

MINUTE ITEM
This Calendar Item No. 003
was approved as Minute Item
No. 003 by the State Lands
Commission by a vote of 2
to 0 at its 412191
meeting.

CALENDAR ITEM

A 20

C 0 3

S 11

04/02/91

W 21124

PRC 7495

Maricle

GENERAL PERMIT - PUBLIC AGENCY USE

APPLICANT:

City of Palo Alto
Attn: Phil Bobel
2501 Embarcadero Way
Palo Alto, California 94303

AREA, TYPE LAND AND LOCATION:

An undetermined amount of sovereign land in the vicinity of
Matadero Creek, Palo Alto, Santa Clara County.

LAND USE:

Marsh enhancement project.

TERMS OF PROPOSED PERMIT:

Initial period:

Forty-nine (49) years beginning June 1, 1991.

CONSIDERATION:

The public use and benefit, with the State reserving
the right at any time to set a monetary rental if the
Commission finds such action to be in the State's best
interest, as to any portion of the property ultimately
confirmed into State ownership.

BASIS FOR CONSIDERATION:

Pursuant to 2 Cal. Code Regs. 2003.

PREREQUISITE CONDITIONS, FEES AND EXPENSES:

Filing and processing costs have been received.

STATUTORY AND OTHER REFERENCES:

A. P.R.C.: Div. 6, Parts 1 and 2; Div. 13.

B. Cal. Code Regs.: Title 3, Div. 3; Title 14, Div. 6.

AB 884:

06/25/91

CALENDAR ITEM NO. C 0 3 (CONT'D)

OTHER PERTINENT INFORMATION:

1. This activity involves lands identified as possessing significant environmental values pursuant to P.R.C. 6370, et seq. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.
2. A Negative Declaration, SCH 89053003, was prepared and adopted for this project by the City of Palo Alto. The State Lands Commission's staff has reviewed such document.
3. The ITT Marsh Enhancement Project will create and enhance marshland on the former ITT World Communications, Inc. site in the Palo Alto Baylands, adjacent to South San Francisco Bay. There are two components to the project: enhancement of an existing salt marsh and construction of a freshwater marsh which will use reclaimed wastewater. The project will result in the enhancement of an estimated 31 acres of salt and freshwater wetlands in the South Bay.
4. The project area is the former ITT site, which is located on East Bayshore Road. It is bounded by Matadero Creek to the south, the Refuse Disposal Area to the east, and office buildings to the north and northwest. The Palo Alto Regional Water Quality Control Plant is located to the northeast of the site.
5. The authorized improvements for the Marsh Enhancement Project will include a bay water inlet structure, inlet piping, bird observation deck, pump station, and culvert along Matadero Creek.
6. The annual rental value of the site cannot be ascertained until complex title issues are resolved and clarified. Such determination will require extended work by the staff and the Applicant.
7. The standard covenants and conditions in Commission permits reserve to the State the right to set a monetary rental if such action is in the State's best interest. Since the extent of the State's title is yet to be determined, either by agreement or litigation, the Applicant has requested assurance that the State's

CALENDAR ITEM NO. C 03 (CONT'D)

reserved right will apply only to the portion of the property ultimately confirmed as being in State ownership. The staff agrees with the Applicant in this matter and the permit has been written accordingly.

APPROVALS OBTAINED:

City of Palo Alto.

FURTHER APPROVALS REQUIRED:

San Francisco Bay Conservation and Development Commission, Santa Clara Valley Water District, and the United States Army Corps of Engineers.

EXHIBITS:

- A. Land Description
- B. Location Map
- C. Notice of Determination with Accompanying Mitigated Negative Declaration and Initial Study

IT IS RECOMMENDED THAT THE COMMISSION:

1. FIND THAT THIS ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATION DESIGNATED FOR THE LAND PURSUANT TO P.R.C. 6370, ET SEQ.
2. FIND THAT A NEGATIVE DECLARATION, SCH 89053003, WAS PREPARED AND ADOPTED FOR THIS PROJECT BY THE CITY OF PALO ALTO AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.
3. AUTHORIZE ISSUANCE TO THE CITY OF PALO ALTO OF A 49-YEAR GENERAL PERMIT - PUBLIC AGENCY USE BEGINNING JUNE 1, 1991; IN CONSIDERATION OF THE PUBLIC USE AND BENEFIT, WITH THE STATE RESERVING THE RIGHT AT ANY TIME TO SET A MONETARY RENTAL IF THE COMMISSION FINDS SUCH ACTION TO BE IN THE STATE'S BEST INTEREST, AS TO ANY PORTION OF THE PROPERTY ULTIMATELY CONFIRMED INTO STATE OWNERSHIP; FOR A BAY INLET STRUCTURE, INLET PIPING, BIRD OBSERVATION DECK, PUMP STATION, AND CULVERT ALONG MATADERO CREEK, ALL AS LOCATED ON THE LAND DESCRIBED ON EXHIBIT "A" ATTACHED AND BY REFERENCE MADE A PART HEREOF.

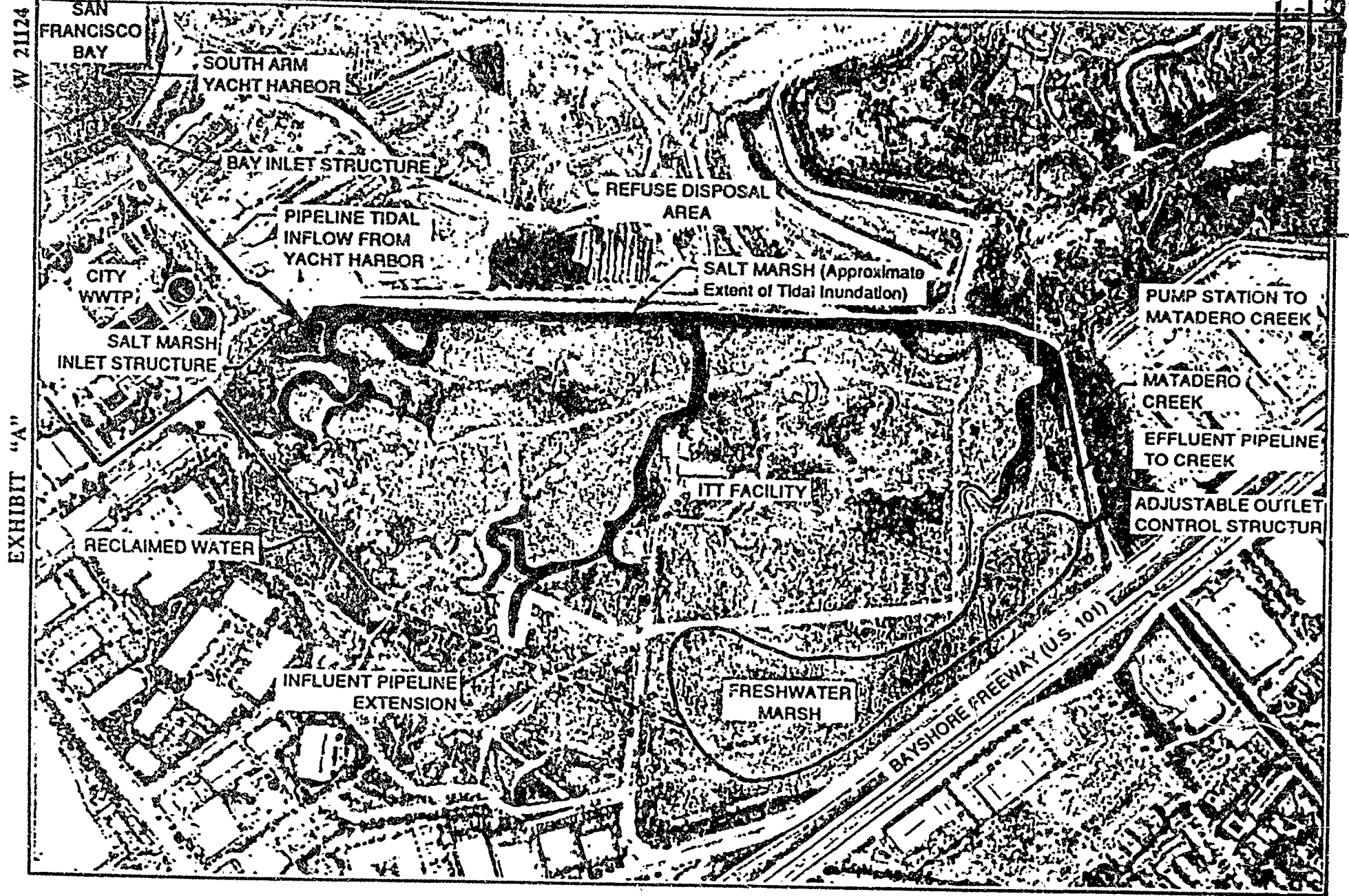


EXHIBIT "A"

W 21124

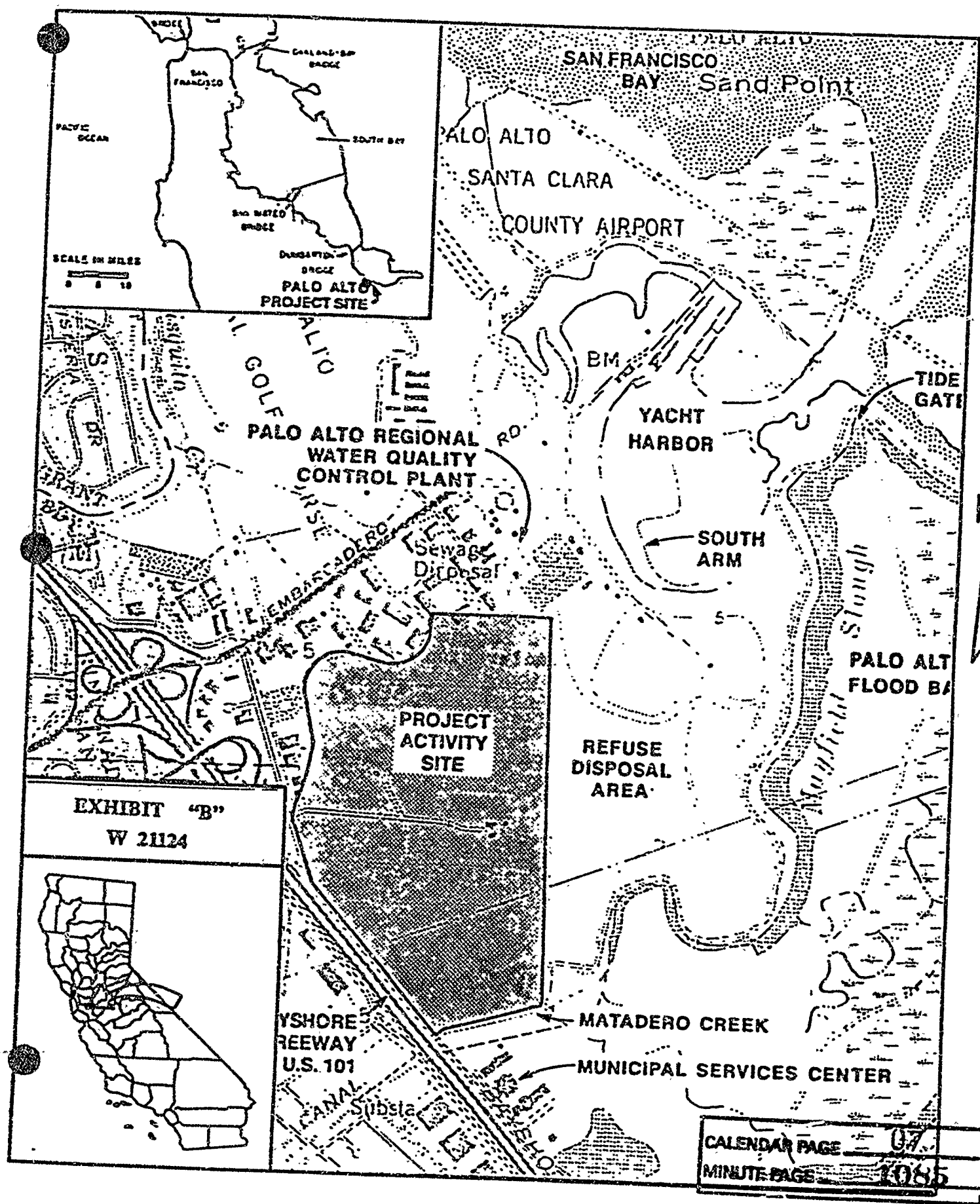


EXHIBIT "C"

Environmental Documents - City of Palo Alto

ENVIRONMENTAL ASSESSMENT

Project Description/Title: ITT Marsh Enhancement Project

Location/Address: 2601 East Bayshore Road
Palo Alto, CA 94301

Sponsoring Agency/Applicant: City of Palo Alto

Address and Telephone of Applicant: 2501 Embarcadero Way
Water Quality Control Plant Palo Alto, CA 94301
Phil Bobel, Ted Noguchi, (415) 329-2598

Application for: Site and Design Review

Zoning at Project Location: PF (D)

Fee Receipt No.: -----

NOTICE OF DETERMINATION

Based upon review of the project files, the undersigned member of the Planning Department has concluded:

☒ Mitigated Negative Declaration: The project has no significant environmental impact. No Environmental Impact Report is required. The reasons for a Mitigated Negative Declaration are: in the attached initial study. A record of project action is available for review at the Palo Alto Planning Department, located on the 5th floor of City Hall, 250 Hamilton Avenue, Palo Alto, CA 94301.

☐ The project may have a significant environmental impact. An Environmental Impact Report will be prepared.

Planning Department Official: [Signature]

Planning Director: [Signature]

Date: May 1, 1989

The project has been approved.

Date: _____

The project has been denied.

Date: _____

Revised 8-1-79

File No.: 89-EIA-19

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APPENDIX F
NOTICE OF COMPLETION AND ENVIRONMENTAL DOCUMENT TRANSMITTAL FORM

2021 San Diego CHRISTIANITY, 1405 Third Street, Suite 101, San Diego, CA 92104 - 619/444-0013

REPORT OF COMMISSION AND OFFICIALS CONCERNING CHINESE FISH

2000 2001 2002

- [illegible]

Communications facility and open space; zoning is PF (D)-Public Facilities

2. ~~Wetland~~
The proposed project will create a freshwater wetland and enhance existing salt marsh. Approximately 35 acres of the total 151 on the site would be affected.

13. NUMBER OF 100 AMV AVAILABLE _____ DATE _____ 11-27-70

NOTE: Clearinghouse will assign identification numbers for all new projects. If a title number already exists for a project, a series of numbers (or previous draft numbers) must be included in the title.

FILE NUMBER 474 - BUREAU CASE

REMARKS:

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CITY OF PALO ALTO

ITT MARSH ENHANCEMENT PROJECT

ENVIRONMENTAL DOCUMENTS INITIAL STUDY

INTRODUCTION

Section 15070 (b)(1) of the State of California guidelines for the California Environmental Quality Act permits use of a negative declaration if the impacts of a proposed project can be mitigated to a point where no significant adverse effects would occur. This assessment identifies the anticipated environmental impacts of the ITT Marsh Enhancement Project and mitigates the effects to a level of insignificance.

I. PROJECT TITLE/ADDRESS

Palo Alto ITT Marsh Enhancement Project
2601 East Bayshore Road, Palo Alto, California

II. PROJECT DESCRIPTION

The ITT Marsh Enhancement Project will create and enhance marshland on the former ITT site in the Palo Alto Baylands, adjacent to South San Francisco Bay. There are two components to the project: enhancement of an existing salt marsh and construction of a freshwater marsh which will use reclaimed wastewater. The project will result in the enhancement of an estimated 31 acres of salt and freshwater wetlands in the South Bay.

The project area is the former ITT site, which is located on East Bayshore Road. (See Figure 1.) It is bounded by Matadero Creek to the south, the Refuse Disposal Area to the east, and office buildings to the north and northwest. The Palo Alto Regional Water Quality Control Plant is located to the northeast of the site.

There are a number of unique environmental characteristics in the study area which proved to be critical in the subsequent development of the project. The area has subsided, and consequently much of the site is below sea level. The project area was a tidal wetland prior to 1921, when it was diked for salt production. As a result, salt marsh sloughs and habitat already exist on the site. In 1988, Johnson and Shellhammer documented a population of fifty-four salt marsh harvest mice, an endangered species, in the southeastern sector of the site. Unrestricted tidal inflow could result in a possibility of flooding the mice. The marsh systems have been designed to provide safeguards and establish permanent protections for this species.

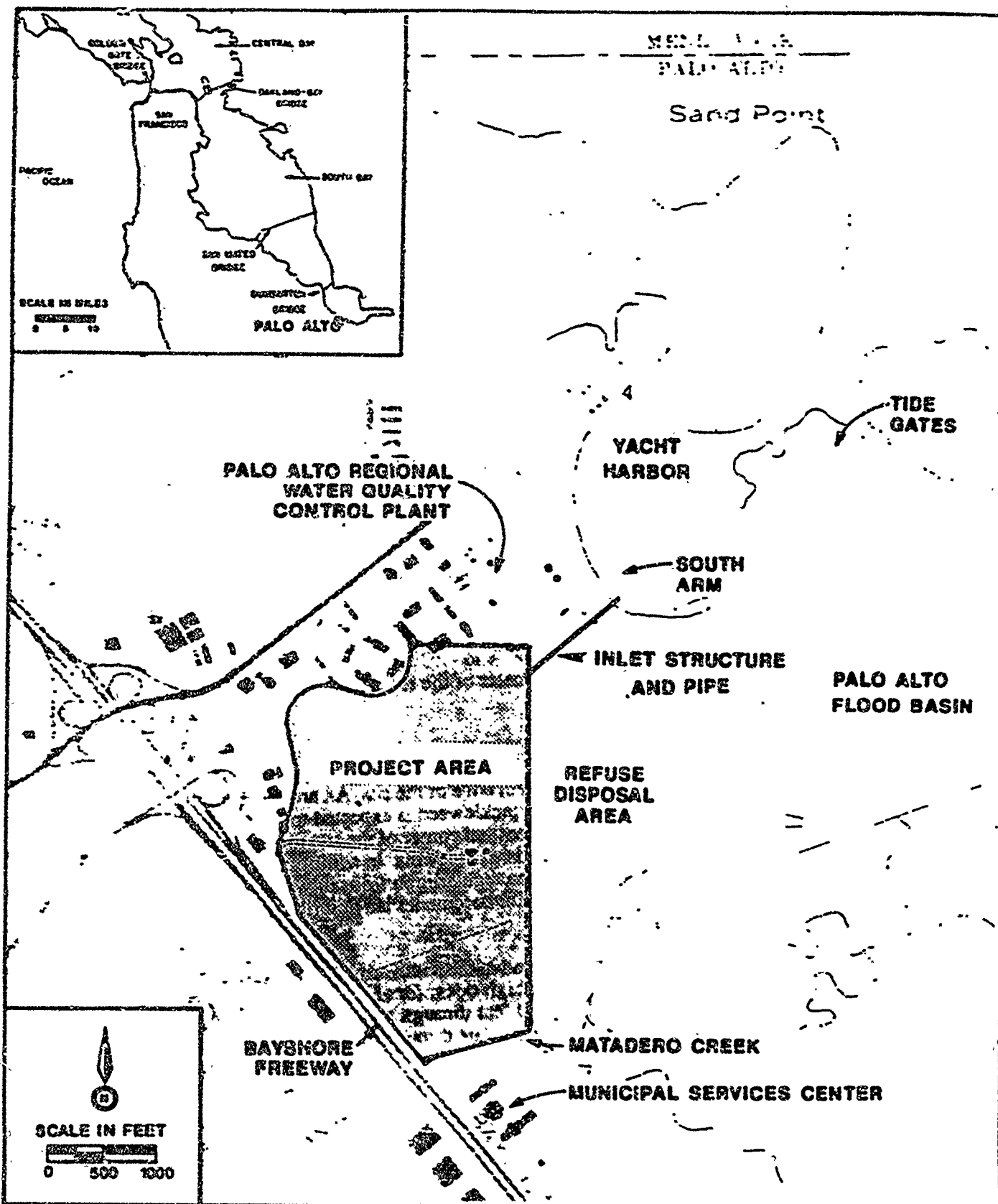


FIGURE 1

LOCATION MAP

Freshwater Marsh

A freshwater marsh will be created in the southwestern sector of the site. It will provide freshwater habitat for migratory birds and waterfowl. Approximately 4.5 acres will remain open water areas, refuge islands will comprise about 1.5 acres, and shallow water habitat will cover an estimated 11 acres. Sections 4 and 5 of the attached document describe the management plan and facilities associated with the freshwater marsh.

Reclaimed water will be pumped from the reclamation facility through approximately 3500 feet of pipeline to the marsh. Influent water will enter the freshwater marsh through three diffusers in the northern end. Water will circulate through the marsh and exit through the adjustable control structure at the southern end of the marsh. Marsh effluent will flow through a pipeline at the base of the Matadero Creek levee, cross through the levee via a culvert, combine with the salt marsh effluent, and drain into Matadero Creek.

The freshwater marsh will have two operating scenarios: wet weather and dry weather. During wet weather, the water surface in the freshwater marsh will be maintained at approximately +2.4 feet. This will maximize the surface area available for wildlife use. Between May 1st and September 1st, the water level will be lowered to -0.25 feet, resulting in areas of deep water with steep, smoothly sloping banks. This dessication of shallow areas during dry weather will encourage the establishment of desirable vegetation and minimize mosquito nuisance and avian botulism.

A diverse range of habitats will establish by providing areas of different water depths. This will be accomplished by excavating the bottom of the marsh. The average existing elevation in the proposed freshwater marsh area is 0.00 feet. Approximately four acres will be excavated to a depth of -4.0 feet, and islands will be constructed in the middle of these deep water areas. An estimated eleven acres will range in elevations from +2.4 to -1.0 feet, and will slope gradually for draining. Berms will be constructed around the perimeter of the marsh and will have sufficient capacity to contain runoff from a 100-year storm event.

Salt Marsh

The salt marsh will be located along the eastern edge of the site. An area of approximately 5.5 acres will be inundated with saline bay water, and pickleweed is expected to grow around the perimeter. A new slough will be excavated in the southeastern corner of the site to provide pickleweed habitat for the salt marsh harvest mice known to exist in this area. In addition, pickleweed growth in the northern sector of the site will increase due to regular inputs of salt water during the dry weather. Sections 4 and 5 of the attached ITT Marsh Enhancement Plan describe the management plan and facilities associated with the salt marsh.

An adjustable inlet structure will be constructed in the south arm of the yacht harbor. This structure will allow salt water to enter the site during high tides, for an average of four hours per day. Salt marsh influent will flow approximately 1200 feet through a culvert, travel through a sluice gate, and enter into the marsh. The salt water will circulate through the marsh and drain via a box culvert through a levee in the southeastern corner of the site. Salt marsh effluent will mix with the freshwater and drain into Matadero Creek. The box culvert will have a flapgate on its downstream end to prevent backflow onto the site during significant storm events.

The following table presents a summary of the facilities being proposed as part of the two marsh systems:

Facilities for the ITT Marsh Enhancement Project

Marsh	Component
Freshwater Marsh	Reclamation Plant Modifications Influent Pipeline Extension Multiple Diffusers Adjustable Outlet Control Structure Effluent Pipeline
Salt Marsh	Bay Inlet Structure Influent Pipeline Salt Marsh Inlet Control Structure Berms/Adjustable Control Structures in Sloughs. New Salt Marsh Slough Outlet Box Culvert/Bird Observation Deck Burrowing Owl Boxes

Implementation

The marsh enhancement project will be implemented in two phases. This will allow for the establishment of safeguards to protect the salt marsh harvest mice population. Pickleweed is the preferred habitat of the salt marsh harvest mouse, and this vegetation cannot withstand constant inundation of the root zone. Phased implementation will enhance pickleweed growth in the northeastern sector, prior to flooding existing pickleweed in the sloughs. Before the marsh systems become operational, the site will be inundated with salt water twice a week to encourage an increase in pickleweed vegetation. This will be performed in the late spring, just prior to the season of maximum growth for this species. After a 25 percent increase has been documented by the monitoring program, the marsh systems will become fully operational. In the event that the salt marsh habitat does not increase as expected, an environmental review committee may determine to implement full marsh operation on the basis of other criteria. To sustain the new pickleweed growth in the northeast section, the salt marsh will be drained and briefly flooded every two months during the dry weather.

Monitoring and Evaluation

An extensive monitoring program will record the changes resulting from the implementation of the marsh systems. The monitoring program will measure vegetation species composition and metals uptake, soil and sediment salinity and metals accumulation, water salinity, bird censuses, small mammal populations, and sedimentation rates. The data will be reviewed by an environmental review committee. This group will use the information to fine-tune the management of the marshes so as to optimize the project objectives. The committee will work together to develop effective responses, should any problems arise.

III. ENVIRONMENTAL SETTING

The location of the project is in Palo Alto near South San Francisco Bay, within the margins of historic wetlands. Old sloughs are still evident in the eastern portion of the study area. The IIT site is quite flat, and has experienced some subsidence. Consequently, the average elevation is below mean sea level. The only existing hydrologic inflow to the site is from stormwater runoff. Salt marsh habitat predominates along the northern and eastern portions of the site, while upland habitat and grasses predominate in the southwestern corner. The soils are Alviso clay, an impermeable, dark gray, calcareous soil. An extensive baseline monitoring program characterized environmental conditions within the study area. Appendix B presents the detailed results of this monitoring program, and Section 2 summarizes the existing conditions.

INITIAL STUDY^{1,2}

- I. Project Title/Address: ITT Marsh Enhancement Project
East Bayshore Road, Palo Alto, CA
- II. Project Description: See previous pages.

- III. Environmental Setting: See previous pages.

- IV. Environmental Impact Checklist (Explanation of all "yes" answers are in Section V)

1. <u>Earth.</u> Will the proposal result in:	<u>YES</u>	<u>MAYBE</u>	<u>NO</u>
a. Unstable earth conditions or changes in geologic substructures?	___	___	<u>X</u>
b. Disruptions, displacements, compaction or overcovering of the soil?	<u>X</u>	___	___
c. Change in topography or ground surface relief features?	<u>X</u>	___	___
d. The destruction, covering or modification of any unique geologic or physical features?	___	___	<u>X</u>
e. Any increase in wind or water erosion of soils, either on or off the site?	___	<u>X</u>	___
f. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	___	<u>X</u>	___
g. Changes in siltation, deposition, or erosion which may modify the channel of a river or the bed of a bay or inlet?	___	<u>X</u>	___

¹Adapted from Appendix I, California Guidelines for Implementation of CEQA, December 14, 1976.

²Updated May, 1982; June, 1983

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- | | <u>YES</u> | <u>MAYBE</u> | <u>NO</u> |
|--|------------|--------------|-----------|
| 2. <u>Air</u> . Will the proposal result in: | | | |
| a. Substantial air emissions or deterioration of ambient air quality? | — | <u>X</u> | — |
| b. The creation of objectionable odors? | — | <u>X</u> | — |
| c. Alteration of air movement, moisture temperature, or any change in climate, either locally or regional? | — | — | <u>X</u> |
| 3. <u>Water</u> . Will the proposal result in: | | | |
| a. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff? | <u>X</u> | — | — |
| b. Alterations to the course or flow of flood waters? | <u>X</u> | — | — |
| c. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? | <u>X</u> | — | — |
| d. Alteration of the direction of rate of flow of ground waters? | — | <u>X</u> | — |
| e. Exposure of people or property to water related hazards such as flooding or tidal waves? | — | — | <u>X</u> |
| f. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interceptions of an aquifer by cuts or excavations? | — | <u>X</u> | — |
| 4. <u>Plant Life</u> . Will the proposal result in: | | | |
| a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)? | <u>X</u> | — | — |
| b. Reduction of the numbers of any unique, rare or endangered species of plants? | — | — | <u>X</u> |
| c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species? | <u>X</u> | — | — |
| d. Reduction in acreage of any agricultural crop? | — | — | <u>X</u> |

- | | YES | MAYBE | NO |
|--|----------|----------|----------|
| 5. <u>Animal Life.</u> Will the proposal result in: | | | |
| a. Change in the diversity of species, or of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)? | <u>X</u> | _____ | _____ |
| b. Reduction of the numbers of any unique, rare or endangered species of animals? | _____ | <u>X</u> | _____ |
| c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? | <u>X</u> | _____ | _____ |
| d. Deterioration in existing fish or wild-life habitat? | _____ | <u>X</u> | _____ |
| 6. <u>Noise.</u> Will the proposal result in: | | | |
| a. Increases in existing noise levels? | <u>X</u> | _____ | _____ |
| b. Exposure of people to severe noise levels? | _____ | _____ | <u>X</u> |
| 7. <u>Light and Glare.</u> Will the proposal produce new light glare? | _____ | _____ | <u>X</u> |
| 8. <u>Land Use.</u> Will the proposal result in a substantial alteration of the present or planned land use of an area? | _____ | _____ | <u>X</u> |
| 9. <u>Energy/Natural Resources.</u> Will the proposal result in: | | | |
| a. Use of substantial amounts of fuel or energy? | _____ | _____ | <u>X</u> |
| b. Substantial increase in demand upon existing sources of energy, or require the development of new sources or energy? | _____ | _____ | <u>X</u> |
| c. Increase in the rate of use of any natural resources? | _____ | _____ | <u>X</u> |
| d. Substantial depletion of any nonrenewable natural resource? | _____ | _____ | <u>X</u> |
| 10. <u>Risk of Upset.</u> Does the proposal involve a risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset? | _____ | <u>X</u> | _____ |

- | | YES | MAYBE | NO |
|---|----------|-------|----------|
| 11. <u>Population/Housing.</u> | | | |
| a. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area? | — | — | <u>X</u> |
| b. Will the proposal effect existing housing, or create a demand for additional housing? | — | — | <u>X</u> |
| 12. <u>Transportation/Circulation.</u> Will the proposal result in: | | | |
| a. Generation of substantial additional vehicular movement? | — | — | <u>X</u> |
| b. Effects on existing parking facilities, or demand for new parking? | — | — | <u>X</u> |
| c. Alterations to present patterns of circulation or movement of people and/or goods? | — | — | <u>X</u> |
| d. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians? | — | — | <u>X</u> |
| 13. <u>Public Services.</u> Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: | | | |
| a. Fire protection? | — | — | <u>X</u> |
| b. Police protection? | — | — | <u>X</u> |
| c. Schools? | — | — | <u>X</u> |
| d. Parks or other recreational facilities? | <u>X</u> | — | — |
| e. Maintenance of public facilities, including roads? | — | — | <u>X</u> |
| f. Other governmental services? | — | — | <u>X</u> |
| 14. <u>Utilities.</u> Will the proposal result in a need for new systems, or substantial alterations to the following utilities: | | | |
| a. Power or natural gas? | — | — | <u>X</u> |
| b. Communications systems? | — | — | <u>X</u> |

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- | | YES | MAYBE | NO |
|--|----------|----------|----------|
| c. Water? | | | |
| d. Sewer or septic tank? | — | — | <u>X</u> |
| e. Storm water drainage? | — | — | <u>X</u> |
| f. Solid waste and disposal? | — | — | <u>X</u> |
| 15. <u>Human Health.</u> Will the proposal result in: | | | |
| a. Creation of any health hazard or potential health hazard (excluding mental health)? | — | <u>X</u> | — |
| b. Exposure of people to potential health hazards? | — | <u>X</u> | — |
| 16. <u>Aesthetics.</u> Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view? | | | |
| | — | — | <u>X</u> |
| 17. <u>Recreation.</u> Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities? | | | |
| | <u>X</u> | — | — |
| 18. <u>Cultural Resources.</u> | | | |
| a. Will the proposal result in the alteration of/or the destruction of a prehistoric or historic archaeological site? | — | — | <u>X</u> |
| b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure;, or object? | — | — | <u>X</u> |
| c. Does the proposal have the potential to causes a physical change which would affect unique cultural values? | — | — | <u>X</u> |
| d. Will the proposal restrict existing religious or sacred uses within the potential impact area? | — | — | <u>X</u> |

19. Mandatory Findings of Significance.

- | | YES | MAYBE | NO |
|--|-----|----------|----------|
| a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number of restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | — | <u>X</u> | — |
| b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals. (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.) | — | — | <u>X</u> |
| c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.) | — | — | <u>X</u> |
| d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | — | — | <u>X</u> |

V. Explanation of "yes" answers in environmental checklist.
See attached.

IV. ENVIRONMENTAL IMPACT CHECKLIST

1. Earth.

a. The proposed marsh enhancement project will not affect deeper geologic substructures or earth stability.

b. Construction of the various components of the marsh facilities will displace soil. The freshwater marsh will be created by regrading existing soils. Approximately 4400 feet of pipeline will be installed as part of the project. Water control structures at the bay, salt marsh inlet, in salt marsh sloughs, freshwater marsh outlet, and culverts to Matadero Creek will displace soil during construction and critical structures will require the installation of piles. A new salt marsh slough will be excavated in the southeastern corner of the site. The cut and fill quantities in the project are approximately equal.

Mitigation:

The freshwater marsh component of the project will extend the existing reclaimed water pipeline to the freshwater marsh. Approximately 2250 feet of influent and diffuser lines will be installed, and a 950-foot effluent pipeline will be constructed. Existing grades will be restored at the conclusion of the construction.

The freshwater marsh will require extensive grading and excavation. Cut and fill quantities will be on the order of 40,000 cubic yards, and they will be approximately equal. The bottom of the marsh will be contoured to provide areas of differing water depths. This will encourage the establishment of a variety of freshwater habitats for wildlife use. As described in the project description, the freshwater marsh will have three distinct areas: shallow areas, protected refuge and nesting islands, and deep open water. Approximately 4.5 acres will be excavated to a depth of 5 feet and will provide areas of deep, open water. One and one half acres of islands will be formed within the channels of deep water. A gradual, sloping bank will be filled and compacted on the eastern side of the marsh, with an area of approximately 11 acres. Around the perimeter of the marsh, a levee with an estimated height of +4.25 feet will contain the water. The enhancement plan calls for excavation, stockpiling and respreading of the rich, organic topsoil in the shallow areas and islands after final grades have been achieved. This practice will ensure that the marsh soils will sustain vegetation growth and will preserve the seed pool.

The salt marsh enhancement plan calls for an inlet structure at the bay, an influent pipeline and sluice gate, berms with adjustable control structures to restrict the salt water to the easternmost and southernmost sloughs, excavation of a new slough, installation of burrowing owl boxes, and an outlet culvert and bird observation deck. The inlet structure will require dredging of bay muds in order to construct the pipeline, and piles will be installed to prevent differential settlement. The inlet pipeline will extend approximately 1200 feet, terminating in a sluice gate at the salt marsh inlet. Seven earthen berms will be constructed in existing sloughs. High-density polyethylene pipe will be equipped with stainless steel valves which will allow for drainage through the berms. Rip-rap will prevent significant scour at the base of the channels where high water velocities may occur. A new salt marsh slough will be excavated in the southeastern corner of the site. Construction of the culverts to Matadero Creek will require temporary displacement of soil.

The project will displace significant volumes of soil. However, the project will compensate for the environmental impacts by creating freshwater and salt marsh habitat.

c. The existing topography at the site is quite flat, with an average elevation below mean sea level. Construction of the marsh project will alter the existing topography. In general, these changes will not be significant since existing grades will be restored. Significant topographic alteration will result from the construction of the freshwater marsh.

Mitigation:

The southwestern corner of the site at the proposed freshwater marsh location is quite flat with an average elevation of 0.00 feet. The extensive grading will contour the bottom of the marsh and result in the creation of a variety of freshwater habitats. However, the parts of the marsh visible above the water line reach a maximum height of 4.25 ft, and will therefore blend in with the existing topography. Native topsoil will be replaced at the surface. This will encourage the reestablishment of vegetation found on the site.

The salt marsh will require small amounts of grading and excavation. The berms in the salt marsh sloughs will not protrude above the existing grade, and will have little impact on the topography. The excavation of the new slough will change the existing topography, however this is being done to provide additional habitat for the salt marsh harvest mice. The new slough will have broad, shallow areas at elevations that will be periodically submerged and exposed during tidal inflow.

The project will change the topography on the site. However, rich and diverse marsh systems will be created which will compensate for the environmental impacts.

d. The site does not have any unique geologic or physical features.

e. A temporary increase in soil erosion may be anticipated during construction and while vegetation becomes permanently established.

Mitigation:

No construction will occur during wet weather so as to minimize erosion from surface water runoff. Heavy equipment will be limited to designated access roads and storage yards to minimize disruption on the site. Restoration and replanting of disturbed areas will be performed following the earthwork phase of construction, if necessary. Vegetation will be encouraged to establish prior to the onset of wet weather. Once the vegetation matures and becomes permanent, minimal soil erosion is expected. The erosion control measures will reduce the anticipated impacts to a level of insignificance.

f. The marsh project is in an area of high seismic risk.

Mitigation:

The project will not increase public use of the area, and therefore will not result in an increase in exposure to seismic hazards. As part of the design phase, an extensive soils investigation will be conducted to ensure berm stability. The report will include specific recommendations for levee design and construction. All levees and berms will meet applicable seismic design standards of the State Division of Dam Safety and the Uniform Building Code. These measures will reduce exposure to geologic hazards to an insignificant level.

g. Both marshes will discharge into Matadero Creek, and will deposit sediments in the creek.

Mitigation:

Accumulation of sediments in the creek is expected to be insignificant compared to existing loads.

2. Air.

- a. Dust generation may occur temporarily during construction.

Mitigation:

The construction specifications will include dust prevention measures such as frequent watering of borrow sites, fill sites, and haul roads. This will minimize the expected impacts to an insignificant level.

- b. Objectionable odors may result from anaerobic conditions or decaying organic matter.

Mitigation:

The freshwater marsh design will minimize the development of septic conditions. Multiple inlets will provide uniform distribution of influent and sediment loading. The high-quality influent will restrict BOD loading to well within acceptable levels. The water level operating scenario will control excessive growths of emergent vegetation which may exert an oxygen demand when decaying. The management plan calls for regular collection and disposal of decaying organic debris. See Section 4 or 5 of the attached report. These measures are expected to reduce the impacts to an insignificant level.

- c. Evaporation of marsh water may increase the moisture content of the local air mass. However, because of the proximity to San Francisco Bay, the overall change in local air moisture content will be insignificant.

3. Water.

- a. The project will change the rate of surface water runoff during normal operation of the marsh systems and in response to significant storm events. Section 4 of the ITT Marsh Enhancement Plan describes the storm response for both the salt and freshwater marshes.

Mitigation:

The only existing source of surface water is precipitation. Neither the salt marsh nor the freshwater marsh is expected to significantly change absorption rates. The existing topsoil will be stockpiled during construction until finish grades are achieved. The native topsoil will then be replaced.

The proposed salt marsh will not alter existing drainage patterns, since it will make use of existing sloughs. The freshwater marsh will be self-contained, and will not have a significant impact on existing drainage patterns. It will be located in the highest section of the site and it will have sufficient capacity to contain the expected runoff from a 100-year flood.

Effluent from the marsh systems will flow directly to Matadero Creek. Both the salt marsh and the freshwater marsh will each average 1 million gallons per day (mgd) or 1.5 cubic feet per second (cfs) of flow per day. The marsh systems will discharge a total of approximately two million gallons per day to Matadero Creek. This represents a substantial change in amount of surface water runoff. However, the project will compensate for the impacts by creating a diverse range of wetland habitat.

- b. The project area currently only has surface water runoff after storms. The existing response to storms is described in detail in Section 4 of the ITT Marsh Enhancement Plan and is summarized below:

The drainage basin is the ITT site. Precipitation falling on this area flows through existing sloughs to the low point on the site, which is in the southeastern corner. Water depths above - 1.8 ft. flow through a culvert to Matadero Creek. Water below this depth is pumped to the creek through an existing pump station. If the water level in Matadero Creek rises sufficiently, a flapgate closes on the discharge culvert, preventing backflow from the creek into the ITT site. This results in the storage of stormwater on site. When the water level in Matadero Creek subsides, the flapgate opens and allows discharge from the site.

The proposed project will have the following storm response. Flow will continue to drain from the marsh systems into Matadero Creek through the discharge culverts. When the water level in Matadero Creek rises sufficiently, the flapgates will close and inflow to both marsh systems will be terminated. All stormwater runoff will be stored until the water level in Matadero Creek subsides and allows the flapgates to reopen. The site will drain through the culverts until the water level reaches -1.8 ft. The pump station will pump water below this level into Matadero Creek. The adjustable control structures in the salt marsh sloughs will be opened to allow storm water trapped behind these structures to drain into Matadero Creek. Once the storm water has been drained, the adjustable control structures will be closed and normal operation will resume. Implementation of the project will raise the water level resulting from a 100-year storm an estimated 0.1 ft. This is not thought to be a significant impact.

The freshwater marsh will have little impact on the storm response. As stated previously, the freshwater marsh will have sufficient capacity to store precipitation from a 100-year storm event. After water levels in Matadero Creek subside, the flapgate on the discharge culvert will open, and the excess precipitation will flow to Matadero Creek.

c. The City of Palo Alto Department of Parks and Recreation operates the tide gates of the mouth of the Flood Basin and maintains a water level of -2.0 ft in Matadero Creek. As a result, the lower reaches of Matadero Creek experience saline influence from the South Bay.

Mitigation:

Both salt and freshwater marsh effluent will flow into Matadero Creek at adjacent locations. This will ensure that the salinity levels will fall within the existing ranges found in Matadero Creek.

d. There are two aquifers in the subsurface geology below the site. The deep aquifer is approximately 185 feet deep and the shallow aquifer is between 20 to 100 feet deep. The two zones are separated by an impermeable aquiclude. The upper aquifer is brackish, resulting from salt water intrusion from San Francisco Bay. Percolation of groundwater from the marsh systems is not expected to have a significant impact on the upper aquifer.

The influent pipeline to the salt marsh will extend from the yacht harbor to the northeastern corner of the ITT site. The installation of the pipeline is not expected to disturb the landfill. In the event that some fill material is encountered, mitigation measures will be employed.

Mitigation:

The pipeline will be constructed of fused high-density polyethylene pipe (HDPE). This will prevent leachate from contaminating the salt marsh influent. Leachate may collect in the relatively porous soils used as bedding for the pipeline. Bentonite stops will be placed at 100 foot intervals when the pipe extends through landfill material. In addition, at locations where the pipeline encounters fill material a bentonite plug will be installed so that the landfill seal will remain intact. These measures are expected to minimize the impacts of the project by limiting the resulting changes in landfill leachate.

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e. The project objectives specify protection of endangered species and creation of habitat for wildlife use. Consequently, public access is restricted, so no significant increase in exposure to tidal or storm flooding is anticipated.

f. The project is not expected to directly result in substantial changes in quantities of groundwater. Potential exceptions are discussed in (d) above. Groundwater contributed by the project is expected to be insignificant in comparison to the intrusion from the South Bay.

4. Plant Life.

a. The project will result in changes of species diversity and composition on the ITT site.

Mitigation:

The project objectives specify the creation and enhancement of habitat for wildlife use. Implementation will result in replacing some existing plant species with the targetted freshwater and salt marsh vegetation. The project will compensate for these impacts by providing a rich, diverse wetland habitat. Specific vegetation objectives and management strategies were developed to encourage the success of the project. Each marsh has a separate management plan presented in detail in Sections 4 and 8 of the ITT Marsh Enhancement Plan. A summary is provided below:

The species diversity and composition will be changed as a result of the freshwater marsh. Upland habitat and grasses exist at the proposed freshwater marsh location. These grasses will be replaced by a freshwater wetlands that will encourage the establishment of spikerush, alkali bulrush, and mudflat annuals in shallow areas of the marsh.

One objective is to increase and enhance pickleweed growth in the northeastern sector of the site. Management techniques will maintain a 25% increase in pickleweed in this area. A slough will be excavated near the discharge culvert and will replace a quarter of an acre of grasses with pickleweed. This will provide habitat for an endangered species found in the area, the salt marsh harvest mouse.

b. The baseline monitoring program characterized areas of the site that will be influenced by the project. No unique, rare, or endangered plants were found as a result of this field work. See Appendix B for the results of this extensive field effort.

c. The proposed freshwater marsh will introduce freshwater marsh vegetation and reduce the amount of upland habitat on the site.

Mitigation:

Implementation of the marsh project will compensate for impacts by substituting the rich environment of the freshwater marsh. Desirable species are expected to establish; consequently, a formal planting program is not specified. Management of the marsh will foster conditions to encourage spikerush, alkali bulrush, and mudflat annuals. An annual contingency fund will be used for collection and disposal of nuisance species, or for planting.

d. No crops are cultivated on the site.

5. Animal Life.

a. The project will result in changes of species diversity and composition on the ITT site.

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Mitigation:

The objectives focus on increasing habitat for wildlife use. The project will compensate for changes in animal species by creating environments that have greater habitat value. Areas of salt marsh vegetation will be expanded to provide additional habitat for the salt marsh harvest mouse. The freshwater marsh will attract and sustain animal species that require freshwater wetlands during some portion of their life cycle.

Management strategies were developed to optimize the project objectives, and are described in detail in Sections 4 and 8. The operation of the salt marsh will increase the areal extent and value of the existing habitat. A phased implementation schedule will enhance existing pickleweed in the northeastern sector of the site. Periodic inundation during normal operation will sustain the new growth. The freshwater marsh has been designed to provide a diverse range of habitat. Management techniques will encourage the establishment of seed-producing vegetation that will provide food sources and attract birds and waterfowl.

b. The salt marsh harvest mouse, an endangered species, has been documented on site. The project will establish protections and safeguards for the mice.

Mitigation:

The phased implementation plan will increase pickleweed areas before the marshes are fully operational. The extent of salt water influence will be expanded. Existing salinity regimes will be maintained; consequently, a net increase of habitat is expected. Sections 4 and 8 of the ITT Marsh Enhancement Plan describe the management strategies and anticipated impacts in full detail.

c. The creation of the freshwater marsh will result in the introduction of new species of animals.

Mitigation:

The project objectives specify creation of freshwater habitat to attract birds and waterfowl traveling along the Pacific Flyway. Management strategies were developed to attain this goal. Section 4 provides a detailed description.

d. Construction and operation may result in deterioration of existing fish or wildlife habitat.

Mitigation:

As stated previously, each marsh has a detailed management plan. Implementation of the marsh systems is not expected to deteriorate existing habitat. A comprehensive monitoring program will further insure that high-quality wetlands habitat is created. The environmental review committee will review the data collected as part of the field effort, and will change marsh operation or design to optimize the project objectives.

6. Noise.

a. The existing noise levels at the marsh site are relatively high as a result of being located in close proximity to the water quality control plant, the resource recovery area, and U. S. 101. In addition, noise will increase temporarily during construction.

Mitigation:

All contractors will comply with the Palo Alto Noise Ordinance. The contract will limit construction activity to specified hours, mufflers will be required on all heavy equipment, and no construction equipment will produce a noise level exceeding 83 dBA at a distance of 25 feet.

b. Because the marsh site is not near a residential or public area, people will not be exposed to temporary construction noise levels.

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7. Light and Glare.

- a. No new light glare will be produced by the marsh project. Outdoor lighting is not provided.

8. Land Use.

- a. This marsh project is consistent with land use recommendations made in the Palo Alto Baylands Master Plan, the current zoning, and the comprehensive plan designation.

9. Energy/Natural Resources.

- a. Fuel consumption will temporarily increase during construction of the project, but these amounts will not be significant. Implementation of the project will result in power costs, most of which will be associated with associated with pumping. The marsh enhancement plan presents two alternatives: manual versus automatic operation. The power requirements for these two options will not vary significantly, and are estimated in the following table:

Power Requirements	kW-hr
Pumping- freshwater marsh influent	160,000
Pumping-storm response	800
Pumping- periodic inundation	1,600
Total:	162,400

- b. The energy demand of the marsh project is not substantial, and no new sources of energy will be required.

- c. The marsh project will not significantly increase the rate of use of any natural resource.

- d. The marsh project will not result in a substantial depletion of any nonrenewable natural resource.

10. Risk of Upset.

- a. There are three possible sources of an explosion or release of hazardous materials associated with the project. During the construction phase, there is the possibility of a vehicular accident. The disinfection and dechlorination processes at the reclamation facility require use of two hazardous materials, chlorine and sulfur dioxide. The use of these chemicals will result in an increased risk of accident.

Mitigation:

The likelihood of a construction accident will be minimized by requiring compliance with safety procedures established in the construction specifications.

The treatment processes for the reclaimed water include disinfection and dechlorination. Chlorine disinfects the treated wastewater and kills pathogenic organisms which pose a potential health risk to humans. Since chlorine is highly toxic to aquatic organisms, the freshwater marsh influent will be dechlorinated. This will require the application of sulfur dioxide, a hazardous material. The use of these two chemicals will increase the risk of explosion, release of hazardous substances, or hazards to human health. The water quality control plant staff has prepared a detailed emergency response plan. This document outlines the specific procedures to follow during handling. All aspects of the use, transport, and storage, will comply with the City's Hazardous Chemicals Ordinance.

11. Population/Housing.

a. A significant change in location, density or distribution of the human population of the Palo Alto area is not expected as a result of this project. The project will establish permanent protections for salt marsh harvest mice found on the site, thereby preserving the open space.

b. Presently, no housing exists in the vicinity of the proposed marsh project. No demand for additional housing will be created.

12. Transportation/Circulation.

a. A small additional amount of vehicular movement will be generated temporarily during construction of the marsh. This is not expected to be significant.

b. Presently, parking facilities exist only within the confines of the ITT facility. The project objectives include creating habitat for wildlife use. Intrusive public access is discouraged to minimize disruption of wildlife, including the salt marsh harvest mice. Additional parking will not be provided.

c. During construction of the freshwater marsh, detours may be set up on the regional trail which parallels East Bayshore Road. These measures will be temporary and are not expected to cause a significant change in circulation patterns.

d. No significant changes in traffic hazards are expected to result from this project.

13. Public Services.

a. City fire protection will not be affected by this project.

b. The marsh enhancement project will not result in any significant increase in police services.

c. No change in public school service will result from this project.

d. A marsh manager will maintain the two marsh systems.

Mitigation:

The project proposes two possible operating scenarios: manual and automatic. Personnel requirements for these options are 3/4 and 1/4 time, respectively. Funding for the project includes the additional staffing costs for the first three years of operation.

e. The level of maintenance of public facilities, existing roads, and trails will not change as a result of this project, nor will any new roads be constructed.

f. The proposed marsh project will not affect any other governmental services.

14. Utilities.

a. The marsh enhancement plan proposes two alternatives: manual and automatic operation. If the City selects manual operation, existing power lines will be extended to supply the additional energy needed for the storm response and emergency alarms. If the City selects automatic operation, new power lines will be installed to provide the increased power requirements for operation of the automatic gates and telemetry.

Mitigation:

The project will include costs for installing the additional infrastructure.

b. Both alternatives will require a dedicated telephone line so that storm response and emergency alarms can be relayed to the Water Quality Control Plant. This is not considered significant.

c. Planned facilities at the marsh enhancement project do not include potable water.

d. The marsh enhancement project will not provide sewage collection facilities.

e. The existing discharge scenario into Matadero Creek will not change as a result of the project.

f. Marsh design and management techniques will minimize the establishment of vegetation species with large biomass. The operation schedule specifies the collection and disposal of decaying matter along the perimeter of the marshes on a monthly basis during the dry weather to minimize the likelihood of avian botulism and mosquito nuisance. Harvested vegetation and organic debris may generate solid waste. The amount is not expected to be significant.

15. Human Health.

a. The freshwater marsh will use reclaimed wastewater that may result in a public health hazard, but this is unlikely. In addition, sulfur dioxide will dechlorinate the freshwater marsh influent. Chlorine is currently being used for disinfection. These chemicals are extremely hazardous and their use will result in a small increased risk of leaks or spills.

Mitigation:

Wastewater contains pathogenic organisms which cause disease in humans. Coliforms are a bacteria whose presence is highly correlated with pathogens. Simple and inexpensive tests have been developed to detect the presence of coliforms, and consequently they are used as indicator organisms for the presence of disease-producing pathogens. A number of processes can render pathogens inviable, including chlorination.

The reclamation of wastewater is governed by the California Administrative Code and the focus is to protect public health. Title 22 provides standards for the various uses of reclaimed wastewater in the form of maximum allowable numbers of coliforms. The freshwater marsh influent will meet a standard of 23 MPN coliforms. The influent will be chlorinated to achieve this level of disinfection. It will then be dechlorinated prior to entering the marsh, since chlorine is toxic to many aquatic organisms.