CALIFORNIA COASTAL COMMISSION
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June 22, 2000

To: Coastal Commissioners and Interested Persons

From: Tami Grove, Central Coast Deputy Director
Charles Lester, Central Coast District Manager
Dan Carl, Coastal Program Analyst

Subject: Application number PWP 2-84-4 for the restoration of Lombardi Creek pursuant to the Wilder Ranch State Park General Plan (Commission-certified Public Works Plan). For public hearing and Commission action at its meeting of July 12, 2000 to be held at the Marin County Board of Supervisors Chambers in San Rafael.

Summary of staff recommendation: The California Department of Parks and Recreation (DPR) proposes to restore the natural historic hydrologic pattern of Lombardi Creek (from an agriculturally manipulated channel impacted by roadway/railroad fill) in order to enhance and restore creek and wetland habitat and function here. The project is funded from a $50,000 settlement arising out of a sedimentation episode during the 1995-1996 season involving drilling at the City of Santa Cruz Landfill. As conditioned for the review and approval of the applicable resource agencies here, the proposed beneficial restoration project will successfully restore and enhance coastal marsh, creek, and tidal estuary habitat at this location consistent with the resource policies of the certified Wilder Ranch Public Works Plan. Staff recommends approval with conditions.

Contents

1. Staff Recommendation on Specific Project

The staff recommends that the Commission, after public hearing, **approve** the proposed specific project subject to the recommended conditions below.

Motion. I move that the Commission approve specific project 2-84-4 for the restoration of Lombardi Creek under the certified Wilder Ranch Public Works Plan pursuant to the staff recommendation.

Staff Recommendation of Approval. Staff recommends a **YES** vote. Passage of this motion will result in approval of the specific project as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve a Specific Project. The Commission hereby approves the specific project on the grounds that the development, as conditioned, will be in conformity with the provisions of the certified public works plan. Approval of the specific project complies with the California Environmental Quality Act because either: (1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment; or (2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse effects of the amended development on the environment.

2. Recommended Conditions

1. **Other Agency Approval.** PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, the Applicant shall submit to the Executive Director for review and approval evidence of all permits, permissions or approvals granted, or evidence that no permits, permissions or approvals are necessary, from: (1) California Department of Fish and Game; (2) Regional Water Quality Control Board; (3) United States Army Corps of Engineers; (4) United States Fish and Wildlife Service; and (5) Monterey Bay National Marine Sanctuary.

2. **Final Plans.** PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, the Applicant shall submit to the Executive Director for review and approval a Final Restoration Plan for all components of the restoration project. The Final Restoration Plan shall be substantially in conformance with the *Lombardi Creek Restoration Plan* (prepared by Chris Spohrer, Assistant State Parks Resource Ecologist dated received in the Commission's Central Coast District Office June 19, 2000). The Final Restoration Plan shall include an updated time table for all phases of implementation of the Final Restoration Plan.

   The Final Restoration Plan shall include a section describing any changes to the project required by the permits, permissions or approvals required pursuant to Recommended Condition 1 above. If the

Executive Director determines that any such changes require additional Commission review of the Final Restoration Plan, the Applicant shall submit a revised Public Works Plan consistency determination and a request for Commission review of the consistency determination.

The Applicant shall undertake development in accordance with the approved Final Restoration Plan. Any proposed changes to the approved Final Restoration Plan shall be reported to the Executive Director. No changes to the approved Final Restoration Plan shall occur without a further Commission review for consistency of the changes with the certified Wilder Ranch certified Public Works Plan unless the Executive Director determines that no further consistency review is necessary.

3. Background and Project Description

A. Wilder Ranch State Park

Wilder Ranch State Park is located approximately one mile north of the City of Santa Cruz along the unincorporated and highly scenic north coast area of Santa Cruz County. The park extends approximately 5 miles along the coast, encompassing almost 5,000 acres of uplands, coastal terrace (much of this in row crop agriculture), pocket beaches, wetlands and perennial streams, and two historic ranch complexes. Historically, the park and surrounding area was an important dairy ranching region, and substantial agricultural use, mostly brussel sprouts, continues today. Wilder Ranch is both a very popular visitor destination and a significant open space, agriculture and habitat area preserved for current and future generations. See Exhibit A.

B. Wilder Ranch Public Works Plan

The *Wilder Ranch State Park General Plan* was approved and adopted by the California Parks and Recreation Commission in May 1980, and was certified by the Commission with modifications as a Public Works Plan (PWP) on January 22, 1982. The Plan outlines the general types of development and uses allowed in the Park, providing for preservation and enhancement of natural resources at the same time as meeting California's recreation demands.

C. Previous Specific Projects Pursuant to the Public Works Plan

There have been three previous specific projects approved by the Commission pursuant to the Plan: PWP specific project 2-82-1 (approved September 1988) allowed for the initial entrance road and assorted historic structure development designed to enable the park to be opened for public use; PWP specific project 2-82-2 (approved November 1994) provided for the restoration of Wilder Lagoon; and PWP specific project 2-82-3 (approved June 1997) provided for the removal of Wilder dam and the restoration of Wilder Creek. The Applicant is now proposing its fourth specific project pursuant to the certified Plan.

D. Proposed Lombardi Creek Restoration

The proposed project is located on the lower portion of Lombardi Creek in the southwest corner of Wilder Ranch State Park. The channel of Lombardi Creek has been much manipulated over time from its natural course. The Creek currently flows down from the inland foothills under the City of Santa Cruz Sanitary Landfill (through pipes), back into its original channel, thence under the Highway 1 fill through a culvert, then through a channel along a former agricultural field, through an excavated channel under the railroad line, and finally through a densely vegetated riparian canyon and into a small coastal estuary generally separated from the ocean at 3 Mile Beach by a back beach berm. See Exhibit A for project location details.

The Applicant proposes to restore the natural historic hydrologic pattern of Lombardi Creek (from an agriculturally manipulated channel) in order to enhance and restore creek and wetland habitat and function here. The project is funded from a $50,000 settlement arising out of a sedimentation episode during the 1995-1996 season involving drilling at the City of Santa Cruz Landfill. Restoration would occur in three areas.

The first restoration area would be along that portion of Lombardi Creek north of Highway One and downstream of the landfill outflow pipe. In this area, the Applicant proposes exotic plant removal and revegetation with appropriate local riparian species.

The second, and most significant restoration area would take place in the lower field area between the Highway One and railroad track fills. In this area, the artificially leveled former agricultural field would be regraded to allow the Creek to meander along this large bottomland and restore a more natural marsh-riparian woodland community in this area. The existing culverts and farm roads in this area would be removed. One access road from the adjacent farmlands down to the farm well in this area would be maintained. Exotics control and revegetation with marsh and riparian species would commence across the entire area. The Creek would be diverted from its current channel one year following construction and revegetation of the new meandering bottomland channel. The old agricultural drainage would be recontoured consistent with the initial restoration grading scheme.

The third restoration area involves the estuary seaward of the railroad line. In this area, longstanding sediment loads would be removed to restore standing freshwater marsh and create suitable aquatic habitat for tidewater goby.

Upcoast and downcoast of the restoration area, the Applicant would establish 50 foot buffer areas from adjacent agricultural operations within the Park. These areas would be subject to significant exotics control and subsequent revegetation to approximate the former coastal sage scrub communities here.

The entire restoration project would be monitored for a minimum of five years. Through adaptive management, the Applicant would make management adjustments as necessary to ensure the success of the project. The restoration would be guided by the successful restoration of the Wilder Creek Wetlands – a much larger but similar project successfully implemented by the Applicant in 1994 (PWP specific project 2-82-2).

See Exhibit B for the subject Lombardi Creek Restoration Plan.

2. Consistency with the Wilder Ranch Public Works Plan

Coastal Act Section 30605 provides, in part, that:

> *...Where a plan for a public works or state university or college development project has been certified by the Commission any subsequent review by the Commission of a specific project contained in such certified plan shall be limited to imposing conditions consistent with Sections 30607 and 30607.1.*

Section 30606 states:

> *Prior to the commencement of any development pursuant to Section 30605, the public agency proposing the public works project, ... shall notify the commission and other interested persons, organizations, and governmental agencies of the impending development and provide data to show that it is consistent with the certified public works plan or long-range development plan. No development shall take place within 30 working days after the notice.*

The applicant has submitted an analysis of consistency with Wilder Ranch State Park General Plan (see Exhibit C). This analysis shows that the project will help satisfy various Plan objectives to restore the Park to a more natural habitat.

The Applicant has submitted applicable permit applications to Army Corps of Engineers and the Regional Water Quality Control Board (RWQCB). The Applicant has also requested a determination from the Monterey Bay National Marine Sanctuary (MBNMS) as to whether any Sanctuary authorizations are necessary here. Through the course of the Army Corp process, the United States Fish and Wildlife Service (USFWS) will also affect the proposed project. This approval is conditioned for evidence of sign-off from these agencies prior to commencement of construction (see Recommended Conditions).

The Applicant has also submitted a stream alteration agreement application to the California Department of Fish and Game (CDFG). To date, CDFG has raised some questions about the project's overall design parameters including, but not limited to, preferred geomorphology for the restored stream system, concerns over the release of potentially contaminated sediments, and final disposition of the existing Lombardi Creek channel between Highway One and the railroad tracks after creek waters are redirected. As of the date of this staff report, CDFG has indicated that these issues will be able to be satisfactorily resolved through the course of their stream alteration agreement (SAA) process.[1] Staff believes that the project is an overall beneficial restoration project over which DPR and CDFG biologists notwithstanding certain unresolved questions concerning the project design. Overall, the project will be a substantial net

[1] Phone conversation between Dan Carl and CDFG Senior Fishery Biologist Pat Coulston on July 22, 2000.

benefit to coastal resources here. To assure consistency with the Wilder PWP, this approval is conditioned for evidence of sign-off from CDFG prior to commencement of construction (see Recommended Conditions).

The primary outstanding concern of CDFG regards the potential for release of contaminants from the underlying soils that would become the restored Lombardi Creek channel.[2] For example, these former farm fields, as is indicative of many such agricultural fields in this area, were treated historically with DDT prior to its prohibition. The concern is that such contaminants may be resuspended and flushed into the downstream estuary and into the Sanctuary. Staff shares this concern. Depending upon the results of upcoming soils testing in the restoration area, some amount of these soils may need to be removed and disposed of off-site to prevent adverse impacts. This will be determined through the CDFG and RWQCB, as well as MBNMS, processes in this case. This approval is conditioned for evidence of sign-off from these agencies prior to commencement of construction (see Recommended Conditions). In any case, this project does not include, nor is the Commission approving, any offsite disposal of any such materials. The Applicant will need to separately secure any approvals necessary, including but not limited to any coastal permitting authorizations, for any disposal of contaminated materials that may prove necessary as future soil testing dictates.

Since project modifications appear inevitable as the project makes its way through the various resource agencies involved here, this approval is conditioned for submittal of final plans prior to commencement of construction (see Recommended Conditions).

The proposed project also includes removal of approximately 6.6 acres from agricultural production to allow for the Lombardi Creek restoration project. The certified Public Works Plan allows 10% of the Park's approximate 630 acres of row cultivation (at the time of Plan certification) to be discontinued. The Applicant has submitted an analysis demonstrating that approximately 601.3 acres would remain in production after implementation of the proposed project. Accordingly, the proposed project is consistent with this Plan requirement.

In sum, the proposed project is a habitat enhancement project funded from a $50,000 mitigation settlement arising from undue sedimentation of the Creek in winter 1995-1996. There have been some disagreements to date over project design amongst biological experts from the various resource agencies involved. On the whole, however, these disagreements don't alter the basic goals shared by all involved to restore and enhance habitat previously impacted by historic farming operations and roadway/railway fills at this location. The project may be modified slightly when these differences are worked out through the applicable processes, but its basic value for restoring coastal resources will remain the same. As such, and as conditioned, the Commission finds that the specific restoration project as proposed is a use permitted by the Public Works Plan and is consistent with the resource policies of that certified plan.

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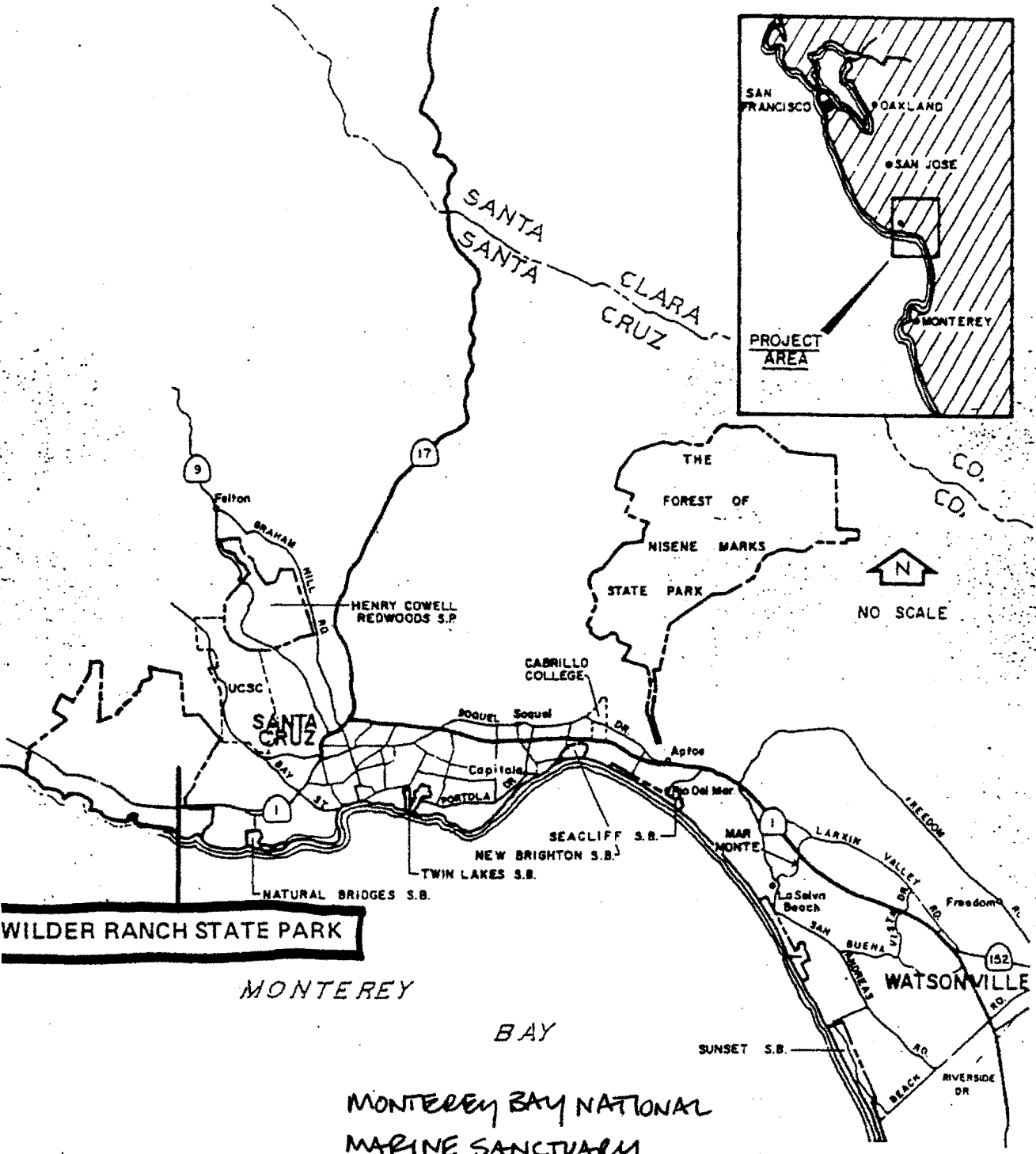
[2] Ibid.

3. California Environmental Quality Act (CEQA)

The Department of Parks and Recreation, acting as the lead agency for this project under CEQA, issued a Negative Declaration. DPR received one comment letter from CDFG documenting CDFG concerns over the proposed project design. CDFG's concerns have been discussed in this staff report. Conditions have been recommended to ensure that CDFG's concerns are reflected in the final project. In any case, this is an environmentally beneficial project. The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. With the Recommended Conditions, the Commission finds that the proposed project not have any significant adverse effects on the environment within the meaning of CEQA.



LOCATION
FIGURE 1

EXHIBIT A-1

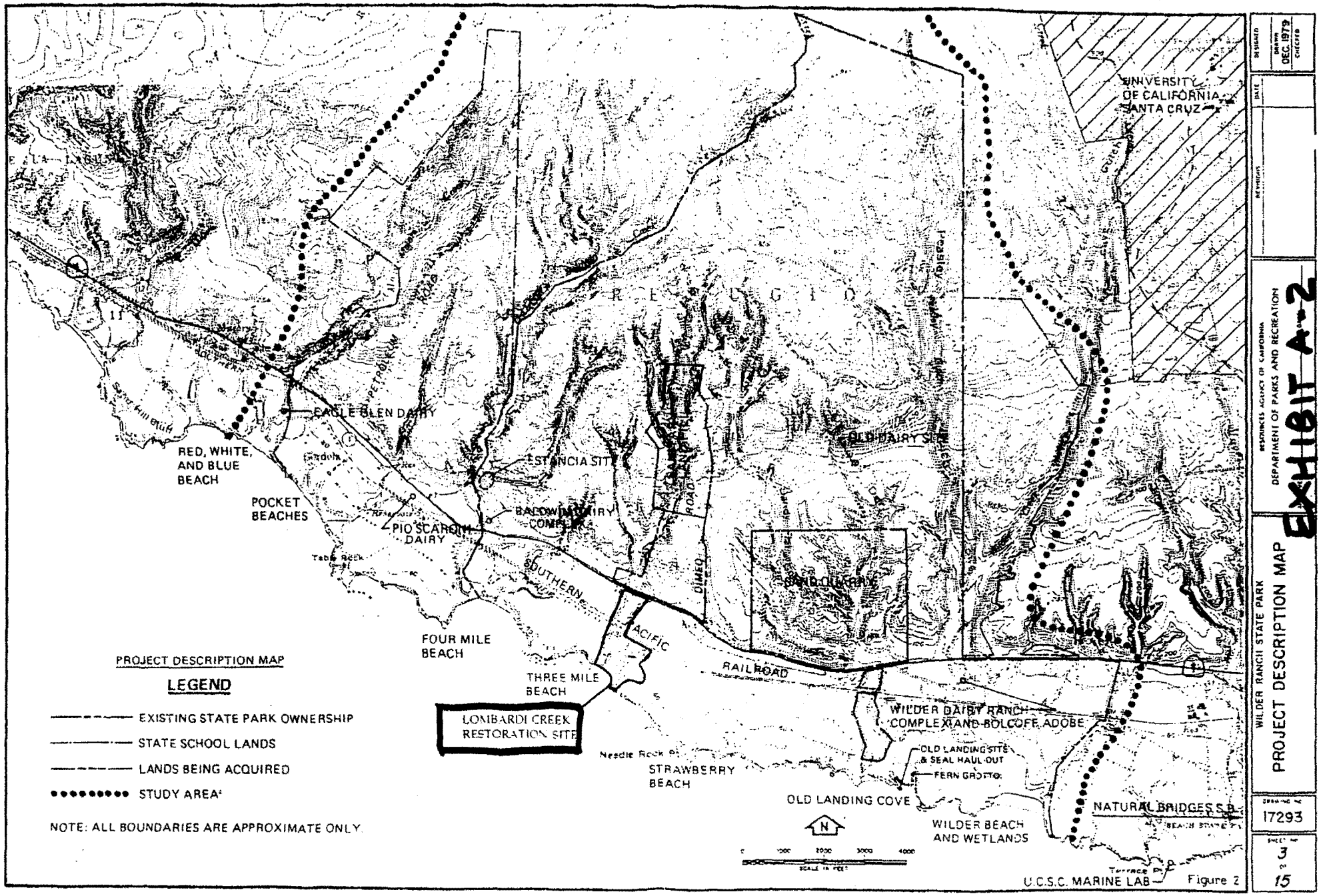


Figure 2: Wilder Ranch State Park and vicinity

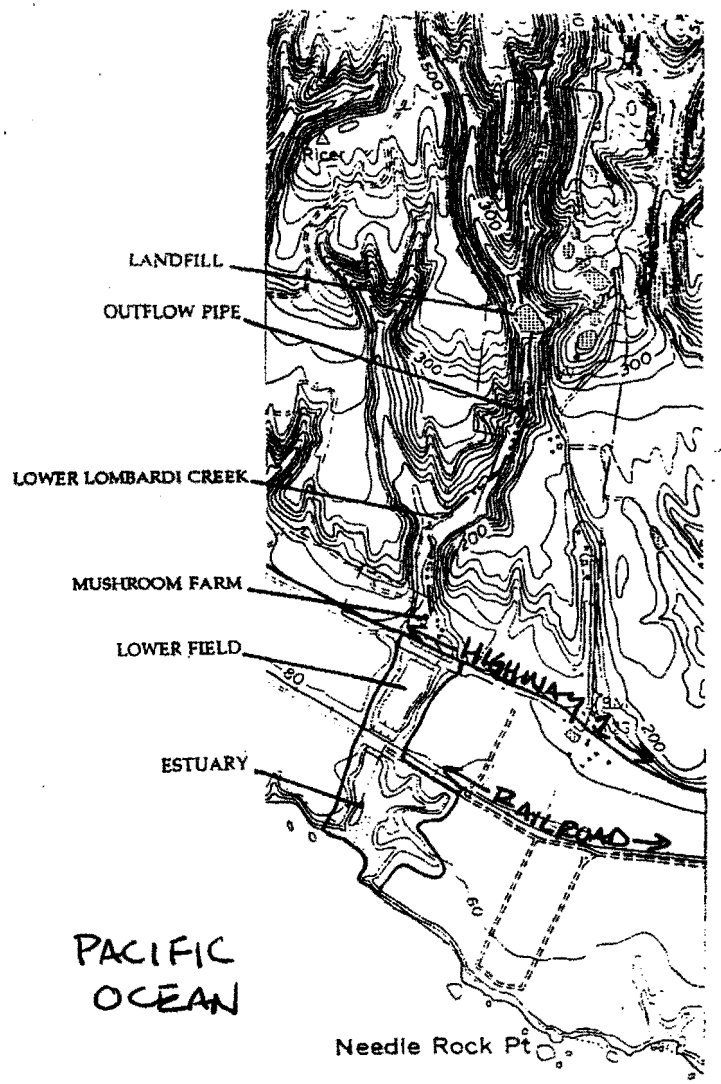


EXHIBIT A-3

Figure 3: Project boundaries

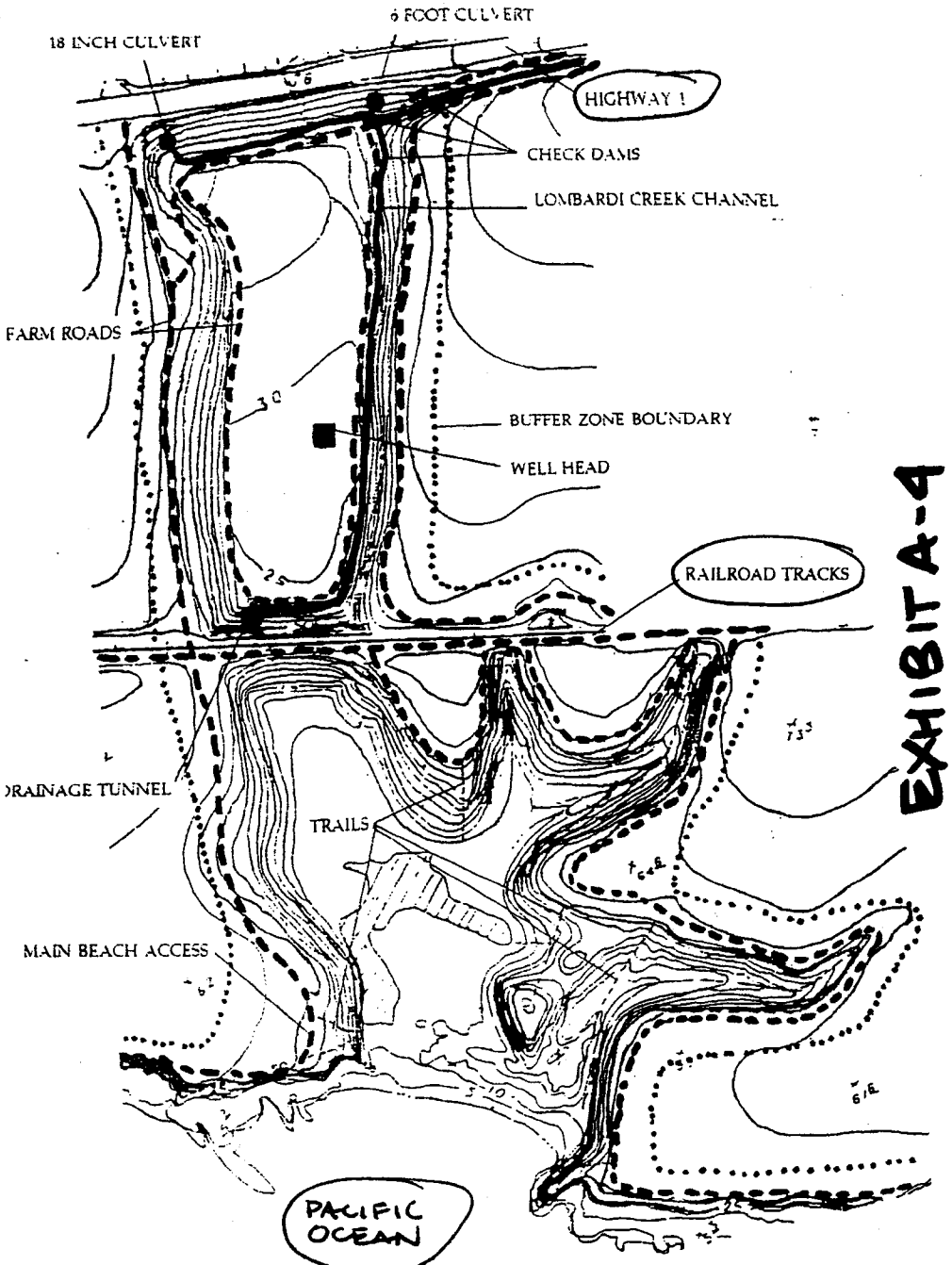


Figure 4: Current conditions at the project site

LOMBARDI CREEK RESTORATION PLAN

PREPARED BY CHRIS SPOHRER

ASSISTANT RESOURCE ECOLOGIST
CALIFORNIA STATE PARKS
SANTA CRUZ DISTRICT

EXHIBIT B-1

planted in brussel sprouts although today pumpkins and sugar peas are intercropped as cash crops. A well, located in the middle of the lower field (Fig. 4), was installed in 1977 and is used to irrigate the lower field and the surrounding benchtop fields. Additionally, three check dams on Lombardi Creek, located just south of the Highway 1 fill, provide creek water for irrigation of the lower field. Downstream of the highway culvert, the creek has been channeled along the east side of the lower field and farm road to keep the land, that was historically wetland, dry enough for agriculture (see Hydrology, section 3.3). This channel was regularly dredged to keep it open (Lee, personal communication).

The Ocean Shore Railroad and later the Southern Pacific Railroad were both deeded rights of way by Wilder in the early 1900's. The southern Pacific tracks cross Lombardi Creek, dividing this drainage canyon and forcing the creek through a drainage tunnel on the west side. Also, the Old Coast Road was replaced by Highway One in 1957, again bisecting the Lombardi Creek drainage and diverting the creek through a culvert on the east side of the canyon. Upstream of Highway 1, the entire creek is piped under the Santa Cruz City Sanitary Landfill and discharged at the low end onto State Park property. Clearly, some effluent from the landfill, especially during times of heavy rains, is causing nutrient loading of the creek water (see Hydrology).

Beginning in 1990, the park imposed 50-foot setbacks between the farmed fields and public access hiking trails. The setbacks were placed to reduce pesticide hazards to visitors and to reduce polluted runoff into drainages and wetlands like those at Lombardi Creek wetland. Unfortunately, these buffer zones are in a near constant state of disturbance, and therefore extremely weedy, because farmers turn tractors around and drive over these non-crop lands.

There are roads, currently being used by farmers, around the entire perimeter of the project site, around the lower farm field, and down to and back out of the north boundary of the lower field. The public has also worn numerous trails down to the beach from points all along the marine terrace. Human impacts on the beach are primarily located in the fragile coastal strand vegetation which suffers from heavy foot traffic and the transportation of non-native plant seeds.

EXHIBIT B-2

5. PROJECT OBJECTIVES

The Department's objectives for this project are twofold; to restore physical habitat and sustainable ecosystem function of the historic wetlands that have been farmed for the last sixty years in the lower field, and to remove the artificial sediment load from the estuary, thereby enlarging the volume of standing water and returning greater function to this unique system. Within these objectives lie the specific goals of creating a more natural hydrological pattern for Lombardi Creek, and enhancing the structure and composition of native flora through revegetation and eradication of exotic plant species. These objectives are consistent with State Parks' desire to restore degraded habitat to levels that support native biodiversity equivalent to those existent prior to intense human disturbance. The following section details management actions to achieve these objectives.

6. MANAGEMENT ACTIONS

6.1 UPPER LOMBARDI CREEK

This portion of the project encompasses the Lombardi Creek riparian corridor north of Highway one and downstream of the landfill outflow pipe (Fig. 3). Management actions in this area will include removal of invasive exotic plants (primarily poison hemlock), and revegetation with local riparian species in the disturbed area directly below the landfill outflow pipe. Additionally, collection of native plant propagules for the revegetation portion of the restoration project will occur at this site. Both the riparian forest of the creek channel and the coastal sage scrub community of the canyon slopes remain relatively undisturbed and provide good models of the diverse plant assemblages that will be restored in the lower field and adjacent slopes.

6.2 LOWER AGRICULTURAL FIELD AND VICINITY

The lower field (Fig. 4), approximately 4.6 acres of land that has been farmed as row crops since the 1930's, is scheduled to be taken out of agricultural production by DPR at the end of the 1999 growing season. This field and the 5 acres of slopes that surround it represent the area of the project that will undergo the most significant changes, both topographically and vegetatively. Heavy equipment will undo years of artificial terrain leveling, allowing Lombardi Creek to meander once again and irrigate this wide bottomland. Furthermore, this area of the project will be the focus of the revegetation effort due to the historic disturbance regime.

EXHIBIT B-3

6.2.1 LANDFORM RESTORATION

In order to create a dry, level, easily-farmed field, it was necessary to channel Lombardi Creek, and subsequently fill in all the natural topographic lows that retained water into the summer months. It is exactly these actions that need to be reversed to restore this land to a more natural state, as water and water retaining land features are the most critical elements of a wetland environment.

Improper cross-sectional design has necessitated frequent historical dredgings to keep the farm channel open. Left unchecked the channel clogs, the banks blow out and head cutting occurs depositing sediment into the estuary. During peak flows in the winter of 99'-2000', water flowed across the bottom third of the field carrying away soil devoid of perennial vegetation. Head cuts three feet deep and four feet wide currently exist. In this way a new channel will eventually form and stabilize. However, the construction of a well thought out, revegetated channel will prevent excessive sedimentation of the estuary. Allowing this farm ditch to remain would defeat the purpose of the mitigation efforts.

The restoration efforts of the lower field will be significantly guided by the restoration of the Wilder Creek Wetlands -- a similar project on a larger scale that was successfully implemented by DPR in 1994-95. The basic task modeled by the Wilder plan includes earth moving to allow previously channeled creek water to flow away from the channel, into excavated topographic lows, connecting tear-shaped ponds that will retain standing fresh water and support marsh vegetation (Calderwood, 1994). The plan outlined here tailors this model to the specific features of the lower field project site.

6.2.1.1 STREAM CHANNEL

Currently, Lombardi Creek flows in a channel approximately three and a half feet deep by four feet wide, along the east side of the lower field (Fig. 4). At the southeast corner, the channel turns west and runs along the base of the railroad fill to a culvert at the southwest corner. After creating a new channel and allowing vegetation to establish over one year, this channel, that currently prevents high flows from sheeting across this lowland area and irrigating the entire bottomland, will be filled with earth excavated from the interior of the field. A bulldozer and

EXHIBIT B-4

backhoe will be used to fill this ditch, allowing the slope to continue uninterrupted to the floor of the drainage.

Heavy equipment will also recontour the northwest corner of the field where runoff from an 18 inch culvert is now diverted into a ditch that keeps it north of the farm road at this end of the field. This ditch will be filled and the earth at the toe of the slope contoured to allow a more natural and direct route of this water into the interior of the field where it will merge with the new creek course (Fig. 7).

As delineated in Figure 7, the new stream course will start, as it does now, in the northeast corner and meander through approximately nine curves to end up in the vicinity of the southwest corner. Here, the creek will be allowed to follow its current path to the drainage tunnel under the railroad fill and into the drainage on the far side. Hydrologic calculations based on an elevation change of sixteen and a half feet over the eight hundred foot length of the field and an average flow (cfs) based on an average peak flow frequency analysis will be used to determine the length of the new channel (approximately one and a half times the length of the field), and the appropriate sinuosity to maintain a stable stream course. This new creek course will vary in depth and width to approximate natural watercourse dynamics, somewhere between five and ten feet wide and three to four feet deep. A two stage channel will be created so that a narrow and slightly deeper primary channel will contain normal flows and a shallow, wider secondary channel will handle peak flows. This secondary, overflow channel will support wetland vegetation on a "bench" slightly higher than the primary channel (Fig. 13).

No diversion of water from the existing farm channel will occur for the first year following construction of the new stream channel. After the channel is created in August of 2000, the channel banks will be revegetated and the plants allowed to establish through the wet season. Lombardi Creek will be diverted into the new channel by the winter of 2001, allowing new native riparian vegetation to help stabilize the soil and prevent excessive erosion.

The stability of the new watercourse will be monitored for several years. The creek will continue to form itself around newly planted vegetation and accumulated woody debris in this area and will be monitored after each storm.

EXHIBIT B-5

6.2.1.2 OVERFLOW CHANNEL

As mentioned above, a secondary overflow channel will be created to contain peak flows from ten year events. The primary channel is designed to handle standard two year events and overflow into the secondary channel during higher peak flows. As seen in figure 7, a bench of varying width will occur on either side of the primary channel, providing a band of highly irrigated habitat for wetland vegetation. This overflow channel will extend as far as twenty to thirty feet from the primary channel in some cases and hold water into the dry season in the lowest spots. In this way these areas will act as nascent marshes. The central area of each marsh will be level and except for the side adjacent to Lombardi Creek, the sides will be sloped at an angle of five degrees to facilitate the discharge of overflow water into the surrounding topographic low areas during wet years. The creek side of the marshes will be graded at a lower angle to allow overflow water access to the central area. These criteria are modeled after descriptions found in the MLML Wilder Wetland Plan:

> "These are very shallow features requiring no precise grading to obtain the approximate depths. The main idea is to let water flow from the creek... into a central portion of the field, to be trapped in a slightly deeper terminal pond."

6.2.1.3 TOPOGRAPHIC LOWS

Natural topographic low areas will be restored in optimal sections adjacent to the new creek course to further enhance the colonization by plants of the riparian woodland and freshwater marsh communities. These areas will connect the marshes, and will serve as migration corridors to aid the expansion of the native plant and animal populations into the wetland habitats. Examples of species which will benefit from the establishment of these corridors are cattails, tules and rushes and marsh wrens and blackbirds that nest in them, the southwestern pond turtle, black legless lizard, California newt, and California red-legged frog.

Excavated soil material will be used to create an area of slightly higher elevation leading up to the toe of the railroad fill. This area has been known to flood in wet

EXHIBIT B-6

winters (Lee, personal communication), possibly due to field grading and the practice of channeling artificially large amounts of water to this area rather than allowing it to flow across the entire bottomland. In any case, it is prudent to keep water from eroding the base of this railroad track fill as maintenance of this structure would lead to extensive disturbance of the wetland. Also, Park staff will monitor the entrance of the railroad drainage tunnel for debris and vegetation that would impede water flow during heavy rains.

6.2.1.4 GRADING

The grading portion of this project will follow best management practices guidelines. Grading will begin in fall, followed immediately by planting to minimize erosion. State Park staff will be on-site throughout the grading operations to ensure that guidelines are followed and environmental impacts minimized.

Past agricultural practices and road runoff may have contaminated parts of this field with pesticides and heavy metals. Soil samples taken from the approximate depth and area of the new creek channel (Fig. 14), 24have been submitted to an analytical lab for testing. Findings may affect subsequent earth moving procedures.

In the lower field, earth moving will require a D6 bulldozer. Heavy equipment will be restricted to the entrance road on the northwest corner for access (Fig. 11). Grading will be restricted to the northeast corner road, farm field perimeter road and the fallow field encompassed by this road and the toe of the slopes on the north, east and south sides of the field. The remainder of the vegetated slopes will be flagged to prevent disturbance by heavy equipment. During the operations, equipment will be stored on the lower field.

Grading in the estuary will also commence in the fall after nesting song birds have fledged. Access to this site for a backhoe and front-end loader will occur along the upper farm road along the west edge of the lower field, across the railroad fill and onto the nursery field above the estuary. The perimeter of this nursery field will be flagged and a path down the shallow slope to the estuary will also be flagged to restrict heavy equipment impacts. The path down this shallow slope will maximize the areas of exposed bedrock. Due to the sparse nature of the vegetation on this slope and the use of rubber tread on the equipment, impacts should be minimal on

EXHIBIT B-7

this slope. Planting with appropriate local species will occur directly following the excavation operations. Soil excavated from the estuary will be staged on the nursery field and graded to an even depth over the entire .8 acre. Additionally, all vehicles and equipment associated with this operation will be restricted to the nursery field. Straw will be spread on this area following heavy equipment operations.

6.2.2 REMOVAL OF FACILITIES AND VISUAL IMPACTS

6.2.2.1 ROADS

The farm road around the circumference of the lower field and the road that runs along the base of the highway fill and connects to the fields on the east terrace will both be ripped with heavy equipment and revegetated with local plant material (fig. 9). The two culverts that divert water under these roads in the northeast corner of the site will be removed.

An access road that winds down to the lower field in the northwest corner will be maintained. As shown in Figure 7, this access road will be connected to a new road that cuts diagonally across the field to a well head. The current use of this well by Rodoni and Co. prohibits taking it out of service but the option remains to do so in the future. Excess soil material from the excavation of topographic lows in the field will be used to create a slightly raised road bed that will stay drier than the surrounding wetland.

6.2.2.2 DAMS, WELLS, AND PIPELINES

Three concrete check dams exist in the Lombardi Creek channel; all of them are located in the northeast corner of the lower field site. These dams will all be removed by heavy equipment during the regrading stage of the project (fig. 9).

There is a farm well located approximately midway down the eastern side of the field that will remain and is to be served by an access road (see Roads). Additionally, a large diameter, municipal pipeline is visible above ground in the northeast corner of the site and must remain undisturbed. Native trees may be used to create an appropriate visual screen.

6.2.2.3 FARM REFUSE

All farm refuse, (e.g. discarded tires, pallets, crates, and plastic buckets) will be

removed from the lower field and the slopes around the entire project site. Additionally, a defunct wooden trailer and automobile will be removed from the south-facing slope below the western nursery field.

6.2.3 VEGETATION

Management of the vegetation in the lower agricultural field falls into two categories, exotics control and revegetation. In the case of the surrounding slopes -- primarily degraded coastal sage scrub communities and some riparian woodland -- exotics control will be the main focus. Alternatively, the newly contoured lower field will need extensive planting in order to jump start the freshwater marsh and riparian plant communities which have been suppressed for the past sixty years or so under farming practices. In both cases the goal is to establish relatively stable, native plant assemblages that support a high diversity of native fauna and maintain ecosystem function.

6.2.3.1 EXOTICS CONTROL

The major upland weed on this site, as it was at the Wilder Creek Wetland site, is poison hemlock. Applying what DPR has learned from the Wilder project, this species will be sprayed with Roundup as it occurs in monotypic stands. Where it occurs more sparsely, mixed with native upland species, it will be hand removed by pulling or digging over several seasons. Cutting is not an efficient means of control in this landscape. Furthermore, because seeds wash down into the watershed, hemlock will systematically be eradicated from the north to the south end of the project and from the top down on all slopes. Any planting deemed necessary on these slopes must occur after the vast majority of hemlock seeds have been eliminated from the seedbank (up to three years).

A large patch of English ivy, exists on the slope to the west of the lower field and should be hand removed. The majority of the remaining non-native plants are annual grasses and agricultural weeds in the farm field. The annual grasses will most likely persist in the coastal sage scrub community, many being shaded out as the larger shrubs fill in the slopes. Agricultural weeds like bristly ox tongue and field mustard do well in disturbed farm fields but aren't nearly as invasive in saturated soils. From the Wilder Creek Restoration, DPR learned that in areas that retain creek overflow and stay extremely moist, these upland non-native plants

cannot compete with the native wetland species. However, in drier pockets, these weeds flourish and will need to be controlled vigorously the first few years using appropriate hand methods and spot spraying with herbicide. Also, planting these drier areas with the fast-growing California blackberry will impede weed growth.

6.2.3.2 REVEGETATION

California State Parks policy is to restore vegetation with native plants and species composition that would naturally be found at the site. Genetically local plant propagules will be harvested from the intact marsh and wetland south of the railroad tracks and from the riparian woodlands on upper Lombardi Creek and at the creek mouth. Plants for revegetation will be propagated by State Park staff at the Wilder nursery and planted in the field only after two inches of rain have fallen at the onset of the rainy season. As stated in the Wilder Creek Restoration Plan, specific landscape design with regards to planting is not necessary, rather a designation of habitat types and plant patterns will suffice. The wettest areas will be planted with marsh species, tules, cattails, and rushes in standing water, silverweed, knotweed, willowherb, and water hemlock in the topographic lows supporting the marshes, and willow, alder, and elderberry sprigs along the creek course. Transition zones into more xeric areas will be plugged with California blackberry and mugwort to crowd out weeds.

These highly productive plant communities are themselves the foundation for important habitat types which provide for the needs of a multitude of wildlife species that will move into this area or expand their existing ranges. Listed species that stand to benefit from the restoration of Lombardi Creek and estuary include:

Willow flycatcher (*Empidonax traillii*)
Tricolored blackbird (*Agelaius tricolor*)
Loggerhead shrike (*Lanius ludovicianuis*)
California black rail (*Laterallus jamaicensis corurniculus*)
Cooper's hawk (*Accipiter cooperi*)
American peregrine falcon (*Falco peregrinus anatum*)
Southwestern pond turtle (*Clemmys marmorata pallida*)
Black legless lizard (*Aniella pulchra nigra*)
California newt (*Tarich tarosa*)
California red-legged frog (*Rana aurora draytoni*)

It should be emphasized that in a restoration project concerning the reestablishment

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of wetland and riparian communities, the change in hydrology is the most significant factor to success, followed by the revegetation of appropriate plant species. In a highly specialized terrestrial environment such as land inundated by water for long periods of time, native plants that evolved under these conditions will out-compete most weeds (most of which are generalists), and will colonize these areas with little encouragement. With the colonization of wetland and riparian plants initiated by a revegetation plan, the animals dependent on these specialized plant assemblages will colonize the restored area on their own as long as some intact habitat has allowed them to exist nearby. This is certainly the case in Wilder Ranch State Park.

6.3 ESTUARY AND VICINITY

This portion of the project includes the entire watershed and beach south of the railroad tracks (Fig. 3). For restoration purposes this site will be considered as two areas of concern; the estuary and adjacent marsh are treated as one section, and the rest of the drainage, including the three branches to the east of the estuary, marine cliffs and the sand dunes are treated separately. The estuary is the only portion being considered for landform restoration.

6.3.1 ESTUARY EXCAVATION

This section addresses the sedimentation that has occurred in the estuary as a result of construction north of State Park land at the Santa Cruz City Sanitary Landfill. The artificial sediment load that is visible around the bases of trees where the creek enters the estuary, and filling an area that was previously standing water to the east of the creek, will be excavated by heavy equipment. An excavator and front end loader would access the site via the shallow slope descending from the western nursery field (Fig. 11). Material up to six feet below existing grade would be removed and trucked up the slope where it will be spread on this field. This small (less than one acre) field will be taken out of production permanently and revegetated with coastal scrub following the disturbance. Some of the dredge spoils, undoubtedly nutrient rich soil material, could be provided to the local farmers with nearby fields as amendment. Figure 8 outlines the areal extent of the excavations (approaching 1850 cubic yards of sediment), approximately one hundred feet by one hundred feet with an average depth of five feet. Specific excavation configurations will be guided by the suggestions of Jerry Smith, Professor of Biological Sciences at

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San Jose State University (appendix B, "Suggestions for Improving the Effectiveness of Lagoon Restoration"). Revegetation in the estuary will be unnecessary due to the ability of wetland plants to colonize quickly and the lack of non-native plant species in this relatively intact esturine habitat.

Restored standing freshwater marsh provides significant habitat values. Presently, silt has filled in the interior of this historic standing water and allowed cattails and tules to proliferate, forming a dense thicket. While this provides habitat for some animals like marsh wrens and blackbirds, standing water supports whole guilds no longer represented at the site. With restoration waterfowl such as waders, (many of which are locally rare) and migratory ducks, all of whom depend on coastal marsh habitat with standing water to survive would return (Eyster, personal communication). Additionally, local fish biologist Jerry Smith believes that removal of this sediment will create suitable aquatic habitat for a significant population of tidewater gobie, a federally listed endangered fish. Coastal freshwater marsh is one of the rarest habitats on the central coast and supports an extremely high diversity of life. Restoration of such habitat is a high priority.

6.3.2 SURROUNDING HABITATS

Landform restoration will not occur in the areas surrounding the estuary. Management efforts will focus on native vegetation enhancement and directing public access on an established trail system.

Poison hemlock will be eradicated using chemical and hand removal methods along the upper edge of the slope on the west side of the drainage where it exists as a monoculture, and along the slopes and in the branches of the east side. Hemlock populations are especially dense at the tops of the slopes near the farm roads (probably due to constant nutrient flushes), and on the floor and lower slopes of the most southern branch of the drainage. Early colonizers of the coastal sage scrub community such as coyote brush, artemesia and blackberry will be planted as hemlock is eradicated in these areas. Additionally, the coastal strand community will be eradicated of sea rocket (hand removal) and control of annual grasses will be accomplished using a monocot-specific herbicide sprayed seasonally in the spring.

Public use trails will be established using and enhancing existing trails. Redundant

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trails and those causing excess erosion will be closed. The primary access point will be on the west side (see Fig. 8), where a well-established trail spurs off the bluff top road and winds down the exposed mudstone to the beach. Two other, less appropriate trails in this vicinity will be closed with signage and planted with native bluff vegetation. A secondary trail will descend from the middle of the east side marine terrace, down a moderate slope and meander through the sandy rear-dune area to the beach. One trail to the top of the scrub-covered mound in the central portion of the drainage will also be maintained. All other existing trails will be closed with signs and planted with native vegetation.

6.4 AGRICULTURAL FIELDS ADJACENT PROJECT SITE

In 1990, Victor Roth, a Land Agent for DPR, established fifty-foot setbacks from all public access trails in Wilder Ranch State Park that bordered agricultural fields. These areas of non-agricultural production provide a physical and aesthetic buffer zone against the effects of agricultural production in the park. Presently, only trails in the eastern section of the park have these fifty-foot buffer zones physically delineated with wooden poles; the buffer zone is still theoretical in the rest of the park, including the fields surrounding this project site.

Part of the restoration effort of Lombardi Creek will be to establish the buffer zone in the fields on the marine terrace, adjacent to the project site. Park staff will create a line fifty feet from the existing perimeter trails and set poles in the earth every twenty feet. This symbolic fence will consist of eucalyptus poles eight feet tall and approximately six inches in diameter, set at least two feet in the ground. The fifty-foot boundary will be expanded in two places where the farm fields have taken irregular and seemingly inefficient shapes (Fig. 8). On the west side of the drainage, in the corner nearest the ocean, the buffer zone will include the entire tip of the lobe that slopes down toward the sheer cliffs. This will provide a viewing area for the public (interpretive sign and bench), without the feeling of being situated in the field of brussel sprouts. Also, on the opposite side of the drainage, the pinched, middle lobe of farmland will be squared off and included in the buffer zone, approximately 150 feet in from the existing trail.

The buffer zone will be another area of intense revegetation. Currently, these areas exist as weedy annual grasslands that could loosely be described as coastal terrace

prairie, albeit devoid of native species of any significance. This assemblage of plants can be attributed to nearly constant disturbance from tractors and other farm activities. Prior to these intense soil disturbances, these areas were most likely a continuation of the coastal sage scrub communities of the adjacent steeper slopes, dominated by California sagebrush, coyote brush and lizard's tail nearest the ocean. These species, along with a host of perennials such as California bee plant and coast buckwheat and seaside daisy in the more maritime sections, will be planted in the buffer zone as the exotics are controlled with chemical and hand removal techniques. All propagules will come from the site or nearby local sources.

6.5 MONITORING

In order to assess the relative success of this restoration project and to make informed and necessary changes in management actions during and after the initial restoration process, monitoring of the site must occur. The steps outlined below should begin with the first stages of work on this project and continue for a minimum of five years. Two types of vegetation monitoring will be implemented, photo-monitoring and point intercept monitoring along fixed transects.

Photo-monitoring uses repetitions of images taken at set points over a period of time to graphically represent vegetation change and habitat composition. At least twelve photo points, encompassing all communities and relative site features, will be permanently established around the site and mapped for future reference. Digital images captured with a digital camera will be taken during the spring and fall of each year and cataloged in a computer data base by park staff. Assessments and reports will be generated using this data base.

Park staff will design and construct a series of 50-meter transects, two for each vegetative community that will remain intact throughout this project and will be mapped for future use. Point intercept data will be taken every half meter along the transects, during the peak of spring for five years. Species composition and density will be generated from these data sets and can be compared to similar projects like the one at the Wilder Wetlands and to intact wetland areas for which baseline data exists.

Additionally, Jeff Davis, curator of the natural history collection at UCSC, has been

asked to begin a survey of avifauna at the project site. His work with university students at the Wilder Wetland site, mist-netting and tagging birds, is an invaluable source of data as to the function and quality of habitat of that wetland area. A sister project at the Lombardi Creek restoration site would make a valuable comparative model.

Monitoring of alterations made to the stream bed and estuary will begin as soon as earth moving abates. State Park staff will adopt adaptive management practices regarding these alterations. Frequent periodic monitoring will become more frequent during and after storm events, checking rates of erosion and bank stability. Analysis of these observations will generate management adjustments to improve stream stability and water quality.

6.6 INTERAGENCY RELATIONS AND PERMITS REQUIRED

Due to the nature of this restoration project--changing the existing course of a waterway and the sensitive species this may affect--numerous regulatory entities will need to be consulted. The following is a list of agencies and acts and their respective areas of concern.

- U.S. Fish and Wildlife -- Listed species, Tidewater goby (*Eucyclogobius newberryi*) and California red-legged frog (*Rana aurora draytoni*)
- California Fish and Game --Stream alteration agreement
- Army Corp of Engineers -- Wetland manipulation
- California Coastal Commission -- Notice of consistency with the Wilder Ranch State Park General Plan
- Regional Water Quality Control Board -- Water quality
- California Environmental Quality Act -- Project review

EXHIBIT B-15

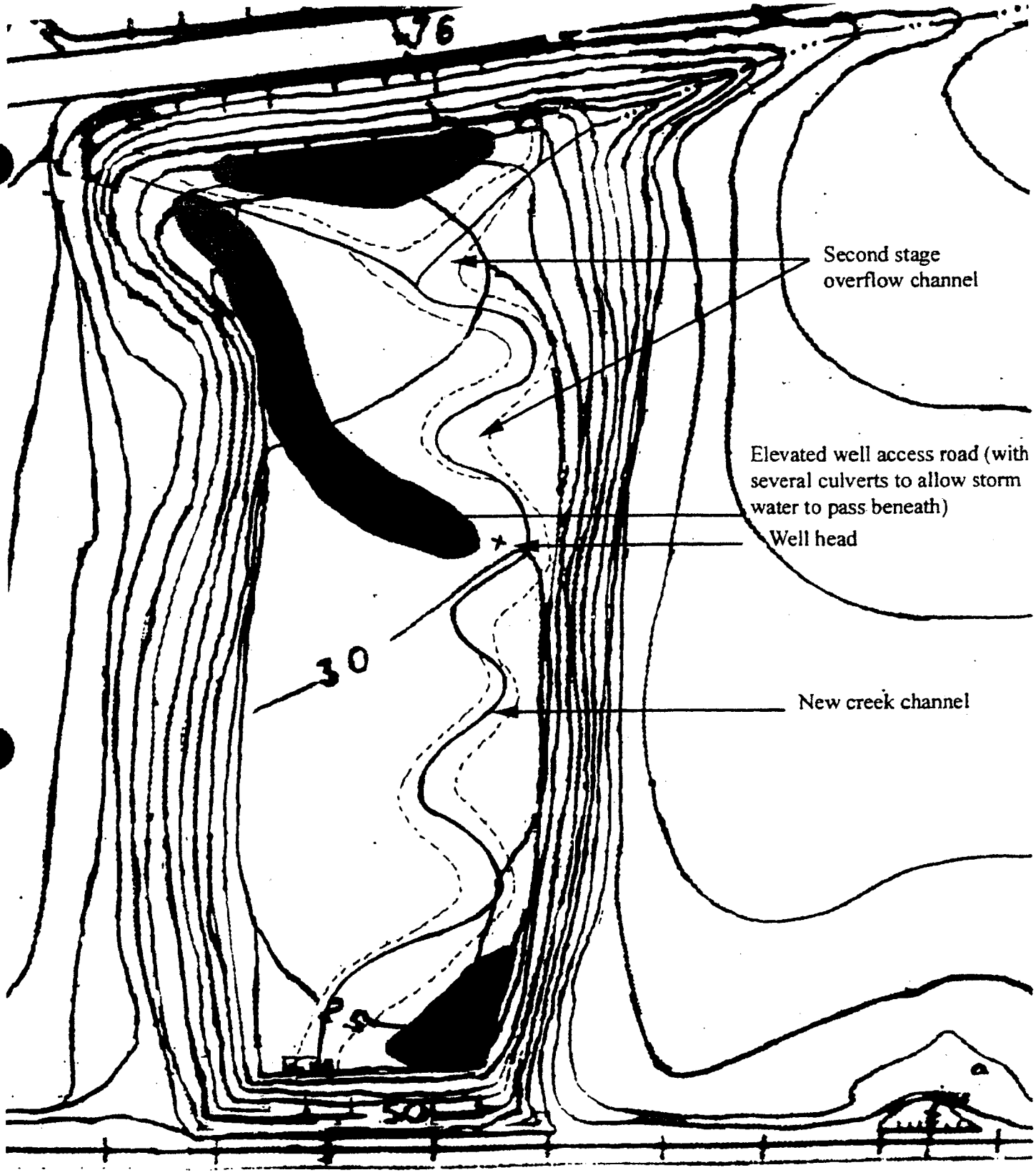


Figure 7: Final plans for new hydrology of lower field

EXHIBIT B-16

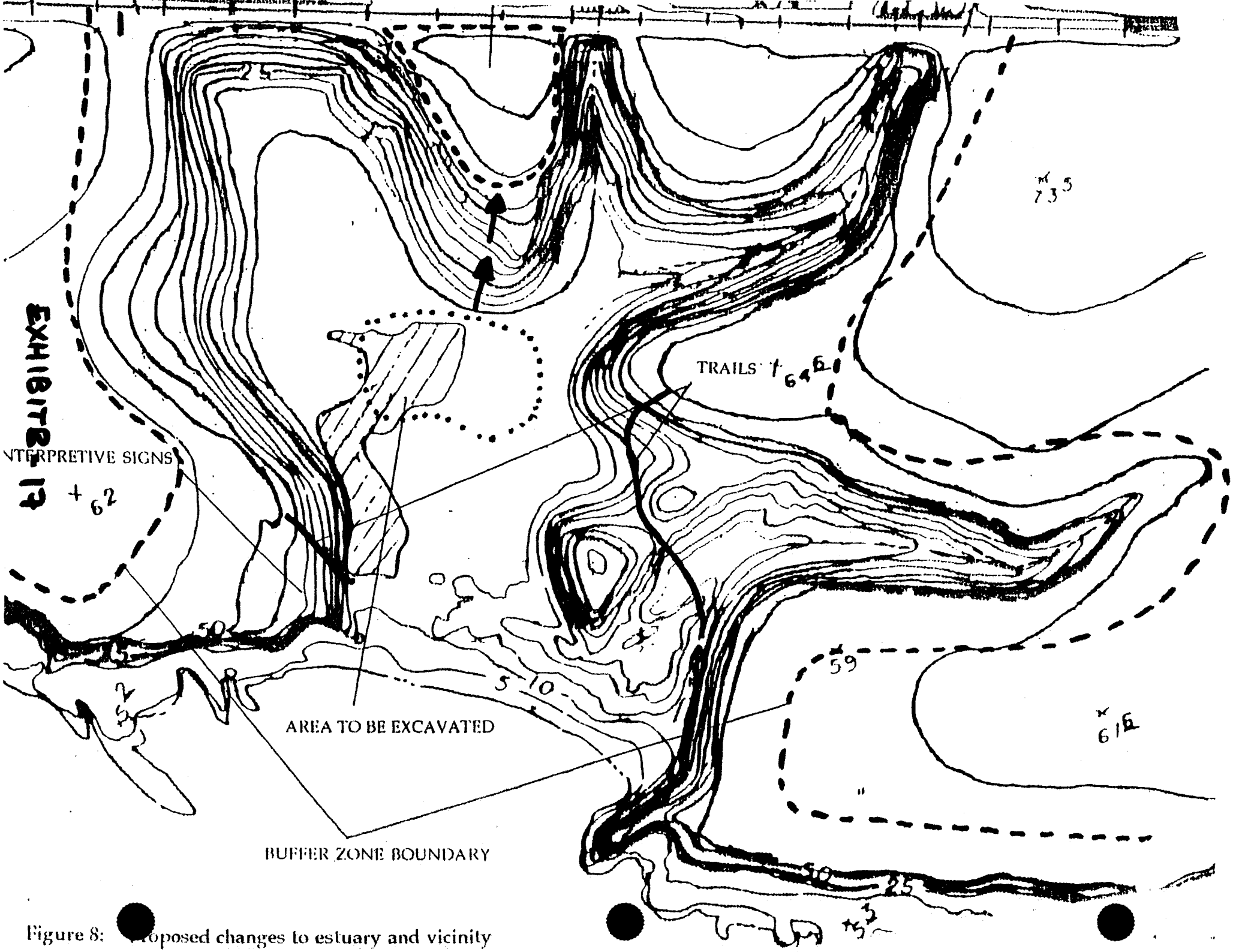
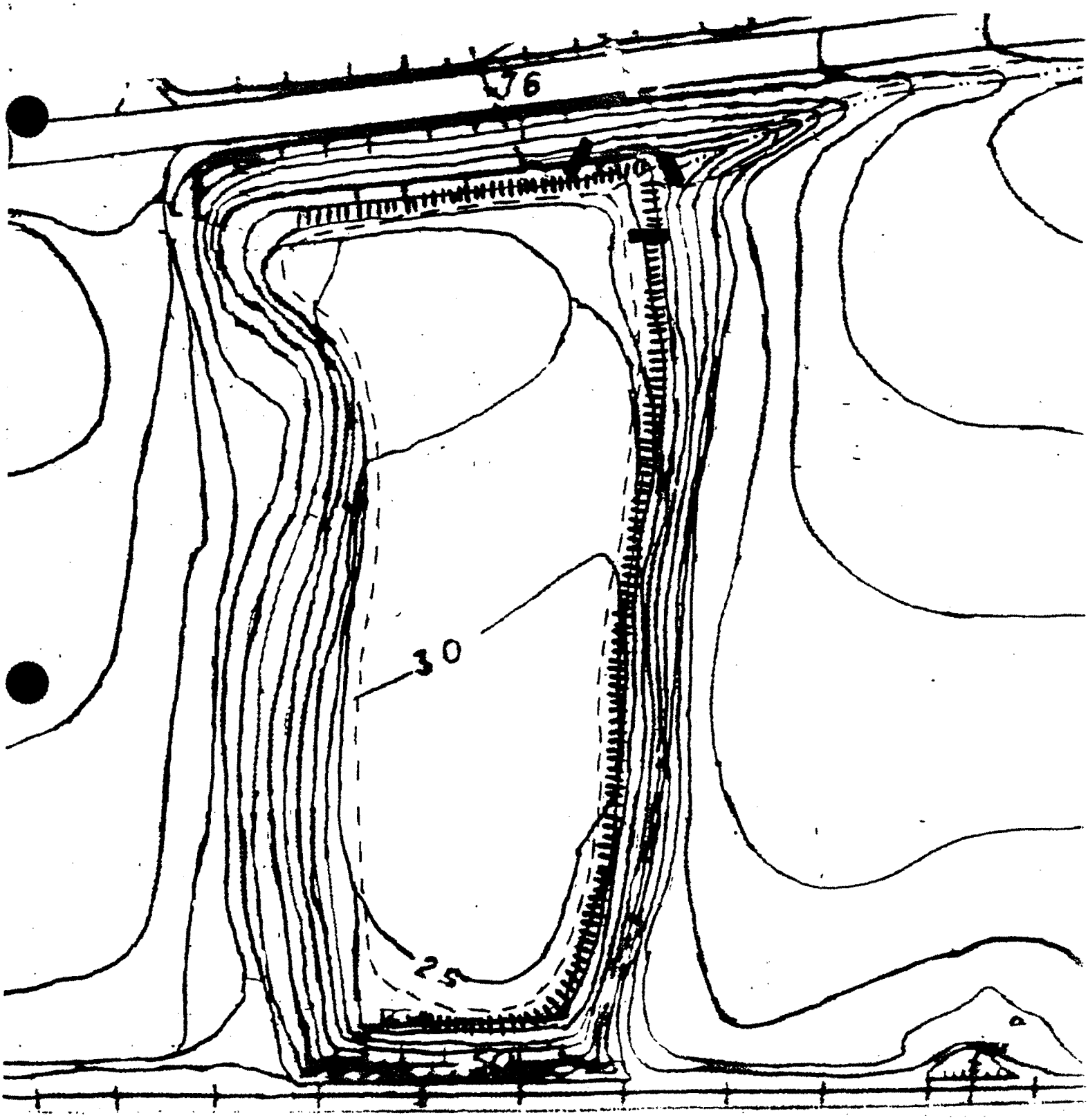


Figure 8: Proposed changes to estuary and vicinity



DITCHES TO BE FILLED
AGRICULTURAL ROADS TO BE REMOVED
CHECK DAMS TO BE REMOVED

Figure 9: Removal of agricultural roads and structures

EXHIBIT B-18

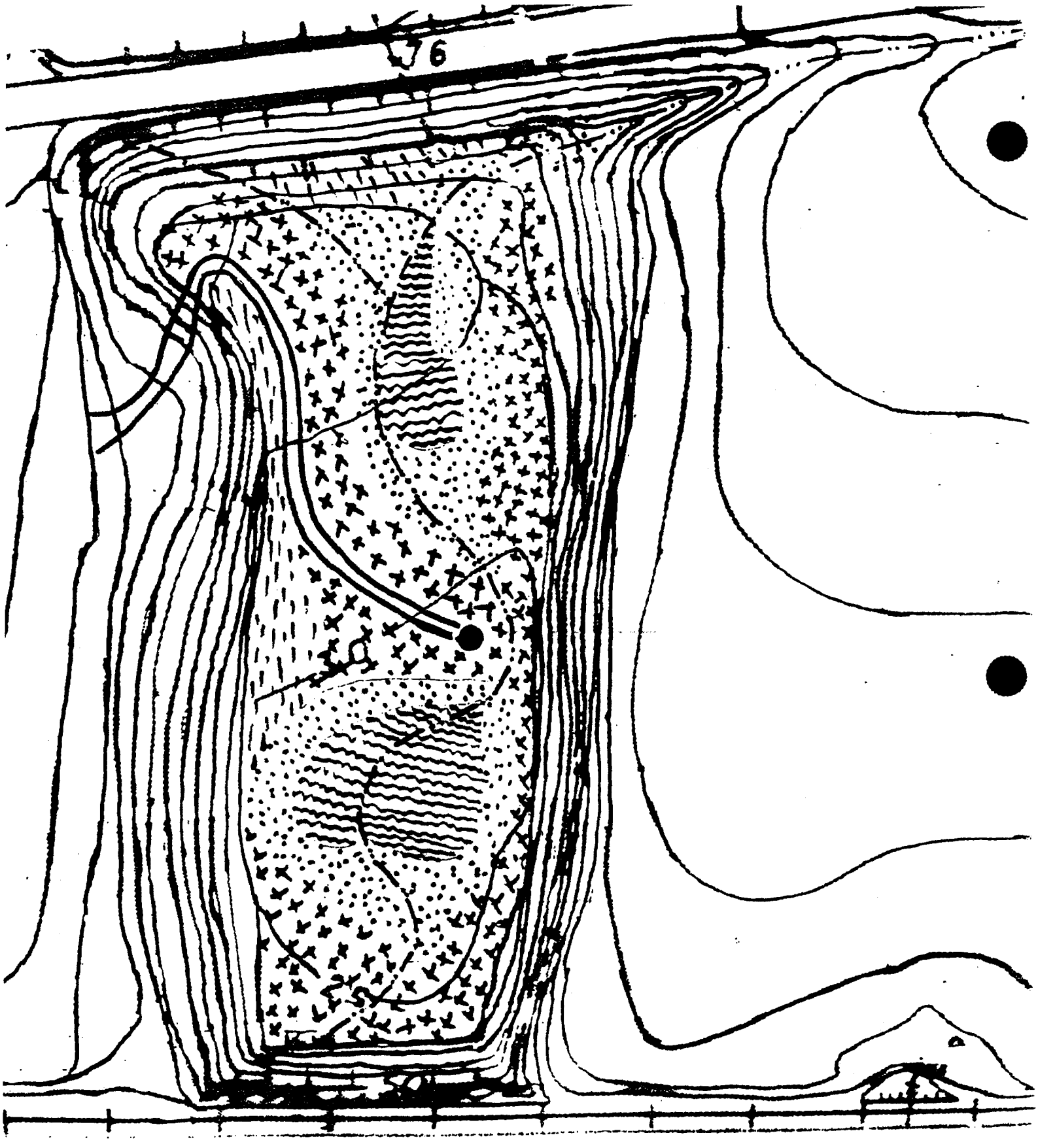


Figure 10: Revegetation plan

EXHIBIT B-19

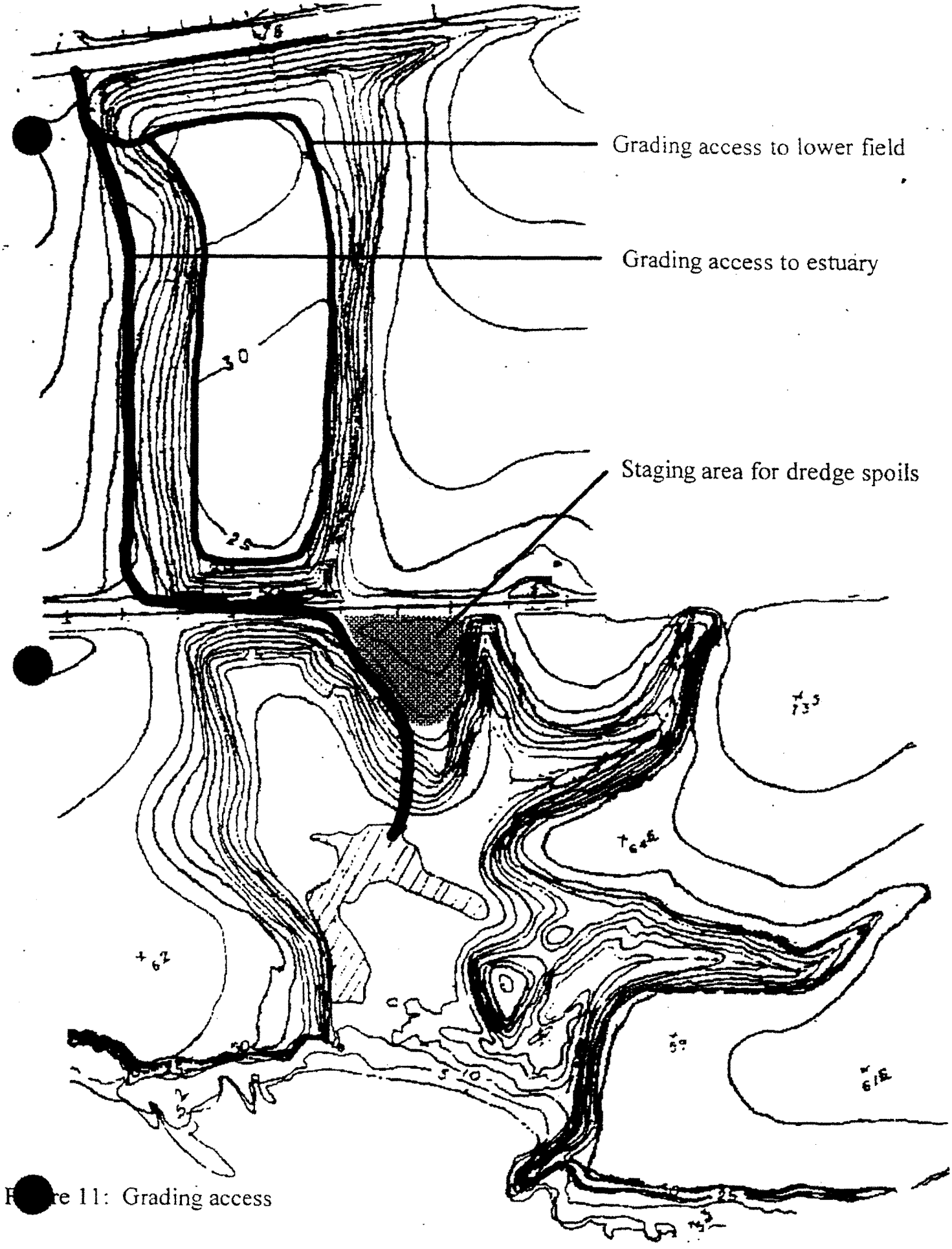


Figure 11: Grading access

EXHIBIT B-20

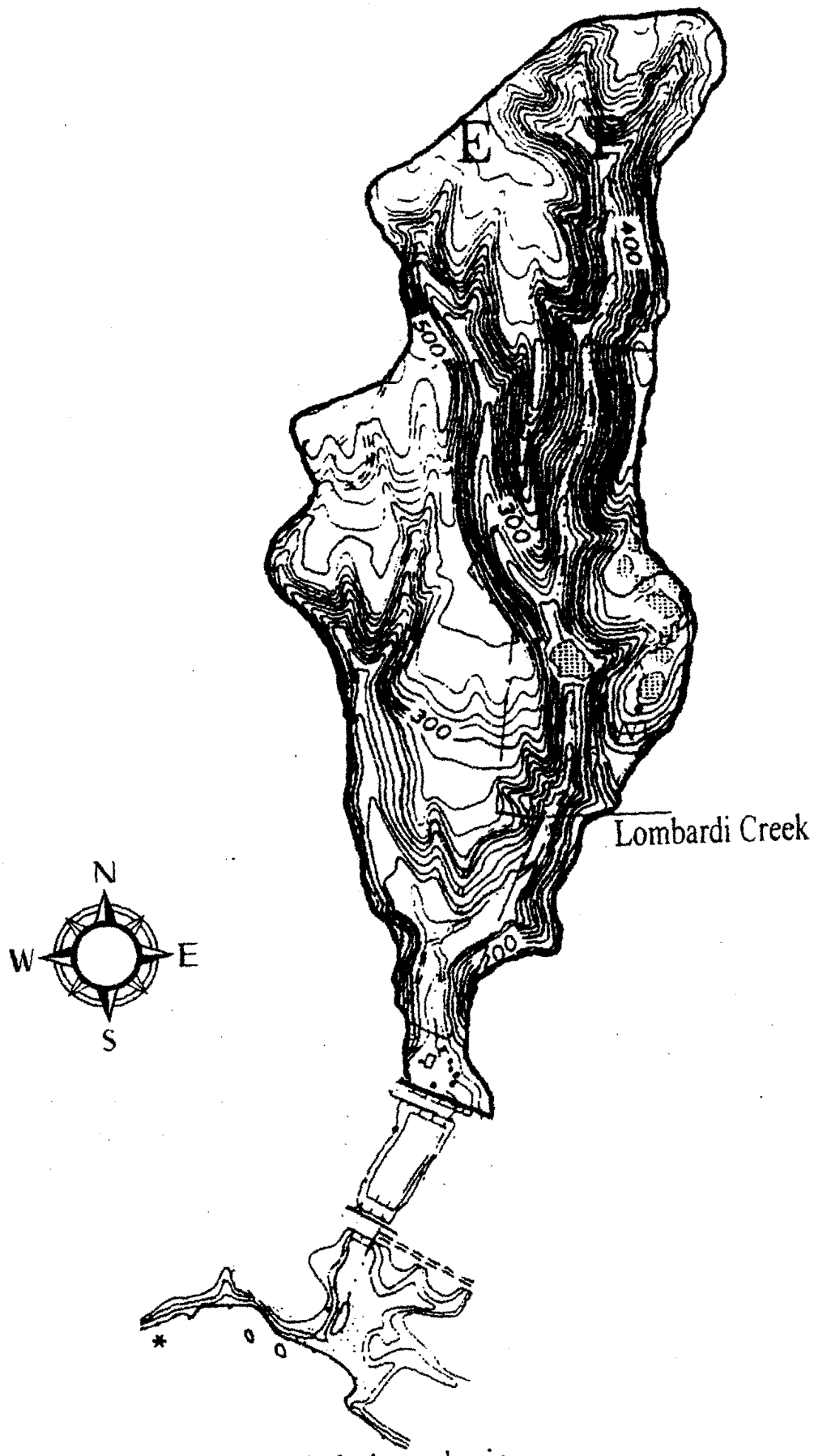
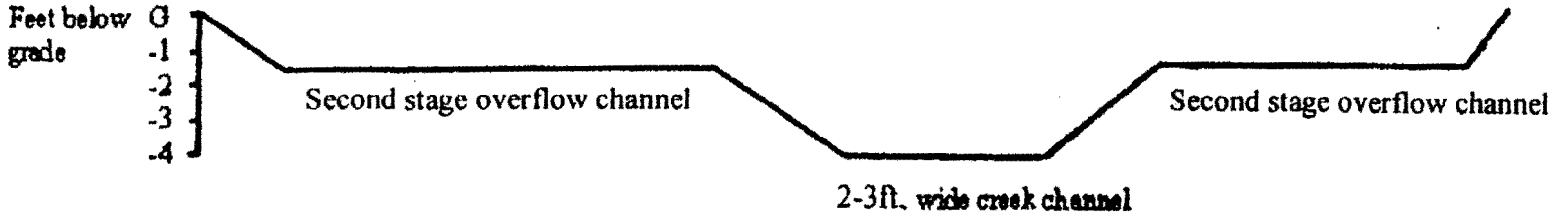


Figure 12: Lombardi Creek drainage basin

EXHIBIT B-21

1. Cross section of primary creek channel and secondary overflow channel



2. Cross section of access road to well

3. Cross section of estuary excavation

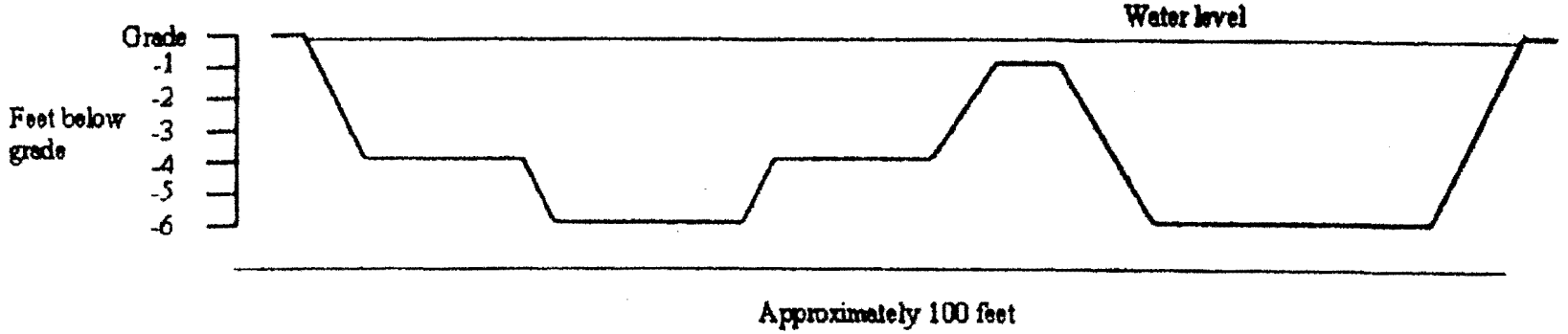


Figure 13: Cross sections of grading operations

EXHIBIT B-22

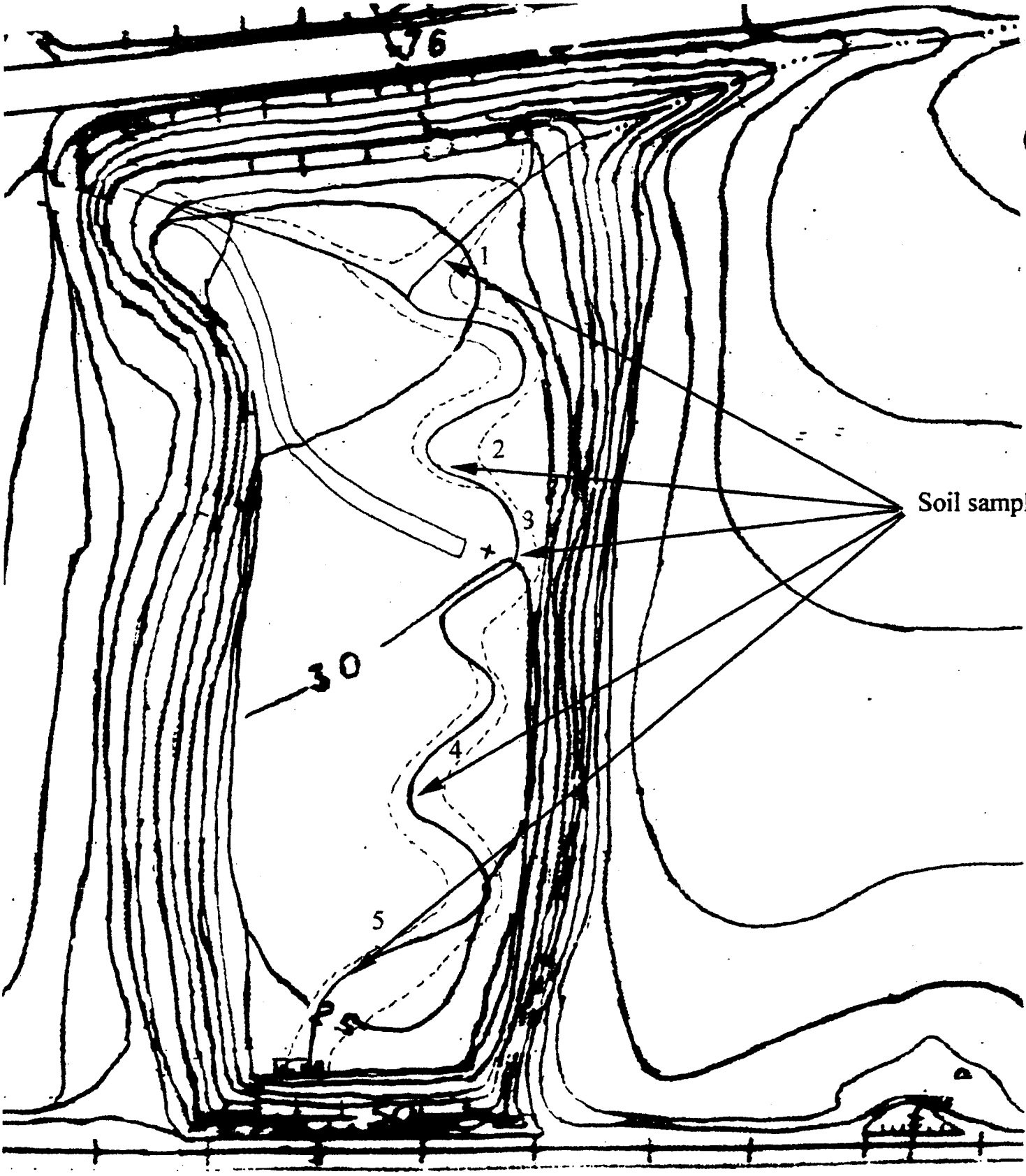


Figure 14: Soil samples

EXHIBIT B-23

Santa Cruz District
600 Ocean St.
Santa Cruz, CA 95060
March 22, 2000

Rick Hyman
California Coastal Commission
Central Coast Area Office
725 Front St., Suite 30
Santa Cruz, CA 95060

Dear Rick,

Attached is our plan to restore Lombardi Creek south of highway one. The project is located in Wilder Ranch State Park which has a General Plan ('Public Works Plan') approved in 1980. We are requesting a determination of the concurrence of this project with the approved General Plan.

There are three issues addressed in the General Plan which are applicable:

1. **Erosion**. The Santa Cruz City Sanitary Landfill, located upstream from the project site, is named in the general plan as a potential source of erosion and sedimentation of nearby streams and catch basins. The General plan policies on erosion include: "Destructive or unnatural erosion shall be controlled and prevented by means that are in harmony with the park...When correction is imperative, all measures used shall be as unobtrusive as possible, fitting naturally into the environment, with the objective of restoring the natural condition." Additionally, revegetation with native plant materials is mentioned as an erosion control solution.
2. **Restoration**. The General Plan is supportive of wetland restoration and habitat restoration in general. Policies include: "Wherever possible the department shall restore altered wildlife habitats as nearly as possible to conditions they would be in today had natural ecological processes not been disturbed." The General Plan goes on to mention the outstanding habitat values of riparian corridors and areas around watercourses, The General Plan polices include; "Riparian corridors along perennial creeks in the unit shall be protected against significant alteration of vegetation and loss of other important habitat values. The borders of the protected riparian zone corridor shall extend at least 15 meters (50 feet) from both sides of the creeks." The Plan also supports the removal of exotic species in restoration efforts, "Aggressive exotic plants...shall be removed..."
3. **Agriculture**. Under the treatment of agriculture the General Plan stated, "...retention of this land in cultivated agriculture is considered of secondary importance to that of providing appropriate recreational opportunities and of protecting any outstanding...natural resources." And, "Additional reductions in agricultural lands will only be considered for the purpose of mitigating conflicts in the implementation of the department's objectives for resource protection..." The general plan allows for a ten percent reduction of existing row crop acreage stating specifically that among other locations reductions will occur in, "...riparian areas for the purpose of habitat enhancement" and, "Along the coastal bluff of the agricultural fields..."

Please determine if the enclosed material is adequate to determine concurrence with the Public Works Plan and advise me at (831) 427-4880 if more information is needed.

Chris Spohrer
Assistant Resource Ecologist

EXHIBIT C