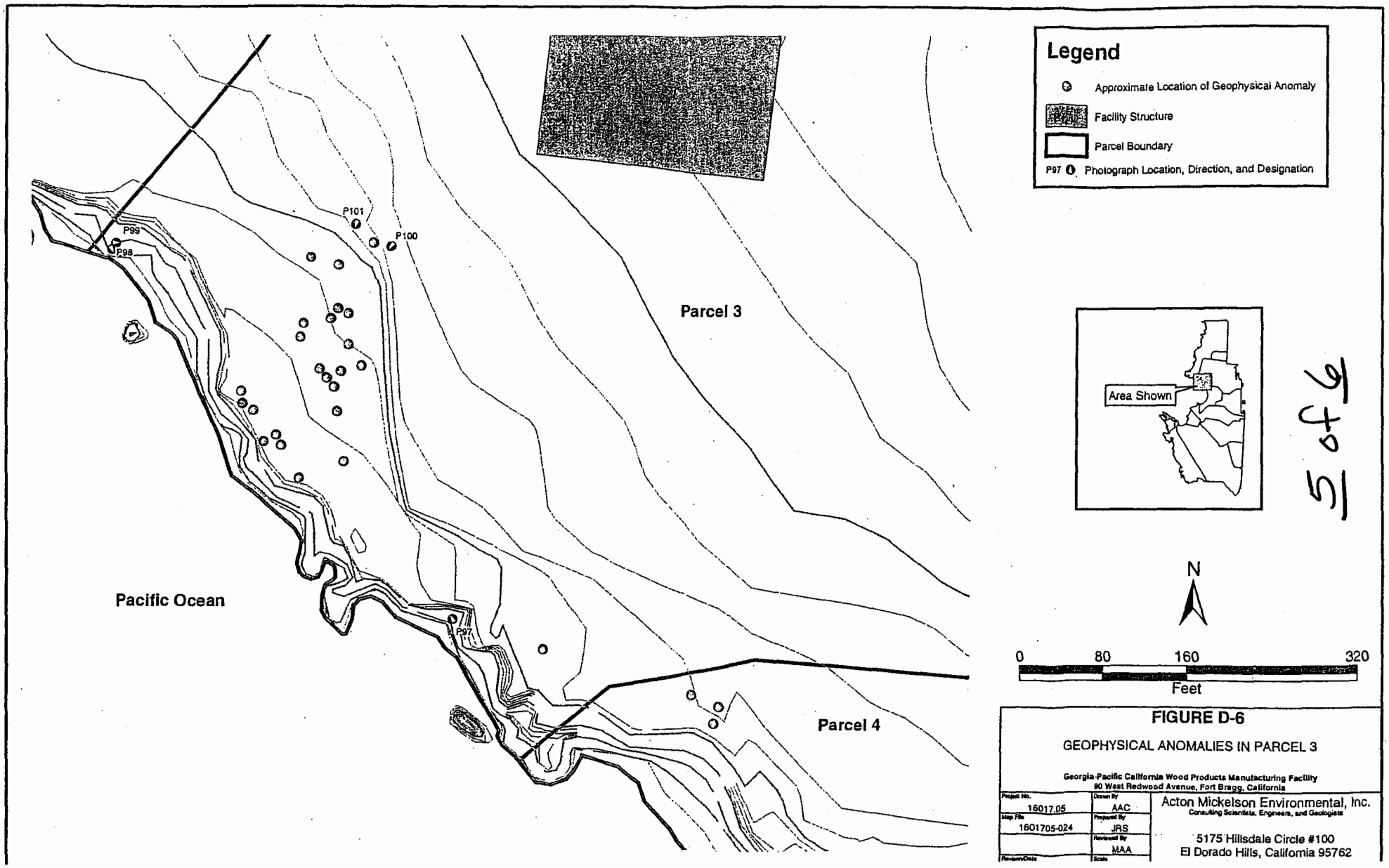


FIGURE D-6

GEOPHYSICAL ANOMALIES IN PARCEL 3

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601705-024	Prepared By JRS	5175 Hillsdale Circle #100 El Dorado Hills, California 95762
	Reviewed By MAA	
Revision/Date	Scale	

5 of 6

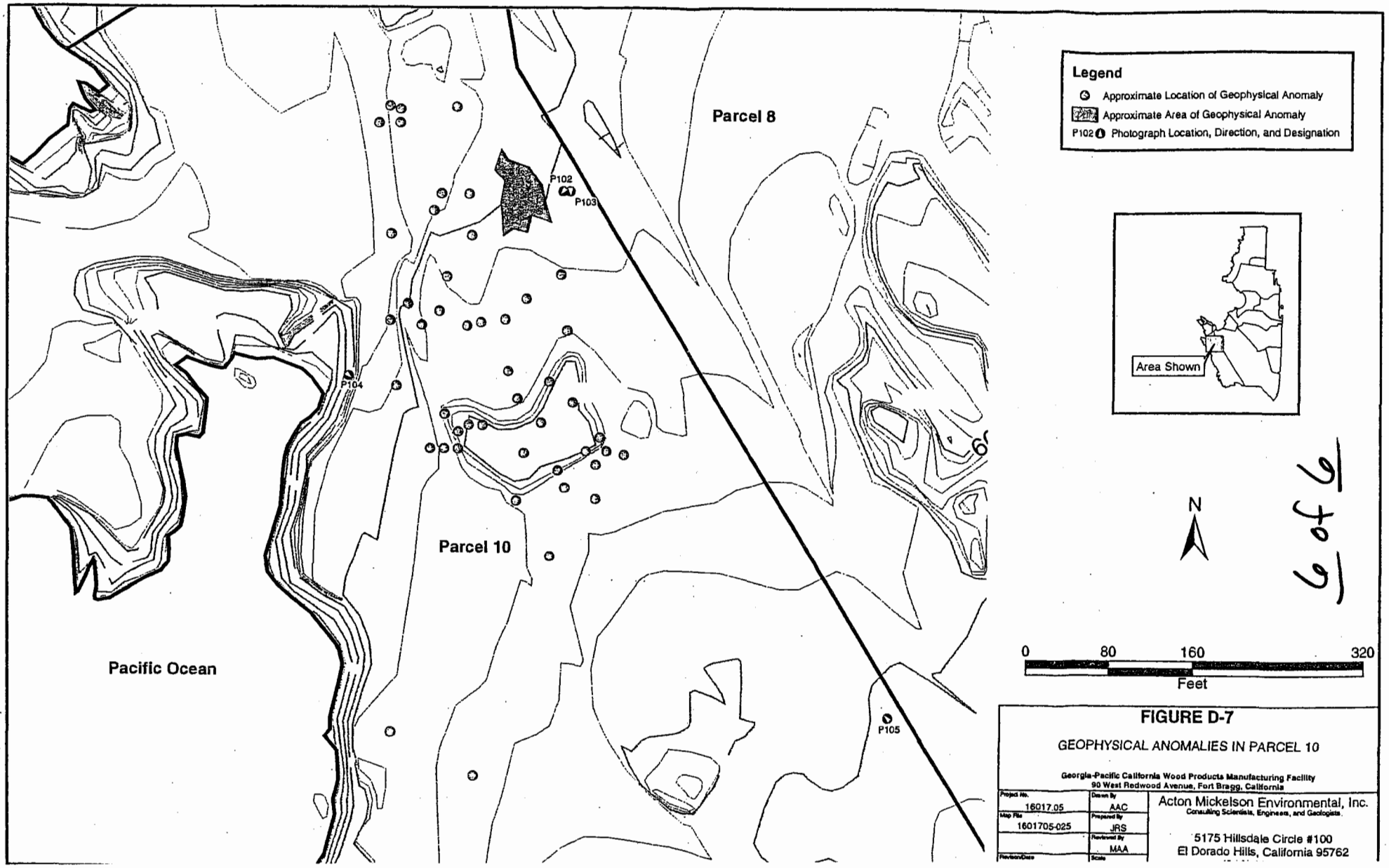


FIGURE D-7

GEOPHYSICAL ANOMALIES IN PARCEL 10

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601705-025	Prepared By JRS	5175 Hillsdale Circle #100 El Dorado Hills, California 95762
	Reviewed By MAA	
Revision/Date	Scale	

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CITY OF FORT BRAGG

Incorporated August 5, 1889
416 N. Franklin St.
Fort Bragg, CA 95437
Phone: (707) 961-2823
Fax: (707) 961-2802
ci.fort-bragg.ca.us

RECEIVED
OCT 17 2005
CALIFORNIA
COASTAL COMMISSION

NOTICE OF FINAL ACTION
ON COASTAL DEVELOPMENT PERMIT

On October 11, 2005, final action was taken by the Fort Bragg City Council on the following Coastal Development Permit application:

FILE NUMBER: CDP 3-05

OWNER/APPLICANT: Georgia-Pacific Corporation

LOCATION: 90 West Redwood Avenue

DESCRIPTION: Coastal Development Permit to authorize (a) removal of building foundations and, if necessary, additional investigation and interim remedial measures (IRMs) at the following areas: Compressor House, Former Sawmill #1, Powerhouse and associated buildings, Fuel Barn, Chipper Building, Water Treatment Plant, Powerhouse Fuel Storage Building, Sewage Pumping Station, Dewatering Slabs, Water Supply Switch Building, Former Mobile Equipment Shop and associated subsurface structures; (b) removal of debris from Glass Beaches #1 through #3; and (c) Removal of geophysical anomalies identified on Parcels 3 and 10 of the former Georgia Pacific Sawmill Site.

EXHIBIT NO. 4
APPLICATION NO.
A-1-FTB-05-053
GEORGIA PACIFIC CORP.
NOTICE OF FINAL LOCAL ACTION (1 of 18)

DATE OF ACTION: October 11, 2005

ACTION BY:
___ Fort Bragg Planning Commission
XX Fort Bragg City Council

ACTION TAKEN:
XX Approved with Conditions (See attached Resolutions)
___ Denied (See attached Findings)

This project is: ___ Not appealable to the Coastal Commission.

XX Appealable to Coastal Commission pursuant to Public Resources Code Section 30603. An aggrieved person may appeal this decision to the Coastal Commission within ten working days of Commission receipt of this notice. Appeals must be in writing to the appropriate Coastal Commission District office.

Linda Ruffing

Linda Ruffing
Community Development Director

October 12, 2005
Date

Attachment: Resolutions of the Fort Bragg City Council

cc: California Coastal Commission
Permit File
City Clerk
City Manager
Applicant

RECEIVED
OCT 17 2005
CALIFORNIA
COASTAL COMMISSION

RECEIVED
OCT 17 2005
CALIFORNIA
COASTAL COMMISSION

RESOLUTION NO. 2892-*2005*

RESOLUTION OF THE FORT BRAGG CITY COUNCIL CONFIRMING THE AUGUST 10, 2005 PLANNING COMMISSION DECISION TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR COASTAL DEVELOPMENT PERMIT #3-04

WHEREAS, the City of Fort Bragg received an application from Georgia-Pacific Corporation for a Coastal Development Permit to authorized activities in conjunction with the proposed Georgia-Pacific Mill Site Foundation Removal, Additional Investigation, and Interim Remedial Measures project; and

WHEREAS, City staff referred the application to federal, state and local agencies for review and comment on March 3, 2005 and March 29, 2005 and received comments from the Mendocino County Department of Environmental Health, the Mendocino County Air Quality Management District, and the California Coastal Commission; and

WHEREAS, City staff prepared an environmental checklist and determined that, although the proposed project could have a significant effect on the environment, special conditions incorporated into the project would ensure that there will be no significant effects and, therefore, a Mitigated Negative Declaration would be prepared; and

WHEREAS, a draft Mitigated Negative Declaration evaluating potential environmental impacts associated with the proposed project was distributed to the State Clearinghouse, responsible and trustee agencies, and made available for public review on June 16, 2005; and

WHEREAS, comments from the Mendocino County Air Quality Management District and the State Department of Fish and Game were received during the 30-day public review period; and

WHEREAS, on August 10, 2005, the Fort Bragg Planning Commission conducted a public hearing and received testimony from members of the public regarding the proposed project; and

WHEREAS, following the public hearing and consideration of all the materials and testimony available, the Planning Commission adopted the Mitigated Negative Declaration for the Coastal Development Permit for the Georgia-Pacific Mill Site Foundation Removal, Additional Investigation, and Interim Remedial Measures project and approved Coastal Development Permit #3-04, authorizing the activity; and

WHEREAS, North Coast Action and Sierra Club/Mendocino Group submitted a timely appeal to the City Council, requesting that the Planning Commission's decision to approve Coastal Development Permit #3-04 be overturned and that Coastal Development Permit #3-04 be denied; and

WHEREAS, on October 11, 2005, the Fort Bragg City Council conducted a duly-noticed public hearing on the appeal, at which time the Council considered the Mitigated Negative

Declaration, the record of the Planning Commission's action, all written and oral comments received during the public hearings, and all other evidence in the record; and

WHEREAS, the Council makes the following findings regarding the Mitigated Negative Declaration for the Coastal Development Permit for the Georgia-Pacific Mill Site Foundation Removal, Additional Investigation, and Interim Remedial Measures project:

1. The proposed revisions to mitigation measures addressing suspension of excavation activities when winds reach specified thresholds, prohibition of excavation and IRMs during the rainy season, and mitigation and monitoring for rare plants, as described in the City Council's Agenda Item Summary Report, are more effective than the original mitigation measures for the reasons described in said Agenda Item Summary Report.
2. The proposed revisions to mitigation measures as described above will not cause any potentially significant impact on the environment.
3. The proposed addition of mitigation measures specifying that no activities may commence until the RWQCB has provided final approval of Work Plan #1, and requiring that all activities undertaken in compliance with the coastal development permit comply with all recommendations, mitigations, and conditions included in the Work Plan and 15 additional reports and documents is intended to clarify specific measures that are incorporated into the project and which will not cause any potentially significant impact to the environment.
4. A late-season botanical survey has been completed and consequently, the proposed deletion of the mitigation measure requiring the late-season botanical survey will not cause any potentially significant impact on the environment. The proposed additional mitigation measure requiring compliance with all recommendations of the Late Season Botanical Survey is equivalent or more effective than the previous measure as it also requires compliance with the Conceptual Glass Beach 3 Mitigation and Monitoring Plan, and the Conceptual Revegetation Plan.
5. The deletion of repetitive, identical mitigation measures in the Mitigated Negative Declaration and coastal development permit as approved by the Planning Commission is a typographic correction that will not cause any potentially significant impact to the environment as each mitigation is still included.
6. The information and analysis in the Mitigated Negative Declaration, including the mitigation measures, demonstrates that the proposed project will not have a significant adverse effect on the environment, specifically pertaining to the following areas:
   a. It does not have the potential to degrade the quality of the environment.
   b. It will not achieve short-term, to the disadvantage of the long-term, environmental goals.
   c. It will have no impacts which are individually limited but cumulatively considerable.
7. The Mitigated Negative Declaration has been completed in compliance with CEQA and the CEQA Guidelines.

8. The Mitigated Negative Declaration reflects the City's independent judgment and analysis of the potential environmental effects associated with the project.
9. The custodian of the documents and other materials which constitute the record of proceedings for this project is the City of Fort Bragg Community Development Department, 416 North Franklin Street, Fort Bragg, CA 95437, Attn: Linda Ruffing.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Fort Bragg does hereby confirm the Planning Commission's decision of August 10, 2005 to adopt a Mitigated Negative Declaration for the Coastal Development Permit for the Georgia-Pacific Mill Site Foundation Removal, Additional Investigation, and Interim Remedial Measures project.

BE IT FURTHER RESOLVED that the City Council of the City of Fort Bragg hereby adopts Coastal Development Permit #CDP 3-04 as the mitigation monitoring plan required by CEQA Guidelines, Article 6, Section 15074(d).

The above and foregoing Resolution was introduced by Councilmember Melo, seconded by Councilmember Baltierra, and passed and adopted at a regular meeting of the City Council of the City of Fort Bragg held on the 11th day of October, 2005, by the following vote:

AYES: **Councilmembers Baltierra, Hammerstrom, Melo, and Mayor Turner.**
NOES: **Councilmember Gjerde.**
ABSENT: **None.**
ABSTAIN: **None.**

s/ Dave Turner
DAVE TURNER,
Mayor

ATTEST:

s/ Cynthia M. VanWormer
Cynthia M. VanWormer, CMC
City Clerk

RESOLUTION NO. 2893-*2005*

RESOLUTION OF THE FORT BRAGG CITY COUNCIL AFFIRMING, IN PART, THE AUGUST 10, 2005 PLANNING COMMISSION DECISION TO APPROVE COASTAL DEVELOPMENT PERMIT #3-04 AND ADOPTING REVISED CONDITIONS OF APPROVAL

WHEREAS, Georgia-Pacific Corporation submitted an application to the City of Fort Bragg for a coastal development permit to authorized activities in conjunction with the proposed Georgia-Pacific Mill Site Foundation Removal, Additional Investigation, and Interim Remedial Measures project; and

WHEREAS, a draft Mitigated Negative Declaration was completed for the project in compliance with CEQA and the CEQA Guidelines; and

WHEREAS, on August 10, 2005, the Fort Bragg Planning Commission conducted a public hearing and adopted the Mitigated Negative Declaration for the coastal development permit for the Georgia-Pacific Mill Site Foundation Removal, Additional Investigation, and Interim Remedial Measures project and approved Coastal Development Permit #3-04, authorizing the activity; and

WHEREAS, North Coast Action and Sierra Club/Mendocino Group submitted a timely appeal to the City Council, requesting that the Planning Commission's decision to Coastal Development Permit #3-04 be overturned and that Coastal Development Permit #3-04 be denied; and

WHEREAS, there are seven specific issues that are being appealed by North Coast Action and Sierra Club/Mendocino Group and those issues are outlined in the City Council's Agenda Item Summary Report; and

WHEREAS, on October 11, 2005, the Fort Bragg City Council conducted a duly-noticed public hearing on the appeal, at which time the Council considered the application of Georgia-Pacific for a coastal development permit, the appeal submitted by North Coast Action and Sierra Club/Mendocino Group, the record of the Planning Commission's action, all written and oral comments received during the public hearings, and all other evidence in the record; and

WHEREAS, the Council makes the following findings regarding the coastal development permit for the Georgia-Pacific Mill Site Foundation Removal, Additional Investigation, and Interim Remedial Measures project (CDP #3-04) and the requested appeal of the Planning Commission's decision:

1. The proposed project is consistent with the intent and purpose of the Heavy Industrial and Timber Resource Industrial land use and zoning classifications. The project would not change the use or intensity of use of the Mill Site property.
2. The information and analysis in the Mitigated Negative Declaration, including the mitigation measures described in said Declaration, demonstrate that the proposed

project will not have a significant adverse effect on the environmental, specifically pertaining to the following areas:

a. It does not have the potential to degrade the quality of the environment.

b. It will not achieve short-term, to the disadvantage of the long-term, environmental goals.

c. It will have no impacts which are individually limited but cumulatively considerable.

3. The Council has reviewed the coastal development permit application for consistency with the City's certified Local Coastal Program and has determined that the project, as conditioned, will protect coastal resources.

4. The City does not have the jurisdiction, authority, or expertise to directly oversee the site assessment and remediation work. The Regional Water Quality Control Board (RWQCB) is the lead agency for the environmental remediation project and has primary responsibility for ensuring that the work conforms to state and federal regulations to protect the environment and public health.

5. The proposed use of interim remedial measures in conjunction with the site assessment will allow for visual observations and field measurements that could not otherwise be completed by core sampling through the foundation, and that are necessary to facilitate completion of a thorough characterization of contamination on the Mill Site.

6. The proposed interim remedial measures are responsive temporary measures that are intended to prevent the potential spread of contamination. All of the areas in which interim remedial measures are conducted will be included in the Remedial Action Plan (RAP) and will be subject to the clean-up goals established by the RAP.

7. The dust control measures included in Appendix D (as revised, September 2005), combined with permitting requirements imposed by the Mendocino Air Quality Management District will reduce potential impacts associated with airborne contaminants to a level of insignificance.

8. Measures contained in the Work Plan for Foundation Removal, Additional Investigation and Interim Remedial Measures, Addendum #1, Addendum #2, Revised Appendix D, "Excavation and Soil Management Plan," and "Stormwater Pollution Prevention Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures" are sufficient to prevent potential impacts associated with waterborne contamination.

9. The mechanisms that are in place to provide on-site inspections during the work are sufficient to ensure that the work will be conducted in accordance with all of the requirements of the approved plans.

10. The public has had an opportunity to comment on Work Plan #1, on the coastal development permit application, and on the appeal of the coastal development permit. The public will have further opportunities to comment on the environmental remediation during the public comment period on the Remedial Action Plan.

11. The coastal development permit is consistent with the marine resource protection policies of the City's certified Local Coastal Program (LCP). Measures contained in the

Work Plan, the Excavation and Soil Management Plan, the Stormwater Pollution Prevention Plan, the Conceptual Glass Beach 3 Mitigation and Monitoring Plan, the Conceptual Revegetation Plan, the Wetlands Delineation, and the Botanical Surveys have been included in the coastal development permit and will reduce soil erosion and potential impacts to coastal waters, marine resources and sensitive habitat due to runoff and sedimentation.

12. The proposed removal of buried debris at Glass Beaches 1 through 3 and the two geophysical anomaly areas is necessary to facilitate the transfer of title to the properties to the City of Fort Bragg for future use as parkland and for development of a coastal trail.

13. The coastal development permit is consistent with LCP policies allowing for alteration of blufftops only if mitigation measures sufficient to allow for the interception of any material eroded as a result of the proposed development have been provided. The proposed removal of debris at the three Glass Beach areas includes recontouring, revegetation and erosion control and runoff mitigation measures.

14. The coastal development permit is consistent with the LCP policies that address the protection of environmentally sensitive habitat. Botanical surveys and wetlands surveys have been prepared by qualified professionals to evaluate potential impacts associated with the proposed work. All impacts have either been avoided or are addressed through the Conceptual Glass Beach 3 Mitigation and Monitoring Program (Sholars, 2004) and the Conceptual Revegetation Plan (Circuit Rider Productions, 2004).

15. The project would not adversely affect coastal views or aesthetic resources in the coastal zone. Site disturbances due to excavation and grading would be redressed through recontouring and revegetation.

16. The project would have no effect on any existing or potential prescriptive public access to the coast and would not result in increased demands for public access facilities.

17. The project, as conditioned, will not adversely affect cultural resources.

18. The project site has wildlife habitat value and is therefore subject to payment of fees under Fish and Game Code Section 711.2.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Fort Bragg does hereby affirm the Planning Commission's decision of August 10, 2005 to approve Coastal Development Permit #3-04 for the Georgia-Pacific Mill Site Foundation Removal, Additional Investigation, and Interim Remedial Measures project, in part, subject to the following revised conditions. (Note: Underlined text indicates revisions to conditions. Duplicated conditions approved by the Planning Commission have been eliminated)

SPECIAL CONDITIONS

1. No activities authorized by the Coastal Development Permit may commence unless and until the Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures, as amended, receives final approval from the North Coast Regional Water Quality Control Board.

2. All activities undertaken in compliance with this Coastal Development Permit shall comply with all recommendations, mitigations and conditions included in the Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures (March 2005) and the following documents:

   - Addendum #1 to Work Plan (May 2005)
   - Addendum #2 to Work Plan (August 2005)
   - Revised Appendix D for Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures ("Excavation and Soil Management Plan") (September 2005)
   - Stormwater Pollution Prevention Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures ("SWPPP") (September 2005)
   - Conceptual Glass Beach 3 Mitigation and Monitoring Plan (September 2005)
   - Conceptual Revegetation Plan (September 2005)
   - Geophysical Investigation of Parcels 3 and 10 of the Former Georgia-Pacific Sawmill Site (September 2004)
   - Asbestos and Lead-Based Paint Inspection Report (February 2003)
   - Storm Water Pollution Prevention Plan (July 2003)
   - Engineering Geologic Reconnaissance Report (September 2004)
   - Jurisdictional Determination and Habitat Assessment (August 2003)
   - Jurisdictional Waters and Wetlands Delineation (August 2004)
   - Botanical Field Survey of Some of the Bluff Areas at the GP Mill Site (June 2005)
   - Late Season Botanical Survey for the GP Mill Site Bluffs (August 2005)
   - Site Specific Treatment Plan for Cultural Resources

3. Excavations made for foundation removal, removal of geophysical anomalies, or IRMs will be graded and /or backfilled with clean imported soil to mitigate physical hazards and to prevent ponding of water during rainfall. Backfill materials will be obtained from a local borrow source. (Work Plan, Appendix D)

4. Excavations at the beach areas near the top of the bluffs will extend down to naturally occurring soils or existing bedrock in an effort to restore the areas to conditions prior to debris placement or as close as practical to this state. (Work Plan, Appendix D)

5. Following completion of the remedial activities, all areas that are excavated or otherwise left with exposed soils shall be revegetated with native plant species in accordance with Fort Bragg Land Use & Development Code (LUDC) Section 18.62.070. Revegetation of disturbed areas in Glass Beaches 1 through 3 and in the geophysical survey areas of Parcels 3 and 10 shall be performed in accordance with the Conceptual Revegetation Plan prepared by Circuit Rider Productions, Inc. (September 2005). Prior to issuance of grading permits for the demolition/excavation work, G-P shall submit a revegetation plan for the review and approval of the City Engineer and Community Development Director for all other areas in which excavation may occur. G-P shall provide irrigation, maintenance and replacement of revegetated areas, as needed, to ensure the long-term viability of the plants.

6. A permit from the Mendocino County Air Quality Management District for excavating and stockpiling materials will be obtained prior to foundation removal and excavation activities. (Work Plan, Section 7)
7. G-P will provide written notice to the MCAQMD of the intention to remove foundations and excavate a minimum of five days prior to initiation of field activities. The notice of excavation will include: Names and addresses of person performing and responsible for the work; site location; scheduled starting date of the excavation; quantity of soil to be excavated; estimated average organic content of the excavated soil; procedures to be employed to meet MCAQMD requirements. (Work Plan, Appendix D)
8. If asbestos materials are unearthed during site excavation, the contractor shall comply with OSHA requirements for asbestos handling, and the MCAQMD shall be notified per NESHAP requirements.
9. All work on the site shall comply with MCAQMD rules related to the permitting of portable diesel engines.
10. The requirements of existing air quality regulations will be implemented during foundation removal, excavation, and IRMs so that potential emissions of dust and contaminants from building materials and soil do not present a significant impact to human health or the environment. The Excavation and Soil Management Plan includes procedures to facilitate compliance with applicable regulations. (Work Plan, Appendix D)
11. Stockpiled soil and concrete may be wetted with water, if necessary, to suppress dust generation. In addition, stockpiled soil will be covered with plastic to suppress dust generation. (Work Plan, Appendix B). Note: Additional procedures are included in Appendix D, as revised September 2005.
12. Parking areas, staging areas, and traffic pathways on the site shall be cleaned, as necessary, to control dust emissions. Adjacent public streets shall also be cleaned, if necessary, when soil materials from the site are visible. (Work Plan, Appendix D) Note: Additional procedures are included in Appendix D, as revised September 2005.
13. Excavation activities will be suspended when winds exceed 15 miles per hour sustained (for 15 minutes) or when winds (instantaneous gusts) exceed 25 miles per hour. (Work Plan, Appendix D; SWPPP, Chapter 3)
14. Appendix D of the Work Plan establishes the following Best Management Practices to control, reduce or prevent discharge of pollutants from excavation and soil and concrete debris handling activities (Note: Additional procedures are included in Appendix D, as revised September 2005.):
    a. Material or products will be stored in manufacturer's original containers.
    b. Where possible storage will be under roof.
    c. Storage areas will be neat and orderly to facilitate inspection.
    d. Check all equipment for leaks and repair leaking equipment promptly.

e. Perform major maintenance, repairs, and washing of equipment away from the excavation site.

f. Designate a completely contained area away from storm drains for refueling and/or maintenance work that must be performed at the site.

g. Clean up all spills and leaks using dry methods (absorbent materials/rags).

h. Dry sweep dirt from paved surfaces for general clean-up.

i. Train employees in using these BMPs.

j. Avoid creating excess dust when breaking concrete. Prevent dust from entering waterways.

k. Protect storm drains using earth dikes, straw bales, sand bags, absorbent socks, or other controls to divert or trap and filter runoff.

l. Shovel or vacuum saw-cut slurry and remove from the site.

m. Remove contaminated broken pavement from the site promptly. Do not allow rainfall or runoff to contact contaminated broken concrete.

n. Schedule excavation work for dry weather periods when possible.

o. Avoid over-application by water trucks for dust control.

p. Cover stockpiles and other construction materials with heavy duty plastic. Protect from rainfall and prevent runoff with temporary roofs or heavy duty plastic and berms.

15. Prior to issuance of a grading permit for the activities identified in the Work Plan, the applicant shall submit a Dust Prevention and Control Plan for the review and approval of the City Engineer in accordance with LUDC Section 18.62.02.

16. A fence shall be constructed to protect the Log Pond from erosion and siltation if it is less than 50 feet from the Powerhouse or any other location where subsurface disturbance is to occur. (Work Plan, Section 4)

17. A temporary fence shall be erected around the two industrial processing ponds located west and southwest of the Fuel Barn to prevent the encroachment of heavy equipment into the environmentally sensitive habitat areas. No equipment, materials or stockpiles shall be located within 50 feet of the ponds.

18. To the maximum extent feasible, foundation removal and IRM activities in the vicinity of the Fuel Barn and Powerhouse structures shall be staged from the north side of the structures. No materials may be stockpiled on the berm/roadway that is located between these structures and the Mill Pond and no materials may be stockpiled within 50' of the two industrial processing ponds located west and southwest of the Fuel Barn.

19. All stockpiles areas, including hazardous waste storage areas and non-hazardous soil, debris and concrete storage areas shall be clearly delineated on the grading plan and shall be located a minimum of 50' from delineated wetlands and other Environmentally Sensitive Habitat Areas. Any change in the location of storage areas after issuance of the grading permit shall require approval by the City

Engineer. Note: Additional procedures are included in Appendix D, as revised September 2005 and in the SWPPP, September 2005.

20. Prior to initiation of demolition and excavation activities in the vicinity of the Boiler Fuel Building foundation, the applicant shall have the boundary of the wetland staked by a qualified wetlands biologist. If the demolition/excavation activities will occur within 50' of the wetland, the boundary shall be fenced with temporary construction fencing. The operation of construction equipment and storage of materials and equipment shall be prohibited within the wetland area. Note: Additional procedures are included in Appendix D, as revised September 2005 and in the SWPPP, September 2005.

21. Prior to initiation of any activities involving site disturbance in the areas where the botanical survey indicated that rare plant species may be located, the applicant shall submit a "mitigation and monitoring report" for the protection of rare plants to the Department of Fish & Game (DFG) for review and approval. The report shall be developed in consultation with DFG staff. A Conceptual Glass Beach 3 Mitigation and Monitoring Plan has been prepared (September 2005). Prior to initiation of said activities, the applicant shall submit to the Community Development Department, a copy of the final report and written verification from DFG indicating their concurrence.

22. The locations of the rare plant species shall be flagged by a qualified botanist prior to issuance of the grading permit for the work. These locations shall be specified on the grading plan(s) for the work. Work shall only be permitted to occur within 100' of the outer perimeter of the rare plant populations, if such work is necessary to perform the required environmental remediation activities on the property.

23. No storage of equipment or stockpiling of materials shall be permitted within 100' of the outer perimeter of the rare plant populations.

24. If hazardous waste removal is necessary within the rare plant sites and/or the 100' buffer zones, the following measures shall be required:

    a. The locations of rare species and work areas will be flagged by a qualified botanist and GP's environmental consultant, respectively. Following flagging, a determination will be made by the environmental consultant and the qualified botanist as to whether the proposed work can be conducted without impact to the rare species.

    b. If rare species impact cannot be avoided, the botanist will make a determination as to whether the species will be removed for transplantation after work activities are completed.

    c. If possible, work will be conducted after seed set at locations where rare species are identified.

    d. The botanist will make a determination at each work location as to whether removal of the surface soil (containing the seed bank) for stockpiling is warranted. If warranted, and contingent upon analytical test results for the

presence of chemicals of potential concern, stockpiled soil containing the seed bank will be placed at the location (laterally and vertically) from which it was removed following completion of work activities. The botanist will make recommendations to increase the likelihood for survival of transplanted rare species.

e. Following completion of remediation activities and revegetation, the botanist shall prepare a follow-up report that identifies all measures taken to protect rare plant species in each location and that evaluates the success of the mitigations in protecting and/or re-establishing the rare plant populations. The report shall be submitted to the Fort Bragg Community Development Department.

25. Within five (5) days of issuance of a Notice of Final Action by the City and prior to the filing of a Notice of Determination, the applicant shall submit the required environmental filing fee per Fish and Game Code Section 711.4(d) to the Mendocino County Clerk and shall submit evidence of payment to the Community Development Department.

26. All areas where subsurface disturbances will occur will be documented, monitored, and tested in general accordance with the Site Specific Treatment Plan for Cultural Resources prepared by TRC (2003). (Work Plan, Section 5)

27. Subsurface disturbance in areas considered to have moderate or high potential for prehistoric or historic resources will be monitored by an archaeologist and Native American representative. The following locations are identified as having moderate or high potential for prehistoric or historic resources (Work Plan, Section 5):

Location	Potential for Prehistoric Resources	Potential for Historic Resources
Former Sawmill #1	Moderate	High
Powerhouse	Moderate	High
Former Mobile Equipment Shop		High
Glass Beach #1	High	
Glass Beach #2	High	High
Glass Beach #3		Moderate
Parcel 3- Geophysical Anomalies		Moderate/High
Parcel 10- Geophysical Anomalies	Moderate/High	

28. In the event prehistoric archaeological resources (marked by shellfish remains, flaked and ground stone tools, fire affected rock, human bone, or other related materials) are unearthed during site excavation and grading activities, all work in the vicinity of the site shall cease immediately, the Community Development Department shall be notified, and the proper disposition of resources shall be accomplished as required by LUDC Section 18.50.030(D).

29. Prior to issuance of a grading permit for the foundation removal, debris removal or excavation activities, the applicant shall submit for the review of the City Engineer

copies of all required permits and approvals from the RWQCB and other responsible agencies.

30. Prior to initiation of foundation removal, debris removal or excavation activities, the applicant shall submit a grading permit application for the review and approval of the City Engineer. The grading plan shall comply with the Grading Permit Requirements established in LUDC Chapter 18.60 and shall be consistent with the Grading, Erosion, and Sediment Control Standards established in LUDC Chapter 18.62. The grading permit shall indicate the location of all existing storm drain facilities in the vicinity of the proposed work and clearly identify measures to prevent the conveyance of sediments or contaminated runoff into these facilities.

31. Site excavation and grading activities, including IRMs, may only occur during the non-rainy season from April 15 through October 15. (Work Plan, Appendix D; SWPPP).

32. The Excavation and Soil Management Plan (Work Plan, Appendix D) describes the protocol and procedures to be followed to protect human health and the environment during foundation removal and excavation activities.

33. Heavy equipment will be utilized to remove and stockpile concrete building foundations, soil and debris. Soil will be handled in general accordance with the Excavation and Soil Management Plan. Material suspected to be impacted with COPCs (Constituents of Potential Concern) will be stockpiled separate from non-impacted material. (Work Plan, Appendix D)

34. After soil sampling, the borings will be backfilled with neat cement in accordance with Mendocino County Environmental Health Department and RWQCB

35. Excavations made for foundation removal, removal of geophysical anomalies, or IRMs will be graded and /or backfilled with clean imported soil to mitigate physical hazards and to prevent ponding of water during rainfall. Backfill materials will be obtained from a local borrow source. (Work Plan, Appendix D)

36. Excavations at the beach areas near the top of the bluffs will extend down to naturally occurring soils or existing bedrock in an effort to restore the areas to conditions prior to debris placement or as close as practical to this state. (Work Plan, Appendix D)

37. Debris removal operations at the three Glass Beaches shall be observed by a qualified soils engineer or geologist to ensure that erosion-susceptible soils and loosened rocks are removed from areas exposed to wave action.

38. All work involving structures with asbestos and lead containing paint will be performed in general accordance with local, state, and federal rules and regulations. A certified and trained contractor will be utilized to secure the necessary permits and conduct the required abatement activities. While most of the work involving these materials is associated with aboveground structure removal which is not part of the Work Plan, there is potential for contact with subsurface water pipes wrapped with asbestos containing material during subsurface disturbance activities. (Work Plan, Section 6)

39. Underground Service Alert will be contacted prior to initiation of field activities. In addition, an independent underground utility locating services will be contracted to conduct a reconnaissance at each area to undergo foundation removal or excavation. All field activities will be conducted in general accordance with the Site Health and Safety Plan. (Work Plan, Section 7, Appendix B)

40. Heavy equipment will be utilized to remove and stockpile concrete building foundations, soil and debris. Soil will be handled in general accordance with the Excavation and Soil Management Plan. Material suspected to be impacted with COPCs (Constituents of Potential Concern) will be stockpiled separate from non-impacted material. (Work Plan, Section 7, Appendix D)

41. The best management practices outlined in the SWPPP (September 2005) and the Site Stormwater Pollution Prevention Plan (July 2003) will be employed as they pertain to foundation removal, excavation, and IRMs to facilitate compliance with the National Pollutant Discharge Elimination System General Permit No. CAS000002 Waste Discharge Requirements for Stormwater Discharges Associated with Construction. (Work Plan, Section 7)

42. Stockpiles of concrete without stains or evidence of hazardous waste will be transported offsite to a recycling or non-hazardous waste disposal facility. Results of laboratory analysis of concrete samples collected during foundation demolition will be utilized to evaluate disposal options of concrete stockpiles that visually exhibited COPC impacts (i.e., staining). Waste transportation and disposal, including identification of haulers, disposal facilities, routes, and record keeping procedures are summarized in the Transportation Plan. (Work Plan, Section 7, Appendix E)

43. Soils and fluids that are produced and/or used during the installation of sampling of borings and monitoring wells, and that are know or suspected to contain potentially hazardous materials, will be contained during the above operations. These substances will be retained onsite in appropriate containers (i.e., drums, bins, tanks) until chemical testing has been completed to determine the proper means of off-site disposal. Handling and disposal of substances know or suspected to contain potentially hazardous materials will comply with the applicable regulations of the Cal-EPA, the California Dept. of Water Resources, and any other applicable regulations. (Work Plan, Appendix A)

44. Ground water encountered in excavations during foundation removal or IRMs will be containerized onsite pending chemical testing for disposal characterization. Water will initially be pumped into drums or temporary holding tanks. Dewatering of excavations is not anticipated to be necessary as efforts will focus on removing environmentally impacted soil and concrete above the water table only. (Work Plan, Appendix A)

45. Non-hazardous soil will be transported to a Class III landfill (either Waste Management, Inc., Redwood Landfill in Novato, or Portrero Hills Landfill in Suisun City). Concrete debris classified as non-hazardous will be crushed and reused on site or transported to Norcal Rock in Willits. Hazardous soil will be transported to a Class I landfill (Waste Management Inc., Kettleman Hills Landfill in Kettleman City). Wastewater from dust control measures (if any), wheel washing (if necessary), and

trench dewatering (if necessary) activities may contain non-hazardous or hazardous concentrations of chemicals of concern. Non-hazardous wastewater will be transported to a properly licensed disposal facility. Hazardous wastewater will be transported to Evergreen Environmental Services in Newark for recycling. (Work Plan, Appendix A; Appendix E)

46. A Site Health and Safety Plan has been prepared as part of the Work Plan (Work Plan, Appendix B). This plan provides an assessment of chemical and physical hazards associated with the foundation removal and IRM project. It provides detailed Health and Safety Requirements, including protocols for personnel training and medical clearances, health and safety briefings, health and safety documentation, chemical hazard mitigation, physical hazard mitigation, and emergency information.

47. The Excavation and Soil Management Plan (Work Plan, Appendix D) describes the protocol and procedures to be followed to protect human health and the environment during foundation removal and excavation activities.

48. Soil stockpiles will be placed on top of and covered with heavy duty plastic sheeting. Wherever possible, broken concrete and excavated soil will be stockpiled on areas with improved asphalt or concrete surface. Potentially hazardous waste will be stored in a Potentially Hazardous Waste Storage Area that will be specifically selected for each investigation area. When not covered, soil stockpile surfaces will be kept visibly moist by water spray, as necessary. (Work Plan, Appendix D; Appendix E)

49. The Work Plan includes a Transportation Plan (Work Plan, Appendix E) that describes the protocol and procedures to be followed to protect human health and the environment during transportation activities to remove waste concrete demolition debris, soil and wastewater from the site.

50. Prior to excavation, soil will be characterized (hazardous or non-hazardous) by analysis of in-situ soil samples for disposal acceptance by appropriately licensed landfills. Samples of containerized wastewater will be analyzed for characterization and disposal acceptance by properly licensed wastewater disposal facilities. (Work Plan; Appendix E)

51. Wastewater resulting from excavation, well development, and sampling activities will be stored in double-containment polyethylene tanks. (Work Plan; Appendix E)

52. The best management practices outlined in the Site Stormwater Pollution Prevention Plan will be employed as they pertain to foundation removal, excavation, and IRMs to facilitate compliance with the National Pollutant Discharge Elimination System General Permit No. CAS000002 Waste Discharge Requirements for Stormwater Discharges Associated with Construction. (Work Plan, Section 7)

53. The applicant shall reimburse the City for all reasonable and prudent City expenses associated with inspections and other work necessary to ensure compliance with the conditions of this coastal development permit, including without limitation, costs for City staff, attorneys and environmental consultants, consistent with established City policy governing cost recovery for new development.

STANDARD CONDITIONS

1. The approval of the application by Georgia-Pacific for a coastal development permit shall be effective on the 11th day following receipt by the California Coastal Commission of a Notice of Final Action, unless an appeal is filed with the Coastal Commission in accordance with Public Resources Code Section 30625.
2. The use and occupancy of the premises shall be established and maintained in conformance with the requirements of this permit and all applicable provisions of Title 18 of the Fort Bragg Municipal Code.
3. The application, along with supplemental exhibits and related material, shall be considered elements of this permit, and compliance therewith is mandatory, unless an amendment has been approved by the City.
4. This permit shall be subject to the securing of all necessary permits for the proposed development from City, County, State and Federal agencies having jurisdiction. All plans submitted with required permit applications shall be consistent with this approval.
5. The applicant shall secure all required demolition permits for the proposed project as required by the Building Department.
6. This permit shall be subject to revocation or modification upon a finding of any one (1) or more of the following:
   (a) That such permit was obtained or extended by fraud.
   (b) That one or more of the conditions upon which such permit was granted have been violated.
   (c) That the use for which the permit was granted is so conducted as to be detrimental to the public health, welfare or safety or as to be a nuisance.
   (d) A final judgment of a court of competent jurisdiction has declared one (1) or more conditions to be void or ineffective, or has enjoined or otherwise prohibited the enforcement or operation of one (1) or more conditions.
7. This permit is issued without a legal determination having been made upon the number, size or shape of parcels encompassed within the permit described boundaries. Should, at any time, a legal determination be made that the number, size or shape of parcels within the permit described boundaries are different than that which is legally required by this permit, this permit shall become null and void.

The above and foregoing Resolution was introduced by Councilmember Melo, seconded by Councilmember Baltierra, and passed and adopted at a regular meeting of the City Council of the City of Fort Bragg held on the 11th day of October, 2005, by the following vote:

AYES: **Councilmembers Baltierra, Hammerstrom, Melo, and Mayor Turner.**
NOES: **Councilmember Gjerde.**
ABSENT: **None.**

ABSTAIN: None.

s/ Dave Turner
DAVE TURNER,
Mayor

ATTEST:

s/ Cynthia M. VanWormer
Cynthia M. VanWormer, CMC
City Clerk

STATE OF CALIFORNIA – THE RESOURCES AGENCY

ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE
710 E STREET, SUITE 200
EUREKA, CA 95501
VOICE (707) 445-7833 FAX (707) 445-7877

RECEIVED
NOV 03 2005
CALIFORNIA
COASTAL COMMISSION

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT

Please Review Attached Appeal Information Sheet Prior To Completing This Form.

SECTION I. Appellant(s)

Name: North Coast Action and Sierra Club, Mendocino Group

Mailing Address: 17201 Franklin Road PO Box 2330

City: Fort Bragg Zip Code: 95437 Phone: 965-3094 937-0572

SECTION II. Decision Being Appealed

1. Name of local/port government:

City of Fort Bragg

2. Brief description of development being appealed:

Work Plan #1 addresses two areas containing building structures, three blufftop/beach areas and two areas of geophysical anomalies. The Work Plan includes foundation removal, additional testing of soils and groundwater, and excavation of environmentally impaired soils, if necessary at the Powerhouse and former Sawmill #1 areas and associated building structures and at the Former Mobile Equipment Shop and associated building structures.

3. Development's location (street address, assessor's parcel no., cross street, etc.):

Assessor's Parcel No: 008-010-26, 008-020-09, 008-053-34, 008-151-22, 008-161-08, 018-010-67, 018-020-01, 018-030-42, 018-040-52, 018-120-43/-44, 018-430-01/-02/-07/-08

The property is bounded by the Pacific Ocean on the west, MacKerricher State Park (Glass Beach) on the north, Highway 1 on the east and Noyo Bay on the south.

90 West Redwood Avenue
Fort Bragg, CA 95437

EXHIBIT NO. 5
APPLICATION NO.
A-1-FTB-05-053
GEORGIA PACIFIC CORP.
APPEAL, FILED 10/27/05
NORTH COAST ACTION;
SIERRA CLUB-REDWOOD CH.-
MENDOCINO GROUP (1 of 13)

4. Description of decision being appealed (check one.):

☒ Approval; no special conditions

☐ Approval with special conditions:

☐ Denial

Note: For jurisdictions with a total LCP, denial decisions by a local government cannot be appealed unless the development is a major energy or public works project. Denial decisions by port governments are not appealable.

TO BE COMPLETED BY COMMISSION:

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE
710 E STREET, SUITE 200
EUREKA, CA 95501
VOICE (707) 445-7833 FAX (707) 445-7877

APPEAL NO: _____

DATE FILED: _____

DISTRICT: _____

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 2)

5. Decision being appealed was made by (check one):

☐ Planning Director/Zoning Administrator

☒ City Council/Board of Supervisors

☐ Planning Commission

☐ Other

6. Date of local government's decision: October 11, 2005

7. Local government's file number (if any): CDP3-05

SECTION III. Identification of Other Interested Persons

Give the names and addresses of the following parties. (Use additional paper as necessary.)

a. Name and mailing address of permit applicant:

Georgia-Pacific Corporation
PO Box 105605
Atlanta GA 30348-5605

b. Names and mailing addresses as available of those who testified (either verbally or in writing) at the city/county/port hearing(s). Include other parties which you know to be interested and should receive notice of this appeal.

(1) Craig Hunt
Water Resource Control Engineer
California Regional Water Quality Control Board, North Coast Region
5550 Skyline Boulevard, Suite A
Santa Rosa, CA 95403

(2) Harold Wollenberg
29863 Madsen Lane
Fort Bragg, CA 95437

(3) Michael Acton
Acton-Mikelson-Environmental
5175 Hillsdale Circle #100
El Dorado Hills, CA 95762

(4)Norman de Vall
Redwood Coast Watersheds Alliance
PO Box 87
Elk, CA 95432

(5) Carey Knecht
2366 Cedar Street #4
Berkeley, CA 94708

(6) Alis Valencia
18875 Trillium Lane
Fort Bragg, CA 95437

(7) Bill Heil
PO Box 67
Albion, CA 95410

(8) Rixanne Wehren
Coastal Land Trust
PO Box 340
Albion, CA 95410

(9) Britt Baily
environmentalcommons
PO Box 1135
Gualala, CA 95445

(10) Frieda Feen
PO Box 988
Mendocino, CA 95460

(11) Sara O'Donnal
Cancer Resource Center
45040 Calpella Street
Mendocino, CA 95460

(12) Lori Hubbard
California Native Plant Society
Dorothy King Young Chapter
PO Box 985
Point Arena, CA 95468

(13) Margaret Paul
32851 Mill Creek Drive
Fort Bragg, CA 95437

(14) Thais Mazur and David Russell
17201 Ocean Drive
Fort Bragg, CA 95437

(15) Loie Rosenkrantz
17201 Franklin Avenue
Fort Bragg, CA 95437

(16) Mary Walsh
PO Box 161
Albion, CA 95410

(17) Mark Massara, esq
Sierra Club, Great BCoastal Places
3435 Wilshire Boulevard, suite 660
Los Angeles, CA 90010

(18) Linda Ruffing
Community Development Director
Fort Bragg City Hall
416 N. Franklin Street
Fort Bragg, CA 95437

(19) James Bernard
Mendocino Land Trust
330 N. Franklin Street suite 6
Fort Bragg, CA 95437

(20) Noyo Headlands Unified Design Group
330 N. Franklin Street suite 8
Fort Bragg, CA 95437

(21) Supervisor Kendall Smith, 4th District
County Administration Center
501 Low Gap Road, room 1090
Ukiah, Ca 95482

(22) Suprevisor David Colfax, 5th District
County Administration Center
501 Low Gap Road, room 1090
Ukiah, CA 95482

(23) State Senator Wes Chesbro
Capitol Building, room 4081
Sacramento, CA 95814

(23) Congressman Mike Thompson
Coast Representative Heidi Dickerson
PO Box 2208
Fort Bragg, CA 95437

(24) Assemblymember Patty Berg
Ukiah Field Representative Kathy Kelley
104 W. Church Street
Ukiah, CA 95482

(25) Senator Dianne Feinstein
One Post Street suite 2450
San Francisco, CA 94104

(26) Senator Barbara Boxer
1700 Montgomery Street suite 240
San Francisco, CA 94111

(27) Rachel Binah
43300 Little River Airport Road
Little River, CA 95456

(28) Moira McEnespy, Project Manager
California Coastal Conservancy
1330 Broadway, 11th floor
Oakland, CA 94617-2530

SECTION IV. Reasons Supporting This Appeal

PLEASE NOTE:

- Appeals of local government coastal permit decisions are limited by a variety of factors and requirements of the Coastal Act. Please review the appeal information sheet for assistance in completing this section.
- State briefly **your reasons for this appeal**. Include a summary description of Local Coastal Program, Land Use Plan, or Port Master Plan policies and requirements in which you believe the project is inconsistent and the reasons the decision warrants a new hearing. (Use additional paper as necessary.)
- This need not be a complete or exhaustive statement of your reasons of appeal; however, there must be sufficient discussion for staff to determine that the appeal is allowed by law. The appellant, subsequent to filing the appeal, may submit additional information to the staff and/or Commission to support the appeal request.

North Coast Action and the Sierra Club Mendocino Chapter are appealing the Declaration of Mitigated Negative Impacts and the Coastal Development Permit 3-05 issued by the Fort Bragg City Council on October 11 2005. This permit authorizes a Work Plan allowing Georgia Pacific Corporation to engage in foundation removal of several buildings, additional assessments and interim remedial measures on the 435 acre former mill site located on four miles of coast immediately adjacent and to the west of the City of Fort Bragg. The foundations are located in areas of the mill site which are reported to harbor some of the heaviest concentrations of toxic contamination.

We believe that not all of the technical and regulatory guidelines have been adequately considered in this Work Plan and we think the Work Plan does not follow the city of Fort Bragg's certified Local Coastal Plan. We are very concerned that this proposed investigation and clean-up may negatively impact current and future coastal resources along the four miles of coast which this site includes and may have serious negative health impacts for people, plants and animals that inhabit this coastal environment.

Please consider the following points which we feel exemplify the shortcomings in the current Work Plan authorized by CDP 3-05.

- The Work Plan and previous Work Plans and Reports have not developed risk-based cleanup goals that are specifically developed for the protection of human health or environmental/ecological receptors. They have not identified what receptors they are protecting [if any]. Risk-based cleanup goals must be established that are protective of human health and the environment and the goals must adequately reflect future land use and cumulative risk(s). These goals are what should guide the depth and extent of excavation that occurs at the site, as well as how the material is handled as it is excavated, staged, and sent for disposal.

- The Work Plan and previous Work Plans and Reports have not developed background concentrations for groundwater or soil in the vicinity of the site. One of the indices for assessing extent of contamination is a comparison of background concentrations to site or specific area location media concentrations. Background has not been developed for the area and this constitutes a significant data gap in the site characterization process.

- The Work Plan does not provide the detailed logic as to how clean versus contaminated soil will be

separated in the field and stockpiled. Petroleum contaminated soils may be discolored and/or odiferous while metals and dioxin contaminated soils will not have noticeable characteristics that are reliable to allow for separation of clean versus contaminated soil. Further, given the site hydrogeology, how will excavation of foundations and/or soil in the saturated zone be addressed? No specific criteria are provided. In addition, how will they determine the size of the area needed to stage the contaminated soils if they have no idea of the extent of contamination, and therefore the volume of soil to be removed?

• Criteria for establishing hazardous waste characteristics for soils are not contained in the document [e.g., Title 22 waste levels or RCRA waste levels, etc.]. Contaminated groundwater encountered during excavation is not addressed in the document. How will waste water or de-watering waste be characterized and disposed? Clear, detailed logic separation, testing, storage, manifesting and disposal of contaminated soils and water has not been adequately provided in the Work Plan or appendices. The work plan cites existing permits and containment plans that were not designed for, or intended to address specific circumstances that can occur during a remedial activity. These plans should be amended to address the issues at hand, and the amendments should be reviewed and approved prior to any work being initiated at the site.

• The Work Plan fails to provide sufficient detail for follow-on investigation(s) subsequent to removal of the foundations. Details concerning follow-on characterization detailing step-out sampling and vertical delineation are vague and inadequate. The work plan only indicates that additional characterization will be conducted "if necessary". What are the criteria for determining whether additional investigation is necessary? Based on the data presented in the work plan, the screening criteria have been exceeded, in some instances by an order of magnitude. This usually indicates a need to conduct further evaluation. Also, for several of the sites, specifically, the chipper building, the dewatering slabs, and the sewage pumping station, no data has been collected to identify the type of contamination.

• The Work Plan proposes to use the San Francisco Bay Regional Water Quality Control Boards [SFBRWQCB] Environmental Screening Levels [ESLs] as screening criteria for soil and groundwater. The ESLs have caveats and limitations on how they can be used and they do not account for multiple contaminants being present in the contaminated media at the same time [i.e., the ESLs do not address cumulative risk]. The ESLs were developed by a geologist in the SFBRWQCB; they have not been peer reviewed by toxicologists in Cal/EPA. The ESLs for environmental receptors have not been peer reviewed by State or Federal resource agencies charged with the protection of those resources. Logic for use of the ESLs is fuzzy at best. The RWQCB should be asked to explain why they believe that the ESL's, which were developed for another region to screen contamination, or any of the other guidelines cited in the work plan, are appropriate as de facto cleanup numbers. Again, what are they protecting, and how well will those receptors be protected if nothing else is done to characterize/remediate the site once the foundations are gone.

• The NPDES permit CAS #000002 addresses suspended material, setteable material, sediment, turbidity and pH in storm water runoff, not hazardous waste constituents. The permit covers construction related activities for State-wide construction activities; it is not specific to the GP site.

Demolition, investigation, and remediation of hazardous waste sites are not construction-related activities that are covered under this type of permit. Contaminated soil, sediments, and surface water will be generated during the proposed scope of work. The proposed activities should require either an addendum to the original NPDES permit or a new permit. Since contamination is already documented on the site, all soil, sediment, and water should be analyzed prior to it leaving the site.

- The former mill site area probably has multiple Native American Indian archeological sites present. Oversight by a certified Archeologist should be required for all intrusive investigations.

- The proposed scope of work for the investigation/removal action at Glass Beach 2 and Glass Beach 3 sites does not include provisions for identification and protection of coastal marine resources or any oversight by an agency charged with the stewardship of coastal resources. The planned excavation of these sites in April is just at the beginning of the nesting season for four species known to use the Ft. Bragg coast for breeding range. The four species include the Black oystercatcher, Pelagic cormorant, Pigeon guillemot, and western gull. Construction/demolition could impact the nesting activities, and depending on the severity of disturbance, the activities could be a violation of CA Fish and Game code, section 3503. CA Fish and Game should be notified and consulted regarding their opinion on the timing of these activities. It is also likely that a permit from the Migratory Bird Division of the US Fish and Wildlife Service will be needed to conduct activities during the nesting season. US Fish and Wildlife Service should be contacted and consulted on these activities.

There has been inadequate attention given to the geology and soils in accordance with the Coastal Commission's Interpretive Guidelines. We do not find any comprehensive site specific geology and soils report. This seems highly relevant with respect to the excavations proposed for the anomalies described in the Work Plan. The potential for hazardous activities with respect to bluff tops and the potential for harmful impacts to the rocky intertidal areas seem to contradict LCP Policies IX-1 and VI-5/ XI-2. Nowhere is there an estimate of the quantity of concrete that is to be excavated. The only estimate that suggests this quantity is the square footage of buildings reported in the original Work Plan, a figure which exceeded 800,000 square feet. There is great concern in the community given the long history, size and complexity of the site. The City has had no impartial environmental advisor working in its behalf. The Work Plan was prepared by an entity working for the applicant and we feel there is insufficient expertise at the RWQCB to handle such a large and complex site. We believe there are adequate concerns outlined here for the Coastal Commission to take a close look at Fort Bragg's efforts to permit development in the form described by this Work Plan and we look forward to your review.

SIERRA CLUB
FOUNDED 1892

Sierra Club, Mendocino Group
P.O. Box 2330
Fort Bragg, CA 95437

October 28,2005

California Coastal Commission
North Coast District Office
Fax445-7877

Re the Appeal CDP3-05, please add this information.

Thanks, Mary Walsh

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 4)

SECTION V. Certification

The information and facts stated above are correct to the best of my/our knowledge.

David W. Russell

Lois Rosenkrantz

Mary Walsh

Signature of Appellant(s) or Authorized Agent

Date: 26 October 2005

Note: If signed by agent, appellant(s) must also sign below.

Section VI. Agent Authorization

I/We hereby authorize _____
to act as my/our representative and to bind me/us in all matters concerning this appeal.

_____
Signature of Appellant(s)

Date: _____

(29) Environmental Protection Information EPIC
351 Sprowl Creek Road
Garberville, CA 95542

(30) Patty Clary
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ACTON •
MICKELSON •
ENVIRONMENTAL, INC.

Consulting Scientists, Engineers, and Geologists

March 28, 2006

Mr. James Baskin, AICP
Coastal Planner
California Coastal Commission
710 E Street, Suite 200
Eureka, California 95501

Via E-mail and United States Post

16017.06

Subject: Georgia-Pacific Corporation Coastal Development Permit Application Appeal No. A-1-FTB-05-53

Dear Mr. Baskin:

On behalf of Georgia-Pacific Corporation (G-P), we are providing the enclosed correspondence to Craig Hunt of the Regional Water Quality Control Board - North Coast Region. The enclosed represents a supplement to G-P's application for the Coastal Development Permit (CDP) to remove foundations at the former G-P mill site. Please consider this as part of the CDP permit application for purposes of the de novo hearing scheduled for April 14, 2006, Appeal No. A-1-FTB-05-53 (Georgia-Pacific, Fort Bragg).

Please call me at (916) 939-9102 with any comments or questions you may have regarding this letter.

Very truly yours,

ACTON • MICKELSON • ENVIRONMENTAL, INC.

Michael A. Acton, R.E.A.
Vice President

Enclosures

MAA:tcm

EXHIBIT NO. 6
APPLICATION NO.
A-1-FTB-05-053
EXCERPTS, *WORK PLAN* AND SUBSEQUENT REVISIONS (ACTON-MICKELSON ENVIRONMENTAL, INC., 2005-2006) (1 of 116)

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Ms. Julie Raming, Georgia-Pacific Corporation
Mr. Doug Heitmeyer, Georgia-Pacific Corporation
Ms. Barbara Brenner, Stoel Rives
Ms. Linda Ruffing, City of Fort Bragg
Ms. Kay Johnson, Tetra Tech, Inc.
Mr. Glenn Young, Fugro West, Inc.
Mr. Mark Stelljes, SLR International Corp.
Ms. Sheila Semans, California Coastal Conservancy
Mr. Craig Hunt, Regional Water Quality Control Board—North Coast Region

ENCLOSURE A

Correspondence to Mr. Craig Hunt at Regional Water Quality Control Board – North Coast Region

ACTON •
MICKELSON •
ENVIRONMENTAL, INC.

Consulting Scientists, Engineers, and Geologists

March 28, 2006

Mr. Craig Hunt, Water Resource Control Engineer
Regional Water Quality Control Board—North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Via Overnight and E-mail

16017.06

Subject: Clarification and Modification to *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures Dated* March 21, 2005, Addenda #1 and #2 to the *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* Dated May 6 and August 19, 2005, Respectively, and Response to RWQCB Comments Dated July 18, 2005
Former Georgia Pacific California Wood Products Manufacturing Facility
Fort Bragg, California

Dear Mr. Hunt:

This letter is submitted by Acton • Mickelson • Environmental, Inc. (AME) on behalf of Georgia Pacific Corporation (G-P) in response to discussions with Regional Water Quality Control Board – North Coast Region (RWQCB) staff regarding AME's *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* dated March 21, 2005 (Work Plan), Addenda #1 and #2 to the Work Plan dated May 6 and August 19, 2005, respectively, and a Response to RWQCB Comments dated July 18, 2005, for the former G-P California Wood Products Manufacturing Facility, 90 West Redwood Avenue, Fort Bragg, California (site). As discussed, this letter sets forth clarification and modification to the Work Plan regarding pre-foundation removal perimeter sampling, interim capping, and bluff debris removal, which are summarized below.

PRE-FOUNDATION REMOVAL PERIMETER SAMPLING

It is the intent of G-P to collect soil samples from select areas adjacent to the foundation perimeters (outside the foundation footprint) as summarized below prior to removal of the foundations; however, removal of the foundations is not conditioned on whether these samples are collected or the analytical results of the samples. In the event physical constraints preclude collection of specific perimeter samples prior to foundation removal (e.g., personnel or equipment access is impeded by foundation layout), these samples will be collected following removal of the foundations. Based on the results of the analysis of the perimeter samples, additional pre- or post-foundation removal perimeter samples may be collected as specified in the Work Plan.

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Compressor House #1, Compressor House #2, Compressor House Shed, and Secondary Containment Area

Samples will be collected from two locations at the Compressor House #1 foundation perimeter prior to foundation removal (Revised Figure 3). These two sample locations were not previously proposed in the Work Plan. The north, south, and east sides of the foundation are comprised of a wall, which does not extend along the west side. One sample will be collected at the west side of the foundation. The other sample will be collected at the south foundation wall where a pipe exits the foundation. Sample analysis and other foundation sampling will be as specified in the Work Plan.

A sample will be collected from one location at the Compressor House #2 foundation perimeter prior to foundation removal (Revised Figure 3). This location was not previously proposed in the Work Plan. The north, south, and east sides of the foundation are comprised of a wall, which does not extend along the west side. The sample will be collected at the west side of the foundation perimeter. Sample analysis and other foundation sampling will be as specified in the Work Plan.

Samples will be collected from two locations at the Compressor House Shed foundation perimeter prior to foundation removal (Revised Figure 3). These two samples will be collected at steel pipes off the east and west sides of the foundation. One of the samples will be accomplished by shifting the location of a previously proposed sample from within the foundation footprint to outside the foundation footprint. Sampling at the other location will be accomplished with a sample not previously recommended in the Work Plan. The location of one of the samples recommended in the Work Plan will be shifted to the center of the foundation footprint. Sample analysis will be as specified in the Work Plan.

Samples will be collected at two locations at the Secondary Containment Area foundation perimeter prior to foundation removal (Revised Figure 3). These two samples will be collected at a drain and a pipe outside the west side of the foundation. The foundation includes concrete walls on all four sides. One of the samples will be accomplished by shifting the location of a previously proposed sample from within the foundation footprint to outside the foundation footprint. Sampling at the other location will be accomplished with a sample not previously recommended in the Work Plan. The location of one of the samples recommended in the Work Plan will be shifted to the center of the foundation footprint. No indicators of potential hazardous-materials discharges were observed within the foundation. Sample analysis will be as specified in the Work Plan.

Fly Ash Reinjection System

Samples will be collected from two locations at the foundation perimeter prior to foundation removal (Revised Figure 5). These two locations were not previously proposed in the Work Plan. The east and south walls of the foundation are formed by the berm/retaining wall of the Log Pond. The northwest side of the foundation was comprised of a wall also. One of the additional

sampling points is at the north edge of the foundation where no wall existed. The other additional sample point is at the southwest corner of the foundation where no wall existed and water currently collects. Sample analysis and other foundation sampling will be as specified in the Work Plan.

Large Transformer Pad, Small Transformer Pad, and Oil Storage Shed

Samples will be collected from 10 locations at the foundation perimeters prior to foundation removal (Revised Figure 5). Sampling at four of these locations will be accomplished by shifting the location of previously proposed samples from within the foundation footprints to outside the foundation footprints. These four samples were at grid locations where no indicators of potential hazardous-materials discharges were observed. Sampling at the other six perimeter locations will be accomplished with six additional samples not previously proposed in the Work Plan. The locations of two of the samples recommended in the Work Plan will be shifted to the center of the foundation footprints. The foundations do not include sidewalls. Sample analysis and other foundation sampling will be as specified in the Work Plan.

Poly Tanks/Transformer Pad and Paint Storage Shed

Samples will be collected from three locations prior to Poly Tanks/Transformer Pad foundation removal (Revised Figure 5). The Poly Tanks/Transformer Pad was comprised of two concrete supports and was not an actual pad. The locations of the three samples will remain as proposed in the Work Plan, which were outside the footprint of the concrete supports. Sample analysis will be as specified in the Work Plan.

Samples will be collected from two locations at the Paint Storage Shed foundation perimeter prior to foundation removal (Revised Figure 5). One of the samples will be accomplished by shifting the location of a previously proposed sample from within the foundation footprint to outside the foundation footprint. Sampling at the other location will be accomplished with a sample not previously recommended in the Work Plan. The location of one of the samples recommended in the Work Plan will be shifted to the center of the foundation footprint. No indicators of potential hazardous-materials discharges were observed within the Paint Storage Shed. The Paint Storage Shed was comprised of a concrete floor and concrete walls on the south, east, and west sides with a door on the north side. Sample analysis will be as specified in the Work Plan.

Dewatering Slabs

Samples will be collected from four locations at the foundation perimeter prior to foundation removal. Two of these locations were previously proposed in the Work Plan at the outside terminus of two drains at the northwest and southwest corners of the slabs (Revised Figure 12). Two additional samples will be collected at the east/southeast end of the slabs where no foundation wall is present. The north, south, and west sides of the Dewatering Slabs consist of a

foundation wall approximately 4 feet high. Sample analysis and other foundation sampling will be as specified in the Work Plan.

Former Mobile Equipment Shop

Samples will be collected from eight locations at the foundation perimeters prior to foundation removal (Revised Figure 14). Two of these samples adjacent to a drain pipe on the south side of Former Mobile Equipment Shop South were previously proposed in the Work Plan, whereas the other six were not. The Former Mobile Equipment Shop North foundation did not include sidewalls. The Former Mobile Equipment Shop South foundation included walls on the south, east, and west sides, but not on the north side. Two of the samples will be collected off the north side of that foundation. Sample analysis and other foundation sampling will be as specified in the Work Plan.

Pre-Foundation Removal Perimeter Sampling Summary

Thirty-six pre-foundation removal samples will be collected at the foundation perimeters. Twenty-two of these samples are newly proposed and are not the result of shifting the location of previously proposed Work Plan samples from within a foundation footprint to outside a foundation footprint. Based on the results of the analysis of these samples, additional pre-foundation removal perimeter samples may be collected.

INTERIM CAPPING

Interim capping will be implemented in foundation-removal/impacted soil excavation areas anticipated to require remedial action during the final remedial phase. The interim cap will be designed to mitigate potential transport of the detected constituents of potential concern (COPCs) during this limited time period. Specifications regarding the type, design, and implementation of the interim cap cannot be defined at this time due to uncertainty regarding the physical and chemical conditions in these potential areas. Low permeability caps that may be considered in potentially impacted areas include:

- Fine-grained materials (e.g., clay or silt)
- Asphalt
- Concrete
- Geomembrane material

The final selection, design, and implementation of all interim caps at the site will be made with the concurrence of the RWQCB.

BLUFF DEBRIS REMOVAL

The scope of work for bluff debris removal is described in the Work Plan and summarized below:

- Removal of visible debris
- Soil sampling and analysis for COPCs
- Removal of soil with COPC concentrations exceeding cleanup levels
- Confirmation soil sampling and analysis for COPCs
- Interim capping as described above in debris/soil removal areas anticipated to require remedial action during the final remedial phase due to the presence of COPCs exceeding cleanup levels in remaining soil
- Consultation with RWQCB and California Coastal Commission staff in the event unexpected conditions are encountered

G-P recognizes the importance of preserving the coastal resource in the bluff area. As specified in the Work Plan, debris removal conducted in the vicinity of the bluff will be supervised by professional geologists or engineers to minimize disturbance of this environment. Debris removal will focus on visible solid material and will be conducted to the extent practicable. Where necessary, debris removal will be limited or terminated to protect the area from the potential impacts of increased erosion, mass wasting, and sedimentation.

Please call Michael Acton at (916) 939-9102 with any comments or questions you may have regarding this letter.

Very truly yours,

ACTON • MICKELSON • ENVIRONMENTAL, INC.

Dr. Jeffrey A. Johnson, R.P.G.
Senior Technical Consultant

Michael A. Acton, R.E.A.
Vice President

Barbara J. Mickelson, P.E.
California Registered Professional Engineer #43417

REGISTERED PROFESSIONAL ENGINEER
BARBARA JO MICKELSON
NO. 0043417
Exp. 6/30/06
CIVIL ENGINEERING
STATE OF CALIFORNIA

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ACTON •
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Consulting Scientists, Engineers, and Geologists

cc: Ms. Carol Stephens, Georgia-Pacific Corporation
Ms. Julie Raming, Georgia-Pacific Corporation
Mr. Doug Heitmeyer, Georgia-Pacific Corporation
Ms. Barbara Brenner, Stoel Rives
Ms. Linda Ruffing, City of Fort Bragg
Ms. Kay Johnson, Tetra Tech, Inc.
Mr. Glenn Young, Fugro West, Inc.
Mr. Mark Stelljes, SLR International Corp.
Ms. Sheila Semans, California Coastal Conservancy

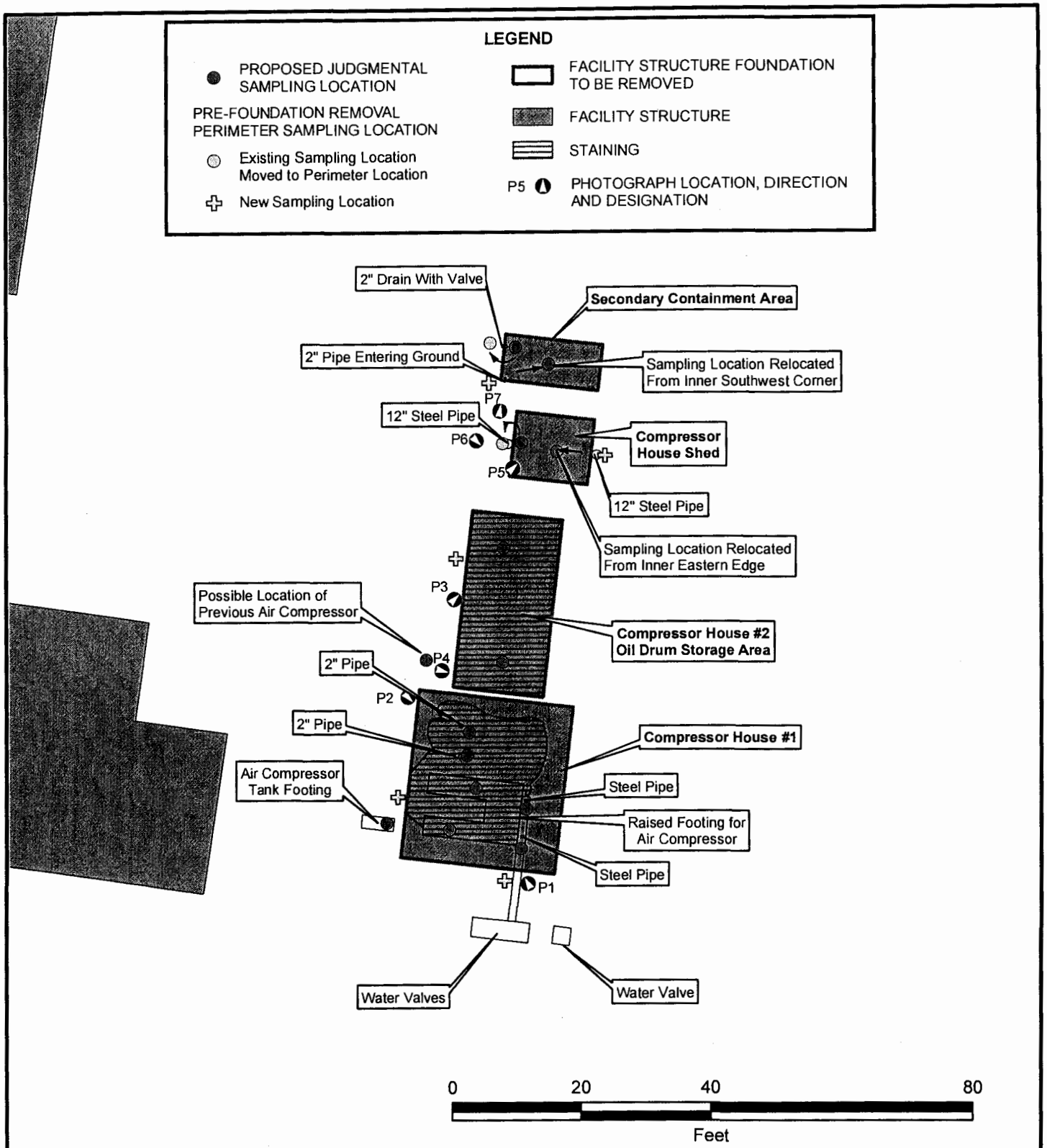

FIGURE 3

COMPRESSOR HOUSE #1, COMPRESSOR HOUSE #2, COMPRESSOR HOUSE SHED, AND SECONDARY CONTAINMENT AREA

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By KJJ
Map File 1601705-002-1	Prepared By JRS
	Reviewed By MAA
Revison/Date 0 - 03/28/06	Scale As Noted

Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists

5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550

Notes:
1. All locations and dimensions are approximate.

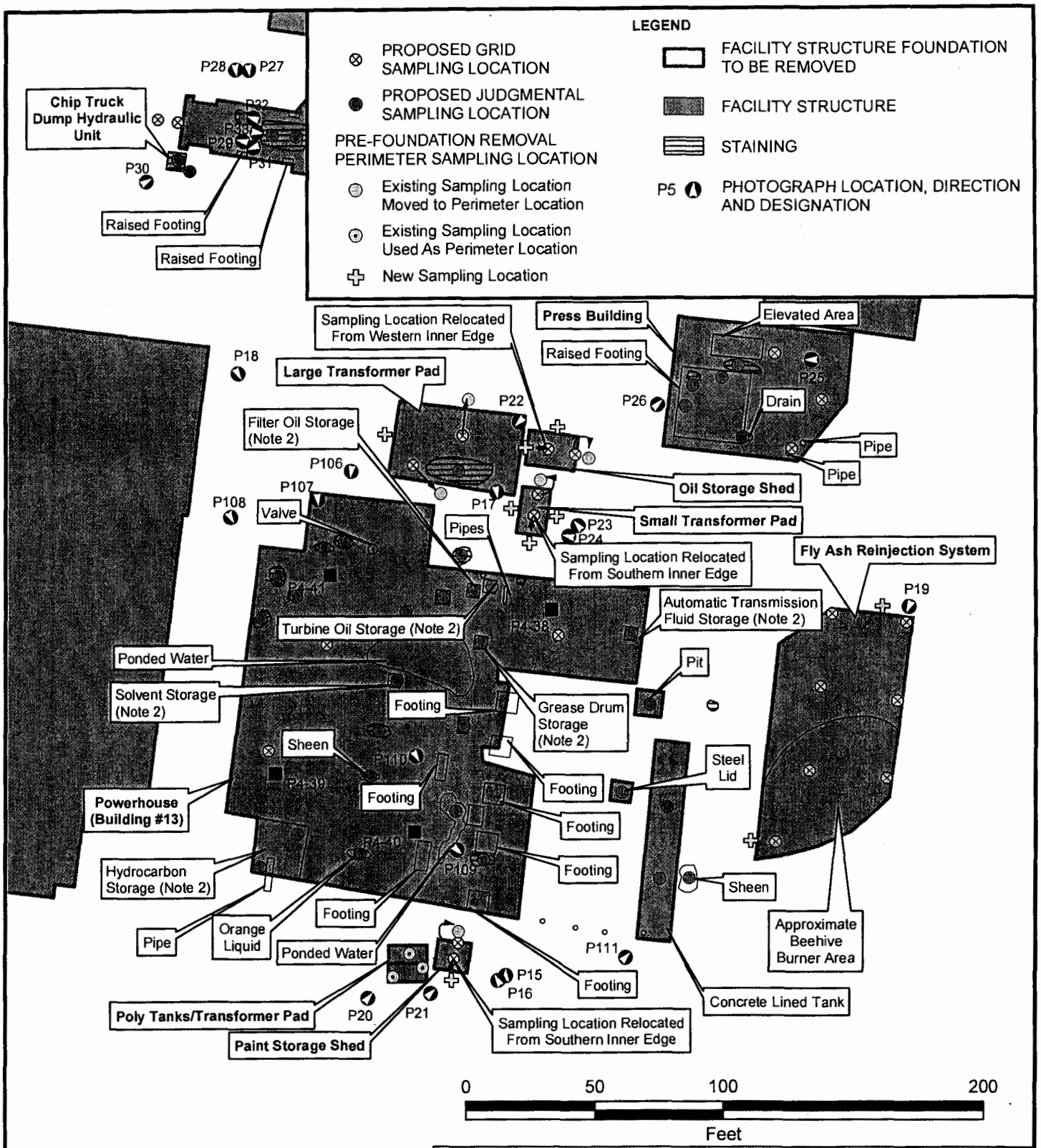

FIGURE 5

POWERHOUSE (BUILDING #13) AND ASSOCIATED BUILDINGS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By KJJ
Map File 1601705-003	Prepared By JRS
	Reviewed By MAA
Revison/Date 0 - 03/28/06	Scale As Noted

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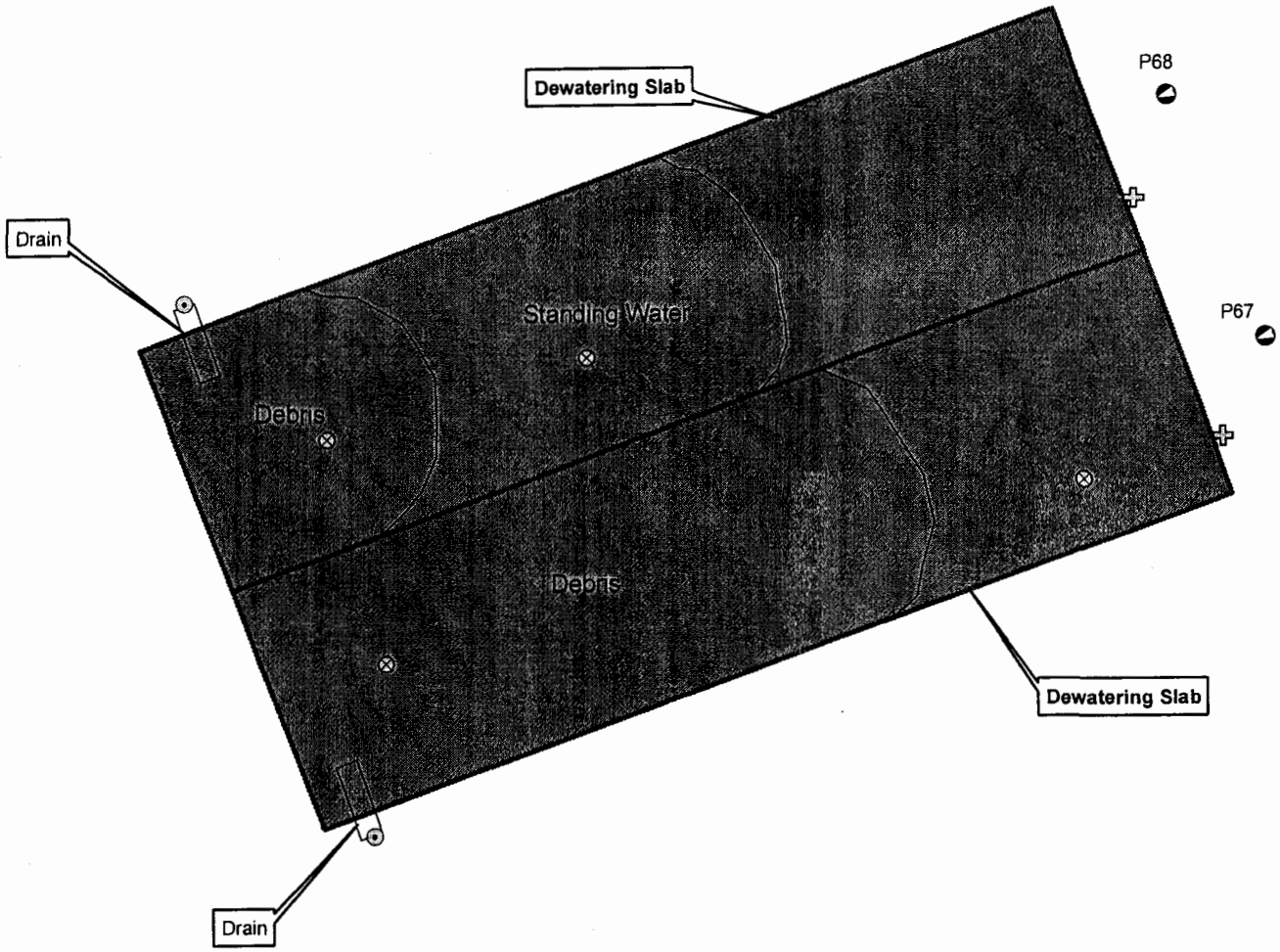
(916) 939-7550

Notes:
1. All locations and dimensions are approximate.
2. Shown on Emergency Response Plan drawing.

LEGEND

- ⊗ PROPOSED GRID SAMPLING LOCATION
- PRE-FOUNDATION REMOVAL PERIMETER SAMPLING LOCATION
  - ⊙ Existing Sampling Location Used As Perimeter Location
  - ✚ New Sampling Location
- FACILITY STRUCTURE FOUNDATION TO BE REMOVED
- FACILITY STRUCTURE
- STAINING
- P5 PHOTOGRAPH LOCATION, DIRECTION AND DESIGNATION



0 5 10 20
Feet

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Notes:
1. All locations and dimensions are approximate.

FIGURE 12

DEWATERING SLABS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By KJJ
Map File 1601705-010	Prepared By JRS
	Reviewed By MAA
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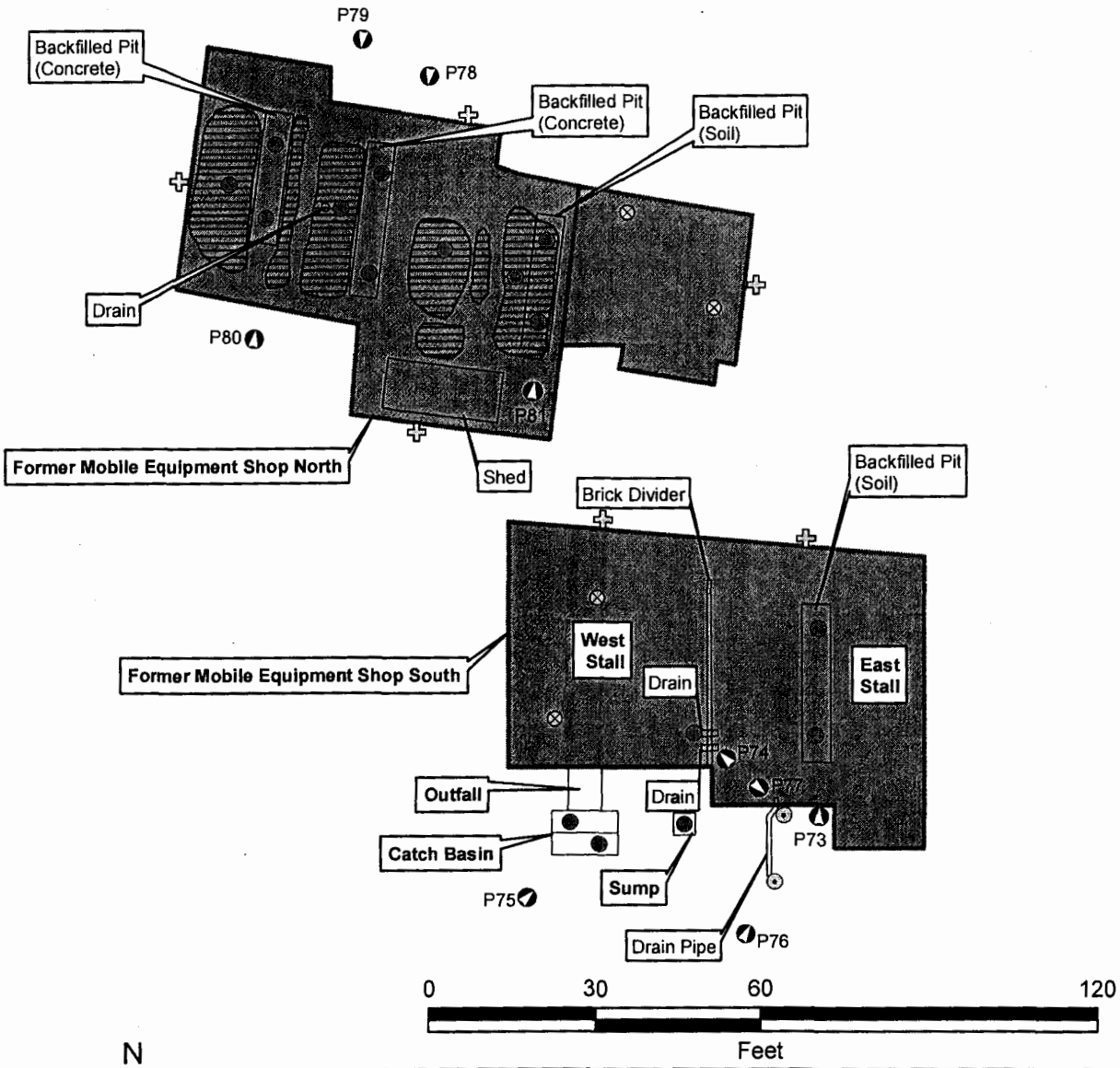

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Notes:
1. All locations and dimensions are approximate.

FIGURE 14

FORMER MOBILE EQUIPMENT SHOP AND ASSOCIATED SUBSURFACE STRUCTURES

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By KJJ	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601705-012	Prepared By JRS	
	Reviewed By MAA	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
Revison/Date 0 - 03/28/06	Scale As Noted	

WORK PLAN FOR FOUNDATION REMOVAL,
ADDITIONAL INVESTIGATION,
AND INTERIM REMEDIAL MEASURES

GEORGIA-PACIFIC CALIFORNIA WOOD PRODUCTS
MANUFACTURING FACILITY
90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA
AME PROJECT NO. 16017.01

March 21, 2005

Prepared By

ACTON • MICKELSON • ENVIRONMENTAL, INC.
5175 Hillsdale Circle, Suite 100
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(916) 939-7550

PREPARED BY:

Mark W. Clardy

Mark W. Clardy, R.G.
California Registered Geologist #7055
Project Geologist, R.G.

Date 3-21-05

REVIEWED BY:

Michael A. Acton, R.E.A.
Vice President

Date 3-21-05

REGISTERED GEOLOGIST
MARK W. CLARDY
NO. 7055
EXP. 5/31/06
STATE OF CALIFORNIA

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WORK PLAN FOR FOUNDATION REMOVAL, ADDITIONAL INVESTIGATION, AND INTERIM REMEDIAL MEASURES

GEORGIA-PACIFIC CALIFORNIA WOOD PRODUCTS MANUFACTURING FACILITY
90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA
AME PROJECT NO. 16017.01

March 21, 2005

1.0 INTRODUCTION

Georgia-Pacific Corporation (G-P) has authorized the preparation of this Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures (Work Plan) for the Georgia-Pacific California Wood Products Manufacturing Facility (GPCWPMF, Facility) located at 90 West Redwood Avenue in Fort Bragg, California (Site, Figures 1 and 2). This Work Plan is being submitted in conjunction with Coastal Development Permit (CDP) Application 3-05. The scope of work outlined herein requires approval of the CDP Application by the City of Fort Bragg (City) prior to initiation of field activities. The objective of the activities outlined in this Work Plan is to accomplish the following:

- Removal of foundations and if necessary, additional investigation and interim remedial measures (IRMs) at the following areas:
  - Compressor House (Building #11, Figure 3)
  - Former Sawmill #1 (Building #12, Figure 3)
  - Powerhouse and associated buildings (Building #13, Figure 3)
  - Fuel Barn (Building#14, Figure 3)
  - Chipper Building (Building #15, Figure 3)
  - Water Treatment Plant (Building #16, Figure 3)
  - Powerhouse Fuel Storage Building (Building #17, Figure 3)
  - Sewage Pumping Station (Figure 3)
  - Dewatering Slabs (Figure 3)
  - Water Supply Switch Building (Figure 3)

- Former Mobile Equipment Shop and associated subsurface structures north of Building #24 (Figure 4)

- Removal of debris from Glass Beaches #1 through #3 (Figure 5).

- Removal of geophysical anomalies identified in the September 3, 2004 report titled Geophysical Investigation of Parcels 3 and 10 of the Former Georgia Pacific Sawmill site in Fort Bragg, California prepared by 3Dgeophysics (Figures 6 and 7).

2.0 BACKGROUND

2.1 General

The GPCWPMF is located along the Pacific Ocean coastline in the City of Fort Bragg, Mendocino County, California. The Site is located west of Highway One and is bound by open coastline to the north, Noyo Bay to the south, the City to the east, and the Pacific Ocean to the west. Currently, the Facility occupies 445 acres and consists of 35 structures of varying size and construction material. The estimated total size of all facility structures is 846,628 square feet (sf).

According to historical records, sawmill operations began at the Site in 1885. The Site was acquired by G-P in 1973 and operations began the same year. On August 8, 2002, lumber production operations were ceased at the Facility. Prior to cessation of plant operations, logs were received by truck, unloaded, and stored in the log storage areas. Logs were then removed from inventory, debarked, and milled. Milled lumber was then either shipped green, kiln dried, or air-dried on site. Finished lumber was transported by rail or flatbed trailers. Bark and wood refuse was transported by truck, conveyer, or pneumatic system to the power plant where it was burned to generate steam for electricity.

Facility operations were historically conducted in the sawmills (#1 and #2), planer buildings, fence plant, power plant, lumber storage areas, and various maintenance facilities. Early Facility operations occurred mainly in the vicinity of the mobile equipment shop and power plant. Over the course of 117 years of operation the Facility expanded to the current size of 445 acres. The northern and southern areas of the Facility were primarily utilized for finished lumber and raw log storage. The southern area of the Facility also contains an airstrip, which has been out of service since the late 1980s. The southern area was largely unused for sawmill operations until a seedling nursery was established during the later years of Facility operation.

2.2 Areas Addressed in the Work Plan

A brief description of the areas addressed in the Work Plan is presented below.

2.2.1 Compressor House (Building #11)

This location includes Compressor Houses 1 and 2, both of which consisted of a corrugated metal structure with a concrete foundation/floor. The metal structures have been removed. One or more air compressors were used at this location over time. Additionally, a small corrugated metal shed (without concrete foundation/floor) is located to the north of Compressor House 2. A 12-inch diameter metal pipe passes through the shed and enters the ground at either end. These features are shown on Figure 3.

2.2.2 Former Sawmill #1 (Building #12)

The aboveground structures of Sawmill #1 and the green chain were demolished in 1998. The concrete foundation/floor of the sawmill remains, as do concrete structural supports for the green chain. Former Sawmill #1 and the green chain are shown on Figure 3.

2.2.3 Powerhouse and Associated Buildings (Building #13)

The Powerhouse and associated buildings are shown on Figure 3 and include the following structures:

- Powerhouse
- Paint storage shed
- Transformer pad
- Oil storage shed
- Press building
- Cooling towers, the small shed near the cooling towers, and two concrete pads for poly tank storage near the cooling towers
- Truck Dump
- Fly ash reinjection system

The Powerhouse has a concrete foundation and contained brick ovens, boilers, turbines, water pumps and other associated machinery to generate power for site operations. The paint storage shed is located south of the Powerhouse and is constructed of wood with a concrete floor.

A transformer pad constructed with concrete and enclosed with a chain-link fence is located north of the Powerhouse. Additionally, a transformer was located in an open sided shed to the southeast of the transformer pad. An oil storage shed constructed of wood with a concrete floor is located on the north side of the Powerhouse. The press building is constructed of wood with a concrete floor and is located northeast of the Powerhouse.

The cooling towers are constructed with corrugated metal or screened walls and a concrete foundation and is located south of the Powerhouse. A small storage shed constructed of corrugated metal with concrete flooring is located east of the cooling towers. A concrete pad

used for aboveground poly tank storage is located immediately east of the shed. A second concrete pad used for aboveground poly tank storage is located south of the shed.

The Truck Dump is located north of the Powerhouse and Fuel Barn and includes a hydraulic system formerly used to empty trucks of their wood fuel loads. Concrete slab was used for structural support at this location. The fly ash reinjection system currently consists of a concrete slab.

2.2.4 Fuel Barn (Building #14)

The Fuel Barn is constructed of corrugated metal with a concrete stem wall foundation that extends approximately 6 feet high. The floor is comprised of soil. Concrete in the center of the Fuel Barn was used to support a conveyor system. The Fuel Barn is shown on Figure 3.

2.2.5 Chipper Building (Building #15)

The Chipper Building next to the Truck Dump consists of a wood structure with a concrete floor (Figure 3).

2.2.6 Water Treatment Plant (Building #16)

The Water Treatment Plant is constructed of corrugated metal with a concrete foundation/floor (Figure 3). A 4,000 gallon aboveground storage tank containing alum was previously situated on a concrete slab located approximately 200 feet northwest of the Water Treatment Plant (Figure 3).

2.2.7 Powerhouse Fuel Storage Building (Building #17)

The Powerhouse Fuel Storage Building is constructed of corrugated metal with a concrete foundation/floor (Figure 3). A 30,000 gallon water aboveground storage tank constructed of wood was previously situated on a concrete slab immediately west of the Powerhouse Fuel Storage Building (Figure 3).

2.2.8 Water Supply Switch Building

The Water Supply Switch Building is constructed of corrugated metal with a concrete foundation/floor (Figure 3).

2.2.9 Dewatering Slabs

The Dewatering Slabs are constructed of concrete and were used to dewater wet fly ash prior to disposal (Figure 3).

2.2.10 Sewage Pumping Station

The Sewage Pumping Station consists of a concrete slab and an underground concrete tank (Figure 3).

2.2.11 Former Mobile Equipment Shop and Associated Subsurface Structures North of Building #24

The Former Mobile Equipment Shop consisted of two buildings with concrete foundations. The northern building was utilized as a lube bay (main building area), fuel dispensing area (north side of building), and equipment wash area (south side of building).

The south building was used for equipment storage and washing. Water resulting from equipment washing was directed to a concrete catch basin located immediately south of the south building. A concrete sump is located immediately east of the catch basin. An approximate 10-foot length of metal pipe extends southward from the south building foundation. The locations of the two buildings, catch basin, sump, and drain pipe are depicted on Figure 4.

2.2.12 Glass Beaches #1, #2, and #3

No foundations exist at Glass Beaches #1, #2, and #3, shown on Figure 5. Debris, including metal fused with rock, is present at the Glass Beaches.

2.1.13 Parcels 3 and 10 Areas With Geophysical Anomalies

Geophysical anomalies were detected in the Scrap Yard area in Parcel 3 and primarily in the fill areas of Parcel 10, as shown on Figures 6 and 7.

3.0 PREVIOUS SITE INVESTIGATION

The results of previous investigations conducted in the areas addressed in this Work Plan are summarized below. For the purpose of comparing reported site conditions to potential cleanup standards, Water Quality Objectives (WQOs) from the Water Quality Control Plan for the Water Quality Control Board [RWQCB] North Coast Region, December 9, 1993, amended June 28, 2001), WQOs from Cleanup and Abatement Order No. 99-15 for Redwood Oil Company (RWQCB North Coast Region, 1999), WQOs from Cleanup and Abatement Order R1-2001-49 for Marsh Commons Venture Group (RWQCB North Coast Region, 2001), and Environmental Screening Levels (ESLs) from Screening For Environmental Concerns At Sites With Contaminated Soil and Ground Water (RWQCB San Francisco Bay Region, February 2005) are referenced in the following discussion. Furthermore, Public Health Goals (PHGs) for drinking water established by the California Office of Environmental Health Hazard Assessment

(OEHHA, April 23, 2004) are also cited in the comparisons of monitoring well ground water sample chemical concentrations.

3.1 Compressor House (Building #11)

Previous sample locations are shown on Figure 3. Analysis of soil samples reported total petroleum hydrocarbons as gasoline (TPHg) ranging from less than the reporting limit (RL) of 1 to 36 milligrams per kilogram (mg/kg) (boring P3-47 at 4 ft.), TPH as diesel (TPHd) ranging from less than the RL of 1 to 2,000 mg/kg (boring P3-47 at 4 ft.), and TPH as motor oil (TPHmo) ranging from less than the RL of 2 to 1,900 mg/kg (boring P3-PH16 at 4 ft.). The maximum concentration of TPHg in soil of 36 mg/kg does not exceed the ESL of 100 mg/kg; however, the maximum concentrations of TPHd (2,000 mg/kg) and TPHmo (1,900 mg/kg) in soil exceed the ESLs for TPHd of 100 mg/kg and TPHmo of 500 mg/kg.

Ground water was encountered between 5.0 and 5.5 feet below ground surface (bgs) during previous investigations. Analysis of grab ground water samples reported TPHg ranging from 110 to 170 micrograms per liter (ug/L) (boring P3-47) and TPHd ranging from 22,000 to 200,000 ug/L (boring P3-46). The maximum ground water TPHg concentration (170 ug/L) exceeds the WQO of 50 ug/L. The WQO for TPHd in ground water of 56 ug/L is exceeded by the maximum site sample concentration of 200,000 ug/L TPHd.

Historical quarterly ground water monitoring at well MW-5.8 located near boring P3-47 between the Compressor House and Former Sawmill #1 reported no detections above the RLs for TPHg, TPHd, TPHmo, oil and grease (O&G), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), and organochlorine pesticides. Ground water barium concentrations in monitoring well MW-5.8 samples have ranged from 64 to 78 ug/L. These concentrations do not exceed the PHG of 2,000 ug/L nor the ESL and WQO of 1,000 ug/L. Tannin and lignin were reported at a concentration of 0.23 milligrams per liter (mg/L) in a ground water sample from monitoring well MW-5.8 in December 2004. The presence of constituents of potential concern (COPCs) in soil samples though not in conventionally collected ground water samples from the nearby monitoring well is an indication that the COPCs are primarily related to soil instead of ground water.

3.2 Former Sawmill #1 (Building #12)

Previous sample locations are depicted on Figure 3. Analysis of soil samples reported TPHg ranging from less than the RL of 0.96 to 6.8 mg/kg (boring P5-3), TPHd ranging from less than the RL of 1 to 8,400 mg/kg (Saw Mill), and TPHmo ranging from less than the RL of 2 to 16,000 mg/kg (boring SM-12). The maximum concentration of TPHg in soil (6.8 mg/kg) does not exceed the ESL of 100 mg/kg; however, the maximum concentrations of TPHd (8,400 mg/kg) and TPHmo (16,000 mg/kg) exceed the ESLs for TPHd of 100 mg/kg and TPHmo of 500 mg/kg.

Ground water was encountered between 0.25 and 13.5 feet below ground surface (bgs) during previous drilling in the vicinity of Former Sawmill #1. Analysis of grab ground water samples reported TPHg at less than the RL of 50 ug/L and TPHd ranging from 500 to 44,000 ug/L (boring P5-4). The maximum ground water TPHd concentration exceeds the WQO of 56 ug/L.

Historical quarterly ground water monitoring at wells MW-5.6 through MW-5.9 located near Former Sawmill #1 has reported methyl tertiary butyl ether (MTBE) concentrations ranging from less than the RL of 0.5 to 2.2 ug/L (monitoring well MW-5.7 in September 2004). Phenanthrene concentrations have ranged from less than the RL of 0.1 to 0.26 ug/L (monitoring well MW-5.7 in September 2004). Arsenic concentrations have ranged from less than the RL of 5.0 to 23 ug/L while selenium has ranged from less than the RL of 5.0 to 23 ug/L (both at MW-5.7 in September 2004). Barium concentrations have ranged from 64 to 250 ug/L while zinc has ranged from less than the RL of 20 to 46 ug/L (both in samples from monitoring well MW-5.9 in December 2004). Tannin and lignin concentrations have ranged from less than the RL of 0.1 to 6.2 mg/L (monitoring well MW-5.6 sample in December 2004). No detections above the RLs for TPHg, TPHd, TPHmo, O&G, SVOCs, PCBs, PAHs, and organochlorine pesticides have been reported in samples from monitoring wells MW-5.6 through MW-5.9.

The presence of MTBE in ground water samples up to a maximum concentration of 2.2 ug/L does not exceed the WQO of 13 ug/L. Phenanthrene at a maximum concentration of 0.26 ug/L does not exceed the ESL of 4.6 ug/L. Likewise, the WQOs for arsenic (50 ug/L), barium (1,000 ug/L), selenium (50 ug/L), and zinc (170 ug/L) have also not been exceeded. Barium does not exceed the PHG of 2,000 ug/L; however, arsenic exceeds the PHG of 0.004 ug/L. Total petroleum hydrocarbons as gasoline (TPHg) and total petroleum hydrocarbons as diesel (TPHd) contamination present in soil samples though not in conventionally collected ground water samples from nearby monitoring wells is an indication that petroleum hydrocarbon impact is related to soil rather than being a ground water issue in the vicinity of Former Sawmill #1.

3.3 Powerhouse and Associated Buildings (Building #13)

Previous sample locations are depicted on Figure 4. Analysis of soil samples reported TPHd ranging from 6.4 to 3,600 mg/kg (boring P4-PH1) and TPHmo ranging from 9.4 to 9,600 mg/kg (boring P4-PH1).

Analysis of soil samples reported naphthalene ranging from less than the RL of 0.0046 to 0.12 mg/kg, benzo(b)fluoranthene ranging from less than the RL of 0.066 to 0.12 mg/kg, bis(2-ethylhexyl)phthalate ranging from less than the RL of 0.33 to 1.4 mg/kg, and butylbenzylphthalate ranging from less than the RL of 0.33 to 0.38 mg/kg.

Analysis of soil samples reported arsenic ranging from 2.4 to 7.5 mg/kg, barium ranging from 51 to 3,400 mg/kg, cadmium ranging from less than the RL of 0.2 to 2.8 mg/kg, chromium ranging from 8.6 to 23 mg/kg (boring P4-37 near the cooling towers), cobalt ranging from 2.1 to 55 mg/kg, copper ranging from 10 to 190 mg/kg, lead ranging from 8.7 to 400 mg/kg, mercury ranging from 0.042 to 0.19 mg/kg, and zinc ranging from 27 to 510 mg/kg. The maximum

concentration of arsenic of 7.5 mg/kg exceeds the ESL of 5.5 mg/kg and barium at a maximum of 3,400 mg/kg exceeds the ESL of 750 mg/kg. Cadmium at a maximum of 2.8 mg/kg exceeds the ESL of 1.7 mg/kg and the maximum cobalt concentration of 55 mg/kg exceeds the ESL of 10 mg/kg. Lead at a maximum concentration of 400 mg/kg exceeds the ESL of 150 mg/kg. The maximum concentrations of chromium, copper, mercury, and zinc listed above do not exceed their respective ESLs.

In the vicinity of the Powerhouse, ground water was encountered between 2.5 and 5.5 feet bgs during previous investigations. Analysis of monitoring well ground water samples reported TPHg at less than the RL of 50 ug/L, TPHd ranging from less than the RL of 50 to 76 ug/L (monitoring well MW-4.3), and TPHmo ranging from less than the RL of 300 to 320 ug/L (monitoring well MW-4.4). Ground water monitoring well sample barium concentrations have ranged from 77 to 9,600 ug/L, and zinc has ranged from less than the RL or 20 to 77 ug/L (both at monitoring well MW-4.1 in December 2004). Selenium has ranged from less than the RL of 5 to 9.5 ug/L (monitoring well MW-4.1 in September 2004).

The maximum ground water monitoring well sample TPHd concentration, 76 ug/L at monitoring well MW-4.3 in January 2004, exceeds the WQO of 56 ug/L. This has been the only ground water TPHd detection in a monitoring well MW-4.3 sample; however, the monitoring well could not be located in the Third Quarter and Fourth Quarter 2004. The monitoring well MW-4.4 ground water sample TPHmo concentration of 320 ug/L exceeds the WQO of 175 ug/L. However, it should be noted that (1) there has been only one TPHmo detection reported in a monitoring well MW-4.4 sample (December 2004), and (2) the chromatogram pattern did not resemble the laboratory standard and contained either an unidentified single peak or multiple peaks. The barium concentration reported in a monitoring well MW-4.1 sample exceeds the PHG of 2,000 ug/L and the ESL and WQO of 1,000 ug/L. A PHG for zinc in ground water has not been established; however, the reported concentrations do not exceed the WQO of 170 ug/L nor the ESL of 81 ug/L. The maximum selenium concentration exceeds the ESL of 5 mg/L but not the WQO of 10 ug/L.

3.4 Fuel Barn (Building #14)

Previous sample locations are depicted on Figure 3. Analysis of a soil sample reported TPHmo at 450 mg/kg and TPHd at 72 mg/kg (MW-4.1 at 1.5 feet). These concentrations do not exceed the ESLs for TPHmo of 500 mg/kg and TPHd of 100 mg/kg.

In the vicinity of the Fuel Barn, ground water was encountered between 2.0 (monitoring well MW-4.1) and 3.5 feet (monitoring well MW-4.3) bgs (TRC 2004a). Analysis of monitoring well ground water samples reported TPHg at less than the RL of 50 ug/L, TPHd ranging from less than the RL of 50 to 76 ug/L (monitoring well MW-4.3), and TPHmo at less than the RL of 300 ug/L. Barium concentrations in ground water samples from monitoring well MW-4.1 have ranged from 3,300 to 9,600 ug/L, while nickel has ranged from less than the RL of 5 to 9.5 ug/L and zinc has ranged from less than the RL of 20 to 77 ug/L.

The maximum ground water sample TPHd concentration, 76 ug/L at monitoring well MW-4.3 in January 2004, exceeds the WQO of 56 ug/L. This has been the only ground water sample TPHd detection at monitoring well MW-4.3; however, the monitoring well could not be located in the Third Quarter and Fourth Quarter 2004. The barium concentrations exceed the PHG of 2,000 ug/L and the ESL and WQO of 1,000 ug/L. Nickel does not exceed the PHG of 12 ug/L but exceeds the ESL of 8.2 ug/L. Zinc does not exceed the WQO of 170 mg/L, nor the ESL of 81 ug/L.

3.5 Chipper Building (Building #15)

Sampling and analysis has not been conducted at this location (Figure 3).

3.6 Water Treatment Plant (Building #16)

Samples were collected proximate to the Water Treatment Plant during investigation of the Former Bunker Fuel Aboveground Storage Tanks. Previous sample locations are depicted on Figure 3. Analysis of soil samples reported TPHd ranging from 3.3 to 42 mg/kg (boring P4-17) and cadmium ranging from 1.5 to 2.1 mg/kg (boring P4-12). Analysis of grab ground water samples reported TPHd ranging from 66 to 85 ug/L (boring P4-17; 53 ug/L with silica gel cleanup). Investigation of the Former Bunker Fuel Aboveground Storage Tank area will be outlined in a second work plan for activities not requiring a CDP to be submitted to the RWQCB North Coast Region at a later date.

The maximum concentration of TPHd in soil of 42 mg/kg does not exceed the ESL of 100 mg/kg; however, the maximum cadmium concentration of 2.1 mg/kg exceeds the ESL of 1.7 mg/kg.

3.7 Powerhouse Fuel Storage Building (Building #17)

Previous sample locations are depicted on Figure 3. Analysis of soil samples reported TPHd ranging from 3.9 to 37 mg/kg (boring P4-14), arsenic ranging from 2 to 5.9 mg/kg (boring P4-13), and cadmium ranging from 1.6 to 2.5 mg/kg (boring P4-16). Analysis of grab ground water samples reported TPHd ranging from 54 to 330 ug/L (boring P4-16; 53 ug/L with silica gel cleanup). The maximum concentration of TPHd in soil (37 mg/kg) is not in excess of the ESL of 100 mg/kg; however, the maximum arsenic (5.9 mg/kg) and cadmium (2.5 mg/kg) concentrations exceed their respective ESLs of 5.5 mg/kg and 1.7 mg/kg.

3.8 Water Supply Switch Building

Samples were collected proximate to the Water Supply Switch Building during investigation of the Former Bunker Fuel Aboveground Storage Tanks (Figure 3). See Section 3.6 above.

3.9 Dewatering Slabs

Sampling and analysis has not been conducted at this location (Figure 3).

3.10 Sewage Pumping Station

Sampling and analysis has not been conducted at this location (Figure 3).

3.11 Former Mobile Equipment Shop and Associated Subsurface Structures North of Building #24

Previous sample locations are depicted on Figure 4. Analysis of soil samples reported TPHg ranging from less than the RL of 0.99 to 340 mg/kg (monitoring well MW-3.2), TPHd ranging from less than the RL of 0.99 to 4,800 mg/kg (boring P3-29), and TPHmo ranging from 1,800 to 5,100 mg/kg (boring P3-80). These ranges in concentration exceed the TPHg and TPHd ESL of 100 mg/kg as well as the TPHmo ESL of 500 mg/kg.

Analysis of soil samples reported methyl tertiary butyl ether (MTBE) ranging from less than the RL of 0.99 to 0.038 mg/kg, 2-butonone ranging from less than the RL of 0.01 to 0.013 mg/kg, n-butylbenzene ranging from less than the RL of 0.005 to 1.1 mg/kg, naphthalene ranging from less than the RL of 0.005 to 2.2 mg/kg, para-isopropyl-toluene ranging from less than the RL of 0.005 to 0.16 mg/kg, and sec-butylbenzene ranging from less than the RL of 0.005 to 0.38 mg/kg. The maximum concentration of MTBE of 0.038 mg/kg exceeds the ESL of 0.023 mg/kg while 2-butanone at a maximum of 0.013 mg/kg and n-butylbenzene at 1.1 mg/kg do not exceed the ESL of 3.9 mg/kg for both compounds. Naphthalene at a maximum concentration of 2.2 mg/kg exceeds the ESL of 0.46 mg/kg. ESLs have not been established for para-isopropyltoluene and sec-butylbenzene.

Analysis of soil samples reported arsenic ranging from 2.5 to 11 mg/kg, cadmium ranging from 0.92 to 2.3 mg/kg, lead ranging from 4.6 to 52 mg/kg and mercury ranging from less than the RL of 0.01 to 0.24 mg/kg. The maximum arsenic concentration (11 mg/kg) exceeds the ESL of 5.5 mg/kg and cadmium exceeds the ESL of 1.7 mg/kg. The ESLs for lead (150 mg/kg) and mercury (3.7 mg/kg) have not been exceeded.

Ground water was encountered between 7.5 (borings P3-28 and P3-31) and 13.0 feet bgs (monitoring well MW-3.1) during previous drilling in the vicinity of the Former Mobile Equipment Shop. Analysis of grab ground water samples reported TPHg ranging from less than the RL of 50 to 2,500 ug/L (boring P3-28) and TPHd ranging from 72 to 35,000 ug/L (boring P3-35). Analysis of grab ground water samples reported tetrachloroethene (PCE) ranging from less than the RL of 0.5 to 1.7 ug/L, 1,1-dichloroethane ranging from less than the RL of 0.5 to 1.0 ug/L, 1,2,4-trimethylbenzene ranging from less than the RL of 0.5 to 240 ug/L, 1,2-dichlorobenzene ranging from less than the RL of 0.5 to 5.1 ug/L, 1,3,5-trimethylbenzene ranging from less than the RL of 0.5 to 160 ug/L, carbon disulfide ranging from 0.6 to 1.1 ug/L, isopropylbenzene ranging from less than the RL of 0.1 to 51 ug/L, xylenes ranging from less

than the RL of 0.5 to 200 ug/L, MTBE ranging from less than the RL of 0.5 ug/L to 1,100 ug/L, naphthalene ranging from 0.5 to 54 ug/L, and para-isopropyl-toluene ranging from less than the RL of 0.5 to 0.7 ug/L. Antimony concentrations ranged from less than the RL of 60 to 130 ug/L. Nickel and zinc concentrations ranged from less than the RL of 20 ug/L to 64 ug/L and 54 ug/L, respectively.

Analysis of ground water samples from monitoring wells reported TPHg ranging from less than the RL of 50 to 180 ug/L (monitoring well MW-3.2), TPHd ranging from less than the RL of 50 to 560 ug/L (monitoring well MW-3.2), and TPHmo ranging from less than the RL of 300 to 760 ug/L (monitoring well MW-3.3). Additionally, ground water sample PCE concentrations have ranged from 0.6 to 2.2 ug/L (monitoring well MW-3.2) and cis-1,2-dichloroethene (cis-1,2-DCE) has ranged from 0.5 to 5.5 mg/L (monitoring well MW-3.2). Xylene has ranged from less than the RL of 0.5 to 0.8 ug/L (monitoring well MW-3.3) and MTBE has ranged from less than the RL of 0.5 to 40 ug/L (monitoring well MW-3.1). Isopropylbenzene has ranged from less than the RL of 0.5 to 1.2 ug/L (monitoring well MW-3.3) and propylbenzene has ranged from less than the RL of 0.5 to 1.2 mg/L (monitoring well MW-3.3). Freon 113 has ranged from less than the RL of 5.0 to 5.1 ug/L and 1,2,4-trimethylbenzene has ranged from less than the RL of 0.5 to 2.3 ug/L (monitoring well MW-3.3). 1,1-dichloroethane has ranged from 0.7 to 2.3 ug/L (monitoring well MW-3.2) and 1,1,1-trichloroethane has ranged from less than the RL of 0.5 to 5.2 ug/L (monitoring well MW-3.3). Barium has ranged from less than the RL of 10 to 46 ug/L, and zinc has ranged from less than the RL of 20 to 50 ug/L.

The maximum concentrations of TPHg (180 ug/L), TPHd (560 ug/L), and TPHmo (760 ug/L) exceed the WQOs of 50 ug/L, 56 ug/L, and 175 ug/L, respectively. The presence of PCE at a maximum of 2.2 ug/L does not exceed the WQO of 5 ug/L though exceeds the PHG of 0.06 ug/L. Cis-1,2-DCE at a maximum concentration of 5.5 ug/L does not exceed the WQO of 6 ug/L. Xylenes at a maximum of 200 ug/L exceed the WQO of 17 ug/L though not the PHG of 1,800 ug/L. Methyl tertiary butyl ether at a maximum of 1,100 ug/L exceeds the WQO and PHG of 13 ug/L. 1,1-dicloroethane at a maximum of 2.3 ug/L has not exceeded the WQO of 5 ug/L and the PHG of 3 ug/L, nor has Freon 113 at a maximum concentration of 5.1 ug/L exceeded the PHG of 4,000 ug/L. 1,1,1-trichloroethane at a maximum of 5.2 ug/L does not exceed the WQO of 200 ug/L. The maximum antimony concentration of 130 ug/L exceeds the ESL of 6 ug/L and PHG of 20 ug/L. The maximum nickel concentration of 64 ug/L exceeds the ESL of 8.2 ug/L and PHG of 12 ug/L. The maximum zinc concentration of 54 ug/L does not exceed the ESL of 81 ug/L nor WQO of 170 ug/L.

3.12 Glass Beach #1

Previous sample locations are depicted on Figure 5. Trace porcelain, glass, and metal debris were encountered to a depth of 4 feet in boring P1-3 and trace glass fragments were found in the upper 0.5 foot in boring P1-5. Debris was not encountered during drilling of the other three borings or excavation of the nine test pits in the Glass Beach #1 area. Metal debris fused with native rock was observed primarily below the high tide line. Analysis of soil samples reported TPHd ranging from 1.4 to 12 mg/kg (P1-4) and TPHg, volatile organic compounds (VOCs),

semi-volatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs) at less than the RL. Arsenic in soil reportedly ranged from 1.3 to 6.5 mg/kg and cadmium ranged from 0.45 to 2.2 mg/kg. The maximum TPHd concentration (12 mg/kg) does not exceed the ESL of 100 mg/kg; however, the maximum arsenic (6.5 mg/kg) and cadmium (2.2 mg/kg) concentrations exceed their respective ESLs of 5.5 mg/kg and 1.7 mg/kg. Analysis of a grab ground water sample reported TPHg, TPHd, VOCs, and SVOCs at less than the RL.

3.13 Glass Beach #2

Previous sample locations are depicted on Figure 5. Debris was not encountered during drilling of the four borings in the Glass Beach #2 area; however, red, orange, and black mottled soil was observed at a depth of 9 feet in boring P1-9. Metal debris fused with native rock was observed primarily below the high tide line. Analysis of soil samples reported TPHd ranging from 2.7 to 73 mg/kg (boring P1-9), arsenic ranging from 4.8 to 6.4 mg/kg, and TPHg, VOCs, SVOCs, and PCBs at less than the RL. The maximum concentration of TPHd in soil of 73 mg/kg does not exceed the ESL of 100 mg/kg; however, cadmium at a maximum of 6.4 mg/kg exceeds the ESL of 1.7 mg/kg.

3.14 Glass Beach #3

Previous sample locations are depicted on Figure 5. Debris was not encountered during drilling of the six borings in the Glass Beach #3 area; however, fill consisting of gravelly sand was observed to 2 feet bgs in boring P1-14. A scrap metal fragment was observed at approximately 2 feet bgs during excavation of test pit TP-7 though debris was not observed in the other seven test pit excavations. Metal debris fused with native rock was observed primarily below the high tide line. Buried metal debris was also exposed at 1 to 2 feet depth along the face of the coastal bluff. Analysis of soil samples reported TPHd ranging from 1.4 to 11 mg/kg (boring P1-11), arsenic ranging from 2.2 to 6.2 mg/kg, cadmium ranging from 0.86 to 3.1 mg/kg, and cobalt ranging from 3.6 to 12 mg/kg. TPHg, VOCs, SVOCs, and pesticides were reported at less than the RL. The maximum concentration of TPHd in soil does not exceed the ESL of 100 mg/kg. The maximum concentrations of arsenic (6.2 mg/kg), cadmium (3.1 mg/kg), and cobalt (12 mg/kg) exceed their respective ESL of 5.5 mg/kg, 1.7 mg/kg, and 10 mg/kg.

3.15 Parcels 3 and 10 Areas With Geophysical Anomalies

Previous sample locations for Parcels 3 and 10 are depicted on Figures 6 and 7, respectively. Analysis of soil samples from the portion of Parcel 3 surveyed for geophysical anomalies reported TPHd ranging from less than the RL of 1 to 490 mg/kg, TPHmo ranging from less than the RL of 5 to 21 mg/kg (boring P3-PH10), PCBs ranging from less than the RL of 0.12 to 0.14 mg/kg, arsenic ranging from 6.2 to 14 mg/kg, cadmium ranging from 1.5 to 5.9 mg/kg, copper ranging from 9.5 to 140 mg/kg, lead ranging from 11 to 68 mg/kg, mercury ranging from 0.04 to 0.06 mg/kg, molybdenum ranging from less than the RL of 0.77 to 7.5 mg/kg, and nickel ranging from 18 to 71 mg/kg.

In the geophysical survey area of Parcel 3, the maximum concentration of TPHd of 490 mg/kg exceeds the ESL of 100 mg/kg while TPHmo at a maximum of 21 mg/kg does not exceed the ESL of 500 mg/kg. Arsenic at a maximum concentration of 14 mg/kg exceeds the ESL of 5.5 mg/kg and cadmium at a maximum of 5.9 mg/kg exceeds the ESL of 1.7 mg/kg. ESLs for copper, lead, mercury, molybdenum, and nickel have not been exceeded.

Analysis of the soil sample from the portion of Parcel 10 surveyed for geophysical anomalies reported TPHg, TPHd, VOCs, SVOCs, and PCBs at less than the RL. Reported metal concentrations were not in excess of the corresponding ESLs. Analysis of quarterly ground water samples from monitoring wells installed in Parcel 10 reported one detection of benzene at 3.3 ug/L in monitoring well MW-10.2 in August 2004. This detection exceeds the WQO of 0.35 ug/L and the PHG of 0.15 ug/L. Ground water arsenic concentrations have ranged from less than the RL of 5 to 11 ug/L (monitoring well MW-10.4 in September 2004), barium concentrations have ranged from less than the RL of 10 to 180 ug/L (monitoring well MW-10.4 in August 2004), and beryllium has ranged from less than the RL of 2 to 4.7 ug/L (monitoring well MW-10.1 and monitoring well MW-10.2 in August 2004). Arsenic in a ground water sample from monitoring well MW-10.4 exceeds the PHG of 0.004 ug/L, though not the ESL of 36 ug/L nor the WQO of 50 ug/L. Barium concentrations do not exceed the PHG of 2,000 ug/L nor the ESL and WQO of 1,000 ug/L. Beryllium at a maximum of 4.7 ug/L exceeds the PHG of 1 ug/L and ESL of 2.7 ug/L. Selenium concentrations have ranged from less than the RL of 5 to 9.8 ug/L. The maximum selenium concentration exceeds the ESL of 5 ug/L, though not the WQO of 10 ug/L. There have been no other VOC nor TPHg, TPHd, SVOC or PCB detections in ground water samples at Parcel 10.

4.0 SENSITIVE AREAS

The Log Pond and the Coastline are the two sensitive areas identified in The Jurisdictional Determination and Habitat Assessment (TRC 2003; submitted to the City Development Department in 2003 for CDP 1-03) that are proximate to areas specified in this Work Plan to undergo subsurface disturbance. The Log Pond is proximate to the Powerhouse area and associated buildings. A fence will be constructed to protect the Log Pond from erosion and siltation if it is less than 50 feet from the Powerhouse or any other location where subsurface disturbance is to occur. Glass Beaches #1 through #3 are located along the Coastline. Subsurface disturbance within these areas will be conducted with minimal disturbance to the environment. As recommended by the City, a botanist familiar with plant species indigenous to the area will be retained to identify endangered species in work areas within 100 feet of the coastal bluffs and develop a plan to mitigate their disturbance.

5.0 CULTURAL RESOURCES

An Archeological Survey of the Georgia Pacific Lumber Mill (TRC 2003a) and Phase II Determination of Significant Standing Structures (TRC 2003b) were completed, from which a Site Specific Treatment Plan for Cultural Resources (TRC 2003c) was developed. All three documents were submitted to the City Development Department in 2003 for their review of CDP 1-03 and Site and Architectural Review 4-03.

All areas where subsurface disturbances will occur will be documented, monitored, and tested in general accordance with the Site Specific Treatment Plan for Cultural Resources. Accordingly, subsurface disturbance in areas considered to have moderate or high potential for Prehistoric or Historic Resources will be monitored by an archeologist and Native American representative.

5.1 Prehistoric Resources

The Former Sawmill #1 and Powerhouse area is located within Area 2P-Soldiers Bay, considered to have a moderate potential for Prehistoric Resources. The Former Mobile Equipment Shop and associated surface structures are not located within areas considered to have moderate or high potential for Prehistoric Resources.

Glass Beaches #1 and #2 are located within Area 1P-Northwest Coast, considered to have a high potential for Prehistoric Resources. Glass Beach #3 is not located within an area considered to have moderate or high potential for Prehistoric Resources.

The locations within Area 3 identified in the 3Dgeophysics Report to contain geophysical anomalies are not within areas considered to have moderate or high potential for Prehistoric Resources. The locations within Area 10 identified in the 3Dgeophysics Report to contain geophysical anomalies are within Area 3P-Soldiers Point/Southwest Coast, considered to have a moderate or high potential for Prehistoric Resources.

5.2 Historic Resources

The Former Sawmill #1 and Powerhouse area and the Former Mobile Equipment Shop and associated surface structures are located within Area 4H-Buildings, considered to have a high potential for Historic Resources.

Glass Beach #1 is not located within an area considered to have moderate or high potential for Historic Resources. Glass Beach #2 is located within Area 9H-City Dump, considered to have high potential for Historical Resources. Glass Beach #3 is located within Area 14H-Historic Trash, considered to have moderate potential for Historic Resources.

The locations within Area 3 identified in the 3Dgeophysics Report to contain geophysical anomalies are within Areas 6H-Soldiers Harbor or 17H-Homesteads/Activities, considered to

have high and moderate potentials for Historic Resources, respectively. The locations within Area 10 identified in the 3Dgeophysics Report to contain geophysical anomalies are not within areas considered to have moderate or high potential for Historic Resources.

6.0 LEAD AND ASBESTOS

All work involving structures with asbestos and lead containing paint will be performed in general accordance with local, state, and federal rules and regulations. A certified and trained contractor will be utilized to secure the necessary permits and conduct the required abatement activities. These tasks will be conducted as part of aboveground structure removal, which is outside the scope of work addressed by the Work Plan. However, there is the potential for contact with subsurface water pipes wrapped with asbestos containing material during the subsurface disturbance activities described herein. In such an event, the aforementioned procedures would then be implemented.

7.0 SCOPE OF WORK

The following scope of work is generally applicable to each of the areas to undergo subsurface disturbance; however, some areas do not include a concrete foundation.

- Obtain applicable permits.
- Locate underground utilities and subsurface features.
- Evaluate area specific conditions, including locations of foundation cracks, stains, drain lines, and where machinery, sumps, pits, or hazardous materials were utilized or stored within the structures and identify soil sampling locations.
- Construct a soil sampling grid for each foundation to be removed and for each area to be excavated.
- Remove foundations, excavate debris, and remove geophysical anomalies.
- Collect verification concrete and soil samples for laboratory analysis.
- Evaluate sample analytical data and compare with soil cleanup screening levels.
- Conduct additional investigation and/or IRMs in the form of soil excavation in areas where sample COPC concentrations are elevated, if applicable.
- Arrange for appropriate disposal of waste resulting from foundation removal, additional investigation, and IRM activities.
- Submit a report of findings with applicable recommendations.

The scope of the work will be conducted in general accordance with the following documents:

- Sampling and Analysis Plan (Appendix A)
- Site Health and Safety Plan (Appendix B)
- Quality Assurance Plan (Appendix C)
- Excavation and Soil Management Plan (Appendix D)
- Transportation Plan (Appendix E)

7.1 Obtain Applicable Permits

A CDP Application was submitted by G-P to the City on February 10, 2005. City approval of the CDP Application is anticipated by June 13, 2005. An excavation permit will be obtained from the City prior to initiation of foundation removal or excavation activities. A permit from the Mendocino County Air Quality Management District for excavating and stockpiling material will be obtained prior to foundation removal and excavation activities.

7.2 Locate Underground Utilities and Subsurface Features

Underground Service Alert will be contacted prior to initiation of field activities. In addition, an independent underground utility locating service will be contracted to conduct a reconnaissance at each area to undergo foundation removal or excavation. All field activities will be conducted in general accordance with the Site Health and Safety Plan included as Appendix B.

7.3 Evaluate Area Specific Conditions

Building records, if available, will be reviewed to assess the locations of drain lines, machinery, and material storage areas and identify COPCs for testing. A reconnaissance of each foundation will be conducted to assess the presence of cracks, staining, or other features resulting from or indicating discharges of hazardous materials. Global Positioning System (GPS) instrumentation will be used to record the coordinates of identified locations for input to the site database for future reference or sampling, if applicable. In addition, previous investigation data will be reviewed to identify locations where soil samples were collected for which analysis reported COPC concentrations greater than RLs.

7.4 Construct Soil Sampling Grids

A soil sampling grid will be formulated specific to each foundation to be removed or each area to be excavated. Grid spacing will take into account the area specific conditions identified during document and previous investigation review and foundation reconnaissance. The objective of establishing a grid is to obtain representative samples throughout the area in question. Global Positioning System instrumentation will be used to record grid coordinates for input to the site database for future reference or sampling, if applicable.

7.5 Remove Foundations, Excavate Debris, and Remove Geophysical Anomalies

Heavy-equipment will be utilized to remove and stockpile concrete building foundations, soil, and debris. Soil will be handled in general accordance with the Excavation and Soil Management Plan included as Appendix D. Material suspected to be impacted with COPCs will be stockpiled separate from non-impacted material.

The requirements of existing air quality regulations will be implemented during foundation removal, excavation, and IRMs so that potential emissions of dust and contaminants from building materials and soil do not present a significant impact to human health or the environment. The Excavation and Soil Management Plan includes procedures to facilitate compliance with applicable regulations.

The best management practices outlined in the Site Stormwater Pollution Prevention Plan will be employed as they pertain to foundation removal, excavation, and IRMs to facilitate compliance with the National Pollutant Discharge Elimination System General Permit No. CAS000002 Waste Discharge Requirements for Stormwater Discharges Associated With Construction.

All areas where subsurface disturbances will occur will be documented, monitored, and tested in general accordance with the Site Specific Treatment Plan for Cultural Resources. Accordingly, subsurface disturbance in areas considered to have moderate or high potential for Prehistoric or Historic Resources will be monitored by an archeologist and Native American representative.

7.6 Collect Verification Concrete and Soil Samples For Laboratory Analysis

Areas of stained concrete will be sampled for laboratory analysis of COPCs associated with the specific location.

Following foundation removal, soil samples will be collected from the following locations:

- Soil at, underlying, or adjacent to foundation staining or cracks, drain lines, or previous sampling locations where COPCs were reported at greater than the RL. These locations will be identified prior to foundation removal or excavation.
- Grid locations identified prior to foundation removal or excavation.
- Areas observed or suspected during foundation removal or excavation to be impacted by COPCs.

Concrete and soil sampling will be conducted in general accordance with the protocol outlined in the Sampling and Analysis Plan included as Appendix A.

Concrete and soil samples will be submitted to Curtis & Tompkins, Ltd. (C&T), a State of California Department of Health Services certified laboratory. The Quality Assurance Manual for C&T is included in the Quality Assurance Plan (QAP, Appendix C).

Samples will be analyzed by one or more of the following test methods:

- Total petroleum hydrocarbons as gasoline, diesel, and motor oil (EPA Method 8015 Modified)
- Total petroleum hydrocarbons as diesel with silica gel cleanup (EPA Method 8015 Modified) – Extended Chromatogram
- Total oil and grease (EPA Method 1664A)
- Volatile organic compounds (EPA Method 8260)
- Volatile organic compounds (EPA Method 8260 with sample collection by EPA Method 5035)
- Semi-volatile organic compounds (EPA Method 8270)
- Polynuclear aromatic hydrocarbons (EPA Method 8310)
- Polychlorinated biphenyls (EPA Method 8080 or 8082)
- Organochlorine pesticides (EPA Method 8081)
- Dioxins and furans (EPA Method 8280 or 8290)
- Site specific pesticides/herbicides (no EPA Method)
- CAM 17 Metals (EPA 6010/7400)
- Hexavalent chromium (EPA Method 7196)
- Tannin and lignin (to be determined)

7.7 Evaluate Sample Analytical Data and Data Management

Sample analytical data will be evaluated against soil cleanup screening levels, such as PHGs or ESLs, to assist in determining where additional investigation or IRMs are warranted.

Management of laboratory analytical data will be conducted in general accordance with the QAP included as Appendix C.

7.8 Conduct Additional Investigation and/or Interim Remedial Measures

Additional investigation and/or IRMs may be warranted at specific locations based upon the results of verification sample analysis and comparison to soil cleanup screening levels. It is anticipated that IRMs, if conducted, would be limited to excavation of impacted soil representative of source areas. Note that soil cleanup screening levels will be used as a guide to

whether additional investigation or IRMs are warranted and not necessarily as the means to determine if COPC concentrations are acceptable to remain in soil.

Investigation and excavation protocol are presented in Appendices A and D, respectively.

7.9 Dispose Waste

Stockpiles of concrete without stains or evidence of hazardous waste will be transported offsite to a recycling or non-hazardous waste disposal facility. Results of laboratory analysis of concrete samples collected during foundation demolition will be utilized to evaluate disposal options of concrete stockpiles that visually exhibited COPC impacts (i.e., staining). Waste transportation and disposal, including identification of haulers, disposal facilities, routes, and record keeping are summarized in the Transportation Plan included as Appendix E.

7.10 Submit Report of Findings

A report will be submitted to the RWQCB North Coast Region documenting all foundation removal, soil excavation, additional investigation, and IRM activities. Risk assessment will be conducted on specific areas, if warranted, to evaluate the threat presented by select COPCs to human health and the environment. Recommendations will be presented, including no further action for areas where risk assessment indicates no significant risk to human health and the environment, or additional investigation/remedial action for areas where risk assessment indicates a significant risk to human health and the environment.

8.0 SCHEDULE

It is anticipated that field activities will begin on June 13, 2005 and be completed by October 14, 2005. A results report will be submitted to the RWQCB North Coast Region by December 16, 2005.

9.0 REMARKS

This plan represents our professional opinions, which are based in part on information supplied by the client. These opinions are based on currently available information and have been arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this no warranty is implied or intended. Any reliance on the information contained herein by third parties is at such party's sole risk.

10.0 REFERENCES

3Dgeophysics, September 3, 2004. Geophysical Investigation of Parcels 3 and 10 of the Former Georgia Pacific Sawmill site in Fort Bragg, California.

TRC, 2003. The Jurisdictional Determination and Habitat Assessment.

TRC, 2003a. Archeological Survey of the Georgia Pacific Lumber Mill.

TRC, 2003b. Phase II Determination of Significant Standing Structures.

TRC, 2003c. Site Specific Treatment Plan for Cultural Resources.

TRC, 2004. Phase I Environmental Site Assessment. Georgia-Pacific California Wood Products Manufacturing Division, 90 West Redwood Avenue, Fort Bragg, California, March 2004.

TRC, 2004a. Phase II Environmental Site Assessment Report. Georgia-Pacific California Wood Products Manufacturing Division, 90 West Redwood Avenue, Fort Bragg, California, May 2004.

TRC, 2004b. Additional Site Assessment Report. Georgia-Pacific Former Sawmill Site, 90 West Redwood Avenue, Fort Bragg, California. October 2004.

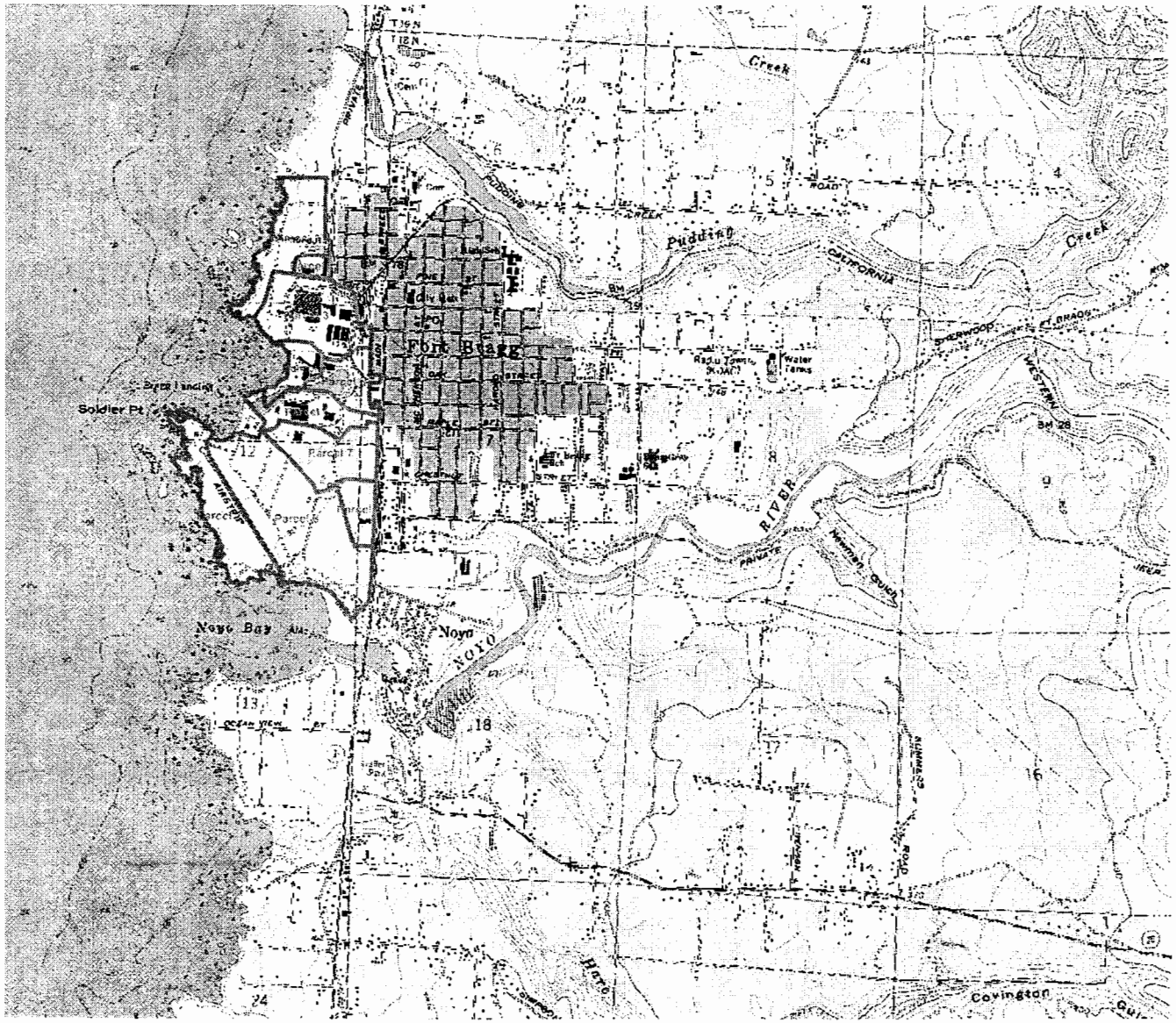
Water Quality Control Plan For The North Coast Region. North Coast Regional Water Quality Control Board (RWQCB), December 9, 1993, amended June 28, 2001.

Cleanup and Abatement Order No. 99-15 for Redwood Oil Company. Regional Water Quality Control Board (RWQCB) North Coast Region, 1999.

Cleanup and Abatement Order R1-2001-49 for Marsh Commons Venture Group. Regional Water Quality Control Board (RWQCB) North Coast Region, 2001.

Screening For Environmental Concerns At Sites With Contaminated Soil and Ground Water. Regional Water Quality Control Board (RWQCB) San Francisco Bay Region, February 2005.

Public Health Goals (PHGs). California Office of Environmental Health Hazard Assessment (OEHHA, April 23, 2004).



N

0 2,000 4,000 8,000

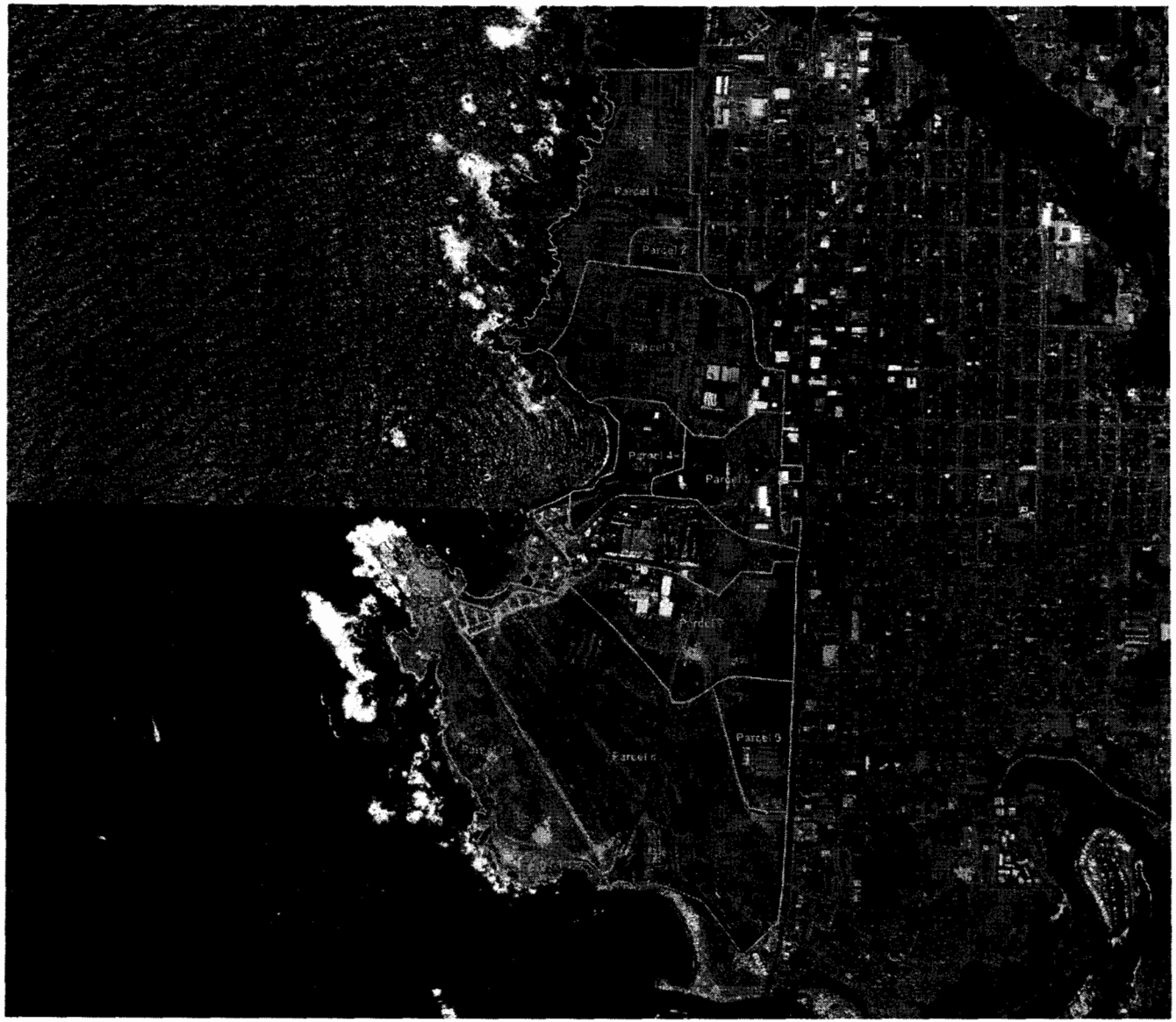
Feet

FIGURE 1

SITE LOCATION MAP

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File sitelocationmap	Prepared By MAA	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By	
Revision/Date 0 - 3/7/05	Scale As Noted	



N

0 1,000 2,000 4,000

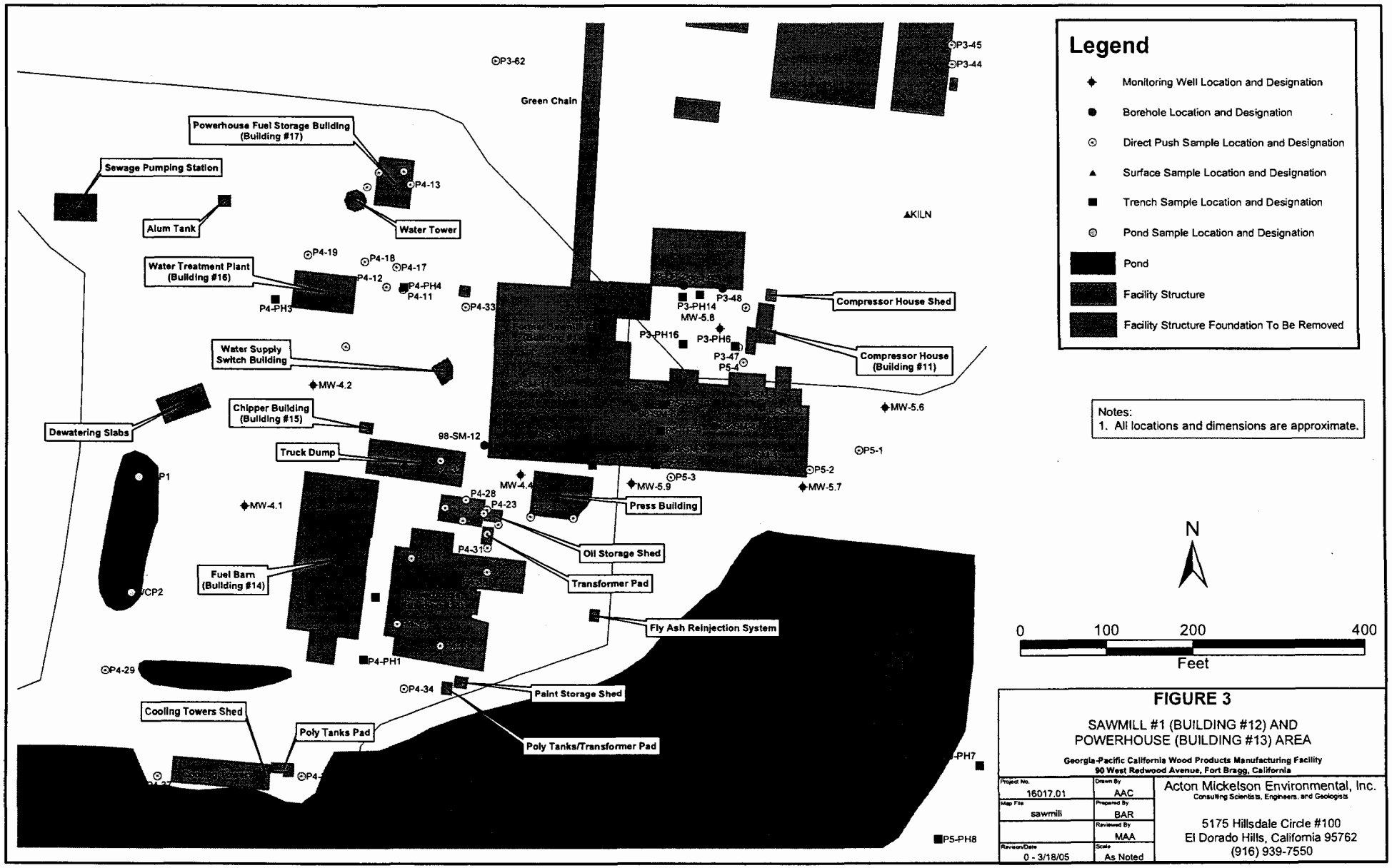
Feet

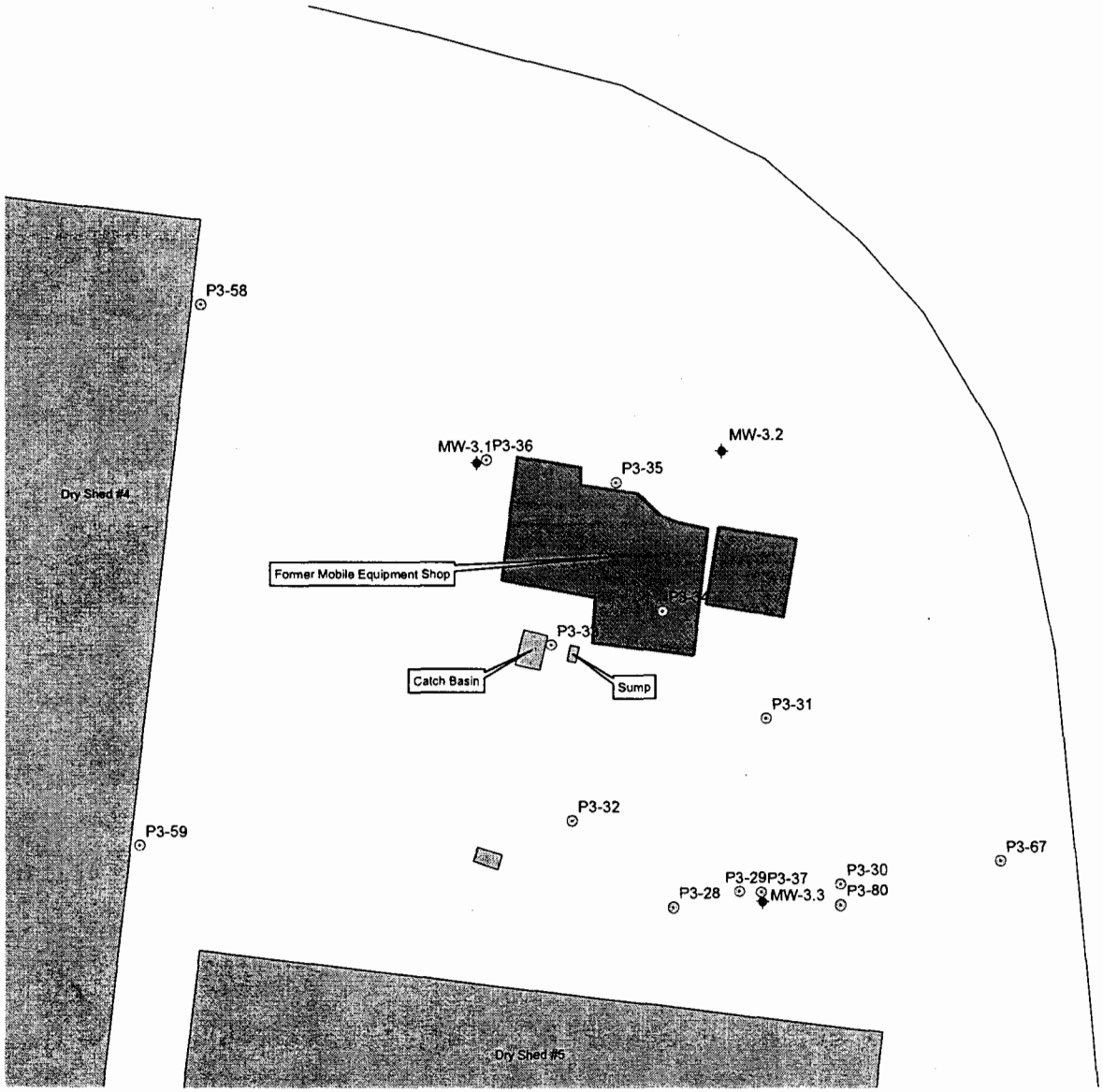
FIGURE 2

SITE MAP

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File sitemap	Prepared By MAA	5175 Hillsdale Circle #100
	Reviewed By	El Dorado Hills, California 95762
Revision/Date 0 - 3/7/05	Scale As Noted	(916) 939-7550


Legend
Monitoring Well Location and Designation
Borehole Location and Designation
Direct Push Sample Location and Designation
Surface Sample Location and Designation
Trench Sample Location and Designation
Pond Sample Location and Designation
Pond
Facility Structure
Facility Structure Foundation To Be Removed
Notes:
1. All locations and dimensions are approximate.
N
0 100 200 400
Feet
Powerhouse Fuel Storage Building (Building #17)
Sewage Pumping Station
Alum Tank
Water Tower
Water Treatment Plant (Building #16)
Water Supply Switch Building
Chipper Building (Building #15)
Dewatering Slabs
Truck Dump
Fuel Barn (Building #14)
Cooling Towers Shed
Poly Tanks Pad
Poly Tanks/Transformer Pad
Paint Storage Shed
Fly Ash Reinjection System
Transformer Pad
Oil Storage Shed
Press Building
Compressor House Shed
Compressor House (Building #11)
Green Chain
KILN
P3-62
P3-45
P3-44
P4-13
P4-19
P4-18
P4-17
P4-12
P4-PH4
P4-11
P4-PH3
P4-33
P3-PH14
P3-48
MW-5.8
P3-PH16
P3-PH6
P3-47
P5-4
MW-4.2
MW-5.6
98-SM-12
P5-1
P5-2
P5-3
MW-5.9
MW-5.7
MW-4.4
P4-28
P4-23
MW-4.1
P4-31
P1
CP2
P4-PH1
P4-29
P4-34
P4-PH7
P5-PH8
FIGURE 3
SAWMILL #1 (BUILDING #12) AND POWERHOUSE (BUILDING #13) AREA
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California
Project No. 16017.01
Drawn By AAC
Map File sawmill
Prepared By BAR
Reviewed By MAA
Revision/Date 0 - 3/18/05
Scale As Noted
Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists
5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550



Legend

- Monitoring Well Location and Designation
- Direct Push Sample Location and Designation
- Composite Sample Approximate Location and Designation
- Facility Structure
- Facility Structure Foundation To Be Removed

Notes:
1. All locations and dimensions are approximate.

N

0 40 80 160
Feet

FIGURE 4

FORMER MOBILE EQUIPMENT SHOP

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC
Map File MobileEquipmentShop	Prepared By BAR
	Reviewed By MAA
Revision/Date 0 - 3/4/05	Scale As Noted

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El Dorado Hills, California 95762
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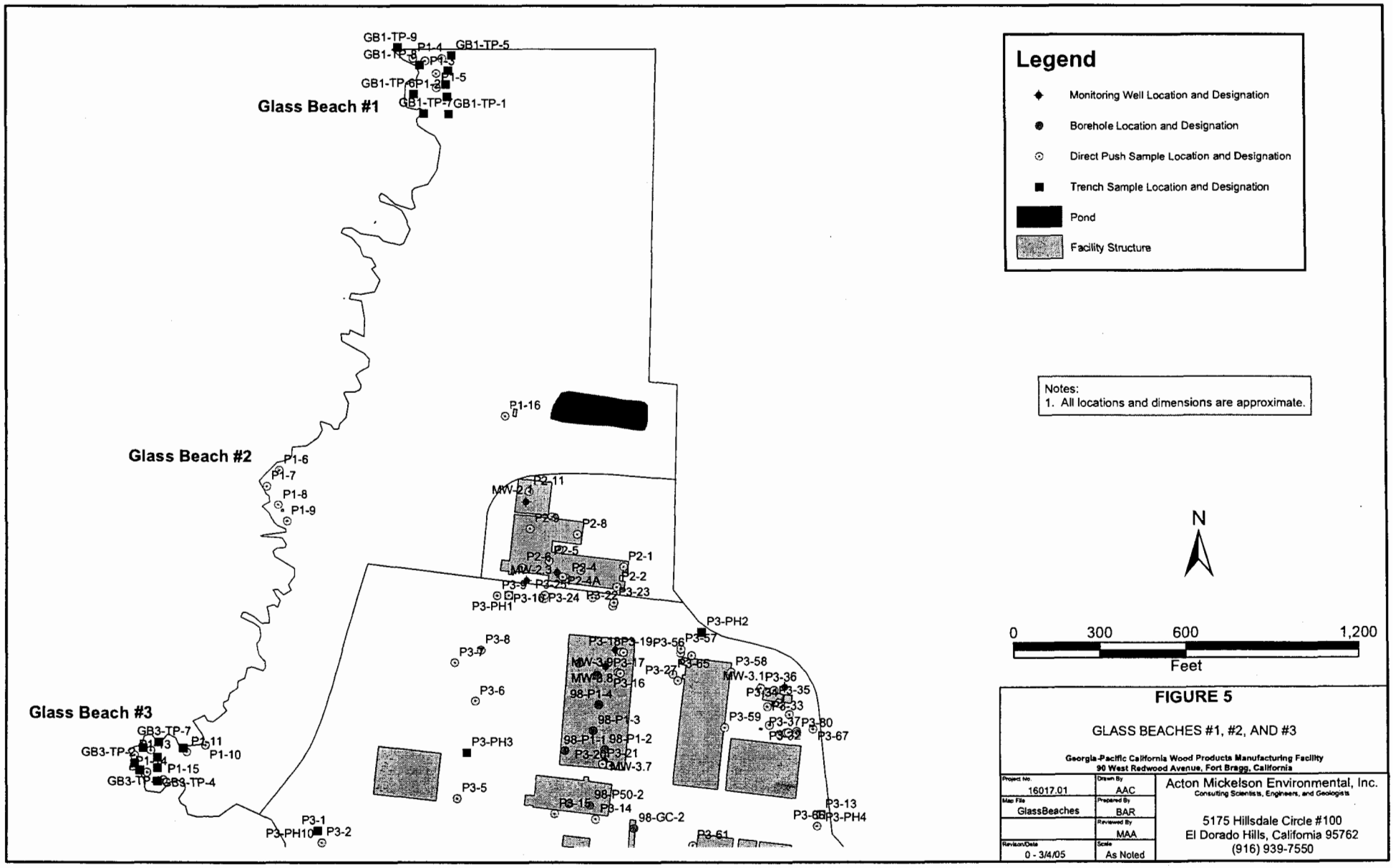

FIGURE 5

GLASS BEACHES #1, #2, AND #3

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File GlassBeaches	Prepared By BAR	5175 Hillsdale Circle #100
	Reviewed By MAA	El Dorado Hills, California 95762
Revison/Date 0 - 3/4/05	Scale As Noted	(916) 939-7550

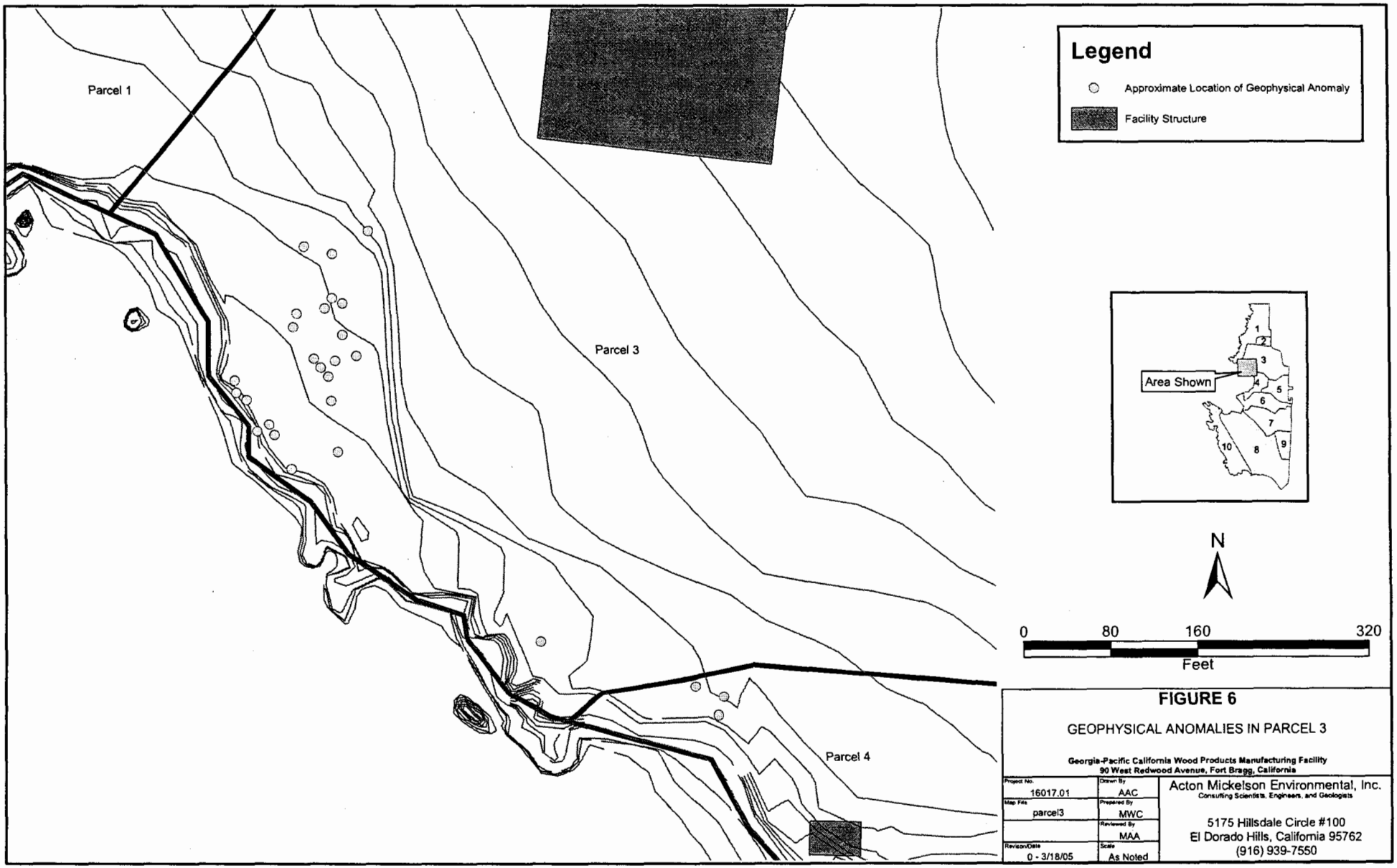

FIGURE 6

GEOPHYSICAL ANOMALIES IN PARCEL 3

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC
Map File parcel3	Prepared By MWC
	Reviewed By MAA
Revision/Date 0 - 3/18/05	Scale As Noted

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Consulting Scientists, Engineers, and Geologists

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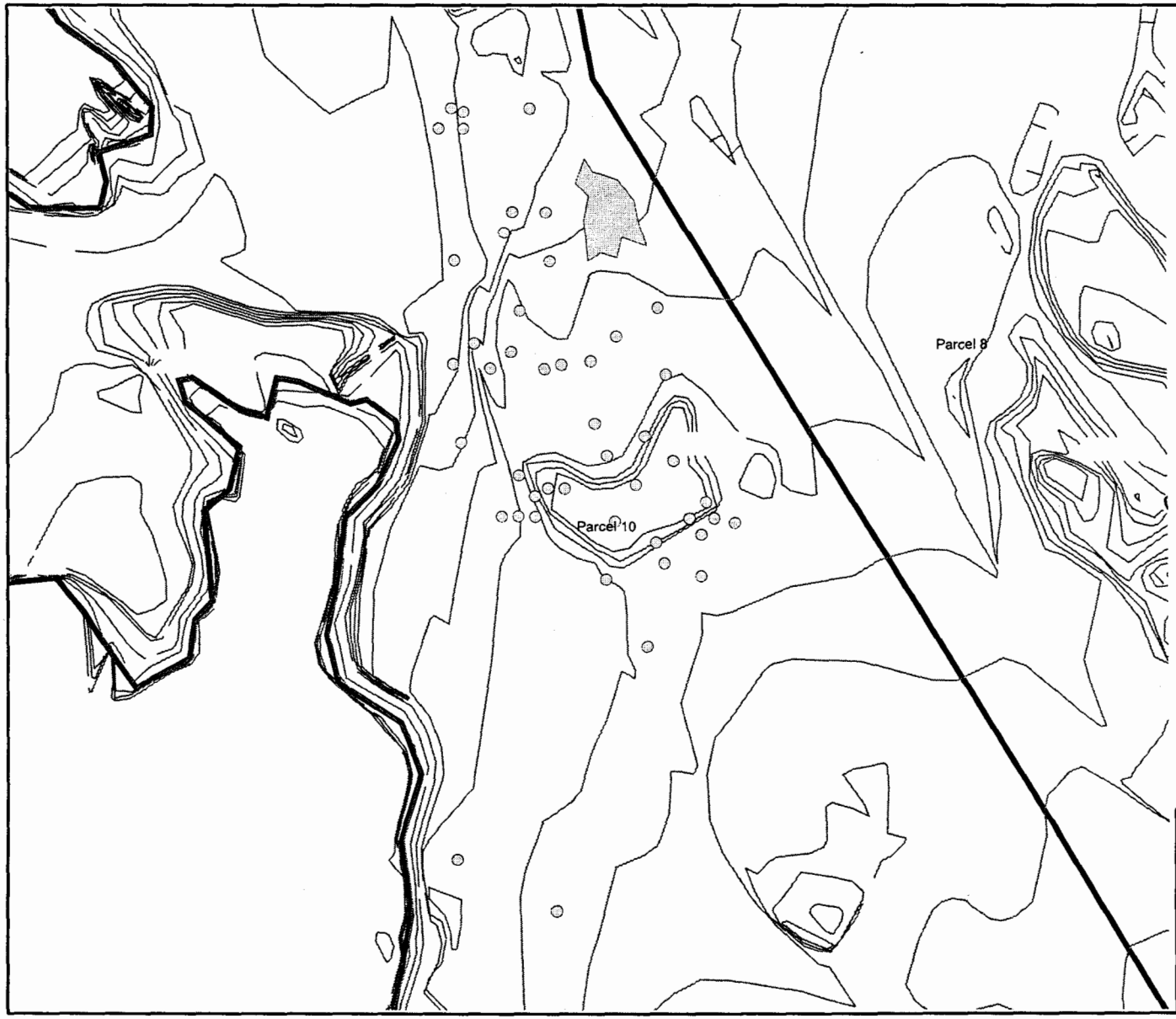
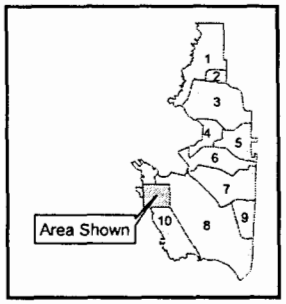


Legend

- Approximate Location of Geophysical Anomaly
- Approximate Area of Geophysical Anomaly



N

0 80 160 320

Feet

FIGURE 7

GEOPHYSICAL ANOMALIES IN PARCEL 10

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File parcel10	Prepared By MWC	5175 Hillsdale Circle #100
	Reviewed By MAA	El Dorado Hills, California 95762
Revision/Date 0 - 3/18/05	Scale As Noted	(916) 939-7550

ACTON •
MICKELSON •
ENVIRONMENTAL, INC.

Consulting Scientists, Engineers, and Geologists

May 6, 2005

Mr. Craig Hunt, Water Resource Control Engineer
Regional Water Quality Control Board—North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Via Overnight and E-mail

16017.05

Subject: Addendum #1
Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures
Former Georgia Pacific California Wood Products Manufacturing Facility
Fort Bragg, California

Dear Mr. Hunt:

Acton • Mickelson • Environmental, Inc. (AME) is submitting *Addendum #1* to the *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures, Former Georgia Pacific Wood Products Manufacturing Facility, Fort Bragg, California* (site, Work Plan) dated March 21, 2005 in response to comments made during a March 29, 2005 meeting attended by Georgia-Pacific Corporation (G-P), Regional Water Quality Control Board (RWQCB) - North Coast Region, and AME representatives. The RWQCB requested submittal of a Work-Plan addendum to identify chemicals of potential concern (COPCs), soil screening levels, and the proposed approach for soil sampling beneath removed building foundations.

CHEMICALS OF POTENTIAL CONCERN

A review of past facility operations has been performed to evaluate COPCs at the site. Soil sample analyses following building demolition, foundation excavation, or other excavation (i.e., geophysical anomaly remote from building location) will be selected based on past operations at the associated building or location and identified COPCs. Table 1 (attached) lists the areas addressed in the Work Plan, processes associated with each of these areas, substances used or waste products for these areas, COPCs for these areas, and analytical test methods to be used to assess the potential presence of COPCs.

SOIL SCREENING LEVELS

As discussed during our meeting with the RWQCB and California Office of Environmental Health Hazard Assessment (OEHHA) on March 29, 2005, GP has initiated the process of performing a Human Health and Ecological Risk Assessment for the site. The initial step of this

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process is development of risk-based screening levels to identify chemicals and/or areas requiring additional evaluation (e.g., further characterization or removal). However, to guide interim remedial measures (IRMs) until site-specific screening levels are developed through risk assessment activities, AME proposes the use of the following published soil screening guidelines:

- Environmental Screening Levels (ESLs) established by the RWQCB - San Francisco Bay in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* dated February 2005

- California Human Health Screening Levels (CHHSLs) established by the California Environmental Protection Agency in *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties* dated January 2005

Screening levels will be developed using a health protective risk-based approach reviewed and approved by the Office of Environmental Health Hazard Assessment (OEHHA). Approval of these risk-screening levels prior to the start of field activities would result in their use instead of ESLs or CHHSLs. If field activities start before site-specific screening levels are approved, ESLs or CHHSLs will be used until such time that site-specific screening levels are available.

Any investigation/IRM activity conducted using ESLs or CHHSLs for guidance will be compared to site-specific screening levels to assess whether additional activity (e.g., , further excavation) is warranted. If an ESL and CHHSL exist for a specific compound, then the lower of the two levels will be used. Table 1 will be used as a guide to selecting analytical test methods during investigation/IRM of each area of interest. For each chemical class and analytical method (e.g. VOCs, EPA Method 8260), Table 1 lists the lowest ESL or CHHSL of the individual chemicals as a guide in selecting the analytical method and reporting limit. Comparisons of reported soil concentrations from investigation/IRM work will be made on a chemical-specific basis.

PROPOSED SOIL SAMPLING RATIONALE AND METHODOLOGY

The proposed soil sampling rationale incorporates two types of approaches: systematic sampling and judgmental or authoritative sampling. Systematic sampling is an unbiased method that consists of establishing a grid layout for the area to be sampled and selecting sampling locations within the grid cells or at grid nodes. The actual locations can be either randomly selected within the grid cells or at regular locations within the cells. Systematic sampling is suitable for statistical analysis of the sample data provided that the dataset consists of at least ten samples.

Judgmental sampling relies on an observational approach where sampling focuses on areas most likely to be impacted by COPCs, such as storage tanks, areas beneath pipelines, sumps, surface stains, equipment locations, and floor or foundation cracks. This approach is useful to assess the extent of COPC impacts in a localized area and typically uses more closely spaced sampling locations than the systematic grid approach. Both methods will be employed in the field to provide a statistically defensible dataset in areas where there are no signs of impact from COPCs,

as well as allowing for a more focused sampling program in areas where impact from COPCs is more likely to exist.

The proposed systematic sampling approach uses the OEHHA guideline of 1,000 square feet to define a typical residential backyard. Assuming this is the basic residential unit exposure area, a maximum grid spacing of 30 feet is proposed in areas where there are no signs of environmental impairment. This grid spacing will allow for the collection of at least one soil sample per 900 square feet of building area for the larger buildings. At least two soil samples per structure will be collected beneath all structures of less than 900 square feet in area.

Judgmental sampling is proposed in areas exhibiting a greater potential for impact from COPCs. Prior to demolition, a reconnaissance of the building areas will be conducted to identify areas where impact from COPCs is potentially likely to exist. The area will be observed for signs of potential COPC impacts, including floor staining, cracks, equipment locations, sumps, clarifiers, pipelines, and underground storage tanks.

If any of these features are present, their location will be noted and, after structure demolition and foundation removal, the area will be sampled at a grid or in-line spacing appropriate for the size and orientation of the feature identified (e.g., less than 10-foot spacing for a smaller feature and greater than 10-foot spacing for a larger feature). Data resulting from the judgmental sampling approach is useful for delineating areas of greater COPC impact; use of these data in the risk assessment will be discussed with OEHHA prior to incorporation into the analysis.

The soil sampling depth for both systematic and judgmental sampling will be one foot below the base of the excavations. This depth is at the mid point of the surface soil stratum, which for risk assessment is anticipated to be designated as the top two feet of soil. Verification samples following the completion of IRMs will also be obtained from a depth of one foot below the base of the excavations.

The verification samples will be analyzed for only those COPCs that had reported concentrations greater than the screening levels in the initial samples. Where warranted, recommendations for deeper soil sampling and/or ground water sampling will be including in the report of findings.

Very truly yours,

ACTON • MICKELSON • ENVIRONMENTAL, INC.

Mark W. Clardy

Mark W. Clardy, R.G.
Project Geologist

Michael A. Acton, R.E.A.
Vice President

Enclosures: Table 1—Area-Specific Information

cc: Ms. Julie Raming, Georgia-Pacific Corporation
Mr. Doug Heitmeyer, Georgia-Pacific Corporation
Ms. Linda Ruffing, City of Fort Bragg
Ms. Kay Johnson, Tetra Tech, Inc.

MA:MWC:tm

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)	Minimum ESL / CHHSL (mg/kg)
Compressor House (Bldg. #11)	Compressors	Compressor Oil	TPHo	EPA 8015	1	500
Former Sawmill #1 (Bldg. #12)	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, napththa solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1	100
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most	4.48E-03
Lath Plant	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, napththa solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1	100
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most	4.48E-03

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)	Minimum ESL / CHHSL (mg/kg)
Powerhouse (Bldg. #13)	Boiler Fueling and Operation	Bunker C, residual fuel	TPHo	EPA 8015	1	500
			PAHs	EPA 8270	0.067/ 0.01	0.038
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1	1
		Motor oil, used	TPHo	EPA 8015	1	500
			VOCs	EPA 8260	0.005 for most	4.48E-03
			PAHs	EPA 8270	0.067/ 0.01	0.038
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1	1
		Bottom ash waste, may include clinker	PAHs	EPA 8270	0.067/ 0.01	0.038
			Dioxins and furans	EPA 8290	1.00E-06	4.62E-06
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1	1
	Power generation	Turbine oil, hydraulic oil, machine lubricants, petroleum solvents	TPHd, TPHo	EPA 8015	1	100
			VOCs	EPA 8260	0.005 for most	4.48E-03
Paint Storage Shed	Paint and solvent storage	Paint, paint thinners, solvents	TPH as kerosene, stoddard, napththa solvents (petroleum-based solvents in range of TPHd)	EPA 8015	1	100
			VOCs	EPA 8260	0.005 for most	4.48E-03
Transformer Pad	Power distribution	Transformer cooling oil	PCBs, individual cogeners	EPA 8082	0.012	0.22/ 0.089
Oil Storage Shed	Oil storage	Lubricating oil, used oil	TPHo	EPA 8015	1	500
			VOCs	EPA 8260	0.005 for most	4.48E-03
			PAHs	EPA 8270	0.067/ 0.01	0.038
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1	1

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)	Minimum ESL / CHHSL (mg/kg)
Press Building	Machinery routine maintenance	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, napththa solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1	100
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most	4.48E-03
	Compressors	Compressor Oil	TPHo	EPA 8015	1	500
Cooling Towers	Boiler coolant/ cooling towers	Corrosion inhibitors, water conditioners	Cr VI+	EPA 3060A w/ 7199	0.5	1.8
			Sodium molybdate	EPA 6010B	1	40
		Disinfectants/ other	Ethanol	EPA 8260	100	None
			Isopropanol	EPA 8260	100	None
Cooling Towers Shed, Poly Tanks Pad	Boiler coolant/ cooling towers	Corrosion inhibitors, water conditioners	Cr VI+	EPA 3060A w/ 7199	0.5	1.8
			Sodium molybdate	EPA 6010B	1	40
		Disinfectants/ other	Ethanol	EPA 8260	100	None
			Isopropanol	EPA 8260	100	None
Truck Dump	Routine maintenance of hydraulic unit	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, napththa solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1	100
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most	4.48E-03

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)	Minimum ESL / CHHSL (mg/kg)
Fly Ash Reinjection System	Fly ash processing	Ash waste	PAHs	EPA 8270	0.067/ 0.01	0.038
			Dioxins and furans	EPA 8290	1.00E-06	4.62E-06
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1	1
Fuel Barn (Bldg. #14)	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, napththa solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1	100
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most	4.48E-03
Chipper Bldg. (Bldg. #15)	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, napththa solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1	100
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most	4.48E-03
Powerhouse Fuel Storage (Bldg. #17)	Fuel storage	Bunker C, residual fuel	TPHo	EPA 8015	1	500
			PAHs	EPA 8270	0.067/ 0.01	0.038
			CA Title 22 Metals	EPA 6010B / 7400	0.15 to 1	1
		Jet fuel	TPHd	EPA 8015	1	100
			VOCs	EPA 8260	0.005 for most	4.48E-03
			PAHs	EPA 8270	0.067/ 0.01	0.038

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)	Minimum ESL / CHHSL (mg/kg)
Water Supply Switch Building	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, napththa solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1	100
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most	4.48E-03
Dewatering Slabs	Fly ash processing	Ash waste	PAHs	EPA 8270	0.067/ 0.01	0.038
			Dioxins and furans	EPA 8290	1.00E-06	4.62E-06
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1	1
Sewage Pumping Station	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, napththa solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1	100
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most	4.48E-03
Former Mobile Equipment Shop (Parcel 3)	Vehicle Maintenance	Gasoline, diesel, used motor oil, hydraulic oil, degreasers	TPHg	EPA 8015	1	100
			TPHd, TPHo	EPA 8015	1	100
			VOCs	EPA 8260	0.005 for most	4.48E-03
			PAHs	EPA 8270	0.067 / 0.01	0.038
			CA Title 22 Metals	EPA 6010B/7400	0.015 to 1	1

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)	Minimum ESL / CHHSL (mg/kg)
Glass Beach Nos. 1 - 3	Waste Fill	May possibly include log deck scrapings, bottom ash waste, clinker, fly ash, burn debris, waste diesel, motor oil, solvents.	TPHd, TPHo	EPA 8015	1	100
			VOCs	EPA 8260	0.005 for most	4.48E-03
			PAHs	EPA 8270	0.067/ 0.01	0.038
			Dioxins and furans	EPA 8290	1.00E-06	4.62E-06
			PCBs, individual cogeners	EPA 8082	0.012	0.22/ 0.089
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1	1
Geophysical Anomaly Areas, Parcels 3 and 10	Waste Fill	May possibly include log deck scrapings, bottom ash waste, clinker, fly ash, burn debris, waste diesel, motor oil, solvents.	TPHd, TPHo	EPA 8015	1	100
			VOCs	EPA 8260	0.005 for most	4.48E-03
			PAHs	EPA 8270	0.067/ 0.01	0.038
			Dioxins and furans	EPA 8290	1.00E-06	4.62E-06
			PCBs, individual cogeners	EPA 8082	0.012	0.22/ 0.089
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1	1

Notes
PAHs by EPA 8270 to be reported to the method detection limit (MDL).
PCBs by EPA 8082 analyze for individual cogeners.
For dioxins and furans by 8290 in general, and PCBs by 8082 at waste fill locations, analyze select soil samples where ash/ waste oil, or maximum PAH concentrations are present.

CA = California
COPC = chemical(s) of potential concern
EPA = United States Environmental Protection Agency
ESL/CHHSL = Environmental Screening Level / California Human Health Screening Level
The CHHSL is listed after the slash, and only if its value is less than the ESL.
PAH = Polycyclic Aromatic Hydrocarbon
PCB = polychlorinated biphenyl

RL/MDL = Reporting Limit / Method Detection Limit
TPH = Total Petroleum Hydrocarbon(s)
TPHd = Total Petroleum Hydrocarbon(s) as diesel
TPHg = Total Petroleum Hydrocarbon(s) as gasoline
TPHo = Total Petroleum Hydrocarbon(s) as motor oil
VOC = Volatile Organic Compound

ADDENDUM #2
TO
WORK PLAN FOR FOUNDATION REMOVAL, ADDITIONAL INVESTIGATION, AND INTERIM REMEDIAL MEASURES

FORMER GEORGIA-PACIFIC CALIFORNIA WOOD PRODUCTS MANUFACTURING FACILITY
90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA
AME Project No. 16017.05

August 19, 2005

1.0 INTRODUCTION

Georgia-Pacific Corporation (G-P) has authorized Acton • Mickelson • Environmental, Inc. (AME) to prepare Addendum #2 to the *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* dated March 21, 2005 (Work Plan) for the Georgia-Pacific California Wood Products Manufacturing Facility located at 90 West Redwood Avenue in Fort Bragg, California (site; Figure 1). Addendum #2 is submitted to supplement a July 18, 2005 response to review comments made in a July 1, 2005 letter from the Regional Water Quality Control Board – North Coast Region (RWQCB) regarding the Work Plan and Addendum dated May 6, 2005 (Addendum #1).

2.0 RECONNAISSANCE OF BUILDING FOUNDATIONS

A reconnaissance was conducted from June 27 to 30, 2005, of the building foundations proposed for removal in the Work Plan and Addendum #1. The purpose of the reconnaissance was to assess the presence of cracks, piping, tanks, clarifiers, staining, or other features resulting from or indicating potential discharges of hazardous materials. Photos were taken to record features and conditions observed. Global Positioning System (GPS) coordinates were recorded for building foundation corners and features resulting from or indicating potential discharges of hazardous materials. The coordinates are stored in a GPS file for future use in field identification of foundation and feature locations following foundation removal. In addition, information contained in the Phase I Environmental Site Assessment (ESA) (TRC 2004a) was used to facilitate assessment of the potential for hazardous-materials discharges. The building foundations proposed for removal are listed below (Figure 2):

- Compressor Houses #1 and #2 (Building #11), Compressor House Shed, and Secondary Containment Area
- Former Sawmill #1 (Building #12) and Lath Building
- Powerhouse (Building #13) and Associated Buildings
- Fuel Barn (Building #14)

- Chipper Building (Building #15)
- Water Treatment Plant (Building #16)
- Powerhouse Fuel Storage Building (Building #17) and Water Tower
- Water Supply Switch Building
- Dewatering Slabs
- Sewage Pumping Station/Alum Tank
- Former Mobile Equipment Shop and Associated Subsurface Structures

Soil sample grid spacing has been selected based on the potential for hazardous-material releases in each building area. A tighter grid is proposed where there is more potential for releases (e.g., Powerhouse), and a wider-spaced grid is proposed where there is less potential for releases (e.g., Water Treatment Plant and Water Supply Switch Building). Initial soil samples will be collected the day of soil-surface exposure. Verification samples in interim remedial measure (IRM) excavation areas will be analyzed for the same constituents as the initial soil samples collected in the same area. Table 1 summarizes proposed soil sampling and laboratory analyses in the foundation-removal areas.

2.1 Compressor Houses #1 and #2 (Building #11), Compressor House Shed, and Secondary Containment

Reconnaissance

The following indicators and pathways of potential hazardous-materials discharges were observed during reconnaissance or previously reported (Figure 3):

- A raised concrete footing with staining in the southern part of Compressor House #1 (Photo 1).
- Two steel pipes that terminate east of the aforementioned footing in Compressor House #1 (Photo 1).
- Air compressor tank footing on the west side of Compressor House #1.
- Staining on the concrete floor in the northern portion of Compressor House #1.
- Two 2-inch-diameter pipes in Compressor House #1 that enter the slab in the northwest quadrant (Photo 2).
- Possible compressor location north of Compressor House #1 referenced in the TRC Phase I ESA (TRC 2004a).

- Staining on the concrete floor of Compressor House #2 (Photos 3 and 4). Compressor House #2 was previously used for storage of waste oil in drums.
- A 12-inch-diameter steel pipeline that enters the ground on the east and west sides of the Compressor House Shed (Photos 5 and 6).
- Two drains on the west side of the Secondary Containment Area (Photo 7).

Sampling and Analysis

Sampling locations are depicted on Figure 3.

Judgmental samples will be collected from the upper 0 to 12 inches of soil as follows:

- Two soil samples will be collected beneath the raised footing in Compressor House #1.
- Two soil samples will be collected beneath the area where two steel pipes terminate east of the raised footing in Compressor House #1.
- Two soil samples will be collected beneath the location of the two 2-inch diameter pipes and stained concrete floor in Compressor House #1.
- One soil sample will be collected beneath the air compressor tank footing on the west side of Compressor House #1.
- One soil sample will be collected beneath the possible compressor location.
- Two soil samples will be collected beneath the area of stained floor in Compressor House #2.
- Two soil samples will be collected beneath the two steel pipes east and west of the Compressor House Shed.
- Two soil samples will be collected beneath the area where there are drains on the west side of the Secondary Containment Area.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. No grid samples will be collected due to the collection of judgmental samples. The judgmental samples will be analyzed for total petroleum hydrocarbons (TPH) as motor oil (TPHo) using United States Environmental Protection Agency (EPA) Method 8015.

2.2 Former Sawmill #1 (Building #12) and Lath Building

Reconnaissance

The following indicators and pathways of potential hazardous-materials discharges were observed during reconnaissance or previously reported (Figure 4):

- Stained areas and foundation cracks in the eastern portion of the foundation (Photos 8 through 10). Photos 11 (southwest corner) and 12 (northwest corner) give an overview of Former Sawmill #1.

- The Phase I ESA (TRC 2004a) recommended additional sampling in the southwest corner and eastern portion of the building due to the presence of petroleum hydrocarbons at soil sample locations 98-SM-1 through 98-SM-4, 98-SM-9, 98-SM-10, and 98-SM-12 during a previous study (TRC 1998).

- The Lath Building has been completely removed, and its former position is estimated. Concentrations of petroleum hydrocarbons were reported by TRC in shallow soil at locations 98-LP-1 and 98-LP-2 near the southern portion of the Lath Building (TRC 1998). Photos 13 and 14 show the Lath Building area.

Sampling and Analysis

Sampling locations are depicted on Figure 4.

Judgmental samples will be collected from the upper 0 to 12 inches of soil as follows:

- Six soil samples will be collected beneath the stained areas in Former Sawmill #1.

Grid samples will be collected as follows:

- Ten grid samples will be collected in Former Sawmill #1. Grid sampling will cover the Phase I ESA recommendation of additional sampling in the southwest corner and eastern portion of the building.

- Four grid samples will be taken in the Lath Building.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. The judgmental and grid soil samples will be analyzed for TPHo and TPH as diesel (TPHd) using EPA Method 8015, pentachlorophenol and tetrachlorophenol using EPA Method 8270, and volatile organic compounds (VOCs) using EPA Method 8260.

2.3 Powerhouse (Building #13) and Associated Buildings

Reconnaissance

The aboveground components of the Powerhouse were being dismantled at the time of the reconnaissance, which limited foundation and floor observations (Photos 15 through 18). An Emergency Response Plan Drawing depicted several features indicating potential discharges of hazardous materials. A reconnaissance of the Powerhouse will be conducted after building dismantling, before foundation removal. Reconnaissance of the associated buildings was conducted. The Fly Ash Reinjection building historically housed a Beehive Burner located in the south central portion of the building (Photo 19). Photos 20 and 21 show the Paint Storage Shed and the former location of the Poly Tank/Transformer Pad

The following indicators of potential hazardous-materials discharges were observed during reconnaissance or indicated in site emergency response plan drawings and are shown on Figures 5 (Powerhouse area) and 6 (Cooling Towers):

- Two exterior Transformer Pads with staining on the larger pad (Photo 22), and several electrical conduits on the smaller pad (Photos 23 and 24). The larger pad was mostly covered with dirt and debris.

- Oily liquid on the foundation in the central area of the Press Building (Photo 25) and post-holes with associated staining in the southwest portion of the building on top of the raised footing (Photo 26).

- A truck ramp, dump, multiple-level concrete foundation with stains, and concrete pedestals with stains from the hydraulic system formerly used to empty the trucks at the Chip Truck Dump (Photos 27 through 33).

- Review of Emergency Response Plan Drawings indicated various hydrocarbon storage areas within the Powerhouse.

- A vault containing what appeared to be an oily liquid at the eastern end of the Cooling Towers (Photos 34 through 38).

- Vertical piping at the southeast portion of the Cooling Towers pad (Photo 39; Photo 40 shows floor staining adjacent to the vertical piping).

Sampling and Analysis

Sampling locations are depicted on Figures 5 (Powerhouse area) and 6 (Cooling Towers).

Judgmental samples will be collected from the upper 0 to 12 inches of soil as follows:

- Five soil samples will be collected beneath stained areas of and adjacent to the raised footing in the Press Building.

- One soil sample will be collected beneath the stain on the large transformer pad.
- Five soil samples will be collected beneath the stained areas at the Chip Truck Dump and hydraulic system.
- Seven soil samples will be collected at the Powerhouse, including one each beneath the following locations: filter oil storage area, turbine oil storage area, automatic transmission fluid storage area, grease drum storage area, solvent storage area, and hydrocarbon storage area.
- One soil sample will be collected in the eastern portion of the Cooling Towers beneath the location of a vault containing possible oily liquid.
- One soil sample will be collected beneath the vertical piping located south of the vault.

Grid samples will be collected as follows:

- Twenty grid samples will be collected in the Powerhouse. Based on a reconnaissance to be conducted, the number and placement of grid and judgment samples may be modified.
- Twenty-four grid samples will be collected at associated Powerhouse buildings.
- Twelve grid samples will be collected in the area of the Cooling Towers, Sheds, and Poly Tanks Pad.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. The soil samples collected at the Powerhouse will be analyzed for TPHo and TPHd using EPA Method 8015, polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270, CA Title 22 Metals using EPA Methods 6010B and 7400, and VOCs using EPA Method 8260.

The grid samples collected at the Fly Ash Reinjection System will be analyzed for PAHs using EPA Method 8270, dioxins and furans using EPA Method 8290 (select samples), and CA Title 22 Metals using EPA Methods 6010B and 7400.

The grid samples collected at the Paint Storage Shed will be analyzed for TPHd and TPHo using EPA Method 8015, VOCs using EPA Method 8260, and CA Title 22 Metals using EPA Methods 6010B and 7400.

The grid samples collected at the Poly Tanks/Transformer Pad will be tested for polychlorinated biphenyls (PCBs) using EPA Method 8082, and TPHo using EPA Method 8015.

The grid samples collected at the large and small Transformer Pads will be tested for PCBs using EPA Method 8082, and TPHo using EPA Method 8015.

The grid samples collected at the former Oil Storage Shed will be analyzed for TPHo using EPA Method 8015, VOCs using EPA Method 8260, PAHs using EPA Method 8270, and CA Title 22 Metals using EPA Methods 6010B and 7400.

The judgmental and grid samples collected at the Press Building will be analyzed for TPHd and TPHo using EPA Method 8015 and VOCs using EPA Method 8260.

The judgmental and grid samples collected at the Chip Truck Dump will be analyzed for TPHd and TPHo using EPA Method 8015 and VOCs using EPA Method 8260.

The judgmental and grid samples at the Cooling Towers will be analyzed for hexavalent chromium VI using EPA Methods 3060A and 7199, molybdenum using EPA 6010B, and ethanol and isopropanol using EPA Method 8260. In addition, samples within the vault area will be analyzed for TPHo and TPHd using EPA Method 8015, PAHs using EPA Method 8270, CA Title 22 Metals using EPA Methods 6010B and 7400, and VOCs using EPA Method 8260.

2.4 Fuel Barn (Building #14)

Reconnaissance

The following indicators of potential hazardous-materials discharges were observed during reconnaissance (Figure 7):

- A large trench with standing water trending north-south through the central area of the foundation (Photos 41 through 43).
- South of the main foundation, an open trench containing water with a sheen, and a Secondary Containment Area with water and debris (Photos 44 and 45).
- A pipe entering from the south (from the direction of Pond 8) dripping liquid that precipitated an orange material.

Sampling and Analysis

Sampling locations are depicted on Figure 7.

Judgmental samples will be collected from the upper 0 to 12 inches of soil as follows:

- Four soil samples will be collected beneath the length of the central trench.
- One soil sample will be collected beneath each of the open trench and Secondary Containment Area.
- One soil sample will be collected beneath the area of the pipe entering from the south.

Grid samples will be collected from the upper 0 to 12 inches of soil as follows:

- Four grid samples will be collected beneath the Fuel Barn area.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. The judgmental and grid samples will be analyzed for TPHo and TPHd using EPA Method 8015 and VOCs using EPA Method 8260.

2.5 Chipper Building (Building #15)

Reconnaissance

The following indicators of potential hazardous-materials discharges were observed during reconnaissance (Figure 8):

- Cracks in the Chipper Building floor and floor staining in the southeast quadrant (Photo 46).
- A drain through the foundation side wall and side wall staining in the northeast corner (Photo 47).

Sampling and Analysis

Sampling locations are depicted on Figure 8.

Judgmental samples will be collected as follows:

- Two soil samples will be collected from the upper 0 to 12 inches of soil underlying the stained floor area.
- One soil sample will be collected from the upper 0 to 12 inches of soil underlying the observed wall drain, outside of the foundation wall.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. No grid samples will be collected due to the collection of judgmental samples. The judgmental samples will be analyzed for TPHo and TPHd using EPA Method 8015 and VOCs using EPA Method 8260.

2.6 Water Treatment Plant (Building #16)

Reconnaissance

The following indicators of potential hazardous-materials discharges were observed during reconnaissance or noted in previous reports and are shown on Figure 9:

- Two raised concrete footings with staining (Photos 48 and 49).

- Standing water adjacent to the raised footing (Photos 48 and 49).
- Two drains, floor stains, footings, and various pipes in the west portion of the building (Photos 48 and 49).
- A pipe outside the foundation to the north.
- Floor staining in the storage room (Photo 50).
- A ring on the floor from drum or tank storage, valves, pipes, floor stains, two sumps, two drains, and a pipe cemented in place in the east portion of the building (Photos 51 through 56).
- Two air compressors were reported in the Phase I ESA as being located within the north side of the building (the exact location was not noted). Floor staining around the compressors was referenced (TRC 2004a).
- A concrete tank pad, sump, and pipe south of the Water Treatment Plant foundation. Photo 57 shows the sump next to the concrete tower.

Sampling and Analysis

Sampling locations are depicted on Figure 9.

Judgmental samples will be collected from the upper 0 to 12 inches of soil as follows:

- One soil sample will be collected beneath the storage building at the chlorine pumping area.
- Five soil samples will be collected beneath the drains (one per drain).
- Two soil samples will be collected beneath the sumps (one per sump) within the Water Treatment Plant.
- Two soil samples will be collected beneath the drum storage areas (one per area).
- One soil sample will be collected beneath soil underlying the possible compressor location on the north side of the building as mentioned in the Phase I ESA.
- One soil sample will be collected beneath the sump area south of the building.

Grid samples will be collected from the upper 0 to 12 inches of soil as follows:

- Two soil samples will be collected beneath the raised footings.
- One soil sample will be collected beneath the south-central portion of the foundation.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. The judgmental and grid samples will be tested for aluminum using EPA Method. In addition, the samples collected along the north portion of the foundation will be tested for TPHd and TPHo.

2.7 Powerhouse Fuel Storage Building (Building #17)

Reconnaissance

The following indicators of potential hazardous-materials discharges were observed during reconnaissance (Figure 10):

- Staining on and a sump in the drive up pad (Photo 58).
- A sump, pooled water, and floor staining inside of the north foundation wall (Photo 59).
- Areas of floor staining in the southern half of the foundation (Photos 60 and 61).
- A fuel supply line in the southwest corner of the building (Photo 62; Photo 63 shows a view of a Water Tower adjacent to the fuel supply line).

Sampling and Analysis

Sampling locations are depicted on Figure 10.

Judgmental samples will be collected from the upper 0 to 12 inches of soil as follows:

- Three soil samples will be collected beneath two sumps and stained areas in the northern portion of the Powerhouse Fuel Storage Building.
- Three soil samples will be collected beneath floor stains in the southern half of the Powerhouse Fuel Storage Building.
- One soil sample will be collected beneath the fuel-supply line outside of the southwest corner of the Powerhouse Fuel Storage Building.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. No grid samples will be collected due to the collection of judgmental samples. The judgmental samples will be analyzed for TPHd, TPHo, and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8015, PAHs using EPA Method 8270, VOCs using EPA Method 8260, and CA Title 22 Metals including lead using EPA Methods 6010B and 7400.

2.8 Water Supply Switch Building

Reconnaissance

The following indicators of potential hazardous-materials discharges were observed during reconnaissance (Figure 11).

- The Water Supply Switch Building area was debris-laden, and staining was observed on the northern edge of the foundation (Photos 64 through 66).

Sampling and Analysis

Sampling locations are depicted on Figure 11.

Judgmental samples will be collected from the upper 0 to 12 inches of soil as follows:

- One soil sample will be collected beneath the northern edge of the pad in the area of staining.

Grid samples will be collected from the upper 0 to 12 inches of soil as follows:

- One soil sample will be collected from the upper 0 to 12 inches of soil underlying the Water Supply Switch Building foundation.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. The judgmental and grid samples will be analyzed for TPHo and TPHd using EPA Method 8015 and VOCs using EPA Method 8260.

2.9 Dewatering Slabs

Reconnaissance

The following indicators of potential hazardous-materials discharges were observed during reconnaissance (Figure 12).

- Debris from Powerhouse-area demolition activities was stockpiled on the slabs during reconnaissance. Standing water was observed in the central portion of the northern Dewatering Slab (Photos 67 and 68).

Sampling and Analysis

Sampling locations are depicted on Figure 12.

No judgmental samples are proposed for the Dewatering Slabs. Grid samples will be collected from the upper 0 to 12 inches of soil as follows:

- Four soil samples will be collected beneath the Dewatering Slabs' foundation.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. Samples will be analyzed for PAHs using EPA Method 8270, CA Title 22 Metals using EPA Methods 6010B and 7400, and dioxins and furans using EPA Method 8290 (select samples).

2.10 Sewage Pumping Station/Alum Tank

Reconnaissance

The following indicators of potential hazardous-materials discharges were observed during reconnaissance (Figure 13).

- The area around the Sewage Pumping Station was overgrown with weeds and grass (Photos 69 and 70). Underground equipment and a small, housed structure were present.
- Floor staining along the south edge and a drain in the southwest corner of the Alum Tank secondary containment (Photos 71 and 72).

Sampling and Analysis

Sampling locations are depicted on Figure 13.

Judgmental samples will be collected from the upper 0 to 12 inches of soil as follows:

- One soil sample will be collected beneath floor staining on the Alum Tank foundation.
- One soil sample will be collected beneath the drain, outside of the foundation.

Grid samples will be collected from the upper 0 to 12 inches of soil as follows:

- Two soil samples will be collected beneath the Sewage Pumping Station.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. The judgmental samples collected at the Alum Tank will be analyzed for aluminum using EPA Method 6010B. The grid samples collected at the Sewage Pumping Station will be analyzed for TPHo and TPHd using EPA Method 8015 and VOCs using EPA Method 8260.

2.11 Former Mobile Equipment Shop and Associated Subsurface Structures

Reconnaissance

The Former Mobile Equipment Shop is comprised of a north building foundation and a south building foundation. An electrician's supply shed is temporarily located on the south portion of the north building foundation. The following indicators of potential hazardous-materials discharges were observed during reconnaissance (Figure 14).

- A pit filled with soil in the eastern portion of the south foundation (Photo 73).
- Two drains through a brick divider in the south foundation (Photo 74).
- An outfall, catch basin, and sump south of the south building foundation (Photo 75).
- A 3-inch-diameter steel drainpipe filled with concrete through the south portion of the south building foundation and entering the ground (Photos 76 and 77).
- A floor drain, two pits filled with concrete, one pit filled with soil, and foundation staining in the north building (Photos 78 through 81).

Sampling and Analysis

Sampling locations are depicted on Figure 14.

Judgmental samples will be collected from the upper 0 to 12 inches of soil as follows:

- Three soil samples will be collected beneath the trench and drains on the south building foundation.
- Five soil samples will be collected beneath the catch basin, sump, and pipe along the south edge of the south building foundation.
- One soil sample will be collected beneath the apparent floor drain in the west central portion of the north building foundation.
- Nine soil samples will be collected beneath the trenches and floor staining in the north building foundation.

Grid samples will be collected as follows:

- Four soil samples will be collected from the upper 0 to 12 inches of soil underlying the north and south buildings.

Additional soil samples may be collected based on field observations and the results of analysis of the samples described above. The judgmental and grid samples will be analyzed for TPHo, TPHd, and TPH as gasoline (TPHg) using EPA Method 8015, PAHs using EPA Method 8270, CA Title 22 Metals using EPA Methods 6010B and 7400, and VOCs (including BTEX) using EPA Method 8260.

3.0 DEBRIS AND FILL REMOVAL AT GLASS BEACHES #1, #2, AND #3

3.1 Introduction

Three Glass Beach areas have been identified (Figures 15, 16, and 17). The purpose of this section is to provide procedures to be implemented in conjunction with those outlined in the Work Plan and Addendum #1 for debris removal above the mean high-tide line at the three Glass Beaches. The Work Plan includes the following:

- Appendix A: Sampling and Analysis Plan
- Appendix B: Site Health and Safety Plan
- Appendix C: Quality Assurance Plan
- Appendix D: Excavation and Soil Management Plan
- Appendix E: Transportation Plan

3.2 Background

Glass Beach #1 is located on the northwest tip of Parcel 1. Glass Beaches #2 and #3 are located south along the coastline from Glass Beach #1. According to the City of Fort Bragg's (City) Mitigated Negative Declaration, Glass Beach #1 was owned by Union Lumber and operated as a private dump between 1949 and 1967. Based on interviews with G-P personnel, household waste, scrap metal, and automobiles were discarded over the bluffs into the ocean or placed in pits to be burned and buried. Photographs of Glass Beach #1 show slag, wood, and glass (Photos 82 through 84 and Figure 15).

During site reconnaissance activities, areas of staining along the cliffs, debris on the beaches, an explosives bunker, concrete retaining walls, and areas of melted debris fused with native rock formations were observed at Glass Beaches #2 (Photos 85 through 90 and Figure 16) and #3 (Photos 91 through 96 and Figure 17).

The debris on the beaches consists mainly of frosted glass pieces, which are not considered an environmental concern. Additionally, scrap metal was observed on the beach at each of the Glass Beach locations. Melted metal fused with native rock was observed at all three Glass Beaches, primarily above the mean high-tide line. Fill thickness landward of the coastal bluffs ranged up to 4.5 feet during the Phase II ESA (TRC 2004b). Figures 15 through 17 show previous sample locations and associated fill thicknesses at Glass Beaches #1 through #3, respectively.

3.3 Purpose

The purpose of removing debris and potential environmentally impacted fill at Glass Beaches #1, #2, and #3 is to remediate the areas until physical and environmental risks to human and ecological health are mitigated. Debris and fill soils are visible along the top of the coastal bluffs at each location. Debris, in places cemented into the natural formation, is present along isolated portions of the slopes and cliff faces down to the shoreline. These areas likely represent debris that was pushed over the slope, transported through erosion, and redeposited or embedded in the slope through soil creep and induration.

3.4 Identification of Extent of Debris and Fill Soils

Previous ESA work has been performed at the three Glass Beaches. The scope of work for the Phase II ESA included direct push borings and test excavations to evaluate fill nature and chemically analyze selected fill and native soil samples to assess environmental impacts. A geophysical survey followed by excavation of identified anomalies was performed at Glass Beach #3 (TRC 2004b). The findings of the Phase II ESA did not identify the landward extent of debris or fill at the three Glass Beaches.

An evaluation of the extent of debris and fill is proposed as the first step in planning IRMs for Glass Beaches #1, #2, and #3. Test excavations will be advanced at a spacing of approximately 75 feet relative to previous sample or known debris locations, and proceed at landward azimuths until the lateral extent of buried debris and/or fill is identified. Subsurface logs of the materials encountered will be prepared including descriptions of signs of environmental impact (e.g., odors and staining) and the nature and quantity of debris, if present.

Selected fill samples will be collected and analyzed for constituents listed in Table 1 to evaluate environmental impacts prior to planning the extent of IRM excavations. Interim cleanup levels provided by the risk assessment team will be used to plan the extent of fill removal. Debris will be removed to the extent practicable taking into account worker safety considerations and protection of the public from physical and chemical hazards at the conclusion of IRM activities.

3.5 Protocol for Interim Remedial Excavations

The following protocol will be used for identified fill and debris removal:

- All required permits, including but not limited to a Coastal Development Permit (CDP), City Public Works Department grading permit, Mendocino County Air Quality Management District permit, and Mendocino County Environmental Health permit, will be obtained prior to field-operation commencement.

- Public access to proposed excavation areas will be restricted by fence installations, signage, and monitoring by field personnel. The shoreline area below excavation areas at the top of the coastal bluffs will be fenced and signage posted to restrict public access. Field personnel will be stationed at the shoreline to prevent public access. A 24-hour

security detail will periodically patrol the areas during non-work hours to further restrict public access.

- Staging areas will be set up within fenced areas for excavated debris and fill stockpiling. Efforts will be made to segregate large-sized debris that may be disposed at a Class III landfill. Excavated material will be placed on and covered by plastic sheeting to shield the material from the elements and mitigate fugitive dust and stormwater run-on and run-off.

- Excavation of debris and fill will generally begin at exposed fill and debris at the top of the coastal bluffs and proceed inland until either debris is absent or chemical concentrations in soil samples are less than risk assessment cleanup goals. Debris removal and excavation will generally be performed above the mean high-tide line.

- It is anticipated that a Caterpillar 330 track-mounted excavator or similar device will be used during excavation. The machine will be equipped with an extra long boom that can reach 20 to 25 feet below the top of the bluffs to remove debris.

- Debris that is scattered along the shoreline will be removed manually to the extent practical. Efforts will be made to remove all debris that is physically accessible; however, there may be some areas that cannot be removed due to access limitations. Removed debris will either be placed in a container or sling that can be lifted by the excavator, or transported to the staging area using an all-terrain vehicle and trailer where appropriate. It is anticipated that work along the shoreline will primarily be done at low tide as a safety precaution.

- Verification samples of the floor in the fill excavation areas above the top of the bluffs will be collected at a frequency of one sample per 5,000 square feet. Sidewall verification samples will be collected at a frequency of one sample per 100 linear feet of sidewall. The samples will be analyzed for the constituents listed in Table 1 under the Glass Beach areas. Verification sampling along the cliff face or beneath removed shoreline debris is not proposed.

- Excavated fill soil will be transported to a Class I or II landfill by a licensed hazardous waste hauler. Excavated debris that is segregated will be disposed at a Class III landfill. Waste characterization testing will be performed as required by disposal facilities.

- Excavated areas will be sloped or graded to blend with surrounding areas as required by the CDP and grading permit.

- Procedures outlined in the CDP, Revegetation Plan, and Mitigation and Monitoring Plan will be followed prior to, during, and after excavation activities.

3.6 Safety and Public Access Restriction Measures

Safety and public access restriction measures will be implemented during excavation activities by adhering to the following protocol:

- A public notice of beach closure in planned work areas will be posted in the local newspaper at least 1 week before work commences. The City will also be notified of the proposed work schedule as a secondary means of informing the public of work activities and access restrictions.
- AME will conduct a daily safety meeting with all field personnel at the start of each workday to discuss safety concerns and identify potential changes in health and safety measures during field-activity performance.
- Work areas will be fenced to prevent public access during work and non-work hours. Field personnel will be stationed at the shoreline below active excavation areas to prevent public access.
- Workers manually removing shoreline debris will use Level D personal protective equipment (i.e., hardhats, steel-toed boots, safety glasses, and heavy work gloves).
- To prevent injury from falling debris, excavators will not be allowed to operate at the top of bluffs where workers are active below. Personnel stationed at the shoreline to restrict public access will be positioned away from active work areas above to avoid falling debris.
- At the completion of excavation at the top of the bluffs, excavation sidewalls will be sloped to blend in with the surrounding landscape and mitigate falling hazards.

4.0 IDENTIFICATION AND REMOVAL OF GEOPHYSICAL ANOMALIES

Anomalies were identified in Parcels 3 and 10 during geophysical surveys conducted as part of the Phase II ESA (Figures 18 and 19). Parcels 3 and 10 are depicted in Photos 97 through 101 and 102 through 105, respectively.

4.1 General Description of Work

At each location identified on Figures 18 and 19, AME and contractors will attempt to identify the anomaly through excavation. The area will be secured and if anthropogenic waste is found, it will be removed and transported to approved offsite locations. Observations will be photographically documented by AME staff. Field judgments will be made concerning soil sampling and analysis depending on field observations. Anomalies will be field-located using GPS equipment for inclusion of coordinates and locations in the final report. All safety and health protocols presented in Work Plan Appendix B will be followed during this operation.

5.0 REMARKS

This Addendum represents our professional opinions, which are based in part on client-supplied and currently available information and are arrived at in accordance with accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended. This Addendum was prepared solely for the use of our client. Any reliance on the information contained in the Addendum by third parties shall be at such parties' sole risk.

6.0 REFERENCES

AME. 2005. *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures*. March 21.

G-P West, Inc. 1998. *Emergency Response Plan Drawings*, California Wood Products Manufacturing Division, 90 West Redwood Avenue, Fort Bragg, CA 95437. Revised August 9.

TRC. 1998. *Report of Findings, Preliminary Investigation Demolition Support Services, Georgia-Pacific Fort Bragg Facility, Fort Bragg, California*. April 1.

____. 2004a. *Phase I Environmental Site Assessment, Georgia - Pacific California Wood Products Manufacturing Division, 90 West Redwood Avenue, Fort Bragg, California*. March.

____. 2004b. *Phase II Environmental Site Assessment, Georgia - Pacific California Wood Products Manufacturing Division, 90 West Redwood Avenue, Fort Bragg, California*.

TABLE 1

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling		Analysis	Further Action
Judgmental	**Grid**		
2.1 Compressor Houses #1 and # 2 (Building #11), Shed, and Secondary Containment			
• Two soil samples will be collected beneath the raised footing in Compressor House #1. • Two soil samples will be collected beneath the area where two steel pipes terminate east of the raised footing in Compressor House #1. • Two soil samples will be collected beneath the location of the two 2-inch diameter pipes and stained concrete floor in Compressor House #1. • One soil sample will be collected beneath the air compressor tank footing on the west side of Compressor House #1. • One soil sample will be collected beneath the possible compressor location. • Two soil samples will be collected beneath the area of stained floor in Compressor House #2. • Two soil samples will be collected beneath the two steel pipes east and west of the Compressor House Shed.	No grid samples will be collected due to the collection of judgmental samples.	The judgmental samples will be analyzed for total petroleum hydrocarbons (TPH) as motor oil (TPHo) using United States Environmental Protection Agency (EPA) Method 8015.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.

TABLE 1

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling		Analysis	Further Action
Judgmental	**Grid**		
• Two soil samples will be collected beneath the area where there are drains on the west side of the Secondary Containment Area.			
2.2 Former Sawmill #1 (Building #12) and Lath Building			
• Six soil samples will be collected beneath the stained areas in Former Sawmill #1.	• Ten grid samples will be collected in Former Sawmill #1. Grid sampling will cover the Phase 1 ESA recommendation of additional sampling in the southwest corner and eastern portion of the building. • Four grid samples will be taken in the Lath Building.	The judgmental and grid soil samples will be analyzed for TPHo and TPH as diesel (TPHd) using EPA Method 8015, pentachlorophenol and tetrachlorophenol using EPA Method 8270, and Volatile Organic Compounds (VOCs) using EPA Method 8260.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.
2.3 Powerhouse(Building #13) and Associated Buildings			
• Five soil samples will be collected beneath stained areas of and adjacent to the raised footing in the Press Building. • One soil sample will be collected beneath the stain on the large transformer pad. • Five soil samples will be collected beneath the stained areas at the Chip Truck Dump and hydraulic system.	• Twenty grid samples will be collected in the Powerhouse. Based on a reconnaissance to be conducted, the number and placement of grid and judgment samples may be modified. • Twenty-three grid samples will be collected in the Powerhouse. • Twenty-four grid samples will be collected at associated Powerhouse buildings.	The soil samples collected at the Powerhouse will be analyzed for TPHo and TPHd using EPA Method 8015, polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270, CA Title 22 Metals using EPA Methods 6010B and 7400, and VOCs using EPA Method 8260.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.

TABLE 1

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling		Analysis	Further Action
Judgmental	**Grid**		
• Five soil samples will be collected at the Powerhouse, including one each beneath the following locations: filter oil storage area, turbine oil storage area, automatic transmission fluid storage area, grease drum storage area, solvent storage area, and hydrocarbon storage area. • One soil sample will be collected in the eastern portion of the Cooling Towers beneath the location of a vault containing possible oily liquid. • One soil sample will be collected beneath the vertical piping located south of the vault.	• Twelve grid samples will be collected in the area of the Cooling Towers, Sheds, and Poly Tanks Pad.	The grid samples collected at the Fly Ash Reinjection System will be analyzed for PAHs using EPA Method 8270, dioxins and furans using EPA Method 8290 (select samples), and CA Title 22 Metals using EPA Methods 6010B and 7400. The grid samples collected at the Paint Storage Shed will be analyzed for TPHd and TPHo using EPA Method 8015, VOCs using EPA Method 8260, and CA Title 22 Metals using EPA Methods 6010B and 7400. The grid samples collected at the Poly Tanks/Transformer Pad will be tested for polychlorinated biphenyls (PCBs) using EPA Method 8082, and TPHo using EPA Method 8015. The grid samples collected at the large and small Transformer Pads will be tested for PCBs using EPA Method 8082, and TPHo using EPA Method 8015. The grid samples collected at the former Oil Storage Shed will be analyzed for TPHo using EPA	

TABLE 1

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling		Analysis	Further Action
Judgmental	**Grid**		
		Method 8015, VOCs using EPA Method 8260, PAHs using EPA Method 8270, and CA Title 22 Metals using EPA Methods 6010B and 7400. The judgmental and grid samples collected at the Press Building will be analyzed for TPHd and TPHo using EPA Method 8015 and VOCs using EPA Method 8260. The judgmental and grid samples collected at the Chip Truck Dump will be analyzed for TPHd and TPHo using EPA Method 8015 and VOCs using EPA Method 8260. The judgmental and grid samples at the Cooling Towers will be analyzed for hexavalent chromium VI using EPA Methods 3060A and 7199, molybdenum using EPA 6010B, and ethanol and isopropanol using EPA Method 8260. In addition, samples within the vault area will be analyzed for TPHo and TPHd using EPA Method 8015, PAHs using EPA Method	

TABLE 1

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling		Analysis	Further Action
Judgmental	**Grid**		
		8270, CA Title 22 Metals using EPA Methods 6010B and 7400, and VOCs using EPA Method 8260.	
2.4 Fuel Barn (Building #14)			
• Four soil samples will be collected beneath the length of the central trench. • One soil sample will be collected beneath each of the open trench and Secondary Containment Area. • One soil sample will be collected beneath the area of the pipe entering from the south.	• Four grid samples will be collected beneath the Fuel Barn area.	The judgmental and grid samples will be analyzed for TPHo and TPHd using EPA Method 8015 and VOCs using EPA Method 8260.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.
2.5 Chipper (Building #15)			
• Two soil samples will be collected from the upper 0 to 12 inches of soil underlying the stained floor area. • One soil sample will be collected from the upper 0 to 12 inches of soil underlying the observed wall drain, outside of the foundation wall.	No grid samples will be collected due to the collection of judgmental samples.	The judgmental samples will be analyzed for TPHo and TPHd using EPA Method 8015 and VOCs using EPA Method 8260.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.

TABLE 1

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling		Analysis	Further Action
Judgmental	**Grid**		
2.6 Water Treatment Plant (Building #16)			
• One soil sample will be collected beneath the storage building at the chlorine pumping area. • Five soil samples will be collected beneath the drains (one per drain). • Two soil samples will be collected beneath the sumps (one per sump) within the Water Treatment Plant. • Two soil samples will be collected beneath the drum storage areas (one per area). • One soil sample will be collected beneath soil underlying the possible compressor location on the north side of the building as mentioned in the Phase I ESA. • One soil sample will be collected beneath the sump area south of the building.	• Two soil samples will be collected beneath the raised footings. • One soil sample will be collected beneath the south-central portion of the foundation.	The judgmental and grid samples will be tested for aluminum using EPA Method. In addition, the samples collected along the north portion of the foundation will be tested for TPHd and TPHo.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.

TABLE 1

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling		Analysis	Further Action
Judgmental	**Grid**		
2.7 Powerhouse Fuel Storage Building (Building #17) and Water Tower			
• Three soil samples will be collected beneath two sumps and stained areas in the northern portion of the Powerhouse Fuel Storage Building. • Three soil samples will be collected beneath floor stains in the southern half of the Powerhouse Fuel Storage Building. • One soil sample will be collected beneath the fuel-supply line outside of the southwest corner of the Powerhouse Fuel Storage Building.	No grid samples will be collected due to the collection of judgmental samples.	The judgmental samples will be analyzed for TPHd, TPHo, and benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8015, PAHs using EPA Method 8270, VOCs using EPA Method 8260, and CA Title 22 Metals including lead using EPA Methods 6010B and 7400.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.
2.8 Water Supply Switch Building			
• One soil sample will be collected beneath the northern edge of the pad in the area of staining.	• One soil sample will be collected from the upper 0 to 12 inches of soil underlying the Water Supply Switch Building foundation.	The judgmental and grid samples will be analyzed for TPHo and TPHd using EPA Method 8015 and VOCs using EPA Method 8260.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.

TABLE 1

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling		Analysis	Further Action
Judgmental	**Grid**		
2.9 Dewatering Slabs			
No judgmental samples are proposed for the Dewatering Slabs.	• Four soil samples will be collected beneath the Dewatering Slabs' foundation.	Samples will be analyzed for PAHs using EPA Method 8270, CA Title 22 Metals using EPA Methods 6010B and 7400, and dioxins and furans using EPA Method 8290 (select samples).	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.
2.10 Sewage Pumping Station/Alum Tank			
• One soil sample will be collected beneath floor staining on the Alum Tank foundation. • One soil sample will be collected beneath the drain, outside of the foundation.	• Two soil samples will be collected beneath the Sewage Pumping Station.	The judgmental samples collected at the Alum Tank will be analyzed for aluminum using EPA Method 6010B. The grid samples collected at the Sewage Pumping Station will be analyzed for TPHo and TPHd using EPA Method 8015 and VOCs using EPA Method 8260.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.

TABLE 1

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling		Analysis	Further Action
Judgmental	**Grid**		
2.11 Former Mobile Equipment Shop North and South and Associated Subsurface Structures			
• Three soil samples will be collected beneath the trench and drains on the south building foundation. • Five soil samples will be collected beneath the catch basin, sump, and pipe along the south edge of the south building foundation. • One soil sample will be collected beneath the apparent floor drain in the west central portion of the north building foundation. • Nine soil samples will be collected beneath the trenches and floor staining in the north building foundation.	• Four soil samples will be collected from the upper 0 to 12 inches of soil underlying the north and south buildings.	The judgmental and grid samples will be analyzed for TPHo, TPHd, and TPHg using EPA Method 8015, PAHs using EPA Method 8270, CA Title 22 Metals using EPA Methods 6010B and 7400, and VOCs (including BTEX) using EPA Method 8260.	Additional soil samples may be collected based on field observations and the results of analysis of the samples described above.

ACTON •
MICKELSON •
ENVIRONMENTAL, INC.

Consulting Scientists, Engineers, and Geologists

July 18, 2005

Mr. Craig Hunt
Regional Water Quality Control Board - North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Via E-Mail and Overnight Mail

16017.06

Subject: Response to RWQCB Comments on *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* and *Addendum #1* Former Georgia Pacific California Wood Products Manufacturing Facility Fort Bragg, California

Dear Mr. Hunt:

This letter is submitted by Acton • Mickelson • Environmental, Inc. (AME) on behalf of Georgia Pacific Corporation (G-P) in response to the July 1, 2005 letter from the Regional Water Quality Control Board (RWQCB) – North Coast Region regarding AME's *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* dated March 21, 2005 (Work Plan) and *Addendum #1, Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (Addendum #1) dated May 6, 2005 for the former Georgia Pacific California Wood Products Manufacturing Facility, 90 West Redwood Avenue, Fort Bragg, California (facility). Each comment made by the RWQCB is italicized, indented, and followed by an associated response.

RECONNAISSANCE

> *Regional Water Board staff will need to participate in the reconnaissance of building areas or the reconnaissance results should be fully reviewed on-site with Regional Water Board staff before the removal work begins. Please contact us at least one week prior to the reconnaissance to schedule it.*

An onsite review of building-area field-reconnaissance results will be held. As requested, AME will notify the RWQCB at least 1 week in advance of the onsite review so they may participate. The onsite review with the RWQCB staff will occur prior to any removal activities scheduled for areas described in the Work Plan and associated addenda.

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It was stated in the workplan that a GPS system would be used to record the locations of potential COPC impacts during the reconnaissance. Since being able to return precisely to those locations after foundation removal is necessary, please be more specific on the precision and reproducibility of the GPS surveying to be used and if any additional surveying techniques will be used.

AME is using a Trimble Geo XT™ global positioning system (GPS) unit. It is a handheld instrument that combines a Trimble GPS receiver with a computer running Microsoft® Windows Mobile™ 2003 software for Pocket PCs. The unit has sub-meter accuracy and utilizes a minimum of seven satellites to field-locate a position. Reproducibility of mapped field locations is accomplished using a navigation feature, which provides real-time direction and distance data as a guide to locate any previously mapped position.

In the reconnaissance of the building areas, areas observed to have signs of potential COPC impacts need to be photographically documented.

AME staff has photographically documented building areas observed to have signs of chemical of potential concern (COPC) impact. The photographs will be provided in *Addendum #2, Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (Addendum #2), to be submitted to the RWQCB.

After the reconnaissance is performed, a brief plan containing the proposed sampling locations must be submitted to this office. Staff realize field judgments will have to be made for additional sampling of observed impacts or potential impacts encountered during foundation removal.

Addendum #2 will include a proposed soil sampling plan for both judgmental and grid sampling locations beneath building foundations. Proposed judgmental sampling locations will correspond with observations of signs of potential COPC impact. Proposed grid sampling locations have been selected to cover areas that have no obvious signs of potential COPC impact to the subsurface. Additional sampling locations may be added to the program based on field observations of potential signs of soil COPC impact after foundation removal.

A full report of the reconnaissance and sampling surveying, including coordinates and reference system, should be included in the final report.

The final report for the scope of work proposed in the Work Plan and Addenda #1 and #2 will include a description of reconnaissance and sampling surveying, including sample location coordinates and the associated reference system.

FOUNDATION REMOVAL

More detail is needed to describe how observations will be done during the foundation removal work to screen for impacts. For example, will a person experienced in screening for contamination be observing the foundation removal work at all times and will field screening equipment be used?

Addendum #2 will include procedures for screening soil unearthed during building foundation removal. AME proposes that one field geologist or engineer per piece of heavy equipment be present at all times during foundation removal. Field personnel will work under the supervision of a licensed geologist or engineer, be experienced in identifying soil exhibiting signs of COPC impact, and utilize a photoionization detector (PID) or flame ionization detector (FID) as a screening tool to aid in this evaluation.

During foundation removal, efforts are needed to minimize the disturbance to the underlying soils prior to characterization. What efforts will be made?

A contractor specializing in facility demolition will be used for foundation removal. Equipment operators will be experienced in minimizing disturbance to subgrade soils during concrete removal. In addition, heavy equipment operation on exposed soil surfaces will be minimized to the extent practicable prior to sampling for characterization of potential COPC concentrations.

SAMPLING

The workplan focuses sampling activities on generating data for risk assessment purposes. While collecting appropriate data for risk assessment use is needed, sampling activities need to also focus on finding and characterizing impacts. Where impacts are found, the extent of soil contamination will need to be determined.

The extent of COPC impact to soil will be evaluated relative to screening criteria during foundation removal activities. Existing soil sample analytical data from previous investigations will be used as a starting point in this assessment. These data will be supplemented through the collection and laboratory analysis of both judgmental and grid-based soil samples as described in Addenda #1 and #2. A combination of judgmental and grid-based soil sampling should effectively identify the existence of COPC impacts in building areas that exhibit no indications of such impact or have not been previously sampled, as well as areas where indications of COPC impact are observed.

Sampling the soil at a depth of one foot was proposed, based on anticipated risk assessment needs. However, to screen for impacts, sampling the soil nearer to the surface may also be appropriate.

It is our understanding that the top 1-foot of soil has been established to represent surface soil for the purpose of conducting risk assessment activities. Surface soil samples will be collected to evaluate COPC impacts. To the extent practicable, sub-samples for volatile organic compound (VOC) analysis will be taken from the lower portion of the samples to mitigate volatilization of VOCs that may have occurred near the surface, and testing of the upper portion of the samples will be limited to non-volatile components such as California Title 22 metals and polychlorinated biphenyls (PCBs).

The sample spacing and depth was proposed based on anticipated risk assessment needs. However, an evaluation of the sampling and analyses by your risk assessment consultants was not included with the workplan or addendum. Such an evaluation should be submitted to this office.

Our understanding is that a sample depth of 1 foot is proposed for assessing the extent of identified impacts and verification samples following the removal of foundations and impacted soils. This depth would provide an evaluation of surface soils that future human and biological receptors may contact and is within the depth interval of 2 feet that the California Office of Environmental Health Hazard Assessment (OEHHA) identified (March 29, 2005) as surface soils. We are currently evaluating approaches for determining sample spacing. An evaluation of the sampling approach, including sample spacing, will be submitted as part of Addendum #2.

Prior to excavation, soil needs to be sampled and analyzed to establish what contamination is present. It was not explicitly stated that sampling would be done before any soil removal was performed (e.g., of ostensibly contaminated soil).

Soil samples will be collected following foundation removal and prior to initiation of interim remedial measure (IRM) activities to assess the presence of COPCs. This sampling of soil exposed after building foundations are removed will be performed on both a judgmental basis and grid-based system as described in the first response under the "Sampling" section of this letter. This procedure will be included in Addendum #2.

It was stated that verification samples would be analyzed only for the COPC's that had reported concentrations greater than the screening levels in the initial samples. Verification samples should be analyzed for all impacts found in the respective location.

As recommended, verification samples will be analyzed for all COPCs identified in the initial sample to assess whether any of the concentrations exceed screening levels. This procedure will be included in Addendum #2.

More detail needs to be given on what verification sampling will be performed (e.g., spacing) in areas where contaminated soil is excavated.

Verification soil samples will be collected from the excavation floors and sidewalls following IRMs. Verification samples will be collected at frequencies of one sample per 400 square feet of excavation floor and one sample per 20 linear feet of sidewall. Analysis of floor and sidewall samples will allow an evaluation of the lateral and vertical extent of soil COPC impact. Chemical data from both sample types will be compared to screening levels for reported COPCs as a guide for conducting IRM excavations.

How soon after soil is exposed will it be sampled?

Soil exposed as a result of foundation removal will be sampled the same day it is exposed. This will be stated in Addendum #2.

BACKFILL

It was proposed to backfill excavations with material that would potentially allow more infiltration of water into the surrounding soils than currently can with the foundations in place. Final cleanup concentrations for soil contaminants will not be formally established before the risk assessments and the final RAP are prepared and approved. In addition, contamination impacts may be found with this work that will not be fully delineated until a later time. Thus, the remaining soils need to be protected from additional water infiltration that could mobilize contamination.

Where IRM areas are backfilled with imported clean fill or in areas where remaining soil requires protection, soil will be covered with plastic, temporarily paved with asphalt, or capping with compacted fine-grained soil until final soil cleanup standards are developed through the health risk assessment and approved by the RWQCB. Implementing one of these measures should mitigate infiltration of rainwater that could mobilize soil COPCs deeper into the subsurface.

How will the imported fill material be verified as clean? Identify the actual source of soil to be used to backfill the excavation pits.

Prior to importation, a sample of the proposed fill material will be laboratory tested for Total Petroleum Hydrocarbons (TPH) as gasoline (TPHg), TPH as diesel (TPHd), TPH as motor oil (TPHo), VOCs, CA Title 22 metals, and polynuclear aromatic hydrocarbons (PAHs) using the test methods described in Work Plan Appendix A. Pending sample analysis, a local supplier, Baxman Gravel Company, Inc. located at 1221 North Main Street in Fort Bragg, is planned as the source of imported fill material.

ANALYSES

The reporting limits for the laboratory analyses will need to be at least no greater than the screening levels to be developed as part of the risk assessment process.

This comment is acknowledged.

Analytical detections between the method detection limit and the reporting limit should be noted.

According to standard protocol, the laboratory will report concentrations that are between the method detection limit (MDL) and reporting limit (RL) and qualify the data with a "J". The "J" qualifier indicates that the reported concentration represents an estimated value.

The reports of the 1989 transformer spill near the hog indicated that that transformer was located on the inside of a building (that particular building does not appear to be part of this workplan's scope of work). Throughout the site, were other transformers located inside buildings? PCB analysis should be added for sampling areas where interior transformers or PCB-containing structures may have been located.

According to discussions with G-P facility personnel, there were no transformers located within building structures planned for demolition under the scope of work proposed in the Work Plan and Addenda #1 and #2. Analysis of PCBs will be performed where PCB-containing structures were potentially located or disposed (i.e., transformer pad near Powerhouse, waste disposal areas at Glass Beaches #1 through #3, and geophysical anomaly areas in Parcels 3 and 10).

The TPH analyses performed need to produce results useable for the risk assessment. It had been proposed in our meeting with OEHHA that the TPH Criteria Working Group method be used for the risk assessment. It does not appear that the proposed TPH analyses will provide the TPH breakdowns necessary for this method.

We concur with the first statement. We are working to develop an approach to address both aromatic (e.g., benzene, toluene, ethylbenzene, and xylenes and PAHs) and aliphatic components of TPHs.

The testing for jet fuel impacts should include analysis for lead.

Testing of soil samples for lead has been added to the Powerhouse Fuel Storage Building (Building #17) where jet fuel was formerly stored in an aboveground storage tank. Enclosed Table 1 from Addendum #1 has been revised to reflect this modification. However, please note that alkyl lead anti-knock agents were historically added to aviation gasoline used in piston engines and not to aviation jet fuel used in turbine engines.

The testing for transformer cooling oil impacts should include analysis for TPH in addition to the proposed PCB analysis.

TPHo analysis of soil samples for transformer cooling oil impact has been added to the transformer pad area near the Powerhouse initially proposed for PCB analysis only. Enclosed Table 1 has been revised to reflect this modification.

The testing for paint impacts should include analysis for metals.

Testing for metals has been added to the analyses for paint impacts proposed at the Paint Storage Shed in the enclosed Table 1 revision.

Sampling at the former Sawmill #1 and lath plant should include analysis for potential pentachlorophenol/tetrachlorophenol impacts.

Testing of soil samples for potential pentachlorophenol/tetrachlorophenol impacts at former Sawmill #1 and the Lath Plant have been added to the revised Table 1 enclosed with this response letter.

OTHER COMMENTS

Soil cleanup levels will also need to address potential leaching of contaminants into water. This could be accomplished through contaminant leachability tests on soil samples.

Soil cleanup levels that are being developed through the human health risk assessment will consider protection of ground water resources as part of this process. Leachability testing of soil samples will be performed for waste disposal characterization as required by the offsite disposal facility.

The best management practices for the excavation work should include practices to prevent precipitation and runoff from entering open excavations.

Best management practices to prevent precipitation and runoff from entering open excavations will be included in the stormwater pollution prevention plan (SWPPP). These include construction of earthen berms, placement of straw bails at the perimeter of the excavations, or artificial barriers to prevent stormwater run-on from entering excavations. Excavation activities are planned for completion before the onset of the rainy season, typically beginning in mid-October; however, in the event of rain small excavations will be covered with a single plastic sheet sloped to provide drainage away from the excavation. The floor of larger excavations will be sloped to allow precipitation to accumulate in a localized area where it can be pumped out and containerized for disposal characterization and proper disposal.

Any activities and best management practices to be used in this work that are not currently part of the Storm Water Pollution Prevention Plan for this site should be included in an addendum to the Storm Water Pollution Prevention Plan.

This comment is acknowledged.

There is little detail in the workplan on how the removal work in the Glass Beach areas will be performed. A plan needs to be submitted detailing the methods to be used, the extent of material to be removed or the criteria to be used to determine the extent to be removed, the procedures to be used to prevent losing control of material, and how these areas will be finished.

Procedures will be included in Addendum #2 for evaluation of the extent of material to be removed, maintaining control of removed debris, and finishing of excavation areas.

There is some use of the beaches by the public in the area of this work. This needs to be addressed. Access to the work area needs to be restricted.

Addendum #2 will include safety protocol for restricting public access to the shoreline below the work areas at Glass Beaches #1 through #3.

Observations made during the work in the geophysical anomaly areas should be photographically documented.

AME field personnel will photographically document all excavations made in the geophysical anomaly areas for inclusion in the final report.

In future plans and reports, please do not include the San Francisco Bay Regional Water Quality Control Board (SF RWQCB) Environmental Screening Levels. The SF RWQCB is a separate regulatory agency that has oversight of a different geographical region than that of the North Coast Regional Water Quality Control Board. The SF RWQCB Environmental Screening Levels were drafted using general assumptions for the San Francisco Bay area and policies of the SF RWQCB that may not be appropriate for this site and are not necessarily used by the North Coast Regional Water Quality Control Board. The SF RWQCB Environmental Screening Levels were also developed using water quality objectives that may not be appropriate for this site.

Environmental Screening Levels will not be included in future documents. We are working to determine screening levels (site specific or established) for use in conducting IRMs.

> *The only areas of the site for which we will consider no further action recommendations separate from the entire site are the areas that are part of the initial proposed public land acquisition.*

This comment is acknowledged.

If you have any questions or comments regarding this response letter, please contact Michael Acton at (916) 939-7550.

Very truly yours,

ACTON • MICKELSON • ENVIRONMENTAL, INC.

Mark W. Clardy

Mark W. Clardy, R.G. #7055
Project Geologist

REGISTERED GEOLOGIST
MARK W. CLARDY
NO. 7055
Exp. 5/31/06
STATE OF CALIFORNIA

Michael A. Acton, R.E.A.
Vice President

Enclosure – Table 1

cc: Ms. Julie Raming, Georgia-Pacific Corporation
Mr. Doug Heitmeyer, Georgia-Pacific Corporation
Ms. Linda Ruffing, City of Fort Bragg
Ms. Kay Johnson, Tetra Tech, Inc.

MA:MWC:tm

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)
Compressor House (Bldg. #11)	Compressors	Compressor Oil	TPHo	EPA 8015	1
Former Sawmill #1 (Bldg. #12)	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc. Lumber surface treatment.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, naphtha solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most
		Pentachlorophenol, technical grade	Pentachlorophenol	EPA 8270	0.67
			Tetrachlorophenol	EPA 8270	
Lath Plant	Machinery routine ma	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, naphtha solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most
		Pentachlorophenol, technical grade	Pentachlorophenol	EPA 8270	0.67
			Tetrachlorophenol	EPA 8270	

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)
Powerhouse (Bldg. #13)	Boiler Fueling and Operation	Bunker C, residual fuel	TPHo	EPA 8015	1
			PAHs	EPA 8270	0.067/ 0.01
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1
		Motor oil, used	TPHo	EPA 8015	1
			VOCs	EPA 8260	0.005 for most
			PAHs	EPA 8270	0.067/ 0.01
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1
		Bottom ash waste, may include clinker	PAHs	EPA 8270	0.067/ 0.01
			Dioxins and furans	EPA 8290	1.00E-06
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1
	Power generation	Turbine oil, hydraulic oil, machine lubricants, petroleum solvents	TPHd, TPHo	EPA 8015	1
			VOCs	EPA 8260	0.005 for most
Paint Storage Shed	Paint and solvent stora	Paint, paint thinners, so	TPH as kerosene, stoddard, naphtha solvents (petroleum-based solvents in range of TPHd)	EPA 8015	1
			VOCs	EPA 8260	0.005 for most
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1
Transformer Pad	Power distribution	Transformer cooling oil	PCBs, individual cogeners	EPA 8082	0.012
			TPH as lubrincants (in range of TPHo)	EPA 8015	1
Oil Storage Shed	Oil storage	Lubricating oil, used oil	TPHo	EPA 8015	1
			VOCs	EPA 8260	0.005 for most
			PAHs	EPA 8270	0.067/ 0.01
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)
Press Building	Machinery routine maintenance	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, naphtha solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most
	Compressors	Compressor Oil	TPHo	EPA 8015	1
Cooling Towers	Boiler coolant/ cooling towers	Corrosion inhibitors, water conditioners	Cr VI+	EPA 3060A w/ 7199	0.5
			Sodium molybdate	EPA 6010B	1
		Disinfectants/ other	Ethanol	EPA 8260	100
			Isopropanol	EPA 8260	100
Cooling Towers Shed, Poly Tanks Pad	Boiler coolant/ cooling towers	Corrosion inhibitors, water conditioners	Cr VI+	EPA 3060A w/ 7199	0.5
			Sodium molybdate	EPA 6010B	1
		Disinfectants/ other	Ethanol	EPA 8260	100
			Isopropanol	EPA 8260	100
Truck Dump	Routine maintenance of hydraulic unit	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, naphtha solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)
Fly Ash Reinjection System	Fly ash processing	Ash waste	PAHs	EPA 8270	0.067/ 0.01
			Dioxins and furans	EPA 8290	1.00E-06
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1
Fuel Barn (Bldg. #14)	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, naphtha solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most
Chipper Bldg. (Bldg. #15)	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, naphtha solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most
Powerhouse Fuel Storage (Bldg. #17)	Fuel storage	Bunker C, residual fuel	TPHo	EPA 8015	1
			PAHs	EPA 8270	0.067/ 0.01
			CA Title 22 Metals	EPA 6010B / 7400	0.15 to 1
		Jet fuel	TPHd	EPA 8015	1
			VOCs	EPA 8260	0.005 for most
			PAHs	EPA 8270	0.067/ 0.01
			Lead	EPA 6010B	0.15

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)
Water Supply Switch Building	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, naphtha solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most
Dewatering Slabs	Fly ash processing	Ash waste	PAHs	EPA 8270	0.067/ 0.01
			Dioxins and furans	EPA 8290	1.00E-06
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1
Sewage Pumping Station	Machinery routine maintenance at sawmills, planing mills, sorting mills, debarkers, chippers, etc.	Hydraulic oils and machine lubricants; petroleum solvents	TPH as stoddard, naphtha solvents (petroleum-based solvents in range of TPHd); TPH as lubricants (in range of TPHo)	EPA 8015	1
		Chlorinated solvents, paint solvents	VOCs	EPA 8260	0.005 for most
Former Mobile Equipment Shop (Parcel 3)	Vehicle Maintenance	Gasoline, diesel, used motor oil, hydraulic oil, degreasers	TPHg	EPA 8015	1
			TPHd, TPHo	EPA 8015	1
			VOCs	EPA 8260	0.005 for most
			PAHs	EPA 8270	0.067 / 0.01
			CA Title 22 Metals	EPA 6010B/7400	0.015 to 1

TABLE 1

AREA-SPECIFIC INFORMATION
Georgia-Pacific Corporation California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Areas Addressed in Work Plan	Process	Substance Used or Waste Products	COPCs	Test Method	RL/MDL (mg/kg)
Glass Beach Nos. 1 - 3	Waste Fill	May possibly include log deck scrapings, bottom ash waste, clinker, fly ash, burn debris, waste diesel, motor oil, solvents.	TPHd, TPHo	EPA 8015	1
			VOCs	EPA 8260	0.005 for most
			PAHs	EPA 8270	0.067/ 0.01
			Dioxins and furans	EPA 8290	1.00E-06
			PCBs, individual cogeners	EPA 8082	0.012
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1
Geophysical Anomaly Areas, Parcels 3 and 10	Waste Fill	May possibly include log deck scrapings, bottom ash waste, clinker, fly ash, burn debris, waste diesel, motor oil, solvents.	TPHd, TPHo	EPA 8015	1
			VOCs	EPA 8260	0.005 for most
			PAHs	EPA 8270	0.067/ 0.01
			Dioxins and furans	EPA 8290	1.00E-06
			PCBs, individual cogeners	EPA 8082	0.012
			CA Title 22 Metals	EPA 6010B/ 7400	0.15 to 1

Notes
PAHs by EPA 8270 to be reported to the method detection limit (MDL).
PCBs by EPA 8082 analyze for individual cogeners.
For dioxins and furans by 8290 in general, and PCBs by 8082 at waste fill locations, analyze select soil samples where ash/ waste oil, or maximum PAH concentrations are present.

CA = California
COPC = chemical(s) of potential concern
EPA = United States Environmental Protection Agency
CHHSL = California Human Health Screening Level
mg/kg = milligram(s) per kilogram
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
RL/MDL = Reporting Limit / Method Detection Limit
TPH = Total Petroleum Hydrocarbon(s)
TPHd = Total Petroleum Hydrocarbon(s) as diesel
TPHg = Total Petroleum Hydrocarbon(s) as gasoline
TPHo = Total Petroleum Hydrocarbon(s) as motor oil
VOC = Volatile Organic Compound

APPENDIX D
EXCAVATION AND SOIL MANAGEMENT PLAN

PREPARED FOR

Former Georgia-Pacific California Wood Products
Manufacturing Facility
90 West Redwood Avenue
Fort Bragg, California

PREPARED BY

Acton • Mickelson • Environmental, Inc.
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AME Project No. 16017.01

REVIEWERS

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SEPTEMBER 28, 2005

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1. INTRODUCTION

Georgia-Pacific Corporation (G-P) authorized Acton • Mickelson • Environmental, Inc. (AME) to prepare this Excavation and Soil Management Plan, which describes procedures to be followed during implementation of foundation removal, additional investigation, and interim remedial measure (IRM) activities at the former Georgia-Pacific California Wood Products Manufacturing Facility at 90 West Redwood Avenue in Fort Bragg, California (site; **Figure D-1**). IRM activities are described in:

- *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* dated March 21, 2005 (Work Plan)
- Addendum #1 to the Work Plan dated May 6, 2005
- Response to Regional Water Quality Control Board Comments (RWQCB) dated July 18, 2005
- Addendum #2 to the Work Plan dated August 19, 2005
- Response to RWQCB Comments dated September 22, 2005

G-P ceased site operations in August 2002. Environmental investigations conducted since 2003 indicate soil and ground water underlying the site is impacted by constituents of potential concern (COPCs), including petroleum hydrocarbons, volatile organic compounds (VOCs), semi-volatile organic compounds, metals, polychlorinated biphenyls, and organochlorine pesticides.

The Work Plan scope of work addresses:

- Powerhouse and former Sawmill #1 areas and associated building structures (**Figure D-2**)
- Former Mobile Equipment Shop and associated building structures (**Figure D-2**)
- Glass Beaches #1, #2, and #3 areas (**Figures D-3** through **D-5**, respectively)
- Two areas of geophysical anomalies in Parcels 3 and 10 (**Figures D-6** and **D-7**, respectively)

The scope of work also addresses foundation removal and excavation of impacted soil at these locations, if applicable. Upon removal of the foundations, environmentally impaired soil will be identified, excavated, and removed as an IRM, if warranted. Buried debris identified at the three beach areas and two geophysical survey areas will be excavated and removed.

This Excavation and Soil Management Plan describes protocol and procedures to be followed to protect human health and the environment during foundation removal and excavation activities, and fulfills specific applicable requirements of the Mendocino County Air Quality Management

District (MCAQMD) and California State Water Resources Control Board. All excavation and IRM activities will be conducted in accordance with the City of Fort Bragg (City) Municipal Code, title 18, Article 6, Site Development Regulations.

Components of this Excavation and Soil Management Plan address mitigation of human health and environmental risks from fugitive dust, potential emissions of petroleum hydrocarbons and VOCs, stormwater and sediment runoff, and physical hazards resulting from excavations. All work will be performed in accordance with the Site Health and Safety Plan (HASP, Appendix B to the Work Plan).

2. FOUNDATION REMOVAL AND EXCAVATION PERMITS

All required permits, including but not limited to a Coastal Development Permit (CDP), City Public Works Department grading permit, MCAQMD permit, and Mendocino County Environmental Health permit, will be obtained prior to field-operation commencement. Excavation activities will be conducted in accordance with the permits referenced above.

3. FOUNDATION REMOVAL AND EXCAVATION NOTIFICATIONS

At least 5 days prior to field-activity initiation, G-P will provide written notice to MCAQMD of any intent to remove foundations or excavate, including:

- Names and addresses of persons performing and responsible for excavation work
- Excavation location
- Scheduled starting date of excavation (starting date may be delayed up to 5 working days provided MCAQMD is promptly notified by telephone of the new starting date)
- Estimated quantity of soil to be excavated
- Estimated average organic content of excavated soil
- Procedures employed to meet MCAQMD requirements

The MCAQMD notice will be addressed to:

Air Pollution Control Officer
Mendocino County Air Quality Management District
306 E. Gobbi Street
Ukiah, California 95482

RWQCB will also be notified at least 5 days prior to field-activity initiation.

4. SAFETY AND PUBLIC ACCESS RESTRICTIONS

Public access to proposed excavation areas will be restricted by fence installations, signage, and monitoring by field personnel. Shoreline areas below excavation areas atop coastal bluffs will be fenced and posted with signs restricting public access. Field personnel will be stationed at the shoreline to prevent public access. A 24-hour security detail will patrol the areas during non-work hours to further restrict public access.

Safety and public access restriction measures will be implemented during excavation activities using the following protocol:

- A public notice of beach closure in planned work areas will be posted in the local newspaper at least 1 week before work commencement. The City will also be notified of the proposed work schedule as a secondary means of informing the public of work activities and access restrictions.

- AME will conduct a daily safety meeting with all field personnel at the start of each workday to discuss safety concerns and identify potential changes in health and safety measures during field-activity performance.

- Work areas will be fenced to prevent public access at all times. Field personnel will be stationed at the shoreline below active excavation areas to prevent public access.

- Workers manually removing shoreline debris will use Level D personal protective equipment (i.e., hardhats, steel-toed boots, safety glasses, and heavy work gloves).

- To prevent injury from falling debris, excavators will not be allowed to operate atop bluffs below which workers are active, and personnel stationed at the shoreline to restrict public access will be positioned away from active, overhead work areas.

- Excavation completed atop bluffs will have sidewalls sloped to blend in with the surrounding landscape and mitigate falling hazards.

5. WETLAND IDENTIFICATION

Jurisdictional Determination and Habitat Assessment (TRC 2003) identifies two sensitive areas near proposed Work-Plan areas: the Log Pond (Pond 8) located in Parcels 4 and 5, and the Pacific Ocean coastline. A fence will be constructed to protect Pond 8 from erosion and siltation from subsurface disturbance occurring within 50 feet of the pond. Any excavation activities occurring near Pond 8 or the Pacific Ocean coastline will use methods described herein and in the *Stormwater Pollution Prevention Plan* (SWPPP) to minimize environmental disturbance.

A report documenting potential wetland locations is near completion by WRA Environmental Consultants (WRA). Prior to initiation of foundation removal or IRM activities, this WRA report will be consulted to identify potential wetland locations and determine appropriate safeguard measures.

6. RARE PLANT MONITORING

A Mitigation and Monitoring Plan for Rare Plants (MMP) has been prepared in consultation with the State of California Department of Fish and Game. Excavation activities will be conducted in accordance with the procedures outlined in the MMP. In addition, a Revegetation Plan has been prepared to specify and guide revegetation activities where required.

7. FOUNDATION REMOVAL AND EXCAVATION PROTOCOL AND PROCEDURES

The Field Team Leader will complete a Hot Work Permit prior to each workday per excavation and hot work guidelines. Hot work is defined to include any work using tools or equipment that may create flame or sparks, including heavy construction equipment (e.g., backhoes), motorized equipment, and power and hand tools.

A designated work area boundary will be established for foundation and excavation activities. Initially, the designated work area boundary will be established at a setback distance of 55 feet from the area of work. The designated work area boundary will be adjusted based on air monitoring results. The presence of VOCs and petroleum hydrocarbons will be evaluated with onsite air-monitoring equipment. Air monitoring will be conducted in accordance with the HASP at the worker breathing zone and the work area boundary. A photoionization detector (PID) calibrated to isobutylene will be used to monitor the breathing zone of workers. Work will be initiated with Level D protection. A PID reading of 1 part per million in the workers' breathing zone sustained for 2 minutes will prompt an upgrade to Level C protection.

Entry into an excavation is authorized only in accordance with the HASP and the safe work practices confined space entry procedures as specified in an Entry Permit completed by the Field Team Leader. The Entry Permit will specify the confined space monitoring to be performed and the conditions for acceptable entry. Entry is defined as any part of a person's body passing through the plane of the opening of the excavation.

During periods of inactivity longer than 12 hours, trench bottoms and sidewalls may be covered with heavy-duty plastic sheeting or other covering to minimize emissions of hydrocarbons to the atmosphere. Open excavations will be demarcated with barricades and caution tape during periods of inactivity and at the end of each workday to reduce the potential of personnel falling into the excavations. The excavations will be maintained to mitigate physical hazards to personnel working in or entering the area after work is completed. If a resulting excavation poses a physical hazard, the sidewalls will be sloped where possible to reduce the potential of someone falling into the excavation.

Excavations made for foundation removal, removal of geophysical anomalies, or IRMs will be graded and/or backfilled with clean imported soil to mitigate physical hazards and prevent ponding of water during rainfall. As a temporary measure, excavation sidewalls will be sloped to reduce personnel trip and fall hazards during area work. Backfill materials will be obtained from a local borrow source, such as Baxman Gravel Company, Inc. in Fort Bragg, for site use. Dredge

spoils from an offsite location will be considered for use as backfill material. The source of backfill material will be identified, sampled, and analyzed for COPCs prior to onsite use. Coarse-grained soils with a minor amount of fines to bind the soil are preferred for use as backfill, since they are easier to compact and allow water to more readily drain into surrounding soils. The excavation contractor will use compaction equipment suitable for the resulting excavations. Construction materials will be stored in areas identified on **Figure D-8**. Decontamination and vehicle-maintenance areas are identified in **Figure D-8**.

7.1 Debris and Fill Removal at Glass Beaches #1, #2, and #3

An evaluation of the extent of debris and fill is the first step in conducting IRMs for Glass Beaches #1, #2, and #3. Test excavations will be advanced at a spacing of approximately 75 feet relative to previous sample or known debris locations, and proceed at landward azimuths until the lateral extent of buried debris or fill is identified. Subsurface logs of encountered materials will be prepared including descriptions of signs of environmental impact (e.g., odors and staining) and the nature and quantity of debris, if present.

Selected fill samples will be collected and analyzed for constituents listed in Table 1 of Addendum #2 to evaluate environmental impacts prior to planning the extent of IRM excavations. Interim cleanup levels provided by the risk assessment team will be used to plan the extent of fill removal, if necessary. Debris will be removed from the fill areas regardless of the COPC concentrations reported in select fill samples. Due to the precipitous nature of certain locations along the coastal bluff, worker safety considerations and protection of the public may influence the degree to which debris can be removed.

The following protocol will be used for identified fill and debris removal:

- Excavation and IRM activities will be conducted during the non-rainy season from April 15 through October 15.

- Staging areas will be set up within fenced areas for excavated debris and fill stockpiling. Efforts will be made to segregate large-sized debris that can be disposed at a Class III landfill. Excavated material will be placed on and covered by plastic sheeting to shield the material from elements and mitigate fugitive dust and stormwater run-on and run-off.

- Excavation of debris and fill will generally begin at exposed fill and debris atop coastal bluffs and proceed inland until debris is absent. Debris removal and excavation will be performed above the mean high-tide line.

- It is anticipated that a Caterpillar 330 track-mounted excavator or similar device will be used during excavation. The machine will be equipped with an extra long boom that can reach 20 to 25 feet below the top of the bluffs to remove debris.

- Debris that is scattered along the shoreline will be removed manually to the extent practical. Efforts will be made to remove all debris that is physically accessible; however, there may be some areas where debris cannot be removed due to access and safety limitations. Removed debris will either be placed in a container or sling that can be lifted

by the excavator, or transported to the staging area using an all-terrain vehicle and trailer where appropriate. It is anticipated that work along the shoreline will primarily be done at low tide as a safety precaution.

- Verification samples of the floor in the fill excavation areas above the top of the bluffs will be collected at a frequency of one sample per 5,000 square feet. Sidewall verification samples will be collected at a frequency of one sample per 100 linear feet of sidewall. The samples will be analyzed for the constituents listed in Table 1 of Addendum #2 under the Glass Beach areas. Verification sampling along the cliff face or beneath removed shoreline debris is not proposed.

- Excavated fill soil will be transported to a Class I or II landfill by a licensed hazardous waste hauler. Excavated debris that is segregated will be disposed at a Class III landfill. Waste characterization testing will be performed as required by disposal facilities.

- Excavated areas will be sloped or graded to blend with surrounding areas as required by the CDP and grading permit.

- A soil berm will be constructed where any excavation intersects the coastal bluff to restrict runoff from the excavated area. A sorbent material berm will be used to supplement the soil berm to further safeguard against runoff from the excavated area. Additionally, soil and sorbent berms will be constructed at the perimeter of excavations to restrict surface runoff into or out of excavated areas.

7.2 Removal of Geophysical Anomalies

Attempts will be made to identify anomalies through excavation. Anomaly areas will be secured and if anthropogenic waste is found, it will be removed and transported to approved offsite locations. Observations will be photographically documented. Field judgments will be made concerning soil sampling and analysis depending on field observations. Anomalies will be field-located using Global Positioning System equipment for inclusion of coordinates and locations in the final report. The procedures outlined in Section 7.1 will be applied here also.

8. DUST PREVENTION AND CONTROL PLAN

This section constitutes the Dust Prevention and Control Plan submitted to the City as a condition of Grading-Permit issuance.

8.1 Foundation and Debris Removal and Excavation

- Excavation activities will be suspended if winds exceed 15 miles per hour (mph) sustained (for 15 minutes) or 25 mph (instantaneous gusts).

- A designated work area boundary will be established for excavation activities at each area. Initially, the designated work area boundary will be established at a setback distance of 55 feet from the excavation area.

- Water will be applied by means of trucks, hoses, and/or sprinklers prior to any removal and excavation activities to minimize dust emissions.
- A water truck will be onsite at all times. Water will be applied to disturbed areas at least 4 times per day to keep working surfaces moist enough to minimize dust emissions.
- The disturbed work area will be sprayed with water at the end of the work shift to form a thin crust. This application will be in addition to the minimum rate of application (4 times per day.)
- During periods of inactivity longer than 12 hours, excavation bottoms and sidewalls may be covered with plastic sheeting or other covering to minimize emissions of hydrocarbons or fugitive dust to the atmosphere.
- The contractor will keep a daily record of measures taken to control fugitive dust in accordance with this plan.
- All excavated material transported offsite will be sampled and analyzed for COPCs prior to transport, then transported to sites approved by the State.
- Haul vehicles transporting soil into or out of the property will be covered, inspected (See **Figure D-8** for vehicle inspection locations), and cleaned if necessary so soil is not tracked offsite (see Transportation Plan).
- Equipment speeds will not exceed the 15-mph site speed limit.
- A security gate and guard are in place at the project entrance to prevent unauthorized-vehicle entry during non-working hours and weekends.

8.2 Visibly Dry Disturbed Soil Surface Areas

- Water will be applied to disturbed areas at least 4 times per day to keep working surfaces moist enough to minimize dust emissions.
- The disturbed work area will be sprayed with water at the end of the work shift to form a thin crust. This application will be in addition to the minimum rate of application (4 times per day).

8.3 Onsite Paved Roads

- Onsite paved roads will be washed down at least once per day unless conditions warrant a greater frequency.

8.4 Visibly Dry Disturbed Unpaved Roads

- Water will be applied to visibly dry unpaved roads at least 4 times per day to keep road surfaces moist enough to minimize dust emissions. A water truck will be onsite at all times.
- The road surface will be sprayed with water at the end of the work shift to form a thin crust. This application will be in addition to the minimum rate of application (4 times per day.)
- Unpaved roads may be graveled to reduce dust emissions.
- Equipment speeds will not exceed the 15-mph site speed limit.

8.5 Vehicles Entering/Exiting Construction Area

- Vehicles entering or exiting construction areas will travel at a speed that minimizes dust emissions, but not to exceed 15 mph.

8.6 Employee Vehicles

- Construction workers will park in designated parking area(s) to reduce dust emissions.

8.7 Management of Broken Concrete and Excavated Debris and Soil

Soil stockpiles will be placed atop and covered with heavy duty plastic sheeting. Wherever possible, broken concrete and excavated soil will be stockpiled on areas with improved asphalt or concrete surface. Potentially hazardous waste will be stored in Potentially Hazardous Waste Storage Areas (**Figure D-8**). Stockpile covering will be in good condition, joined at the seams, and securely anchored to minimize headspace where vapors may accumulate. When not covered, soil stockpile surfaces will be kept visibly moist by water spray.

Soil loaded into transport vehicles for offsite disposal will be covered with continuous heavy-duty plastic or other covering to minimize emissions to the atmosphere. The covering will be in good condition, joined at the seams, and securely anchored to minimize headspace where vapors may accumulate. Additional procedures for offsite transportation of soil generated during implementation of remedial activities are provided in the Transportation Plan (Work Plan Appendix E).

The anticipated landfill facilities for disposal of non-hazardous excavated soil are the Potrero Hills Landfill in Suisun City, California and Waste Management, Inc., Redwood Landfill in Novato, California. The anticipated landfill facility for hazardous excavated soil is the Waste Management, Inc. Kettleman Landfill in Kettleman Hills, California. Non-hazardous concrete debris will be transported to Norcal Rock in Willits, California for disposal or recycling.

8.8 Air Monitoring

Air monitoring will be conducted in accordance with the HASP at the worker breathing zone, and the work area boundary. The Field Team Leader will keep a daily record of measures taken to control fugitive dust in accordance with this plan. The designated work area boundary will be adjusted based on air monitoring results. The presence of VOCs, petroleum hydrocarbons, and other COPCs will be evaluated with onsite air-monitoring equipment. A PID calibrated to isobutylene will be used to monitor the breathing zone of workers. Work will be initiated with Level D protection. A PID reading of 1 part per million in the workers' breathing zone sustained for 2 minutes will prompt an upgrade to Level C protection or evacuation of the area. Entry into an excavation is authorized only in accordance with the HASP and the safe work practices confined space entry procedures as specified in an Entry Permit completed by the Field Team Leader. The Entry Permit will specify the confined space monitoring to be performed and the conditions for acceptable entry. Entry is defined as any part of a person's body passing through the plane of the opening of the excavation.

9. EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT

Erosion and sediment control and stormwater management are addressed in the SWPPP.

10. TRANSPORTATION

A Transportation Plan is included in Appendix E of the Work Plan.

11. REMARKS

This plan represents our professional opinions, which are based on client-supplied and currently available information arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this no warranty is implied or intended. Any reliance on the information contained herein by third parties is at such parties' sole risk.

12. REFERENCES

AME. 2005. *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures, Former Georgia-Pacific California Wood Products Manufacturing Facility, 90 West Redwood Avenue, Fort Bragg, California.* March 21.

_____. 2005. Addendum #1 to *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures, Former Georgia-Pacific California Wood Products Manufacturing Facility, 90 West Redwood Avenue, Fort Bragg, California.* May 6.

_____. 2005. *Response to RWQCB Comments*. July 18.

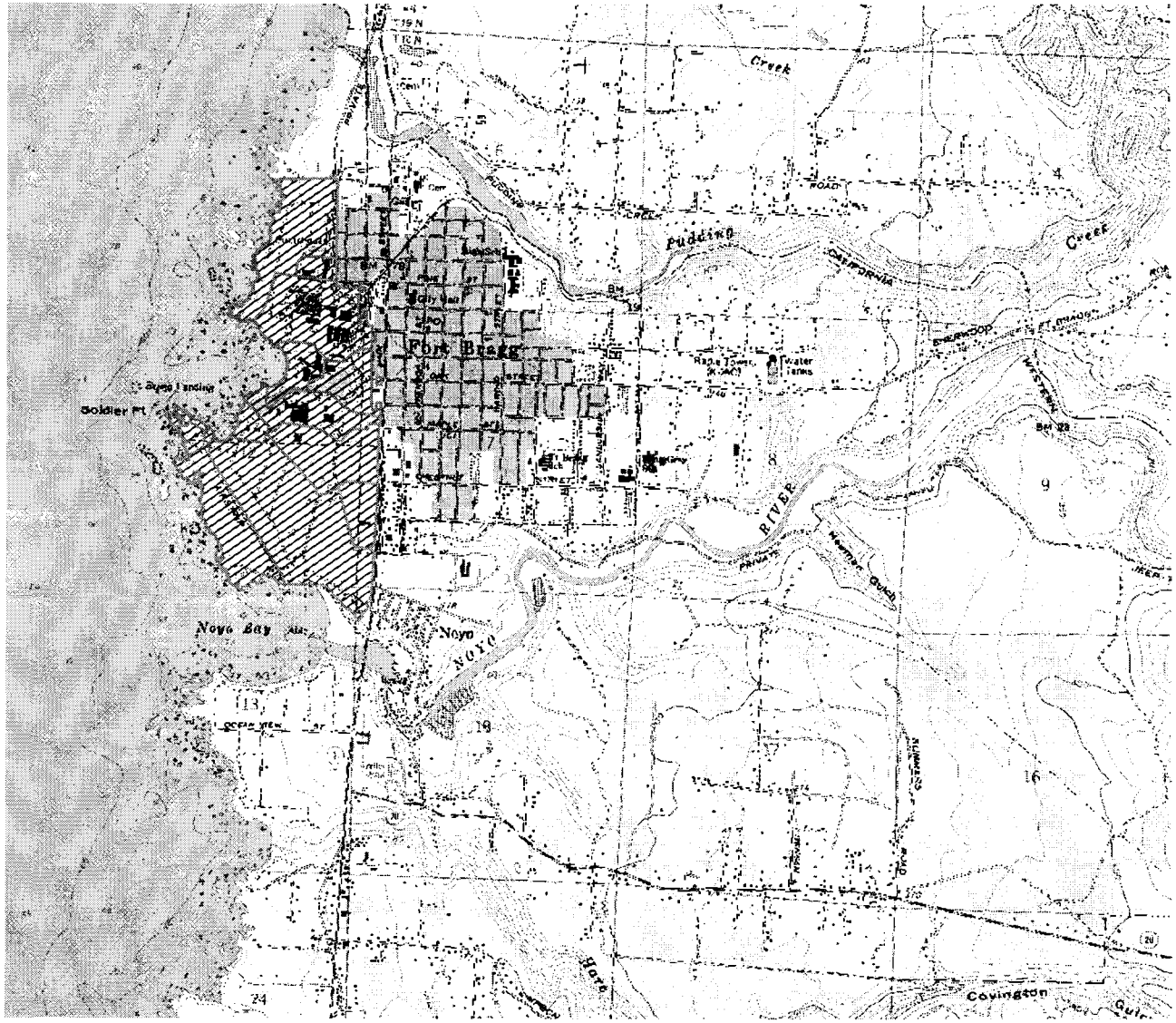
_____. 2005. Addendum #2 to *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures, Former Georgia-Pacific California Wood Products Manufacturing Facility, 90 West Redwood Avenue, Fort Bragg, California.* August 19.

_____. 2005. *Response to RWQCB Comments*. September 22.

Circuit Riders Productions. 2005. *Revegetation Plan.*

Teresa Sholars Botanical Consultant. 2005. *Mitigation and Monitoring Plan.*

TRC. 2003. *Jurisdictional Determination and Habitat Assessment.*



Legend

Site

N

0 2,000 4,000 8,000

Feet

FIGURE D-1

SITE LOCATION MAP

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601705-027	Prepared By MAA	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By	
Revision/Date 0 - 9/23/05	Scale As Noted	

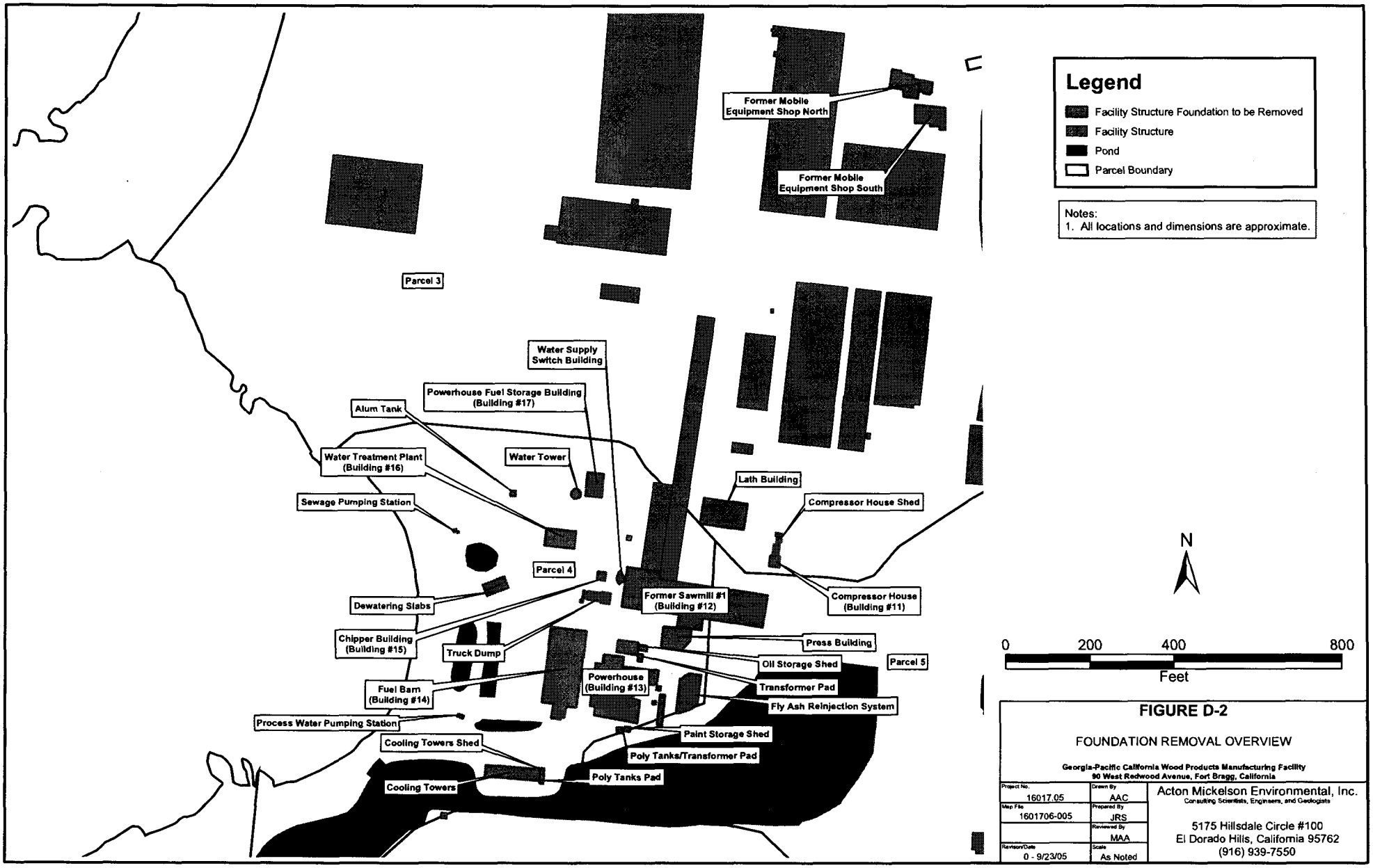
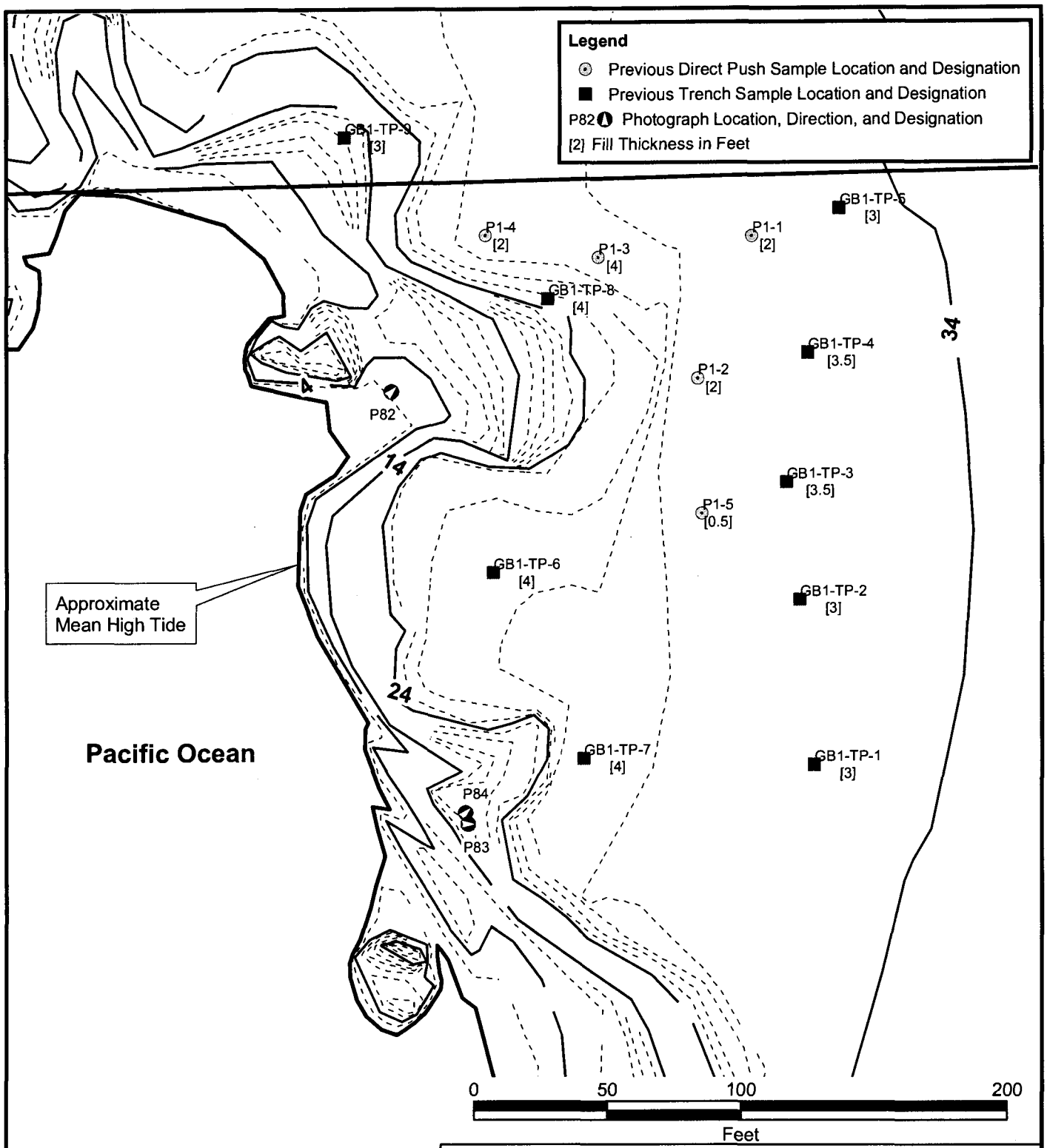


FIGURE D-2

FOUNDATION REMOVAL OVERVIEW

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601706-005	Prepared By JRS	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By MAA	
Revision/Date 0 - 9/23/05	Scale As Noted	



N

FIGURE D-3

GLASS BEACH #1
FILL THICKNESS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601705-021	Prepared By JRS	
	Reviewed By MAA	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
Revison/Date 0 - 9/23/05	Scale As Noted	

Notes:
1. All locations and dimensions are approximate.

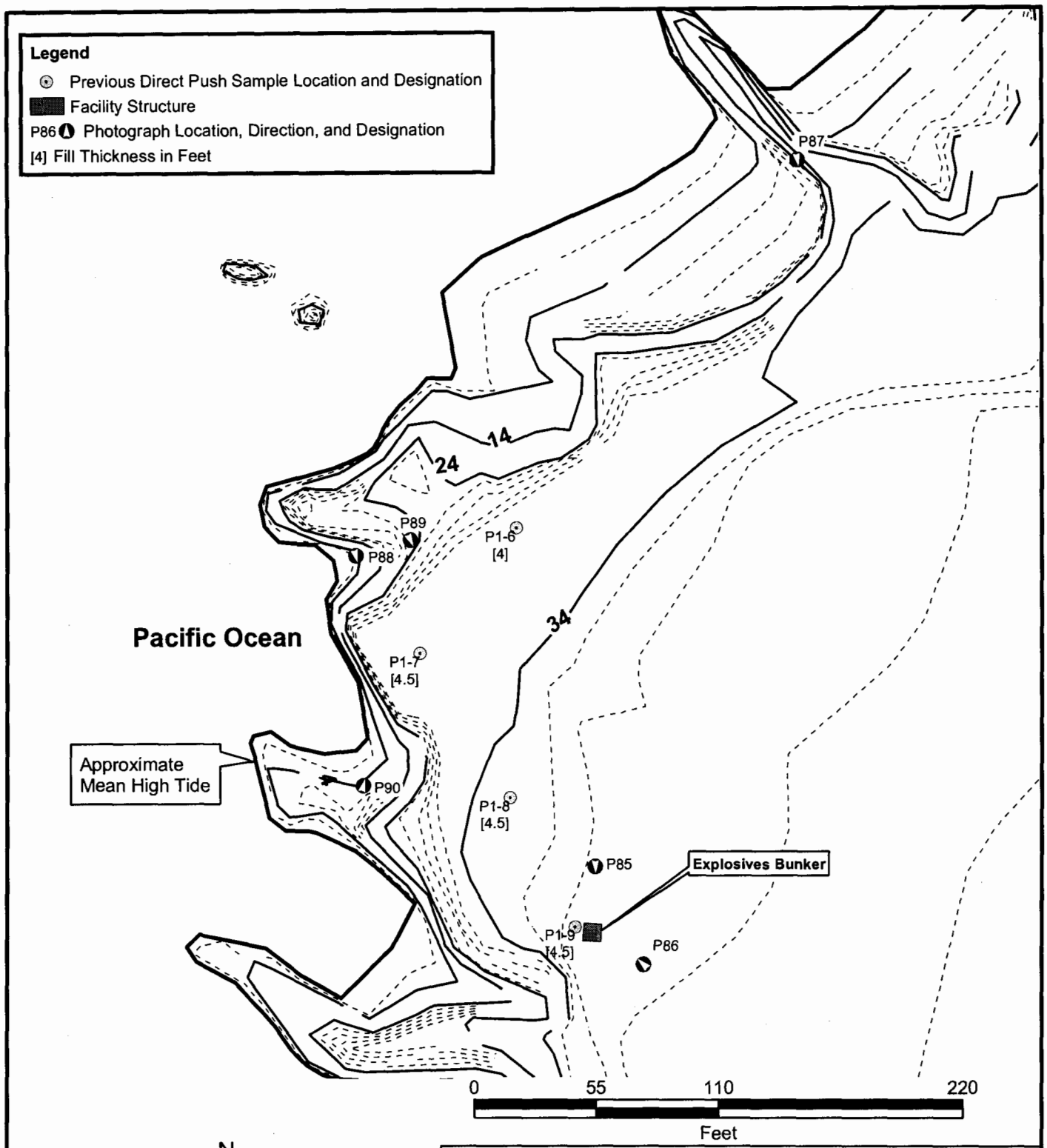


FIGURE D-4

GLASS BEACH #2
FILL THICKNESS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC
Map File 1601705-022	Prepared By JRS
	Reviewed By MAA
Revison/Date 0 - 9/23/05	Scale As Noted

Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists

5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550

Notes:
1. All locations and dimensions are approximate.

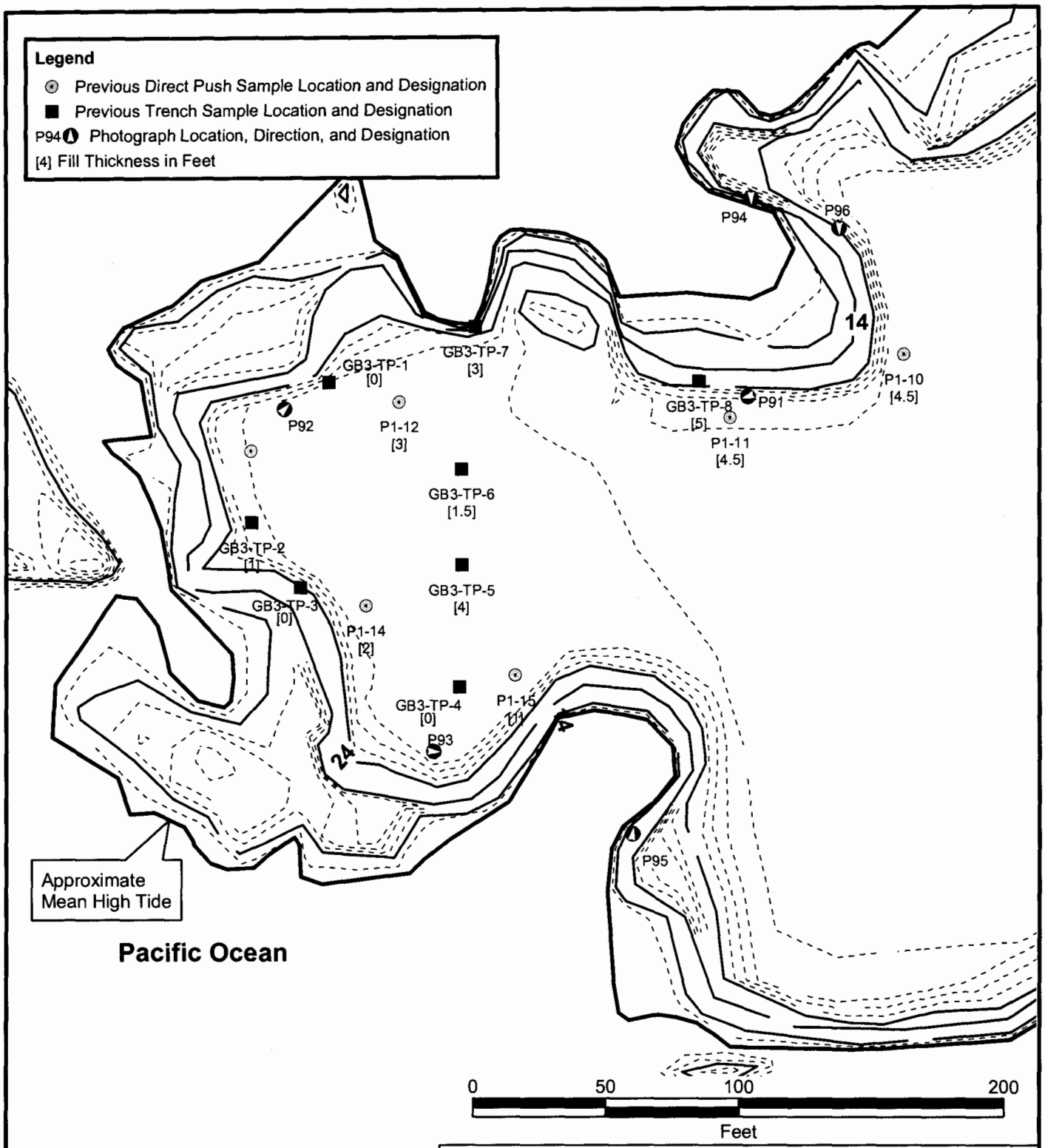


FIGURE D-5

GLASS BEACH #3
FILL THICKNESS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC
Map File 1601705-023	Prepared By JRS
	Reviewed By MAA
Revison/Date 0 - 9/23/05	Scale As Noted

Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists

5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550

Notes:
1. All locations and dimensions are approximate.

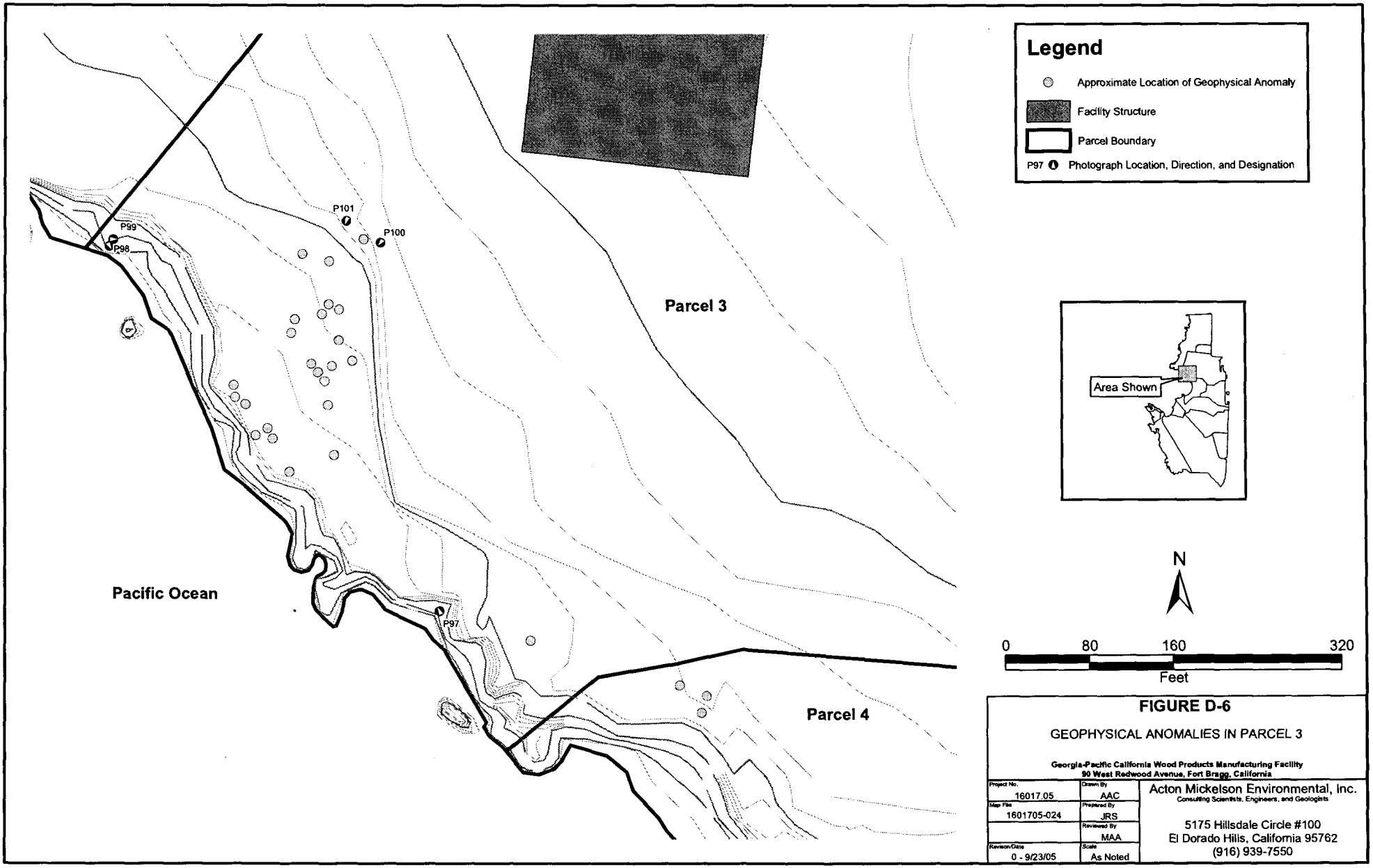


FIGURE D-6

GEOPHYSICAL ANOMALIES IN PARCEL 3

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601705-024	Prepared By JRS	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By MAA	
Revison/Date 0 - 9/23/05	Scale As Noted	

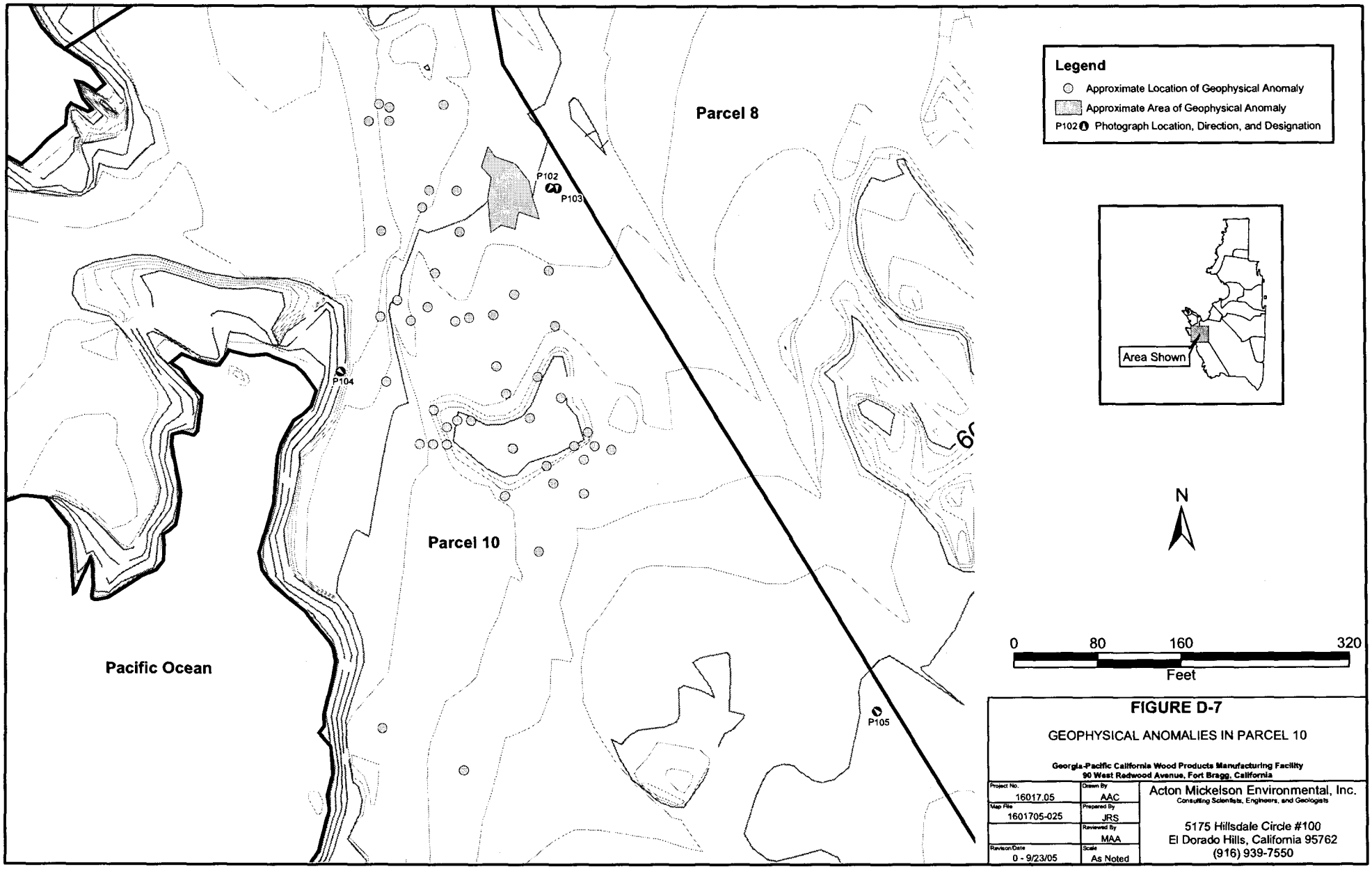


FIGURE D-7

GEOPHYSICAL ANOMALIES IN PARCEL 10

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.05	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601705-025	Prepared By JRS	5175 Hillsdale Circle #100
	Reviewed By MAA	El Dorado Hills, California 95762
Revison/Date 0 - 9/23/05	Scale As Noted	(916) 939-7550

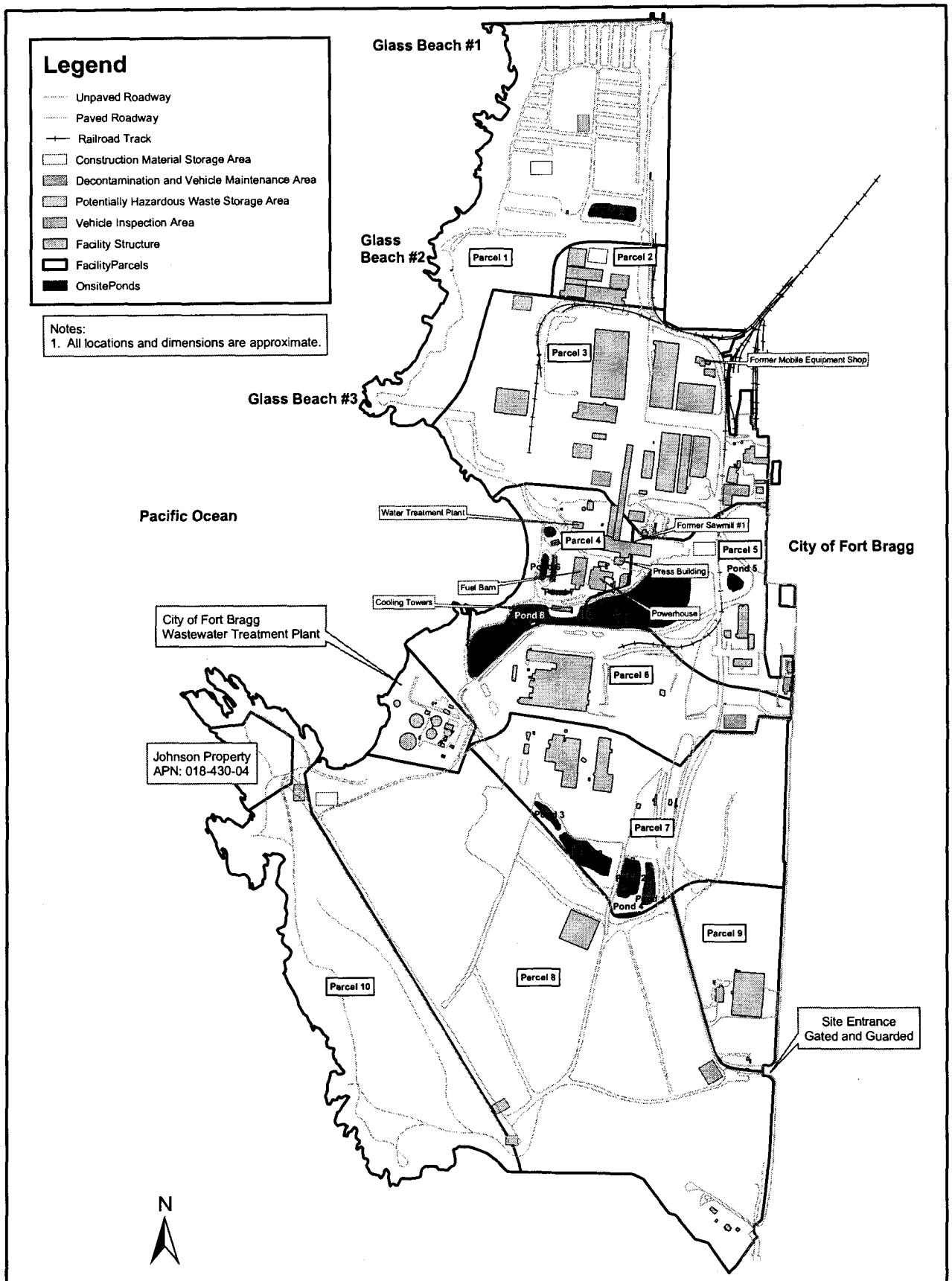


FIGURE D-8

SELECT MANAGEMENT AREAS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.06	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601706-001	Prepared By TEC	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By MAA	
Revision/Date 0 - 9/9/05	Scale As Noted	

STORMWATER POLLUTION PREVENTION PLAN FOR FOUNDATION REMOVAL, ADDITIONAL INVESTIGATION, AND INTERIM REMEDIAL MEASURES

PREPARED FOR

Georgia-Pacific California Wood Products
Manufacturing Facility
90 West Redwood Avenue
Fort Bragg, California

PREPARED BY

Acton • Mickelson • Environmental, Inc.
5175 Hillsdale Circle, Suite 100
El Dorado Hills, California 95762
(916) 939-7550

AME Project No. 16017.05

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information and to the best of my knowledge and belief, the information submitted is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

PREPARER

Michael A. Acton, R.E.A.
Vice President

Date 9-28-05

SEPTEMBER 28, 2005

EXHIBIT NO. 7
APPLICATION NO.
A-1-FTB-05-053
EXCERPT, *STORMWATER POLLUTION PREVENTION PLAN* (ACTON-MICKELSON ENVIRONMENTAL, INC., SEPT. 2005) (1 of 32)

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15 Parcel 8 Select Management Areas and Applicable Best Management Practices
16 Parcels 8 and 10 Select Management Areas and Applicable Best Management Practices (b)

1. INTRODUCTION

Georgia-Pacific Corporation (G-P) authorized Acton • Mickelson • Environmental, Inc. (AME) to prepare this Stormwater Pollution Prevention Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures ([IRMs] SWPPP), which describes procedures to be followed during implementation of foundation removal, additional investigation, and IRM activities at the former G-P California Wood Products Manufacturing Facility at 90 West Redwood Avenue in Fort Bragg, California (site; **Figure 1**). This SWPPP prepared for the scope of work referenced above supplements, but does not replace the existing General Stormwater Pollution Plan for the site. IRM activities are described in:

- *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* dated March 21, 2005 (Work Plan)
- Addendum #1 to the Work Plan dated May 6, 2005
- Response to Regional Water Quality Control Board (RWQCB) Comments dated July 18, 2005
- Addendum #2 to the Work Plan dated August 19, 2005
- Response to RWQCB Comments dated September 22, 2005

G-P ceased site operations in August 2002. Environmental investigations conducted since 2003 indicate soil and ground water underlying the site is impacted by constituents of potential concern (COPCs), including petroleum hydrocarbons, volatile organic compounds (VOCs), semi-volatile organic compounds, metals, polychlorinated biphenyls, and organochlorine pesticides.

The objectives of the SWPPP are as follows:

- Identify pollutant sources, including sediment sources, that may affect the quality of stormwater discharges associated with assessment and IRM activities (stormwater discharges) from the site
- Identify non-stormwater discharges
- Identify, construct, implement in accordance with a time schedule, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges during the implementation of interim remedial activities
- Develop a maintenance schedule for BMPs installed during the site assessment and IRM activities designed to reduce or eliminate pollutants upon completion of all tasks (post-construction BMPs)

2. SITE DESCRIPTION

The site occupies approximately 445 acres, is located west of Highway One along the Pacific Ocean coastline in the City of Fort Bragg (City), Mendocino County, California, and is bound by open coastline to the north, Noyo Bay to the south, the City to the east, and the Pacific Ocean to the west. Approximately 17 percent of the site is covered with asphalt, concrete, and structures of varying size and construction material. Slope throughout the site varies and is drained by an existing plant drainage system (**Figure 2**). Construction activities will include foundation removal, excavation, soil sampling, regrading, and revegetation of select excavated areas. Areas of activity include the Powerhouse/former Sawmill #1 area, former Mobile Equipment Shop, Glass Beaches #1 through #3, and geophysical anomaly areas in Parcels 3 and 10. Work areas are depicted on **Figures 3** through **9**.

3. BEST MANAGEMENT PRACTICES

Stormwater pollution can result when rain or runoff from construction or other activities washes waste into storm drains or the ocean. Construction waste includes but is not limited to spilled oil, fuel, and fluids from vehicles and heavy equipment, and construction debris (e.g., metal, concrete, and asphalt). Implementation of BMPs presented below can reduce or prevent stormwater pollution and facilitate compliance with environmental regulations. BMP implementation locations for the storm drain system are depicted on **Figures 3** and **4**. BMP implementation locations for select site areas, including the Potentially Hazardous Waste Storage Areas, Vehicle Inspection Areas, Decontamination and Maintenance Areas, and Construction Material Storage Areas, are depicted on **Figures 1** and **10** through **16**. All work will be performed in accordance with the documents cited in Section 1 of this document.

Jurisdictional Determination and Habitat Assessment (TRC Companies, Inc. 2003) submitted to the City Development Department in 2003 for Coastal Development Permit 1-03 identifies two sensitive areas that are proximate to areas specified in the Work Plan: the Log Pond (Pond 8) located in Parcel 4 and the Pacific Ocean coastline. A fence will be constructed to protect Pond 8 from erosion and siltation from subsurface disturbance occurring within 50 feet of the pond. Any excavation activities that occur near Pond 8 or the Pacific Ocean coastline will use methods designed to minimize environmental disturbance. Any work-area plant species identified by the botanist as endangered will be fenced off for protection.

3.1 General

- Conduct excavation and IRM activities during the non-rainy season from April 15 through October 15.
- Ensure all physical controls are in place to minimize stormwater contamination. Verify physical barriers are in place and in good working order. Visually inspect daily.
- Check all equipment for leaks and immediately clean all leaks, drips, and other spills using dry methods (i.e., absorbent materials) if possible to prevent soil or ground water contamination or residue on paved surfaces.
- Refuel and perform minor maintenance on vehicles and heavy equipment in one designated, contained location away from onsite storm drains, immediately cleaning any spills.
- Perform major maintenance, repairs, and washing of equipment away from the construction area.
- Conduct major repair work at an offsite location.
- Never hose down pavement or surfaces where materials have spilled. Use dry cleanup methods (i.e., absorbent materials) if possible. Limit water volume to amount necessary for dust suppression.

- Implement dust suppression in accordance with Excavation and Soil Management Plan.
- Store materials or products in original manufacturer containers and under roof cover if possible.
- Keep storage areas orderly to facilitate inspection.
- Load excavated soil directly from backhoe to transport truck if possible.
- Avoid creating excavated soil stockpiles if possible.
- Keep materials out of rain to prevent source runoff contamination. Schedule clearing or earth-moving activities for dry-weather periods. Cover exposed soil piles or construction materials with plastic sheeting or temporary roofs. Before rainfall, sweep and remove materials from surfaces that slope to storm drains.
- Keep pollutants off exposed surfaces. Place (covered) trash cans around the site to minimize litter. Dispose construction wastes in covered dumpsters or recycling receptacles.
- Practice source reduction. Order only necessary material.
- Use recyclable materials if possible. Arrange for pickup of recyclable materials (e.g., concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rocks, and vehicle maintenance material such as used oil, anti-freeze, batteries, and tires).
- Dispose all wastes properly. Materials that cannot be recycled will be taken to the appropriate landfill or disposed as hazardous waste. Do not store or leave waste materials in the street or near storm drains (**Figures 2** through **4**). Hazardous waste will be placed in the Potentially Hazardous Waste Storage Areas (**Figures 1** and **10** through **16**).
- Train employees or subcontractors to use BMPs presented in this SWPPP.

3.2 Excavation

- Conduct excavation and IRM activities \during the non-rainy season from April 15 through October 15.
- Suspend excavation activities if winds exceed 15 miles per hour (mph) sustained (for 15 minutes) or 25 mph (instantaneous gusts).
- When removing foundations and geophysical anomalies and excavating debris, place soil directly from excavator into transport truck if possible for offsite disposal.
- Avoid creating excavated soil stockpiles if possible.

- Place any stockpiles on heavy-duty plastic sheeting and cover stockpiles and other construction materials with heavy-duty plastic sheeting. Anchor heavy-duty plastic sheeting and berms to protect from wind and rainfall runoff. Load into transport trucks for offsite disposal as soon as is practicable.

- Water all construction-related areas in accordance with the Excavation and Soil Management Plan.

- Avoid over-application by water trucks for dust control.

- Prevent run-on of stormwater onto excavations using straw bales, fiber rolls, silt fences, or other controls to divert or trap.

- Protect storm drains using straw bales or fiber rolls, absorbent socks, or other controls to divert or trap and filter runoff.

- Cover any stockpiled soil impacted with hydrocarbons or COPCs during periods of inactivity lasting longer than 1 hour.

- Containerize all soil cuttings and water from drilling operations for offsite disposal.

- Backfill excavations with imported fill (sampled and analyzed prior to onsite use) and cover with plastic. Implement more permanent erosion-control measures (i.e., asphalt, concrete, or vegetative cover) if COPC concentrations underlying the backfill are confirmed to be below site-specific cleanup levels determined by risk assessment.

3.3 Revegetation

Select areas excavated will be graded to conform to the current topographic relief and revegetated with native plant life (see *Conceptual Revegetation Plan* [Circuit Rider Productions, Inc. 2005] and *Mitigation and Monitoring Plan* [Sholars 2005]).

3.4 Prevent Erosion

Approximately 17 percent of the site is covered by asphalt, concrete, or buildings, has varying slope, and is drained by an existing plant drainage system. Post-excavation exposed soil may pose a stormwater pollution threat.

- Conduct excavation and IRM activities during the non-rainy season from April 15 through October 15.

- Suspend excavation activities if winds exceed 15 mph sustained (for 15 minutes) or 25 mph (instantaneous gusts).

- Use BMPs to prevent stormwater run-on and runoff onto disturbed soils. Install straw bales, fiber rolls, silt fences, geotextiles, or mats to intercept stormwater running onto the site, and cover excavation with sheeting if possible.

- Use secured plastic sheeting to stabilize and protect any stockpiled soil.

3.5 Control Sediment in Runoff

Erosion results from a combination of factors: decreased soil stability, increased runoff volumes, and increased flow velocity. Effective erosion control practices combine drainage diversion with surface roughening.

- Use berms to divert runoff around exposed areas.

- Use other sediment control measures including filtration devices, barriers (e.g., fiber rolls, silt fences, straw bale barriers, gravel inlet filters, storm drain inlet protection, and gravel bag dikes) and settling devices (i.e., sediment traps) or other controls, as appropriate.

- Implement sediment control BMPs, including storm drain inlet protection, and be prepared with onhand materials to implement sediment control measures in the event of predicted rain during the remainder of the year.

- Inspect any stormwater drain in close proximity to any ongoing excavation activities on a daily basis for evidence of erosion causing settlement, blockage, or damage resulting in standing water.

3.6 Prevent Spills and Leaks

- Do not discharge vehicle, equipment, and construction-related fluids to the ground or storm sewer systems. Waste fluids spilled outside, even when promptly cleaned up, may mobilize during storms and enter the storm drain system.

- Clearly post manufacturer-recommended methods for spill cleanup and make site personnel aware of procedures and the location of information and cleanup supplies.

- Keep materials and equipment necessary for spill cleanup in the Construction Material Storage Area (**Figures 1** and **10** through **16**) onsite, including but not limited to brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.

- Clean up all spills immediately after discovery.

  - Keep the spill area well ventilated and require personnel to wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

  - Report spills of toxic or hazardous material to the appropriate State or local government agency, regardless of size.

- Amend spill-prevention practices to include measures to prevent the reported type of spill from reoccurring and how to clean up the spill if there is another one. Describe the cause of the spill and cleanup measures implemented.

- Designate the site superintendent responsible for day-to-day site operations as the spill prevention and cleanup coordinator. He or she will designate at least three other site personnel to receive spill prevention and cleanup training. Designate each of these individuals responsible for a particular phase of spill prevention and cleanup. Post the names of responsible spill personnel in the Construction Material Storage Area (**Figures 1** and **10** through **16**) and site field office.

- Conduct all vehicle and equipment fluid changing offsite if possible.

- Use non-permeable tarps or drip pans when circumstances prevent offsite maintenance. Have spill kits ready.

- Use a Decontamination and Maintenance Area (**Figures 1** and **10** through **16**) that slopes away from storm drain and into containment areas to facilitate cleanup in the event of a fluid spill.

- Purchase or fabricate fluid transfer equipment (e.g., oversized drip pans, drain caddies with funnels and pumps, or pump extraction equipment) that will reduce the chance of spills during transfer. Select equipment specific for the site and need.

- Store petroleum products in clearly labeled, tightly sealed containers.

- Place spill response equipment nearby when transferring fluids.

- Place drip pans under vehicles and equipment until repaired.

- Promptly clean up any spilled fluids.

- Designate parking spaces for all equipment so sources of leaking equipment can be determined.

- Repair leaking equipment within 24 hours of leak detection (except when parts are not available).

- Do not clean brushes or rinse primer containers into a storm drain.

- Dispose excess polyvinyl chloride primer liquids and residue as hazardous waste.

3.7 Secondary Containment of Hazardous Materials

Secondary containment of waste fluids and proper storage of chemical supplies will help reduce the chance of discharges to the environment. State and federal laws require secondary containment for storage of hazardous wastes or used oil and the preparation of a Spill Prevention Control and Countermeasure Plan if (1) hazardous wastes are stored or (2) if oil is stored and either: the storage is greater than 1,320 gallons of oil, or a single aboveground container has a capacity in excess of 660 gallons.

- Provide secondary containment for used batteries.
- Place used batteries in plastic containers until the batteries can be picked up by a battery service.
- Store new batteries in an earthquake-safe manner (e.g., store away from the edge of shelves and use shelves equipped with restraining straps).
- Do not store new or used batteries outside.
- Purchase appropriate secondary containment for the amount of waste or stock chemicals stored onsite. When purchasing secondary containment, observe the following:
  - The containment must hold 110 percent of the material in one container (if all are the same size), 150 percent of the volume of the largest container, or 10 percent of the total volume of all containers within the containment.
  - Make sure containment material is compatible with stored wastes (e.g., acids and solvents).
  - Allow for proper ventilation.

3.8 Vehicle and Equipment Washing and Steam Cleaning

Dry brushing of transport vehicles and construction equipment is preferred over washing with water. Water is only to be used if dry brushing is ineffective.

- Dry brush transport vehicle tires with a broom after loading if necessary.
- Inspect vehicles in the Vehicle Inspection Area (**Figures 1** and **10** through **16**) before they pass through the site exit gate.
- Do not use water for vehicle or wheel wash unless dry brushing is ineffective.
- Use vehicle wash water only in the Vehicle Inspection Area (**Figures 1** and **10** through **16**).
- Use the minimum volume of water necessary to wash equipment wheels.

- Use absorbent material to catch spent wash water. In the event that the volume of water used during washing is too large to contain with absorbent material, an onsite vacuum system will be available to remove and contain these fluids for offsite disposal.

- Place spent wash water not collected by absorbent material in drums or portable tanks. Analyze spent wash water samples to determine offsite disposal options.

- Contract, if necessary, with a vehicle or equipment washing service that can recycle wash water or will dispose wash water in an approved manner.

- Contain all vehicle wash water prior to sampling and disposal.

- Do not use diesel oil to lubricate or clean equipment or parts onsite.

3.9 Vehicle and Equipment Fueling

Vehicle and equipment fueling must be done in a manner to reduce spills and discharges to the storm drain system.

- Refuel vehicles in one designated area within the Decontamination and Maintenance Area (**Figures 1** and **10** through **16**), contained location away from storm drains, and clean up spills or leaks if they occur.

- Have an attendant present during any fueling or fuel-transferring operations. Fire extinguishers will be located within the fueling area.

- Have only personnel trained in spill contingency procedures operate mobile fueling facilities (fueling trucks), and have spill cleanup equipment and personal protective equipment in all fueling vehicles.

- Do not top off tanks.

- Do not store fuel in buckets, open drums, or any other open containers.

- Locate spill cleanup equipment near the vehicle-fueling location and readily available, trained personnel.

3.10 Cover and Maintain Dumpsters

Open and leaking dumpsters are a source of stormwater pollution.

- Use covered dumpsters onsite. Line dumpsters with plastic prior to use.

- Place dumpsters located on barren ground on top of plastic sheeting with berms to prevent any leakage or runoff from entering into the stormwater system.

- If dumpsters are placed on asphalt or concrete, surround the dumpster with absorbent socks, fiber rolls, or other controls to divert or trap any leakage from running into the stormwater drains or onto exposed ground.

- Inspect dumpsters regularly for leaks and repair or replace any dumpster that is not water tight.

- Never clean a dumpster by hosing it down onsite.

3.11 Ground Water Sampling and Analysis Prior to Offsite Disposal

Ground water impacted by petroleum hydrocarbons as well as other chemicals underlies the site and may be extracted as purge water during monitoring activities. Ground water handling protocol is outlined in the project Sampling and Analysis Plan prepared for such activities and includes the following:

- Purge wells using low-flow methods, which typically produce less than 5 gallons of water from each well.

- Pump purge water directly into a suitable polyethylene tank(s).

- Store and label containers with purge water in the designated Potentially Hazardous Waste Storage Area (**Figures 1** and **10** through **16**).

- Sample the contents of each container at the end of monitoring events for target analytes.

- Transport purge water using a licensed waste hauler to an offsite disposal facility that is selected based on the results of purge water analysis.

4. SITE LOCATIONS AND DEPLOYMENT SCHEDULE FOR BEST MANAGEMENT PRACTICES

BMP implementation locations for the storm drain system are depicted on **Figures 3** and **4**. BMP implementation locations for select site areas, including the Potentially Hazardous Waste Storage Area, Vehicle Inspection Area, Decontamination and Maintenance Area, and Construction Material Storage Area are depicted on **Figures 1** and **10** through **16**. These figures may be amended contingent upon the area under construction. BMPs are scheduled for deployment at least 7 days prior to implementation of field activities, anticipated on April 16, 2006.

5. NARRATIVE DESCRIPTION OF POTENTIAL POLLUTANT SOURCES AND BEST MANAGEMENT PRACTICES

Potential pollutant sources, including the Potentially Hazardous Waste Storage Area, Vehicle Inspection Area, Decontamination and Maintenance Area, and Construction Material Storage Area and applicable BMPs are depicted on **Figures 1** and **10** through **16**. The locations of storm drain inlets and applicable BMPs are depicted on **Figures 3** and **4**.

6. MATERIALS INVENTORY

Table 1 comprises a list of materials to be used during remediation construction that could contribute to pollutant discharge other than stormwater-runoff sediment. The table also identifies BMPs to mitigate contamination of stormwater runoff by these materials.

7. ACTIVITIES SUMMARY

Table 2 comprises a list of activities to be undertaken during foundation removal, additional site investigation, and IRMs that could contribute pollutant discharge other than stormwater-runoff sediment. The table also identifies BMPs to mitigate contamination of stormwater runoff from these activities.

8. CONSTRUCTION SITE SPECIFICATIONS

Each excavation site varies in size and percentage of impervious (i.e., asphalt or foundation-covered) surface area. All excavation sites are planned to be regarded 100 percent covered with plastic, asphalt, or vegetation after construction is completed. Runoff coefficient calculations are included in Appendix A.

9. NOTICE OF INTENT AND NOTICE OF TERMINATION

G-P will comply with the conditions and requirements of the RWQCB Order No. R1-2001-22, National Pollutant Discharge Elimination System (NPDES) General Permit No. CA0005304. G-P, as site landowner, filed a Notice of Intent with the State Water Resources Control Board to obtain coverage under the General Permit. G-P will file a Notice of Termination in accordance with the General Permit following completion of remedial activities. AME will work under G-P's NPDES permit for excavation of foundations and IRMs exposing soil areas totaling 1 or more acres as described in Section 3 of this document.

10. EROSION AND SEDIMENT CONTROL

10.1 Erosion Control

The construction site is covered with asphalt or buildings over approximately 17 percent, or 72 acres, of the site. BMPs to prevent erosion are presented in Section 3.5 of this document.

10.2 Sediment Control

BMPs for sediment control are presented in Section 3.6 of this document. Illustrations of sediment-control BMPs are included in Appendix C.

11. BEST MANAGEMENT PRACTICES TO REDUCE TRACKING SEDIMENT ONTO PUBLIC ROADS

BMPs to reduce tracking sediment onto public roads are presented in Section 3.9 of this document.

12. NON-STORMWATER MANAGEMENT

Proposed foundation removal, additional site investigation, and IRM activities at the site do not include ground water extraction and treatment. Potential non-stormwater discharges to the storm drain system during foundation removal IRMs include the following:

- Water generated from asphalt and concrete removal
- Rinsate from decontamination and truck wheel washing, if necessary

It is anticipated that the use of BMPs, including but not limited to those in Sections 3.2, 3.3, 3.9, and 3.11 of this document, will eliminate or reduce the potential for these discharges. Thomas Carroll, AME Water Pollution Control Manager ([916] 939-7550), will monitor any non-stormwater discharges to the storm drain system.

13. STORMWATER SAMPLING AND ANALYSIS PLAN

A Stormwater Sampling and Analysis Plan (SWSAP) was developed to facilitate implementation of stormwater monitoring for the construction site and is included as Appendix D. The SWSAP presents the criteria for sampling, including identification of suitable sampling locations for potentially impacted stormwater runoff and, for comparison, non-impacted stormwater runoff. The SWSAP includes procedures for inspecting the construction site, determining when stormwater sampling is required, arranging for field analysis or sample collection and laboratory analysis, reviewing analytical results, responding as required for reporting any exceedance of water quality objectives, and revising BMP practices.

Stormwater monitoring will be conducted for the following:

- Non-visible construction-site pollutants in stormwater runoff that could cause or contribute to an exceedance of water quality objectives
- Sediment in construction-site stormwater runoff discharging into water bodies listed as impaired for sedimentation or siltation

13.1 Monitoring for Non-Visible Pollutants

Monitoring as specified in the SWSAP is required for the following:

- Pollutants not visually detectable in stormwater discharge
- Pollutants known to occur on the construction site
- Pollutants that could cause or contribute to an exceedance of water quality objectives in receiving water

Potential pollutants for consideration to be included in the SWSAP are materials to be used on the construction site and constituents of concern from past site operations.

13.2 Monitoring for Sediment

Although no water bodies (receiving waters) in the vicinity of the site have been listed as impaired for sediment or siltation under Section 303(d) of the Clean Water Act, monitoring for sediment will be undertaken should runoff from site construction activities be observed entering the stormwater drainage system. In this event, the nearest potentially affected stormwater drain system inlet will be sampled and analyzed for total suspended solids (United States Environmental Protection Agency Method 160.2).

14. POST-CONSTRUCTION STORMWATER MANAGEMENT

A post-construction stormwater management plan will be implemented following completion of foundation removal and IRM activities. Post-construction stormwater management is anticipated to be limited to containment of purge water resulting from ground water monitoring events and containment of minimal volumes of service fluids for remediation system maintenance. Appropriate BMPs, including those outlined in Sections 3.1 and 3.11 of this document, will be recommended and implemented.

15. MAINTENANCE, INSPECTION, AND REPAIR OF BEST MANAGEMENT PRACTICES

Inspections will be performed according to the following schedule:

- Weekly
- Pre-storm event to confirm BMPs are properly installed and maintained
- Once every 24 hours during a storm event
- Post-storm event to assess whether BMPs functioned properly

Equipment, materials, and workers will be available for rapid response to failures and emergencies. Corrective maintenance to BMPs will be performed as soon as possible after a deficiency is observed or after the conclusion of a storm event. A Construction Site Inspection Checklist is included in Appendix E. Thomas Carroll is the qualified person assigned to oversee maintenance, inspection, and repair of BMPs.

16. TRAINING

Personnel responsible for installation, inspection, maintenance, and repair of BMPs and for preparation, implementation, revision, and amendment of the SWPPP are informally and formally trained in stormwater pollution prevention. Michael Acton, AME Vice President and SWPPP preparer, and Thomas Carroll, AME Water Pollution Control Manager for this project, have undergone a minimum of 24 hours of formal stormwater pollution prevention training. Stormwater Management Training Logs for the personnel described in this section are included in Appendix F.

17. LIST OF CONTRACTORS/SUBCONTRACTORS

Appendix G includes a list of contractors/subcontractors that will participate in implementing the BMPs of the SWPPP. This list may be amended with time. Each of these subcontractors will be required to sign the SWPPP Notification is presented in Appendix G.

18. NON-COMPLIANCE REPORTING

The Incident Report included in Appendix H will be completed and provided to G-P before the close of business on the business day following a non-emergency, non-compliance incident. An emergency non-compliance incident will be reported to G-P immediately. All non-compliance incidents will be reported to the RWQCB - North Coast Region within 30 days.

19. STORMWATER POLLUTION PREVENTION PLAN PREPARER

The signature of the SWPPP preparer and the date prepared are included on the title page of the SWPPP and in the table in Appendix I. Preparers of amendments to the SWPPP and amendment dates will also be documented in the table in Appendix I.

20. REMARKS

This SWPPP represents our professional opinions, which are based on client-supplied and currently available information and have been arrived at in accordance with accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended. This SWPPP has been prepared solely for the use of our client. Any reliance on the information contained in this report by third parties shall be at such parties' sole risk.

21. REFERENCES

AME. 2005. *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures.* March.

Circuit Rider Productions, Inc. 2005. *Conceptual Revegetation Plan, Former Georgia-Pacific California Wood Products Manufacturing Facility*. September 22.

Sholars, Teresa. 2005. *Glass Beach 3 Mitigation and Monitoring Plan.* September 22.

TRC Companies, Inc. 2003. *Jurisdictional Determination and Habitat Assessment.*

**ACTON •
MICKELSON •
ENVIRONMENTAL, INC.**

Consulting Scientists, Engineers, and Geologists

February 6, 2006

EXHIBIT NO. 8
APPLICATION NO.
A-1-FTB-05-053
EXCERPT, *EXCAVATION AND STOCKPILE QUANTIFICATION ESTIMATION AND SITE PLAN* MAP (ACTON-MICKELSON ENVIRONMENTAL, INC., FEB. 2006) (1 of 12)

Mr. James Baskin, AICP
Coastal Planner
California Coastal Commission
710 E Street, Suite 200
Eureka, California 95501

Via Overnight Mail

16019.01

Subject: Excavation and Stockpile Quantification Estimate and Site Plan Map For Appeal No. A-1-FTB-05-053
Building Foundation Demolition and Implementation of Interim Remediation Measures
Georgia-Pacific Corporation Fort Bragg Wood Products Manufacturing Facility
90 West Redwood Street, Fort Bragg, California

Dear Mr. Baskin:

On behalf of Georgia-Pacific Corporation (G-P), Acton • Mickelson • Environmental, Inc. (AME) is submitting this Excavation and Stockpile Quantification Estimate and Site Plan Map as requested in the Staff Report dated December 1, 2005 and in your letter dated December 19, 2005.

Proposed in the Coastal Development Permit (CDP) is the removal of concrete foundations from various buildings or structures in the area of the Powerhouse and Sawmill #1 and at the former Mobile Equipment Shop (**Figure 1**). The aboveground portions of these buildings or structures were removed under a previously approved CDP. In addition, the use of soil excavation as an interim remedial measure (IRM) as approved by the California Regional Water Quality Control Board, North Coast Region (North Coast Water Board) is proposed if impacts to unsaturated soil underlying the foundations are encountered.

Also proposed in the CDP is the excavation and removal of debris and fill material at Glass Beaches #1 through #3 and at the Parcels 3 and 10 Geophysical Anomaly areas along the coastal bluff.

CONCRETE FOUNDATION REMOVAL

Concrete foundations from various buildings or structures in the area of the Powerhouse and Sawmill #1 and at the former Mobile Equipment Shop are proposed for removal. **Table 1** presents a volumetric estimate of 14,085 cubic yards of concrete foundation to be removed as part of CDP-related activities. This estimate is based on site measurements using Global Positioning System data, direct measurements of foundations, and information provided by G-P.

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El Dorado Hills, California 95762**

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Foundation thicknesses not measured or known by G-P were assumed to be 1 foot for the purpose of this estimate.

Concrete foundations removed will be transported to a primary processing area in Parcel 3 for crushing and storage to be potentially reused during site development (**Figure 1**). Stained concrete will be segregated in the primary processing area based on field screening and/or analytical testing. Concrete sample collection and analysis is described in the Sampling and Analysis Plan included in the *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (AME 2005a). This primary area is paved with asphalt and measures approximately 370 by 210 feet. With a 6-foot-thick concrete stockpile, it can store approximately 17,267 cubic yards of concrete. In addition, a secondary processing area in Parcel 3 has been designated in the event more storage area is required. This secondary area measures approximately 275 by 200 feet. With a 6-foot-thick concrete stockpile, this area can store approximately 12,222 cubic yards of concrete. The primary and secondary areas can store approximately 29,489 cubic yards, which corresponds to greater than twice the volume of concrete estimated for removal. Additional onsite storage area with paved surface is available, if necessary.

METAL REMOVAL

Concrete foundations removed will contain metal debris. In addition, metal debris will be removed from the five work areas along the coastal bluff. Metal debris (rebar) recovered from the concrete processing will be stored in an adjacent area to the north of the primary concrete processing area in Parcel 3 (**Figure 1**). It is estimated that less than 1,000 cubic yards of rebar will result from foundation removal activities. It is estimated that approximately 2,283 cubic yards of metal debris will result from excavation at the five coastal bluff locations. Debris from the coastal bluff work areas will be stockpiled proximate to the work location or transported to this storage area. The metal storage area measures approximately 175 by 125 feet. With a 5-foot-thick metal stockpile, this area can store approximately 4,050 cubic yards of metal debris, which is greater that the estimated 3,283 cubic yards to be removed. Additional onsite storage area with paved surface is available, if necessary.

SOIL EXCAVATION AND TREATMENT

Soil excavation as an IRM will be conducted if impacts to unsaturated soil underlying the foundations are encountered. Additionally, soil will be excavated from the five work areas along the coastal bluff. Soil handling and transportation procedures are described in the Revised Excavation and Soil Management Plan and Transportation Plan included in the *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (AME 2005a). **Table 2** presents a volumetric estimate of 4,144 cubic yards of soil to be excavated as part of foundation removal related activities based on the currently available information. This estimate is based on the assumption that a 1-foot-thick layer of soil will be excavated beneath the entire footprint of each foundation removed. Approximately 9,672cubic yards of soil is estimated to be

excavated from the five coastal bluff work areas. The total volume of soil to be excavated from CDP related activities is approximately 13,816 cubic yards.

Excavated soil from foundation removal will be transported to a primary soil stockpile area in Parcel 7 (**Figure 1**). Excavated soil from the five coastal bluff work areas will be stockpiled proximate to the work areas or transported to this storage area. Soil will be segregated in the primary storage area based upon field screening and/or waste characterization analytical testing. Soil sample collection and analysis is described in the Sampling and Analysis Plan included in the *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (AME 2005a). This primary area is paved with asphalt and measures approximately 300 by 175 feet. With a 5-foot-thick soil stockpile, this area can store approximately 9,722 cubic yards of soil.

In addition, two secondary storage areas in Parcel 6 have been designated in the event more storage area is required (**Figure 1**). One secondary area measures approximately 200 by 150 feet. With a 5-foot-thick soil stockpile, this area can store approximately 5,555 cubic yards of soil. The other secondary storage area measures approximately 100 by 100 feet. With a 5-foot thick stockpile, this area can store approximately 1,852 cubic yards. The 17,129 cubic yard capacity of the three storage areas is approximately 24 percent greater than the 13,816 cubic yard volume of soil estimated for excavation. If necessary, the primary and secondary soil storage areas can be expanded onto existing paved surface to accommodate any additional storage requirements.

Excavated soil may be treated onsite at a designated area in Parcel 7 based upon constituent of potential concern (COPC) concentrations and approval of the North Coast Water Board (**Figure 1**). Soil to be treated may be segregated in the treatment area based upon COPCs, COPC concentrations, and treatment method to be used. This designated area is paved with asphalt and measures approximately 300 by 250 feet. With a 2-foot-thick soil stockpile, this area can treat approximately 5,556 cubic yards of excavated soil. The three soil storage areas may be used for soil treatment also. The onsite soil treatment area can be expanded onto existing paved surface, if necessary.

The total capacity of the primary and secondary storage areas and the onsite treatment area is approximately 22,685 cubic yards, which is approximately 64 percent greater than the 12,927 cubic yard volume estimated for excavation.

ROADWAYS

Approximately 16,050 linear feet of onsite roadway will be utilized for CDP-related activities, of which approximately 72 percent is paved. The unpaved portion is located mostly in the Powerhouse/Sawmill #1 area of Parcel 4 (**Figure 1**).

BEST MANAGEMENT PRACTICES

Best management practices (BMPs) for concrete foundation removal, soil excavation, stockpiles, transportation, and waste characterization analytical testing, including stormwater runoff control and dust suppression, are included in the following documents:

- *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (AME 2005a).
- Addendum #2 to the Work Plan (AME 2005b).
- Revised Excavation and Soil Management Plan (Appendix D for *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures*) (AME 2005c).
- *Stormwater Pollution Prevention Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (AME 2005d).

Implementation of the recommended BMPs should be effective in preventing negative impact to human health and the environment, including the rocky intertidal zone, surface water, and ground water, and allow CDP activities to be conducted in general accordance with performance standards of City of Fort Bragg Land Use and Development Code, Title 18, Chapter 18.61.022 (B) and Land Use Plan, Chapter XVII, Section E.

If you have any questions or comments, please contact Michael Acton at (916) 939-9102.

Very truly yours,

ACTON • MICKELSON • ENVIRONMENTAL, INC.

John D. Mattey
California Certified Engineering Geologist
Number EG1236

Michael Acton, R.E.A.
Vice President

Enclosures

MAA:tcm

PROFESSIONAL GEOLOGIST
JOHN D. MATTEY
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No. 1236
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

cc: Julie Raming, Georgia-Pacific Corporation
Carol Stephens, Georgia-Pacific Corporation
Michael Davis, Georgia-Pacific Corporation
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Linda Ruffing, City of Fort Bragg
Glenn Young, Fugro West, Inc.
Mark Stelljes, SLR International Corp.
Sheila Semans, California Coastal Commission
Craig Hunt, California Regional Water Quality Control Board, North Coast Region

REFERENCES

AME. 2005a. *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures*. March 21.

_____. 2005b. Addendum #2 to *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures*. August 19.

____. 2005c. Revised Appendix D for *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures*. September 28.

____. 2005d. *Stormwater Pollution Prevention Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures*. September 28.

TABLE 1

CONCRETE VOLUME ESTIMATE FOR CDP FOUNDATION REMOVAL
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Location	Foundation* Footprint	Length (Feet)	Width (Feet)	Depth (Feet)	Cubic feet	Comments
Sawmill #1 Foundation	1	350	90	4	126000	
Sawmill #1 Foundation northwestern extension	1	80	15	4	4800	
Sawmill #1 Foundation south central extension	1	60	30	4	7200	
Sawmill #1 Foundation north eastern area	1	12	15	2	360	
Sawmill #1 Wall North	1	350	0.5	5.5	962.5	
Sawmill #1 Wall East	1	90	0.5	12	540	
Sawmill #1 Wall West	1	90	0.5	3.5	157.5	
Powerhouse Fuel Storage Building #17 Foundation	1	40	50	2	4000	
Powerhouse Fuel Storage Building #17 Driveway Foundation	1	40	20	1	800	
Water Treatment Plant Foundation	1	70	45	3	9450	
Water Treatment Plant Cinder Block Building	1	20	12	0.5	120	
Compressor House, Southern Foundation	1	30	20	3	1800	
Compressor House, Southern Foundation E-W Walls	2	30	0.5	1.5	45	
Compressor House, Southern Foundation N-S Walls	2	20	0.5	1.5	30	
Compressor House, Central Foundation	1	25	12	1	300	
Compressor House, Central Foundation E-W Walls	2	25	0.5	2	50	
Compressor House, Central Foundation E-W Walls	2	12	0.5	2	24	
Compressor House, Northern Foundation	1	12	20	1	240	
Compressor House, Secondary Containment Foundation	1	12	8	1	96	
Compressor House, Secondary Containment Walls E-W	2	8	1	3	48	
Compressor House, Secondary Containment Walls N-S	2	12	1	3	72	
Electric Shop	1	50	70	1	3500	
Press Building Foundation	1	45	70	4	12600	
Press Building Above Ground Foundation	1	15	15	5	1125	
Cooling Towers Foundation	1	120	24	3	8640	
Cooling Towers Retaining Walls E-W	6	24	0.5	3	216	
Cooling Towers Retaining Walls N-S	2	120	0.5	3	360	
Cooling Towers Vault Foundation	1	15	25	4	1500	
Cooling Towers Vault Walls E-W	2	15	1	12	360	
Cooling Towers Vault Walls N-S	2	15	1	12	360	
Cooling Towers Secondary Containment Foundation for Poly tank	1	25	12	1	300	
Cooling Towers Shed 1 Foundation	1	12	12	4	576	
Cooling Towers Shed 2 Foundation	1	12	12	4	576	
Chipper Building Foundation	1	20	20	1	400	
Chipper Building Walls E-W, N-S	4	20	0.5	4	160	
Dewatering Slab Foundation	1	60	25	1	1500	
Dewatering Slab Walls E-W	1	25	1	3	75	
Dewatering Slab Walls N-S	3	60	1	3	540	

TABLE 1

CONCRETE VOLUME ESTIMATE FOR CDP FOUNDATION REMOVAL
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Location	Foundation Footprint	Length (Feet)	Width (Feet)	Depth (Feet)	Cubic feet	Comments
Fuel Barn Foundation South end	1	36	36	3	3888	Fuel Barn has a soil floor.
Fuel Barn Walls E-W	2	180	1.5	10	5400	
Fuel Barn Walls E-W Foundation	2	180	4	2	2880	
Fuel Barn South Wall Foundation	1	50	2.5	3	375	
Fuel Barn North Wall Foundation	1	20	2.5	2	100	
Fuel Barn Vault Foundation	1	20	10	1	200	
Fuel Barn Vault Walls E-W	2	10	1	5	100	
Fuel Barns Vault Wall N-S	2	20	1	5	200	
Fuel Barn Trench	1	55	3	2	330	
Water Supply Switch Building Foundation	1	35	15	2	1050	
Water Supply Switch Building Walls E-W	2	15	15	0.5	225	
Water Supply Switch Building Walls N-S	2	15	15	0.5	225	
Truck Dump Foundation	1	20	60	4	4800	
Truck Dump Hydraulic Building Foundation	1	13	13	1	169	
Truck Dump Hydraulic Building Walls all 4, Cinder Block	4	13	0.5	7	182	
Truck Dump Above Ground Foundations	4	6	3	2	144	
Truck Dump West Wall	1	20	4	1	80	
Transformer Pad Large Foundation	1	48	20	1	960	
Transformer Pad Small Foundation	1	15	10	1	150	
Oil Storage Shed Foundation	1	20	12	1	240	
Water Tower Foundation next to Powerhouse Fuel Storage Building #17 (circular) Dia 20 feet	1	100	0	1	314	
Alum Tank Foundation	1	12	12	1	144	
Alum Tank Walls E-W	2	12	1	4.5	108	
Alum Tank Walls N-S	2	12	1	4.5	108	
Miscellaneous Concrete at Powerhouse. (Best Guess)					1000	
Powerhouse Foundation	1	200	150	4	120000	
Powerhouse Above Ground Foundation	1	80	20	2	3200	
Powerhouse above Ground Foundation Pillars	12	2	2	15	720	
Powerhouse above Ground Foundation Pillars	8	1	1	15	120	
Powerhouse Vault # 1 12x74x6 Walls E-W	2	74	1	6	888	Vault Foundations added into
Powerhouse Vault #1 12x74x6 Walls N-S	2	12	1	6	144	powerhouse footprint.
Powerhouse Vault #2 10x50x7 Walls E-W	2	50	1	7	700	
Powerhouse Vault #2 10x50x7 Walls N-S	2	10	1	7	140	

TABLE 1

CONCRETE VOLUME ESTIMATE FOR CDP FOUNDATION REMOVAL
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Location	Foundation[a] Footprint	Length (Feet)	Width (Feet)	Depth (Feet)	Cubic feet	Comments
Powerhouse Vault #3 18x15x4 Walls E-W	2	15	1	4	120	
Powerhouse Vault #3 18x15x4 Walls N-S	2	18	5	4	720	
Powerhouse Red Above Ground Footings	3	8	3	4	288	
Powerhouse Above Ground Footings	6	8	10	4	1920	
Concrete Valve Vault between Pond 7 and 6	1	4	4	1	16	
Concrete Valve Vault between Pond 7 and 6 Walls E-W	2	4	4	1	32	
Concrete Valve Vault Between Pond 7 and 6 Walls N-S	2	4	4	1	32	
Pond 7 Concrete Wall E-W	1	140	1	5	700	
Pond 7 Concrete Wall N-S	1	25	0.5	5	62.5	
Fly Ash Injection System Foundation/Open Refuse Fire Area (Tee-Pee Burner)	1	130	75	2	19500	
Fly Ash Injection System North Wall	1	45	1	6	270	
Assorted piles of concrete in Parcel 4 (Best Guess)	2				4800	
Green Chain Deck Footings	15	4	4	4	960	Estimated # of Footings 1-9-06
Trench just south of Water Treatment Plant	1	150	3	3	1350	
Trench valve vault just south of above ground concrete tank	1	6	3	4	72	
Water Treatment Plant Concrete Above ground tank Foundation (circular) Dia. 5'	1	5	0	1	16	
Water Treatment Plant Concrete Above ground tank (circular) Outer Dia 4'	1	15	4	4	188	Not included in final volume
Water Treatment Plant Concrete Above Ground Tank (circular) Inner Dia. 3.5'	1	15	3.5	3	141	Not included in final volume
Water Treatment Plant Concrete Above Ground Tank Wall volume OD=4', ID=3.5', H=15'					47	Difference between OD and ID
Valve Vault Foundation just south of Water Treatment Building	1	6	3	4	72	
Trench south and east of Water Treatment Plant	1	150	3	1	450	
Trench sidewalls	2	150	0.5	2.5	375	
Spillway SW of Alum Tank	1	25	4	2	200	
Spillway sidewalls	2	25	0.5	1	25	
Spillway Northern Foundation	1	15	12	1	180	
Sewage Pumping Station	1	7	7	3	147	
Paint Storage Shed & Poly Tank/transformer pad removed during demo of powerhouse						
Former Chip Loader Building	1	40	25	1	1000	
Slab west of electric shop and north of Sawmill #1	1	15	12	1	180	
Former Mobile Equipment Shop North Eastern Addition Foundation	1	26	26	1	676	
Former Mobile Equipment Shop North Central Section Foundation	1	48	38	1	1824	
Former Mobile Equipment Shop North Western Addition Foundation	1	32	40	1	1280	
Former Mobile Equipment Shop South Foundation	1	58	48	1	2784	

TABLE 1

CONCRETE VOLUME ESTIMATE FOR CDP FOUNDATION REMOVAL
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Location	Foundation[a] Footprint	Length (Feet)	Width (Feet)	Depth (Feet)	Cubic feet	Comments
Former Mobile Equipment Shop South Eastern Wall, Cinder Block	1	52	0.5	3	78	
Former Mobile Equipment Shop South Wall Central Area	1	40	0.5	1	20	
Former Mobile Equipment Shop South Center Wall, Cinder Block	1	71	0.5	3	106.5	
Former Mobile Equipment Shop South West Central Wall, Cinder Block	1	43	0.5	3	64.5	
Former Mobile Equipment Shop South Western Wall Cinder Block	1	44	0.5	3	66	
Former Mobile Equipment Shop South Dock (SE Corner)	1	16	8	3	384	
Former Mobile Equipment Shop South Spillway to sump	1	6	8	1	48	
Former Mobile Equipment Shop South Oil/Water Separator Foundation	1	6	12	1	72	
Former Mobile Equipment Shop South Oil/Water Separator Walls E-W	2	6	0.5	5	30	
Former Mobile Equipment Shop South Oil/Water Separator Wall N-S	2	12	0.5	5	60	
Former Mobile Equipment Shop South Sump Foundation	1	4	4	4	64	
Former Mobile Equipment Shop South Sump Walls	4	4	0.5	4	32	
Approximate Cubic Feet of concrete in Parcel 4					**380,290**	
Approximate Cubic Yards of concrete in Parcel 4					**14,085**	

Notes

[a] *Foundation Footprint refers to the main foundation of the former structure. Table entries where a number greater than 1 is entered signify individual walls or pillars on top of the foundation or other features associated with the foundation.*

TABLE 2

SOIL VOLUME ESTIMATE FOR CDP FOUNDATION REMOVAL
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Location	Foundation Footprint	Length (Feet)	Width (Feet)	Depth (Feet)	Cubic feet	Comments
Sawmill #1 Foundation	1	350	90	1	31500	
Sawmill #1 Foundation northwestern extension	1	80	15	1	1200	
Sawmill #1 Foundation south central extension	1	60	30	1	1800	
Sawmill #1 Foundation north eastern area	1	12	15	1	180	
Powerhouse Fuel Storage Building #17 Foundation	1	40	50	1	2000	
Powerhouse Fuel Storage Building #17 Driveway Foundation	1	40	20	1	800	
Water Treatment Plant Foundation	1	70	45	1	3150	
Compressor House, Southern Foundation	1	30	20	1	600	
Compressor House, Central Foundation	1	25	12	1	300	
Compressor House, Northern Foundation	1	12	20	1	240	
Compressor House, Secondary Containment Foundation	1	12	8	1	96	
Electric Shop	1	50	70	1	3500	
Press Building Foundation	1	45	70	1	3150	
Cooling Towers Foundation	1	120	24	1	2880	
Cooling Towers Vault Foundation	1	15	25	1	375	
Cooling Towers Secondary Containment Foundation for Poly tank	1	25	12	1	300	
Cooling Towers Shed 1 Foundation	1	12	12	1	144	
Cooling Towers Shed 2 Foundation	1	12	12	1	144	
Chipper Building Foundation	1	20	20	1	400	
Dewatering Slab Foundation	1	60	25	1	1500	
Fuel Barn, Foundation South End	1	36	36	1	1296	Fuel Barn has a soil floor.
Fuel Barn Walls E-W Foundation	2	180	4	1	1440	
Fuel Barn South Wall Foundation	1	50	2.5	1	125	
Fuel Barn North Wall Foundation	1	20	2.5	1	50	
Fuel Barn Vault Foundation	1	20	10	1	200	
Water Supply Switch Building Foundation	1	35	15	1	525	
Truck Dump Foundation	1	20	60	1	1200	
Truck Dump Hydraulic Building Foundation	1	13	13	1	169	
Transformer Pad Large Foundation	1	48	20	1	960	
Transformer Pad Small Foundation	1	15	10	1	150	
Oil Storage Shed Foundation	1	20	12	1	240	
Water Tower Foundation next to Powerhouse Fuel Storage Building #17 (circular) Dia 20 feet	1	100	0	1	314	
Alum Tank Foundation	1	12	12	1	144	
Powerhouse Foundation	1	200	150	1	30000	
Powerhouse Vault #1 Foundation	1	74	12	1	888	
Powerhouse Vault #2 Foundation	1	50	10	1	500	

TABLE 2

SOIL VOLUME ESTIMATE FOR CDP FOUNDATION REMOVAL
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Location	Foundation Footprint	Length (Feet)	Width (Feet)	Depth (Feet)	Cubic feet	Comments
Powerhouse Vault #3 Foundation	1	18	15	1	270	
Pond 7 Concrete Valve Vault	1	4	4	1	16	
Pond 7 Concrete Wall N-S Foundation	1	140	1	1	140	
Fly Ash Injection System Foundation/Open Refuse Fire Area (Tee-Pee Burner)	1	130	75	1	9750	
Water Treatment Plant Concrete Above Ground Tank Foundation (circular) Dia. 5'	1	5	0	1	16	
Valve Vault Foundation just south of Water Treatment Building	1	6	3	1	18	
Trench just south and east of Water Treatment Building	1	150	3	1	450	
Spillway southwest of Alum tank	1	25	4	1	100	
Spillway northern Foundation	1	15	12	1	180	
Sewage Pumping Station Foundation	1	7	7	1	49	
Former Chip Loader Building	1	40	25	1	1000	
Green Chain Deck Footings	15	3	3	1	135	Estimated # of Footings 1-9-06
Slab west of electric shop and north of Sawmill #1	1	15	12	1	180	
Former Mobile Equipment Shop North Eastern Addition Foundation	1	26	26	1	676	
Former Mobile Equipment Shop North Central Section Foundation	1	48	38	1	1824	
Former Mobile Equipment Shop North Western Addition Foundation	1	32	40	1	1280	
Former Mobile Equipment Shop South Foundation	1	58	48	1	2784	
Former Mobile Equipment Shop South Dock (SE Corner)	1	16	8	3	384	
Former Mobile Equipment Shop South Spillway to sump	1	6	8	1	48	
Former Mobile Equipment Shop South Oil/Water Separator Foundation	1	6	12	1	72	
Former Mobile Equipment Shop South Sump Foundation	1	4	4	4	64	
Approximate Cubic Feet of Soil for removal in Parcel 4					**111,896**	
Approximate Cubic Yards of Soil for removal in Parcel 4					**4,144**	

NOTES

All locations and dimensions are approximate

CONCRETE FOUNDATION REMOVAL
Estimated Volume of Concrete Foundation to be Removed – 14,085 cubic yards

Estimated Volume of Primary Concrete Storage Area – 17,287 cubic yards
(370 feet by 210 feet by 8 feet thick)
Estimated Volume of Secondary Concrete Storage Area – 12,222 cubic yards
(278 feet by 200 feet by 6 feet thick)
Estimated Volume of Total Concrete Storage Areas – 29,489 cubic yards

METAL REMOVAL
Estimated Volume of Metal Removed From Concrete – less than 1,000 cubic yards
Estimated Volume of Metal Removed From Coastal Bluff Areas – 2,263 cubic yards
Estimated Volume of Metal Removed, Total – 3,263 cubic yards

Estimated Volume of Metal Storage Area – 4,050 cubic yards
(175 feet by 125 feet by 5 feet thick)

SOIL EXCAVATION AND TREATMENT
Estimated Volume of Soil to be Excavated From Foundations – 4,144 cubic yards
Estimated Volume of Soil to be Excavated From Coastal Bluff – 9,672 cubic yards
Estimated Volume of Soil to be Excavated, Total – 13,816 cubic yards

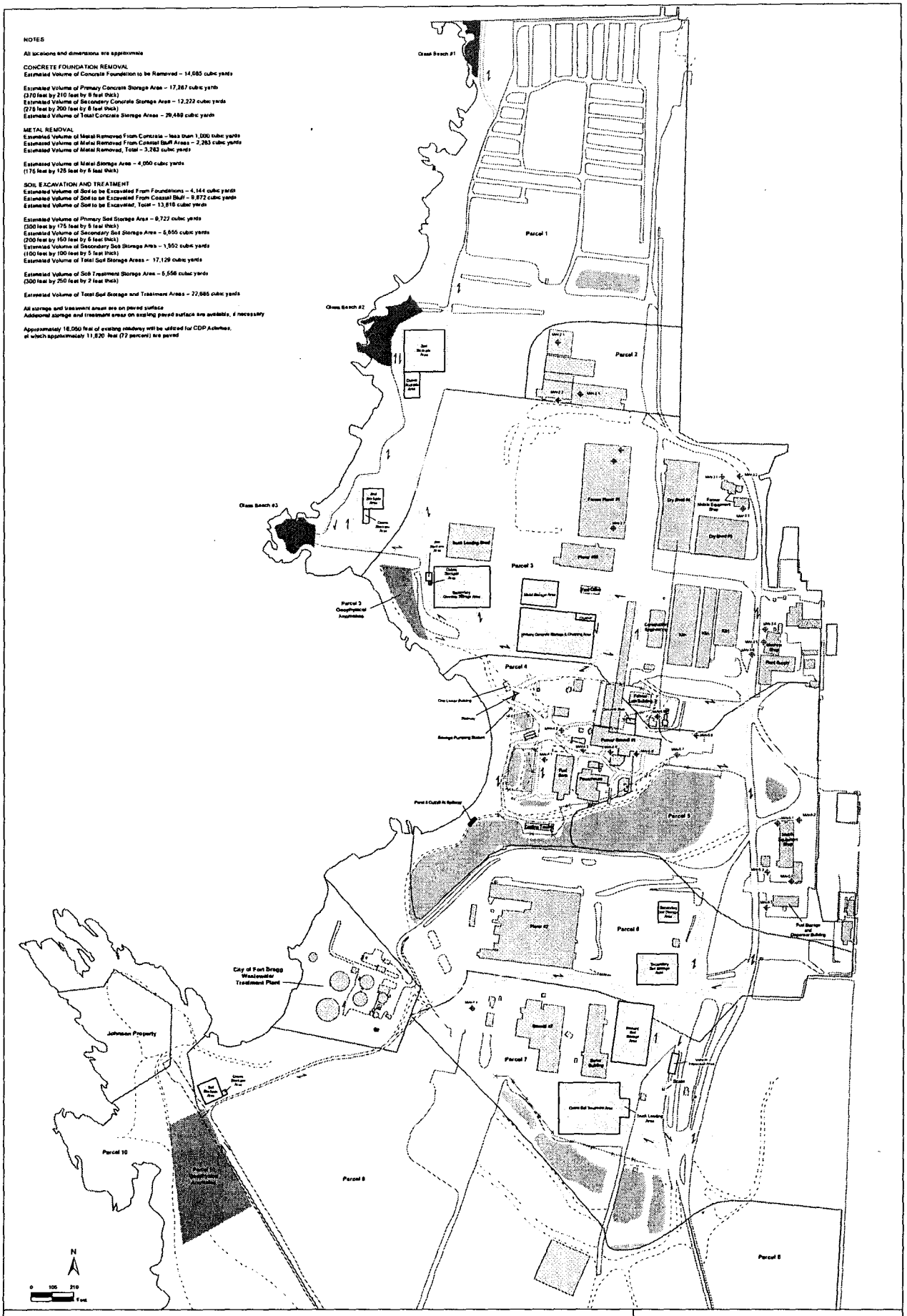
Estimated Volume of Primary Soil Storage Area – 9,722 cubic yards
(300 feet by 175 feet by 5 feet thick)
Estimated Volume of Secondary Soil Storage Area – 6,655 cubic yards
(200 feet by 150 feet by 5 feet thick)
Estimated Volume of Secondary Soil Storage Area – 1,552 cubic yards
(100 feet by 100 feet by 5 feet thick)
Estimated Volume of Total Soil Storage Areas – 17,129 cubic yards

Estimated Volume of Soil Treatment Storage Area – 5,558 cubic yards
(300 feet by 250 feet by 2 feet thick)

Estimated Volume of Total Soil Storage and Treatment Areas – 22,686 cubic yards

All storage and treatment areas are on paved surface
Additional storage and treatment areas on existing paved surface are available, if necessary

Approximately 16,050 feet of existing roadway will be utilized for CDP Activities, of which approximately 11,820 feet (72 percent) are paved



Monitoring Well	Proposed Unpaved Roadway Access To Work And Storage Areas	Proposed Stockpile Area	Parcel Bounary
Traffic Flow Direction	Proposed Paved Roadway Access To Work And Storage Areas	Pond	Geophysical Anomaly Proposed Work Area
Fence	Storm Drain Line	Facility Structure	Glass Beach Proposed Work Area
Railroad Track	Pudding Creek Water Line	Foundation To Be Removed	
Unpaved Road			
Paved Road			

FIGURE 1
PROPOSED STOCKPILE LOCATIONS
FOR CONCRETE, METAL, AND SOIL

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.06	Drawn By YJJ	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
	Prepared By	
	Approved By	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Scale As Noted	

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EXHIBIT NO. 9
APPLICATION NO.
A-1-FTB-05-053
EXCERPT, *HAZARDOUS MATERIALS ASSESSMENT LOGISTICS ANALYSIS* (ACTON-MICKELSON ENVIRONMENTAL, INC., MARCH 2006) (1 OF 15)

ACTON • MICKELSON • ENVIRONMENTAL, INC.

Consulting Scientists, Engineers, and Geologists

March 1, 2006

Mr. James Baskin, AICP
Coastal Planner
California Coastal Commission
710 E Street, Suite 200
Eureka, California 95501

Via Overnight Mail and Electronic Mail

16019.01

Subject: ***Hazardous Materials Assessment Logistics Alternatives Analysis* for Appeal No. A-1-FTB-05-053**
Building Foundation Demolition and Implementation of Interim Remediation Measures
Georgia-Pacific Corporation Fort Bragg Wood Products Manufacturing Facility
90 West Redwood Street, Fort Bragg, California

Dear Mr. Baskin:

On behalf of Georgia-Pacific Corporation (G-P), Acton • Mickelson • Environmental, Inc. (AME) is submitting this *Hazardous Materials Assessment Logistics Alternatives Analysis* (Analysis) for the former G-P Wood Products Manufacturing Facility, Fort Bragg, California (site) as requested in the California Coastal Commission Staff Report dated December 1, 2005 (Staff Report) and in your letter dated December 19, 2005 (Letter). This Analysis includes the following:

- A summary of the scope of work proposed in the *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (Work Plan) (AME 2005)
- A hydrologic assessment based on site conditions
- An evaluation of the Work Plan methodology for environmental investigation, as well as the alternative methodology for environmental investigation cited in the Staff Report and Letter, regarding implementability, effectiveness in protecting environmentally sensitive areas on and in close proximity to the site, and cost
- Conclusions based on the assessment and evaluation described above

As concluded below, the results of the hydrologic assessment clearly document that the likelihood for constituents of potential concern (COPCs) to migrate during the foundation removal process proposed in the Work Plan and threaten coastal resources on and proximate to the site is negligible. Therefore, there is no need for additional controls or conditions and the Coastal Development Permit (CDP) as approved by the City of Fort Bragg (City) should be upheld.

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5175 Hillsdale Circle, Suite 100
El Dorado Hills, California 95762

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WORK PLAN SUMMARY

The Work Plan was prepared by certified and licensed geologists, engineering geologists, hydrogeologists, and engineers at AME and reviewed and approved by geologists and engineers at the Regional Water Quality Control Board (RWQCB). Together, this group brings significant environmental assessment, remediation, and oversight expertise to the project.

The Work Plan proposes the removal of concrete foundations as an appropriate step in assessing the soil underlying the foundations for the presence of COPCs. The buildings above these foundations were demolished under a previously approved Coastal Development Permit as a first step in restoration of this area. The City has initiated studies regarding the purchase and restoration of this area for future coastal access and recreation areas. Areas or features within a demolished building foundation footprint with an enhanced likelihood for COPC impact were identified and Global Positioning System (GPS)-located during pre-foundation-removal reconnaissance activities. Whether these locations actually represent a source of impact to the subsurface can only be assessed by conducting soil sampling and analysis. If analysis of initial soil samples indicates impacts to the subsurface, collection of additional soil samples progressing in both lateral and vertical directions is required to assess the extent of the impact.

Acquisition of these data is necessary for incorporation into the risk assessment used to calculate site-specific cleanup levels, which must be approved prior to implementation of a remedial action plan (RAP). These data must be collected as part of assessment activities before the risk assessment is completed and remediation implemented.

If warranted and approved by the RWQCB, interim remedial measures (IRMs) may be implemented to address COPC impacts to the vadose zone (unsaturated soil above the water table) only. If ground water is encountered during foundation removal, excavation IRMs will not be conducted. If ground water is encountered during an excavation IRM, the excavation IRM will be terminated. Under both scenarios presented above, excavations will be backfilled and compacted with fine-grained fill (sampled and analyzed prior to onsite use) and covered with plastic. More permanent erosion-control measures (asphalt, concrete, or vegetative cover) will be implemented if COPC concentrations underlying the backfill are confirmed to be below site-specific cleanup levels determined by risk assessment.

The purpose of the IRMs is to lessen potential risks to the environment and/or to public health from hazardous materials that may be exposed by the removal of the foundations. The IRMs are intended to function as a temporary rather than a final response to the hazardous materials. G-P and the RWQCB have indicated that all of the areas in which IRMs are conducted will be included in the RAP, which is the final plan for remediation and is based on the site assessment, risk assessment, and site-specific clean-up goals. Conducting IRMs in conjunction with the site assessment is a common practice and is acceptable to the RWQCB.

The foundation removal operations involve several steps. The initial step will involve marking and establishing a work zone around the former building foundation. Once a safe work area has been delineated, the foundation slab will be broken into sections of manageable size and transported to a designated area. After slab removal, soil beneath the former slab area will be visually inspected and soil vapors measured using a photo ionization detector (PID). Locations of previously identified features with an enhanced likelihood for COPC impact will be identified on the ground. If soil is determined to be impacted, it will be excavated and removed to a designated staging area as an IRM. Subsequent confirmation samples will be collected for analysis. If soil does not appear to be impacted, samples will be collected and forwarded to a certified laboratory for COPC analyses to confirm visual observations and PID readings. It is anticipated that laboratory results will be available for review within 20 days of sampling. If laboratory analyses indicate soil impacts above acceptable screening levels, impacted soil will be excavated and removed. Non-impacted soil will remain in place. During the soil characterization and IRM processes, plastic sheeting may be used to cover the former foundation area. Excavated areas will be graded and/or backfilled with clean soil imported from offsite and covered after removal of the impacted soil. Excavated soil containing COPCs at less than screening levels based on laboratory analysis may be used as backfill material.

HYDROLOGIC ASSESSMENT

The following sections describe analyses conducted to evaluate potential hydrologic concerns raised by the Appellants related to foundation removals proposed in the Work Plan and associated documents. Specifically, concerns were raised related to potential migration of COPCs *during* building foundation removal. The Appellants' concerns focus on two potential conditions:

- Surface dispersal of COPCs due to stormwater runoff
- Downward migration of COPCs to the water table due to percolation in the unsaturated zone

In particular, these concerns regarded potential ground water impacts resulting from potential changes in the subsurface geochemical environment following removal of the foundation in combination with infiltration due to precipitation. The focus of the analyses was to evaluate the potential migration of COPCs during the time period between foundation removal and the implementation of IRMs. Hence, any potential mobilization or migration would be constrained within a limited time period.

Based on proposed work activities, technical analyses were conducted to evaluate the potential dispersal of COPCs during the timeframe between the removal of the foundations and the excavation of the soils. This period of time, termed the "potential exposure time," cannot be explicitly defined for each foundation because the processes that will be conducted in each foundation area may vary depending upon the results of the initial field screening and the laboratory analyses. However, the length of the potential exposure time can be constrained.

Specifically, the potential exposure time could range from a minimum of a few hours to not more than 30 days. For example, excavation of impacted soils could begin as soon as the termination of the field screening assessment or could not occur for approximately 2 to 3 weeks pending laboratory analytical results. Hence, the maximum time period that potentially impacted foundation soils could remain in place without conducting an IRM is 30 days.

Technical Evaluation of the Hydrologic Concern

Soils at the site are classified as sandy loam based on soil survey information from the United States Department of Agriculture. Building foundation removal will expose these previously covered soils to the atmosphere and potential precipitation events. Due to the sandy nature of the soil and because foundation areas have previously been covered by an impervious surface, it is anticipated that the underlying vadose zone soils have low moisture content. Best management practices (BMPs) will be employed to mitigate the airborne dispersal of the soil via the wind through dust control measures. These measures are discussed in the Work Plan; as such, airborne transport was not considered in this analysis.

The following analyses were conducted to evaluate the potential migration of COPCs in the soil due to precipitation events prior to IRM actions. The analyses evaluated surface dispersal of COPCs due to stormwater runoff and downward migration of the COPCs to the water table due to percolation in the unsaturated zone (**Figure 1**). The following three analyses were conducted:

- Calculation of a hydrologic budget
- Delineation of site-wide runoff and infiltration potential
- Numerical modeling of potential water infiltration depth

These analyses used recognized site and/or regional data and employed conservative parameter values to address uncertainty. In addition, a fourth analysis was conducted to evaluate the potential change in ground water geochemistry due to the removal of the foundations. The following sections describe the methods, data, and results of the four analyses comprising the hydrologic assessment.

Hydrologic Budget Analysis

A hydrologic budget was developed to evaluate the hydrologic conditions during the projected time period of foundation removal. The hydrologic budget considered average precipitation, average runoff volumes, and average evapotranspiration (ET) volumes to obtain an estimate of the infiltration potential during the year, and specifically during the summer when removal of the foundations would be conducted. The monthly rainfall data were based on information from the Western Regional Climate Center (WRCC) Fort Bragg 5N precipitation station (#043161). The average precipitation data indicates that 80 percent of the rainfall occurs within 5 months extending from November through March. Analyses by Wood Rogers (2005) indicate that 25 percent of rainfall develops into surface runoff. Potential ET rates were obtained from the California Irrigation Management and Information System (CMIS) Reference ET map as

documented by Wood Rogers (2005). These data indicate that almost 75 percent of annual ET losses occur within 6 months.

Using the hydrologic data, potential infiltration was calculated on a monthly basis (Enclosure A, Table A-1). In particular, potential infiltration was defined as monthly precipitation minus the sum of the net hydrologic losses derived from runoff and ET. The results of the calculation indicate that a net deficit infiltration occurs between April and October (**Figure 2**). Therefore, this analysis indicates that no net flux of water inflows to the ground water during these months and, more specifically, a net loss of water occurs within the unsaturated zone during this period.

The removal of foundations and any potential IRMs are scheduled to occur between April 15 and October 15. This period is characterized by low rainfall and high ET, which produces a net infiltration loss. Given the hydrologic conditions during this period, it is not reasonable to anticipate any significant COPC movement via (1) runoff and/or (2) infiltration of surface water into site soils.

Runoff and Infiltration Potential Analysis

Although the hydrologic budget analysis indicated a net loss of water between April and October, the runoff and infiltration potential was evaluated assuming a rain event would occur during this period. The analysis predicted the spatial runoff and infiltration volumes for a discrete rainfall event across the entire site. To evaluate a potential worst-case condition, the analysis disregarded the net loss due to ET. This condition produces maximum runoff and maximum infiltration values. Specifically, the analysis assumed a rainfall rate of 0.08 inches per hour over a 12-hour period. This produces a cumulative 1-inch rainfall, which is highly unlikely during this period of the year. In particular, the 1-inch rainfall exceeds the median of the average *total* monthly precipitation for the 7 months from April to October.

The results of the analysis predicted the spatial distribution of runoff flow depth and the depth of infiltration. The assessment utilized Geographic Information Systems (GIS) linked with a finite difference computer program to simulate two-dimensional surface-water flow depth and accumulative infiltration (Wong 2005). The numerical model incorporates mass conservation, Darcy-Weisbach flow resistance, and an analytical infiltration solution developed by Smith and Parlanger (Grove 1989). The model operates on a square grid of specified-spatial resolution.

The runoff and infiltration assessment used parameter values from site measurements and values from previous studies within the area. The site topography used in the analysis was based on site digital elevation data. In particular, soil parameters were based on values from the Natural Resources Conservation Service database for the Cabrillo-Heeser sandy loam. Groundcover was assumed to be open and homogeneous across the site. These parameter values applied in the GIS analysis are listed in Enclosure A, Table A-2.

The results of this analysis indicate that runoff and infiltration are directly related to the topographic slope at the site. Where the ground surface is flat, the majority of the rainfall infiltrates into the underlying soil, and conversely, where a slope is present, the rainfall develops as runoff. **Figures 3** and **4** present the spatial distribution of runoff and infiltration, respectively, predicted by the GIS analysis across the site. Since the former buildings are located in relatively flat areas and the actual building foundation pads are flat, the analysis indicates that the majority of the water during a rain event will infiltrate into the ground and not produce runoff at the surface. More specifically, for a 1-inch rainfall, approximately 0.2 inches of runoff may be generated in the vicinity of building foundations. This thickness of water is minimal and is not readily capable of significant erosion. Therefore, this analysis, which is conservative in approach, indicates that the potential migration of COPCs due to surface runoff is minimal even in the absence of BMP engineering controls. During the removal operations, should rainfall occur, plastic sheeting placed over the foundations or soil along with the construction of small berms would essentially eliminate the potential for surface dispersal of the soil (formerly covered by foundation) due to rainfall runoff.

Localized Infiltration Analysis

An additional analysis was conducted to evaluate potential water infiltration into unsaturated soils beneath former building foundations. Unsaturated soils occur between the ground surface and the ground water table (the boundary where water completely fills the open spaces in the soil). These soils consist of three phases: solid rock and clay fragments, water, and air. In contrast to other areas of the site, the soils beneath the building foundations will be relatively dry and the open spaces will be filled primarily with air and minimal water. As a result, the capillary potential of these soils, which is the force acting to retain water within the soil pores, will be high. The high capillary potential will act to retain any existing pore waters and lower the potential for water movement. More specifically, the unsaturated hydraulic conductivity in soils, which is a measure of the soil to convey water, is strongly dependent on the soil water content. As shown in **Figure 5**, the unsaturated hydraulic conductivity, K, increases as the soil water content increases. Therefore, for a given soil, the potential for water to move is inhibited when the soil is dry relative to when it is moist or saturated. The relationship between soil moisture and capillary potential and unsaturated hydraulic conductivity has been described mathematically by various authors (Brooks and Corey 1964, El-Kadi 1985, Richards 1931, and van Genuchten 1980).

This analysis used United States Environmental Protection Agency unsaturated flow and transport model CHEMFLO 2000 (Nofziger and Wu 2003) to evaluate the movement of water through the unsaturated zone assuming water infiltration from a rainfall event. CHEMFLO is a public domain program that enables users to simulate water movement and chemical transport in unsaturated soils by solving the Richards equation (water) and the convection-dispersion equation (chemicals). In the analysis, water was assumed to pond above the ground surface and infiltrate into the soil. The movement of water is tracked transiently. Input and output files are included in Enclosure A, Tables A-3 and A-4, respectively.

The analysis considered infiltration of ponded water on the surface of the soils exposed after the foundation removal. This scenario is considered conservative. Specifically, the analysis assumed that approximately 0.8 inches of water ponds on the surface of the soil after removal of the foundation and then is allowed to infiltrate into the underlying soil. The model was used to track the water movement through the unsaturated soil column to the water table. The soil conditions replicated the Runoff and Infiltration Potential Analysis (Enclosure A, Table A-2) except that the initial water saturation throughout the soil profile was defined as 20 percent. This value is 4 times greater than the typical residual water saturation for loamy soils (approximately 5 percent). The depth to ground water was defined as 5 feet in the analysis and is based on site-specific measurements. **Figure 6** illustrates the thickness of unsaturated soils across the site area. This distribution was determined by subtracting the elevation of the water table from the surface elevation.

Results of the CHEMFLO infiltration analysis indicate that the capillary pressure of the dry soil will inhibit movement of water to the water table. In particular, the analysis indicated that the majority of the ponded water would not migrate below 2 feet, and none of the infiltrating water would contact ground water. **Figure 7** illustrates the downward movement of the infiltrating water through time as a percentage of the total infiltrating water. As documented, the infiltrating water slowly migrates into the soil. Based on the analysis, at approximately 50 hours (approximately 2.1 days), only 25 percent of the total ponded water (0.2 inches of the 0.8 inches of total water) will have migrated below a depth of 0.8 feet and the initial front of water will have only migrated to a depth of 1.0 feet. Through time, the pulse of infiltrating water fills the open pores within the soil and slowly migrates downward. At 1,000 hours (approximately 42 days), almost all of the infiltrating water (75 percent) will have migrated below 0.8 feet. However, the infiltrating front will not have advanced to a depth of 5 feet. This indicates that after 1,000 hours, the pulse of infiltrating water remains in the unsaturated zone and the majority of the water is retained in the soil pores not deeper than 2.0 feet below ground surface. Therefore, the results of the infiltration analysis indicate that the potential infiltration of water due to a rain event during the foundation removal operation will not have an impact on the underlying ground water system prior to implementing an IRM.

The results of the infiltration analysis indicate that the low moisture content of soils beneath the foundation(s) promotes the retention capacity of the soil to water and inhibits rapid ground water percolation. Therefore, the underlying foundation soils are capable of retaining a significant volume of infiltrating water that may be generated by an unlikely dry season precipitation event or by water derived from dust-control measures.

The results of the infiltration analysis further indicate that it is not reasonable to anticipate any significant COPC movement due to infiltration of surface water into the site soils during the period of foundation removal. In particular, since the analysis indicates that IRM actions will be conducted, if warranted, prior to water entering the underlying ground water table, then COPCs possibly present within the soil column would also be retained within the unsaturated zone prior to IRM actions. More specifically, IRMs to remove any COPCs sorbed or retained within the soil, irrespective of potential changes in the geochemical environment, would be conducted prior

to these COPCs entering ground water since their movement is controlled by the rate of infiltrating water.

Geochemical Analysis

The final analysis in the hydrologic assessment entailed evaluating the potential change in ground water geochemistry during the potential exposure period after foundation removal. In particular, the analysis focused on the potential change in oxygen concentration due to diffusion from the atmosphere. Site measurements of dissolved oxygen (DO) conducted in the third quarter of 2005 ranged from less than 0.5 milligrams per liter (mg/L) to over 6.0 mg/L. In general, higher DO levels were detected in the upland areas where the ground water table is relatively deep and lower DO levels were observed in the lowland areas where the ground water table is shallow. In this analysis, ground water was considered to occur at the base of the foundation and exposed directly to the atmosphere during the exposure period. The initial ground water concentration was considered to be 1.0 mg/L. These conditions are considered conservative since the mass transfer from the atmosphere to the ground water would decrease with the depth of the ground water.

The analysis calculated the diffusion of oxygen into the ground water using the semi-infinite unsteady state diffusion equation. Using this approach the oxygen concentration profile was calculated at the ground water table. Henry's Law constant was applied in estimating the interface concentration of solute. The diffusion coefficient of solute is predicted using the Wilke-Chang equation. Details on the analysis are included in Enclosure A, Table A-5.

The results of the analysis indicate that diffusion will increase the dissolved oxygen concentration in only a small portion of the ground water. Specifically, only the upper 0.5 foot of the ground water will likely be affected by an increase in oxygen levels during the potential exposure period (**Figure 8**). The rate of diffusion is slow, even when the ground water table is in direct contact with the atmosphere. This is evidenced by the results of the analysis indicating that the depth of the 6.0 mg/L dissolved oxygen level is approximately 2 inches after 30 days of exposure. Hence, the potential water volume that may be altered by the foundation removal is small and limited, even under the conservative conditions assumed in the analysis. Therefore, negligible geochemical changes are expected during the potential exposure period, and as a result, there is no potential for significant mobilization and movement of any COPCs due to changes in ground water oxidation.

Hydrologic Assessment Conclusions

A series of analyses were conducted to evaluate the possible hydrologic conditions that could develop due to foundation removal. The hydrologic analyses were comprehensive in scope and evaluated the monthly hydrologic budget, the spatial distribution of runoff and infiltration, localized infiltration, and geochemical changes. The results of the analyses indicate that the potential movement of COPCs due to precipitation during the foundation removal operations is unlikely. In particular, the analyses document that during the period of foundation removal, April

through October, a net loss of water occurs in the soils. This water loss is due to (1) negligible precipitation and (2) elevated ET. In addition to the hydrologic budget analysis, site-specific calculations were conducted to evaluate the potential for COPCs to migrate via runoff and infiltration assuming that an anomalous rainfall event occurred and engineering controls were not in place. These analyses indicated that the foundation locations do not occur in high runoff areas and that infiltrating water will not percolate to the ground water table within a reasonable period of time. These analyses clearly document that even without BMP engineering controls such as plastic sheeting and berming, which are proposed for use, the potential for COPCs to migrate during the foundation removal process is negligible.

Finally, diffusion calculations indicate that minimal geochemical changes in dissolved oxygen concentrations in the ground water will result from foundation removal. Although potential increases in dissolved oxygen may result due to the mass transfer of oxygen from the atmosphere to the ground water, these will only affect the upper few inches of the water table. Therefore, the analysis indicates negligible geochemical changes to the subsurface environment will occur during the potential exposure period.

Based upon the results of the four analyses comprising the hydrologic assessment, foundation removal operations will not act to threaten downgradient coastal resources by enhanced transport of any COPCs through ground water infiltration.

EVALUATION OF WORK PLAN AND ALTERNATIVE METHODS FOR ENVIRONMENTAL INVESTIGATION

Work Plan methodology for assessing environmental conditions underlying the foundations following their removal is evaluated below. Also evaluated is alternative methodology as suggested in the Staff Report and Letter for assessing environmental conditions underlying the foundations without their removal. This methodology includes vertical borings through existing foundations and angle or horizontal borings drilled from locations adjacent to the existing foundations.

Work Plan Environmental Investigation Methodology

It is the position of G-P and AME that the scope of work proposed in the Work Plan and associated documents to remove foundations in order to facilitate assessment of underlying soil conditions is appropriate for the site. The Work Plan includes technical practices proven effective in assessing and remediating environmental impacts and is protective of human health and the environment. These technical practices, including but not limited to foundation removal prior to sampling, have been used successfully at a multitude of environmental assessment and remediation sites. Furthermore, the conclusions of the hydrologic assessment substantiate that the proposed scope of work is adequate to prevent the potential migration of COPCs in surface and ground water and protect downgradient coastal resources.

Many of the foundations have raised floors, footings, and walls that prohibit drill rig access and make maneuverability problematic or impossible. Soil sampling is most effectively conducted on an unimproved surface without having to core through one or more layers of foundation. Furthermore, drilling and sampling with the foundations in-place represents a greater safety risk for field personnel conducting the assessment.

Conducting the visual observations and field measurements used to assist in assessing the extent of impact is inhibited or precluded by the presence of a foundation. Additionally, prior removal of the foundations is the most cost-effective manner in which to conduct sampling. Soil sampling costs are estimated to be approximately 100 percent greater with the foundations in place. We have determined, as have others who have previously proposed and successfully executed similar scopes of work, there is little or no technical, scientific, or operational benefit to collecting soil samples prior to foundation removal. Any potential benefit to pre-foundation removal sampling would likely be offset by the increased safety risk and cost. The protocol and methods to be employed for protection of human health and the environment are the same regardless of whether the foundations are in place.

On January 23, 2006, a G-P Fort Bragg Mill Site Investigation and Remediation Project Team meeting was held to discuss various topics, including the foundation removal activities proposed in the Work Plan and associated documents. The Project Team is comprised of certified engineering geologists, registered geologists and hydrogeologists, civil engineers, soil scientists, toxicologists, and biologists from G-P, AME, Tetra Tech, Inc., the City, the City's environmental consultant Fugro West, Inc., the City's toxicology consultant SLR International Corp, the RWQCB - North Coast Region, and the California Coastal Conservancy.

During the meeting, it was the unanimous opinion of the Project Team that the foundation removal activities proposed in the Work Plan and associated documents are appropriate for site conditions, and that site conditions are not conducive for implementation of the alternate investigation methods (e.g., angle and horizontal borings) as suggested by the Appellants. The City's environmental and toxicology consultants stated that they had reviewed the Work Plan and associated documents and concluded that they would have proposed a scope of work very much like that in the Work Plan to remove foundations, investigate subsurface conditions, and conduct IRMs, if warranted. Following the meeting, members of the Project Team conducted a field reconnaissance of the foundation removal area. Following this reconnaissance, the City's environmental consultant stated that he was even more convinced the proposed scope of work was appropriate for the site conditions.

During the January 23, 2006 City Council meeting, the City's environmental and toxicology consultants were questioned regarding the Work Plan (see January 26, 2006 *Ft. Bragg Advocate News* article in Enclosure B). During this meeting, the City's environmental consultant stated he found the work plans very comprehensive and further stated "If Mark (the City's toxicology consultant) and I had done the report, it would be similar in terms of the amount of physical work being done and the chemical tests being conducted at the site." When asked if the removal of foundations is a typical or appropriate measure, the City's environmental consultant said it

was. He went on to say that "Removing those slabs is a good way to go, especially if they're coming out anyway. In terms of how they're proposing to go about it, removing the foundations so you can see the soil underneath is a great way to see everything that's there." When questioned about whether materials exposed after foundation removal would become mobile and create a health risk, the City's toxicology consultant responded "We look at what will happen when they pick up these foundations, and they appear to have adequate controls in place in these plans."

Alternative Environmental Investigation Methodology

Vertical Borings Through Existing Foundations

The drilling of vertical borings through concrete foundations is possible, but requires significantly more effort to accomplish than in the absence of an improved surface cover. The rebar reinforced concrete requires specialized machinery to cut holes through which drill equipment can then be advanced. Most foundation specifications (e.g., thickness) are unknown, and some buildings (e.g., the Powerhouse) are thought to have multiple thicknesses of concrete foundation (up to 4 feet thick) due to past rebuilding operations. Cutting through such concrete is extremely problematic and increases risks to field personnel and is judged to be impractical. With foundation(s) in place, important visual observations and field meter readings are confined to boring locations only – an area of a few square inches. In addition, it is likely that to provide the same level of certainty, more borings would be required through a foundation than if the foundation had been removed prior to sampling, adding to increased risk to field personnel, cost, and time required for completion of work activities. The City's environmental consultant stated that "drilling holes through the concrete is another option, but would require a great many holes to achieve full characterization of the soil below." As stated above, soil-sampling costs are estimated to be approximately 100 percent greater with the foundations in place.

Based on the information presented above, including the conclusions of the hydrologic assessment, this method is technically and logistically impractical and not cost-effective for conducting assessment of the soil underlying foundations. In addition, this method would afford no protection for downgradient coastal resources other than what is specified in the Work Plan (concluded above to be adequate).

Angle and Horizontal Borings

IRMs, if warranted, are proposed to be conducted in vadose (unsaturated) zone soil situated above the water table, situated at approximately 5-feet below ground surface (bgs) in the area of the former Powerhouse. IRMs are not proposed for saturated soil below the water table. Collection of soil samples for COPC analysis is proposed in the vadose zone and possibly the top of the saturated zone, immediately below the water table. Based upon this information, a soil horizon of limited thickness is present in which to collect soil samples and conduct the IRMs, if warranted.

The use of angle borings to collect vadose zone soil samples to assess environmental conditions below the foundations in this area is impractical because of the shallow depth to ground water, the estimated 1 to 4-foot depth the foundation may extend into the vadose zone, and a drill rig setback of several feet from the foundation edge. The potential use of angle borings would be limited to retrieving soil samples from foundation perimeters and likely would yield little additional data than what would be derived from the use of vertical borings at the same location. Angle borings could not be used to collect soil samples at any location other than the very perimeter of a foundation. Some foundations proposed for removal are greater than 100 feet across in the narrow dimension. Additionally, the success rate of soil sample collection decreases as the angle of the boring moves toward horizontal from vertical. Based upon the information presented above, including the conclusions of the hydrologic assessment, it is technically impractical to use horizontal borings in the foundation removal area.

The use of horizontal borings to collect vadose zone soil samples to assess environmental conditions below the foundations in this area is impractical for the same reasons as stated above. Some horizontal drill rigs require excavation of a hole in order to place the rig at the same elevation as the proposed boring. Shallow ground water in the foundation removal areas makes this impractical. The uneven, complex mixture of slabs and footings would make horizontal drilling difficult to accomplish, as the drill bit would likely encounter the perimeter foundation or footings or some interior foundation component extending below the ground surface. The City's environmental consultant corroborated this conclusion following a reconnaissance of proposed foundation removal areas.

In addition, retrieval of soil samples from horizontal borings is difficult and often unsuccessful. Direct Technologies Drilling, Inc. (DTD), a leading contractor for horizontal environmental remediation systems, states that horizontal directional drilling systems have not been used extensively for sampling due to difficulties in keeping the borehole open and recovery of the sample (DTD 2004). In particular, they acknowledge difficulty in collecting samples in very low cohesive strength soil. Silty sand is the predominant soil type that would be encountered during foundation removal based upon the logs for borings completed in the Powerhouse area. This soil type is classified as having very low cohesive strength.

Considering the conclusions of the hydrologic assessment, the low probability of successfully completing and sampling horizontal borings, and the cost premium (the cost of drilling horizontal borings is approximately five times greater than for vertical borings), it is technically impractical to use horizontal borings in the foundation removal area. In addition, this method would afford no protection for downgradient coastal resources other than what is specified in the Work Plan (concluded above to be adequate).

ANALYSIS CONCLUSIONS

Based on the information presented above, the following conclusions are presented:

- The potential movement of COPCs due to precipitation during foundation removal operations is highly unlikely.
- Negligible geochemical changes are expected during the foundation removal potential exposure period, and as a result, there is no potential for significant mobilization and movement of any COPCs due to changes in ground water oxidation.
- Even without BMP engineering controls such as plastic sheeting and berming, which are proposed for use, the potential for COPCs to migrate in soil and ground water during the foundation removal process is negligible.
- Foundation removal operations will not act to threaten downgradient coastal resources by enhanced transport of any COPCs through ground water infiltration.
- It is technically and logistically impractical and economically restrictive to use alternative environmental investigation methods, including vertical borings drilled through existing foundations and angle or horizontal borings drilled from locations adjacent to existing foundations, to assess soil conditions underlying existing foundations.
- Alternative environmental investigation methods, if they could be implemented, would afford no protection for downgradient coastal resources other than what is specified in the Work Plan and concluded above to be adequate.

If you have any questions or comments regarding this Analysis, please contact Michael Acton at (916) 939-9102.

Very truly yours,

ACTON • MICKELSON • ENVIRONMENTAL, INC.

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JURISDICTIONAL DETERMINATION
and
HABITAT ASSESSMENT

Georgia Pacific Fort Bragg Sawmill Facility
Mendocino County, California

Prepared for:

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EXHIBIT NO. 10
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EXCERPT, *JURISDICTION DETERMINATION & HABITAT ASSESSMENT* (TRC COMPANIES, INC., AUGUST 2003) (1 OF 18)

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LIST OF ACRONYMS

CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CNDDB	California Natural Diversity Database
CSFGC	California State Fish and Game Code
CWA	Clean Water Act
Facility	Georgia Pacific Fort Bragg Sawmill Facility
GP	Georgia Pacific
LCP	Local Coastal Program
TRC	TRC Companies, Inc.
USACE	United States Army Corps of Engineers
USFWS	United Sates Fish and Wildlife Service
USGS	United States Geological Survey
WUS	Waters of the United States

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1.0 INTRODUCTION

Georgia Pacific (GP) is in the process of decommissioning its Fort Bragg Sawmill Facility (Facility) located along the coast in Mendocino County, California (Figure 1, Attachment A). TRC Companies Inc. (TRC) was retained to review the biological issues associated with decommissioning the Facility. The Facility has nine ponds that were used for a variety of industrial purposes (Figure 2, Attachment A). GP would like to remove these ponds as part of its general decommissioning procedures. TRC reviewed the issues associated with the closure of these ponds.

All discharges of dredge or fill material into waters of the U.S. (WUS) that result in permanent or temporary losses of WUS are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA).

The California Department of Fish and Game (CDFG) regulates substantial changes to the bed, channel, or bank of waters of the State under the jurisdiction of Section 1600 of the California State Fish and Game Code (CSFGC).

The California Coastal Commission (CCC) regulates the alteration of wetlands within the coastal zone under the jurisdiction of the California Coastal Act. The CCC has delegated their responsibility for regulating the California Coastal Act to the City of Fort Bragg through the approval of their Local Coastal Program (LCP). The LCP states that the assessment of the location and extent of wetlands shall be undertaken by the CDFG or a qualified biologist in consultation with the CDFG (LCP Manual 1986).

On behalf of GP, TRC assessed the jurisdictional status of the industrial ponds on the Facility to determine if they were subject to the authority of the USACE, CDFG, and/or the City of Fort Bragg.

TRC assessed the potential for these ponds to provide habitat to endangered, threatened or otherwise sensitive species that would potentially be impacted by pond closure in accordance with the federal and state Endangered Species Act and the federal Migratory

Bird Act. TRC also performed a general habitat assessment of the Facility for future use by GP.

2.0 METHODS

2.1 Preliminary Information

Jurisdictional determinations were made with a combination of topographic maps, historical aerial photos, site reconnaissance visits, information provided by GP staff, and conversations with staff from the USACE-San Francisco District Regulatory Branch and the CDFG.

Sensitive species analysis began with a search of the CDFG's California Natural Diversity Database (CNDDB) to search for known occurrences of sensitive species and natural communities in the project area. The project location lies within the Fort Bragg 7.5-minute U.S. Geological Survey (USGS) quadrangle. CNDDB's RareFind2 database was searched for information on the Fort Bragg, Inglenook, Mendocino, Mathison Peak, Noyo Hill, and Dutchman's Knoll 7.5-minute USGS quadrangles. The Fort Bragg quadrangle was then overlaid with geo-referenced RareFind2 data to show the proximity of known occurrences of sensitive species to the project area (Figure 3, Attachment A). A list of special-status plant and animal species that could potentially occur in the project area was developed using RareFind2 data (Attachment B). CDFG and the U.S. Fish and Wildlife Service (USFWS) were contacted to request information on potential occurrences of sensitive species in the project area. Aerial photographs and USGS quadrangles were analyzed to determine where habitat variations might occur in the project area.

2.2 Field Assessment

A field survey was conducted by TRC biologist Nick Ricono on March 13, 2003. The field survey included a jurisdictional determination for the ponds and a habitat assessment survey for the remainder of the project area. The project area was defined as the property boundary for the Facility. The jurisdictional determination included an

assessment of drainage patterns and sources of water to industrial ponds. As part of the habitat assessment, a general vegetation community survey was conducted to identify habitat variations in the project area. The project area was assessed for potential to provide habitat for sensitive species or natural communities. Observations of wildlife were recorded based on direct observation, wildlife sign (tracks, burrows, nests, scat, etc.), or vocalization. Site photographs were taken and are included in Attachment C.

3.0 RESULTS

3.1 Project Area

The original sawmill was established on this site in 1885. The Facility is divided roughly into a centralized mill area (on the north and south sides of Pond 8), a log storage area south of the mill known as the Log Deck, and a finished lumber storage area to the north. An abandoned airstrip borders the southwestern edge and Noyo Bay lies to the south. Along the southeastern margin lies an area formerly used as a nursery for the propagation of young trees and includes a drainage area where city storm drains collect in a basin and are transported to Pond 8 and eventually the Pacific Ocean. The eastern edge is bordered by the City of Fort Bragg and the Pacific Ocean borders the western edge. Beyond the northern boundary of the Facility lies undeveloped land and the outflow of Pudding Creek. A wastewater treatment plant lies between the ocean and the mill south of Pond 8.

3.2 Description of Industrial Ponds

3.2.1 Ponds 1-4

Ponds 1, 2, 3 and 4 are located south of the mill area (Figure 2, Attachment A). Scrubber effluent is pumped to ponds 1, 3, and 4 and they are used for evaporation of cyanide from mill operations. Cyanide was formed in the hog fuel boilers as a result of the incomplete combustion of the wood fuel. The resulting cyanide was dissolved in the scrubber and the effluent was pumped to the aeration pond where it was treated by biological oxidation. Pond 2 is a fire pond and receives water from Pond 8. Pond 3 acts as an

overflow drainage from the other three ponds. Water flows west into drainage pipes and is pumped to Pond 8. Pond 1 is approximately 28,000 square feet (0.6 acre). Pond 2 is approximately 50,000 square feet (1.1 acre). Pond 3 is approximately 66,000 square feet (1.5 acre). Pond 4 is approximately 2,000 square feet (0.05 acre).

3.2.2 Pond 5

Pond 5 lies just east of Pond 8 (Figure 2, Attachment A) and has no natural drainage. Water is pumped to this pond from Pudding Creek and is used for makeup water. Pond 5 is approximately 25,000 square feet (0.6 acre).

3.2.3 Ponds 6 and 7

Ponds 6 and 7 lie just north of Pond 8 (Figure 2, Attachment A) and adjacent to the power plant. Pond 6 is separated from the ocean by a road that runs north/south along its western edge. It appears to collect sheet flow and stormwater runoff and is approximately 7,500 square feet (0.2 acre). Pond 7 captures the boiler blowdown and its water is pumped to Pond 4 to begin the treatment process. Pond 7 is approximately 4,000 square feet (0.1 acre).

3.2.4 Pond 8

Pond 8 is known as the Log Pond and was created by damming a creek at the point where its outflow passed through a rocky cliff to the sea. It receives city stormwater runoff at two receiving points along the eastern edge of the pond. One is from the city storm drain basin along the eastern side of the Facility north of the nursery area and as the other is from Alder Creek further to the north. Overflow from Pond 3 and Pond 5 are directed into Pond 8. It is the largest of the industrial ponds at approximately 485,000 square feet (11 acres).

3.2.5 Pond 9

Pond 9 is located in northern section of the Facility. It has no natural drainage and water is pumped into the pond through a fire system from Pond 8 and through a direct line from

Pudding Creek.. It was used for fire protection for the lumber area and is approximately 4,500 square feet (0.1 acre).

3.3 Habitat Assessment

Fort Bragg, California lies within the northern California Coast Ranges geomorphic province (USDA 1997). It lies along an elevated coastal plain with several terraces and is part of the Fort Bragg Terraces subsection (USDA 1997). Summers are characterized by fog, cool temperatures, and high humidity. The mean annual precipitation is about 40 to 50 inches per year.

A large portion of the Facility (approximately 80 percent) is covered with asphalt, crushed rock, or a mixture of both. Vegetated areas exist along the northern edge of the power plant north of Pond 8; along the eastern edge of the property north of the nursery area; west of the airstrip; and south of the Log Deck area. The Facility north of the airstrip abuts the rocky shoreline of the Pacific Ocean. One bay known as Fort Bragg Landing (according to topographic maps) cuts into the rocky shoreline and terminates at a beach near the power plant. A small eucalyptus grove lies along the northern edge of the beach and the dam and overflow structure from Pond 8 lie along the southern edge. Based on observations at the Facility, habitat was divided into five major associations including:

- Industrial Ponds
- Nursery Area
- Wetland Area North of Power Plant
- Fort Bragg Landing Beach
- Southern Edge of Property

3.3.1 Industrial Ponds

Industrial ponds provide habitat for wetland and aquatic vegetation. The dominant vegetation along the banks of the ponds included California blackberry (*rubus ursinus*), pampas grass (*Cortaderia jubata*), common rush (*Juncus effusus*), non-native grasses, and ruderal species such as skunk cabbage (*Lysichiton americanum*). Cattail (*Typha sp.*) dominated the shallow water depths (less than two feet) of Ponds 3, 5, and 8. An

invasive water-milfoil species known as parrot's feather (*Myriophyllum aquaticum*) dominates large portions of the deeper water areas of Ponds 2, 3, 5, 6, and 8 covering up to 95 percent of the waters surface in some areas.

The ponds provide habitat for fish; amphibians; invertebrates; and nesting, foraging, and roosting habitat for a variety of avian species. Species observed using the ponds on March 13, 2003 included:

- Red-winged blackbird (*Agelaius phoeniceus*)-several breeding pair on Pond 8
- Mallard (*Anus platyrhynchos*) – several breeding pair on Pond 8
- American coots (*Fulica americana*) – several breeding pair on Pond 8
- Great egret (*Ardea alba*) – single bird foraging on Pond 8
- Belted kingfisher (*Ceryle alcyon*) – pair foraging on Pond 8
- Ring-necked duck (*Aythya collaris*) – six breeding pair foraging on Pond 9
- Canada goose (*Branta canadensis*) – over 100 geese throughout Facility

No threatened or endangered species were observed within or near the industrial ponds.

3.3.2 Nursery Area

The Nursery Area located along the eastern edge of the property adjacent to Highway 1 is an area that was used to propagate trees for replanting deforested areas. An educational center and trail are still present with information posted regarding the forestry business. The trail area is dominated by native and non-native grasses, redwood (*Sequoia sempervirens*), douglas fir (*Pseudotsuga menziesii*), bluegum eucalyptus (*Eucalyptus globulus*) and pacific yew (*Taxus brevifolia*).

North of the nursery area lies an area where city storm drains cross under Highway 1 and stormwater is carried by two channels to a settling basin before being transported to Pond 8. The channels run parallel to each other from south to north. The vegetation in this area is riparian dominated by the Red Alder Series including red alder (*Alnus rubra*), arroyo willow (*Salix lasiolepis*), grand fir (*Abeis grandis*), native and non-native grasses, and a large population of pampas grass.

3.3.3 Wetland Area North of Power Plant

Stormwater runoff from impermeable areas in the northern portion of the Facility flows through a system of underground pipes and is discharged to an area along the northern edge of the power plant north of Pond 8. This discharge has created conditions (soil and hydrology) conducive to the growth of wetland vegetation. The dominant vegetation in this area included pampas grass, common rush, cattail, coastal wood fern (*Dryopteris arguta*), haircap moss (*Poltrichum juniperinum*), Coulter's lupine (*Lupinus sparsiflorus*), coarse cyperus (*Cyperus ferax*), and sword leaved rush (*Juncus eusifolius*). The wetland travels from east to west through a valley toward the sea but terminates several hundred yards prior to reaching the beach.

3.3.4 Fort Bragg Landing Beach

This beach is adjacent to the western edge of the property in the vicinity of the power plant. The eastern margin of the beach is riprapped with concrete and rock upon which crosses a road from north to south. Along the eastern side of the road lies Pond 6. A small grove of 6-8 eucalyptus trees borders the northern end of the beach. An unidentified hawk was observed roosting in this grove but no nest was observed. The overflow from the dam of Pond 8 flows to the sea along the southern edge of the beach. Four stormwater drainpipes were observed coming from the direction of the sawmill terminating at this beach. Only two were flowing at the northern end of the beach during a steady rainstorm on March 13, 2003.

Several species of waterfowl were observed on the beach including black oystercatcher (*Haematopus bachmani*), black-bellied plover (*Pluvialis squatarola*), sanderlings (*Calidris alba*), and several small plover species (*Charadrius sp.*). The federally threatened western snowy plover (*Charadrius alexandrinus nivosus*) was not observed on this beach on March 13, 2003.

3.3.5 Southern Edge of Property

The area south of the Log Deck and west of the airstrip is dominated by non-native grasses. This area provided foraging habitat for large numbers of Canadian geese. The habitat of the Pacific Ocean cliffs and those of Noyo Bay provide habitat for native vegetation and native wildlife including gulls (*Larus sp.*), terns (*Sterna sp.*), and several species of sparrow.

A canyon leading to Noyo Bay may potentially drain the southern end of the Facility. The canyon was dominated by California blackberry, pampas grass, and hooker willow (*Salix hookeriana*).

3.4 Habitat For Sensitive Species

The table in Attachment B provides a list of sensitive species that are known to occur in the vicinity of the Facility based on CNDDB results. There is potential for the existence of sensitive species in the project area due to the availability of habitat based on field observations. The following section discusses the known and potential inhabitants of sensitive species on the Facility.

3.4.1 Amphibians

No amphibians were observed in the project area during field investigations on March 13, 2003. No sensitive amphibians are known to exist within the project area. One occurrence of the federally threatened California red-legged frog (*Rana aurora draytonii*) was recorded in the CNDDB approximately 15 miles to the southwest of the project area along a tributary to the Noyo River (CNDDB 2003). Initial studies leading to the threatened status of the species placed the northern extent of the species range within Marin County. Recent studies on the distribution of the species have moved the northern extent of its range north to approximately Manchester, California in Mendacino County (Fujita et. al., unpublished, from Bettaso 2003). Manchester is approximately 40 miles south of Fort Bragg. The record identified in the CNDDB approximately 15 miles to the southwest of the project area may be a result of misidentification (Bettaso 2003).

3.4.2 Birds

Potential nesting habitat for migratory bird species including passerines, waterfowl, and raptors exists in a variety of habitats within the project area including industrial ponds, non-native grasslands, the nursery and riparian areas to the north, Fort Bragg Landing Beach, and the cliffs along the coast.

A variety of raptors, including the osprey (*Pandion haliaetus*) may potentially nest in large trees such as those along the northern edge of Fort Bragg Landing Beach and in the nursery area. Nesting osprey have been recorded within approximately eleven miles of the Facility to the south and southwest (CNDDB 2003).

The tufted puffin (*Fratercula cirrhata*) is an open ocean bird that nests along the coast on islands, islets, or (rarely) mainland cliffs. They require sod or earth to create burrows in which they nest on cliffs or grassy slopes. There is potential habitat for this species to nest in the cliffs along the western margin of the Facility. They have been recorded near the City of Mendocino less than ten miles south of the Facility (CNDDB 2003).

The tricolored blackbird (*Agelaius tricolor*), a federal species of concern, inhabits wetland areas with open water and protected nesting substrate. This species was not observed on the March 13, 2003 site visit but habitat is potentially available for this species at Pond 8 and it is known to occur within twelve miles of the site (CNDDB 2003).

The federally threatened western snowy plover (*Charadrius alexandrinus nivosus*) inhabits sandy beaches, salt pond levees, and shores of large alkali lakes and requires sandy, gravelly or friable soils for nesting. Potential nesting habitat, although degraded, exists for this species on the beach at Fort Bragg Landing. Known nesting locations include one near Mac Kerricher State Park approximately three miles north of the Facility (Figure 3, Attachment A) (CNDDB 2003).

3.4.3 Fish

The federal endangered tidewater goby (*Eucyclogobius newsberryi*) inhabits shallow, brackish water lagoons and lower stream reaches along the California coast. This species is known to inhabit the lower reaches of Pudding Creek approximately 1.5 miles north of the project area (Figure 3, Attachment A) (CNDDB 2003) but is not expected to be found on the property as habitat requires infrequent connection with ocean waters.

3.4.4 Plants

Although no sensitive plant species were observed during the March 13, 2003 site visit, habitat does exist on the Facility for sensitive plant species. This habitat lies predominantly along the southern and western margins of the property within and adjacent to the coastal cliffs. Species that have been recorded within five miles of the project site include coastal triquetrella (*Triquetrella californica*), Point Reyes blennosperma (*Blennosperma nanum var. robustum*), Menzie's wallflower (*Erysimum menziesii* ssp. *menziesii*), North Coast phacelia (*Phacelia insularis* var. *continentis*), purple stemmed checkerbloom (*Sidalcea malviflora* ssp. *purpurea*), pink sand-verbena (*Abronia umbellata* ssp..*breviflora*), Howell's spineflower (*Chorizanthe howellii*), Point Reyes horkelia (*Horkelia marinensis*), Oregon Coast Indian paintbrush (*Castilleja affinis* ssp. *litoralis*), round-headed Chinese houses (*Collinsia corymbosa*), deceiving sedge (*Carex saliniformis*), coast lily (*Lilium maritimum*), and Blasdale's bent grass (*Argostis blasdalei*) (CNDDB 2003).

The federal species of concern Mendocino Coast Indian paintbrush (*Castilleja mendocinensis*) is known to exist along the southern edge of the property boundary just north of the entrance to Noyo Harbor (Figure 3, Attachment A) (CNDDB 2003).

4.0 CONCLUSIONS

4.1 Jurisdictional Determination

4.1.1 Jurisdictional Waters

Of the nine industrial ponds located on the Facility, Pond 8 is the only one that would be considered a jurisdictional water subject to regulation by the USACE under Section 404 of the CWA, the CDFG under Section 1600 of the CSFGC, and the City of Fort Bragg under the LCP. The remaining eight ponds would not be considered jurisdictional as they were constructed in uplands for industrial purposes and have no natural drainage pattern (Willey pers. com.; Leam pers. com.; Hansen pers. com. [Attachment D]).

The stormwater channels north of the nursery area including the catch basin would be considered jurisdictional to USACE, the CDFG, and the City of Fort Bragg.

The wetland area north of the power plant would not be jurisdictional to USACE, CDFG, or the City of Fort Bragg because the hydrology of the area is related directly to the facility storm drain outfall at its eastern edge. Were the facility storm drain outfall to be removed the hydrology of the area would revert back to its natural state converting the area to upland habitat.

4.1.2 Permitting Requirements

Removal of non-jurisdictional ponds (Ponds 1-7 and 9) would not be subject to Section 404 of the CWA. They would not be subject to Section 1600 of the CSFGC. Because the CDFG would not take jurisdiction over these ponds, they are not subject to the jurisdiction of the City of Fort Bragg through the LCP. These agencies would also have no jurisdiction over the wetland vegetated area north of the power plant.

Alterations of Pond 8 or the area north of the nursery , would require Section 404 permits from USACE, Section 1600 Agreements from the CDFG, and a Coastal Development Permit from the City of Fort Bragg under the LCP.

Removal of the dam at Pond 8 would not require a 404 permit but would require a Section 1600 Agreement from the CDFG , a Coastal Development Permit from the City of Fort Bragg, a discharge permit from the State Regional Water Quality Control Board to comply with water quality regulations, and a permit from the California Coastal Commission due to the potential for impacts beyond the LCP boundaries (i.e., related to releases to ocean waters) (Hansen pers. com.).

4.2 Sensitive Species

No sensitive plant or wildlife species were observed during the site visit on March 13, 2003. Habitat for sensitive species within the Facility is extremely degraded due to the presence of asphalt and log and lumber storage areas. However, habitat for sensitive plant species is present along the western and southern margins adjacent to coastal cliffs. One known occurrence of Mendocino Coast Indian paintbrush exists along the southern edge of the property.

Nesting habitat exists on the Facility for sensitive avian species including the western snowy plover, tricolored blackbird, tufted puffin, raptors (including osprey), waterfowl, and other migratory species. All migratory bird species are protected by the Migratory Bird Act of 1918. The nesting and breeding season for raptors is from February through September. Most other migratory birds nest and breed from March through September.

To avoid disturbance of areas that may provide habitat for sensitive plant and wildlife species, the following recommendations should be followed:

- Limit construction activities to previously disturbed areas within the Facility to avoid potential habitat for sensitive species along the outer margins of the property.

- Schedule pond closure and all construction operations (including dam removal) outside of the nesting and breeding season of raptors (February through September) and other migratory birds including western snowy plover (March through September).

- If construction operations are required during those months, a qualified biologist should conduct pre-construction surveys to identify active nests in the project area. Should active nests be found, a determination will be made in consultation with the CDFG and USFWS whether or not construction will impact the nests. If it is determined that construction will impact species, construction will be delayed until juvenile birds have fledged or until nesting season is completed.

These steps will help to avoid impact to sensitive species that may be present in the project area.

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Jurisdictional Waters and Wetlands Delineation

Of the Nursery Area and Log Pond at the Georgia Pacific Fort Bragg Sawmill Facility Mendocino County, California

Prepared for:

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Atlanta, GA 30303

Prepared by:

TRC
Customer-focused Solutions

21 Technology Drive
Irvine, California 92618

August 2004

EXHIBIT NO. **11**

APPLICATION NO.
A-1-FTB-05-053

EXCERPT, *JURISDICTIONAL WATERS AND WETLAND DELINEATION* (TRC COMPANIES, INC., AUGUST 2004) (1 OF 13)

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Attachment A: Sanborn Map from 1889

Attachment B: Wetland Data Forms

Attachment C: Site Photographs

2013

1.0 INTRODUCTION

Georgia Pacific (GP) is in the process of decommissioning its Fort Bragg Sawmill Facility located along the Pacific Coast in Mendocino County, California. During investigations of the biological resources at the facility, performed by TRC Solutions, Inc. (TRC) in 2003, potential jurisdictional waters including wetlands were identified on the property. In that report (dated August 2003), an area identified as the Nursery Area was determined to contain jurisdictional waters at its northern end (Figure 1). Another area, identified as the Log Pond, was also determined to be a jurisdictional waterway.

On behalf of GP, TRC performed formal delineations of the jurisdictional waters in the Nursery Area and the Log Pond. This report describes the methods and results of that formal delineation.

1.1 PURPOSE

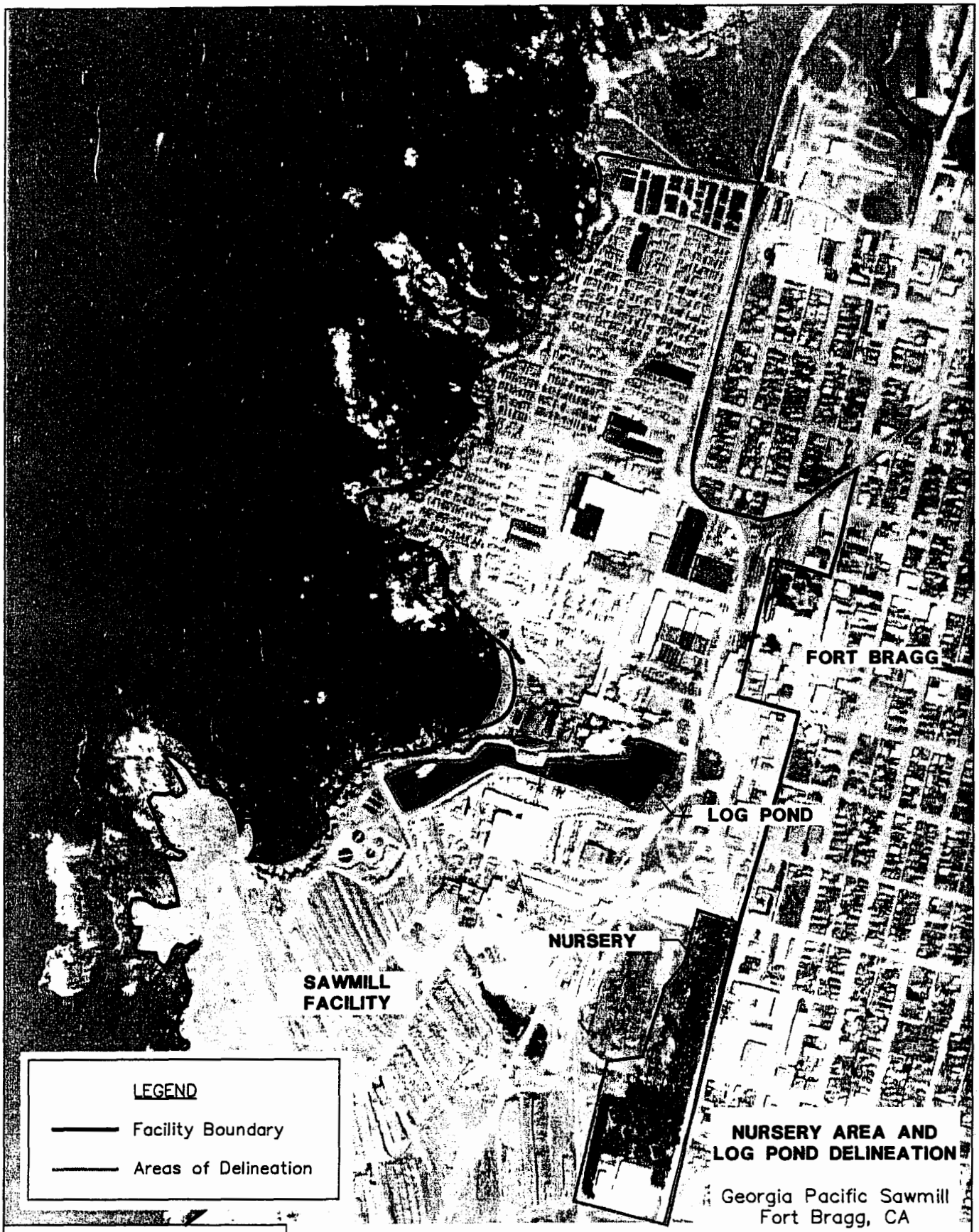
GP requested the delineation of jurisdictional waters in the Nursery Area and at the Log Pond for future consideration of the redevelopment of the mill site.

All discharges of dredged or fill material into jurisdictional waters of the United States (waters of the US) that result in permanent or temporary losses of waters of the US are regulated by the US Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). Section 1600 of the California State Fish and Game Code (CSFGC) requires a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG) for any person who proposes a project that will substantially change the bed, channel, or bank of any river, stream, or lake. The California Coastal Commission (CCC) regulates the alteration of wetlands within the coastal zone under jurisdiction of the California Coastal Act (CCA). The CCC has delegated responsibility of regulating the CCA to the City of Fort Bragg through the approval of their Local Coastal Program (LCP). However, the CCC has oversight authority over the LCP.

1.2 PROJECT AREA

Fort Bragg, California lies within the northern California Coast Ranges geomorphic providence (USDA 1997). It lies along an elevated plain with several terraces and is part of the Fort Bragg Terraces subsection (USDA 1997). The mean annual precipitation is about 40 to 50 inches per year.

The original sawmill was established on this site is 1885. The facility is bordered by the city of Fort Bragg to the east and the Pacific Ocean to the west. It is bordered by Pudding Creek to the north and the southern boundary is Noyo Harbour. Historical maps from The Sanborn Library, LLC. depicting conditions in 1898 (Attachment A) identify a natural drainage into the sawmill area as Alder Creek. That creek appears to have been dammed to form the Log Pond. Presently, stormwater is routed through an underground drainage system beneath Fort Bragg that outlets into a catch basin at the northern edge of the Nursery Area. The water is then transported below the facility pavement to the southeastern edge of the Log Pond.



NURSERY AREA AND LOG POND DELINEATION

Georgia Pacific Sawmill
Fort Bragg, CA

TRC

SCALE (FEET)
0 1,166

FIGURE 1

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2.0 METHODS

For the August 2003 biological resources study, TRC gathered preliminary information to be used in determining the jurisdictional status of waters on the facility. This included aerial photography, Sanborn Fire Insurance maps dating back to 1889, Soil Survey of Western Mendocino County (USDA 1988) and conversations with long time employees of the sawmill (Heitmeyer, pers. com. 2003). National Wetland Inventory maps have not been developed for the Fort Bragg, 7.5 minute quadrangle and were therefore unavailable. This information was reviewed prior to performing wetland delineations in 2004.

Fieldwork for the present study was conducted on May 18, 2004 by TRC biologists Nick Ricono and Heidi Sickler. Fieldwork included observations of hydrologic, vegetative, and geomorphic characteristics within the project areas in order to delineate jurisdictional waters including wetlands.

Methods described in the USACE Wetland Delineation Manual (1987) were used to identify waters of the US under the jurisdiction of Section 404 of the CWA. The USACE method uses a "three-factor" approach, in which criteria for wetland hydrology, hydrophytic vegetation, and hydric soils must each be met to conclude that an area is wetland. The three factor approach is scientifically rigorous when conscientiously applied, recognizing that the structure of this method requires care to avoid false negative conclusions (i.e., concluding that an area is non-wetland because satisfaction of the hydrology criterion could not be demonstrated in summer).

For CCA purposes, the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979), known as the Cowardin Method, can be used to recognize and define wetlands. The Cowardin Method recognizes wetlands based on as few as one factor in cases where vegetation and/or soil are normally absent (e.g., a gravel beach or rocky shore), realizing that permanent or periodic saturation or inundation is the primary defining wetland characteristic. The Cowardin Method requires care to avoid falsely positive conclusions (e.g., concluding that an area with no transitional relation to the aquatic system is a wetland based on presence of vegetation equally likely to be found in wetland or non-wetland circumstances).

The CDFG, through Section 1600 of the CSFGC, is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams are defined by the presence of a channel bed and banks and at least an intermittent flow of water. The limits of CDFG jurisdiction at a stream extend to the bank if no vegetation is present or to the outer limits of the riparian woodland canopy should one exist. Riparian habitat includes willows (*Salix* sp.), mulefat (*Baccharis salicifolia*), and other vegetation typically associated with the banks of a stream or lake shoreline.

Wetland communities were identified based on the vegetative composition and source of water. Plant species were identified on-site and the indicator status of dominant plants was determined using The National List of Plant Species that Occur in Wetlands: Region 10 – California (U.S. Fish and Wildlife Service 1988 and Draft Version from 1996). Plant species were classified as obligate wetland (OBL) with greater than 99% probability of occurring in wetlands; facultative wetland (FACW) with 67% to 99% probability of occurring in wetlands; facultative (FAC) with

33% to 67% probability of occurring in wetlands; facultative upland (FACU) with 1% to 33% probability of occurring in wetlands; or upland (UPL) with less than 1% probability of occurring in wetlands. Positive (+) and negative (-) modifiers subdivide the three facultative categories. The positive sign indicates that the species is more frequently found in wetlands, and a negative sign indicates that the species is less frequently found in wetlands.

The site was investigated to determine the presence of primary wetland hydrology indicators including inundation, saturation, water marks, sediment deposits, drainage patterns, and drift lines. Soil pits were dug to a depth of 16 inches, or until refusal, using a sharpshooter shovel and allowed to stand undisturbed for at least 10 minutes. Observations were then recorded as to depth of free water in the pit, and depth to saturated soil. Soil profiles were examined for color and texture. Soil color was determined using a Munsell Soil Color Chart and hydric sooil characteristics were identified (i.e., sulfidic odor, low chroma colors, mottling, etc.). Wetland Delineation Forms were completed based on these results (Attachment B).

Wetland boundaries were delineated using a Trimble Pro XR Global Positioning System (GPS). The GPS receiver and data collector were operated following manufacturer's recommendations for obtaining sub-meter accuracy. Post-processing of the data was carried out using Pathfinder Office software and electronic Geographic Information Systems (GIS) shape files were created. GIS data was geo-referenced with aerial photography using AutoCADD 3.2 to produce figures with visible boundary lines of jurisdictional waters. Location of sampling sites and delineated wetland boundaries are presented in Figure 2. Representative photographs are available in Attachment C.

Boundaries of the Log Pond were also delineated using the Trimble Pro XR GPS system. No sample sites were chosen for the Log Pond because limits of wetland hydrology were obvious within the constructed banks of the pond. Its jurisdiction under the CWA, CSFGC, and CCA was determined during the August 2003 survey.

Waterway	Jurisdiction (Acres)	
	USACE	CDFG/CCC
Log Pond	7.59	7.59
Stream Channel	0.15	1.37
Catch Basin	0.34	0.91

LEGEND

= CDFG/CCC JURISDICTION

= USACE JURISDICTION

SOURCE:
Aerial Photo October 30, 2002

0 250 500 1,000 Feet

Jurisdictional Delineation of Nursery Area and Log Pond, Georgia Pacific Fort Bragg Sawmill

MENDOCINO COUNTY, CALIFORNIA

TRC

FIGURE 2

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3.0 RESULTS

3.1 Site Description

The Nursery Area is located along the eastern edge of the property adjacent to Highway 1 (Figure 1). This area was used to propagate trees for reforestation of timberlands. North of the Nursery Area, a city stormdrain flows west under Highway 1 and deposits stormwater into a catch basin within the GP facility boundary. Water is transported from the catch basin underground through a culvert into the Log Pond located near the old lumber mill. Water then overflows the Log Pond through a spillway and into the Pacific Ocean. Another waterway collects stormwater runoff from the western edge of the Nursery Area and transports it north into the same catch basin. For the purpose of this report the project will be divided into three areas described as the Log Pond, Stream Channel, and Catch Basin.

Log Pond

The Log Pond was created by the damming of Alder Creek. The Log Pond is the largest of nine industrial ponds on the Facility at approximately 330,620 square feet (7.59 acres). The Log Pond receives city stormwater runoff through underground culverts and transports that water to the Pacific Ocean over a concrete spillway. This pond was determined to be a jurisdictional water during initial habitat assessments (TRC 2003).

The remaining (8) industrial ponds at the Facility were determined not to be jurisdictional to CDFG or USACE as they were constructed in uplands for industrial purposes and have no natural drainage pattern (TRC 2003). However, the CCC claims jurisdiction over all of the industrial ponds under the authority of the CCA.

Nursery Area

The Nursery Area was divided into three sections based on vegetative communities that could potentially yield a predominance of wetland vegetation. The Stream Channel at the western edge was identified as Area A. The Catch Basin at the northern edge was identified as Area B. And the vegetated area that runs along the eastern edge adjacent to Highway 1 was identified as Area C.

3.2 Jurisdictional Waters

The following section describes areas of the project site subject to the provisions of Section 404 of the CWA, Section 1600 of the CSFGC, and CCC jurisdiction. The extent and distribution of jurisdictional waters are represented in Figure 2.

Log Pond

The Log Pond has extensive emergent vegetation dominated by parrot's feather *(Myriophyllum brasiliense)*, water parsley *(Oenanthe sarmentosa)*, and cattails *(Typha latifolia)*, both OBL

wetland plants. Although the area has been previously disturbed by facility operations, the present day boundaries are outlined by the presence of fill material and/or wood pilings.

The Log Pond would be considered a water of the US containing special aquatic sites (wetlands) under the jurisdiction of the USACE and a water of the State of California under the jurisdiction of the CDFG and the CCC. The total area considered jurisdictional by the COE, CDFG, and the CCC is 7.59 acres.

Nursery Area

Area A

The Stream Channel lies on the western edge of the Nursery Area. It collects stormwater from the southern portion of the Nursery Area and transports it north to the Catch Basin. The Ordinary High Water Mark (OHWM) (used by the USACE to determine jurisdicitonal status) is approximately 6 feet in width within the channel. The channel contains ponded water for the majority of the year. Vegetation in and around the Stream Channel is dominated by California blackberry *(Rubus ursinius)*, sword fern *(Polystichum imbricanus)*, red alder *(Alnus rubra)*, and German ivy *(Senecio mikanoides)*.

Data Points were collected in Area A and included Data Point 1A at the southwestern extent of the channel and Data Point 2A just east of 1A where the water began to pond. Data Point 3A lies just east of the riparian zone along the northern portion of the Stream Channel. Data Points 1A and 3A were determined to be in upland areas as soil characteristics were not indicative of wetlands. A predominance of wetland vegetation and wetland hydrology was also absent at Data Point 3A.

Data Point 2A showed wetland characteristics within the OHWM of the Stream Channel itself as wetland hydrology, wetland soils, and wetland vegetation were present.

The Stream Channel would be considered a water of the US containing special aquatic sites (wetlands) under the jurisdiction of the USACE. The OHWM of the Stream Channel encompasses approximately 0.15 acre. The channel and its adjacent riparian area would be considered a water of the State of California under the jurisdiction of the CDFG and CCC. The riparian area surrounding the Stream Channel includes 1.37 acres.

Area B

The Catch Basin is located at the north end of the Nursery Area. The area is densely vegetated and, based on its configuration, collects high volumes of water during heavy storm events. It receives water from a city stormwater drain that runs beneath Highway 1 and enters the basin on the eastern edge. It also collects water from the Stream Channel that drains the southern portion of the Nursery Area.

The Catch Basin has wetland characteristics as shown by Data Point 1B. Vegetation within the basin is dominated by California blackberry, giant horsetail *(Equisetum telmateia)*, water parsley

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(Oenanthe sarmentosa), lady fern *(Athyrium alpestre)*, slough sedge *(Carex obnupta)*, pampas grass *(Cordaderia jubata)*, twinberry *(Lonicera involucrata)*, and red alder.

Soils at Data Point 1B had very low chroma colors and were saturated in the upper 12 inches, both indicative of wetland characteristics.

The Catch Basin would be considered a water of the US containing special aquatic sites (wetlands) under the jurisdiction of the USACE. The USACE jurisdiction encompasses approximately 0.34 acre. The Catch Basin and adjacent riparian area would also be considered water of the State of California under the jurisdiction of the CDFG and the CCC. The riparian area surrounding the Catch Basin encompasses approximately 0.91 acre.

Area C

The vegetated area adjacent to Highway 1 just south of the Catch Basin was originally thought to channel water to the basin (TRC 2003). During this (2004) jurisdictional investigation, however, it was determined that this area had no channeling capabilities as there was a large upland gap of several hundred feet between the northern extent of the vegetation and the Catch Basin.

The absence of wetland and riparian characteristics are shown by Data Points 1C and 2C. Both points lack a predominance of wetland vegetation, did not have hydric soils characteristics, and did not exhibit signs of hydrology. Vegetation in the two areas included California blackberry, red osier dogwood *(Cornus sericea)*, wild radish *(Raphanus raphanustrum)*, German Ivy, and Pacific red elderberry *(Sambucus racemosa)*.

Area C and remaining locations within the Nursery area would not be regulated as waters or wetlands under Section 404 of the CWA, Section 1600 of the CSFGC, or the CCA.

4.0 CONCLUSIONS

Georgia Pacific (GP) is in the process of decommissioning its Fort Bragg Sawmill Facility located along the Pacific Coast in Mendocino County, California. During investigations of the biological resources at the facility, performed by TRC in 2003, potential jurisdictional waters including wetlands were identified on the property.

To further investigate the jurisdictional status of waters in two areas, the Log Pond and the Nursery Area, GP requested formal delineation of these areas for future consideration during the redevelopment of the mill site. The purpose of this report is to facilitate compliance with Section 404 of the CWA, Section 1600 of the CSFGC, and the LCP which is regulated by the City of Fort Bragg and the CCC.

Results included the determination of wetlands and riparian areas within the Nursery Area at what was termed the Stream Channel and the Catch Basin. These areas were delineated to sub-meter accuracy using a Trimble Pro XR GPS unit (Figure 2). Additionally, the Log Pond was delineated using the Trimble Pro XR GPS unit to assist in identifying its jurisdictional boundaries (Figure 2).

The following table summarizes the extent of jurisdictional waters at the Log Pond and the Nursery Area to the USACE and the CDFG and CCC.

Waterway	USACE Jurisdiction (acres)	CDFG/CCC Jurisdiction (acres)
Log Pond	7.59	7.59
Stream Channel	0.15	1.37
Catch Basin	0.34	0.91

Should impacts be avoided within the OHWM or the outer extent of the riparian area at either of these jurisdictional areas, no Section 404 or Section 1600 permit would be required from the USACE or the CDFG, respectfully. However, the LCP (Policy LC-3.2) calls for a buffer to be established adjacent to environmentally sensitive areas. The buffer is to be measured from the landward edge of the riparian zone and will encompass between 30 and 100 feet depending upon the biological significance of the sensitive habitat. Determination of the distance of the required buffer should be made in consultation with the City of Fort Bragg Planning Department.

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Botanical Field Survey of some of the bluff areas at the GP Mills site

Botanical Field Survey Guidelines followed: (A combination of the Dept of Fish and Game Guidelines as listed in the Jan. 2000,CDF NDDB special plant list and the CNPS Guidelines adopted 6/2201))

1. Project Description including a map of the project and study area

The project is to sample and clean up hazardous wastes. Maps of all of the areas are attached. The amount of soil and vegetation disturbance will be based upon several factors. The following scope of work is likely:

-Establish a grid for the area.
-Conduct visual survey of area for debris or fill.
-Remove debris, if present.
-Collect soil samples from under debris, if warranted.
-Sample fill, if present.
-Remove fill or areas of fill if sample analysis reports constituent of potential concern (COPC) concentrations that exceed screening levels.
-Conduct other judgmental sampling at locations that exhibit a higher likelihood of COPC impact (e.g. pipes in ground).
-Conduct systematic soil sample collection at a representative number of locations within the grid.
-Based upon sample analytical results, conduct soil removal where COPC concentrations exceed screening levels.
-If warranted for physical safety concerns, grade areas where soil removal has occurred (clean import material may be required).

The extent to which soil and vegetation will be disturbed will not be known until field work commences within the area designated.

2. A written description of biological setting (Plant Community and a vegetation map)

The area surveyed included north coast bluff scrub; coastal prairie, introduced perennial grassland, willow wetlands, coastal strand, seeps, and a small pond (freshwater marsh). Most of the project area (Glass Beaches 1, 2, 3, parcel 3 and 10) were very ruderal (disturbed) except along the immediate bluff edge. Vegetation maps are attached. A brief description of the plant communities found is as follows:

COASTAL STRAND (BEACH)

This is the sandy area from high tide area to the bluff with a high salt content, high wind and susceptible to being inundated by the sea from storms. Dominant plants include European sea rocket (*Cakile maritima)* and beach bur (*Ambrosia chamissonis)* Exotic species include both of the species of iceplant (*Carpobrotus edulis and C. chilensis).* The most extensive coastal strand occurs at the soldier cove beach area which has quite a bit of water seeping through it. Here the dominant beach plant is beach rush, *Juncus falcatus.*

NORTH COAST BLUFF SCRUB

This community occurs on the 1st terrace on the bluff and vertical cliffs; high winds, salt spray, and often a high water table shape the community. Most of the area surveyed was this community. All of the rare species were found here. Dominant plants that occur include: bluff lupine (*Lupinus littoralis),* seaside daisy (*Erigeron glaucus),* sea pink (*Armeria maritima),* gum plant (*Grindelia stricta)* and the exotic iceplant species. The bluff at parcel 3 is the most disturbed with Cape Ivy (*Delairea odorata*) and periwinkle (*Vinca major)* vegetating much of the bluff. Cape Ivy is an aggressive invasive exotic and is a threat to bluff sensitive species.

NORTHERN COASTAL TERRACE PRAIRIE

The coastal prairie is generally on the first terrace just meters away from the ocean. It is dense grassland to one meter, dominated by both sod and tussock-forming perennial grasses. It has sandy, organic soil with constant exposure to salt and wind. Plants in this community are adapted to grazing, trampling, high soil compaction, and to salt laden wind. Only fragments of this community persist here and there adjacent to the north coast bluff scrub. Most of these sites have been highly impacted and many natives have been replaced by weedy exotics. Characteristic plants include: California oatgrass *Danthonia californica),* red fescue (*Festuca rubra),* tufted hairgrass (*Deschampsia cespitosa),* California Brome *(Bromus carinatus var. maritimus)* and meadow barley *(Hordeum brachyantherum)*

INTRODUCED PERENNIAL GRASSLAND

This community replaces native coastal prairie and may replace any community if disturbed, plowed and/or grazed .Species are tolerant to grazing, trampling and soil compaction. Characteristic species are all alien weedy exotic plants like: sweet vernal grass (*Anthoxanthum odoratum,* velvet grass (*Holcus lanatus),* wild radish (*Raphanus sativus),* rip gut (*Bromus diandrus),* and wild oats (*Avena* spp.) The most extensive area of introduced perennial grassland occurs on parcel 10.

SEEPS, AND OTHER WETLAND AREAS

Seeps have moist soils year round. Plants are tolerant to low soil oxygen. Characteristic plants include: sedges (*Carex* spp., *Scirpus* spp., *Cyperus* spp.*)* and rushes (*Juncus* spp.) There are quite a few seeps on the site. Most of the seeps occur on the slope of the ocean bluffs, however within parcel 10 there are quite a few ephemeral wet sites that might be classified as seeps in the swales of the grassland.

FRESHWATER MARSH
This community is dominated by perennial emergent monocots, 4-5 meters tall, often forming completely closed canopies. The only site that could be classified as a freshwater marsh is a small pond at soldier cove that is now vegetated by freshwater marsh species. Plants are tolerant to low soil oxygen concentrations. Most have spongy tissue to transport oxygen. Characteristic plants include: water parsley (*Oenanthe sarmentosa),*parrot's feather(*Myriophyllum aquaticum),*Sedge (*Carex obnupta*) and cattail (*Typha latifolia*)

3. Detailed description of survey methodology

Walking over entire are paying particular attention to niches of the possible rare plants (wet depressions, edges of bluffs rocky mounds, open undisturbed bluff edges)

4. Dates of field surveys:

March 30 2005	4 person hours
May 23	5 person hours
May 26	3 ½ ,person hours

5. Total person hours spent on field survey

12.5 hours

6. Results of survey (including detailed maps)

see attached lists for surveys of:
Glass beaches 1,2,3; parcels 3 and 10 and soldier cove

7. Assessment of potential impacts

Assessment of potential impact is difficult because the amount of disturbance will be determined by what hazardous materials are found.

8. Discussion of the importance of rare, threatened or endangered plant populations with consideration of nearby populations and total species distribution.

See the attached CNDDB forms for more information on the following:

Listed species found on the site were:		CNPS list
Agrostis blasdalei	**Blasdale's bent grass**	1B
Castilleja mendocinensis	**Mendocino coast Indian paintbrush**	1B
Hesperevax sparsifolia* var. *brevifolia	**short-leaved evax**	2

According to the CNPS sixth inventory of rare plants **Blasdale's bent grass** is known from fewer than 15 occurrences from Santa Cruz County to Mendocino County. In Mendocino County I know of 2 small populations from Mackerricher State park and from Navarro Point. This population consists of approximately 50 plants on the glass beach #3 site. In the direct vicinity of the direct push samples p1-13and 14 and the trench samples gb3-tp-2 and 3.

Agrostis blasdalei A. Hitchc.
Common Name: Blasdale's bent grass or dwarf bent-grass
Also Known As: *A. breviculmis* Hitchc.
Family (Common): Gramineae or Poaceae (Grass)
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 3-2-3
State: [None] No state status
Federal: [None] No federal status
Geographic Range: Northern Central Coast, northern San Francisco Bay Area, and southern North Coast (Hickman 1996).
Counties: Mendocino, Marin, Santa Cruz, Sonoma (CNPS 2001)
USGS 7.5' Quads.: Ano Nuevo (409D), Tomales (485B), Drakes Bay (485C), Valley Ford (502C), Duncans Mills (503A), Bodega Head (503D), Stewarts Point (520B), Plantation (520D), Point Arena (537B), Elk (552B), Fort Bragg (569A), Mendocino (569D)
Habitat: Coastal Bluff Scrub, Coastal Dunes, and Coastal Prairie between 5 and 150 m. (CNPS 2001); dunes, gravely soils, coastal bluffs, shrubland at less than 328 ft. (Hickman 1996); Coastal Strand on dunes and North Coastal Scrub on cliffs (Munz and Keck 1970); coastal open ground and clay cliffs (Hitchcock 1950).
Blooms: May-July
Key Features: A densely tufted, small (6-30 cm tall), perennial grass; inflorescence branches obscure and spike-like; inflorescence base often enclosed by upper leaves; 1-flowered spikelets pedicellate and articulating above the glumes; palea <1/3 the lemma; lemma awnless to sometimes awned above the middle.
Notes: Known from fewer than fifteen occurrences; historical occurrences need field surveys; threatened by agriculture and recreation; includes *A. blasdalei* var. *marinensis*, which is state-listed Rare. (CNPS 2001). May intergrade locally with *A. densiflora* (Hickman 1996). {Golec}

The **Mendocino coast Indian paintbrush** occurs along the coastal bluffs and cliffs in Mendocino and Humboldt Counties. I have seen it along most of the public access sites in Mendocino County on the shear cliffs. It is more unusual on the flat sites in the bluff scrub. It occurs on Glass Beaches 1,2,3 and on parcel 10 on the cliff faces.

Castilleja mendocinensis (Eastw.) Penn.
Common Name: Mendocino coast Indian paintbrush
Family (Common): Scrophulariaceae (Figwort)
Life Form: Perennial herb, hemiparasitic
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-2-3
State: [None] No state status
Federal: [None] No federal status
Geographic Range: central North Coast in Mendocino Co. (Hickman 1996).
Counties: Humboldt, Mendocino, Oregon
USGS 7.5' Quads.: Saunders Reef (537C), Gualala (537D), Elk (552B), Mallo Pass Creek (552C), Albion (553A), Fort Bragg (569A), Mendocino (569D), Westport (585A), Inglenook (585D), Bear Harbor (601B), Hales Grove (601D), Trinidad (689C)
Habitat: Coastal bluff scrub, Closed-cone coniferous forest, Coastal dunes, Coastal prairie, Coastal scrub (CNPS 2001); coastal scrub at less than 330 ft. (Hickman 1996); sandy ocean bluffs (Abrams 1951); Coastal Strand and Northern Coastal Scrub (Munz and Keck 1970).
Elevation: 0-160 m.
Blooms: April-August
Key Features: A perennial hemiparasitic herb with clustered and much branched stems that are woody at base; more or less fleshy and rounded leaves; scarlet-tipped bracts and calyces; rounded and three-lobed bracts; unequal 4-lobed calyx; showy spike-like inflorescence of bright red and orange-red flowers extending past the bracts and calyces; corolla exceeds the colored bracts and calyces; lower lip of the corolla is less than half as long as upper lip and dark

green; upper lip of corolla forms a beak and is strongly pubescent dorsally, and tip is open with an expanded club-shaped stigma.
Notes: Threatened by coastal development, recreation, non-native plants, and habitat fragmentation. Related to C. affinis ssp. litoralis. See Madrono 46(3):161 (1999) for information on OR occurrence. Genus named in honor of Domingo Castillejo, a Spanish botanist. {Golec}

The **short-leaved evax** is found along the coast in open and sparsely vegetated areas in the dunes and bluff scrub. It occurs on the glass beach 3 on a elevated rocky mound between trench sample gb3 tp -7 and gb3 tp-8. There are over 100 small plants. A small population also occurs along the edge of glass beach 2.

Hesperevax sparsiflora (Gray) Greene **var.** ***brevifolia*** (Gray) Morefield

short-leaved evax"
Also Known As: *Evax sparsiflora* var. *brevifolia* (A. Gray) Jepson, in part
Family (Common): Compositae or Asteraceae (Sunflower)
Life Form: Annual herb
CNPS List: [2] R/T/E in CA, but more common elsewhere **R-E-D:** 2-2-1
State: [None] No state status
Federal: [None] No federal status
Geographic Range: North Coast and the northern-most Central Coast, to southwestern Oregon (Hickman 1996).
Counties: Humboldt, Mendocino, Marin, Santa Cruz, San Francisco [extirpated], Sonoma, Oregon
USGS 7.5' Quads.: Big Basin (408B), San Francisco South (448B) [extirpated], Tomales (485B), Drakes Bay (485C), Inverness (485D), Valley Ford (502C), Stewarts Point (520B), Plantation (520D), Point Arena (537B), Albion (553A), Fort Bragg (569A), Diamond Mtn. (622C), Eureka (672C)
Habitat: Coastal bluff scrub (sandy), Coastal dunes (CNPS 2001); sandy bluffs and flats between 0 and 656 feet (Hickman 1996)
Blooms: March-June
Elevation: 0-215 m.
Key Features: An annual herb with several ascending to erect stems, less than 10 cm long; longest leaves generally 6-12 mm; blade more or less round, obtuse, greenish, densely wooly; inflorescences of disciform heads (having both pistillate and disk flowers in same head), longest heads 3-3.7 mm; upper heads in loose groups of 3-5 subtended by 1-4 leaves, lower heads more or less equal to upper; phyllaries 0; receptacle conic, 2+ times longer than wide; chaff present, in spiral ranks
Notes: Threatened by logging and development. May intergrade with var. *sparsiflora* in the San Francisco Bay area. On review list in OR. See Synoptical Flora of North America 1(2):229 (1884) for original description, and Systematic Botany 17:293-310 (1992) for revised nomenclature. *Hesperevax*/Greek western *Evax*, *sparsiflora*/Latin thin flower, *brevifolia*/Latin short leaf. {Golec}

9. Recommended measures to avoid impacts

The first recommendation is to **avoid** impact where ever possible. The location of the rare species should be flagged and avoided.

If hazardous waste removal is necessary at the site the following is recommended:
The first few inches of the top soil that contains the seed bank should be removed and re-spread during restoration. All activity or disturbance should occur after seed set. Impacted plants should be removed and attempt at transplantation should occur. This is a last resort however as success at survival with this method is predicted to be low.

10. List of species occurring on the project site

see attached

11. Description of reference sites visited and phenological development of rare, threatened or endangered plants

Reference visited sites for rare plants phenology

Abronia unbellata ssp. brevifolia	Big River Beach
Agrostis blasdalei	Todd's Pt; MacKerricher, Navarro Pt
Angelica lucida	Russian Gulch State Park
Astragalus agnicidus	Jackson State Forest
Blennosperma nanum var. ***robustum***	Glass Beach
Calamagrostis bolanderi	Jackson State Forest
Calystegia purpurata ssp. saxicola	Manchester
Campanula californica	Jughandle
Carex californica	Van Damme, Jackson , Russian Gulch
Carex lyngbyei	Big River
Carex saliniformis	Fort Bragg (Cedar and Rasmussen Ave); Jughandle north
Castilleja ambigua ssp. humboldtiensis	Big River
Castilleja mendocinensis	Mendocino Headlands, MacKerricher, Pt. Cabrillo
Chorizanthe howellii	MacKerricher
Ceanothus gloriosus var. ***gloriosus***	Mendocino Headlands
Collinsia corymbosa	MacKerricher
Cupressus pygmaea	Van Damme, Jackson , Russian Gulch
Erigeron supplex	Chapman Pt, Van Damme, Pt. Cabrillo
Erysimum menziesii ssp. menziesii	Mackerricher
Fritillaria roderickii	Boonville, Hw 1, Alder Creek
Gilia millefoliata	Mackerricher (hard to find)
Hesperevax sparsiflora var. brevifolia	Todd's Pt, Mackerricher
Horkelia marinensis	Inglenook, Mackerricher
Horkelia tenuiloba	Lois Pine
Juncus supiniformis	Summers lane
Lasthenia macrantha ssp. ***macrantha***	Mendocino Headlands, Mackerricher
Lilium maritimum	Jackson (Caspar orchard rd);
Lycopodium clavatum	Jackson State Forest
Mitella caulecens	Van Damme, , Russian Gulch
Oenothera wolfii	Mackerricher
Phacelia insularis var. ***continentis***	Mackerricher
Pinus contorta ssp. bolanderi	Van Damme, Jackson , Russian Gulch
Pleuropogon refractus	Russian Gulch
Rhynchospora alba	CR bog
Sanguisorba offincinalis	Jefferson Lane
Senecio bolanderi	Big River
Sidalcea calycosa ssp. ***rhizomata***	Navarro Pt
Sidalcea malachroides	Seaside Beach; Alder Creek

Not in flower yet.

12. Copies of CNPS survey forms

attached

13. References cited, persons contacted, herbaria visited, disposition of voucher specimens.

All voucher specimens are deposited at the College of the Redwoods Mendocino Coast Campus.

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Herbarium at College of the Redwoods, Mendocino Coast Campus; CRMC.1211 Del Mar Drive, Fort Bragg, CA, 95437

Sawyer, J.O. and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. California Native Plant Society. Sacramento, CA. 471 pp.

14. Qualifications of field personnel including any special experience with the habitats and special status plants present on the site.

Qualifications for Teresa Sholars:
1975-present Professor, College of the Redwoods, Mendocino Coast Campus; teaching courses in the Identification and Ecology of Mendocino Coast Plants, Lichens, Mushrooms and terrestrial vertebrates, Biology, Forestry, Environmental Science and Sustainable Agriculture
1975-present Botanical Consultant in Northwestern California and SE Ca.

EDUCATION

1986-90 Graduate studies in the Ph.D. program, Botany (systematic), UC Berkeley

DEGREES AWARDED

1975 M.S., Ecology, UC Davis

1974 B.S., Environmental Planning & Management, UC Davis

Board of Directors, Rare Plant Coordinator, DKY Chapter, CNPS

Member Rare Plant Scientific Advisory Committee for the State Wide CNPS

Published : (a partial list)

Faber, P.M. **California's Wild Gardens** Ed, "Pygmy Forest of Mendocino" by Teresa Sholars. California Native Plant Society for the Department of Fish and Game.

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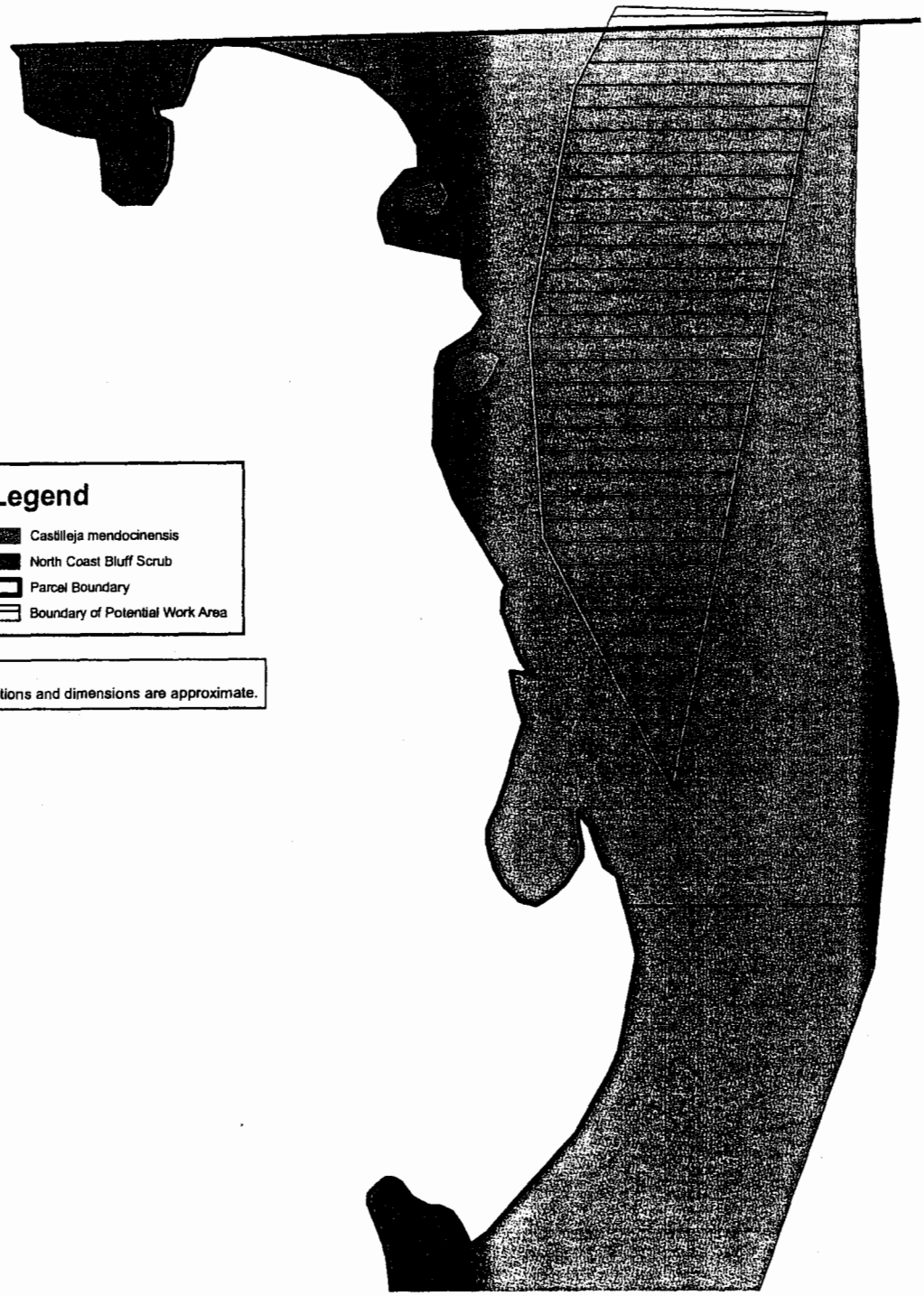

Legend

- Castilleja mendocinensis
- North Coast Bluff Scrub
- Parcel Boundary
- Boundary of Potential Work Area

Notes:
1. All locations and dimensions are approximate.

N
W E
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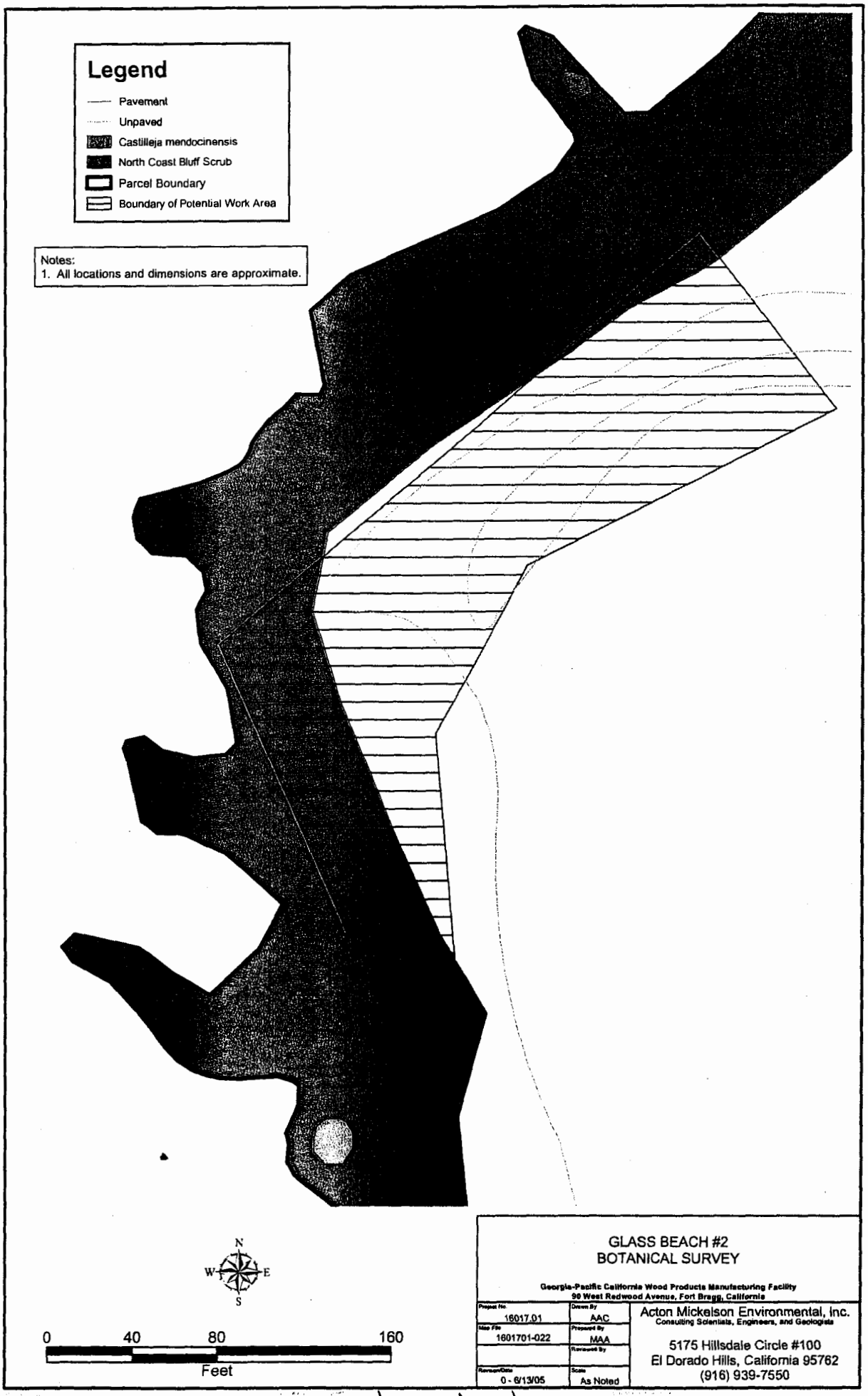
0 40 80 160
Feet

GLASS BEACH #1
BOTANICAL SURVEY

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC
Map File 1601701-021	Prepared By MAA
	Reviewed By
Revision/Date 0 - 6/13/05	Scale As Noted

Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists
5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550


Legend
Pavement
Unpaved
Castilleja mendocinensis
North Coast Bluff Scrub
Parcel Boundary
Boundary of Potential Work Area
Notes:
1. All locations and dimensions are approximate.
N
W
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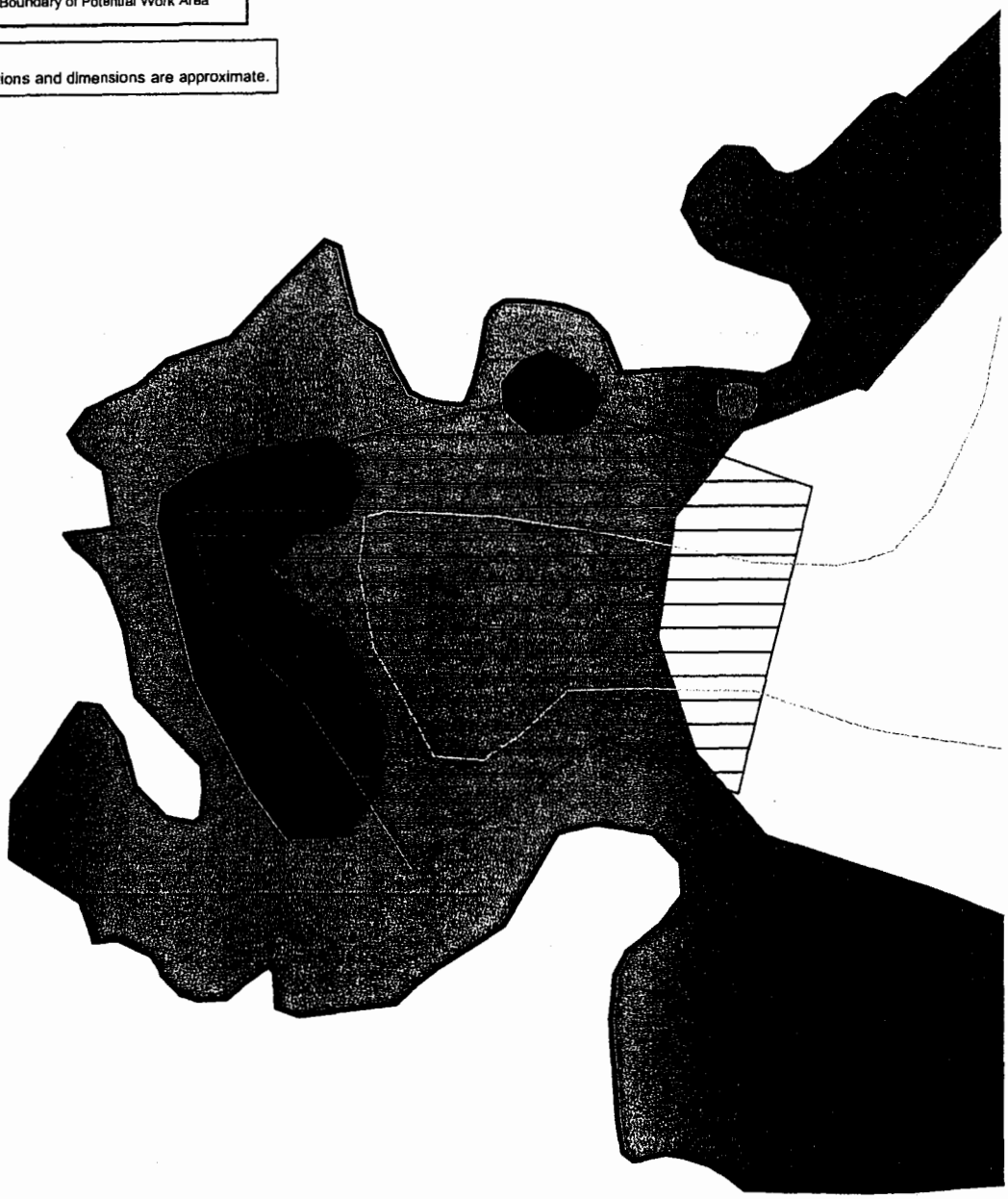
0
40
80
160
Feet
GLASS BEACH #2
BOTANICAL SURVEY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California
Project No.
16017.01
Drawn By
AAC
Map File
1601701-022
Prepared By
MAA
Reviewed By
Revision/Date
0 - 6/13/05
Scale
As Noted
Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists
5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550

Legend

- Pavement
- Unpaved
- Agrostis blasdalei
- Castilleja mendocinensis
- Hesperevax sparsifolia var brevifolia
- North Coast Bluff Scrub
- Parcel Boundary
- Boundary of Potential Work Area

Notes:
1. All locations and dimensions are approximate.



N
W E
S

0 40 80 160
Feet

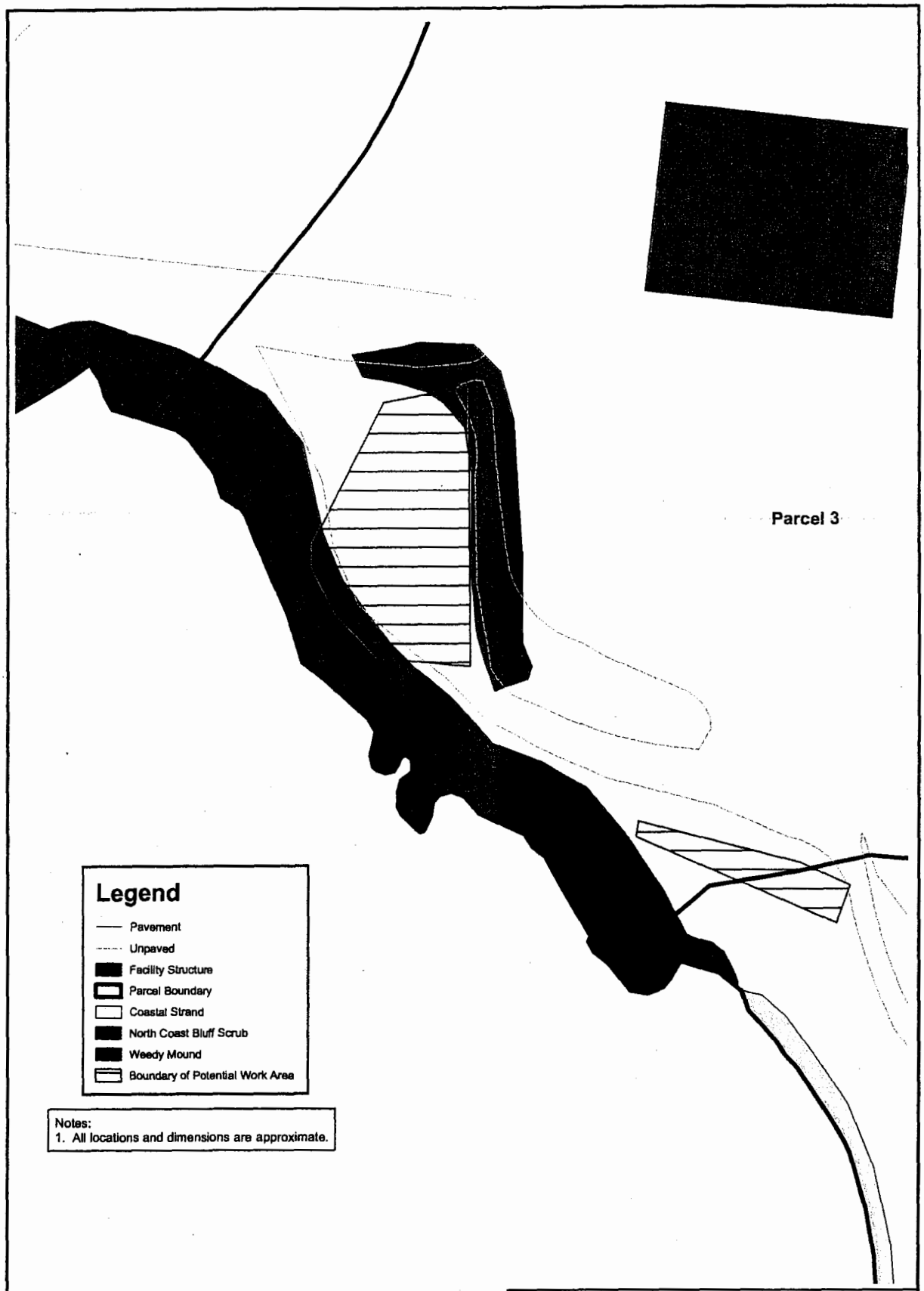
GLASS BEACH #3
BOTANICAL SURVEY

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC
Map File 1601701-023	Prepared By MAA
	Reviewed By
Revision/Date 0 - 6/13/05	Scale As Noted

Acton Mickelson Environmental, Inc.
Consulting Scientists, Engineers, and Geologists
5175 Hillsdale Circle #100
El Dorado Hills, California 95762
(916) 939-7550

11 of 14



Notes:
1. All locations and dimensions are approximate.

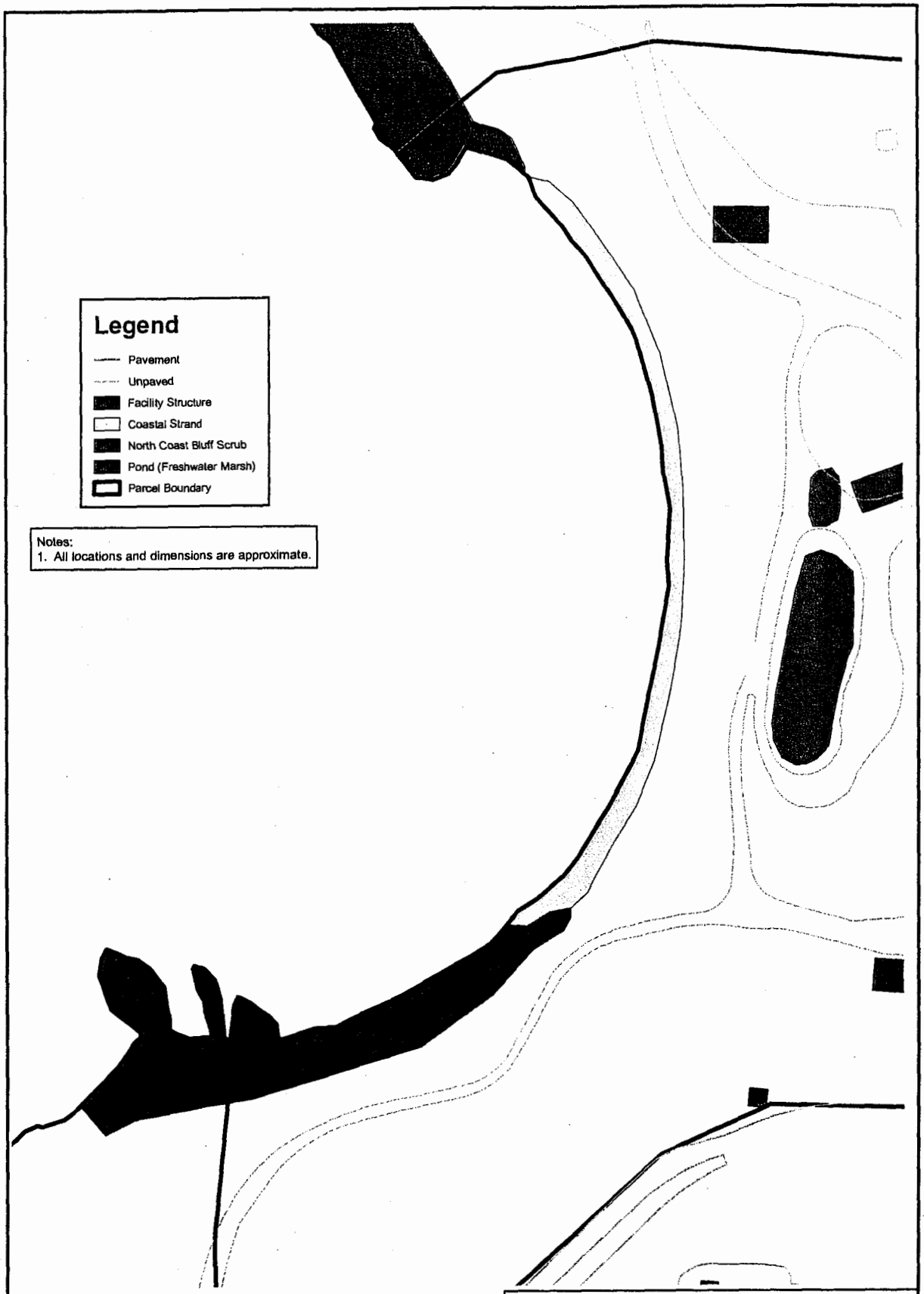
0 80 160 320
Feet

PARCEL 3
BOTANICAL SURVEY

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
Map File 1601701-024	Prepared By MAA	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By	
Revision/Date 0 - 6/13/05	Scale As Noted	

12 of 14



SOLDIER COVE
BOTANICAL SURVEY

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.01	Drawn By AAC
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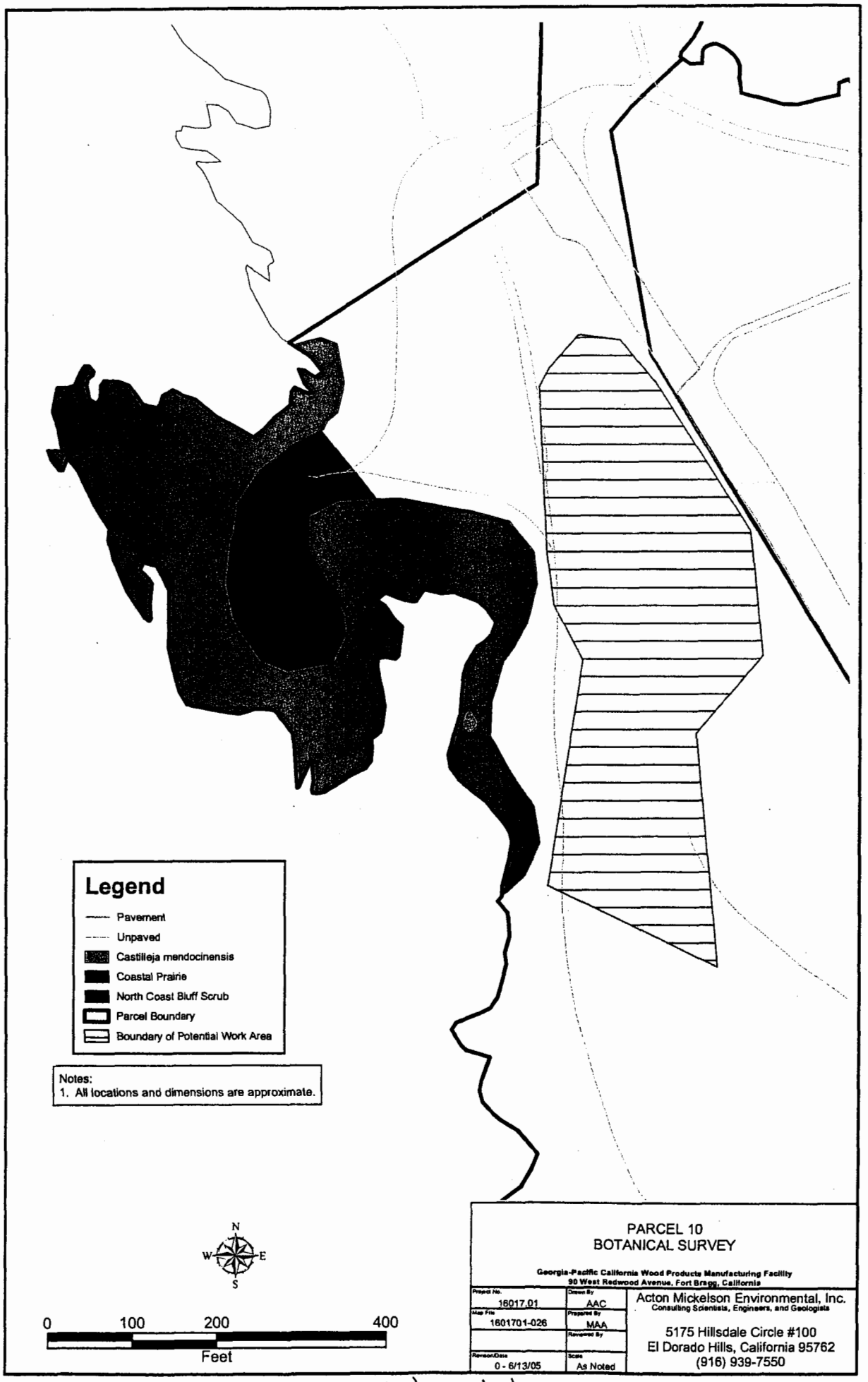
12 of 11


Legend
Pavement
Unpaved
Castilleja mendocinensis
Coastal Prairie
North Coast Bluff Scrub
Parcel Boundary
Boundary of Potential Work Area
Notes:
1. All locations and dimensions are approximate.
N
W
E
S
0
100
200
400
Feet
PARCEL 10
BOTANICAL SURVEY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California
Project No.
16017.01
Drawn By
AAC
Map File
1601701-026
Prepared By
MAA
Reviewed By
Revision/Date
0 - 6/13/05
Scale
As Noted
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Teresa Sholars
Botanical Consultant
P.O. Box 2340
Mendocino, Ca 95460
tsholars@mcn.org

EXHIBIT NO. 13
APPLICATION NO.
A-1-FTB-05-053
CONCEPTUAL GLASS BEACH 3 MITIGATION & MONITORING PLAN (TERESA SCHOLARS, BIOLOGICAL CONSULTANT SEPT. 2005) (1 of 5)

September 22, 2005

Conceptual Glass Beach 3 Mitigation and Monitoring Plan

A field visit was made on August 23 and September 1 to discuss the remediation (clean up) project that would impact sensitive species. Working with consultants (Acton • Mickelson Environmental, Inc.) it was determined that only one site out of all the areas surveyed would need remediation work done where sensitive species occurred. (Glass Beaches 1, 2, 3, Parcels 3, 10 and soldier cove were surveyed and glass beach 3 was the only site that needed excavation work done in the vicinity of any sensitive species)

Sensitive species found on the glass beach site were:		CNPS list
Agrostis blasdalei	**Blasdale's bent grass**	1B**
Castilleja mendocinensis	**Mendocino coast Indian paintbrush**	1B**
Hesperevax sparsifolia* var. *brevifolia	**short-leaved evax**	2

** see last page for more information on these species

Two species of concern, the Mendocino Coast Indian Paintbrush and Blasdale's' bent grass will be affected by the remediation project. The short leaved evax will not be disturbed.

Just south of the site (south of glass beach 3 and north of parcel 3) is a small population of a federal endangered species, the Menzies's wall flower, *Erysimum menziesii* ssp. *menziesii*. (The actual population is somewhat between *Erysimum menziesii* ssp. *menziesii* and *Erysimum menziesii* ssp. *concinum*.)Although this plant does not occur in any of the sites that botanical surveys were requested, it is important to mention its occurrence so inadvertent damage is not done to this small population. (See pictures). The entire population of wall flower should be fenced off prior to any work commencing to avoid inadvertently damaging this taxon.

Mitigation Proposal for the Mendocino Coast Indian Paintbrush

One plant of the Mendocino Coast Indian Paintbrush will be affected by the excavation (remediation) work done on glass beach 3. There is only one plant occurring at glass beach 3 so 100% of the population will be destroyed. A complete survey of the GP mill bluff has not been done. Of the areas that have been surveyed, a minimum of 10 different sites have this species so at the very most 10% of the population on the entire Georgia Pacific property will be affected by the remediation work on glass beach 3. If a complete survey is done on the entire property then we would predict the estimation to be much less than 10%.

Biology of Mendocino Coast Indian Paintbrush
Paintbrushes (*Castilleja* spp. are hemiparasites on some species of the sunflower family (Asteraceae). It has been observed that this species (***Castilleja mendocinensis*** often occurs on gum plant, sea side daisy or golden aster. Because of its hemiparasitic nature, growing and transplanting paintbrushes is not considered a viable option. The best mitigation option seems to be protecting habitat and improving habitat that has declined in quality. It seems prudent to make sure that the host plants are in the revegetation plan.

Mitigation suggestion for the Mendocino Coast Indian Paintbrush:

1. Create potential habitat for the paintbrush by removing periwinkle, *Vinca major,* and cape ivy, *Delairea odorata,* completely from parcel 3, a bluff area just south of glass beach 3. Two small patches of these weeds occur that have a potential to increase and affect large areas of coastal bluff habitat. Both cape ivy and periwinkle are invasive exotics that have a tremendous potential to destroy coastal bluff habitat and out-compete local native species.

2. Remove all iceplant, *Carpobrotus edulis and C. chilensis,* and wild radish, *Raphanus sativus,* from glass beach 3.

3. Re-plant areas that have been impacted by the remediation work with native plants that presently grow at the site of disturbance. At this site the paint brush is growing in and probably on seaside daisy, *Erigeron glaucus.* Seaside daisy should be planted back at the site of clean up where it was originally growing.

Mitigation Proposal for the Blasdale's bent grass

The most recent count of Blasdale's bent grass consists of approximately 450 plants on the glass beach 3 site. Most of the plants occur on the perimeter of the glass beach 3 peninsula. (see map) The densest part of the population is in the direct vicinity of the direct push samples p1-13 and 14 and the trench samples gb3-tp-2 and 3and around the edge of the glass beach 3 ocean bluffs. Total impacted population is dependent on how much of the area is excavated probably between 30% and 60% of the population on glass beach 3. It is unknown how extensive the excavation will be until the first materials are dug up.

It is clear from observing the distribution of the Blasdale's grass that the specific niche that this plant seems to occupy, is in rocky, open, less vegetated sites near the bluff edge where there is little competition from dense grasses and other herbaceous species. This plant is a squat species that sends its flowering stalks out horizontal to the ground therefore requiring space and light to be successful. It is not found it in the typical dense vegetation that normally dominates the north coast bluff scrub (such as in bluff lupine, *Lupinus littoralis,* seaside daisy, *Erigeron glaucus,* , sea pink, *Armeria maritima,* gum plant, *Grindelia stricta* and golden aster, *Heterotheca sessiliflora ssp. bolanderi*). According to the CNPS sixth inventory of rare plants **Blasdale's bent grass** is known from fewer than 15 occurrences from Santa Cruz County to Mendocino County.. This population is a significant stand of this rare species. If there no choice but to disturb this population then I would suggest the following to mitigate the impact of remediation.

1. Create more potential habitat on glass beach 3 by removing all ice plant and wild radish from the site. Dispose of properly off of the GP Mill site property.

2. Weed non native plants off of areas disturbed by the original removal of ice plant and radish on a regular basis. (At least twice a year for 5 years)

3. Collect seed from Blasdale's bent grass and grow out enough plants to transplant at minimum 100 plants in the areas disturbed by remediation. Any left over seed shall be redistributed on the site by Circuit Riders personnel.

4. Save several inches of top soil for seed bank. Redistribute the top soil during revegetation efforts as directed by Circuit riders personnel.

5. Put a mat down on top of plants that exists in areas that do not need to be excavated but might be impacted by necessary equipment movement. This might help protect plants survive any necessary equipment impact. No equipment or vehicle shall be within a few feet of the sensitive species unless absolutely necessary to extract debris.

Mitigation details:

1. A biological monitor must be present during all construction work. This person must be a botanist who is aware of the identification and distribution of all sensitive individuals on the site as well as must be familiar with the identification of all native and non native species in the work area. * (* means that a biological monitor with the preceding qualification needs to be present to assure the accuracy of the work)

2. All areas of sensitive plants must be flagged before the work starts *.

3. All areas of sensitive plants must be fenced from vehicular and foot traffic if it is not necessary to excavate in that exact spot.*

4. All invasive exotic species that are part of the mitigation plan must be removed from the Georgia Pacific Property and disposed of properly in consultation with a biological monitor.

Monitoring:

1. All monitoring must be done by a qualified Botanist*

2. Monitoring should occur at least twice a year; once in the spring and once in the summer for a minimum of 5 years.

3. Monitoring should include counting numbers of sensitive species (survival rates projected) and supervising removal of invasive exotics that may be encroaching on rare plant habitat*.

Transplantation

Transplanting rare species is not used as mitigation since it rarely is successful. Rare species tend to have very specific growing requirements and it has been shown that transplantation is routinely not successful. Neither the California Native Plant Society nor the Department of Fish and Game advocate transplantation as mitigation. However if the rare species are going to be destroyed by excavating debris anyway I would suggest attempting to salvage the portion of the population that will be impacted. Because this particular rare species has less than 15 known populations it is important to do all we can to decrease our negative affects on the survival of this species. A qualified person from the revegetation firm (Circuit Riders) should determine how many plants might be at a stage that might survive transplantation. These individuals should be potted up and maintained until they can be replanted along with the other native plants in the

revegetation process in the appropriate sites to be determined by Circuit Riders in conjunction with a qualified botanist. .

Weeds surveyed at glass beach 3 that occur on site and could potentially become a problem if revegetaed area is not weeded on a regular basis.

*Aira praecox**	Hair grass	Poaceae
Avena barbata *	slender wild oat	Poaceae
Carpobrotus chilensis *	sea fig, ice plant	Aizoaceae
Erodium spp.	filaree	Geraniaceae
Geranium spp. *	cranesbill	Geraniaceae
Hypochaeris radicata *	coast dandelion	Asteraceae
Medicago polymorpha *	California burclover	Fabaceae
Melilotus indica *	yellow sweetclover	Fabaceae
Plantago coronopus *	plantain	Plantaginaceae
Plantago lanceolata *	English plantain	Plantaginaceae
Raphanus sativus *	wild radish	Brassicaceae
Rubus discolor *	Himalayan blackberry	Rosaceae
Rumex acetosella *	sheep sorrel	Polygonaceae
Rumex crispus *	curly dock	Polygonaceae
Senecio vulgaris *	groundsel	Asteraceae
Stellaria media *	common chickweed	Caryophyllaceae
Trifolium dubium *	clover	Fabaceae
Vulpia myuros var. *hirsuta* *	foxtail fescue	Poaceae

General Information about the Mendocino Paintbrush and the Blasdale's bent grass

Agrostis blasdalei A. Hitchc.
Common Name: Blasdale's bent grass or dwarf bent-grass
Also Known As: *A. breviculmis* Hitchc.
Family (Common): Gramineae or Poaceae (Grass)
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 3-2-3
State: [None] No state status
Federal: [None] No federal status
Geographic Range: Northern Central Coast, northern San Francisco Bay Area, and southern North Coast (Hickman 1996).
Counties: Mendocino, Marin, Santa Cruz, Sonoma (CNPS 2001)
USGS 7.5' Quads.: Ano Nuevo (409D), Tomales (485B), Drakes Bay (485C), Valley Ford (502C), Duncans Mills (503A), Bodega Head (503D), Stewarts Point (520B), Plantation (520D), Point Arena (537B), Elk (552B), Fort Bragg (569A), Mendocino (569D)
Habitat: Coastal Bluff Scrub, Coastal Dunes, and Coastal Prairie between 5 and 150 m. (CNPS 2001); dunes, gravely soils, coastal bluffs, shrubland at less than 328 ft. (Hickman 1996); Coastal Strand on dunes and North Coastal Scrub on cliffs (Munz and Keck 1970); coastal open ground and clay cliffs (Hitchcock 1950).
Blooms: May-July
Key Features: A densely tufted, small (6-30 cm tall), perennial grass; inflorescence branches obscure and spike-like; inflorescence base often enclosed by upper leaves; 1-flowered spikelets pedicellate and articulating above the glumes; palea <1/3 the lemma; lemma awnless to sometimes awned above the middle.

Notes: Known from fewer than fifteen occurrences; historical occurrences need field surveys; threatened by agriculture and recreation; includes *A. blasdalei* var. *marinensis*, which is state-listed Rare. (CNPS 2001). May intergrade locally with *A. densiflora* (Hickman 1996). 1.

Castilleja mendocinensis (Eastw.) Penn.
Common Name: Mendocino coast Indian paintbrush
Family (Common): Scrophulariaceae (Figwort)
Life Form: Perennial herb, hemiparasitic
CNPS List: [1B] R/T/E in CA and elsewhere **R-E-D:** 2-2-3
State: [None] No state status
Federal: [None] No federal status
Geographic Range: central North Coast in Mendocino Co. (Hickman 1996).
Counties: Humboldt, Mendocino, Oregon
USGS 7.5' Quads.: Saunders Reef (537C), Gualala (537D), Elk (552B), Mallo Pass Creek (552C), Albion (553A), Fort Bragg (569A), Mendocino (569D), Westport (585A), Inglenook (585D), Bear Harbor (601B), Hales Grove (601D), Trinidad (689C)
Habitat: Coastal bluff scrub, Closed-cone coniferous forest, Coastal dunes, Coastal prairie, Coastal scrub (CNPS 2001); coastal scrub at less than 330 ft. (Hickman 1996); sandy ocean bluffs (Abrams 1951); Coastal Strand and Northern Coastal Scrub (Munz and Keck 1970).
Elevation: 0-160 m.
Blooms: April-August
Key Features: A perennial hemiparasitic herb with clustered and much branched stems that are woody at base; more or less fleshy and rounded leaves; scarlet-tipped bracts and calyces; rounded and three-lobed bracts; unequal 4-lobed calyx; showy spike-like inflorescence of bright red and orange-red flowers extending past the bracts and calyces; corolla exceeds the colored bracts and calyces; lower lip of the corolla is less than half as long as upper lip and dark green; upper lip of corolla forms a beak and is strongly pubescent dorsally, and tip is open with an expanded club-shaped stigma.
Notes: Threatened by coastal development, recreation, non-native plants, and habitat fragmentation. Related to C. affinis ssp. litoralis. See Madrono 46(3):161 (1999) for information on OR occurrence. Genus named in honor of Domingo Castillejo, a Spanish botanist. 1.
1.Source: Plant profile compiled by Clare Tipple Golec with additions by Stephen Matthews.

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EXHIBIT NO. 14
APPLICATION NO.
A-1-FTB-05-053
GEORGIA PACIFIC CORP.
CONCEPTUAL REVEGETATION PLAN (CIRCUIT RIDER PRODUCTIONS, SEPT. 2005
(1 of 9)

CONCEPTUAL REVEGETATION PLAN

FORMER GEORGIA-PACIFIC CALIFORNIA WOOD PRODUCTS MANUFACTORING FACILITY

90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA

Developed for:

ACTON • MICKELSON • ENVIRONMENTAL, INC.
5175 Hillsdale Circle, Suite 100
El Dorado Hills, California 95762

Developed by:

CIRCUIT RIDER PRODUCTIONS, INC.
September 22, 2005

Rocky Thompson 9/22/05
Rocky Thompson, Restoration Planner, Circuit Rider Productions, Inc.

"dedicated to the enhancement of environmental and human resources..."

9619 OLD REDWOOD HIGHWAY • WINDSOR, CA 95492 • FAX: 707 838 4503 • TEL: 707 838 6641

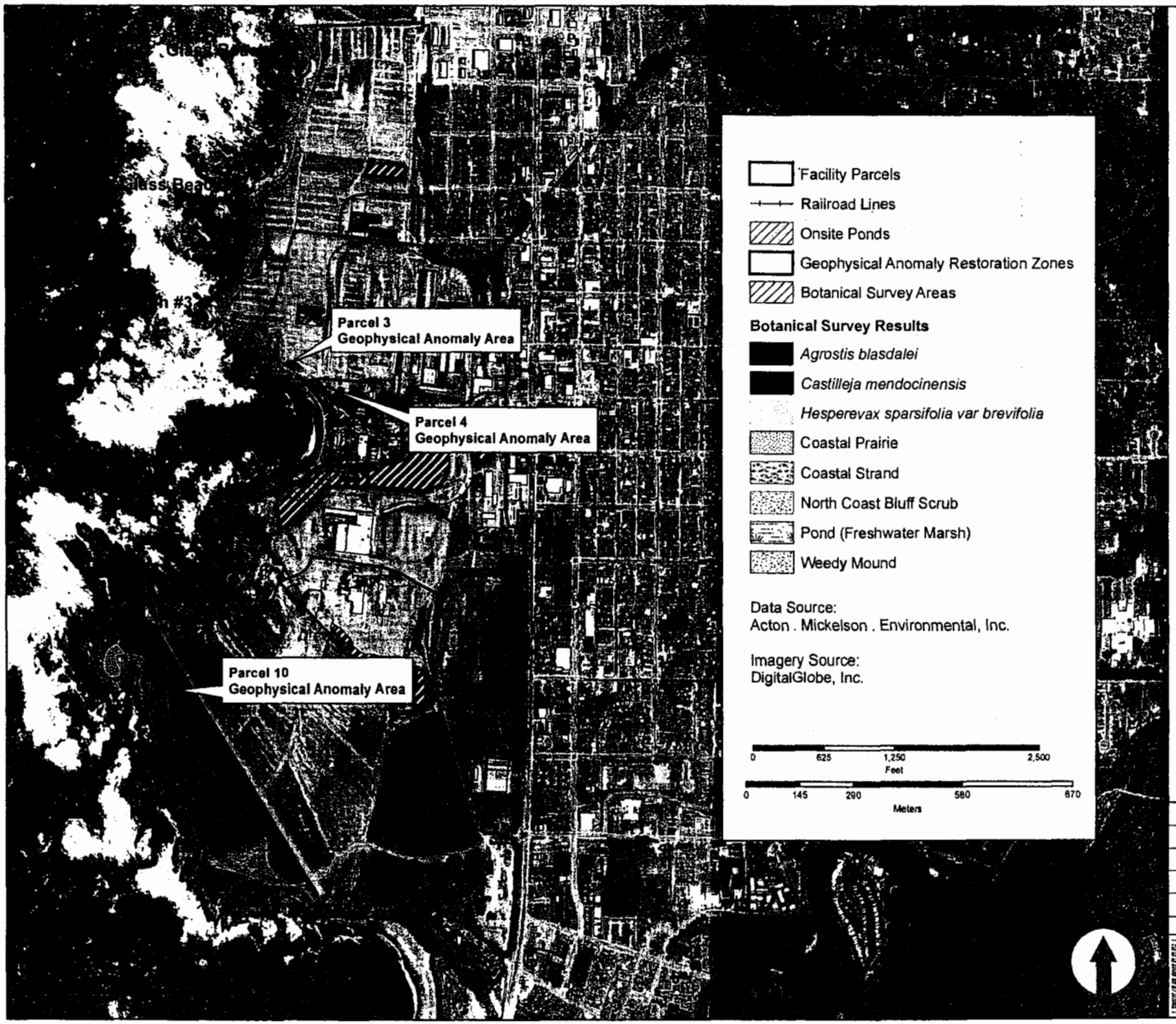

FIGURE 1

PLAN OVERVIEW MAP

CONCEPTUAL REVEGETATION PLAN

FORMER GEORGIA-PACIFIC CALIFORNIA WOOD PRODUCTS MANUFACTURING FACILITY

90 WEST REDWOOD AVENUE FORT BRAGG, CALIFORNIA

ACTON - MICKELSON - ENVIRONMENTAL, INC.

5175 Hillsdale Circle, Suite 100
El Dorado Hills, California 95762

		REVISIONS	DATE	BY
DESIGN:	R. Thompson			
DRAWN:	K. Gledhill			
DATE:	09/20/05			
FILE:	ft_bragg_gp_1.mxd			

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voice 707.838.6641 fax 707.838.4503

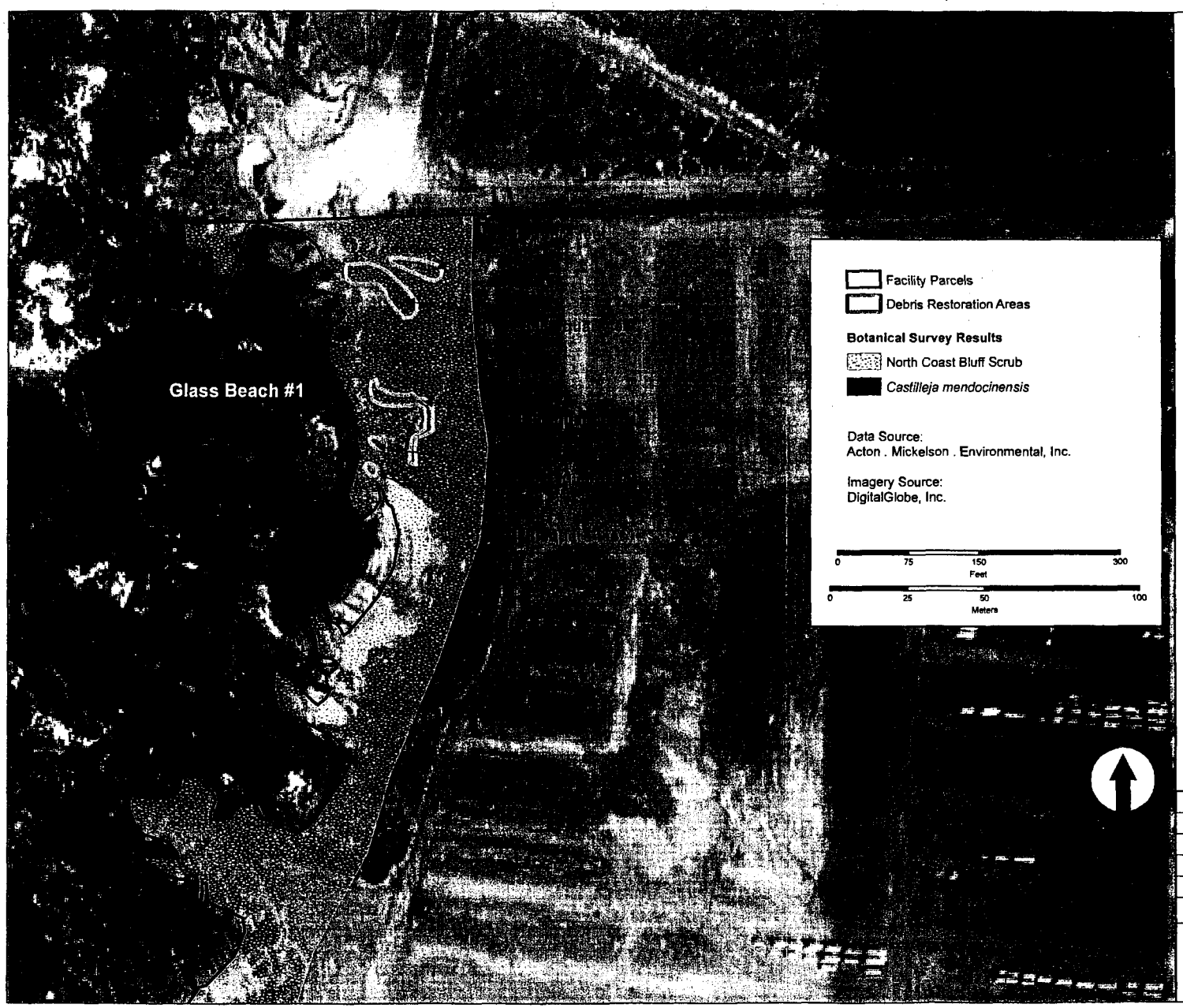


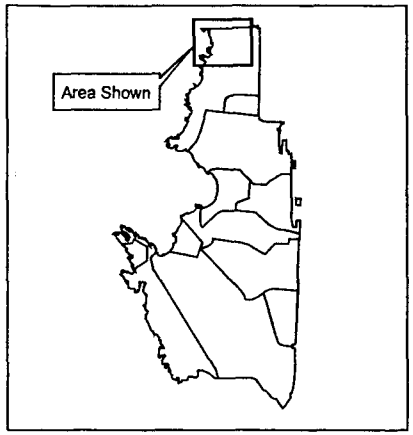
FIGURE 2

DEBRIS AREAS
GLASS BEACH #1

CONCEPTUAL
REVEGETATION PLAN

FORMER GEORGIA-PACIFIC
CALIFORNIA WOOD PRODUCTS
MANUFACTURING FACILITY

90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA



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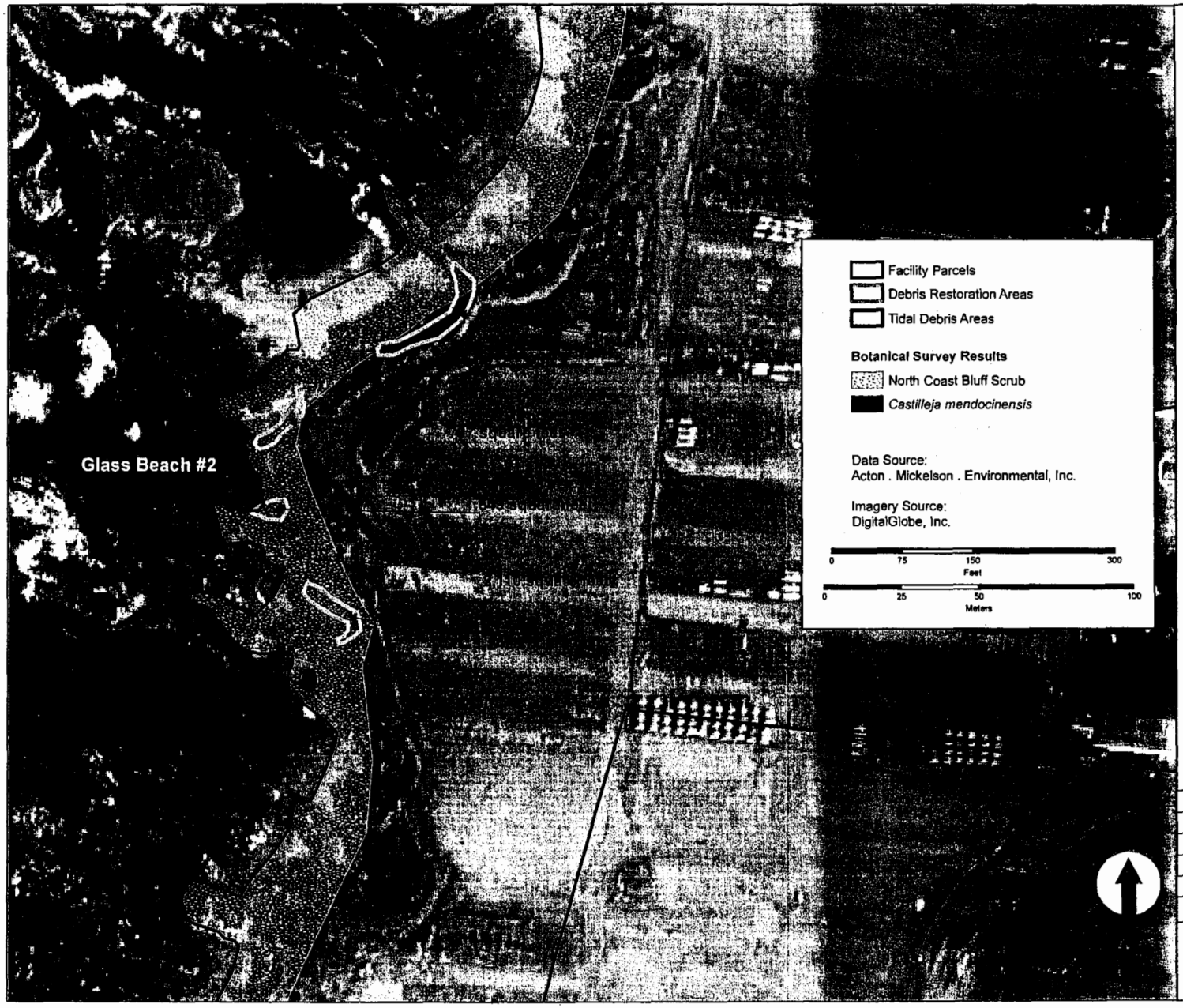


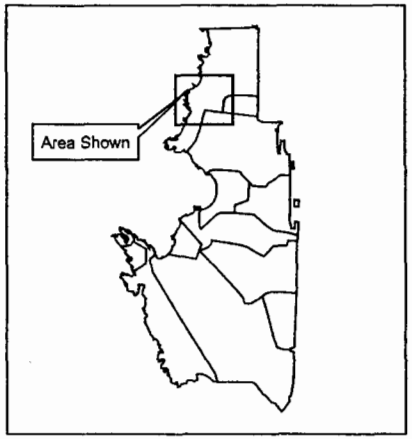
FIGURE 3

DEBRIS AREAS
GLASS BEACH #2

CONCEPTUAL
REVEGETATION PLAN

FORMER GEORGIA-PACIFIC
CALIFORNIA WOOD PRODUCTS
MANUFACTURING FACILITY

90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA



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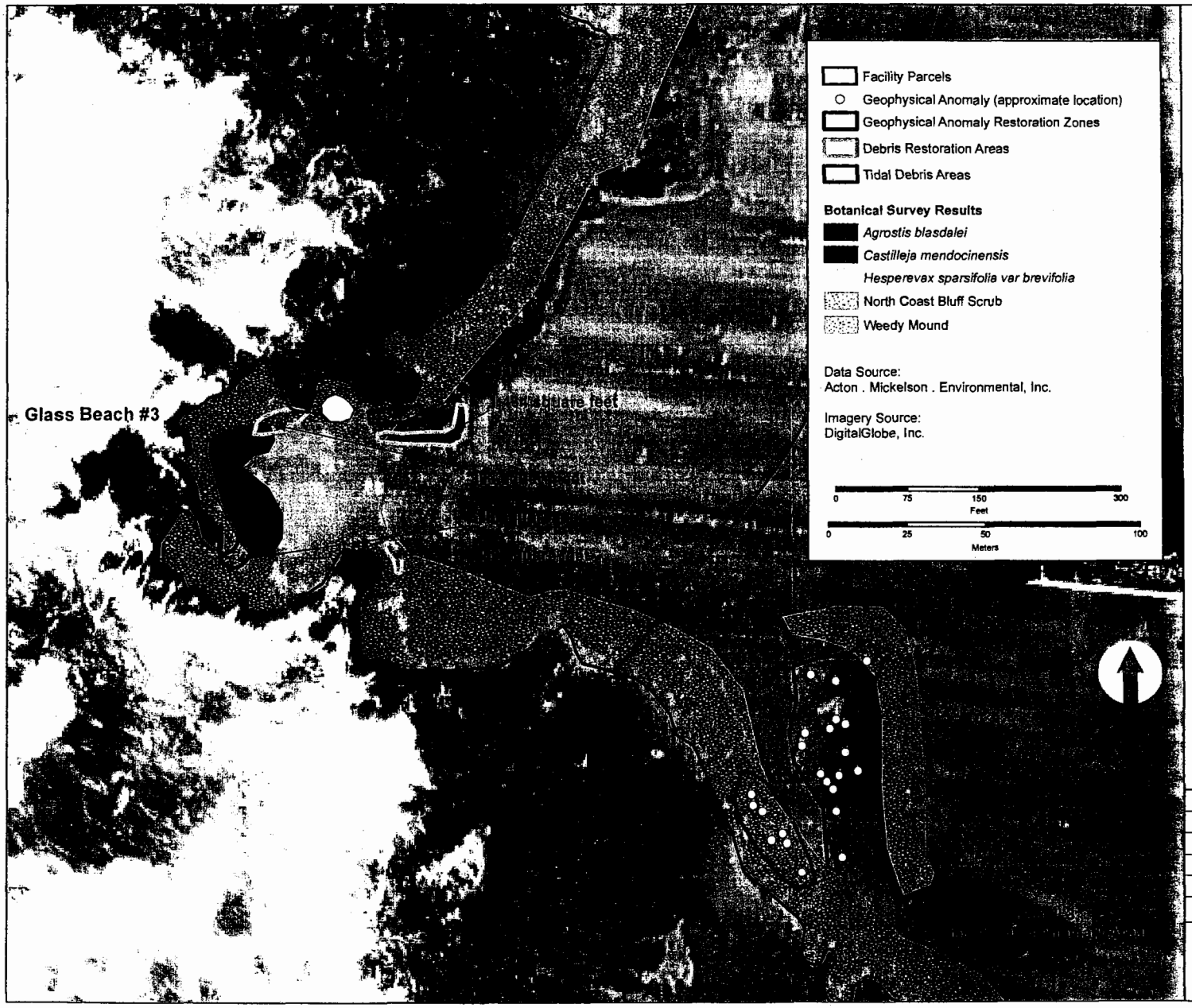


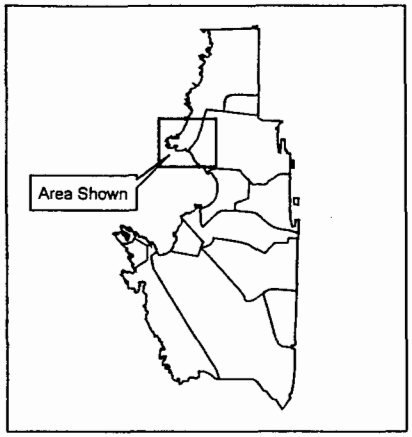
FIGURE 4

DEBRIS AREAS
GLASS BEACH #3

CONCEPTUAL
REVEGETATION PLAN

FORMER GEORGIA-PACIFIC
CALIFORNIA WOOD PRODUCTS
MANUFACTURING FACILITY

90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA



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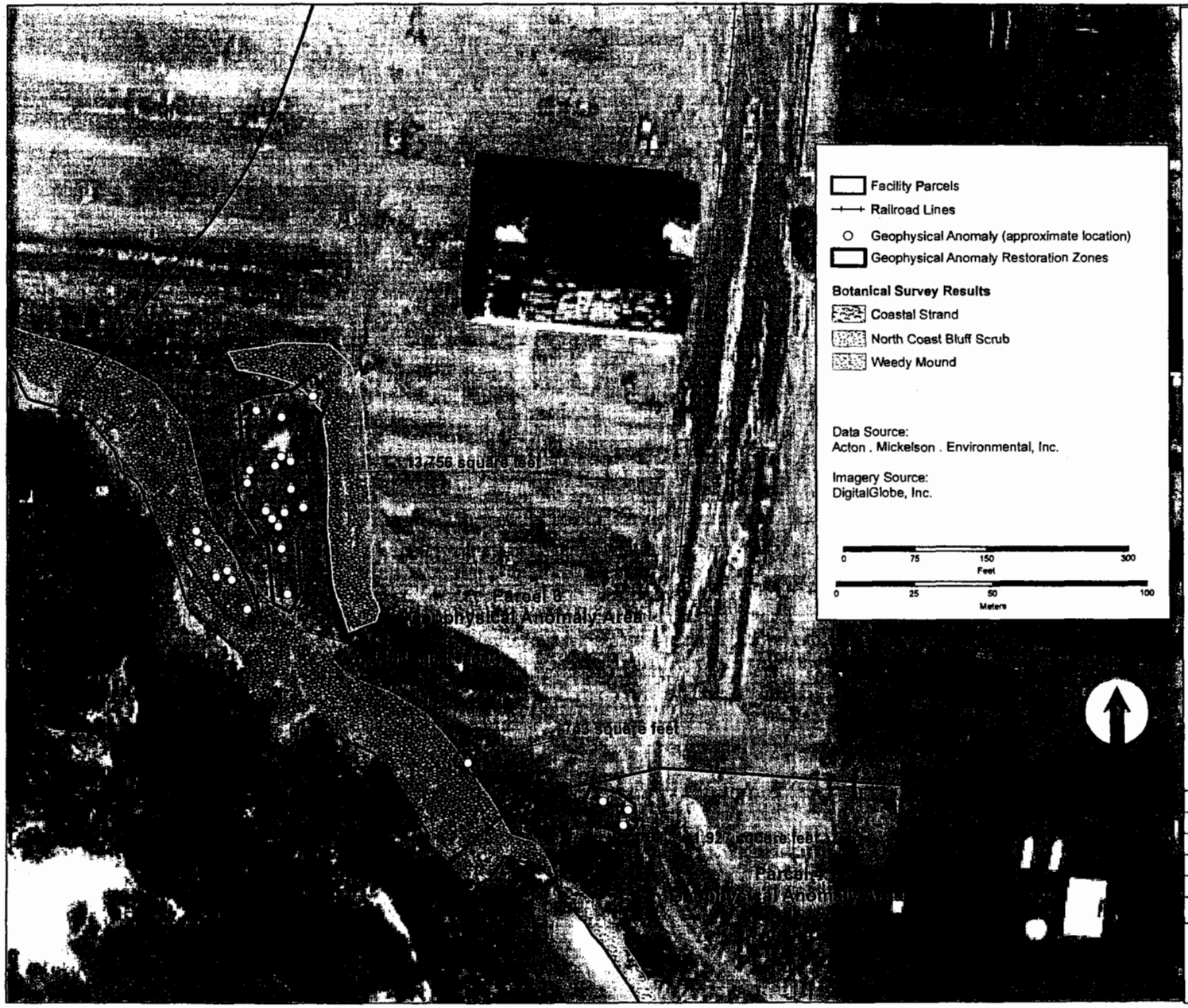


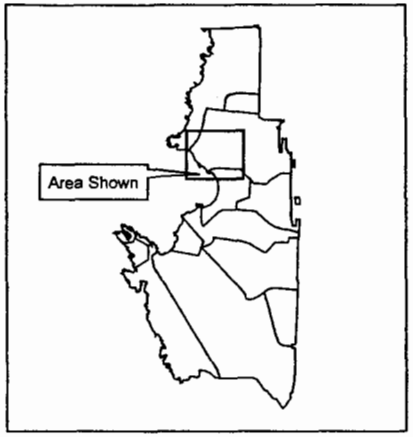
FIGURE 5

GEOPHYSICAL ANOMALIES
PARCEL 3 & 4

CONCEPTUAL
REVEGETATION PLAN

FORMER GEORGIA-PACIFIC
CALIFORNIA WOOD PRODUCTS
MANUFACTURING FACILITY

90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA



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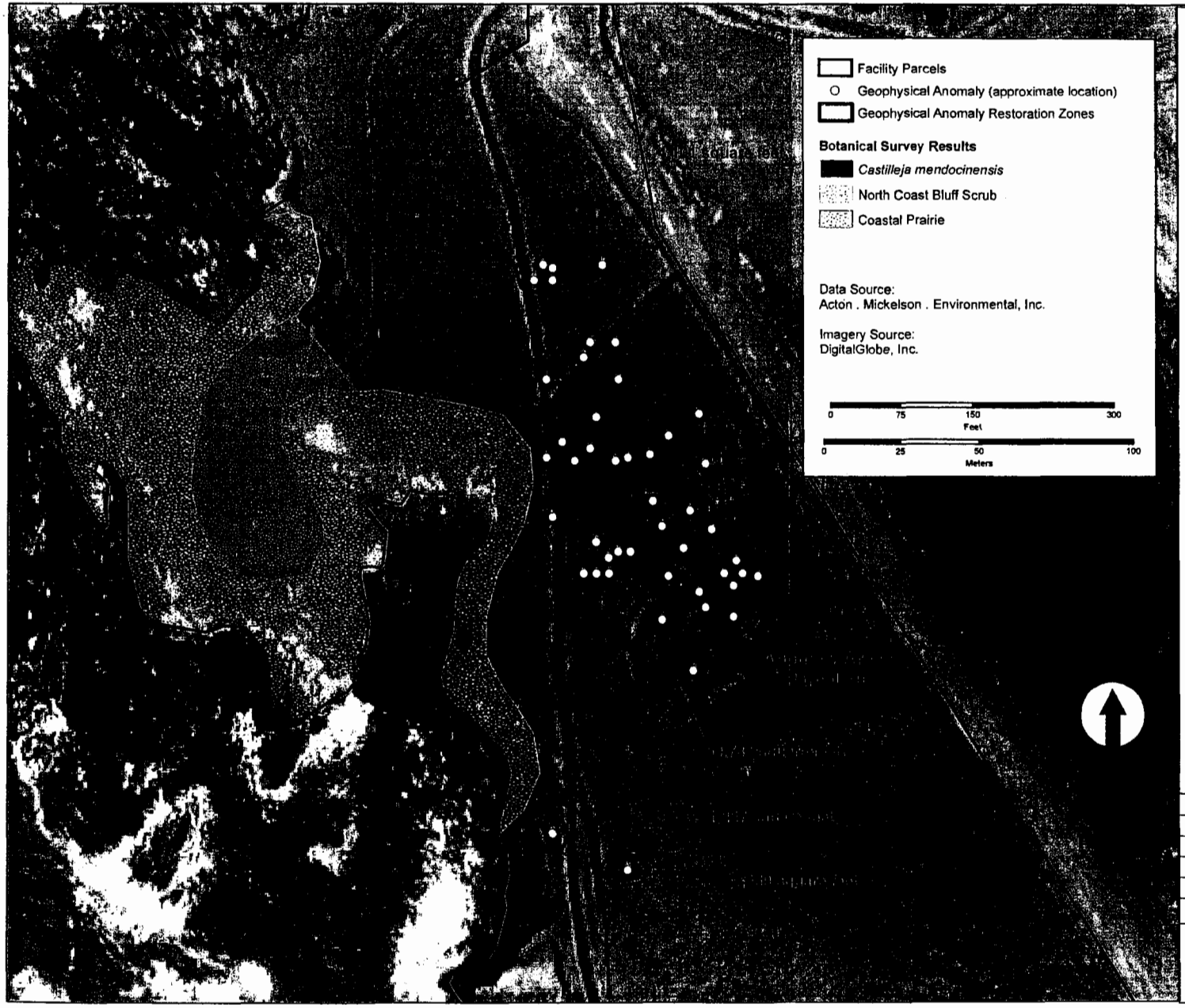


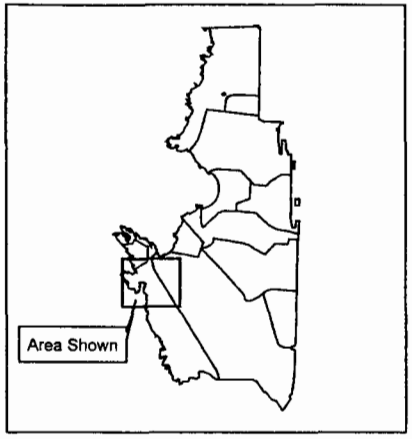
FIGURE 6

GEOPHYSICAL ANOMALIES
PARCEL 10

CONCEPTUAL
REVEGETATION PLAN

FORMER GEORGIA-PACIFIC
CALIFORNIA WOOD PRODUCTS
MANUFACTURING FACILITY

90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA



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voice 707.838.6641 *fax 707.838.4503*

699

NOTES:

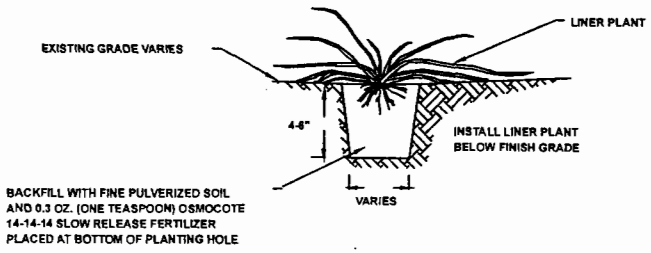
This restoration plan follows the Mitigation Plan prepared by Teresa Sholars, Botanical Consultant, 9/05 and the Work Plan prepared by Acton Mickelson Environmental 3/21/05 and 8/19/05 for interim remedial measures proposed for the Georgia Pacific Wood Products Manufacturing Facility in Fort Bragg, CA.

NATIVE GRASS SEEDING

All geophysical anomaly restoration sites (parcels 3, 4 and 10, Figures 4-6) and Glass Beach #1 and # 2 and # 3, selected portions, (Figures 2-4) will be seeded with the following native grass seed mix. Seeding work will be installed between September 15 - October 15, 2006. Seed shall be hand broadcast and lightly raked into the soil surface.

Species	Lbs./Acre
Meadow barley (*Hordeum brachyantherum*)	12
Red fescue (*Festuca rubra*)	8
California poppy (*Eschscholzia californica*)	3
Total	**23**

A low nitrogen fertilizer (6-20-20) shall be hand broadcast in selected areas at a rate of 250 pounds per acre. Weed free straw, at 1500 pounds per acre, shall be applied over all seeded areas.



GRASS LINER INSTALLATION DETAIL

NOT TO SCALE

SENSITIVE SPECIES MITIGATION

The sensitive plant species *Agrostis blasdalei* will be planted in selected disturbed areas at Glass Beach # 3 per the replacement ratios outlined in the Mitigation plan. The exact number of replacement plants will be determined during the construction process, which will be planned and monitored to minimize the impacts to existing plants. It is anticipated that a minimum of 100 plants will be installed at this site.

A collection permit or Memoranda of Understanding (M.O.U.) will not be required by any regulatory agency for seed collection, handling, storage or planting activities for Agrostis blasdalei. Should State or Federal listings occur at some time during this project, Circuit Rider Productions (CRP) shall stop all work on the listed species and consultation with the appropriate regulatory agencies shall be initiated.

Seed was collected on 9/9/05 from the individuals growing directly on the areas proposed for excavation. Seed collection was performed in lieu of a direct plant salvage in an effort to conserve the genetic character of those portions of the population that will be lost.

Plants will be grown at the CRP Native Plant Nursery in Windsor, CA. Plants will be propagated in small liner size containers (stubbys) and out planted in the winter months of 2006 - 2007, once rainfall has moistened the soil to a depth of 10 inches or greater. Planting installation shall be completed by 01/31/07.

Great care has been taken in the seed collection, storage and handling of this sensitive plant, which will enable all collected seed to be placed back into the same locations where it originated. Any unused seed of the *Agrostis blasdalei* left over from the nursery propagation process shall be carefully hand broadcast and hand-raked into the topsoil in ecologically appropriate portions of Glass Beach #3. No fertilizer and no straw mulch shall be applied. No native grass seeding will occur in the portions of this site where *Agrostis blasdalei* was planted to prevent unwanted competition with the mitigation target species.

FIGURE 7

PLANTING DETAIL & NOTES

CONCEPTUAL
REVEGETATION PLAN

FORMER GEORGIA-PACIFIC
CALIFORNIA WOOD PRODUCTS
MANUFACTURING FACILITY

90 WEST REDWOOD AVENUE
FORT BRAGG, CALIFORNIA

ACTON - MICKELSON - ENVIRONMENTAL, INC.

5175 Hillsdale Circle, Suite 100
El Dorado Hills, California 95762

		REVISIONS	DATE	BY
DESIGN:	R. Thompson			
DRAWN:	K. Gledhill			
DATE:	09/20/05			
FILE:	ft_bragg_gp_7.mxd			

CIRCUIT RIDER PRODUCTIONS, INC.
■ ECOLOGICAL RESTORATION SERVICES ■ HUMAN SERVICE PROGRAMS
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Windsor, CA 95492
voice 707.838.6641 fax 707.838.4503

8
9
9

NOTES CONTINUED:

ICE PLANT REMOVAL

Two species of invasive non-native ice plant (*Carpobrotus chilensis* and *Carpobrotus edulis*) are present in the immediate vicinity of the restoration areas. These species of ice plant along with the wild radish (*Raphanus sativus*) pose a great threat to the success of the mitigation planting of the *Agrostis blasdalei* at Glass Beach #3. Favorable establishment conditions will be created for both radish and ice plant immediately following disturbance created by heavy equipment.

A. All non-native ice plant growing on all flat portions and gentle slopes shall be removed by hand. At the present time these plants consist of seedling individuals and small colonies that are widely scattered at this site.

B. The coastal bluff slopes contain much older and well established ice plant colonies. Bluff slopes are too steep for workers to safely remove ice plant by hand. All ice plant colonies within 100 feet of a restoration area will be sprayed with an appropriate herbicide, applied by an applicator licensed in the County of Mendocino. The herbicide shall be registered for use on both of the two ice plant species and registered for use in coastal bluff environmental setting.

The following species present on the Georgia Pacific parcels have the potential to invade the disturbed work areas and restoration areas and shall be removed as directed by the project monitor, Teresa Sholars. If allowed to become established in the restoration areas, all of the following species have the potential for jeopardizing the success of the native grass seeding.

Cirsium vulgare
Contoneaster panosa
Cortaderia jubata
Cytisus scoparius
Delaiera odorata
Eucalyptus glorosus
Raphanus sativus
Rubus discolor
Vinca major
Other non-native thistles
Other species identified during the three year monitoring program.

The approximate size of all the Restoration Zones (Figures 2-6) combined is approximately 2.37 acres. As described in the mitigation plan, the area requiring restoration could increase or slightly decrease based upon the extent of underground debris at each location.

Access routes, which will be determined at the time of construction under the sensitive resources protection measures outlined in the mitigation plan, are not shown on the drawings and will increase the size of all of the restoration zones.

Each Restoration Zone (Figures 2-6) accurately depicts the minimum size of the area that will receive plantings. No individual plant locations will be shown on the final restoration plan. The final planting design for *Agrostis blasdalei* will be developed in the field by a professional qualified in ecological restoration. Each planting spot shall be marked in the field with a color coded (to species) surveyor flag. Flags shall remain at each planting spot after plant installation to aid in the maintenance and monitoring activities.

All seed and plant installation activities will be performed by Circuit Rider Productions, Inc., Windsor, CA.

MAINTENANCE AND MONITORING

Agrostis blasdalei at Glass Beach #3 may require occasional irrigation during the first dry season after planting. The seedlings will be most vulnerable to drought stress in the late spring as the winter soil moisture is depleted in the upper few inches of the soil profile. Irrigation will begin in April and continue into October on an as needed basis. Approximately 1.0 to 1.5 gallons of water shall be applied directly onto the plant (see Planting Details) during each irrigation.

Plants shall have all competing weeds removed from an 18 inch diameter around each plant. Weed control shall be performed a minimum of three times each year for three years following installation. Weed removal shall be performed once in February, April and December each year.

The *Agrostis blasdalei* planting shall have a complete survival count each year during the three-year maintenance period. The first count shall occur at the end of the first growing season (Sept. - Nov.). The final count shall occur at the end of the third year maintenance period. The native grass seeding areas will be monitored and reported upon once each year for the presence of invasive species. Three brief monitoring reports shall be produced, which include photos of mitigation planting, survival data, and recommendations. Reports will be submitted to Georgia-Pacific Corporation and the City of Fort Bragg by March 31 after the first, second, and third year of monitoring. All monitoring and monitoring report preparation will be performed by Teresa Sholars, Botanical Consultant.

FIGURE 8

PLANTING NOTES

CONCEPTUAL REVEGETATION PLAN

FORMER GEORGIA-PACIFIC CALIFORNIA WOOD PRODUCTS MANUFACTURING FACILITY

90 WEST REDWOOD AVENUE FORT BRAGG, CALIFORNIA

ACTON - MICKELSON - ENVIRONMENTAL, INC.

5175 Hillsdale Circle, Suite 100
El Dorado Hills, California 95762

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DESIGN:	R. Thompson			
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Avian Habitat Utilization and Impact Assessment

Georgia Pacific Mill Site
Fort Bragg, Mendocino County
California

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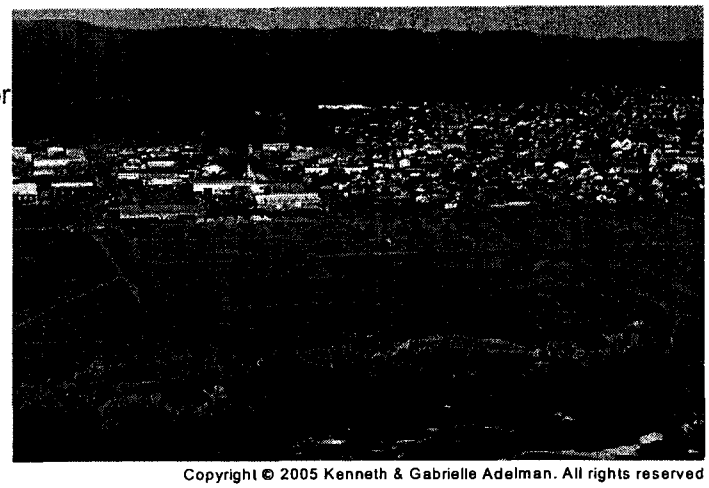
Date:
January 2006



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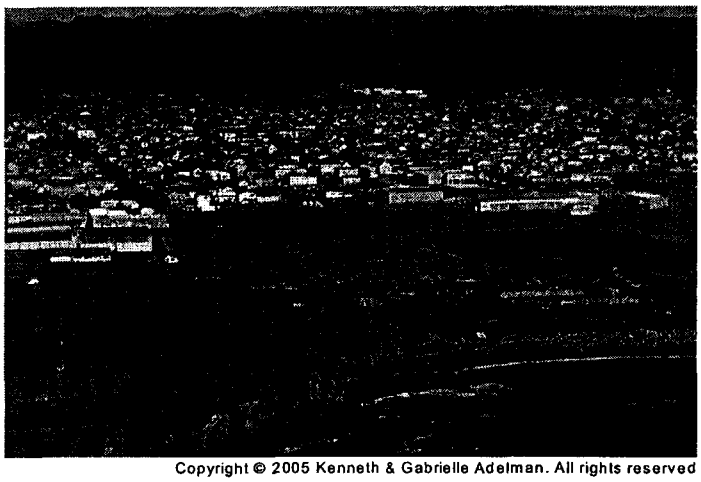

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EXHIBIT NO. **15**
APPLICATION NO.
A-1-FTB-05-053
EXCERPT, *AVIAN HABITAT UTILIZATION & IMPACT ASSESSMENT* (WRA ENVIRONMENTAL CONSULTANTS, JAN. 2006) (1 of 11)

wra
ENVIRONMENTAL CONSULTANTS

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Figure 2. Glass Beach #1 Proposed Work Area
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Figure 6. Parcel 10 Geophysical Anomaly Proposed Work Area

LIST OF APPENDICES

A List of avian species that may occur in the vicinity of the Study Area

B Study Area photographs

1.0 Introduction

California Coastal Commission Appeal No: A-1-FTB-05-053 states;

> "To properly determine that the potential impacts of the proposed clean-up and excavation work at Glass Beaches 1-3 and Parcel 3 and 10 have been reduced to less than significant levels, the applicant must submit an avian habitat utilization evaluation addressing: (1) the various resident and migratory species that inhabit or utilize, or are likely to inhabit or utilize the affected coastal bluff and rocky intertidal areas; (2) the various resting, feeding, breeding, and nesting requirements and seasons of these species; (3) the relative susceptibility of the species engaging in these activities at the site to disturbance; (4) the transitional habitat needs of these species between the rocky intertidal areas and bluffs and the development; and (5) appropriate mitigation measures, such as conducting the subject work after the relevant nesting seasons have ended if a pre-construction surveys indicate the presence of these species."

Section 30107.5 of the Coastal Act defines an environmentally sensitive area. as:

> "Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."

The two sensitive areas addressed in this report are the coastal bluff and the rocky intertidal zone. According to the California Coastal Commission's *California Coastal Resource Guide*, a coastal bluff is defined as follows:

> "The precipitous cliffs, steep-walled bluffs, and rocky headlands that characterize much of California's coastline are evidence of the ongoing geologic processes that shaped the western margin of the North American continent. Unlike the Atlantic and Gulf coasts of North America, whose gently sloping seashores are the result of gradual submergence of the continent's edges, the sheer walls and elevated terraces of the California coast were created by abrupt faulting and uplift. Bluffs and sea cliffs are a testament to the erosive power of waves, winter rainstorms, and wind, while headlands remain where coastal rock has withstood weathering by these elements."

In addition, it defines the rocky intertidal zone:

> "Between the high and low tide marks lies a strip of shoreline that is regularly covered and uncovered by the advance and retreat of the tides. This meeting ground between land and sea is called the intertidal. The plants and animals inhabiting this region are hardy and adaptable, able to withstand periodic exposure to air and the force of the pounding surf. Intertidal communities occur on sandy beaches, in bays and estuaries, and on wharf pilings, but the communities of rocky shorelines are perhaps the most diverse and the most densely populated. Rock faces, crevices, undersides of rocks, and tidepools each support and array of species."

A Wildlife Biologist from WRA, Inc. has made two field visits to the Study Area in order to

determine the biological resources present and the effect of the proposed work on these resources. In addition to these two areas mentioned in the CCC Appeal, this assessment also addresses the avian species that may utilize the upland areas adjacent to the coastal bluff (coastal terrace prairie and perennial grassland), the beaches and the freshwater aquatic habitat (freshwater pond, marsh and seep habitat) as they are adjacent to some of the proposed work areas and, as a result, may be affected by the proposed work. The proposed work areas are identified in the appropriate work plans developed by Acton Mickelson Environmental, Inc. (AME).

Table A of this document summarizes (1) avian species that may inhabit or utilize all of these areas and (2) the various resting, feeding, breeding and nesting requirements and seasons of these species. The relative susceptibility of the species engaging in these activities at the site to disturbance; the transitional habitat[1] needs of these species between the rocky intertidal areas and bluffs and the development; and appropriate mitigation measures, will be addressed below on a work project area basis. In addition, Table A also provides a range of months during which each species may be found in the Study Area and if the species may use the area for nesting. Table A is presented in three parts. Table A1 addresses special status species that may nest in the Study Area. Table A2 addresses special status species that may use the Study Area, but not for nesting purposes. Table A3 includes all other avian species that may be affected by work in or near the Study Area. Mitigation measures for activities allowed in each ESHA are discussed in the text.

2.0 Avian Species included in the Analysis

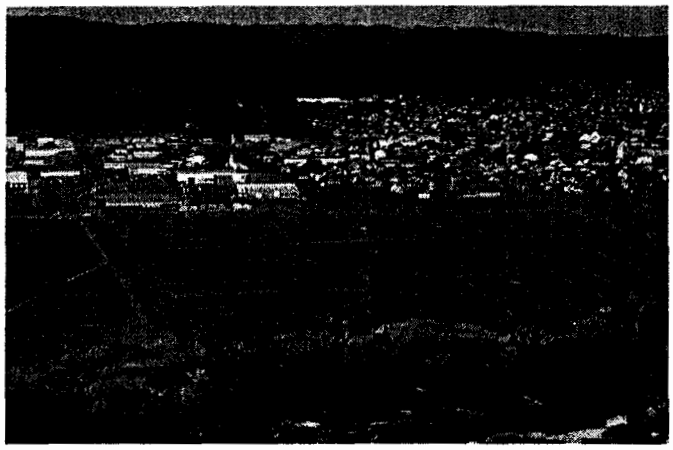
Special status species include those wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, California Department of Fish and Game (CDFG) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, and U.S. Fish and Wildlife Service (USFWS) Species of Concern are considered special status species. Although California and USFWS Species of Concern generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA). In addition to regulations for special status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act of 1918. Under this legislation, destroying active nests, eggs, and young is illegal.

Special status species are of considerable interest as they may have special legal status, however, all avian species that could potentially be affected by the proposed project are addressed in this assessment, not just special status species. The status of each species is highlighted in Table A.

---

[1]Transitional habitat is defined as a plant community whose species are adapted to the diverse and varying environmental conditions that occur along the boundary that separates aquatic and terrestrial areas but may also more generally refer to the boundary between two habitats or a buffer.

3.1 Glass Beach 1



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Susceptibility to Disturbance

Glass Beach #1 (pictured) is located at the northwest corner of Parcel 1. It is bordered to the north by the public Glass Beach and Glass Beach Headlands park areas. As a result, this portion of the Glass beach areas is heavily used by the public and their dogs. A trail runs from the public part of Glass Beach, south along the Glass beach #1 bluff and to a small beach area. During the site visit this area was heavily trafficked by a number of people and their pet dogs. Because of this heavy use, it would be unlikely for avian species to nest in the cliffs and bluffs above the beach and intertidal areas. Species that use intertidal, bluff and upland habitats may be affected by work in this area and are listed in Table A.

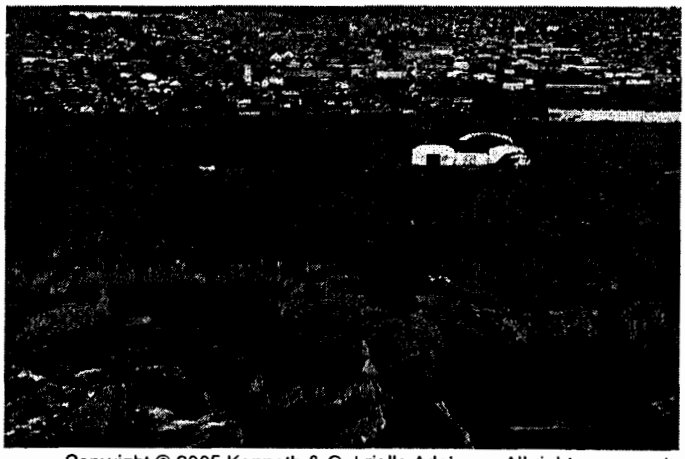
Transitional Habitat Needs

Because of the heavy, year-long public use of this area by people and their dogs and the resultant low potential for nesting birds, no transitional habitat needs or buffer are foreseen for this work area- pending the results of a pre-construction breeding bird survey.

Mitigation Measures

Though the potential for nesting birds is low due to the heavy public use, it is recommended that a breeding bird survey be done before the start of construction to insure no harm or harassment of avian species. If a nest is found, at least a fifty foot buffer should be established around the nest until all young have fledged. Table A should be referenced for each species' buffer needs. Avian survey protocol is discussed in section 4.1.

3.2 Glass Beach 2



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Susceptibility to Disturbance

Glass Beach #2 (pictured) is located approximately 1200 feet south of Glass beach #1. There is not as much public disturbance as it is not bordered by publicly accessible areas. In addition, the bluffs are steeper and the sea stacks off shore are larger and more numerous, providing more potential nesting habitat for avian species. Species that use intertidal, bluff, beach and upland habitats may be affected by

work in this area and are listed in Table A.

Transitional Habitat Needs

The transitional habitat needs or buffer for this area may vary depending on what time of year the work is to be done and what the results of the pre-construction breeding bird surveys are (see below).

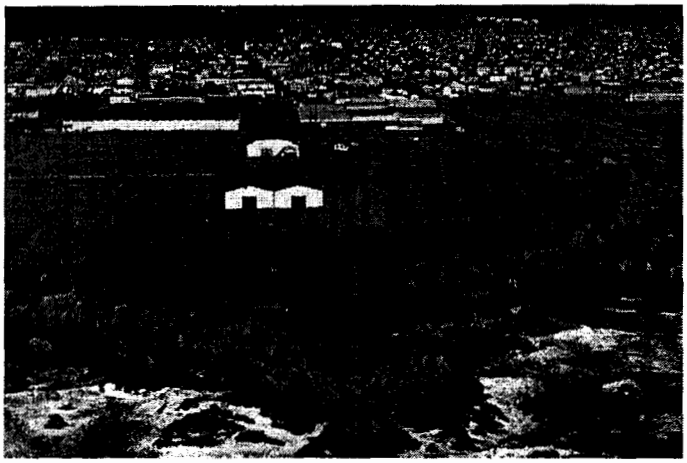
Mitigation Measures

The potential for breeding birds to use the sea stacks off shore as well as the bluff areas for nesting are much higher than Glass Beach #1 due to the relative seclusion of this site. These areas should be surveyed for breeding birds prior to commencement of construction activities. In addition, there is suitable nesting habitat above the bluff in the grasses and ruderal vegetation for ground nesting birds such as California Horned Larks (*Eremophila alpestris).* This area should be surveyed prior to construction as well. If a nest is found, at least a fifty foot buffer should be established around the nest until all young have fledged. Table A should be referenced for each species' buffer needs. Avian survey protocol is discussed in section 4.1.

3.3 Glass Beach 3

Susceptibility to Disturbance

Glass beach #3 (pictured) is located approximately 900 feet south of Glass Beach #2. This area is also relatively secluded compared to Glass beach #1 and has steep bluffs and a number of sea stacks close to shore. Species that use intertidal, bluff and upland habitats may be affected by work in this area and are listed in Table A.



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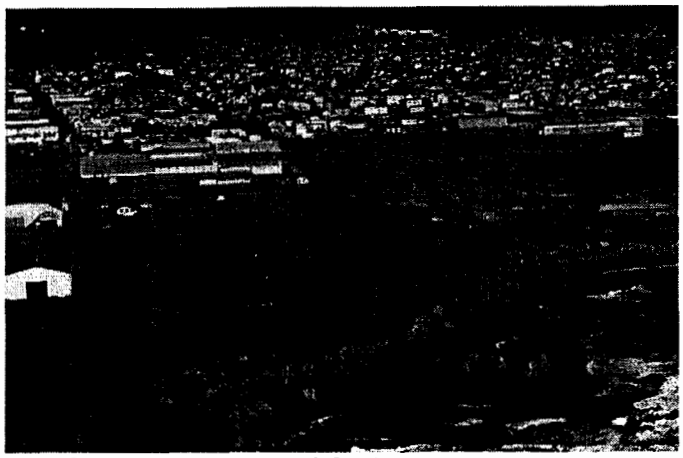
Transitional Habitat Needs

The transitional habitat needs or buffer for this area may vary depending on what time of year the work is to be done and what the results of the pre-construction breeding bird surveys are (see below).

Mitigation Measures

It is recommended that this area be treated in a similar fashion as Glass Beach #2. The relative seclusion and quality of bluff and sea stack habitat nearby increase the potential for breeding birds to frequent the site. In addition, there is some ruderal, grassland habitat on the actual terrace that may be attractive to ground nesting avian species. It is recommended that breeding bird surveys be conducted for all of these habitats prior to commencement of construction. If a nest is found, at least a fifty foot buffer should be established around the nest until all young have fledged. Table A should be referenced for each species' buffer needs. Avian survey protocol is discussed in section 4.1.

3.4 Parcel 3



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Susceptibility to Disturbance

Parcel 3 (pictured) is a large parcel located to the east of Glass Beach 3. The geophysical anomalies in question are located on the western half of the parcel, near the bluffs and potential bird breeding areas to the south of Glass Beach 3. Removal of these anomalies will not require excavation of the entire area as in the Glass Beach sites as the anomalies will be removed individually. Heavy equipment will be used for this process however, and avian species that use intertidal, bluff, beach and upland habitats may be affected by work in this area and are listed in Table A.

Transitional Habitat Needs

The transitional habitat needs or buffer for this area may vary depending on what time of year the work is to be done and what the results of the pre-construction breeding bird surveys are (see below).

Mitigation Measures

Though the excavation work being performed in Parcel three will be geophysical anomaly specific and none of the anomalies occur in the immediate bluff area, there is potential to disrupt and disturb avian species by the presence of heavy machinery and work crews. There is a small patch of ruderal vegetation and scrub that runs parallel to the bluff that may be attractive to ground nesting bird species. Additionally, there is a small beach area below the bluff that could possibly but not probably (due to its small size and disturbance) be attractive to beach breeding species such as plovers. These two areas in addition to the bluff should be surveyed prior to construction activities to determine the presence of breeding birds. If a nest is found, at least a fifty foot buffer should be established around the nest until all young have fledged. Table A should be referenced for each species' buffer needs. Avian survey protocol is discussed in section 4.1.

3.5 Parcel 10

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Susceptibility to Disturbance

Parcel 10 (pictured) is located in the southwest portion of the property to the west of the air strip. This parcel, as in parcel 3, will not be excavated completely but rather, the excavations will be geophysical anomaly specific. Most of the anomalies are concentrated

7 of 11

to the east of the small cove shown in the photo. No work is expected to be conducted on the actual bluff but work equipment and crew working near the bluff have the potential to disturb avian species that use intertidal, bluff and upland habitat. These species are listed in Table A.

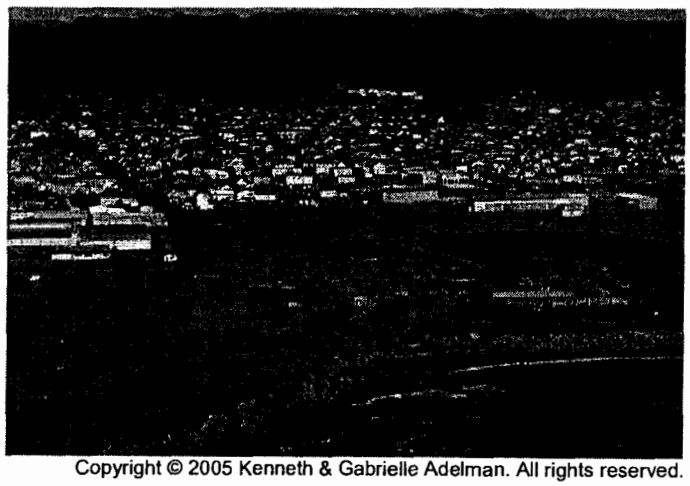
Transitional Habitat Needs

The transitional habitat needs or buffer for this area may vary depending on what time of year the work is to be done and what the results of the pre-construction breeding bird surveys are (see below).

Mitigation Measures

As in Parcel 3, the work being done in Parcel 10 will be geophysical anomaly specific. A number of anomalies are within 100 feet of the bluff and the same precautions for breeding avian species should be undertaken. Breeding bird surveys should be done prior to commencement of construction activities. Both the bluff area and the grassland in parcel 10 should be surveyed to determine the presence of ground nesting and cliff nesting species. This Parcel is of particular interest because roosting cormorants (*Phalacrocorax* sp.) were seen during two of the site visits. Guano stains at one of the roosting areas can be seen on the middle of the bluff in the photo above. If a nest is found, at least a fifty foot buffer should be established around the nest until all young have fledged. Table A should be referenced for each species' buffer needs. Avian survey protocol is discussed in section 4.1.

3.6 Foundation Removal



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Susceptibility to Disturbance

The foundation removal will mostly be concentrated around the former sawmill #1 area (pictured) with additional removal also occurring in the former mobile equipment shop area. Bluff nesting avian species are not as much of a concern as previous areas since most of the foundation removal is adjacent to the Fort Bragg Landing beach area and not coastal bluffs. Though the beach area is relatively small there is the slight potential that beach nesting avian species such as plovers could utilize this area. There is dense shrub habitat in the form of pampas grass near the foundation area as well as dense areas of emergent vegetation in the mill pond area that may be attractive to nesting avian species. In addition, there are a few trees scattered along the north end of the beach area. Species that use intertidal, beach wetland and upland habitats may be affected by work in this area and are listed in Table A.

Transitional Habitat Needs

The transitional habitat needs or buffer for this area may vary depending on what time of year the work is to be done and what the results of the pre-construction breeding bird surveys are (see below).

Mitigation Measures

Pre-construction breeding bird surveys should be conducted prior to the commencement of construction activities. Areas of special consideration not previously mentioned in this report include the trees at Fort Bragg Landing beach, the pampas grass and other shrub habitat in the former saw mill area and the emergent vegetation surrounding and within the mill pond. If a nest is found, at least a fifty foot buffer should be established around the nest until all young have fledged. Table A should be referenced for each species' buffer needs. Avian survey protocol is discussed in section 4.1.

4.0 Discussion

The potential nesting habitats for avian species was the focus of this assessment as it is the most sensitive to human disturbance out of the four habitat requirements in question- breeding, feeding, resting and nesting. The nesting habitats available in the Study Area include bluff, grassland, shrubland, tree, beach and emergent wetland. The project footprint does not necessarily have to be overlapping a nest site in order to disturb it. Visual and acoustic disturbances from work being conducted can potentially harass avian species substantially outside the project area footprint. Therefore, breeding bird surveys should not merely focus on the proposed project footprint, but should encompass the area within roughly one hundred yards of the project footprint. For most avian species a fifty foot buffer would suffice, but this range would not adequately encompass the habitat needs of nesting raptors and other species such as the western snowy plover (*Charadrius alexandrinus nivosus)*. For example, Northern Harriers (*Circus cyaneus*) are ground nesting raptors and Peregrine Falcons (*Falco peregrinus*) are cliff nesting raptors that would require a substantially larger buffer, approximately 300 feet, if nests were to be found.

If no nests are found in or near the work area, construction may commence. Because of the diversity of bird species that could be affected by the proposed project and subsequent large extent of the bird breeding seasons involved (the end of February through September) recommending one work window would be inadequate. The work window for this project can be more accurately discussed if it is broken down into three parts:

Window #1

Most avian species are expected to be nesting from March through July. During this time preconstruction surveys would be necessary as they have the highest chance of locating nesting species.

Window #2

From August though September most young are expected to have fledged, however, species with multiple broods still may be nesting. Preconstruction bird surveys would be

at the discretion of the qualified biologist and may be species specific.

Window #3

From October to February no avian species would be expected to nest in the Study Area and no preconstruction surveys would be necessary. Any harassment of avian species should be avoided if possible.

Any tree or shrub removal should take place outside of the bird breeding season or after a qualified biologist has surveyed the vegetation destined to be removed. In order to lessen the likelihood of avian species utilizing the shrubs and grasses in the upland portions of the Study Area for nesting, the vegetation may be removed or cropped down to a level low enough to dissuade nesting. This work should be done in the winter, outside of the bird breeding season, to ensure no harm or harassment of avian species.

4.1 Avian Survey Protocol

In addition to the potential breeding habitat in and near the project areas mentioned above, access roads to the work area and equipment staging areas should also be surveyed prior to construction activities to ensure no harassment to avian species. The following guidelines are recommended for surveying and monitoring avian species:

- An ornithologist or qualified biologist should be used for all surveys and make an effort to minimize disturbances to avian species while surveying.
- Binoculars (8X42 minimum recommended) or a spotting scope should be used for surveying.
- Construction areas, access roads and staging areas as well as a buffer region within 100 meters of these areas should all be surveyed within the two weeks before construction activity.
- All avian species should be recorded. Data should include behavior or activities and any disturbances or threats near the species and distance from each disturbance or threat. Reaction to disturbances should also be included.
- If a nesting species is located, the nest site should be recorded on a map. A qualified wildlife biologist should work in concert with the contractor to insure no harassment of the species. Either the biologist should be present during the work to maintain the appropriate buffer and monitor avian reaction to the work or an exclusion fence with interactive signage should be erected to insure no harassment from the public or work crews. The nest should be monitored as needed to determine when all the young have fledged and work within the buffer can resume.
- If the nest of a special status species is found, the appropriate buffer should be maintained and consultation with the appropriate agency (USFWS, CDFG or the Point Reyes Bird Observatory) may be necessary.
- Areas that have been surveyed, yet where no work has been done for an extended period of time, may require additional pre-construction surveys at the discretion of the biologist to be certain of no new nesting activity.
- A weekly report summarizing monitoring activities and observations should be maintained.

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5.0 References

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ACTON •
MICKELSON •
ENVIRONMENTAL, INC.

Consulting Scientists, Engineers, and Geologists

February 6, 2006

EXHIBIT NO. 16
APPLICATION NO.
A-1-FTB-05-053
ROCKY INTERTIDAL ENVIRONMENTALLY SENSITIVE HABITAT ENGINEERING & BIOLOGICAL ASSESSMENT (ACTON-MICKELSON ENVIRONMENTAL, INC., FEB. 2006)
(1 of 21)

Mr. James Baskin, AICP
Coastal Planner
California Coastal Commission
710 E Street, Suite 200
Eureka, California 95501

Via Overnight Mail

16019.01

Subject: Rocky Intertidal Environmentally Sensitive Habitat Engineering and Biological Assessment For Appeal No. A-1-FTB-05-053
Building Foundation Demolition and Implementation of Interim Remediation Measures
Georgia-Pacific Corporation Fort Bragg Wood Products Manufacturing Facility
90 West Redwood Street, Fort Bragg, California

Dear Mr. Baskin:

On behalf of Georgia-Pacific Corporation, Acton • Mickelson • Environmental, Inc. (AME) and WRA, Inc. (WRA) are submitting this correspondence to provide a Rocky Intertidal Environmentally Sensitive Habitat Engineering and Biological Assessment as requested in the Staff Report dated December 1, 2005 and again in your letter dated December 19, 2005 and pursuant to the criteria set forth in City of Fort Bragg (City) Land Use and Development Code, Title 18, Chapter 18.61.022 (B) and Land Use Plan (LUP), Chapter XVII, Section E.

INTRODUCTION

A reconnaissance of coastal bluff areas where Coastal Development Permit (CDP) activities are proposed and adjoining rocky intertidal areas was conducted by an AME Certified Engineering Geologist and a WRA Wildlife Biologist to assess for potential impacts related to stormwater runoff, sedimentation, erosion landsliding, and other mass movements of fill/topsoil and marine terrace deposits that could occur and negatively impact adjoining rocky intertidal areas (**Figure 1**). Aerial photographs of the coastal bluff, including the sea cliff and areas where CDP activities are proposed, were reviewed to assist in the assessment. The results of this assessment, including an analysis of the potential for negative impact to the rocky intertidal area and prevention of negative impacts, if any, to the intertidal area through the use of best management practices (BMPs), are presented below.

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ENGINEERING ASSESSMENT

Glass Beach #1

The proposed Glass Beach #1 work area is shown on **Figure 2**. Two locations indicative of collapsed sea caves were noted along the sea cliff of Glass Beach #1 during field reconnaissance (**Figure 2**). Surficial creep was interpreted to be occurring within fill/topsoil in the coastal bluff. No major land surface instability was observed.

Proposed CDP activities in this work area include the excavation of approximately 1,673 cubic yards of soil and debris. This volume estimate is based on measurements of the proposed work area and assumes an excavation depth of 3 feet across the work area. The actual volume of soil excavated will be contingent on results of field screening and/or analytical testing of soil samples for constituents of potential concern (COPCs) as specified in the Sampling and Analysis Plan contained in the *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (Work Plan) (AME 2005a). Proposed CDP excavation activities could negatively impact the rocky intertidal area; therefore, BMPs as discussed in the following documents will be employed:

- Work Plan (AME 2005a)
- Addendum #1 to the Work Plan (AME 2005b)
- Addendum #2 to the Work Plan (AME 2005c)
- *Conceptual Glass Beach 3 Mitigation Monitoring Plan* (Sholars 2005)
- *Conceptual Revegetation Plan* (Circuit Rider Productions 2005)
- *Stormwater Pollution Prevention Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* (AME 2005d)
- Revised Appendix D for the Work Plan (AME 2005e)

The BMPs include but are not limited to the following:

- CDP activities will be conducted during the dry season, from April 15 through October 15.
- Excavation activities will be initiated leaving a 4-foot-thick strip of fill/topsoil at the sea cliff to prohibit any sediment or water falling onto the rocky intertidal area. Upon completion of excavation activities to the east, the remaining 4-foot-thick strip will be excavated in a manner to minimize soil or debris dropping onto the rocky intertidal area.

Manual methods will be used to remove any material that falls onto the rocky intertidal area.

- Excavated soil and debris will be segregated and stockpiled on heavy-duty plastic at designated locations to the east of the Glass Beach #2 work area (**Figure 3**). These storage locations are paved with asphalt and are greater than 300 feet from the sea cliff.

  - The soil storage area measures approximately 200 by 200 feet and, with a stockpile depth of 5 feet, can accommodate approximately 7,407 cubic yards of soil, which exceeds the estimated excavation volume of 1,673 cubic yards.

  - The debris storage area measures approximately 125 by 75 feet and, with a stockpile depth of 5 feet, can accommodate approximately 1,736 cubic yards of debris.

  - If necessary, both storage areas can be expanded onto existing paved surface to accommodate any additional storage requirements. Alternatively, excavated soil and debris may be transported to the central debris and soil stockpile areas as specified in the Excavation and Stockpile Quantification Estimate and Site Plan Map (AME 2006a).

- Holes and imperfections in the asphalt surface cover of the proposed stockpile areas will be repaired prior to stockpile placement to prevent surface water infiltration.

- Berms or ditches will be constructed upslope of the work areas to intercept surface water runoff, in the unlikely event that it occurs, and redirect it to engineered locations away from the work areas. As concluded in the Hazardous Materials Assessment Logistics Alternatives Analysis (AME 2006b), less than 0.2 inches of runoff will result under worst-case conditions in the area of Glass Beach #1.

Implementation of these and the other recommended BMPs should be effective in preventing negative impact to the rocky intertidal zone and allow CDP activities to be conducted in general accordance with performance standards of City Land Use and Development Code, Title 18, Chapter 18.61.022 (B) and LUP, Chapter XVII, Section E.

Glass Beach #2

The proposed Glass Beach #2 work area is shown on **Figure 3**. Gullies resulting from localized slope failure are incised into the sea cliff in the central portion of Glass Beach #2 and were observed in areas partially or fully covered by asphalt (**Figure 3**). These gullies may result from periods of rainfall when water is collected over a wide surface area and flows into holes or imperfections in the asphalt, where it infiltrates the sandy fill/topsoil. The infiltrating water migrates through the fill/topsoil to the relatively impermeable marine terrace deposits, which dip slightly seaward. Over time preferential pathways may develop. During periods of intense rainfall, excess pore pressures may develop, resulting in small-scale debris-flow-type slides

occurring along the sea cliff. The slope failures appear to involve the fill/topsoil and upper few feet of marine terrace deposits but not the competent underlying Franciscan Complex sandstone. These progressive failures tend to occur at the same location year after year. No rotational or block glide failures were observed at Glass Beach #2; however, several collapsed sea caves were observed.

Proposed CDP activities in this work area include the excavation of approximately 4,750 cubic yards of soil. This volume estimate is based on measurements of the proposed work area and assumes an excavation depth of 3 feet across the work area. The actual volume of soil excavated will be contingent on the results of field screening/analytical testing of soil samples for COPCs as specified in the Work Plan. Proposed CDP excavation activities could negatively impact the rocky intertidal area; therefore, BMPs as discussed for Glass Beach #1 will be employed. These include, but are not limited to the following:

- Excavated soil and debris will be segregated and stockpiled on heavy-duty plastic at designated locations to the east of the work area (**Figure 3**). These storage locations are paved with asphalt and are greater than 300 feet from the sea cliff.
  - The soil storage area measures approximately 200 by 200 feet and, with a stockpile depth of 5 feet, can accommodate approximately 7,407 cubic yards of soil, which exceeds the estimated excavation volume of 4,750 cubic yards from Glass Beach #2 and the total excavation volume of approximately 6,423 cubic yards from Glass Beaches #1 and #2.
  - The debris storage area measures approximately 125 by 75 feet and, with a stockpile depth of 5 feet, can accommodate approximately 1,736 cubic yards of debris.
  - If necessary, both storage areas can be expanded onto existing paved surface to accommodate any additional storage requirements. Alternatively, excavated soil and debris may be transported to the central debris and soil stockpile areas as specified in the Excavation and Stockpile Quantification Estimate and Site Plan Map.

Implementation of these and the other recommended BMPs should be effective in preventing negative impact to the rocky intertidal zone and allow CDP activities to be conducted in general accordance with performance standards of City Land Use and Development Code, Title 18, Chapter 18.61.022 (B) and LUP, Chapter XVII, Section E.

Glass Beach #3

The proposed Glass Beach #3 work area is shown on **Figure 4**. Gullies resulting from localized slope failure are incised into the sea cliff and were observed in areas partially or fully covered by asphalt at Glass Beach #3 (**Figure 4**). Since Glass Beach #3 is partially covered by asphalt, these gullies are likely similar in origin to those in Glass Beach #2. A possible collapsed sea cave was observed at the north boundary of Glass Beach #3, which could have partially resulted from

water flow from beneath paved areas. Another sea cave that does not appear to be collapsed is visible at the south boundary of Glass Beach #3.

Proposed CDP activities in this work area include the excavation of approximately 1,792 cubic yards of soil. This volume estimate is based on measurements of the proposed work area and assumes an excavation depth of 2 feet across the work area. The actual volume of soil excavated will be contingent on the results of field screening and/or analytical testing of soil samples for COPCs. Proposed CDP excavation activities could negatively impact the rocky intertidal area; therefore, BMPs as discussed for Glass Beaches #1 and #2 will be employed. These include, but are not limited to the following:

- Excavated soil and debris will be segregated and stockpiled on heavy-duty plastic at designated locations to the east of the work area (**Figure 4**). These storage locations are paved with asphalt and are greater than 300 feet from the sea cliff.
  - The soil storage area measures approximately 100 by 100 feet and, with a stockpile depth of 5 feet, can accommodate approximately 1,852 cubic yards of soil, which exceeds the estimated excavation volume of 1,792 cubic yards from Glass Beach #3.
  - The debris storage area measures approximately 70 by 30 feet and, with a stockpile depth of 5 feet, can accommodate approximately 389 cubic yards of debris.
  - If necessary, both storage areas can be expanded onto existing paved surface to accommodate any additional storage requirements. Alternatively, excavated soil and debris may be transported to the central debris and soil stockpile areas as specified in the Excavation and Stockpile Quantification Estimate and Site Plan Map.

Implementation of these and the other recommended BMPs should be effective in preventing negative impact to the rocky intertidal zone and allow CDP activities to be conducted in general accordance with performance standards of City Land Use and Development Code, Title 18, Chapter 18.61.022 (B) and LUP, Chapter XVII, Section E.

Parcel 3 Geophysical Anomalies

The proposed Parcel 3 Geophysical Anomalies work area is shown on **Figure 5**. Localized small-slope failures were visible within the fill/topsoil and upper portion of the marine terrace deposits exposed along the sea cliff (**Figure 5**). These failures are likely the result of sheet flow and channeling of water into preferential pathways at points of contact between the fill/topsoil and more competent underlying materials.

Proposed CDP activities in this work area include excavation of approximately 192 cubic yards of soil at 24 locations to assess anomalies previously identified by geophysical survey. This volume estimate is based on measurements of the proposed work area and assumes an excavation size of 6 feet by 6 feet by 6 feet at each of the 24 locations. The actual volume of soil excavated

will be contingent upon the results of field screening and/or analytical testing of soil samples for COPCs. Proposed work activities terminate east of the sea cliff, but could still negatively impact the rocky intertidal area; therefore, BMPs as discussed for Glass Beaches #1 through #3 will be employed. These include but are not limited to the following:

- Excavated soil and debris will be segregated and stockpiled on heavy-duty plastic at designated locations to the east of the work area (**Figure 5**). These storage locations are paved with asphalt and are greater than 300 feet from the sea cliff.
  - The soil storage area measures approximately 40 by 30 feet and, with a stockpile depth of 5 feet, can accommodate approximately 222 cubic yards of soil, which exceeds the estimated excavation volume of 192 cubic yards from this work area.
  - The debris storage area measures approximately 15 by 15 feet and, with a stockpile depth of 5 feet, can accommodate approximately 42 cubic yards of debris.
  - If necessary, both storage areas can be expanded onto existing paved surface to accommodate any additional storage requirements. Alternatively, excavated soil and debris may be transported to the central debris and soil stockpile areas as specified in the Excavation and Stockpile Quantification Estimate and Site Plan Map.
- Test pits will be backfilled with acceptable soil material, compacted, and covered to minimize rainfall or runoff infiltration.

Implementation of these and the other recommended BMPs should be effective in preventing negative impact to the rocky intertidal zone and allow CDP activities to be conducted in general accordance with performance standards of City Land Use and Development Code, Title 18, Chapter 18.61.022 (B) and LUP, Chapter XVII, Section E.

Parcel 10 Geophysical Anomalies

The proposed Parcel 10 Geophysical Anomalies work area is shown on **Figure 6**. Soil creep was observed within the topsoil exposed at the sea cliff (**Figure 6**). The topsoil is underlain by relatively competent marine terrace deposits, which are underlain by competent Franciscan Complex sandstone. Small-scale landsliding involving fill/topsoil and the upper portion of marine terrace deposits was observed on the sea cliff at the southern end of the Parcel 10 Geophysical Anomaly Area. Localized slope movements in this area are a natural process occurring in relatively incompetent materials induced by gravity and periods of rainfall. Movements occur in relatively close proximity to the sea cliff.

Proposed CDP activities in this work area include excavation of approximately 1,265 cubic yards of soil at 48 locations to assess anomalies previously identified by geophysical survey. This volume estimate is based on measurements of the proposed work area and assumes an excavation size of 6 by 6 by 6 feet at 47 locations and 80 by 50 by 6 feet at one location. The actual volume

of soil excavated will be contingent upon results of field screening and/or analytical testing of soil samples for COPCs.

No geophysical anomalies are located within 40 feet of the sea cliff. In addition, the volume of soil to be excavated at the location of all but one geophysical anomaly is anticipated to be minimal (approximately 8 cubic yards or less). Based on this information, the potential for negative impact to the rocky intertidal zone is minimal. However, BMPs as discussed for Glass Beaches #1 through #3 and Parcel 3 Geophysical Anomalies will be employed. These include, but are not limited to the following:

- Excavated soil and debris will be segregated and stockpiled on heavy-duty plastic at designated locations to the east of the work area (**Figure 6**). These storage locations are paved with asphalt and are greater than 300 feet from the sea cliff.
  - The soil storage area measures approximately 100 by 100 feet and, with a stockpile depth of 5 feet, can accommodate approximately 1,852 cubic yards of soil, which exceeds the estimated excavation volume of 1,265 cubic yards from the work area.
  - The debris storage area measures approximately 25 by 25 feet and, with a stockpile depth of 5 feet, can accommodate approximately 116 cubic yards of debris.
  - If necessary, both storage areas can be expanded onto existing paved surface to accommodate any additional storage requirements. Alternatively, excavated soil and debris may be transported to the central debris and soil stockpile areas as specified in the Excavation and Stockpile Quantification Estimate and Site Plan Map.

Implementation of these and the other recommended BMPs should be effective in preventing negative impact to the rocky intertidal zone and allow CDP activities to be conducted in general accordance with performance standards of City Land Use and Development Code, Title 18, Chapter 18.61.022 (B) and LUP, Chapter XVII, Section E.

BIOLOGICAL ASSESSMENT

This Biological Assessment is organized by biological issue or area likely to be affected by proposed remediation measures related to:

- Stormwater runoff, sedimentation, erosion landsliding, and other mass movements of marine terrace deposits and fill materials
- Other project-related effects on site stability of coastal bluffs and biological resources of rocky intertidal areas adjacent to coastal bluffs where development would be performed

Biological issues or areas that may be affected by proposed work include: marine mammals, avian species, coastal bluffs, and the rocky intertidal area.

Marine Mammals

A number of harbor seals *(Phoca vitulina)* were seen hauled out on the rocky islands just offshore of the Study Area (**Figure 7**). The federally threatened stellar sea lion (*Eumetopias jubatus*), though less likely to use this area, does have the potential to use these rocky islands for the same purpose. These haul-out sites are for rest and protection from predators and are not expected to be rookery sites as well. Both animals are protected by the Marine Mammal Act (MMA) of 1972. The MMA defines harassment as "...an act of pursuit, torment or annoyance which has the potential to injure, or disturb by causing disruption of behavioral patterns, to a marine mammal or marine mammal stock in the wild."

In addition, significance criteria for impacts to biological resources are based on Section 15065 and Appendices G and I of the California Environmental Quality Act Guidelines, and Section 21083 of the Public Resources Code. According to these guidelines, a project will have a significant effect on biological resources if it would:

- Substantially affect, reduce the number of, or restrict the range of a unique, rare, or endangered species of animal, or the habitat of the species (Section 15065, Appendix G, Appendix I)
- Interfere substantially with the movement of any resident or migratory fish or wildlife species (Appendix G)
- Threaten to eliminate an animal community (Section 15065a)
- Substantially diminish or reduce habitat for fish or wildlife (Appendix G)
- Change the diversity of species, or number of any species of animals (Appendix I)
- Cause a fish or wildlife population to drop below self-sustaining levels (Section 15065)
- Introduce new species of animals into an area, or act as a barrier to the normal replenishment of existing species (Appendix I)
- Deteriorate existing fish or wildlife habitat (Appendix I)

Proposed remediation and development within the work areas have the potential to disrupt behavior patterns of harbor seals through potential human disturbance, both visual and acoustic. When marine mammals are frightened by noise, they typically respond by quickly diving into the water. Depending on the severity of the disturbance, they may return to their haul-out site immediately, remain nearby in the water for some length of time and then return to the site, or vacate the area and haul out at another site (National Oceanic and Atmospheric Administration 1996). Permanent abandonment of the area as a haul-out would represent a potentially significant impact. For the purposes of this biological impact analysis, three principal

components of the guidelines outlined above were considered: magnitude of the impact, uniqueness of the affected resource (rarity), and susceptibility of the affected resource to perturbation (sensitivity).

- *Magnitude of the impact*: It is anticipated that a Caterpillar 330 track-mounted excavator or similar device will be used during excavations in the work areas. The Caterpillar has the most potential to cause an acoustic disturbance, while it and the work crews involved would both contribute to a visual disturbance.

- *Uniqueness of the affected resource (rarity)*: Harbor seals were the only marine mammals seen during the site visits. Other marine mammals such as sea lions also have the potential to use the marine environment and haul-outs offshore of the work areas. The Steller sea lion was federally listed as threatened in 1990.

- *Susceptibility of the affected resource to perturbation (sensitivity)*: During the initial habitat assessment, a heavy-equipment work crew was removing the power plant while harbor seals were hauled out with seemingly no affect, though a strong onshore breeze (20 to 25 miles per hour) made acoustic disturbance difficult to detect offshore. Sensitivity of marine mammals to the remediation work may only be known once the work commences and is monitored by a biologist.

Monitoring and Mitigation for Marine Mammals

In order to reduce potential impacts to marine mammals during proposed remediation work, it is recommended that the client facilitate monitoring of marine mammals present in the project area. The following guidelines are recommended for preconstruction surveying and monitoring of marine mammals:

- Monitoring should be conducted by a qualified biologist.

- Binoculars (8 by 42 minimum recommended) or a spotting scope should be used for surveying.

- Baseline observations of pinnipeds in the project area should be conducted prior to initiating project activities. The day before work activities are scheduled to commence, a morning and afternoon count should be conducted.

- Observations will occur every morning work is scheduled to occur.

- Survey data should include type of marine mammals present, numbers, age class, sex (if possible), location, time, tide, type of construction activity being conducted, and whether animals respond to the activity. Rates of departure and arrival of animals to and from the haul-out should be noted.

- If seals flush for a work-related reason, the portion of the project that caused the seals to flush will be delayed until the animals leave the area.

- Conducting work in a sensitive haul-out area at high tide would lessen the chance of harassment, as harbor seals are more likely to use haul-outs at low tide.

- If a Steller sea lion is observed, work activities in the immediate bluff area will be postponed until it leaves the project area.

- Additional counts should be conducted every 2 days for a week after all work is terminated to compare the use of haul-out sites without work-related disturbances. The National Marine Fisheries Service (NMFS) recommends both pre- and post-activity monitoring of a more behavior-specific nature to fully assess the nature and duration of activity impacts on marine mammals and allow for adaptive adjustments to future activities to further minimize impacts.

These measures will not only determine use of the haul-outs by species, tide level, and reaction to human activity in the area, but also facilitate consultation with the NMFS should mitigation for disturbance be necessary.

According to the Marine Mammal Protection Act, if work activities disrupt harbor seal behavioral patterns, these activities would take marine mammals by Level B harassment. In general, if the received level of noise stimulus exceeds both the background (ambient) noise level and the auditory threshold of the animals, and especially if the stimulus is novel to them, there may be a behavioral response. The probability and degree of response will also depend on the season, group composition of the pinnipeds, and type of activity in which they are engaged. Minor and brief responses, such as short-duration startle or alert reactions, are not likely to constitute disruption of behavioral patterns, such as migration, nursing, breeding, feeding, or sheltering (i.e., Level B harassment) and would not cause serious injury or mortality to marine mammals.

On the other hand, startle-and-alert reactions accompanied by large-scale movements, such as stampedes into the water, may raise to the level of Level A harassment and could result in injury of individuals. In addition, such large-scale movements by dense aggregations of marine mammals or on pupping sites could potentially lead to takes by serious injury or death. However, there is no potential for large-scale movements leading to serious injury or mortality near the work areas, because on average the haul-out sites could not support a large number of harbor seals. Because of the past heavy use of the area and previous observations during work events, the effects of the work activities are expected to be limited to short-term startle responses and localized behavioral changes.

Avian Species

WRA has prepared an *Avian Habitat Utilization and Impact Assessment* (WRA 2006) for this project. This assessment covers all avian species (e.g., cormorants shown in **Figures 7** and **8**) that may be affected by proposed work activities in all habitats in or near the project footprints: coastal bluff, rocky intertidal zone, coastal terrace prairie, perennial grassland, and freshwater aquatic habitat (i.e., freshwater pond, marsh, and seep habitats).

Coastal Bluff and Rocky Intertidal Areas

Disturbances to marine mammals and avian species in the coastal bluff and intertidal areas were addressed above and in the *Avian Habitat Utilization and Impact Assessment* (WRA 2006). Disturbances to these two biological resources are anticipated to be predominantly acoustic and visual in nature. Disturbances to marine organisms in the intertidal area are anticipated to be sediment and runoff related. Construction BMPs prepared by AME in the Engineering Assessment portion of this document address these potential disturbances as well as performance standards in Section 18.61.022 (B) of the City Zoning Ordinance and LUP Chapter XVII, Section E. The implementation of these practices should adequately protect the biological productivity and quality of coastal waters, marine resources, riparian habitats, and other biological resources in the work areas.

CONCLUSIONS

Implementation of BMPs referenced in the Engineering Assessment allow CDP activities to be conducted in general accordance with performance standards of City Land Use and Development Code, Title 18, Chapter 18.61.022 (B) and LUP, Chapter XVII, Section E and should be effective in preventing negative impacts to the rocky intertidal zone and adequately protect biological productivity and quality of coastal waters, marine resources, and riparian habitats.

If you have any questions or comments, please contact Michael Acton of AME at (916) 939-9102 or Bill Stagnaro of WRA at (415) 454-8868.

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Very truly yours,

ACTON • MICKELSON • ENVIRONMENTAL, INC.

John Mattey, P.G., C.E.G.
Acton • Mickelson • Environmental, Inc.
California Certified Engineering Geologist
Number EG1236

Michael Acton, R.E.A.
Acton • Mickelson • Environmental, Inc.
Vice President

Bill Stagnaro
WRA, Inc.
Wildlife Biologist

PROFESSIONAL GEOLOGIST
JOHN D. MATTEY
EXP 8-31-07
No. 1236
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Enclosures

MAA:tcm

cc: Julie Raming, Georgia-Pacific Corporation
Carol Stephens, Georgia-Pacific Corporation
Michael Davis, Georgia-Pacific Corporation
Doug Heitmeyer, Georgia-Pacific Corporation
Bill Stagnaro, WRA, Inc.
Kay Johnson, Tetra Tech, Inc.
Barbara Brenner, Stoel Rives, LLP
Linda Ruffing, City of Fort Bragg
Glenn Young, Fugro West, Inc.
Mark Stelljes, SLR International Corp.
Sheila Semans, California Coastal Commission
Craig Hunt, California Regional Water Quality Control Board, North Coast Region

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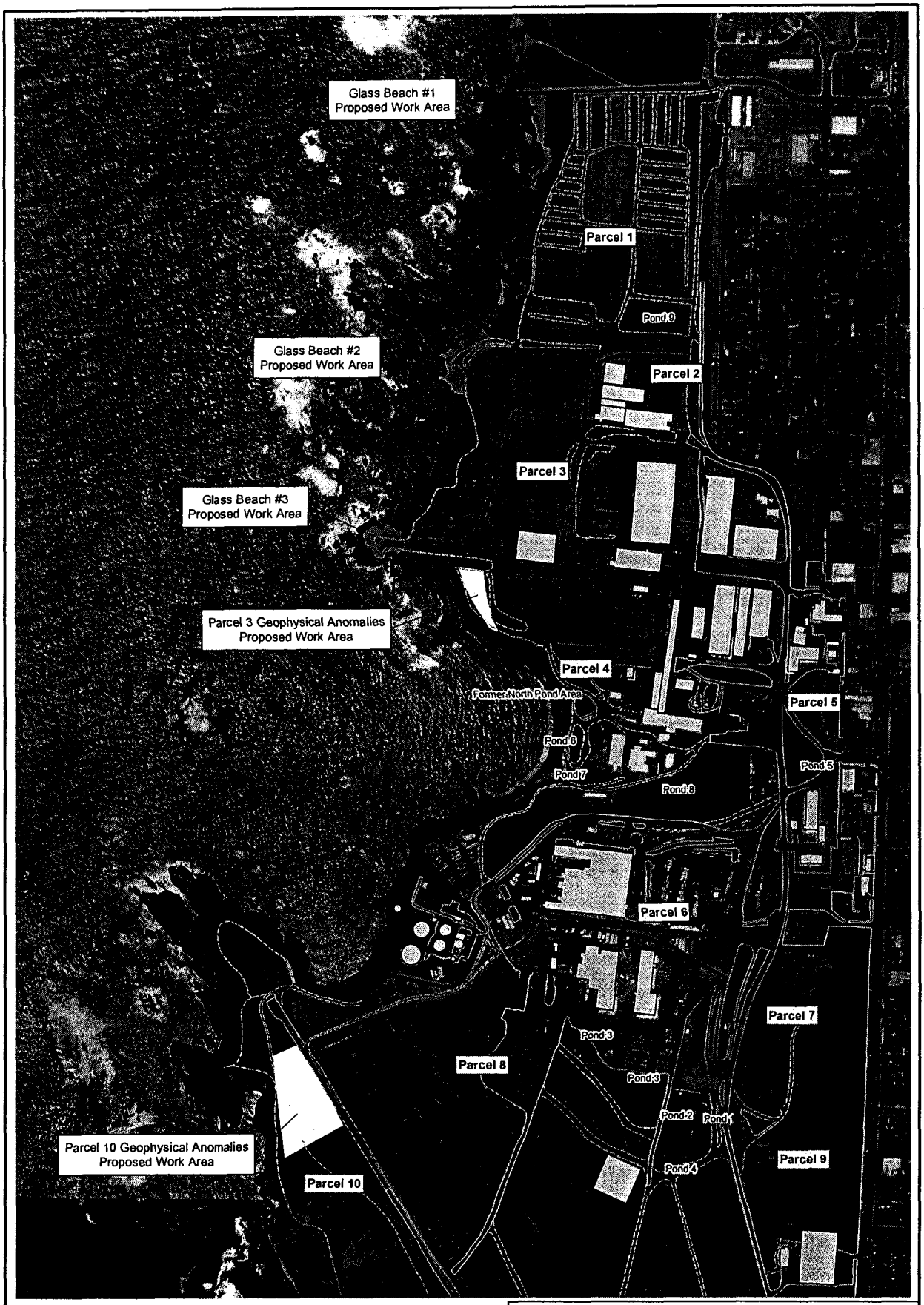

Legend
- Pond
- Facility Structure
- Foundation To Be Removed - CDP
- Parcel Boundary
- Glass Beach Proposed Work Area
- Geophysical Anomaly Proposed Work Area
- Railroad Track
- Unpaved
- Pavement

Notes:
1. All locations and dimensions are approximate.

N

0 250 500 1,000
Feet

FIGURE 1
SITE MAP

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No	Drawn By	
16017.08	KJJ	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
	Prepared By	
	Reviewed By	5175 Hillsdale Circle #100
	MAA	El Dorado Hills, California 95762
	Scale	(916) 939-7550
	As Noted	

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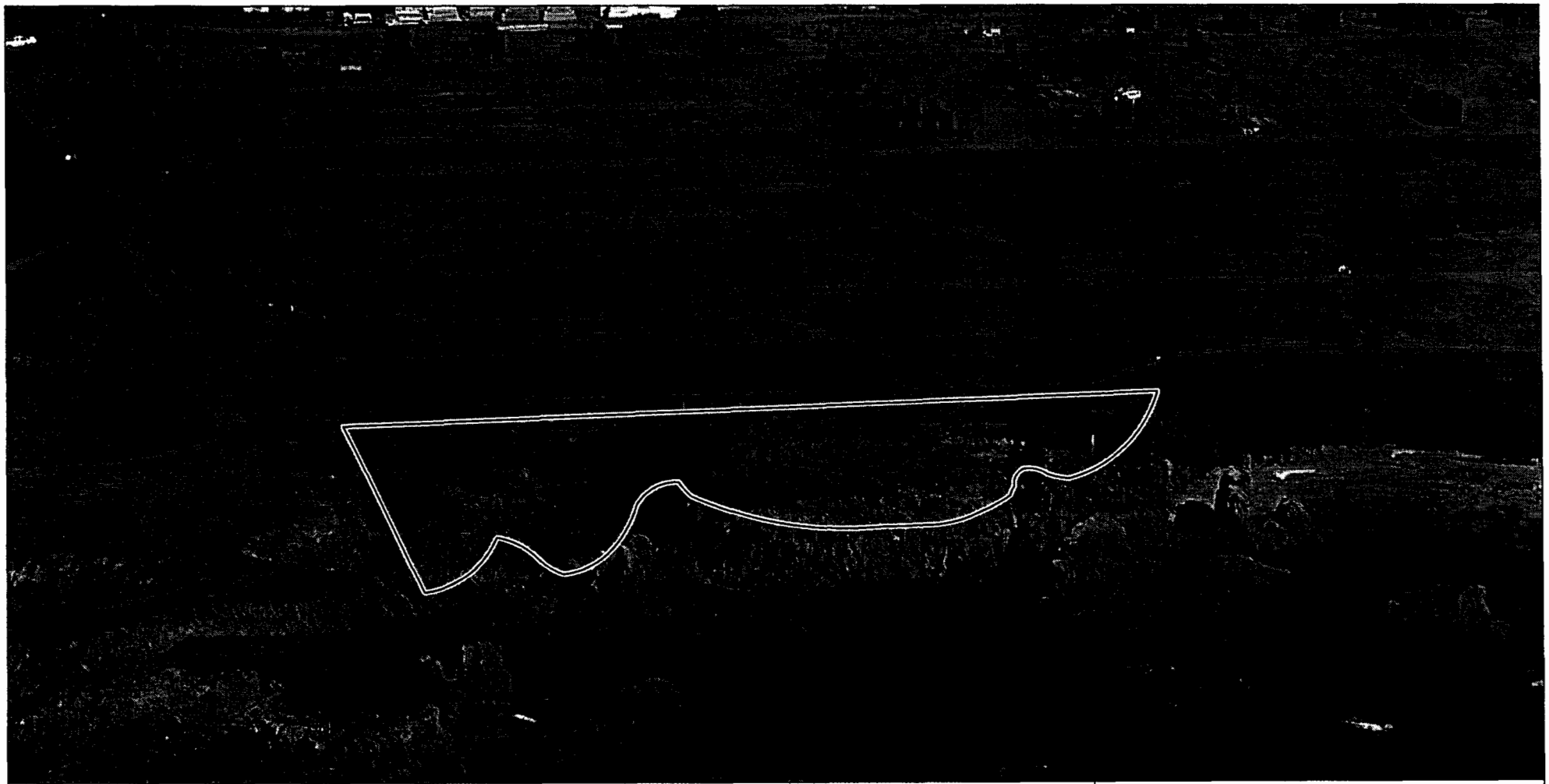

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Note:

Estimated volume of soil and debris - 1,673 cubic yards

PROPOSED WORK AREA

DIRECTION OF HAUL ROUTE

FIGURE 2
GLASS BEACH #1 PROPOSED WORK AREA
OBLIQUE VIEW FROM WEST

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.08	Drawn By KJJ	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
	Prepared By	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By MAA	
	Scale None	

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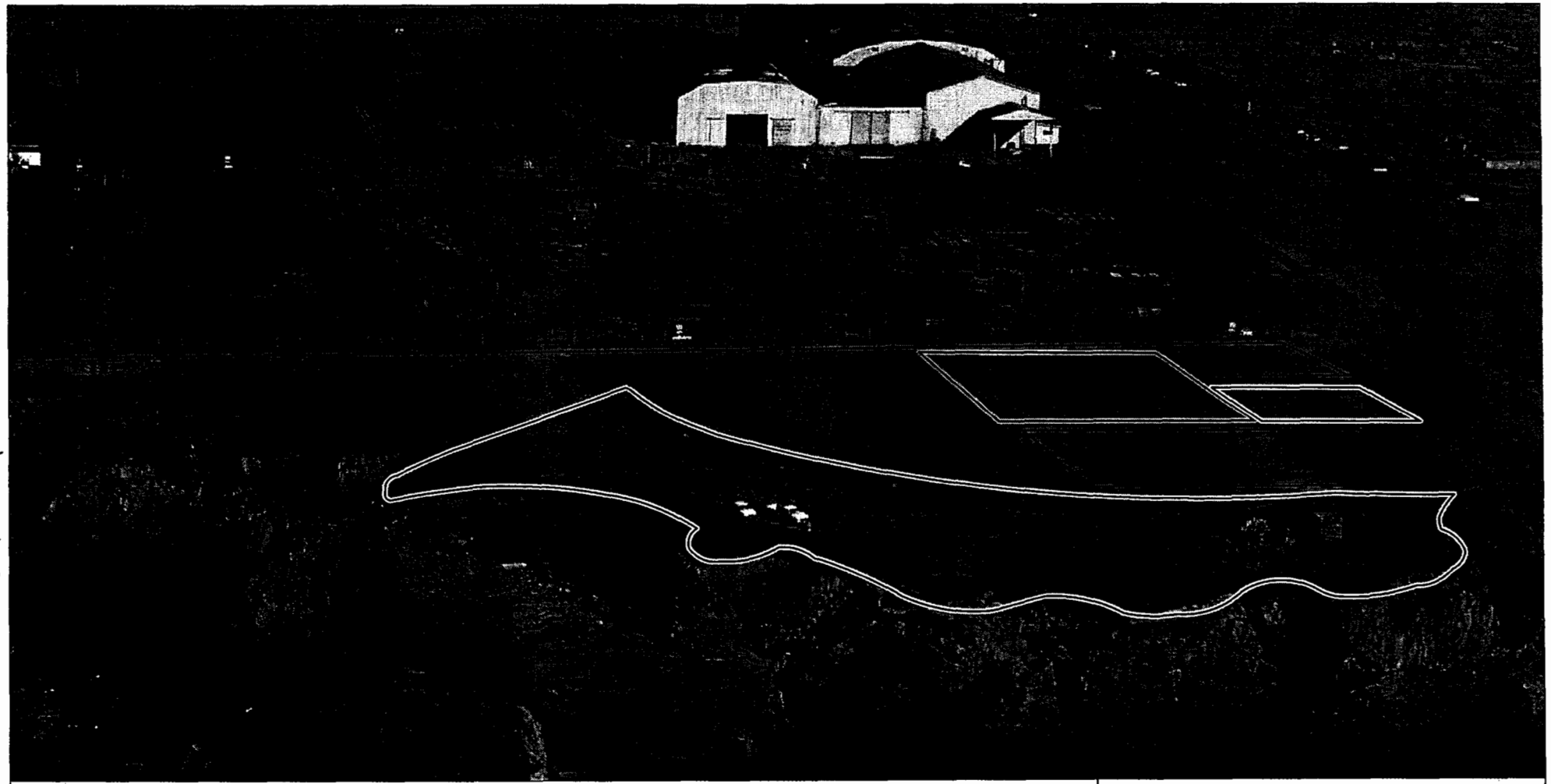
15 of 21



Photography: Copyright © 2002-2005 Kenneth & Gabrielle Adelman, California Coastal Records Project, www.californiacoastline.org

Notes:

Estimated volume of soil and debris, Glass Beach #1 - 1,673 cubic yards

Estimated volume of soil and debris, Glass Beach #2 - 4,750 cubic yards

Estimated volume of soil and debris, Total - 6,423 cubic yards

Estimated volume of soil stockpile - 7,407 cubic yards
(200 feet by 200 feet by 5 feet thick)

Estimated volume of debris stockpile - 1,736 cubic yards
(125 feet by 75 feet by 5 feet thick)

PROPOSED WORK AREA

PROPOSED SOIL STOCKPILE AREA

PROPOSED DEBRIS STOCKPILE AREA

DIRECTION OF HAUL ROUTE

FIGURE 3
GLASS BEACH #2 PROPOSED WORK AND STOCKPILE AREAS
OBLIQUE VIEW FROM WEST

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.08	Drawn By KJJ	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
	Prepared By	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By MAA	
	Scale None	

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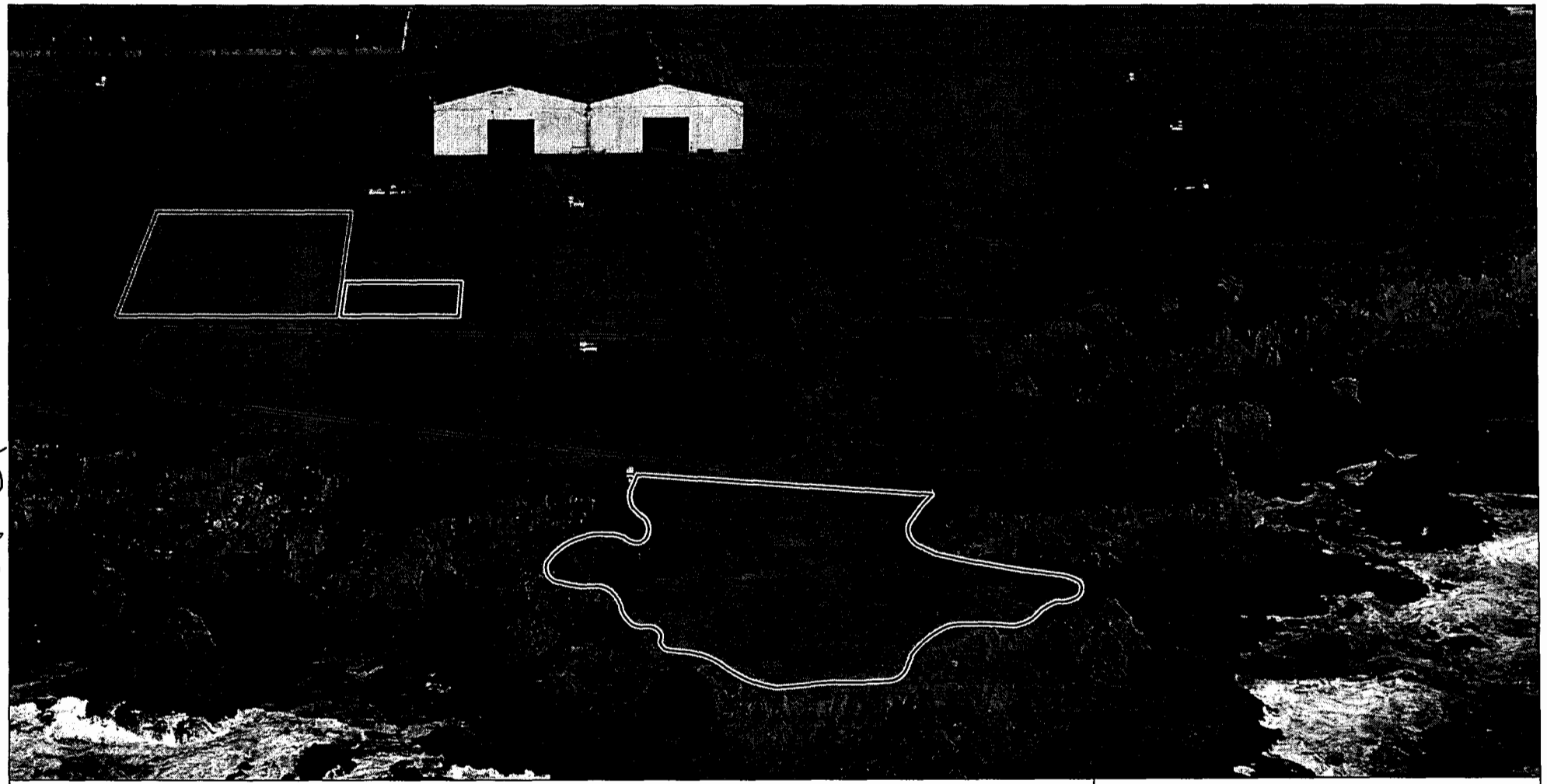
12 of 21



Photography: Copyright © 2002-2005 Kenneth & Gabrielle Adelman, California Coastal Records Project, www.californiacoastline.org

Notes:

Estimated volume of soil and debris - 1,792 cubic yards

Estimated volume of soil stockpile - 1,852 cubic yards
(100 feet by 100 feet by 5 feet thick)

Estimated volume of debris stockpile - 389 cubic yards
(70 feet by 30 feet by 5 feet thick)

PROPOSED WORK AREA

PROPOSED SOIL STOCKPILE AREA

PROPOSED DEBRIS STOCKPILE AREA

DIRECTION OF HAUL ROUTE

FIGURE 4
GLASS BEACH #3 PROPOSED WORK AND STOCKPILE AREAS
OBLIQUE VIEW FROM WEST

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.08	Drawn By KJJ	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
	Prepared By	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By MAA	
	Scale None	

2006-02-02 I:\16017_fort_bragg_mill_site\aerials\mxd\fig04_glass_beach_3_oblique.mxd KJJ

1284

Photography: Copyright © 2002-2005 Kenneth & Gabrielle Adelman, California Coastal Records Project, www.californiacoastline.org

Notes:

24 anomalies, estimated size 6 feet by 6 feet by 6 feet

Estimated volume of soil and debris - 192 cubic yards

Estimated volume of soil stockpile - 222 cubic yards
(40 feet by 30 feet by 5 feet thick)

Estimated volume of debris stockpile - 42 cubic yards
(15 feet by 15 feet by 5 feet thick)

PROPOSED WORK AREA

PROPOSED SOIL STOCKPILE AREA

PROPOSED DEBRIS STOCKPILE AREA

DIRECTION OF HAUL ROUTE

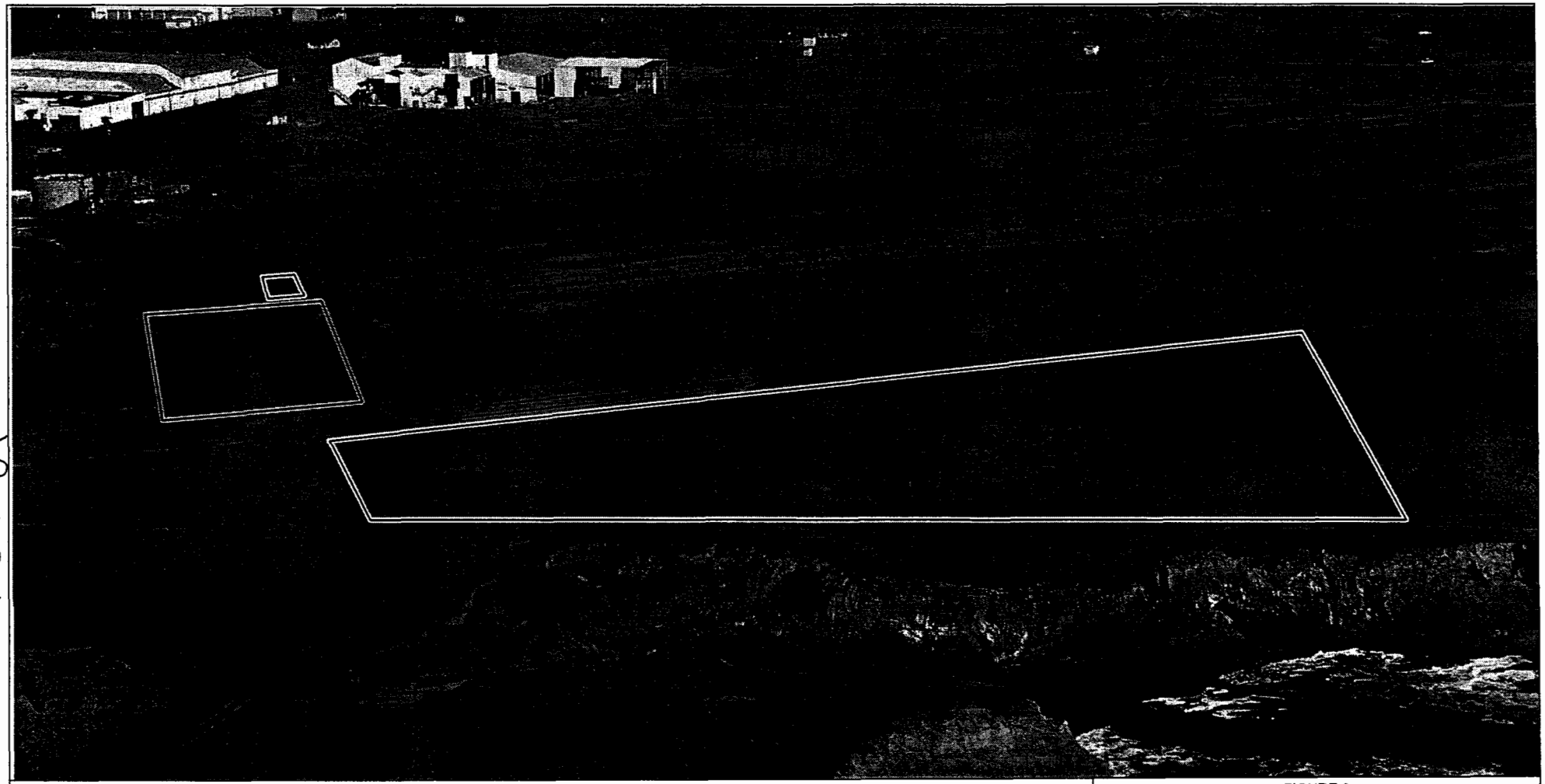
FIGURE 5
PARCEL 3 GEOPHYSICAL ANOMALIES
PROPOSED WORK AND STOCKPILE AREAS
OBLIQUE VIEW FROM WEST

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No. 16017.08	Drawn By KJJ	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
	Prepared By	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Reviewed By MAA	
	Scale None	

2006-02-02 I:\16017_fort_bragg_mill_site\aerials\mxd\fig05_geophysical_area_3_oblique.mxd KJJ

128 of 21



Photography: Copyright © 2002-2005 Kenneth & Gabrielle Adelman, California Coastal Records Project, www.californiacoastline.org

Notes:

47 anomalies, estimated size 6 feet by 6 feet by 6 feet thick (376 cubic yards)
1 anomaly, estimated size 80 feet by 50 feet by 6 feet thick (889 cubic yards)

Estimated volume of soil and debris - 1,265 cubic yards

Estimated volume of soil stockpile - 1,852 cubic yards
(100 feet by 100 feet by 5 feet thick)

Estimated volume of debris stockpile - 116 cubic yards
(25 feet by 25 feet by 5 feet thick)

PROPOSED WORK AREA
PROPOSED SOIL STOCKPILE AREA
PROPOSED DEBRIS STOCKPILE AREA
DIRECTION OF HAUL ROUTE

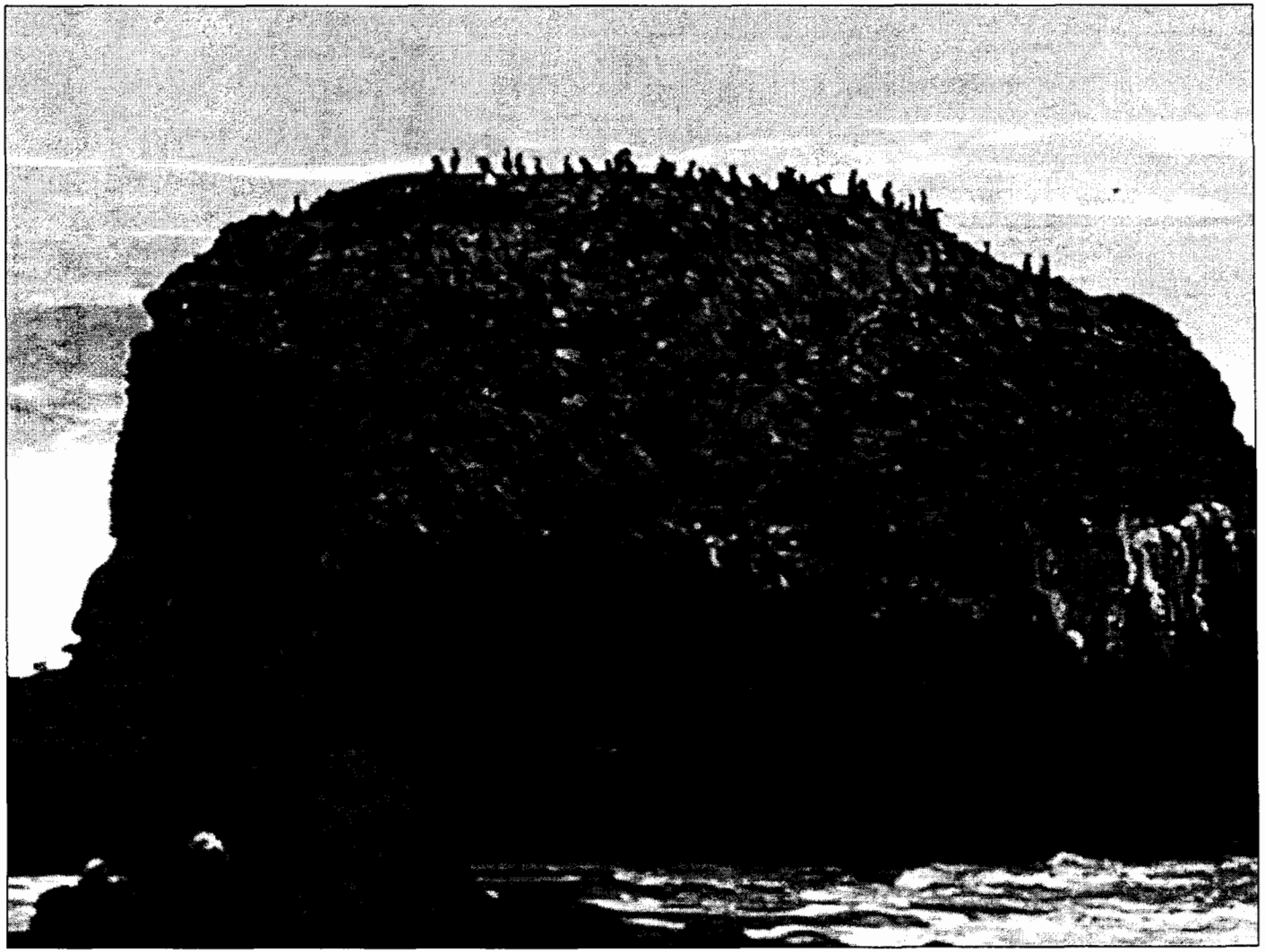
FIGURE 6
PARCEL 10 GEOPHYSICAL ANOMALIES
PROPOSED WORK AND STOCKPILE AREAS
OBLIQUE VIEW FROM WEST

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No.	Drawn By	
16017.08	KJJ	Acton Mickelson Environmental, Inc. Consulting Scientists, Engineers, and Geologists
	Prepared By	
	Reviewed By MAA	5175 Hillsdale Circle #100 El Dorado Hills, California 95762 (916) 939-7550
	Scale None	

2006-02-06 I:\16017_fort_bragg_mill_site\aerials\mxd\fig06_geophysical_area_10_oblique.mxd KJJ

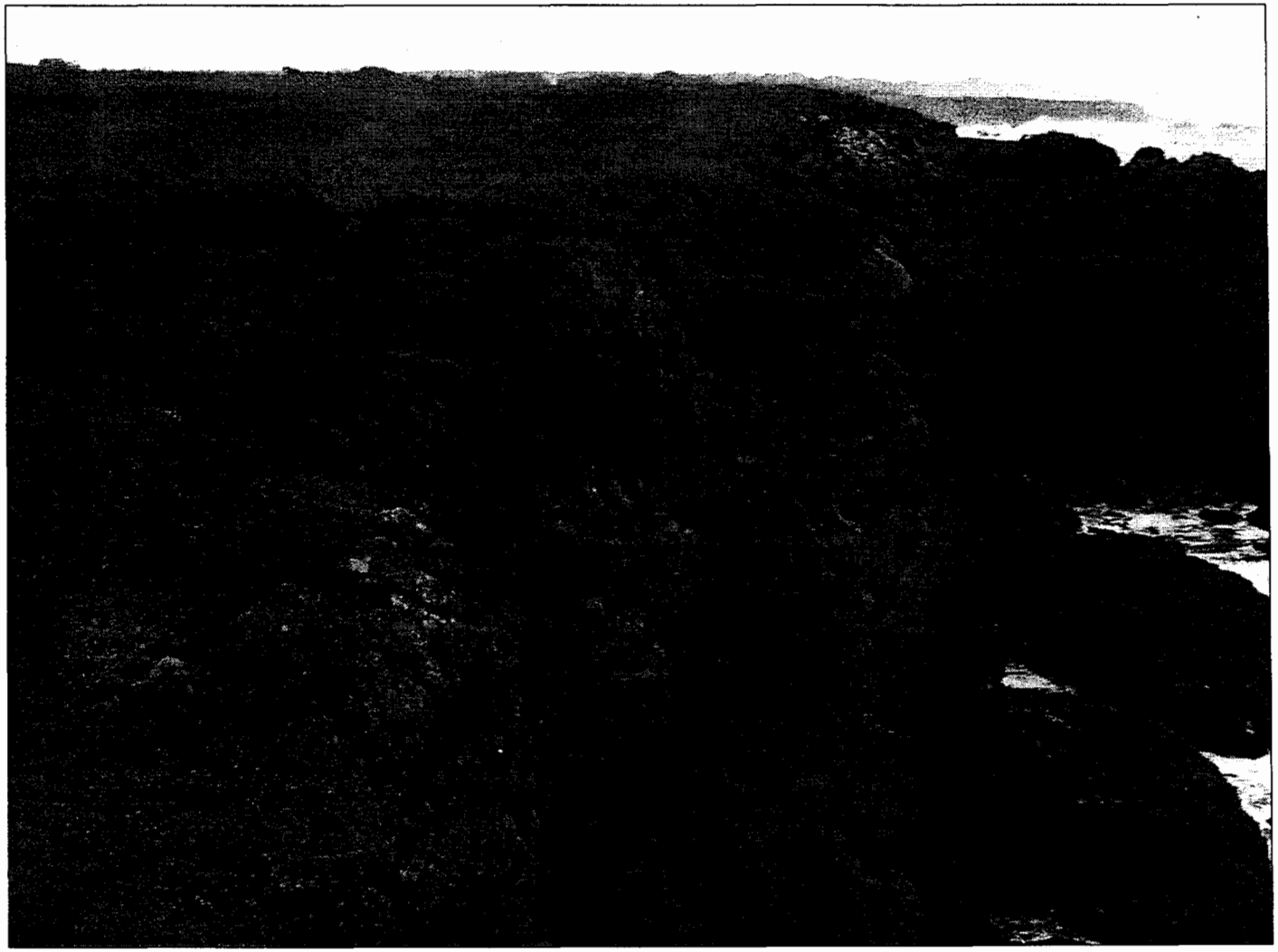
19 of 21



Source: WRA, Inc.

FIGURE 7
SEA STACK OFFSHORE WITH HARBOR SEALS AND CORMORANTS

20 of 21



Source: WRA, Inc.

FIGURE 8
COASTAL BLUFF WITH ROOSTING CORMORANTS

GEOTECHNICAL EVALUATION

Bearing Support for Heavy Equipment Loads
Georgia Pacific Mill Site
Fort Bragg, California

Prepared for:
Acton Mickelson Environmental, Inc.
5175 Hillsdale Circle, Suite 100
El Dorado Hills, CA 95762

Prepared by:
BLACKBURN CONSULTING, INC.

EXHIBIT NO. 17
APPLICATION NO.
A-1-FTB-05-053
EXCERPT, *GEOTECHNICAL EVALUATION – BEARING SUPPORT FOR HEAVY EQUIPMENT LOADS* (BLACKBURN CONSULTING, INC., FEB. 2006) (1 of 6)

11521 Blocker Dr, Ste 110 ■ Auburn, CA 95603
(530) 887-1494 ■ Fax: (530) 887-1495

blackburn consulting

2437 Front St. ■ West Sacramento, CA 95691
(916) 375-8706 ■ Fax: (916) 375-8709

Geotechnical ■ Geo-Environmental ■ Forensics ■ Construction Services

BCI File 924.1
February 6, 2006

Mr. John Mattey
Acton Mickelson Environmental, Inc.
5175 Hillsdale Circle, Suite 100
El Dorado Hills, CA 95762

Subject: **Geotechnical Evaluation**
Bearing Support for Heavy Equipment Loads
Georgia Pacific Mill Site
Fort Bragg, California

Dear Mr. Mattey:

Blackburn Consulting, Inc. (BCI) completed this geotechnical evaluation to assess general bearing support and bluff stability under conditions of proposed equipment loading near the coastal bluffs. This assessment is in response to comments by the California Coastal Commission in their "Approval with Conditions" staff report, dated December 1, 2005 (in response to Appeal No. A-1-FTB-05-053). Other items discussed in the Coastal Commission report are being addressed (separately) by AME, Inc., and others.

SCOPE OF SERVICES

To prepare this report, BCI:

- Discussed the project with John Mattey of Acton Mickelson Environmental, Inc. (AME), and reviewed the December 1, 2005 California Coastal Commission staff report.
- Reviewed published geologic mapping and air photos of the site.
- Performed geologic reconnaissance on January 11, 2006, at the time of test drilling by AME.
- Conducted laboratory classification and strength testing on selected samples provided by AME.
- Performed geotechnical engineering analysis in support of the recommendations contained herein.

SITE DESCRIPTION

The site is the former Georgia-Pacific Corporation's sawmill complex located along a 1.5 mile stretch of ocean bluff in Fort Bragg, California. The property is along a nearly flat marine terrace, positioned approximately 20-30 ft above the ocean. Air photos dated 11-21-1948 and 4-1-2000, provided by AME, show lumber storage and the operation of heavy, mechanized equipment at those times throughout the general area, extending to near the top of bluff.

AME has identified the following bluff locations as containing fill material and/or metal debris.

- Glass Beach #1
- Glass Beaoh #2
- Glass Beach #3
- Geophysical Anomaly Area – Parcel 3
- Geophysical Anomaly Area – Parcel 10

We show these locations on Figure 1. In each of these areas, it is proposed to excavate and remove several feet of soil/fill by means of heavy-duty excavating equipment, operating to within about 20 ft of the bluff top.

GEOLOGIC SETTING

The site is underlain by Quaternary (less than 1.5 M.Y. in age) terrace sediments deposited on wave-cut surfaces parallel to the coast. The terrace deposits are comprised of poorly to moderately consolidated, marine silts, sands and gravels, and are overlain by a 3-4 ft thick mantle of topsoil. The terrace soils are underlain by Tertiary-Cretaceous marine sediments (approximately 65 M.Y. in age) of the Coastal Belt Franciscan Complex, comprised of well-consolidated, sandstone, shale, and conglomerate. The site is approximately 15 km (9 mi) east of the San Andreas Fault Zone, and is not within a mapped Earthquake Fault Zone (Hart, 1997).

The topsoil, terrace deposits, and Franciscan Complex are each exposed within the bluff face throughout the project area. The topsoil is comprised of dark brown to black silty and clayey sand. The terrace soils are comprised of partly cemented, tan and orange-brown, sandy silt, with occasional lenses of cemented pebbly sand. The total thickness of the topsoil and terrace units typically varies from about 5-15 ft. The strength and competency of these materials is demonstrated by near-vertical slopes common throughout the bluffs.

The underlying Franciscan Complex bedrock is typically hard and resistant, and near-vertical faces are common. Portions of the rock are, however, relatively weak and prone to erosion; in these areas, sea caves and other erosion cavities are common, and in places undercut the bluff face by up to 5-10 ft.

We include representative photographs of the bluff materials in Appendix A.

Mapping by the California Division of Mines and Geology (now CGS, Kilbourne, 1983) shows strong, northwesterly-trending structural features within the terrace units, including an unnamed, concealed fault south of the site. These features parallel regional fault traces, including the San Andreas fault a short distance west of the site. The mapping does not show any landslides within the property. We show the site geology on Figure 2.

SUBSURFACE CONDITIONS

Subsurface exploration by AME included 15 sampled test borings (three borings at each of the five identified sites). AME located the borings as near as practical to the bluff, and at locations representative of the geotechnical conditions. We show the boring locations on Figure 1.

The drilling extended to depths of 5.5 to 11.5 ft, penetrating the firm terrace and/or Franciscan bedrock materials. AME logged the topsoil and/or fill as black silty sand, to depths varying from about 2-6 ft. Blow counts within the topsoil/fill ranged from 7-20, with an average of 14 ("medium dense," per typical U. S. Bureau of Reclamation soil logging procedures).

The underlying terrace soils are mapped by AME to generally the full depth of exploration, although Franciscan bedrock was encountered in six of the borings at depths of 3-10 ft. AME describes the terrace soils as typically light yellowish brown and olive brown, silty sand. The blow counts range from 21 to 86, reflecting the variably cemented nature of these soils, with an average blow count of 44 ("dense," per soil classification).

The Franciscan Complex bedrock is described by AME as fractured sandstone, with some mottled coloring and iron-oxide staining. Blow counts in the formation materials were generally greater than 50, considered "very dense" per soil classification.

Groundwater was noted in Boring GB1-GT2 (Glass Beach #1 site) at a depth of 10 ft. All other borings were dry to full depth. We include the AME boring logs with Appendix B.

LABORATORY TESTS

We performed moisture content, unit weight, and unconfined compressive strength tests on representative samples of the topsoil and terrace soils obtained from the borings. Our laboratory testing yielded dry densities of 84-100 pcf, with moisture contents of 10-31%. These results are within typical ranges for such soils. Unconfined compressive strengths on samples of silty sand ranged from 0.19-0.22 tsf (380-440 psf); these results, while relatively low given the high blow counts, are consistent with the granular nature of the soil.

We include the laboratory test results in Appendix C.

CONCLUSIONS

Bearing Support

Based on the above, we conclude that bearing support is available for typical heavy-duty excavating equipment, operating to within about 20 ft of the bluff top. Footprint loads on typical tracked, excavator equipment are generally about 4-6 psi. Most of the site has received similar (or greater) loading from past surcharges of lumber storage and/or equipment loads. In addition, some areas have been surfaced with gravel or asphalt pavement, further distributing surface loads. We consider light-weight vehicles, such as pick-up trucks and rubber-tire backhoes, as acceptable within a less-than-20 ft setback, provided the ground is firm and non-yielding.

We did not observe areas of very soft surface ground, and the drill rig was able to navigate the site without difficulty in January, 2006. In places, however, the upper few feet below ground surface may be soft after significant rains. If encountered, these areas can be mitigated by replacing the upper 12 inches with granular fill; a layer of geogrid (such as Tensar BX 1200, or equivalent) can be added at the base of the fill for added support, if necessary.

Bluff Stability

We consider the bluffs to be generally stable, although subject to erosion and, with time, progressive retreat. The bluff failures typically occur as episodic events involving discrete "blocks" along the bluff, often resulting from undercutting at the base of slope. Where not undercut, the bluffs stand near-vertical. We observed no evidence that past storage and equipment uses diminished the overall bluff stability.

Based on the strength of the bluff materials, it is our opinion that equipment operations behind a 20 ft setback from the bluff top will not create a geologic hazard nor diminish the stability of the bluff area. This setback includes the area described in Section 18.61.026B of the City of Fort Bragg's Zoning Ordinance as "between the face of the bluff and a line described on the bluff top by the intersection of a plane inclined at a twenty (20) degree angle from a horizontal plane passing through the toe of the bluff or cliff, or fifty (50) feet inland from the edge of the bluff or cliff, whichever is greater."

We recommend that BCI inspect the base of the bluffs prior to mobilizing equipment and, if recent sea caves or other significant slope undercutting is observed, adjust the setback recommendation accordingly.

LIMITATIONS

BCI performed these services in accordance with generally accepted geotechnical engineering principles and practices currently used in this area. We do not warranty our services.

BCI based this report on the current site conditions and data as developed and provided by AME. We assumed the soil and groundwater conditions are representative of the subsurface conditions on the site. Actual conditions beyond the borings could be different.

Thank you for choosing Blackburn Consulting, Inc. to provide these services. Please call if you have any questions or require additional information.

Sincerely,

BLACKBURN CONSULTING, INC.

Rick Sowers, P.E., C.E.G.
Senior Project Manager

Reviewed by: Tom Blackburn, G.E.
Principal

REGISTERED PROFESSIONAL ENGINEER
THOMAS W. BLACKBURN
No. 2311
Exp. 6/30/06
GEOTECHNICAL
STATE OF CALIFORNIA

Attachments:

	Figure 1	Site Map
	Figure 2	Geologic Map
	Appendix A	Site Photographs
	Appendix B	Boring Logs (AME)
	Appendix C	Laboratory Test Results

REGISTERED GEOLOGIST
RICHARD D. SOWERS
No. 1104
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

Alan C. Lloyd, Ph.D.
Agency Secretary

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

March 29, 2006

EXHIBIT NO. 18
APPLICATION NO.
A-1-FTB-05-053
GEORGIA PACIFIC CORP.
REVIEW AGENCY CORRESPONDENCE (1 of 6)

Ms. Julie B. Raming
Georgia-Pacific Corporation
P.O. Box 105605
Atlanta, GA 30348-5605

Dear Ms. Raming:

Subject: Workplan Clarification and Modification

File: Georgia-Pacific Fort Bragg Sawmill, 90 West Redwood Avenue, Fort Bragg
Case No. 1NMC462

Thank you for the March 28, 2006 document from Acton Mickelson Environmental, Inc. entitled *Clarification and Modification to Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures Dated March 21, 2005, Addenda #1 and #2 to the Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures Dated May 6 and August 19, 2005, Respectively, and Response to RWQCB Comments Dated July 18, 2005 Former Georgia Pacific California Wood Products Manufacturing Facility, Fort Bragg, California.* I have reviewed the document and concur with the proposals contained in it.

If you have any questions, you may contact me at (707) 570-3767 or chunt@waterboards.ca.gov.

Sincerely,

Craig Hunt
Water Resource Control Engineer

CSH\032906 CSH GP-FB 0603.doc

RECEIVED
MAR 29 2006
CALIFORNIA COASTAL COMMISSION

cc: Acton Mickelson Environmental, Inc., 5175 Hillsdale Circle, Suite 100, El Dorado Hills, CA 95762
Ms. Kay M. Johnson, Tetra Tech, Inc., 3746 Mt. Diablo Boulevard, Suite 300, Lafayette, CA 94549
Mr. Doug Heitmeyer, Georgia-Pacific Corporation, 90 West Redwood Avenue, Fort Bragg, CA 95437

Ms. Linda Ruffing, City Manager, City of Fort Bragg, 416 N. Franklin Street, Fort Bragg, CA 95437
Mendocino County Environmental Health Department, 501 Low Gap Road, Room 1326, Ukiah, CA 95482
Mr. Dave Goble, Public Works Department, 416 N. Franklin Street, Fort Bragg, CA 95437
Ms. Loie Rosenkrantz, 17201 Franklin Road, Fort Bragg, CA 95437
Mr. David L. Berry, Department of Toxic Substances Control, P.O. Box 806, Sacramento, CA 95812
Ms. Ashle Crocker, Remy, Thomas, Moose, and Manley, 455 Capitol Mall, Suite 210, Sacramento, CA 95814
Mr. Glenn S. Young, Fugro West, Inc., 1000 Broadway, Suite 200, Oakland, CA 94607
Mr. Mark Stelljes, SLR International Corp, 117 Burgundy Court, Martinez, CA 94553
Mr. Alfred L. Wanger, California Coastal Commission, 45 Fremont Street, Suite 2000, San Francisco, CA 94105-2219
Mr. Jim Baskin, California Coastal Commission, 710 E Street, Suite 200, Eureka, CA 95501-1865
E-mail cc list

California Regional Water Quality Control Board
North Coast Region
Beverly Wasson, Chairperson

Alan C. Lloyd, Ph.D.
Agency Secretary

http://www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

October 5, 2005

Ms. Julie B. Raming
Georgia-Pacific Corporation
P.O. Box 105605
Atlanta, GA 30348-5605

Dear Ms. Raming:

Subject: Interim Remedial Measures Plan

File: Georgia-Pacific Fort Bragg Sawmill, 90 West Redwood Avenue, Fort Bragg
Case No. 1NMC462

Thank you for the August 19, 2005 submittal from Acton Mickelson Environmental, Inc. (AME), entitled *Addendum #2 to Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures*. I reviewed that document and provided comment to you and Mr. Michael Acton of AME in a September 9, 2005 e-mail (enclosed with this letter for reference). We received a response from AME on September 22, 2005, entitled *Response to RWQCB Comments from September 9, 2005 E-mail ....* We have also received two September 28, 2005 documents from AME: *Stormwater Pollution Prevention Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* and *Revised Appendix D for Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures*.

The March 21, 2005 AME plan *Work Plan for Foundation Removal, Additional Investigation, and Interim Remedial Measures* is hereby approved as modified by the AME submittals dated May 6, 2005, July 18, 2005, August 19, 2005, September 22, 2005, and September 28, 2005, with the following comment:

- The details of the soil screening approach for the leachability of contaminants will need to be submitted to this office and approved before the work begins.

This office also received four sets of public comments on this work. The responses to those comments are enclosed for your reference. However, those responses are not included with cc's to this letter. Anyone interested in obtaining those responses can retrieve them from our website at http://www.waterboards.ca.gov/northcoast/geninfo/gp/gp.html or can contact me directly.

As I understand from the submittals from AME, this work will not commence before April 15, 2006. The report of this work should be submitted to this office and the electronic submittals made to the GeoTracker system within three months of the completion of the fieldwork. If you have any questions or comments, you may contact me at chunt@waterboards.ca.gov or (707) 570-3767.

Sincerely,

/ORIGINAL SIGNED BY/

Craig Hunt
Water Resource Control Engineer

100505_CSH_tmk_GPFB_0510_IRMApproval

Enclosures:
1. September 9, 2005 e-mailed comments
2. Responses to public comments

cc: (with September 9, 2005 e-mail comments enclosure only):
Acton Mickelson Environmental, Inc., 5175 Hillsdale Circle, Suite 100, El Dorado Hills, CA 95762
Ms. Kay M. Johnson, Tetra Tech, Inc., 3746 Mt. Diablo Boulevard, Suite 300, Lafayette, CA 94549
Mr. Doug Heitmeyer, Georgia-Pacific Corporation, 90 West Redwood Avenue, Fort Bragg, CA 95437
Ms. Linda Ruffing, Community Development Department, City of Fort Bragg, 416 N. Franklin Street, Fort Bragg, CA 95437
Mendocino County Environmental Health Department, 501 Low Gap Road, Room 1326, Ukiah, CA 95482
Mr. Dave Goble, Public Works Department, 416 N. Franklin Street, Fort Bragg, CA 95437
Mr. Andy Whiteman, City Manager, 416 N. Franklin Street, Fort Bragg, CA 95437
Ms. Loie Rosenkrantz, 17201 Franklin Road, Fort Bragg, CA 95437
Mr. David L. Berry, Department of Toxic Substances Control, P.O. Box 806, Sacramento, CA 95812
Ms. Ashle Crocker, Remy, Thomas, Moose, and Manley, 455 Capitol Mall, Suite 210, Sacramento, CA 95814
E-mail cc list

State of California – Resources Agency
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500

ARNOLD SCHWARZENEGGER, Governor

JUN 27 2005

June 24, 2005

RECEIVED
JUN 27 2005
CITY OF FORT BRAGG
COMMUNITY DEVELOPMENT DEPT.

Ms. Linda Ruffing
City of Fort Bragg
416 North Franklin Street
Fort Bragg, CA 95437

Dear Ms. Ruffing:

Georgia Pacific Mill Site – Foundation Removal and Interim Remedial Measures Coastal Development Permit (CDP 3-05)

The Department of Fish and Game (DFG) has reviewed the document for the subject project. Please be advised this project may result in changes to fish and wildlife resources as described in the California Code of Regulations, Title 14, Section 753.5(d)(1)(A)-(G)[1]. Therefore, a de minimis determination is not appropriate, and an environmental filing fee as required under Fish and Game Code Section 711.4(d) should be paid to the Mendocino County Clerk on or before filing of the Notice of Determination for this project.

The Department of Fish and Game (DFG) has reviewed the Environmental Checklist Form and Mitigated Negative Declaration (MND) dated June 16, 2005. According to the MND, a botanical survey was conducted and three rare plants (*Agrostis balsdalei, Castilleja mendocinensis* and *Hesperevax sparsifolia* var. *brevifolia*) were found within the project area. Activities proposed have the potential to impact the *Agrostis balsdalei* and *Hesperevax sparsifolia* var. *brevifolia* populations. Mitigation measures should be developed in consultation with DFG. A mitigation and monitoring report including the potential impacts and proposed mitigation should be submitted to DFG for approval prior to the onset of operations. The report should also include the second seasonal survey report for potential rare plants species that were not identifiable during the first survey.

DFG appreciates the opportunity to comment on this project. If you have any questions, please contact Ms. Corinne Gray, Environmental Scientist, at (707) 944-5526; or Mr. Scott Wilson, Habitat Conservation Supervisor, at (707) 944-5584.

Sincerely,

Robert W. Floerke
Regional Manager
Central Coast Region

596

[1] Find California Code of Regulations, Title 14 Natural Resources, Division 1, Section 753

Ruffing, Linda

From: Christopher D. Brown AICP [browncd@co.mendocino.ca.us]
Sent: Monday, June 20, 2005 2:05 PM
To: Linda Ruffing; jason@ncuaqmd.org
Subject: GP-W - CDP 3-05

Linda and Jason,

We have reviewed the Notice of Intent on the GP-W foundation removal project and concur with the findings as they relate to Air Quality. We have no additional comments at this time.

Good luck.

Christopher D. Brown AICP
Air Quality Specialist - Planning and Public Relations
Mendocino County Air Quality Management District
306 E. Gobbi Street
Ukiah, CA 95482
Phone (707) 463-4354
Fax (707) 463-5707
Web www.co.mendocino.ca.us/aqmd

David L. Berry, Ph.D.
14251 Polaris Circle
Mendocino, CA 95460-9730

EXHIBIT NO. 19
APPLICATION NO.
A-1-FTB-05-053
GEORGIA PACIFIC CORP.
GENERAL CORRESPONDENCE (1 of 36)

March 24, 2006

RECEIVED
MAR 28 2006
CALIFORNIA
COASTAL COMMISSION

Ms. Julie Raming
Georgia Pacific Corporation
133 Peachtree Street, NE
P.O.Box 105605
Atlanta, Georgia 30303

Re: Review of the Draft Human Health and Ecological Risk Assessment Workplan for the Georgia-Pacific California Wood Products Manufacturing Facility, Fort Bragg, California

Dear Ms. Raming:

Background

As a member of the local community, I have downloaded the Workplan from the North Coast Regional Water Quality Control Board's website and have reviewed the document for conformance with risk assessment guidance, approach, and technical content. I have lived in the community since 2000 and I have over sixteen years experience in environmental consulting and over 30 years experience as a toxicologist. I have worked with the State regulatory agencies in California conducting remedial investigations, drafting remedial investigation reports, drafting human health and ecological risk assessments, feasibility studies, closure reports, CEQA documents, and environmental impact reports for various clients.

I have previously provided the RWQCB comments on the Phase 1 Investigation and the Phase II investigation and geophysical investigation of the mill site. I have worked on several mill sites and paper mills as a consultant and am knowledgeable about timber mill practices. I have drafted and reviewed human health and ecological risk assessments for mill sites and wood treating facilities. I have provided expert testimony on the toxicity and potential human health and ecological effects of constituents identified at mill sites and wood treatment facilities.

Scope of the Review

I downloaded and reviewed the following document: "Draft Human and Ecological Risk Assessment WorkPlan for the Georgia-Pacific California Wood Products Manufacturing Facility, Fort Bragg, California." The document was prepared for the Georgia Pacific Corporation, 133 Peachtree Street NE, Atlanta, GA 30303 by Tetra Tech, Inc., 3746 Mt. Diablo Blvd., Ste. 300, Lafayette, CA

94549. The document was dated January 2006.

General Comments

The former Georgia-Pacific mill site located in Fort Bragg, California represents the largest non-military redevelopment site on the California coastline. It is located on the central Mendocino coast and is bordered on the north by the Pacific Ocean, east by the City of Fort Bragg, Noyo Harbor to the south, and Pacific Ocean to the west. The site is approximately 455 acres and has been in milled lumber production from 1885 until 2002. As an active sawmill, the facility was the economic mainstay of the Fort Bragg community for over 115 years. The former industrial facility is prime coastal property and will contribute significantly to the north coastal economy after cleanup and redevelopment. The site is pivotal to the citizens of Fort Bragg, Mendocino County, the State of California, and other parts of the country. Consequently, great care and attention is required to insure that the site is investigated, cleaned up, planned, and redeveloped to maximize the benefits to the citizens of Fort Bragg, Mendocino County, and the State of California.

The site is currently undergoing a remedial investigation to ascertain the nature and extent of contamination at the former mill facility. For ease of management, the facility has been divided into 10 parcels based on previous land use and industrial processes. Phase I and Phase II investigations of the soil and groundwater beneath the facility indicate the presence of multiple inorganic and organic constituents in the environmental media. Based on site history and use, contamination has been identified at several former industrial areas of the facility [e.g., Former Sawmill #1, Former Mobile Equipment Shop, Former Machine Shop, Former Fuel Barn, Former Paint Shop, Former Planar Mill #2, Former Power House, etc] in both soil and groundwater. Based on the Phase I and II investigations and groundwater monitoring data, over 60 potential chemicals of potential concern [COPCs] have been identified at the site. The constituents include inorganics, volatile organic compounds, semi-volatile organic compounds, various petroleum hydrocarbons, polychlorinated biphenyls, and chlorinated dioxins and furans.

The future land use of the former mill site is for multiple land uses including future residential, open space/park, industrial/commercial, recreational, and potential educational/research facilities. These uses will require that the site be thoroughly characterized and that appropriate risk-based remediation be implemented to support the intended future land use. The risk assessment guides the risk managers in making risk management decisions to achieve appropriate cleanup to protect the human and ecological health of the future land users.

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Both the Human Health Risk Assessment and the Ecological Risk Assessment are integral pieces of the remedial process as they quantify the current and potential risk(s)/hazard(s) to human and ecological receptors posed by site-related constituents. The risk assessment evaluates the COPCs and chemicals of potential ecological concern [COPECs], defines the exposure routes and dosages, describes the potential toxicity of the COPCs/COPECs, and quantifies the theoretical risks/hazards that the constituents might pose to human and ecological receptors exposed to the constituents. The risk assessment does not quantify past exposures, doesn't ascribe current health issues with past chemical releases/exposures, and does not predict future health outcomes.

The current work plan generally describes all of the required parts of a risk assessment as detailed in the DTSC and USEPA guidance. However, there are several issues that are not consistent with standard risk assessment practice and protocols. One of the most striking issues is the divergence from the Cal/EPA policy for *de minimis* residential risk. The WorkPlan proposes to use a residential risk level of 1×10^{-5} [one-in-one hundred thousand] for a screening cancer risk level as opposed to the more standard 1×10^{-6} [one-in-a-million] risk level. This approach is not conservative and not protective of human health when multiple chemical exposures are involved. What is more troubling is that this risk level was buried in an appendix [Appendix B] in the back of the document. The selected risk level metric should be presented in the main body of the text under the risk characterization section. The selection of COPCs and COPECs is not consistent with Cal/EPA guidance as currently proposed. The development of background soil concentrations for metals and dioxins/furans is inconsistent with Cal/EPA guidance [DTSC, 1997]. The conceptual site models [CSMs] for both human and ecological receptors are incomplete as they ignore the ocean and intertidal zones as potential tertiary sources and receptors for constituents associated with the mill site. The omission of the ocean as a tertiary source and receptors is inconsistent with the current and future land use and represents a huge data gap. The calculation and presentation of risk based screening concentrations [RBSCs] for soil and groundwater is confusing. RBSCs serve virtually no purpose as it is inappropriate to screen out COPCs /COPECs based on a screening criteria for organic constituents [DTSC, 1994]. If screening values are to be considered qualitatively, the USEPA Region IX Preliminary Remediation Goals should be considered as they are peer reviewed [USEPA, 2005]. Inorganics [metals] may be excluded from consideration as COPCs/COPECs if they are essential nutrients or within the site-specific background concentrations.

Specific comments are provided below for the human health and ecological risk assessments.

Specific Comments

Human Health Risk Assessment

1. The largest by area future land use for the facility is residential development followed by commercial, recreational, open space/park, wetlands, coastal trail corridor, and perhaps an educational/research facility. The facility has been divided into 10 major parcels based on former mill activities. Some of these areas may not be suitable for future residential development [based on location, geological conditions, wetlands, contaminants, etc] and these areas may not need to be remediated to residential standards. Identifying these areas will decrease additional site characterization required for those areas where non-residential development may be considered. However, areas such as Parcels 1, 3, 7, 8, & 10 will require additional soil sampling if they are to be future residential areas as the existing sample density is inadequate to support residential standards. Randomized grid sampling at a density of at least 4 samples per acre is recommended for future residential land that has been used as a former industrial facility.

2. Given the quality of the original geophysical investigation and results of the two-site geophysical study by 3-D Geophysics, additional geophysical investigation is warranted for the entire facility [including the mill ponds]. A detailed study using 3-D Geophysics could save time and effort for additional field investigation at the facility. The accurate detection and investigation of anomalies buried beneath the site can be greatly facilitated by a detailed geophysical/magnetic investigation. This will be crucial for lands destined to become residential areas.

3. In Section 2.5 it is stated that there are five major habitat areas identified at the former facility: industrial ponds, nursery area, wetland area north of the power plant, Soldier Bay beach, and the southern edge properties. In addition, five environmentally sensitive habitat areas are present at the site: streams, riparian habitat, coastal bluff, coastal waters, and intertidal/marine areas [WRA, 2005]. The site has over 3 miles of coastal habitat along the western edge of the property. These areas will provide recreational opportunities for future residents and visitors on the site and provide ongoing and future residence for wildlife species using the site. The baseline risk assessments [human health and ecological] must consider these habitats and receptors for future development. As such, the conceptual site models must be revised to include human recreational receptors, appropriate ecological receptors and the intertidal zone and ocean as part of the facility. Hence,

additional sampling in these zones will be required to address these areas in the risk assessment.

4. In the discussion of data sources in Section 3 of the Workplan, a data quality assessment is mentioned in the text and it states that the data have been subjected to quality assurance/quality control procedures. There is no mention of 3rd party data validation of any of the data for use in the risk assessment. For a site as important as this one to the community of Fort Bragg, it is recommended that at least 30 % of the data used in the risk assessment be 3rd party reviewed and the data validated using standard USEPA data validation procedures. The Level IV data validation packages should be provided to the regulatory agency for their review

5. In Section 3.2.1 where the proposed foundation removal to facilitate additional soil sampling is discussed, it is clear that core drilling and angle drilling can accomplish similar characterization and the public will have the ability to review the data prior to the determination of the appropriate remedial action. The current proposal eliminates public review of the data and public participation in the remedy selection process. In addition, the razing of many of the structures has been conducted without public input. The removal of the power plant and the hog should have encountered ash in the boilers. There is no evidence that ash samples from the boilers were sampled prior to their removal. The ash should have been sampled and disposed of properly with regulatory oversight. Ash samples from the boiler taken in 1990 indicated the presence of low levels of dioxins in the diluted samples [Exponent, 2004]. The ash contained metals and potentially dioxins [perhaps a hazardous waste depending on levels] and should have been sampled and reported as part of the site characterization investigation. This represents a data gap. Since land disposal regulations for dioxins prohibit disposal even at Class I landfills, where were the ashes disposed?

6. Review of the analytical methods proposed for future sampling indicated some analyses that may not be useful or sufficient. The analysis for total oil and grease by USEPA Method 1664A will provide no useful information for the risk assessment. Analysis for chlorinated dioxins and furans by USEPA Methods 8280 or 8290 may not provide congener specific results with sufficient health protective detection limits. Lower detection limits can be achieved using USEPA Method 8390. The more stable [and preferred] analysis for Cr^{+6} is USEPA Method 7199. This method provides more consistent reporting results for hexavalent chromium. The use of 8080 or 8082 for PCB analysis will not provide correct analysis for the coplanar PCB congeners in the ecological risk assessment. Suggest USEPA 1668 modified which is a congener-specific GC/MS method that is a modified 8082.

7. The use of 0 to 2 feet as "surface soil" is not health protective or consistent with current regulatory guidance. Both the DTSC and USEPA have defined surface soil as 0 to 6 inches in the soil column [see DTSC, 1992, USEPA 1989]. The 0 to 2 foot interval is described by the ATSDR guidance [ATSDR, 2005]. The use of the DTSC/USEPA recommended surface soil interval [0 to 6 inches] is imperative as it does not dilute the effect of highly immobile constituents such as PCBs and dioxins that remain at the soil surface. This is important for both potential human and ecological receptors. This needs to be corrected throughout the document.

8. In Section 3.2.3 Investigation Support, screening levels for soil and groundwater is introduced. The consultant proposes to use risk-based screening levels [RBSCs] which they developed [Appendix B]. California Human-Exposure-Based Screening Numbers Developed to Aid Estimation of Cleanup Costs for Contaminated Soil [CHHSLs] developed specifically for Brownfileds redevelopment could be used as screen concentrations would be more appropriately applied to the site [Cal/EPA, 2005]. Alternatively, peer reviewed preliminary remediation goals from USEPA Region IX should be used if any screening criteria are to be used. Both the Cal/EPA screening levels and the USEPA PRGs have been extensively peer reviewed. The screening criteria provide an indication of the magnitude of the contamination but should not be the sole metric for implementing interim removal measures. Removal measures must have public input prior to execution. Note: some of the RBSCs calculated in Appendix B exceed groundwater MCLs and hazardous waste levels for soil.

9. The selection of background metals should follow DTSC guidance [DTSC, 1997]. The three-tiered approach proposed for estimating background ranges for metals in soils includes using the Bradford Background Metals of California study. The Bradford study should not be used since there are no soil samples taken from Mendocino or Sonoma County in their data set [Appendix C]. Background locations for soil samples and groundwater should be taken at locations where there is no evidence for site-related activities and upgradient of the facility for groundwater. Soil data from background samples can be augmented by using site data and analyzing the data distributions and plotting expected values versus concentrations and statistically determining break points in the probability plots. This technique works for normal, log normal and nonparametric data sets. Background should be described by some central tendency [mean] and confidence interval. Comparisons using a tolerance interval should not be used due to a limited sample number and the fact the tolerance limits are more applicable to widget production on an assembly line rather than environmental statistics. Figures B-2 and B-3 will require correction based on the above considerations.

10. The discussion of ambient levels of dioxins as described in the Exponent report is highly unusual [Exponent, 2004]. Chlorinated dioxins are anthropogenic compounds and they are known to exist in ambient levels in the environment. Numerous sources of dioxins, including incinerators burning landfill material, have been documented by the USEPA in the U.S. Environmental Protection Agency, The Inventory of Sources and Environmental Releases of Dioxin-Like Compounds in the United States: The Year 2000 Update (External Review Draft). On-line. Available: http://www.epa.gov/ncea/pdfs/dioxin/2k-update/, March, 2005. The Exponent letter report only evaluates a very low sample number of dilute fly ash samples from the power plant; yet the report documents that dioxins are generated by the power plant at the GP Fort Bragg facility. If dioxins are detected in any environmental media at the site, they are to be included in the COPCs and must be carried forth in the risk assessment; no matter what level detected.

11. In the selection of chemicals of potential concern [Section 5.1], it is stated that media sampled, includes soil, groundwater, surface water, and sediment. With the inclusion of the intertidal areas and the ocean, additional media may be sampled including deeper sediments, tissues [biota], and pore water. Population surveys may also be required. It appears from the text in the 3rd paragraph on page 17 that all organic constituents identified at the site will be included as COPCs/COPECs except for qualified laboratory contaminants. Metals retained as COPCs/COPECs will be those which exceed the background ranges established for the respective metals as determined statistically. This approach is consistent with DTSC and USEPA.

12. The surface soil definition of 0 to 2 feet needs to be corrected to 0 to 6 inches in the 6th paragraph of Section 5.1, page 17. The paragraph concerning identification of COPCs in surface water and sediments on page 18 is rather curious. Surface water and sediments in the mill ponds may be contacted by human receptors [children playing in the pond, fisher persons, etc] and ecological receptors [migratory birds, fish, etc]. The paragraph needs to be edited.

13. The power plant operated for many years at the facility with no emission control technology to control stack emissions. Windrose data and simple dispersion modeling should be used to design surface soil sampling for constituents emitted from the mill stack[s] down gradient of the stacks. These areas need to be sampled for metals and potentially dioxins associated with fly ash emissions.

14. Future receptors at the site are details as future residents, commercial/industrial workers, construction workers and open space visitors. Given the nature of future residential developments, a landscaper should be

included as a potential receptor. Recreational users should also be included as they will be birding, fishing, crabbing, and abalone diving. The latter receptor implies that there will be fish, crab, and abalone consumption of species harvested just off shore of the site. There may be fish in Ponds 6 and 8 that would be available for capture by humans and birds of prey. These receptors need to be carried throughout the discussion of exposed individuals in the document. The text, tables 1-3, and the CSM figure need to be consistent.

15. The Conceptual Site Model is inconsistent with planned future human use [Figure 5]. The report needs to include the marine environment as a tertiary source and recreational fishing and mussel harvesting. Fishing, crabbing, and abalone diving are very popular along the Mendocino coast and the bluff trail will provide access for these activities along the 3+ miles of coast line. Future residents, commercial workers, and landscapers will have dermal contact with airborne dust. Recreational users and future residents could have dermal contact with surface waters in the ponds. Homegrown produce cannot be eliminated from consideration of future residential exposure. Future commercial workers, construction workers, visitors, and landscaper may have incidental ingestion of groundwater and some may have dermal contact with groundwater. Note: The CSM for ecological receptors [Figure 6] requires revision for the same reasons above [see below].

16. The discussion of groundwater exposures on page 20 needs to include the fact that in the NCRWQCB Basin Plan, the beneficial use of the water beneath the facility is municipal/domestic use. Hence, all groundwater pathways are applicable. The discussion on page 21 needs to be consistent with the Basin Plan. Almost all of the municipal and private water consumed on the Mendocino coast comes from shallow aquifers and wells.

17. For compounds like the PCB and dioxins, the mother's milk pathway should be evaluated. This should be included in the exposure assessment section.

18. For compounds like the PCBs and dioxins, secondary pathways need to be considered. Also, for fish, crabs, and mussels, secondary pathways need to be addressed [consumption of fish]. The text and exposure parameter tables need to be revised to include these pathways.

19. For future development at the site, exposure areas may be applicable. This would be especially helpful in future residential areas. Parcels 1, 8 and 10 may be future residential areas. Additional soil sampling will be required in these areas to support residential development. Areal average or upper confidence limits for exposure areas may be applicable in these cases.

20. It appears that certain area of the former facility may have future indoor air issues. These will be evaluated using the Johnson & Ettinger model and the USEPA spreadsheets. Vapor upward migration will be assessed by the Johnson & Ettinger model and downward migration to the groundwater will be assessed using VLEACH. This approach is technically sound. As stated above, airborne dust and soil will be addressed using a dispersion model and windrose and local meteorological data. These efforts require additional details. Note: the Johnson & Ettinger models diffusion and advection not convection.

21. In the discussion of risk characterization and uncertainty analysis, it is stated that, "For residents and other receptors evaluated on the basis of an area defined by a limited sample size [e.g., on boring per 1,000 square feet], risk may be presented using a risk per unit concentration approach and estimates of risk contoured across the Site". It looks like this is applicable to groundwater contamination. This requires clarification and more detail. There is no discussion of potential uncertainties associated with the proposed risk assessment.

22. There is no data on the marine environment. This is a huge data gap. Review of aerial photographs and CaliforniaCoastline photographs indicate several outfalls, pipes, stream outlets, and other features where releases from the facility to the ocean and marine environment could occur [http://www.californiacoastline.org]. Significant effort needs to be focused on the marine and intertidal areas investigations prior to any removal actions on the site.

Ecological Risk Assessment

23. The ecological risk assessment ignores the marine habitat directly adjacent to the project although this environment is directly down gradient from the project site. Impacts to marine receptors need to be considered in the ecological risk assessment. Of particular interest are impacts associated with biocumulative compounds such as dioxins and polychlorinated biphenyls (PCBs). Dioxins and PCBs are known to accumulate in muscles and other bivalves yet this is not discussed nor is the accumulation of these compounds in higher trophic level marine species. The conceptual site model presented in Figure 6 needs to be augmented to include pathways for marine exposure and the text needs to discuss fate and transport of site related chemicals of potential ecological concern (COPECs) relative to marine ecological receptors.

24. Figure 8 is not accurate. It is agreed that waterfowl consume emergent plants and can be considered as primary consumers; however, it is harder to accept the concept of herbivorous herptiles. Only three species of reptiles in

California are herbivorous, the Chuckwalla, desert iguana and the desert tortoise, all of which live in the Mojave and Sonoran Deserts, but not in Mendocino County. All other lizards are carnivorous, feeding on invertebrates or other lizards. All snakes are carnivorous, feeding on invertebrates, other reptiles, amphibians, birds and mammals. Amphibians are also carnivorous with the exception of frog larvae which do graze on plant material but may also be predatory. The western Pond turtle has a mixed diet of invertebrates, carrion and vegetation and is not a true primary consumer. No terrestrial amphibians (adults) feed on plant material contrary to the diagram illustrated in Figure 7 (Food web for annual grassland (AGS habitat)). The diagram needs to be clarified indicating that frog larvae (tadpoles) may be primary consumers.

25. Figure 8 also shows aquatic and sediment invertebrates as primary consumers but does not illustrate their food source. In reality, aquatic and sediment invertebrates may be detritivores (feeding on decaying organic material), primary consumers or secondary consumers. Figure 8 also fails to show a carnivorous or omnivorous animal as a tertiary consumer.

26. The list of potential species that may be expected to be found at the site (Appendix D) contain many species that would not be expected to occur at the project. For example, the golden-mantled ground squirrel and the salt-marsh harvest mouse are species that do not occupy grasslands and do not occur within the project area. In the habitats they do occupy, they occur year-round and do not occupy those areas seasonally in the summer as indicated in Appendix D-2. Similarly, the wood stork is a tropical/subtropical species that may enter Southern California casually during the summer (mostly immature birds at the Salton Sea and along the Lower Colorado River) but would certainly not be expected to occur on California's north coast. The yellow-billed magpie occurs in the central valley and the coast-ranges south of San Francisco but would not be expected to occur on the coast in Mendocino County. The black-billed oystercatcher which would most certainly occur at the site is not reported in the species list for the area. The species list is highly inaccurate and should be revised to accurately reflect species known or expected to occur at the site. All of the species lists including the plants, amphibians, reptiles, birds and mammals should be checked to verify their accuracy.

27. It is interesting to note that marine coastal habitat is included in Appendix D-2 and marine mammals such as the California sea-lion and the harbor seal are listed as species expected to occur at the site but the marine habitat is not included in the risk assessment. The marine habitat needs to be included in the risk assessment and represented in the conceptual site model.

28. The risk assessment reports there are no fish in the ponds and therefore fish are not included as receptors of concern (ROCs). However, the report indicates that a pair of belted kingfishers was seen foraging on Pond 8. Although the species will feed on insects, crustaceans and amphibians, it mostly feeds on fish. It is strongly recommended that the ponds be assessed by a qualified biologist to determine if fish are present in the on-site ponds. If fish are found then they need to be included as an ROC.

29. In section 6.1.2 (Receptors of Concern), the report indicates receptors will be chosen for each of the parcels identified in the report. If the parcels are to be treated separately then they need to be identified as areas of concern (AOCs). The report also needs to provide a site-wide assessment for those receptors (eg. Raptors, coyote) that would be expected to range throughout the project area.

30. The selected ecological guilds include amphibians and reptiles. Little toxicity data is available to assess reptiles in an ecological risk assessment. Reptiles should be assessed qualitatively rather than quantitatively. Likewise, toxicity data is scant for adult amphibians, but considerable toxicity data is available for the larval stage of the amphibian lifecycle. Hazard to amphibian larvae should be assessed quantitatively. The National Ambient Water Quality Criteria do not include protection of amphibians. HERD recommends EPA (1996) as a source of toxicity values that will be protective of amphibians. No ecological guilds representative of the marine environment are presented but need to be.

31. Soil samples should be collected to a depth of 6-feet rather than 5-feet as indicated unless it can be shown that ecological receptors are not exposed to soils at this depth. The report proposes burrow air as a media of concern. It is highly recommended that direct measure of soil gas be used in the risk assessment rather than soil gas modeling in the burrow. Depending on the model, burrow soil gas generally over or underestimates actual soil gas concentrations. Direct soil gas measurements collected for indoor air evaluation can be considered conservative values appropriate for screening purposes in the ecological risk assessment. Toxicity reference values (TRVs) can be developed for many of volatile and semi-volatile organic compounds (VOCs, SVOCs) from inhalation toxicity data available from the Agency of Toxic Substances and Disease Registry (ATSDR) and or the Integrated risk Information System (IRIS). Both the ground squirrel and the burrowing owl should be evaluated against concentrations of COPECs in burrow air.

32. The soil sampling depths proposed in the report are not adequate. Surface soils (0-6 inches) should be collected separately. Organic COPECs such as polychlorinated biphenyls (PCBs) and dioxins that have high octanol-water coefficients (K_{ow}) partition strongly to the organic fraction of the soil and are

very water insoluble. Therefore, they are extremely immobile in the soil unless they are traveling with an organic such as a petroleum product. Soil samples should be collected at 0-6 inches, 6-inches to two-feet, two to four-feet and four to 6-feet.

33. The report states the primary measures of effect will include toxicity data associated with chronic reproductive or developmental impairment. Not all ecological stressors directly effect reproduction or development. For example, many organic solvents exert their primary effects on the nervous system and the liver and do not have significant impacts to reproduction or development. Measures of effect should consider toxicity data linked to organ and tissue impairment as well as reproductive and developmental effects.

34. The use of allometric equations to scale reference doses between the test and receptor species should not be used unless there is at least a two order magnitude difference between the mass of the test species and the mass of the receptor species.

35. The report proposes to calculate risk-based screening criteria rather than the more typical forward calculation of hazard quotients typical of ecological risk assessments. The report should follow the forward calculation method for ecological risk assessments presented in DTSC's Econote 2 rather than back calculating to a risk based concentration. As reference, Econote 2 can be found at, http://www.dtsc.ca.gov/AssessingRisk/upload/econote2.pdf.

36. Calculation of risk based concentrations as presented in the report is flawed. For example, the report states "*Because toxicity data are limited for birds, and because ecological risk assessments at other sites have indicated that risks to birds and small mammals are similar, separate RBSCs were not developed for birds.*" Toxic response to individual COPECs may not be the same between avian and mammalian receptors. A classic example is estrogenic effects in birds with interference of calcium deposition and associated egg shell thinning. The ecological risk assessment should follow the forward calculation method utilizing toxicity reference values as shown in the Department of Toxic Substances Control Econote 2. Also, please provide a reference supporting the statement that risks to birds and small mammals are similar.

37. It is not true that fur or feathers prevent skin contact from media. Birds will dust themselves in surface soils to rid themselves of parasites and they will bathe in water, spreading their feathers to enhance media contact. However, since the skin is relatively impermeable compared to the gut, and the concentration in surface water is normally much lower than that in the diet, the dermal exposure pathways from water is normally of much less importance than the dietary exposure pathway. Similarly, while the

concentration in food, sediments and soils may be the same, the advection rate of food through the relatively permeable gut is far higher than the advection rate of sediment or soil across the relatively impermeable skin.

38. The report indicates that groundwater will not be evaluated unless it surfaces to groundwater. However the report indicates that groundwater is shallow and therefore the report should consider possible effects to plants that may extend their roots to the groundwater. Also, the report fails to consider movement of groundwater to the marine environment and effects of COPECs associated with the groundwater to marine benthos, and intertidal and littoral ecological receptors.

39. Selected indicator species outlined in Table 8 should be modified. Separating plants into three groups (Grasses and forbs, shrubs, and trees) is impractical. Two categories of plants should be listed, aquatic and terrestrial. The western pond turtle is not an herbivore, it is an omnivore. Reptiles should only be considered on a qualitative basis. The bullfrog should replace the Pacific chorus frog because there is considerable toxicity data available for bullfrog tadpoles (Pauli et.al., 2000). A mammalian omnivore such as the deer mouse should be included as an indicator species. The deer mouse is found in virtually all habitats throughout California, feeds on invertebrates, seeds, fruits and fungi and has a home range of one half acre or less. The long-tailed shrew should be substituted for the coyote in the carnivorous mammalian guild. The weasel is more strictly carnivorous than the coyote and with a home range of 20-50acres is much more suitable as a receptor for the risk assessment then the coyote with a home range of several square kilometers. Invertebrate and vertebrate receptors for the marine environment should also be included.

40. Although Table B-3.11 reports the SSLs are derived from Navy BTAG NOAEL and LOAEL based TRVs, the Table does not reference how the SSLs were calculated. Overall, the Table is poorly presented. Sources of screening values are not provided, and derivation of the SSLs is not described. Screening levels appear inordinately high. Ecological screening levels for arsenic of 554 mg/Kg, 43,836 mg/Kg total chromium, 7,813 mg/Kg copper, 7,515 mg/Kg lead, and 24 mg/Kg mercury would be considered hazardous waste. The risk assessment should follow the guidance presented in econote 2, and calculate risk by forward calculation, not by back-calculating media risk based screening values.

Conclusions

While the Workplan contains most of the required information and generally follows Cal/EPA and USEPA guidance, there are many areas where the document is incomplete and inconsistent with current Cal/EPA guidance and not

consistent with the intended future land use. The organization of the document is confusing and fractured. The Conceptual Site Models for both the Human Health and the Ecological Risk assessments fail to include the marine environment as part of the facility as a migration/tertiary release source and as receptor source(s) for human recreational activity and environmental receptors. The selection of COPCs and COPECs is not consistent with Cal/EPA or USEPA guidance. The development of site specific background for soil and groundwater are not consistent with current Cal/EPA guidance. The development of RBSCs and their use is inconsistent with a future residential cumulative risk level of 1×10^{-6} and a hazard index of 1.0. The ecological risk assessment proposed is incomplete and generic in nature; focusing on a single rodent receptor as an indicator species. The Workplan requires significant modification and additional detail before I can agree with the proposed plan.

These comments are provided to you as critical, constructive suggestions for improving the technical quality of your document for submission to the NCRWQCB. If you require additional information or discussion, you may contact me via email dlberry@mcn.org.

Sincerely,

David L. Berry

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COASTAL COMMISSION

March 21, 2006

California Coastal Commission
North Coast District Office
Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

RE: Appeal of City of Fort Bragg's Issuance of Coastal Development Permit No. A-1-05-53

Dear Coastal Commission and Staff:

The Mendocino County Board of Supervisors respectfully requests a timely review and decision regarding the Coastal Commission Appeal of City of Fort Bragg's Issuance of Coastal Development Permit No. A-1-05-53.

The City of Fort Bragg has conducted an extensive community planning process regarding the reuse plan for the Georgia Pacific Mill site located within the City. Any significant delay in site cleanup efforts may jeopardize significant Coastal Conservancy funding as well as Federal Department of Transportation (DOT) funding for coastal trail development.

The merits of this Coastal Commission appeal are not a subject the County wishes to entertain. We deferentially request an expeditious decision be rendered by the Commission to allow the planning process to proceed.

Sincerely,

J. David Colfax, Chair
Mendocino County Board of Supervisors

cc: Honorable Patty Berg
Honorable Wes Chesbro
City of Fort Bragg

160936

HAROLD WOLLENBERG, CERTIFIED ENGINEERING GEOLOGIST
CALIFORNIA LICENSE NO. 797
29863 Madsen Lane, Fort Bragg CA 95437 woll@mcn.org (707)964-5279

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Mr. James Baskin, Coastal Planner
California Coastal Commission

March 20, 2006

Comments on Acton-Mickelson reports to the Coastal Commission re. Fort Bragg millsite:

Report, Feb. 6, 2006. *Excavation and Stockpile Quantification Estimate...*

Pg.1, 2nd para.: "...if proposed impacts to unsaturated soil..." :

Without testing through the slabs, how can it be assumed that the soil is unsaturated? It is likely that after this season's abundant rainfall, the soil directly underlying the slabs would in places be 100% saturated, especially where slabs are cracked and roofs have been removed before this rainy season. Resulting perched water bodies could ultimately connect with the permanently saturated zone. Sampling through the slabs would permit determination of the degree of saturation of the sub-slab soil / fill.

Pg. 2: Soil Excavation and Treatment:

"...assumption that a 1-foot-thick layer of soil will be excavated beneath the entire footprint of each foundation removed.":
This may represent the favorable case where all contaminants are within 1 foot of the bottom of the slabs. But given the expected variability of the soil and fill properties, the contaminated zone could extend substantially deeper. If so, would excavation attempt to remove this deeper material in this phase of the work, resulting in volumes of stockpiled material substantially greater than the estimated 9672 cubic yards? Preliminary testing through the slabs would significantly constrain this uncertainty.

Report, Feb. 9. *Geotechnical Evaluation...*
"Geotechnical Evaluation" does not apply to "Building Foundation Demolition..." as the title of this report implies, but <u>only</u> to the capabilities of bluff-top materials to support the bearing loads of tracked or wheeled excavating equipment.

Report, March 1. *Hazardous Materials Assessment...*

Pg. 4, 2nd para.: "... underlying vadose zone soils have low moisture content.":
Many foundations are no longer covered by roofs or walls, so rain water could have leaked through cracks and joints, resulting in perched water zones directly beneath some foundations.

Pg. 5, Runoff and infiltration potential analysis:
Over the past five years, rainfall has exceeded one inch per day seven times in April, May, and June; three times in 2005. The model should take into account the reality of these late-season heavy rains.

Pg.11. Discussion of vertical borings:
"Full characterization" was not the purpose for which I proposed vertical borings in October. Rather, they would be used for a reconnaissance of sub slab conditions to better plan "full characterization" activities. If a campaign of vertical borings had commenced when it was initially proposed, critical information would have been gained early-on to credibly develop the scope of investigations, and perhaps to even justify early removal of some foundations.

Pg.11, Discussion of angle and horizontal borings:
The presence of perched water bodies and their possible connections to the saturated zone could best be investigated by low-angle boreholes.

General Comment:
Irrespective of the assurances that the modeling as described in this report might provide, it would be prudent to install monitoring wells on the hydrological gradient between the power plant site and the Soldier Cove beach, an area where Figure 6 shows that the unsaturated zone is the thinnest on-site. The wells should extend at least ten feet into the saturated zone, and be configured so that samples can be obtained from specific isolated intervals. Protocols for sampling, testing, and frequency of sampling should be provided by Georgia Pacific consultants.

I would be pleased to discuss these comments with you and your staff.

Harold Wollenberg

Ralph Hartsock
P.O. Box 1023
Fort Bragg,CA. 95437
707 964 6894
rhartsock@mcn.org

March 9, 2006

North Coast District Office
Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA. 95501

Dear Coastal Commission and Staff

As a long time resident of Fort Bragg I ask that you and your staff not to delay the clean-up of the old mill site here in Fort Bragg. My wife and I have followed the progress that our City Council have made and believe it is the best interest of all the people of Fort Bragg and the rest of the coast to get the site clean.
As I understand the City and State have shown that they know what they are planning and will make the area safe to proceed with preparing the site.
Please do not let a few people that want to stop progress and the betterment of the coast stand in your way
Thank You

Sincerely, Mr. And Mrs. Ralph Hartsock

Signature
Mr & Mrs Ralph Hartsock

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19 of 36

32860 Odom Lane
Fort Bragg, CA 95437

February 21, 2006

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COASTAL COMMISSION

California Coastal Commission
North Coast District Office
Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

Dear Coastal Commission and Staff:

Please do not delay the clean-up of the old mill site in Fort Bragg. I am very excited about the prospect for public access to the coast in this area and I do not wish this access to be delayed by an appeal to the Coastal Commission. Funding for the development of access along this coastal property is available from the Coastal Conservancy and the federal government. We will lose this funding if the clean-up process is delayed.

The City of Fort Bragg has an excellent record for cleanup and development of access along the coast. The City of Fort Bragg has conducted a very open and public process for planning for the cleanup and redevelopment of the mill site. The public interest is not served with further delays from the Coastal Commission.

Thank you for your consideration.

Sincerely,

Allen C. Overfield

cc: City of Fort Bragg Community Development Department

20 of 36

Sent by fax to: 707-445-7877

February 22, 2006

North Coast District Office
Attn: Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, Ca. 95501

Dear Coastal Commission and Staff:

I am writing this letter in reference to the appeal sent to the Coastal Commission by North Coast Action and the Sierra Club, Mendocino Group scheduled for review in April.

It is very important to the City of Fort Bragg that the clean-up, planning and redevelopment of the mill site not be delayed by appeals to the Coastal Commission. The current appeal, dealing with further investigation for clean-up of the site, has delayed the acquisition of property for access along the ocean frontage of the mill site.

Fort Bragg has a willing land owner, Georgia-Pacific Corporation, to complete the clean-up process and to prepare a specific plan for the redevelopment of the mill site. There is a need to ensure that process does not increase the time and cost of this work to the point that it is abandoned. The provision for coastal access is in place. G-P has agreed to donate about $3 million of ocean front property. The company is also willing to sell another $4.4 million of property adjacent to the ocean frontage for additional open space, and this is to be funded by the Coastal Conservancy – but these funds are only available within a limited time. Also, the $750,000 of federal funds provided through the offices of Congressman Mike Thompson, for development of access along the coast has a limited time for use.

The City, State Parks and the Coastal Conservancy have already shown they have the ability to clean-up and restore both the old community dump (Glass Beach) and the Noyo Bluffs and I feel the Regional Water Quality Control Board is making sure the toxic clean-up is handled correctly.

Please do not delay the ability of north coast residents and visitors the opportunity to visit Fort Bragg's magnificent coast.

Sincerely,

Thomas E. Becker

Thomas E. Becker
1410 Taubold Ct.,
Fort Bragg, Ca. 95437

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COASTAL COMMISSION

Cc: City of Fort Bragg, CDD, 416 No. Franklin St., Fort Bragg 95437

21 of 36

Coastal Commission
North District Office
Attn: Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

7 February 2006

Dear Commission Members:

We urge you to take all necessary steps to approve the issuance of a coastal development permit for the activities necessary to complete the environmental assessment of the Georgia Pacific Mill Site.

The Fort Bragg City Council has already approved a coastal development permit for these activities in October 2005. We understand that this approval was appealed to the commission by North Coast Action and the Sierra Club, Mendocino Group. No doubt these organizations can afford to fund personal appearances at your meeting in Santa Barbara in April 2006. However there are many of us who live in the area who differ from their opinions and would like to have our voices heard but cannot appear in Santa Barbara.

The City of Fort Bragg has already conducted a very open process for planning and public participation for the redevelopment of the mill site. Continued delay will jeopardize receipt of $4.4 million of funds from the Coastal Conservancy available only for a limited time as well as $750.000 of federal funds provided through the offices of Congressman Mike Thompson , for development of access along the coast, available for a limited time.

It is imperative that prompt action be taken to take advantage of the existence of a willing property owner who has agreed to donate about $3 million of ocean front property and to complete the cleanup process and to prepare a specific plan for the redevelopment of the mill site. The longer it takes to complete this project, the longer it will be before the land can be put to productive use.

Thankyou,

Fred + Lorrie Anderson
20750 Peterson Lane
Ft. Bragg, CA 95437

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North Coast District Office
Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

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CALIFORNIA
COASTAL COMMISSION

February 15, 2006

Dear Coastal Commission and Staff,

We feel that it is very important to the Fort Bragg Community that the cleanup, planning and redevelopment of the old mill site not be delayed.

We have already been shown by the City, State Parks and the Coastal conservancy that they have the ability after cleaning up and restoring both the old community dump and the Noyo Bluffs.

This is an outstanding opportunity for the City of Fort Bragg to develop coastal access on the mill site. Let's not delay it any longer.

As North Coast residents, we certainly look forward to having access to this beautiful stretch of coastline.

Yours sincerely,

Fred Davidson
Isabella Davidson

Fred & Isabella Davidson
24657 N Highway One
Fort Bragg, CA 95437

Victoria and Jeffrey Osier-Mixon
19201 Noyo Acres Drive
Fort Bragg, CA 95437

February 16, 2006

North Coast District Office

Bob Merrill, District Manager
710 E Street, Suite 200
Eureka , CA 95501

Fax: (707) 445-7877

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FEB 17 2006
CALIFORNIA
COASTAL COMMISSION

Dear Coastal Commission and Staff:

We are Fort Bragg residents and observers of the controversy concerning the adequate assessment and clean-up of toxic contaminants at the Georgia-Pacific Mill Site. Fort Bragg Mayor Dave Turner has published an editorial in our local newspaper, asking community members to send you our opinions of the appeal of the City's environmental assessment work plan for that site.

We are writing to ask you to stand firm in your decision to uphold the appeal until further investigation can be made into the allegations of severe toxic contamination of the site.

Proponents of the work plan and of speedy development of the area seem to us to come largely from some of the business community and those City Council members who stand to gain financially by increased tax revenues from the developed property. One particularly vocal proponent and City Council member is a past member of G-P top management and might therefore be reasonably suspected of a conflict of interest in possibly attempting to prevent a full investigate into the extent of toxic contamination at the site.

Opposition seems to come from members of the community who stand to gain nothing except a safe and clean environment.

It does seem odd to us that proponents should be so very adamant in their determination to push ahead with site development, in spite of the evidence that reasonably suggests severe toxic pollution warranting further investigation. Why risk the welfare of people and the environment? There is no immediate time restriction on the clean-up. What can rushing it through possibly be worth?

In particular, the letter you received from Dave Turner, which we community members were encouraged by Mr. Turner to emulate in contacting you, seems to us misleading and lacking in solid content. The people and visitors to this area are in no way

prevented from visiting our magnificent coast just because we are not right now allowed on this particular piece of land. Beaches abound here. Mr. Turner's own excitement and personal feelings of certainty to do not translate to factual proof. And the amount of money being spent on oversight is not the same thing as high credentials and a proven environmental track record in those hired for the job.

As has been shown in several highly-charged public meetings, Mr. Turner, although the Mayor, does not necessarily speak for all or even the majority of the people of Fort Bragg in encouraging you to allow the City Council to proceed quickly with the current clean-up plans. There is, in fact, serious concern in this community that the Mayor and the City Council of Fort Bragg are not listening to community feedback in determining their course of action.

For further information, please refer to a letter to the editor in the February 16, 2006, issue of the Fort Bragg Advocate-News, written by geologist Skip Wollenberg, in which very clear grounds are laid out to uphold the appeal of the environmental assessment work plan.

There is no reason to rush this process. The possibility of severe toxic contamination is extremely serious, as well as being well-documented, and an in-depth proposal for a completely thorough site investigation, evaluation, and clean-up has been submitted to the City of Fort Bragg. Our visitors, our environment, and our families all depend upon us to make sure that the G-P mill site is truly clean of toxins before opening it to public use.

Thank you for your time and attention.

Sincerely,

Victoria and Jeff Osier-Mixon

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FEB 17 2006
CALIFORNIA
COASTAL COMMISSION

Dear Coastal Commission and Staff:

Please do not delay the clean-up of the old mill site in Fort Bragg. I have followed the progress of the re-use of the coastal third of Fort Bragg and am very excited that we will have access to our coastline for the first time ever.

The City, State Parks and the Coastal Conservancy have already shown they have the ability to clean-up and restore both the old community dump (Glass Beach) and the Noyo Bluffs. I feel that the Regional Water Quality Board is making sure the toxic cleanup is handled correctly.

Please, do not delay the ability of north coast residents and California visitors to visit Fort Braggs magnificent coast.

Walter Luffer

150 Olsen Lane
Box 414
Fort Bragg, Calif
95437

Dear Coastal Commission and Staff:

Please do not delay the clean-up of the old mill site in Fort Bragg. I have followed the progress of the re-use of the coastal third of Fort Bragg and am very excited that we will have access to our coastline for the first time ever.

The City, State Parks and the Coastal Conservancy have already shown they have the ability to clean-up and restore both the old community dump (Glass Beach) and the Noyo Bluffs. I feel that the Regional Water Quality Board is making sure the toxic cleanup is handled correctly.

Please, do not delay the ability of north coast residents and California visitors to visit Fort Braggs magnificent coast.

Janice Luna
150 Olsen Ln.
B+414
Fort Bragg, Calif.
95437

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Coastal Commission
North District Office
Attn: Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

7 February 2006

Dear Commission Members:

We urge you to take all necessary steps to approve the issuance of a coastal development permit for the activities necessary to complete the environmental assessment of the Georgia Pacific Mill Site.

The Fort Bragg City Council has already approved a coastal development permit for these activities in October 2005. We understand that this approval was appealed to the commission by North Coast Action and the Sierra Club, Mendocino Group. No doubt these organizations can afford to fund personal appearances at your meeting in Santa Barbara in April 2006. However there are many of us who live in the area who differ from their opinions and would like to have our voices heard but cannot appear in Santa Barbara.

The City of Fort Bragg has already conducted a very open process for planning and public participation for the redevelopment of the mill site. Continued delay will jeopardize receipt of $4.4 million of funds from the Coastal Conservancy available only for a limited time as well as $750.000 of federal funds provided through the offices of Congressman Mike Thompson , for development of access along the coast, available for a limited time.

It is imperative that prompt action be taken to take advantage of the existence of a willing property owner who has agreed to donate about $3 million of ocean front property and to complete the cleanup process and to prepare a specific plan for the redevelopment of the mill site. The longer it takes to complete this project, the longer it will be before the land can be put to productive use.

Thankyou,

Mr. & Mrs. Gerald A. Lee
217 N. Corry Street
Fort Bragg, Ca 95437

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CALIFORNIA
COASTAL COMMISSION

CC: TO
CITY OF FORT BRAGG
COMMUNITY DEV. DEPT
416 NO. FRANKLIN ST.
FORT BRAGG, CA 95437

Feb. 14, 2006

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FEB 17 2006
CALIFORNIA
COASTAL COMMISSION

North Coast District Office
Bob Merrill, District Manager
710 E St., Suite 200
Eureka, CA 95501

Re: Appeal against City of Fort Bragg filed by North Coast Action

Dear Coastal Commission & Staff:

I am a citizen of Fort Bragg who has participated in a series of community action meetings devoted to the planning for use of the Mill Site. I feel the cleanup, planning, and redevelopment of the Mill Site in Fort Bragg is being unnecessarily held up by the appeal filed by North Coast Action. Georgia-Pacific Corp. is willing to complete the cleanup process and to prepare a specific plan for the redevelopment of the Mill Site. The provision for coastal access is in place. Money for purchase and development of open space is now available, but for a limited time.

The City has an excellent record for cleanup and development of access along the coast. In 2003 the City issued and supervised a Coastal Development Permit for cleanup of an old community Dump, the "Glass Beach Project." The City is currently completing the development of coastal access and the rehabilitation of Pomo Bluffs Park, immediately south of the Mill Site. They have done a beautiful job there of reclaiming a scenic area that had turned into a pitted, rutted, eroded "playground" for teenagers with pickup trucks.

I have great faith in the Fort Bragg City Council. It is made up of our elected representatives and it has shown a commitment to good environmental practices. I am impressed with the Council's willingness to listen to Fort Bragg citizens, and to work toward the goals the majority of citizens support. The City is working with the Regional Water Quality Board to ensure toxic cleanup is handled correctly. Please let them continue this process.

Sincerely,

Henrietta Bensussen

Henrietta Bensussen
P.O. Box 2435 (475 S. Harold St)
Fort Bragg, CA 95437
707-964-8844

Coastal Commission
North District Office
Attn: Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

7 February 2006

Dear Commission Members:

We urge you to take all necessary steps to approve the issuance of a coastal development permit for the activities necessary to complete the environmental assessment of the Georgia Pacific Mill Site.

The Fort Bragg City Council has already approved a coastal development permit for these activities in October 2005. We understand that this approval was appealed to the commission by North Coast Action and the Sierra Club, Mendocino Group. No doubt these organizations can afford to fund personal appearances at your meeting in Santa Barbara in April 2006. However there are many of us who live in the area who differ from their opinions and would like to have our voices heard but cannot appear in Santa Barbara.

The City of Fort Bragg has already conducted a very open process for planning and public participation for the redevelopment of the mill site. Continued delay will jeopardize receipt of $4.4 million of funds from the Coastal Conservancy available only for a limited time as well as $750.000 of federal funds provided through the offices of Congressman Mike Thompson , for development of access along the coast, available for a limited time.

It is imperative that prompt action be taken to take advantage of the existence of a willing property owner who has agreed to donate about $3 million of ocean front property and to complete the cleanup process and to prepare a specific plan for the redevelopment of the mill site. The longer it takes to complete this project, the longer it will be before the land can be put to productive use.

Thankyou,

Fred S. Reese & Jeannette A. Reese

Fred and Jeannette Reese
P.O. Box 1168
Mendocino, CA 95460

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CALIFORNIA
COASTAL COMMISSION

Mr. Alan F. Dunn
24861 Ward Ave.
Fort Bragg, CA 95437-8458

Ruth Dunn
24861 Ward Ave.
Fort Bragg, CA 95437-8458

2-11-2006

Dear Coastal Commission & Staff:

We have been residents here for 35 yrs. and are thrilled that we will have access to our coastline shortly.

The city, State Park and the C.C. have already shown their skills in clean-up of Glass Beach & Noyo Bluffs.

Please do not delay this matter because of a few misguided citizens.

Cordially,

Alan & Ruth Dunn

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North Coast District Office

Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

Fax: (707) 445-7877

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CALIFORNIA
COASTAL COMMISSION

February 10, 2006

THIS CITY COUNCIL APPROVED A COASTAL DEVELOPMENT PERMIT IN OCTOBER 2005. IT WAS SUBSEQUENTLY APPEALED TO THE COASTAL COMMISSION BY NORTH COAST ACTION AND THE SIERRA CLUB, MENDOCINO GROUP.

It is very important to the City of Fort Bragg that the cleanup, planning and redevelopment of the mill site not be delayed by appeals to the Coastal Commission

Why would you want to further the feeling, especially on the North Coast, that the Coastal Commission is merely an extension of no growth people that will use any excuse to slow or stop a private citizen from full use of private property!!!!!

No one can justify stopping a clean up of industrial property. This is just a scam.

This appeal should be denied, and you should send a message to everyone that your fair and follow the law for all applicants.

Paul Clark

Paul Clark
Fort Bragg, Ca.

707-964-0611

Appropriate Addressee

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FEB 10 2006

CALIFORNIA
COASTAL COMMISSION

Dear Coastal Commission and Staff:

Please do not delay the clean-up of the old mill site in Fort Bragg. I have followed the progress of the re-use of the coastal third of Fort Bragg and am very excited that we will have access to our coastline for the first time ever.

The City, State Parks and the Coastal Conservancy have already shown they have the ability to clean-up and restore both the old community dump (Glass Beach) and the Noyo Bluffs. I feel that the Regional Water Quality Board is making sure the toxic cleanup is handled correctly.

Please, do not delay the ability of north coast residents and California visitors to visit Fort Braggs magnificent coast.

February 9, 2006

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Coastal Commission
North Coast District Office
Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

FAX 707 445-7877

Dear Coastal Commission and Staff:

I have been actively involved on the Marine Science Center committee which has been one aspect of planning for the future use of the old mill site in Fort Bragg, CA. My professional background has been in administration of natural history and science museums and I see great potential in including a marine science interpretive center for research and public education in the mill plan.

I have watched and listened to the careful steps the owners of the property and the City of Fort Bragg have taken to study all the environmental and industrial issues involved in preparing the site for its use in the future. Georgia Pacific has been exceptionally cooperative in accommodating the proposed ideas that have come out of community and city planning sessions, and has shown serious concern for the cleanup of the site for its future uses.

The environmental studies that have been done have been rigorous, and the cleanup that has already been performed was done carefully and diligently. The City, State Parks and the Coastal Conservancy have demonstrated the ability to restore former dump and industrial properties in Fort Bragg. I am confident that the Regional Water Quality Board is monitoring cleanup of any toxics which may be related to the former use of the site.

It would be a mistake to delay the cleanup of the site any longer. It is time for the beautiful coastal property to be accessible to the people of California again after so many years of industrial use.

Thank you for your consideration.

Cynthia Crocker Scott

Cynthia Crocker Scott
42500 Road 409
Mendocino, CA 95460

cc.
City of Fort Bragg
Community Development Department
416 North Franklin Street
Fort Bragg, CA 95437

FAX 707 961-2802

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COASTAL COMMISSION

February 1, 2006

North Coast District Office
Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

Dear Coastal Commission and Staff:

Please do not delay the clean up of the old Georgia Pacific Mill Site in Fort Bragg. We have been following the progress of the reuse of the site and we are excited to know we will have access to our city coast line for the first time ever.

The city state parks and coastal conservancy have already shown they have the ability to clean up and restore both the old community dump and the Noyo Bluffs. We feel that the Regional Water Quality Board is making sure the toxic clean up is handled correctly.

The $4.4 million of funds from the Coastal Conservancy are available within a limited time. Similarly, $750,000 of federal funds provided thru the offices of Congressman Mike Thompson, for development of access along the coast, have a limited time for use.

Please do not delay the ability of the north coast residence and California visitors to visit Fort Bragg's magnificent coast.

Sincerely,

Don S. Johnston
P.O. Box 1050
Fort Bragg, CA 95437

L Johnston
Leonida Johnston
(same address)

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FEB 06 2006
CALIFORNIA
COASTAL COMMISSION

North Coast District Office
Bob Merrill, District Manager
710 E Street, Suite 200
Eureka, CA 95501

2/01/06

Dear Coastal Commission and Staff:

Please do not delay the clean up of the old mill site in Fort Bragg. I have followed the progress of the re-use of the coastal third of Fort Bragg and am very excited that we will have access to our coastline for the first time ever.

The City, State Parks and the Coastal Conservancy have already shown they have the ability to clean up and restore both the old community dump (Glass Beach) and the Noyo Bluffs. I feel that the Regional Waste Quality Board is making sure the toxic cleanup is handled correctly.

Please, do not delay the ability of north coast residents and California visitors to visit Fort Bragg's magnificent coast.

Thank you for your consideration.

D. L. Van Pelt, DVM
311 E. Bush St.
Fort Bragg, CA 95437

cc:
City of Fort Bragg
Community Development Department
416 No. Franklin St.
Fort Bragg, CA 95437

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