SAN FRANCISCO DISTRICT

US Army Corps of Engineers

PUBLIC NOTICE

NUMBER: 24215N DATE: January 10, 2000
RESPONSE REQUIRED BY: February 9, 2000

Regulatory Branch
333 Market Street
San Francisco, CA 94105-2197

PERMIT MANAGER: Debra A. O'Leary PHONE: 415-977-8442 do'leary@spd.usace.army.mil

1. INTRODUCTION:

The Suisun Resource Conservation District, 2544 Grizzly Island Road, Suisun, California (contact: Steve Chappell (707) 425-9302) and the California Department of Fish and Game, 2748 Grizzly Island Road, Suisun, California (contact: Dennis Becker (707) 425-3828) have applied for the renewal of Department of the Army Permit 20066N. This permit, which expires on March 1, 2000 authorizes the applicants to complete activities with minor environmental impacts, such as maintenance of existing structures and levees and installation of new structures, within the Suisun Marsh, in Solano County, California. The Proposed Regional General Permit (RGP) is attached to this public notice. This application is being processed in accordance with Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act (33 U.S.C. 403). The renewed permit will be valid for five years.

2. PROJECT DESCRIPTION:

A. Project Site:

As shown on the attached vicinity map (sheet 1), the Suisun Marsh is located in southern Solano County west of the Sacramento River Delta. It contains over 10% of California's remaining wetlands and is one of the largest contiguous estuarine marshes in the United States.

The marsh is comprised of several islands. Most of the islands are subdivided into various land ownerships. The landowners in the Suisun Marsh include the State of California, non-profit organizations, private hunting clubs which contain up to twenty-five members, and private individuals. As shown on sheet 2, there are 158 separate land ownerships in the Suisun Marsh.

Most of the islands in the Suisun Marsh are ringed with large exterior levees (see sheet 3) which are typically 10 to 12 feet higher than the managed wetlands, 12 feet wide at the crown, and have 2:1 side slopes (sheet 4). Managed wetlands are contained within the exterior levees. Often emergent wetlands (tule wetlands) are found between the sloughs and the exterior levees. Most of the land is managed primarily to provide habitat for ducks and it also provides valuable wetland habitat for other types of wildlife. Some public land is managed primarily for Tule Elk or for endangered species.

On the landward side of the exterior levees in the managed wetlands is usually a series of smaller interior levees which are 2 to 3 feet in height. Often there is an unpaved gravel or dirt road located on the crown of the levees.

Most of the exterior levees in the Suisun Marsh were originally constructed so that people could farm the islands. Levee construction began in the 1850s. When farming became unprofitable the land was converted to managed wetlands. Once the exterior levees were built the diked land began to subside. Most of the managed wetlands in the Suisun Marsh have subsided below the elevation of

mean high water. Therefore, the exterior levees are necessary to prevent these subsided lands from becoming permanently flooded. The interior levees partition areas from each other so that each area can be managed separately.

The interior of most of the islands also contain a series of primary and secondary ditches which are connected to the sloughs by water control structures. As shown on sheet 6, the ditches are trapezoidal, earthen channels. The primary ditches are typically 4 to 4 1/2 feet deep, 12 to 20 feet wide with a 2:1 side slope. Secondary ditches are typically 3 to 3 1/2 feet deep, 6 to 10 feet wide with also with a side slope of 2:1. Often there are also smaller spreader ditches. These ditches are triangular 'V' shaped ditches. These spreader ditches, which are shown on sheet 7, are typically 18 to 24 inches deep.

Water is diverted from sloughs or bays through exterior water control structures into the ditches and is used to seasonally flood the managed wetlands of the islands. At other times, water is actively pumped off the island or is drained through water control structures into the adjacent sloughs or bays. As shown on sheet 8, water control structures consist of a culvert which runs through levee and a mechanism (such as a flap gate) to control the direction and amount of flow through the pipe. The water control structures and channels allow the landowners to control the amount and duration of water on their ownership.

As shown on sheet 3, interior water control structures allow water to pass through interior levees. These structures connect secondary and primary ditches to each other. Interior water control structures consist of 18 to 48 inch diameter culverts, flap gates, screw gates, weir boxes and flashboard risers. Historically metal water control structures have been used. However, PVC plastic and vinyl are now also being used in some of the water control structures. Interior water control structures enable landowners to manage water levels on adjacent areas on an island differently.

Exterior water control structures are the same as interior water control structures except they are typically larger (24 inches to 48 inches in diameter pipes) and allow water to pass through exterior levees. Exterior water control structures connect sloughs or bays to primary ditches. Typical water control structures are shown on sheet 8.

B. Proposed Permit:

The proposed RGP would authorize the maintenance of the levees, channels and water control structures, installation of some new structures, and placement of fill to counteract subsidence. Specifically the permit would authorize the activities described below.

1.) ACTIVITIES IN DITCHES

a. Excavation from Existing Primary and Secondary Ditches and Creation of New Primary or Secondary Ditches-

The proposed RGP would authorize excavation of material from existing primary and secondary ditches. The purpose of this work is to maintain the capacity of the ditches to convey water or to obtain material to be used in levee maintenance. Occasionally a new primary or secondary ditch would be created to improve water management on the ownership. Typical cross sections of these ditches is shown on sheet 6. Under the proposed RGP the landowners would be authorized to sidecast material next to the ditch for up to one month. The amount of material each ownership could excavate would be on a sliding scale depending on the size of the ownership.

Size of Ownership (Acres)	Annual Limit of Excavation Per Year
Under 50	1,000
50 to 249	2,000
250 to 499	3,000
500 to 749	4,000
750 to 999	5,000
1,000 & over	6,000

The excavation is usually done with either a bucket excavator or occasionally with a dragline. Most of the excavated material is used in another authorized activity (i.e. raising the elevation of the managed wetlands, or levee repair). Any remaining material would be hauled to a disposal site outside of Corps jurisdiction.

b. Maintenance of Existing Spreader Ditches and Creation of New Spreader Ditches

Spreader ditches are created and maintained by using a plow. Under the proposed RGP the permitees could remove material from existing spreader ditches and create new spreader ditches. As shown on sheet 7, spreader ditches are much smaller than primary or secondary ditches. Spreader ditches are used to either flood high areas or drain low areas in the managed wetlands. The amount of new spreader ditches the permitees would be able to create would be based on a sliding scale based on size of the ownership in accordance with the table below. The permitees would be authorized to leave material sidecast on adjacent wetlands during the creation of spreader ditches.

Individual Ownership (Acres)	Annual Linear Feet of New Spreader Ditches
Under 50	2,000
50 to 249	6,000
250 to 499	10,000
500 to 749	14,000
750 to 999	18,000
1,000 & over	20,000

c. Placement of Rip-Rap in Ditches

As shown on sheet 7, placement of rock rip-rap would be authorized in areas where it was previously placed on the sides of primary and secondary ditches. No emergent vegetation would be up-rooted or destroyed during the placement.

Placement of additional rip-rap would be authorized on the sides of ditches were high water has carried away the rock or existing rock has subsided. Additional rock is then added to the top of the slope and then slides into place.

2.) ACTIVITIES ON LEVEES:

a. Repair of Interior and Exterior Levees

Permitees would be authorized to place material on the crown of the existing levees to repair damage from storms and to counteract subsidence of the levees. The amount of material each landownership could place annually would be based on the size of the individual ownership in accordance with the table below. Typical cross sections of levees are shown on sheets 4 and 5.

Individual Ownership (acres)	Maximum Amount (cys) of Material Placed on Exterior Levees (Annually)	Maximum Amount (cys) of Material Placed on Interior Levees (Annually)
Under 50	1,000	1,000
50 to 249	2,000	2,000
250 to 499	3,000	3,000
500 to 749	4,000	4,000
750 to 999	5,000	5,000
1,000 & over	6,000	6,000

b. Coring of Levees

Levees are cored to repair holes made by burrowing mammals and to prevent water seeping through the levees. During coring a 2 foot wide trench is dug lengthwise on the crown of the levee. Material excavated from the trench is sidecast onto the crown of the levee. The material is then backfilled into the trench.

c. Maintenance of Existing of Roads

Most of the roads on the Suisun Marsh are unimproved dirt or gravel roads. These roads provide the only automobile access to most of the marsh. Each ownership is authorized to place up to

5,000 cubic yards of earth or gravel per year to improve existing roads. Roads are subject to deterioration from pot holes and wash boarding. The roads also occasionally subside.

c. Placement of Rip-Rap on Existing Sides of Levees

Placement of rock rip-rap would be authorized in areas where it was previously placed, including the tidal sides of exterior levees and along the sides of ditches. No emergent vegetation may be up-rooted or destroyed during the placement.

Some exterior levees in areas with high wind and wave exposure have been stabilized with rip-rap and require maintenance. When rip-rap is lost during storm events, rock is added on the crown of the levee slides then slides down the slope.

3.) Activities in Managed Wetlands

a. Grading and Raising the Elevation of Managed Wetlands

The managed wetlands are graded to expand desired wetland habitats, obtain material for levee maintenance, improve water management capability and level subsided areas. The amount of material the landowners could move would be limited in accordance with the following table. No material would be imported to the project site.

Individual Ownership (Acreage)	Annual Grading Limitation (cys)
under 50	4,000
50 to 249	8,000
250 to 499	12,000
500 to 749	16,000
750 to 999	20,000
1,000 & over	24,000

b. Discing

Discing is done by dragging metal rakes or discs behind tractors. Discing often occurs after managed wetlands are burned to turn over the seed bed, promote new vegetation, create open water habitat or reduce mosquito habitat.

c. Installation of Permanent and Portable Pumps and Pump Platforms

Pumps enable the landowners to pump water that cannot be drained effectively via gravity through the water control structures. Pumps reduce the amount of time it takes for water to drain off a managed wetland. They are located near the water control structures. Pump platforms are small areas of earthen fill which support the pumps, or are small wooden structures built above the managed wetlands or sloughs.

d. Creation of Waterfowl Nesting Islands and Habitat

As shown on sheet 9, these are typically upland areas created during the grading of the managed wetlands. Waterfowl islands are successful nesting habitats because they provide isolation from terrestrial predators.

e. Relocation or Installation of Duck Hunting Blinds

A duck hunting blind is typically a metal or fiberglass tank buried in the ground. As shown on sheet 9, typically there is a small island surrounding the blind to promote vegetation to hide the blind. Under the proposed RGP each ownership could relocate or install 5 blinds annually.

4.) Activities Associated with Water Control Structures

a. Replacement and Maintenance of Water Control Structures

Metal water control structures deteriorate by oxidation and rust. Typically the life of these metal structures is about eight years. Plastic and vinyl water control structures have a longer useful life but are not appropriate for all applications.

To replace a water control structure, the landowner typically assembles the new structure, digs a trench over the existing culvert, removes the old structure and places the new one then back fills the trench. If a bulkhead is present, it is cut over the pipe and removed, then replaced after installation. Occasionally a water control structure is replaced with a larger structure to increase water management capabilities.

b. Installation of New Interior or Exterior Water Control Structures

The installation of a new water control structure is done in a manner similar to the replacement of an existing water control structure. The proposed RGP would authorize the annual installation of 50 new interior and exterior water control structures throughout the marsh.

c. Fish Screens

Fish screens are installed on water control intake structures (flood gates) which are used to divert water from bays or sloughs onto the managed wetlands. The screens prevent fish from passing through exterior water control structures and then stranded in the ditches or on the managed wetlands.

Annually up to 1,000 square feet of wetlands in throughout the marsh may be filled during the installation of fish screens.

5.) Permit Administration:

The format and the administration of the proposed RGP are different from Department of the Army Permit 20066N. These changes will allow the Corps to better assess the activities authorized by the proposed Regional Permit.

According to the proposed RGP there would be two procedures for authorization: routine and alternative.

a. Routine Procedures

The routine authorizations would take up to 30 days to authorize. The Corps anticipates that this process would be followed in most cases. Under the routine authorizations, the following steps would apply:

(1) Landowners, including the California Department of Fish and Game (CA FG), would plan a project and fill out a work request form, then submit the form and accompying maps to the Suisun Resource Conservation District (SRCD).

(2) The SRCD would then prioritize and compile the requests and submit monthly Proposed Work Reports describing the proposed work to the Corps of Engineers.

(3) The Corps would have 30 days to verify if proposed work is authorized by this Regional Permit. If proposed work can not be authorized under the Regional Permit the Corps will notify the SRCD and landowner as soon as it makes its determination.

(4) If a project is authorized the SRCD will notify the landowner.

b. Alternative Procedures

The alternative proposed work procedures would normally be used when something unexpected happens such as, a water control structure rusts through and starts leaking. When using the alternative work procedures, the landowner would apply directly to the Corp and send a copy of the application to the SRCD. The Corps would verify if the proposed work could be authorized under the RGP within 45 days.

C. Mitigation:

As mitigation for impacts to endangered species during the construction and operation of the Salinity Control Facilities (e.g. Montezuma Salinity Control Gates, Roaring River Distribution System, and Morrow Island Distribution System) and for the landowners management activities in the marsh, the California Department of Fish and Game has agreed to manage 1,000 acres of state lands as endangered

California Clapper Rail and Salt Marsh Harvest Mouse habitat. These mitigation areas are shown on figure 4.

This mitigation agreement is part of the Suisun Marsh Preservation Agreement (SMPA) signed by the California Department of Water Resources, Bureau of Reclamation, U.S. Department of Fish and Game, and the Suisun Resource Conservation District. These four agencies form the Environmental Coordination Advisory Team (ECAT) which meets regularly with the US Fish and Wildlife Service and the US Army Corps of Engineers to ensure compliance with the mitigation and monitoring requirements of the SMPA, and to provide technical guidance and oversight of all SMPA mitigation, management and restoration programs.

3. STATE APPROVALS:

Under Section 401 of the Clean Water Act (33 U.S.C. Section 1341), an applicant for a Corps permit must obtain a State water quality certification or waiver before a Corps permit may be issued. The permitees have stated that they have submitted a valid request for State water quality certification to the San Francisco Bay Regional Water Quality Board. No Corps permit will be granted until the applicant obtains the required certification or waiver. A waiver shall be explicit, or it will be deemed to have occurred if the State fails or refuses to act on a valid request for certification within 60 days after the receipt of a valid request, unless the District Engineer determines a shorter or longer period is reasonable for the State to act.

Those parties concerned with any water quality issues that may be associated with this project should write to the Executive Officer, California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612, by the close of the comment period of this public notice.

The applicants and the Corps of Engineers are working with the San Francisco Bay Conservation and Development Commission to ensure that any work done under the proposed RGP also complies with the requirements of the Coastal Zone Management Act (CZMA).

4. PRELIMINARY ENVIRONMENTAL ASSESSMENT:

The Corps of Engineers has assessed the environmental impacts of the action proposed in accordance with the requirements of the National Environmental Policy Act of 1969 (Public Law 91-190), and pursuant to Council on Environmental Quality's Regulations, 40 CFR 1500-1508, and Corps of Engineers' Regulations, 33 CFR 230 and 325, Appendix B. Unless otherwise stated, the Preliminary Environmental Assessment describes only the impacts (direct, indirect, and cumulative) resulting from activities within the jurisdiction of the Corps of Engineers.

The Preliminary Environmental Assessment resulted in the following findings:

A. Impacts to the Aquatic Ecosystem:

1.) PHYSICAL/CHEMICAL CHARACTERISTICS AND ANTICIPATED CHANGES

a. Substrate - Long term changes could occur to the existing substrate elevations due to excavation of interior ditches and from grading activities.

b. Currents/Circulation - Long term impacts could occur to existing circulation patterns in the marsh due to the excavation of new ditches, installation of culverts and water control structures, and installation of pumps.

c. Drainage Patterns - Dredging of new and existing ditches, installation of water control structures culverts, and pumps could have long-term impacts to drainage patterns within the marsh.

e. Erosion/Sedimentation Rate - There might be short-term increases in sedimentation within the ditches after excavation has occurred.

f. Water Supply (Natural) - Increased ability to manipulate water in the marsh would have long term impacts on the availability, elevation and depths of the natural water supply. Since water management is not likely to radically change in the next five years, availability of water for organisms living in the marsh is not expected to change.

g. Water Quality - Grading and discing in the managed wetlands and excavation from the ditches may cause short term increases in turbidity. Improving the landowners' ability to manage water on the wetlands may result in lower salinity levels within the wetlands and greater salinity levels within the water column.

2.) Biological Characteristics and Anticipated Changes

a. Wetlands (Special Aquatic Site) - Wetland acreage may be lost during the creation of waterfowl nesting habitat. Grading and discing may cause short-term adverse impacts after grading and discing. Improved water management would enable the landowners to manipulate plant communities. However, since there are not expected to be radical changes in management the plant communities would remain mostly as they are now. Although there may be short-term, local changes to wetlands the authorized activities are not expected to substantially alter wetland amounts or types.

b. Mud Flats (Special Aquatic Site) - Mud flats could be temporarily lost during the replacement of water control structures.

c. Vegetated Shallows (Special Aquatic Site) - Currently the Corps of Engineers does not know of any vegetated shallow water areas however it is possible that they occur. Eelgrass beds are an example of a vegetated shallow which might occur in the Suisun Marsh. Therefore, the proposed project is not expected to affect vegetated shallows.

d. Wildlife Sanctuaries - The proposed would enable the CA FG to manage the Grizzly Island Wildlife area and other properties in the Suisun Marsh for wildlife.

f. Endangered Species - Numerous listed, proposed and candidate endangered species are known to occur in the Suisun Marsh. These include the Salt Marsh Harvest Mouse, California Clapper Rail, Black Rail, Suisun Shrew, Soft Bird's Beak, Delta Tule Pea, Winter-Run Chinook Salmon, Sacramento Splittail, and Delta Smelt and additional species. The work authorized under this permit could adversely and/or beneficially impact endangered species.

The expected impacts to endangered species is described in detail in the Biological Assessment for the Suisun Marsh Preservation Agreement as Modified by Amendment Three. This document is available at the Suisun Resource Conservation District Headquarters, Department of Water Services Ecological Branch, and in this office. Landownerships on which California Clapper Rail habitat has been identified are identified on figure one. Waterways with Chinook Salmon and Delta Smelt diversion restrictions are shown in figures 2 and 3.

The Corps of Engineers and the U.S. Bureau of Reclamation initiated a joint formal Section 7 consultation with the U.S. Fish and Wildlife Service. This is believed appropriate since the Bureau and the California Department of Water Resources might provide partial funding for many of the activities which would be authorized under the proposed RGP. The Corps of Engineers will also enter in Section 7 consultation with the National Marine Fisheries Service.

g. Habitat for Fish, Other Aquatic Organisms, and Wildlife - The work authorized by the proposed RGP is not expected to substantially change the habitat values in the marsh.

B. Impacts on Resources Outside the Aquatic Ecosystem

1.) PHYSICAL CHARACTERISTICS AND ANTICIPATED CHANGES

a. Air Quality - Project activity would have minor, short-term impacts on air quality in the vicinity of

the construction sites. Based on the relative minor size of the proposed project and limited to an evaluation of air quality impacts only within Corps of Engineers' (Corps) jurisdictional areas, the Corps has determined that the total direct and non-direct project emissions would not exceed the de minimis threshold levels of 40 CFR 93.153. Therefore, the proposed project would conform to the State air quality implementation Plan (SIP) for California.

b. Noise Conditions - There may be small increases in the ambient noise during construction activities.

2.) BIOLOGICAL CHARACTERISTICS AND ANTICIPATED CHANGES

a. Terrestrial Habitat - Grading of uplands (non-wetlands) may occur to obtain material to raise the level of managed wetlands or to obtain material for levee repair.

b. Special Wildlife Areas - See the Wildlife Sanctuaries Section above.

3.) Socioeconomic Characteristics and Anticipated Changes

a. Aesthetic Quality - Any authorized work may cause short-term localized changes to the appearance of the marsh. However, there is not expected to be any long-term changes to aesthetic quality.

b. Economics - The work authorized by the proposed RGP is not expected to have any adverse impacts to the local or regional economy.

c. Recreational Opportunities - The proposed work would maintain or increase recreational hunting and fishing opportunities in the marsh.

4.) HISTORIC - CULTURAL CHARACTERISTICS AND ANTICIPATED CHANGES

Since work is not authorized in the vicinity of the only identified cultural resource site (CA-SOL-13) in the Suisun Marsh. The proposed work is not expected to adversely effect cultural resources. Should cultural resources be encountered during authorized activities the landowner would temporarily cease activity at the project site until an archeologist could evaluate the resource and appropriate steps be taken.

E. Conclusions and Recommendations:

Based on an analysis of the above identified impacts, a preliminary determination has been made that it will not be necessary to prepare an Environmental Impact Statement (EIS) for the proposed RGP. The work which would be covered by the proposed permit is expected to have minimal individual and cumulative environmental impacts. The Environmental Assessment for the proposed action has however, not yet been finalized and this preliminary determination may be reconsidered if additional information is developed.

5. **EVALUATION OF ALTERNATIVES**:

Evaluation of this activity's impacts includes application of the guidelines promulgated by the Administrator of the Environmental Protection Agency under Section 404(b) of the Clean Water Act (33 U.S.C. 1344(b)).

6. **PUBLIC INTEREST EVALUATION:**

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision will reflect the national concern for both protection and utilization of important resources. All factors which may be relevant to the proposal must be considered including the cumulative effects thereof.

Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

7. CONSIDERATION OF COMMENTS:

The Corps of Engineers is soliciting comments from the public, Federal, State and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

8. SUBMISSION OF COMMENTS:

Interested parties may submit in writing any comments concerning this activity. Comments should include the applicant's name, the number, and the date of this notice and should be forwarded so as to reach this office within the comment period specified on page one of this notice. Comments should be sent to the Regulatory Branch. It is Corps policy to forward any such comments which include objections to the applicant for resolution or rebuttal. Any person may also request, in writing, within the comment period of this notice that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Additional details may be obtained by contacting the applicant whose address is indicated in the first paragraph of this notice, or by contacting Debra O'Leary of our office at telephone number 415-977-8442 or sending e-mail to her at doleary@spd.usace.army.mil. Details on any changes of a minor nature which are made in the final permit action will be provided on request.

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REGIONAL GENERAL DEPARTMENT OF THE ARMY
REGIONAL GENERAL PERMIT
FOR ACTIVITIES IN THE SUISUN MARSH
(File Number: 24215N)

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The District Engineer, San Francisco District, U. S. Army Corps of Engineers (Corps), hereby grants this Department of the Army Regional General Permit for work activities and discharges of dredged or fill material into waters of the United States described below, pursuant to Section 10 of the Rivers and Harbors Act of 1899 (22 U.S.C. 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344).

1. Project Description: The California Department of Fish and Game (CDFG) and the landowners represented by the Suisun Resource Conservation District (SRCD) are authorized to work and place fill material in areas subject to Corps jurisdiction while completing the activities described below within the Suisun Marsh Primary Management Area (sheet 2 of 9) in Solano County California.

The CDFG is responsible for ensuring that all authorized work done by its personnel or on its land is done in accordance with the terms and conditions of this permit. Any landowner working under this permit is responsible for ensuring that all work they or their contractors do is in accordance with the terms and conditions of this permit. The SRCD is responsible for providing the required reports and accurate advice to the landowners. However, the Corps is the authority on determining if an activity is authorized by this permit.

The following work activities and fill discharges are authorized. Authorized work must be in accordance with the attached drawings labeled "Suisun Marsh Near Fairfield, individually owned state and private properties, Solano, California" (sheets 3-9 of 9).

Work in interior ditches-

1) Excavation from existing primary or secondary ditches and excavation to create new primary or secondary ditches. Material excavated from these ditches may be sidecast and left adjacent to the ditch for up to one month, then must be used for an authorized activity (e.g. levee maintenance or grading) or removed to an area outside of Corps jurisdiction.

Size of Individual Ownership (Acres)	Cubic Yards of Excavation Annually
Under 50	1,000
50 to 249	2,000
250 to 499	3,000
500 to 749	4,000
750 to 999	5,000
1,000 & over	6,000

2) Excavation from existing spreader ditches and creation of new spreader ditches. Material from spreader ditches may be sidecast adjacent to ditch. The cumulative length of new spreader ditches that a landowner may create is based on the sliding scale in the table below.

Size of Ownership (Acres)	Linear Feet of New Spreader Ditch Annually
Under 50	2,000
50 to 249	6,000
250 to 499	10,000
500 to 749	14,000
750 to 999	18,000
1,000 & over	20,000

3) Placement of Rip-rap. Each ownership may place additional rip-rap on the slopes of interior ditches where rock has been washed away. Rip-rap shall not be placed directly on emergent vegetation (e.g. tules). Emergent vegetation shall not be uprooted during the placement of rip-rap, nor shall it be displaced by rip-rap.

Work on Levees

1) Levee Repair. Each ownership may place suitable material on the crown or sides of interior levees and the crown or interior side (landward side) of exterior levees. The amount of material each landowner is authorized to place is dependant on the size of the ownership in accordance with the table below.

Individual Ownership (acres)	Exterior Levee (cubic yards annually)	Interior Levee (cubic yards annually)
Under 50	1,000	1,000
50 to 249	2,000	2,000
250 to 499	3,000	3,000
500 to 749	4,000	4,000
750 to 999	5,000	5,000
1,000 & Over	6,000	6,000

2) Coring of Levees. Material excavated from the trench of a cored levee shall be temporarily placed on the levee crown then used to backfill the trench.

3) Road Maintenance. Each ownership may place 5,000 cubic yards of material annually on existing roads.

4) Placement of Rip-rap. Each ownership may place additional rip-rap on the tidal side of exterior levees where rock has been washed away or has subsided. Rip-rap shall not be placed directly on emergent vegetation (tules). Emergent vegetation shall not be uprooted during the placement of rip-rap and emergent vegetation shall not be displaced by rip-rap.

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Work in Managed Wetlands

1) Grading. Ownerships may grade managed wetlands to obtain material for levee maintenance or to increase wetland areas by filling areas which have subsided. The amount of material a landowner may grade is dependent on the size of the ownership, in accordance with the table below.

Individual Ownership Ownership (Acres)	Annual Grading Limitation (Cubic Yards)
under 50	4,000
50 to 249	8,000
250 to 499	12,000
500 to 749	16,000
750 to 999	20,000
1,000 & Over	24,000

2) Discing. Discing of managed wetlands may be done to promote growth of vegetation or to reduce mosquito habitat.

3) Installation of Permanent and Portable Pumps and Pump Platforms. Pump platforms shall be the minimum size necessary to hold the pump.

4) Creation of Waterfowl Nesting Islands and Habitat. Only earthen material from the managed wetlands of the same landownership may be used to create waterfowl nesting habitat or islands.

5) Replacement, Relocation or Installation of Duck Hunting Blinds. Each ownership may relocate or install 5 hunting blinds annually.

Water Control Structures

1) Replacement, Installation and Maintenance of Water Control Structures. Replacement of a water control structure consists of trenching across a levee, removal of an existing water control structure, placement of the new water control structure and backfilling of the levee. Installation of a water control structure consists of trenching across a levee and placement of a new water control structure where there was not one previously. Maintenance of a water control structure could include repair and/or replacement of a gate, bulkhead, flashboard riser, stub or coupler (excavation of a levee is not considered maintenance activity under this permit).

New or enlarged exterior water intake structures shall be screened in accordance with the CDFG's criteria unless the Corps determines that the structure would not adversely affect any endangered species and the Corps obtains concurrence with that determination from NMFS or FWS as applicable. As part of the SRCD Proposed Work Report for new or enlarged water exterior intake water control structures the SRCD shall provide the following information:

- the volume of water required to flood the managed wetlands,
- the minimum size of the culvert required to flood the managed wetlands in 10 days,
- the vertical elevation of the water control structure and its local topography,
- the length, slope and material (i.e. plastic or metal) to be used,
- the daily and monthly tidal range at the project site,
- the elevation of the managed wetlands, and
- the water depth of the managed wetlands when fully flooded.

Fifty new exterior water control structures may be installed in the marsh annually. An on-site field inspection for Federally protected plants shall be conducted by a qualified representative of the SRCD or CDFG for all water control structure replacements except when a head wall is present and for all installations of water control structures.

DRAFT

Water control structures may be installed or replaced only during low tides when there is the least chance of affecting fisheries.

2) Installation of Fish Screens on Exterior Water Control Structures. No more than 1,000 square feet of wetlands throughout the marsh per year shall be filled during installation of fish screens.

2. Administration of Permit: All authorized work must be verified in accordance with one of the following procedures. The Corps may add additional Special Conditions to the verifications if it determines the additional conditions are necessary to ensure the proposed work has minimal effects.

DRAFT

Routine Procedure

1) Landowners must fill out wetlands Maintenance Report and submit the report with legible maps showing location of proposed work to the Suisun Resource Conservation District (SRCD).

2) SRCD must compile the information and submit monthly Proposed Work Reports to this office of the Corps of Engineers. The Proposed Work Reports are due on the 1st day of each month. When the 1st day falls on a weekend the report would be due the following Monday.

3) The Corps will have 30 days to verify if the proposed work is authorized by this Regional Permit.

Alternative Procedure

1) Landowners must apply directly to this office of the Corps of Engineers, and provide a copy of the application to the Suisun Resource Conservation District.

2) The Corps will determine if the proposed work is compliance with this Regional Permit and respond to the applicant no later than 45 days after receiving a complete application.

Conditions:

1. The time limit for completing the work authorized ends on *TBD 2005*.

2. All authorized work must be maintained in good condition and in conformance with the terms and conditions of this permit. Abandonment of the permitted activity does not relieve the landowner of this responsibility. If a structure authorized by this permit is to be abandoned, the landowner must contact this office of the Corps of Engineers. In this case restoration of the site may be required.

3. If any previously unknown historic or archeological remains are discovered while accomplishing the authorized work, the landowner must notify this office of the find. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the Nation Register of Historic Places.

4. The CDFG and/or SRCD shall keep this office informed of any changes in ownership in the Suisun Marsh.

5. All parties must comply with the conditions of the water quality certification/water quality waiver for this project.

6. Landowners working under this authorization must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this permit.

7. Work is not authorized in the vicinity of archeological site (CAL-SOL-13).

8. If cultural resources are discovered during the course of permitted work activities the permittee shall stop work in the vicinity of the find and immediately contact this office of the Corps of Engineers.

9. Authorized work may not be conducted in the areas shown on the attached California Clapper Rail Breeding Habitat Maps between February 1 and August 31. Portions of club numbers 717, 715, 714/720, 707, 705, 703, 702, 533, 419, 220, 219, 213, 207, 205/223/225, 206, 133, and 124 are affected by this restriction.

10. The SRCD and the CDFG shall continue to identify and prioritize placement of water control structures which require fish screens in consultation with the Corps, the National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service (USFWS). The SRCD and CDFG shall seek funding to install screens at the highest priority sites.

11. Any suspected take of endangered species shall be immediately reported to the CDFG or the SRCD who shall immediately contact the US FWS or the NMFS. Any carcasses of salmon or other protected fish shall be frozen in whirl-pak bags and retained until specific instructions for disposal are obtained from the applicable Federal agency.

12. CDFG and SRCD shall conduct surveys of proposed projects to ensure that they would not adversely affect endangered plants. The results of these surveys shall be submitted to the Corps and the USFWS prior to the initiation of work.

13. The SRCD shall notify the NMFS and this office of the start and close dates of duck hunting season annually at least one month prior. Landowners diverting water from the sloughs crosshatched on Figure 2 shall use no more than 25% of the water control structure's diversion capacity from November 1 to the last day of duck hunting season. These landowners are prohibited from diverting water from these sloughs shown on Figure 2 from February 21 to March 31. The purpose of these diversion restrictions is to protect migrating salmon.

Table for Determining Salmon
Diversion Restrictions:

Inches of Water Going Through Pipe	
Diameter of Pipe	25% Open
12 inches	3 inches
18 inches	4 inches
24 inches	6 inches
30 inches	7 inches
36 inches	9 inches
48 inches	10 inches

14. Landowners diverting water from cross hatched sloughs shown on Figure 3 shall use only 35% of the water control structures intake capacity between April 1 and May 31. If during this time, two out of the three CDFG 20 millimeter trawl surveys sites (sites 606, 609 and 610) predict Delta Smelt densities greater that 20 Delta Smelt individuals per 10,000 cubic meters over a two week sampling period, all diversions from these slough shall use only 20% of the water control structures intake capacity. Survey trawls shall take place at least once every fourteen days between April 1 and May 31.

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Table for Determining Delta Smelt Diversion Restrictions:

Diameter of Pipe	Inches of Water Going Through Pipe 20% Open	35% Open
12 inches	3 inches	5 inches
18 inches	4 inches	7 inches
24 inches	5 inches	8.5 inches
30 inches	6 inches	10.5 inches
36 inches	7 inches	13 inches
48 inches	10 inches	17 inches

15. While diversion restrictions are in place the SRCD and CDFG shall monitor gate closures. If an open gate is observed they shall immediately contact the owner and the gate shall be closed.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

   (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
   (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this authorization.

   a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

   b. This permit does not grant any property rights or exclusive privileges.

   c. This permit does not authorize any injury to the property or rights of others.

   d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

   a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

   b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

   c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

   d. Design or construction deficiencies associated with the permitted work.

   e. Damage claims associated with any future modification, suspension, or revocation of this permit.

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4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as a permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

DRAFT

_____ _____

(CALIFORNIA DEPARTMENT OF FISH AND GAME) (DATE)

_____ _____

(SUISUN RESOURCE CONSERVATION DISTRICT) (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

_____ _____

(DISTRICT ENGINEER) (DATE)

1999 WETLANDS MAINTENANCE REPORT
SRCD REGIONAL PERMIT NO. R20066E98

Return to: Suisun Resource Conservation District
2544 Grizzly Island Road
Suisun, CA 94585

OWNER :_____

CLUB NAME:_____

MANAGER:_____

OWNERSHIP NUMBER:_____

ACRES IN OWNERSHIP:_____ac.

NOTE: YOU MUST SUBMIT A MAP OF YOUR PROPERTY SHOWING WORK LOCATIONS.
A SUITABLE MAP IS ENCLOSED.
PLEASE FILL IN ALL APPLICABLE BLANKS AND SHOW LOCATION OF WORK ON THE MAP PROVIDED
CUBIC YARD = 3 FEET X 3 FEET X 3 FEET or 27 cubic feet
EXAMPLE = a 12 foot wide ditch that is 500 feet long excavating 2 feet of material out of it = 12 x 500 x 2 = 12,000 cubic feet / 27 = 444 cubic yards
ACRE = 43,560 SQUARE FEET
EXAMPLE = if you mow an area 1000 feet by 1000 feet then 1000 x 1000 =1,000,000sq. ft. / 43,560 sq. ft. = 22.95 acres
REMEMBER: Replacing an old leaking gate or riser is not the same as installing new gates or water control structures.

TYPE OF WORK	# OF UNITS	SIZE OR ACREAGE	CUBIC YARDS	LINEAR FEET	PROPOSED WORK START	PROPOSED WORK COMPLETE	ADDITIONAL COMMENTS
CLEARING EXISTING DITCHES	X	X					what was done with the material removed?
CONSTRUCT NEW DITCHES	X	X					what was done with the material removed?
REPAIR INTERIOR EXISTING LEVEES	X						material source and type?
REPAIR EXTERIOR EXISTING LEVEES	X	X					material source and type?
EXISTING ROAD MAINTENACE, SURFACE MATERIAL, AND GRADING	X	X					material source and type?

1999 WETLANDS MAINTENANCE REPORT
SRCD REGIONAL PERMIT NO. R20066E98

TYPE OF WORK	# OF UNITS	SIZE OR ACREAGE	CUBIC YARDS	LINEAR FEET	PROPOSED WORK START	PROPOSED WORK COMPLETE	ADDITIONAL COMMENTS
GRADING POND BOTTOMS FOR WATER CIRCULATION	X			X			what was done with the material removed?
POND BOTTOM SPREADER V DITCHES	X		X				indicate location on enclosed map
REPAIR EXISTING EXTERIOR FLOOD GATES			X	X			state size, type, and location?
REPAIR EXISTING INTERIOR DRAIN GATES AND CULVERTS			X	X			state size, type, and location?
INSTALLATION OF NEW EXTERIOR DRAIN GATES			X	X			state size, type, and location?
INSTALLATION OF NEW INTERIOR WATER CONTROL STRUCTURES			X	X			state size, type, and location?
INSTALLATION OR RELOCATION OF NEW OR EXISTING BLINDS		X	X	X			state size, type, and location?
INSTALLATION OF BULKHEADS AROUND WATER CONTROL STRUCTURES	X	X	X				state size, type, and location?
INSTALLATION OF DRAIN PUMP AND PLATFORMS			X	X			state size, type, and location?

1999 WETLANDS MAINTENANCE REPORT
SRCD REGIONAL PERMIT NO. R20066E98

TYPE OF WORK	# OF UNITS	SIZE OR ACREAGE	CUBIC YARDS	LINEAR FEET	PROPOSED WORK START	PROPOSED WORK COMPLETE	ADDITIONAL COMMENTS
CORING OF EXISTING LEVEES	X	X	X				indicate location on enclosed map
DISCING	X		X	X			indicate location on enclosed map
RIP RAP EXISTING EXTERIOR LEVEE	X	X					Is this a new area requiring rip rap?
MOWING	X		X	X			indicate location on enclosed map
BURNING	X		X	X			indicate location on enclosed map
OTHER PROPOSED WORK NOT SPECIFIED							

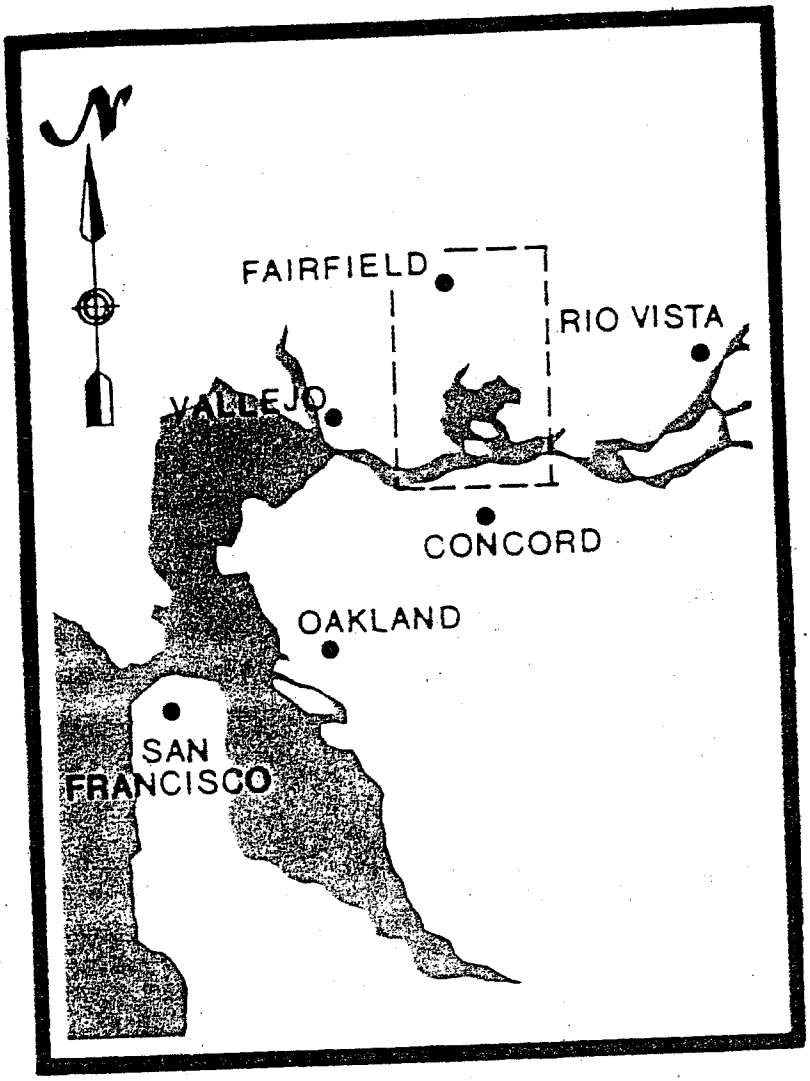
PLEASE ANSWER THE FOLLOWING QUESTIONS

definition of a leach cycle = draining the property after the duck season to mudflat and then reflooding with channel water and then draining once again.

1. How many leach cycles did your club complete this year? _____

2. What were the approx. dates of your leach cycles? _____

3. Are you in **drain** or **flood** cycle at this time?(please circle one)



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File Number 24215N
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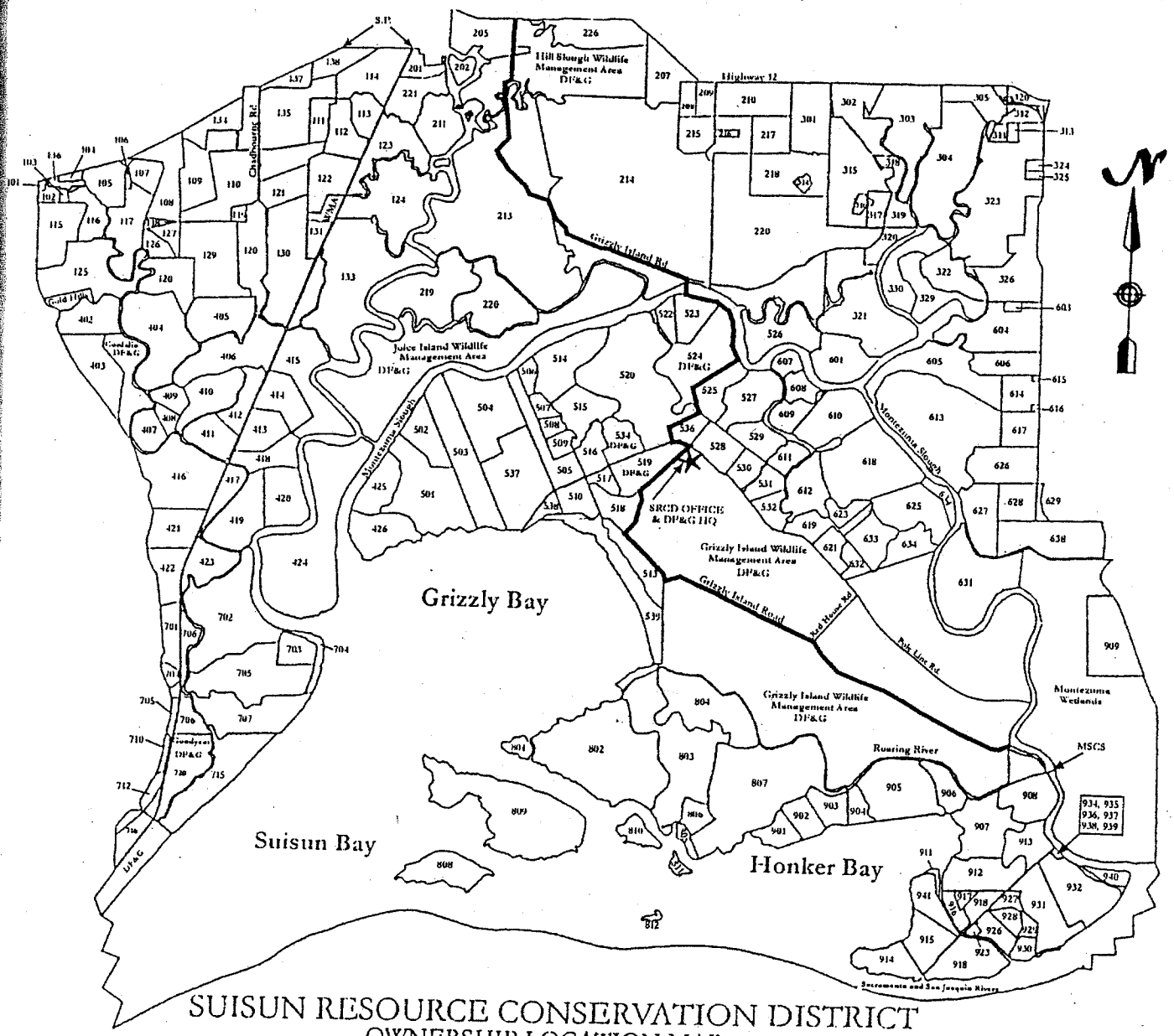
PURPOSE: CONDUCTING ANNUAL WETLANDS MAINTENCE ACTIVITIES TO PROTECT AND ENHANCE SUISUN MARSH MANAGED WETLANDS. DATUM: MLLW PROPERTY OWNERS: 1. Suisun Resource Conservation District Private Landowners 2. California Department of Fish & Game	VICINITY MAP No Scale SUISUN RESOURCE CONSERVATION DISTRICT 2544 GRIZZLY ISLAND RD. SUISUN, CA 94585 CALIFORNIA DEPARTMENT OF FISH &GAME 2548 GRIZZLY ISLAND RD. SUISUN, CA 94585	IN: SUISUN MARSH NEAR FAIRFIELD AT: INDIVIDUALLY OWNED STATE AND PRIVATE PROPERTIES COUNTY OF: SOLANO STATE: CA APPLICATION BY: 1) SUISUN RESOURCE CONSERVATION DISTRICT 2) CA. DEPT. FISH & GAME SHEET OF DATE 5/18/99



SUISUN RESOURCE CONSERVATION DISTRICT
OWNERSHIP LOCATION MAP

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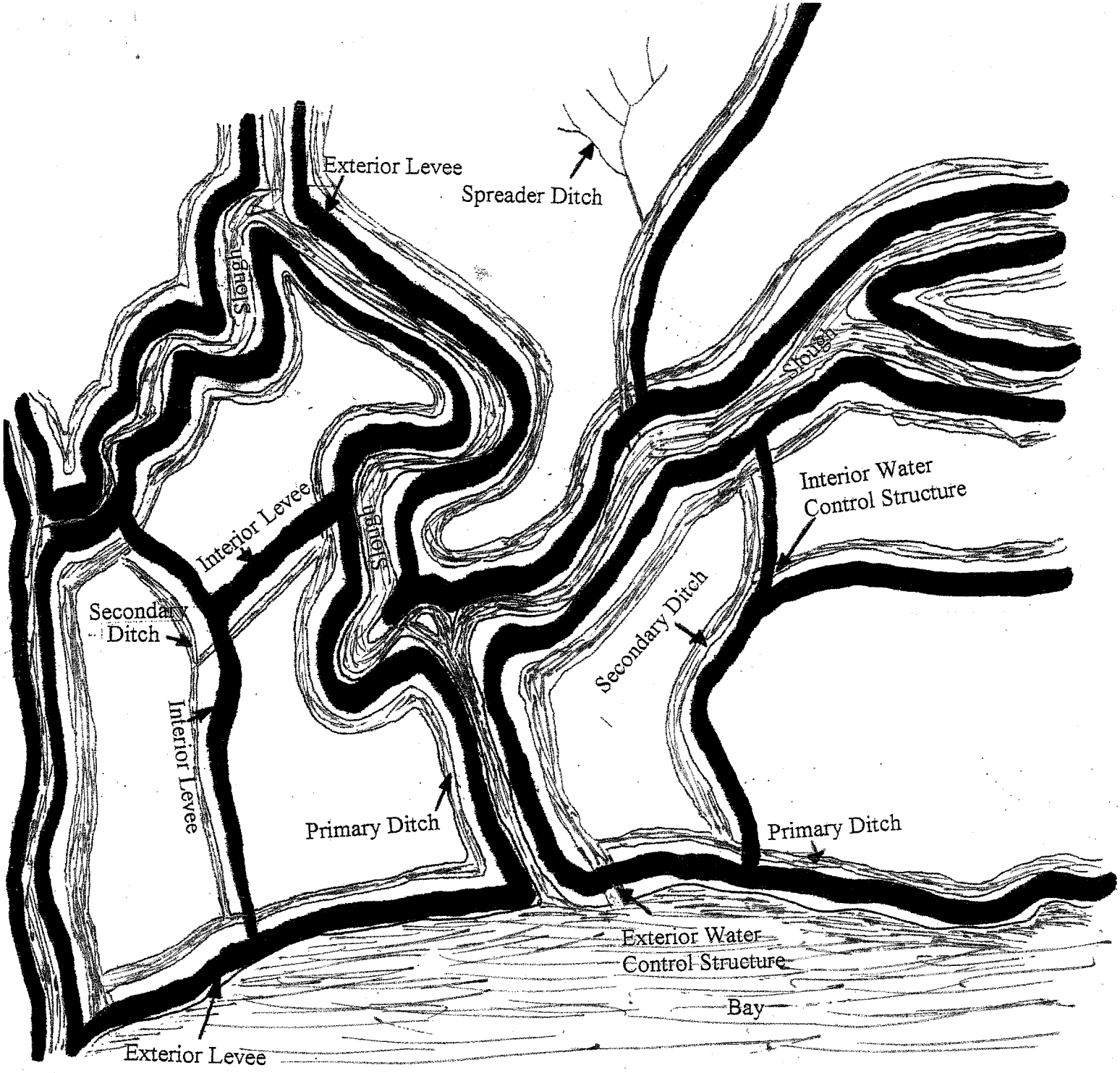
PURPOSE: CONDUCTING ANNUAL WETLANDS MAINTENCE ACTIVITIES TO PROTECT AND ENHANCE SUISUN MARSH MANAGED WETLANDS. DATUM: MLLW PROPERTY OWNERS: 1. Suisun Resource Conservation District Private Landowners 2. California Department of Fish & Game	VICINITY MAP No Scale SUISUN RESOURCE CONSERVATION DISTRICT 2544 GRIZZLY ISLAND RD. SUISUN, CA 94585 CALIFORNIA DEPARTMENT OF FISH &GAME 2548 GRIZZLY ISLAND RD. SUISUN, CA 94585	IN: SUISUN MARSH NEAR FAIRFIELD AT: INDIVIDUALLY OWNED STATE AND PRIVATE PROPERTIES COUNTY OF: SOLANO STATE: CA APPLICATION BY: 1) SUISUN RESOURCE CONSERVATION DISTRICT 2) CA. DEPT. FISH & GAME SHEET OF DATE 5/18/99



Schematic Islands in Suisun Marsh

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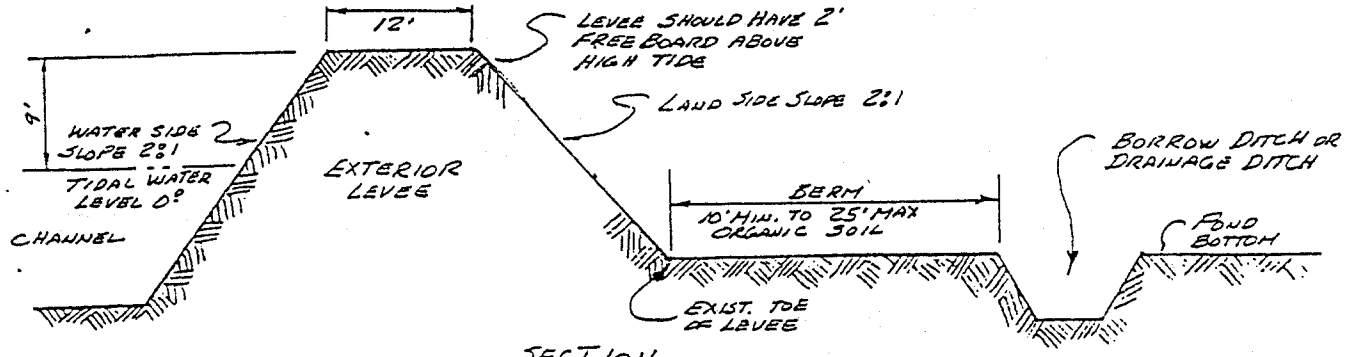
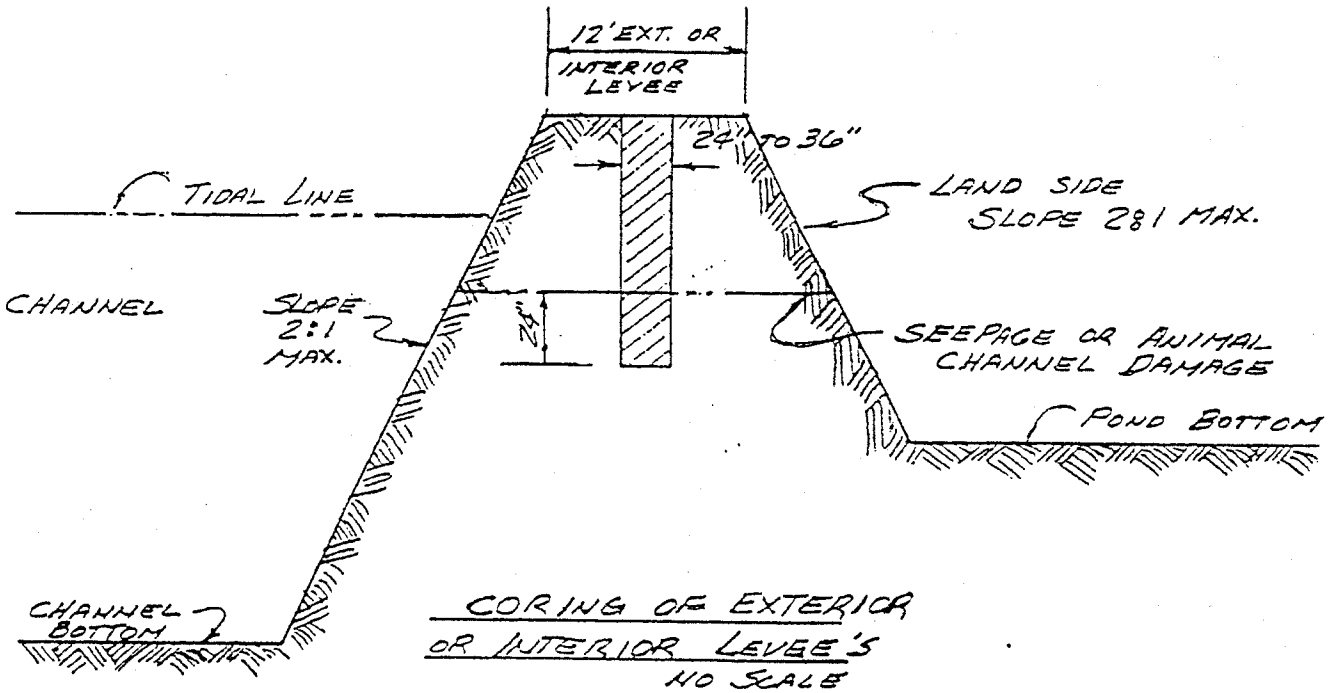
PURPOSE: CONDUCTING ANNUAL WETLANDS MAINTENCE ACTIVITIES TO PROTECT AND ENHANCE SUISUN MARSH MANAGED WETLANDS. DATUM: MLLW . PROPERTY OWNERS: 1. Suisun Resource Conservation District Private Landowners 2. California Department of Fish & Game	VICINITY MAP No Scale SUISUN RESOURCE CONSERVATION DISTRICT 2544 GRIZZLY ISLAND RD. SUISUN, CA 94585 CALIFORNIA DEPARTMENT OF FISH &GAME 2548 GRIZZLY ISLAND RD. SUISUN, CA 94585	IN: SUISUN MARSH NEAR FAIRFIELD AT: INDIVIDUALLY OWNED STATE AND PRIVATE PROPERTIES COUNTY OF: SOLANO STATE: CA APPLICATION BY: 1) SUISUN RESOURCE CONSERVATION DISTRICT 2) CA. DEPT. FISH & GAME SHEET OF DATE 5/18/99



SECTION
EXTERIOR LEVEE
NO. SCALE



CORING OF EXTERIOR OR INTERIOR LEVEE'S
NO SCALE

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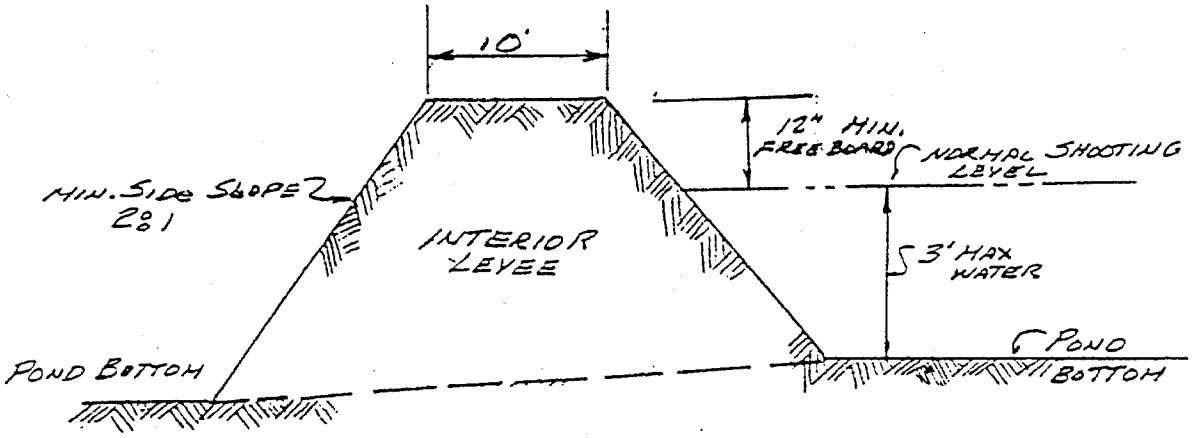
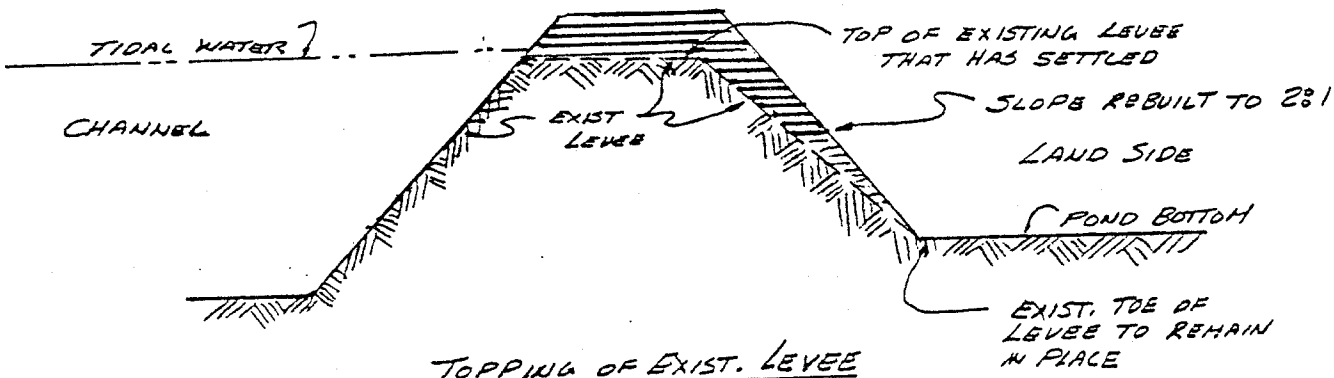
PURPOSE: CONDUCTING ANNUAL WETLANDS MAINTENCE ACTIVITIES TO PROTECT AND ENHANCE SUISUN MARSH MANAGED WETLANDS. DATUM: MLLW PROPERTY OWNERS: 1. Suisun Resource Conservation District Private Landowners 2. California Department of Fish & Game	TYPICAL CROSS SECTIONS No Scale SUISUN RESOURCE CONSERVATION DISTRICT 2544 GRIZZLY ISLAND RD. SUISUN, CA 94585 CALIFORNIA DEPARTMENT OF FISH &GAME 2548 GRIZZLY ISLAND RD. SUISUN, CA 94585	IN: SUISUN MARSH NEAR FAIRFIELD AT: INDIVIDUALLY OWNED STATE AND PRIVATE PROPERTIES COUNTY OF: SOLANO STATE: CA APPLICATION BY: 1) SUISUN RESOURCE CONSERVATION DISTRICT 2) CA. DEPT. FISH & GAME SHEET OF DATE 5/18/99



SECTION
INTERIOR LEVEE
NO SCALE



TOPPING OF EXIST. LEVEE
AND REPAIRING SIDE SLOPES
NO SCALE
WITH SETTLEMENT & EROISION

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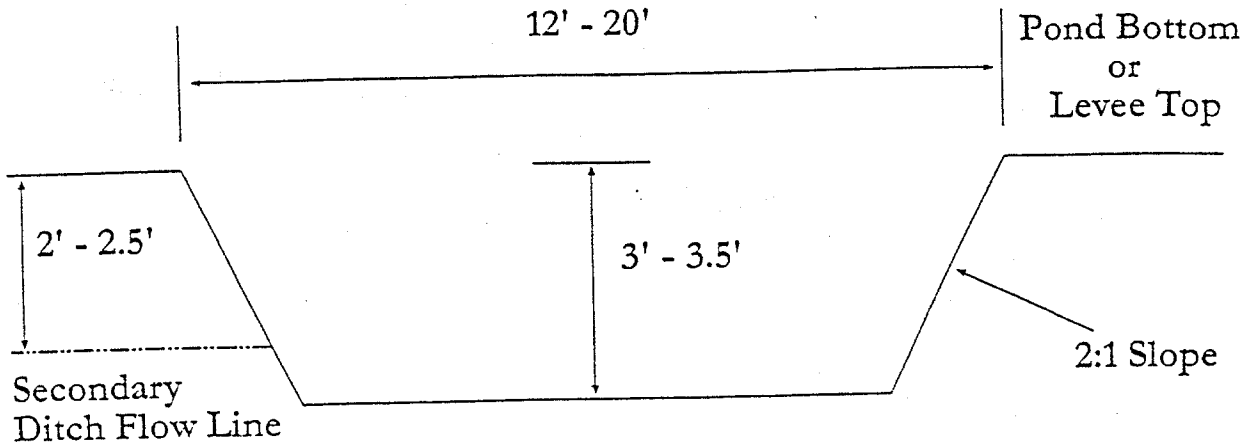
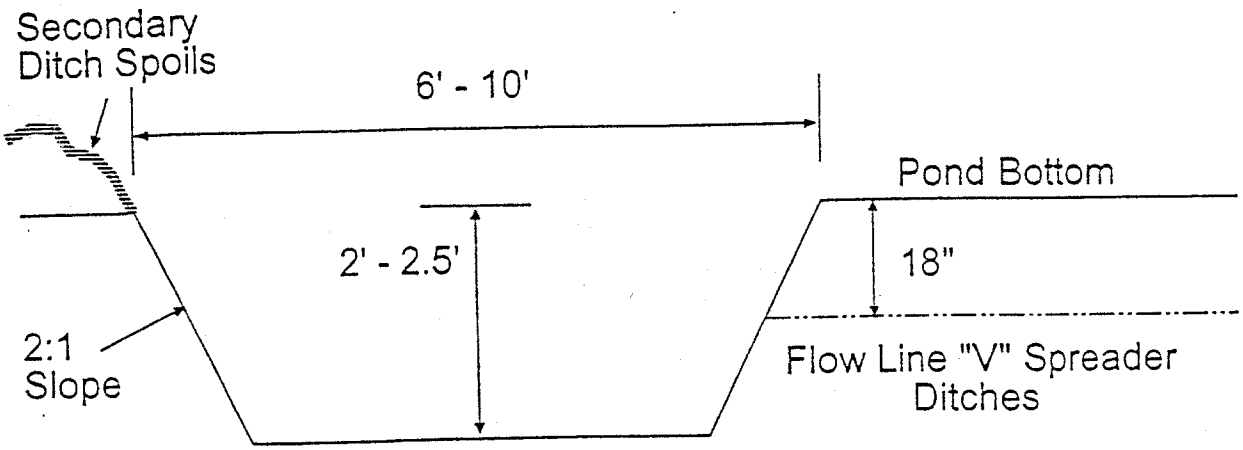
PURPOSE: CONDUCTING ANNUAL WETLANDS MAINTENCE ACTIVITIES TO PROTECT AND ENHANCE SUISUN MARSH MANAGED WETLANDS. DATUM: MLLW PROPERTY OWNERS: 1. Suisun Resource Conservation District Private Landowners 2. California Department of Fish & Game	TYPICAL CROSS SECTIONS No Scale SUISUN RESOURCE CONSERVATION DISTRICT 2544 GRIZZLY ISLAND RD. SUISUN, CA 94585 CALIFORNIA DEPARTMENT OF FISH &GAME 2548 GRIZZLY ISLAND RD. SUISUN, CA 94585	IN: SUISUN MARSH NEAR FAIRFIELD AT: INDIVIDUALLY OWNED STATE AND PRIVATE PROPERTIES COUNTY OF: SOLANO STATE: CA APPLICATION BY: 1) SUISUN RESOURCE CONSERVATION DISTRICT 2) CA. DEPT. FISH & GAME SHEET OF DATE 5/18/99

Cross Section of Primary Ditch



Cross Section of Secondary Ditch



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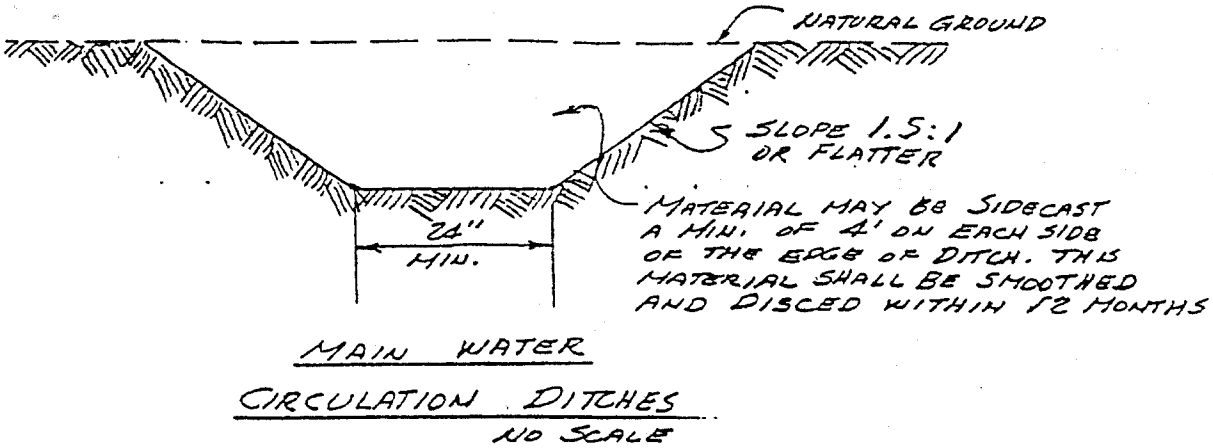
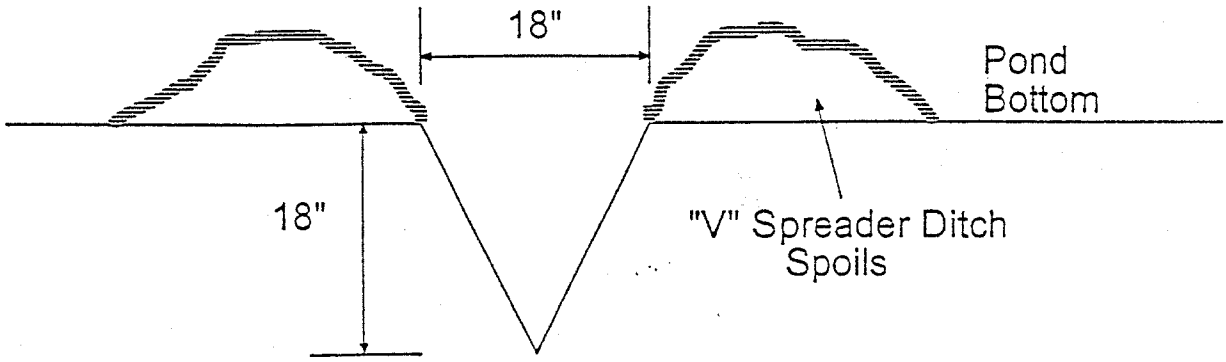
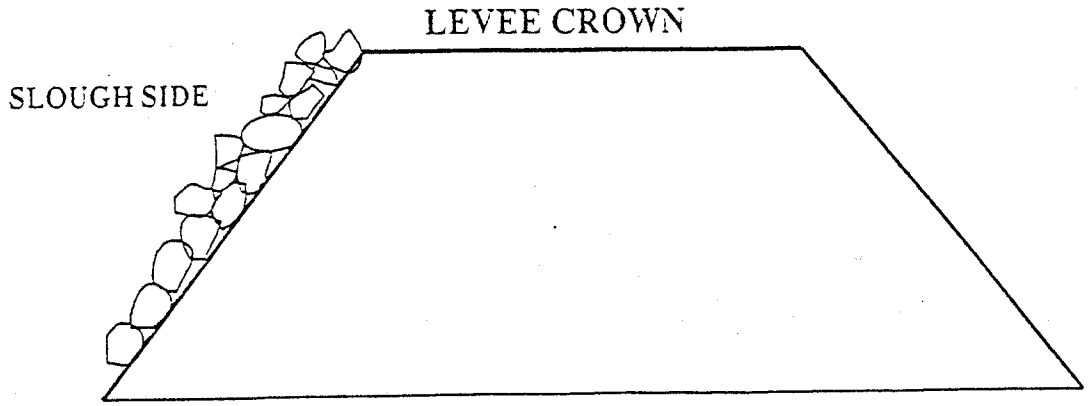
PURPOSE: CONDUCTING ANNUAL WETLANDS MAINTENCE ACTIVITIES TO PROTECT AND ENHANCE SUISUN MARSH MANAGED WETLANDS. DATUM: MLLW PROPERTY OWNERS: 1. Suisun Resource Conservation District Private Landowners 2. California Department of Fish & Game	TYPICAL CROSS SECTIONS No Scale SUISUN RESOURCE CONSERVATION DISTRICT 2544 GRIZZLY ISLAND RD. SUISUN, CA 94585 CALIFORNIA DEPARTMENT OF FISH &GAME 2548 GRIZZLY ISLAND RD. SUISUN, CA 94585	IN: SUISUN MARSH NEAR FAIRFIELD AT: INDIVIDUALLY OWNED STATE AND PRIVATE PROPERTIES COUNTY OF: SOLANO STATE: CA APPLICATION BY:1) SUISUN RESOURCE CONSERVATION DISTRICT 2) CA. DEPT. FISH & GAME SHEET OF DATE 5/18/99



Cross Section "V" Spreader Ditch





Typical Levee Section For the Replacement of Rip-Rap

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File Number 24215N
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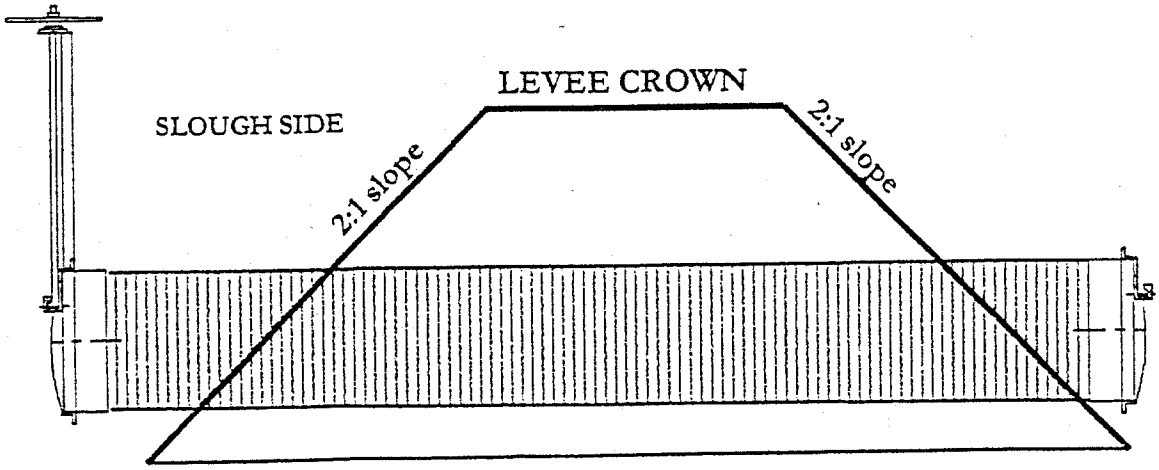
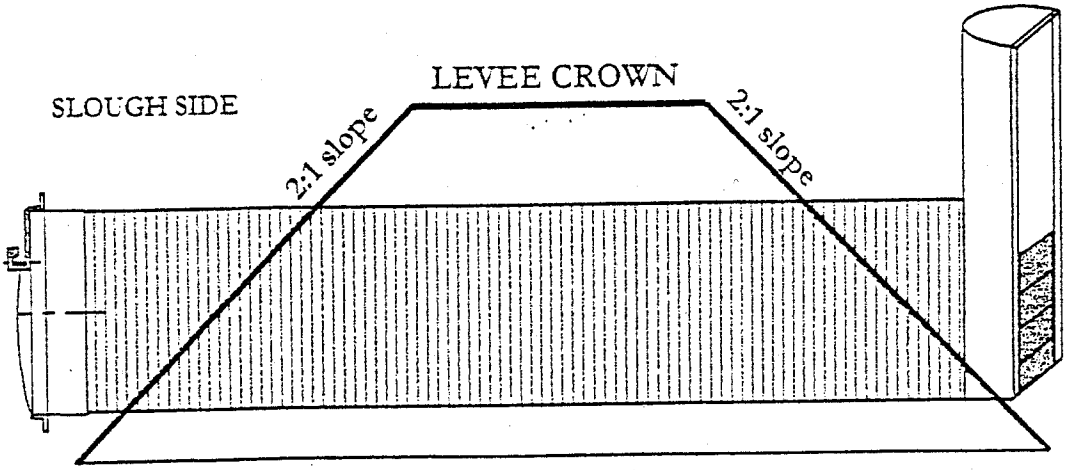
PURPOSE: CONDUCTING ANNUAL WETLANDS MAINTENCE ACTIVITIES TO PROTECT AND ENHANCE SUISUN MARSH MANAGED WETLANDS. DATUM: MLLW PROPERTY OWNERS: 1. Suisun Resource Conservation District Private Landowners 2. California Department of Fish & Game	TYPICAL CROSS SECTIONS No Scale SUISUN RESOURCE CONSERVATION DISTRICT 2544 GRIZZLY ISLAND RD. SUISUN, CA 94585 CALIFORNIA DEPARTMENT OF FISH &GAME 2548 GRIZZLY ISLAND RD. SUISUN, CA 94585	IN: SUISUN MARSH NEAR FAIRFIELD AT: INDIVIDUALLY OWNED STATE AND PRIVATE PROPERTIES COUNTY OF: SOLANO STATE: CA APPLICATION BY:1) SUISUN RESOURCE CONSERVATION DISTRICT 2) CA. DEPT. FISH & GAME SHEET OF DATE 5/18/99



Typical Levee Section For a Flood Gate



Typical Levee Section For a Drain Gate

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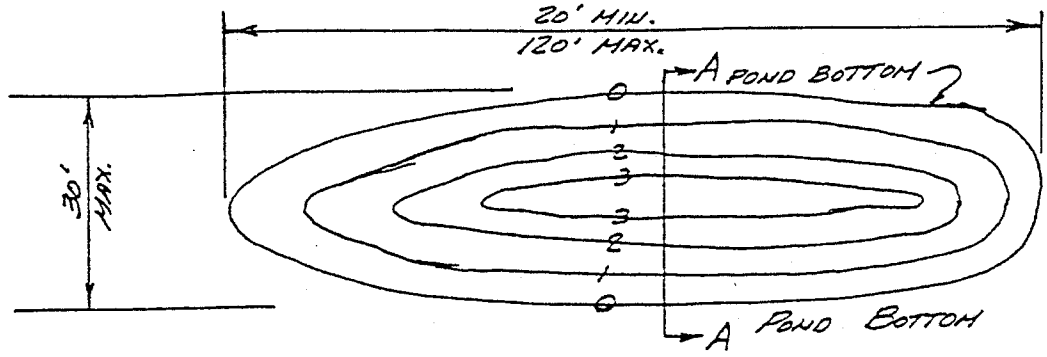
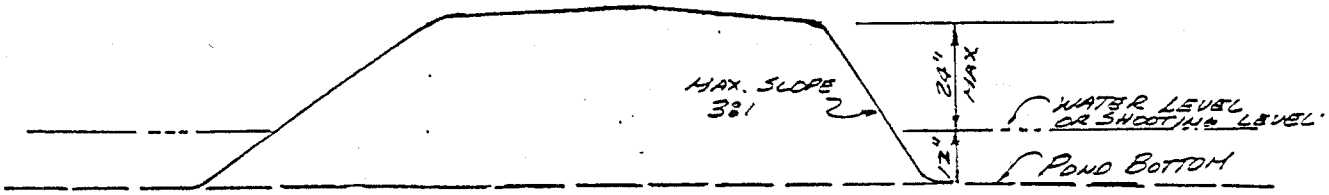
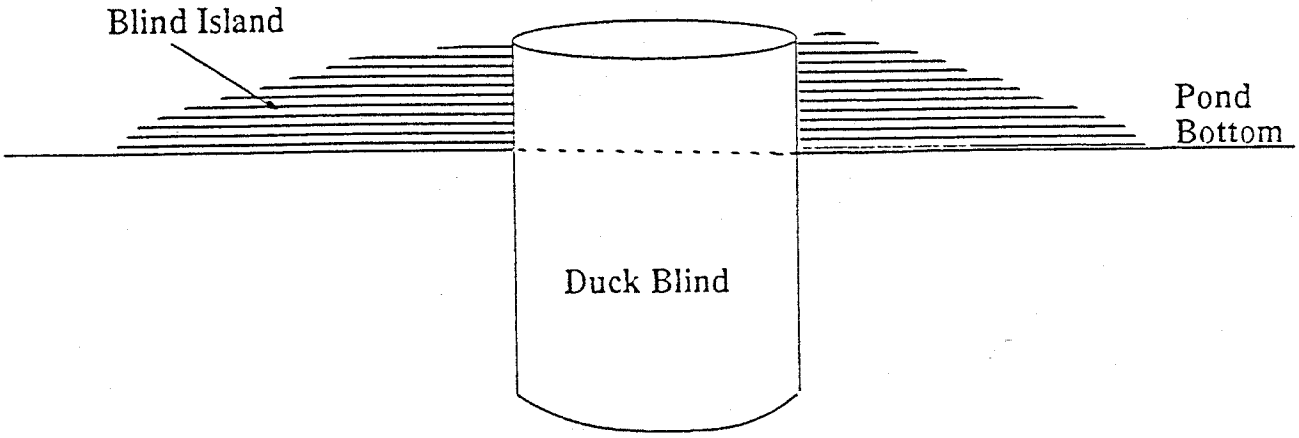
PURPOSE: CONDUCTING ANNUAL WETLANDS MAINTENCE ACTIVITIES TO PROTECT AND ENHANCE SUISUN MARSH MANAGED WETLANDS. DATUM: MLLW PROPERTY OWNERS: 1. Suisun Resource Conservation District Private Landowners 2. California Department of Fish & Game	TYPICAL CROSS SECTIONS No Scale SUISUN RESOURCE CONSERVATION DISTRICT 2544 GRIZZLY ISLAND RD. SUISUN, CA 94585 CALIFORNIA DEPARTMENT OF FISH &GAME 2548 GRIZZLY ISLAND RD. SUISUN, CA 94585	IN: SUISUN MARSH NEAR FAIRFIELD AT: INDIVIDUALLY OWNED STATE AND PRIVATE PROPERTIES COUNTY OF: SOLANO STATE: CA APPLICATION BY:1) SUISUN RESOURCE CONSERVATION DISTRICT 2) CA. DEPT. FISH & GAME SHEET OF DATE 5/18/99



PLAN VIEW
NESTING ISLANDS
NO SCALE



SECTION A-A
NO SCALE



Typical Duck Blind and Blind Island Cross Section

Department of Army
File Number 24215N
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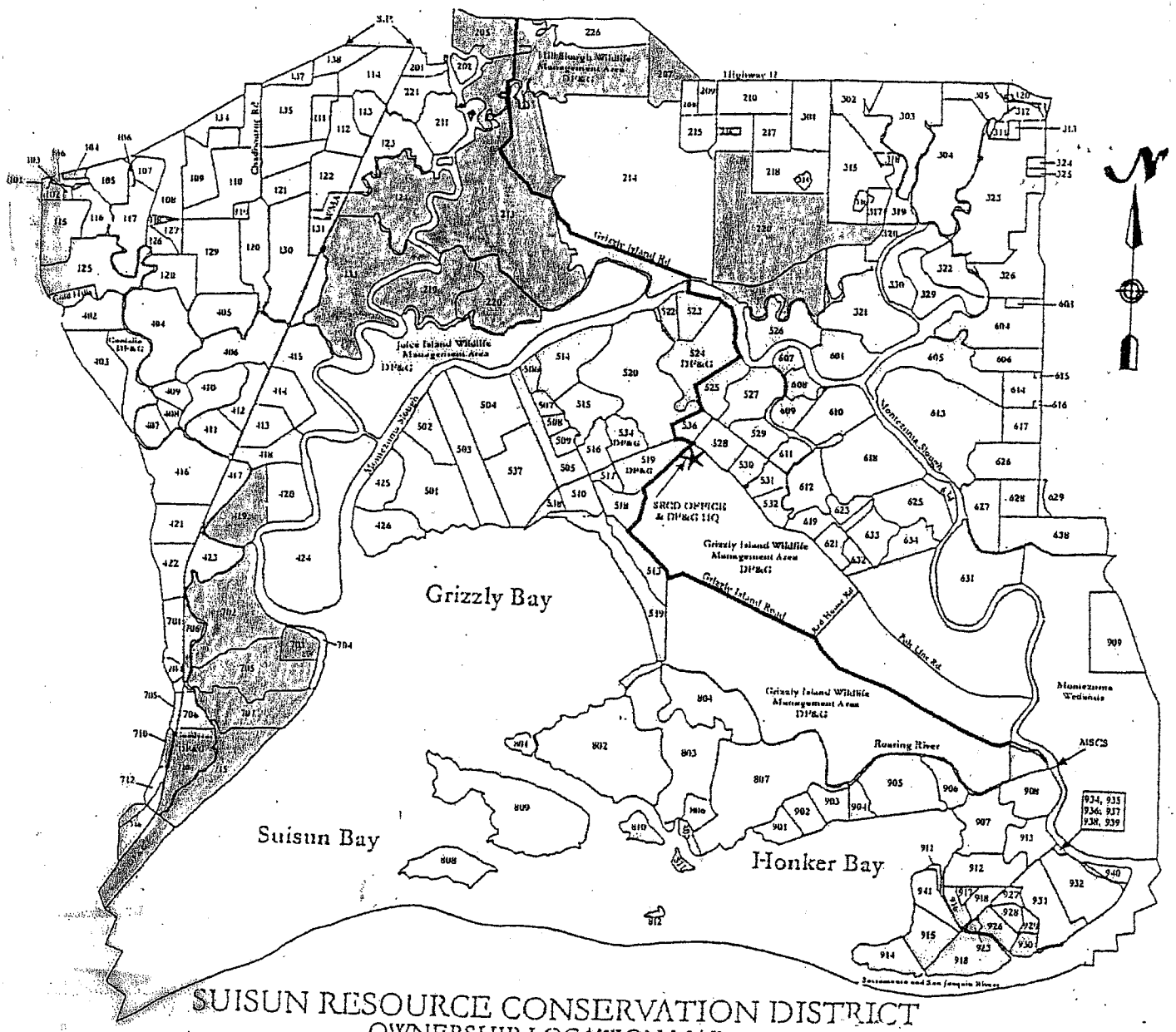
PURPOSE: CONDUCTING ANNUAL WETLANDS MAINTENCE ACTIVITIES TO PROTECT AND ENHANCE SUISUN MARSH MANAGED WETLANDS. DATUM: MLLW PROPERTY OWNERS: 1. Suisun Resource Conservation District Private Landowners 2. California Department of Fish & Game	PLAN VIEW & TYPICAL CROSS SECTIONS No Scale SUISUN RESOURCE CONSERVATION DISTRICT 2544 GRIZZLY ISLAND RD. SUISUN, CA 94585 CALIFORNIA DEPARTMENT OF FISH &GAME 2548 GRIZZLY ISLAND RD. SUISUN, CA 94585	IN: SUISUN MARSH NEAR FAIRFIELD AT: INDIVIDUALLY OWNED STATE AND PRIVATE PROPERTIES COUNTY OF: SOLANO STATE: CA APPLICATION BY: 1) SUISUN RESOURCE CONSERVATION DISTRICT 2) CA. DEPT. FISH & GAME SHEET OF DATE 5/18/99

Figure 1



SUISUN RESOURCE CONSERVATION DISTRICT
OWNERSHIP LOCATION MAP

Properties With Clapper Rail Habitat

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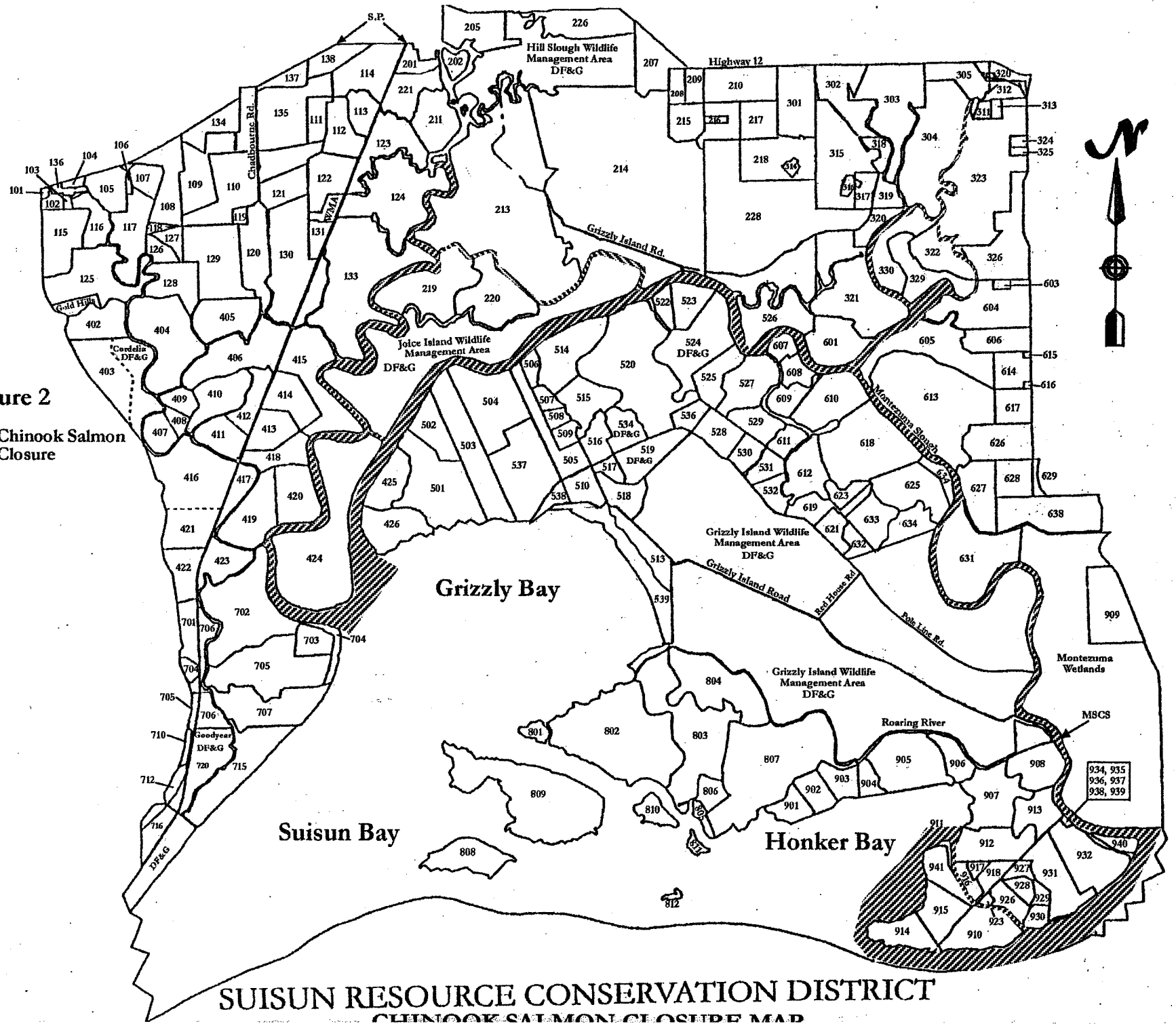

SUISUN RESOURCE CONSERVATION DISTRICT

CHINOOK SALMON CLOSURE MAP

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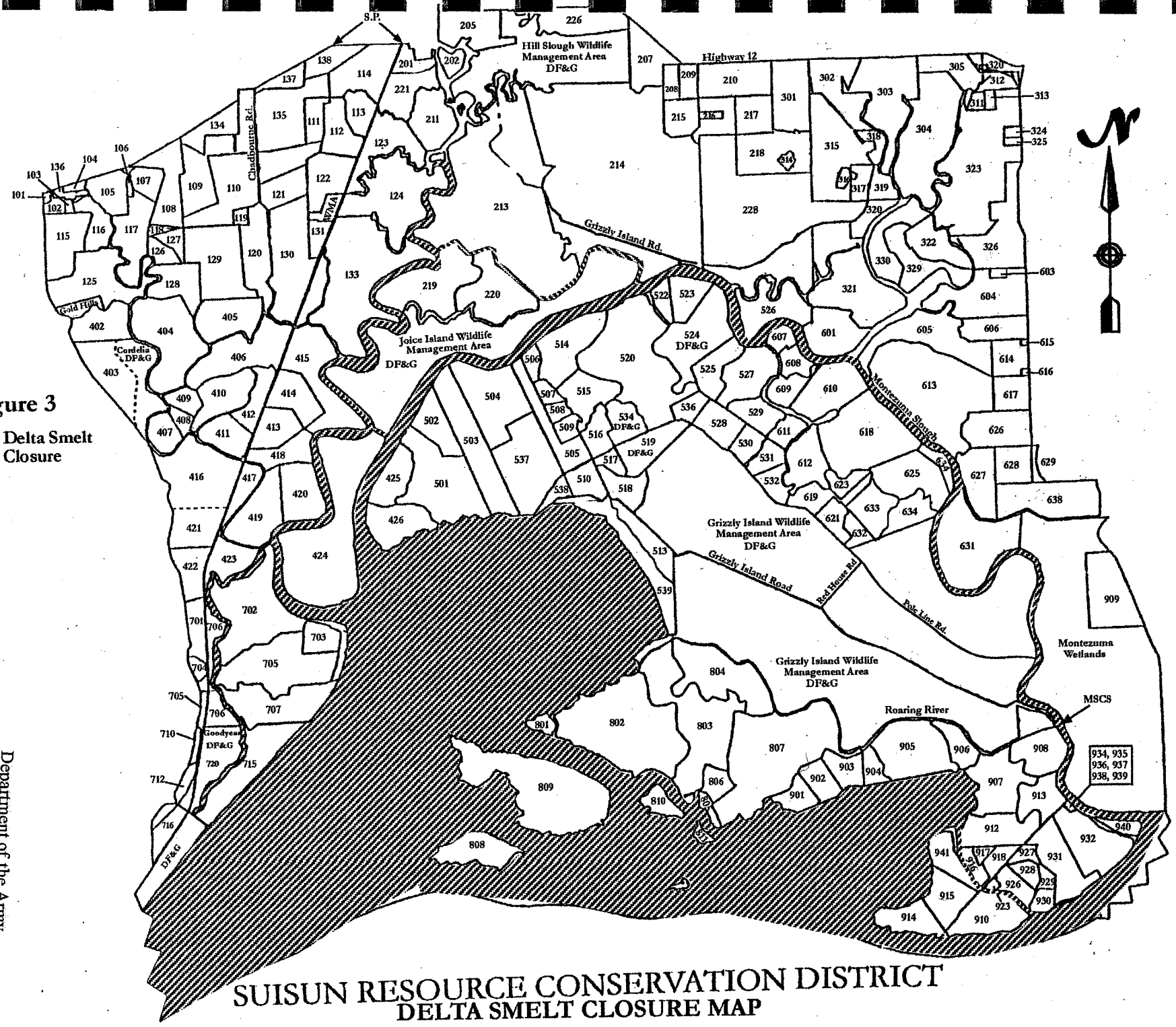

Figure 3

Delta Smelt Closure

SUISUN RESOURCE CONSERVATION DISTRICT
DELTA SMELT CLOSURE MAP

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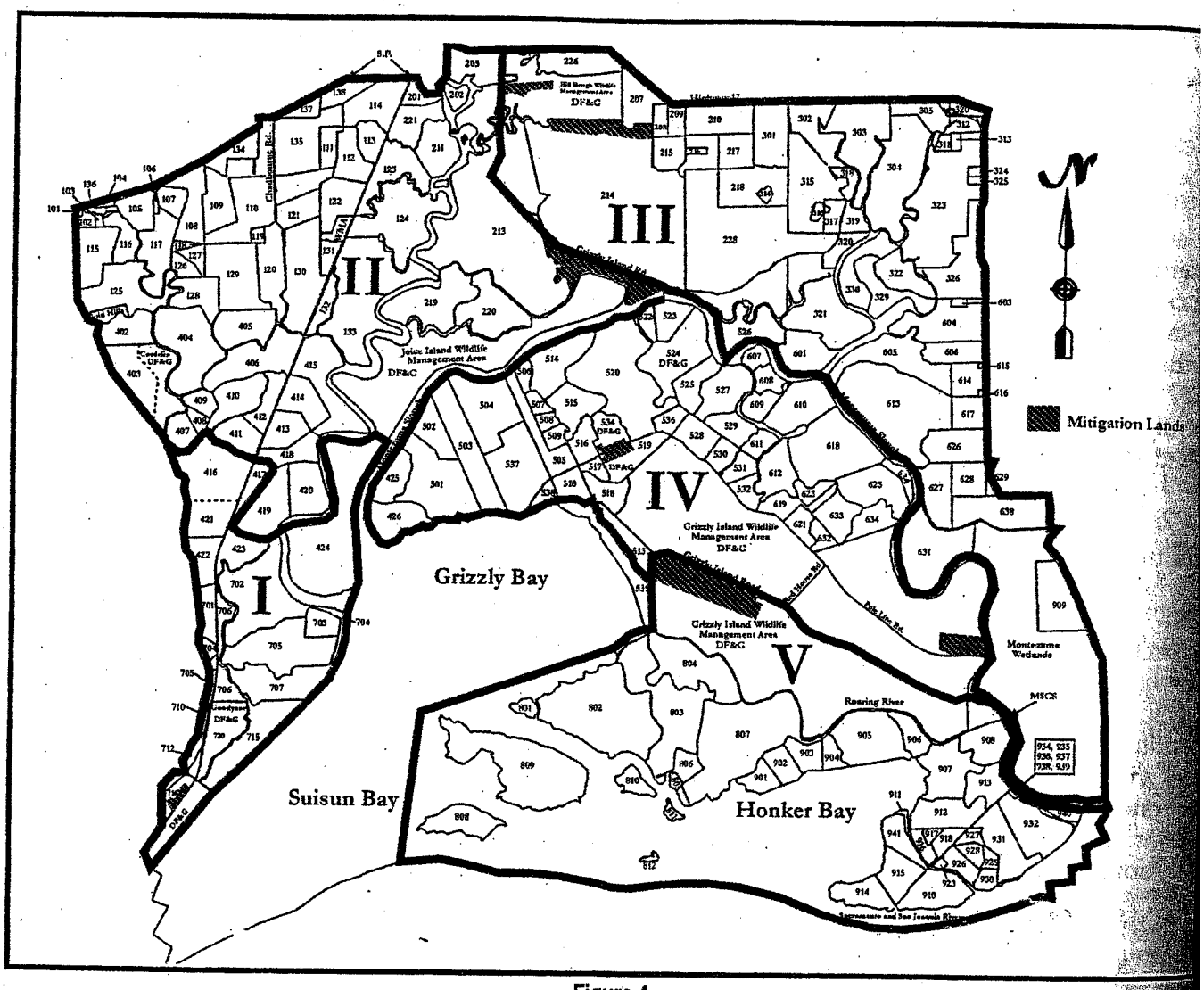

Figure 4
SALT MARSH HARVEST MOUSE MITIGATION AREAS

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