CALIFORNIA COASTAL COMMISSION
NORTH COAST AREA
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Filed:	December 11, 1996
49th Day:	January 29, 1997
180th Day:	June 9, 1997
Staff:	Bill Van Beckum
Staff Report:	December 20, 1996
Hearing Date:	January 9, 1997
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: **1-96-63**

APPLICANTS: **REDWOOD DEVEL0PMENT**

PROJECT LOCATION: 1000 Highway One, Bodega Bay, Sonoma County, APN 100-100-23

PROJECT DESCRIPTION: Construct a shoreline storm-drain outfall (3-ft-diameter plastic pipe) over existing rock rip-rap, and place additional rock rip-rap (2- to 3-ft- diameter boulders, atop a 535-sq.ft. area of existing rip-rap) around the outfall.

PLAN/ZONING DESIGNATION: Visitor Serving Commercial/CT-CC (Tourist Commercial - Coastal Combining)

LOCAL APPROVALS RECEIVED: County of Sonoma Major Subdivision/Coastal Permit MJS/CP 93-289

SUBSTANTIVE FILE DOCUMENTS: Sonoma County Local Coastal Program; Harbor View Final EIR (LSA, July 27, 1994).

STAFF NOTES:

Standard of Review. The proposed project is located on the east shore of Bodega Harbor. Sonoma County has a certified LCP, but the project site is in tidal areas within the Commission's retained jurisdiction. Therefore, the standard of review that the Commission must apply to the project is the Chapter 3 policies of the Coastal Act.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, is located between the sea and the first public road nearest the shoreline and is in conformance with the public access and public recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions. See Attachment A.

III. Special Conditions.

1. State Lands Commission Review.

PRIOR TO ISSUANCE of the coastal development permit, the applicant shall submit to the Executive Director a written determination from the State Lands Commission that:

a. No State lands are involved in the development; or

b. State lands are involved in the development and all permits required by the State Lands Commission have been obtained; or

c. State lands may be involved in the development, but pending a final determination an agreement has been made with the State Lands Commission for the project to proceed without prejudice to that determination.

IV. Findings and Declarations.

The Commission hereby finds and declares as follows:

1. Project and Site Description.

The proposed development site is at the shoreline edge of a parking lot for a visitor-serving retail establishment in the central part of Bodega Bay (Exhibits 1 and 2). The proposed outfall will serve and is immediately across Highway One from the 27.10-acre site of the future Harbor View residental subdivision that will include 70 single-fmily homes and 14 multi-family units (see Exhibit 2). The Harbor View project was approved by the County of Sonoma in December 1994 and was appealed to the Commission (A-1-SON-94-120). In February 1995, the Commission determined there was no substantial issue with respect to the grounds on which the appeal had been filed. Issues raised by the appellant (Bodega Bay Concerned Citizens) included project consistency with local coastal program policies concerning affordable housing and housing

for local employees, commercial community services, wetland fill, and traffic safety.

The proposed development is installation of a 3-foot-diameter, plastic pipe stormwater outfall to serve the future subdivision. The pipe is designed to be supported by new rock rip-rap to be placed atop existing rock rip-rap that protects the shoreline adjacent to the parking lot. Neither the parking lot nor the shoreline project site contain any environmentally sensitive habitat areas (ESHAs). Additional rip-rap would be added under and around the pipe as additional support, since the outfall site is subject to tidal and wave action. See Exhibit 3.

Stormwater runoff will flow to the outfall via storm drain pipes that collect surface runoff from curb drainage inlets along the edges of the roads (Exhibit 2) within the subdivision. These roads will be maintained by the County. On the east side of Highway 1 the pipes will converge into a single pipe that will be routed under the highway and under the parking lot to the outfall. With the exception of the actual shoreline outfall development, all other components of this storm drain system are located within Sonoma County's certified coastal permit jurisdiction.

2. Fill in Coastal Waters.

A total of approximately 535-square-feet of rock rip-rap will be place to support the proposed outfall pipe at this Bodega Harbor shoreline location. The placement of rock rip-rap is considered to be a form of fill in coastal waters, even though the new rock will be placed atop existing rip-rap fill. Section 30108.2 of the Coastal Act defines "fill" as any "substance or material ... placed in a submerged area." Since the outfall pipe itself will rest above the mean high tide line (see Elevation on Exhibit 3), it is not considered fill.

Coastal Act Section 30233(a) allows the placement of structures or other fill in coastal waters, wetlands, and estuaries, but only when the purpose of the project is for one of the eight allowable uses stated in Section 30233(a), where feasible mitigation measures have been provided to minimize adverse environmental effects, and where there is no feasible less environmentally damaging alternative. Additionally, Coastal Act Section 30231 requires that new development not adversely impact the biological productivity of coastal waters.

a. Permissible Use:

The proposed project qualifies under Section 30233(a)(5) as a permissible use for fill, for "incidental public service purposes," because the project is a necessary component of a system for carrying stormwater runoff from County-maintained roads. Section 30233(a)(5) specifically mentions pipes and outfall lines as types of development associated with incidental public service purposes.

b. Feasible Mitigation Measures:

The area to receive the fill consists of rock rip-rap. The new rock that is proposed will not extend into tidal areas not already covered by rock with no discernible vegetation present. The rock rip-rap may provide habitat for such invertebrates as barnacles and mussels. Placement of the new rock fill over the existing rock may temporarily displace this habitat, but organisms will quickly recolonize the new rock rip-rap and no measurable permanent loss of hard intertidal habitat will result. Therefore, the Commission finds that no additional mitigation is necessary for the minor displacement of bottom habitat.

However, since the purpose of the outfall is to provide a point of discharge for stormwater runoff from the future subdivision, impacts to the quality of harbor waters can be anticipated because stormwater runoff from urban development generally contains contaminants such as petroleum hydrocarbons, garden fertilizers, and suspended sediments. Coastal Act Section 30231 provides in applicable part that the biological productivity of coastal waters be maintained by minimizing adverse effects of waste water discharges and controlling runoff.

The EIR prepared for the subdivision includes information on existing drainage patterns on the vacant subdivision site, including a graphic illustration of the drainage patterns. See Exhibit 4. During storms rainfall either infiltrates into the soil or runs off the site as surface flow. According to the EIR, rainfall infiltration travels downgradient into a wetland adjacent to the east side of the highway or enters into the deeper groundwater table beneath the site. Surface runoff reaches Highway 1 at the west edge of the site, where it is collected in a roadside ditch along the subdivision site frontage. Runoff within the ditch flows into a stormdrain connected to a 12-inch diameter drain pipe under the highway (Exhibit 4). From the highway the pipe continues under the Eureka Fisheries property and then empties into Bodega Harbor on the south side of the fisheries building, where the pipe end itself is hidden beneath concrete rip-rap.

The subdivision EIR estimates that the subdivision project would result in approximately 10 acres of impervious surfaces, with about half that acreage from paved road surfaces, and the other half from coverage by residential structures. In addition to roadway runoff the project storm drain system would thus collect runoff from rooftops and driveways of homes upslope of the roads. As part of the sudivision project's site drainage improvements, the 12-inch pipe under the highway will be abandoned, capped at the east edge of the highway, and replaced by a 36-inch diameter pipe, also crossing under the highway, but emptying into the harbor through the proposed outfall, sited approximately 90 feet north of where the 12-inch pipe now discharges.

The County's approval of the subdivision project required that the applicant submit roadway improvement plans, including plans for storm drainage facilities, for approval by the County Department of Transportation and Public

Works "prior to the issuance of either grading, building, or encroachment permits." The improvement plan package that the applicant is preparing for submittal to the County for Public Works review and approval includes a catch basin filtration system, called Fossil Filter by its manufacturer, that consists of the installation of "a contaminant-absorbing trough apparatus which incorporates EPA-approved absorbents installed in (the curbside) water drainage inlets to collect hydrocarbon and other contaminants while permitting the undisturbed passage of water" (manufacturer's "Important Questions & Answers" fact sheet, attached Exhibit 5).

Although the County, when it approved the coastal permit for the subdivision project, did not review such filter apparatus as part of project plans and did not require that such apparatus (illustrated in Exhibits 6 and 7) be incorporated into the drain inlets, the applicant is now proposing the filters, in the improvement plans being prepared for the County, as a way to reduce the level of urban runoff contaminants that will enter the bay. The applicant already has submitted the filtration system proposal to the Regional Water Quality Control Board (RWQCB), which has responded by issuing a "waiver of waste discharge requirements (which) serves as notification that the project will comply with State Water Quality standards" (Benjamin D. Kor, Executive Officer, North Coast Region, California Regional Water Quality Control Board, November 26, 1996).

The drainage inlet filter system proposed by the applicant is one of the "structural Best Management Practices (BMPs)" recommended by the U.S. Environmental Protection Agency (EPA). Specifically, the EPA recommends as a an "urban runoff" BMP, the provision of a "water quality inlet (e.g., catch basin, catch basin with sand filter, oil/grit separator." A Best Management Practice, as defined in the Code of Federal Regulations (Title 40, C.F.R. Section 130.2[m]), is:

> (1) A practice or combination of practices that are determined to be the most effective and practicable means of controlling point and nonpoint pollutants at levels compatible with environmental quality goals. (2) A method, measure or practice selected by an agency to meet its nonpoint source control needs (including but not limited to) structural and nonstructural controls and operation and maintenance procedures.

As the applicant's proposal to the install the drain inlet filters has been incorporated into the plans approved by the various regulatory agencies reviewing the project (the RWQCB, Department of Fish and Game, and the Corps of Engineers), and as the filters are viewed by these agencies as useful and effective for dealing with the stormwater runoff impact, the project as proposed will provide feasible mitigation to minimize the adverse effects on water quality caused by the discharge of stormwater runoff through the outfall pipe.

c. Project Alternatives:

No feasible alternatives to the proposed project resulting in less environmental damage have been identified. The subdivision project EIR calculates that post-project runoff will be at about a 69% increase over existing runoff volumes. The very purpose of the proposed outfall project is to provide a method to control this increased discharge volume, since the existing 12-inch pipe that connects the project site to the harbor is insufficient in size to accommodate the increased volume. With no increase in pipe size, the additional runoff could be expected to flow over, and perhaps flood, Highway One during storm events, reaching the harbor shoreline as uncontrolled surface-flow, with potential shoreline erosion impacts. Enlarging the existing 12-inch pipe is not feasible, since the applicant does not own that pipe's site and does not hold any easement to use it. Furthermore, no other location along the harbor shoreline in the vicinity of the subdivision site has been identified that would be less environmentally damaging than the proposed site, approximately 90 feet north of the 12-inch pipe's location, because the proposed site is already armored with rip-rap. Placement of the necessary rip-rap will have less adverse impact here than in locations that do not already have an armored shoreline.

d. Conclusion:

In conclusion, the Commission finds that the project is an allowable use for fill of coastal waters, that there is no feasible less environmentally damaging alternative, and that adequate mitigation for the water quality impacts will be provided by the installation of storm drain filter apparatus. Therefore, the Commission finds that the proposed development is consistent with the coastal waters fill provisions of Section 30233 and the quality of coastal waters provisions of Section 30231 of the Coastal Act.

3. Public Access.

Section 30212 of the Coastal Act requires that access from the nearest public roadway to the shoreline be provided in new development projects except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or adequate access exists nearby. Section 30211 requires that development not interfere with the public's right to access gained by use or legislative authorization. In applying Section 30211 and 30212, the Commission is also limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential access.

Although the project is located between the first public road, Highway One, and the sea, it will not adversely affect public access. No public accessways exist on the site that could potentially be affected by the project. Any people who might use the area for fishing would still be able to climb over or

around the pipe. In addition, the proposed outfall and rip-rap will not change the nature or intensity of the site's use, and thus will not create any new demand for public access or otherwise create any additional burdens on public access. Therefore, the Commission finds that the proposed project does not have any adverse effect on public access that warrants requiring public access, and that the project as proposed without provision for public access is consistent with the requirements of Coastal Act Sections 30210, 30211, and 30212.

4. Visual Resources.

Section 30251 of the Coastal Act states that the scenic and visual qualities of coastal areas be considered and protected as a resource of public importance, and requires in applicable part that permitted development be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas.

The outfall project will not result in any blockage of public views to Bodega Harbor as it is below the level of the land between Highway 1 and the harbor. Also, since the proposed outfall and rip-rap will be positioned atop existing rip-rap, no part of the development will significantly protrude into harbor waters in any way that would obstruct views along the waters' edge. The project will not require any natural land form alteration, since it involves only the placement of new rip-rap and outfall pipe over existing rip-rap.

Therefore the project is consistent with Section 30251, as it is designed to protect views to and along Bodega Harbor, does not alter natural land forms, and is visually compatible with the character of surrounding areas.

5. Public Trust.

The project is subject to tidal action, and is therefore subject to State Lands Commission considerations. To ensure that the applicant has all the necessary property rights to carry out the project and to comply with the terms and conditions of this permit, the Commission attaches Special Condition No. 1 which requires that the applicants submit a final written determination from the State Lands Commission as to whether a permit from that Commission is needed.

6. California Environmental Quality Act (CEQA).

Section 13096 of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(i) of CEQA prohibits a proposed development from being approved if there are feasible alternatives

or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. As discussed above, the project has been designed to minimize pollution of the waters of Bodega Harbor. The project, therefore, will not have a significant adverse effect on the environment within the meaning of CEQA.

EXHIBITS:

1. Regional Location Map
2. Site Location Map
3. Plan and Elevation
4. Drainage Patterns
5. Filter Fact Sheet
6. Filter Installation Graphic
7. Drain Inlet Graphic

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ATTACHMENT A

Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

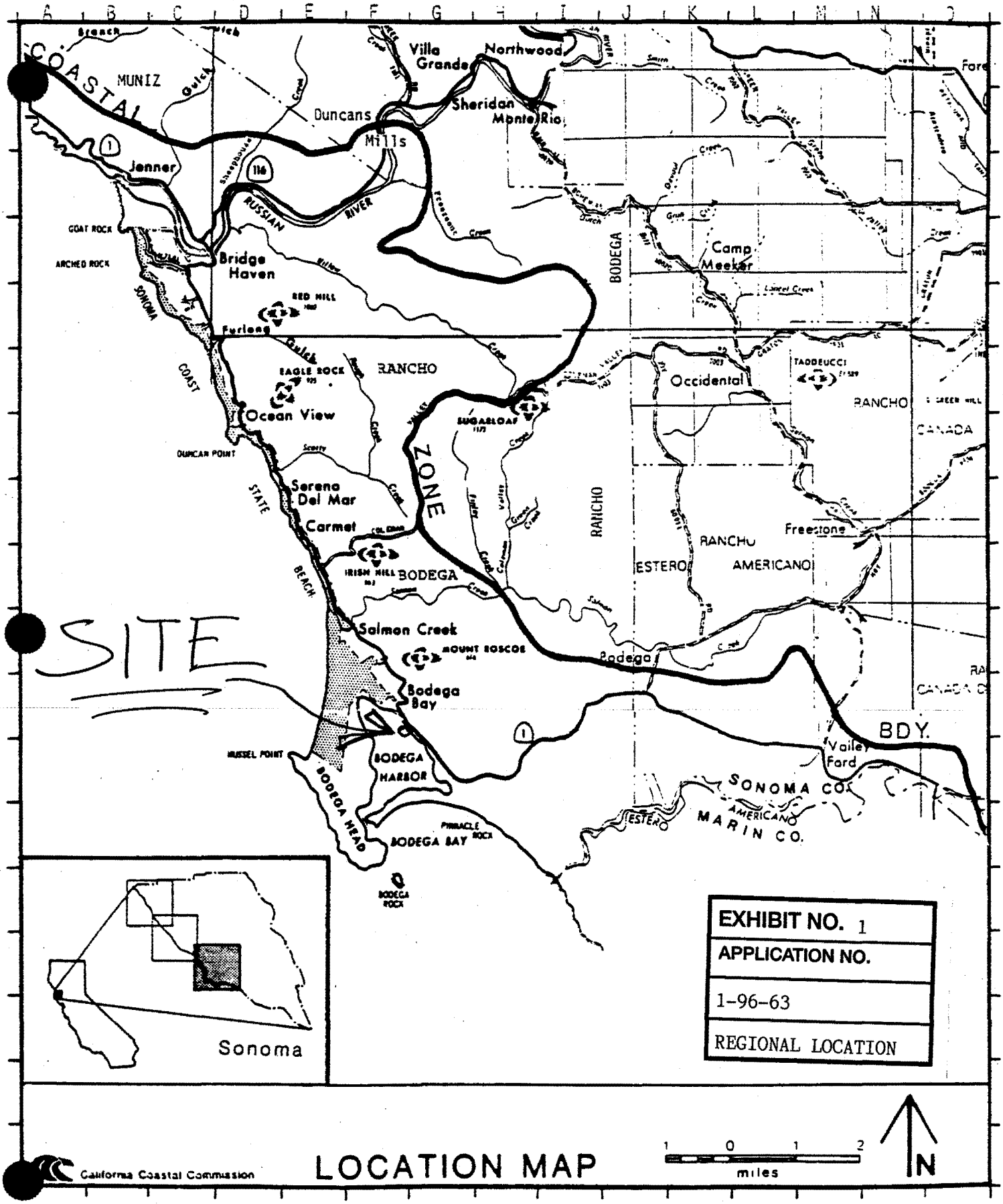
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.



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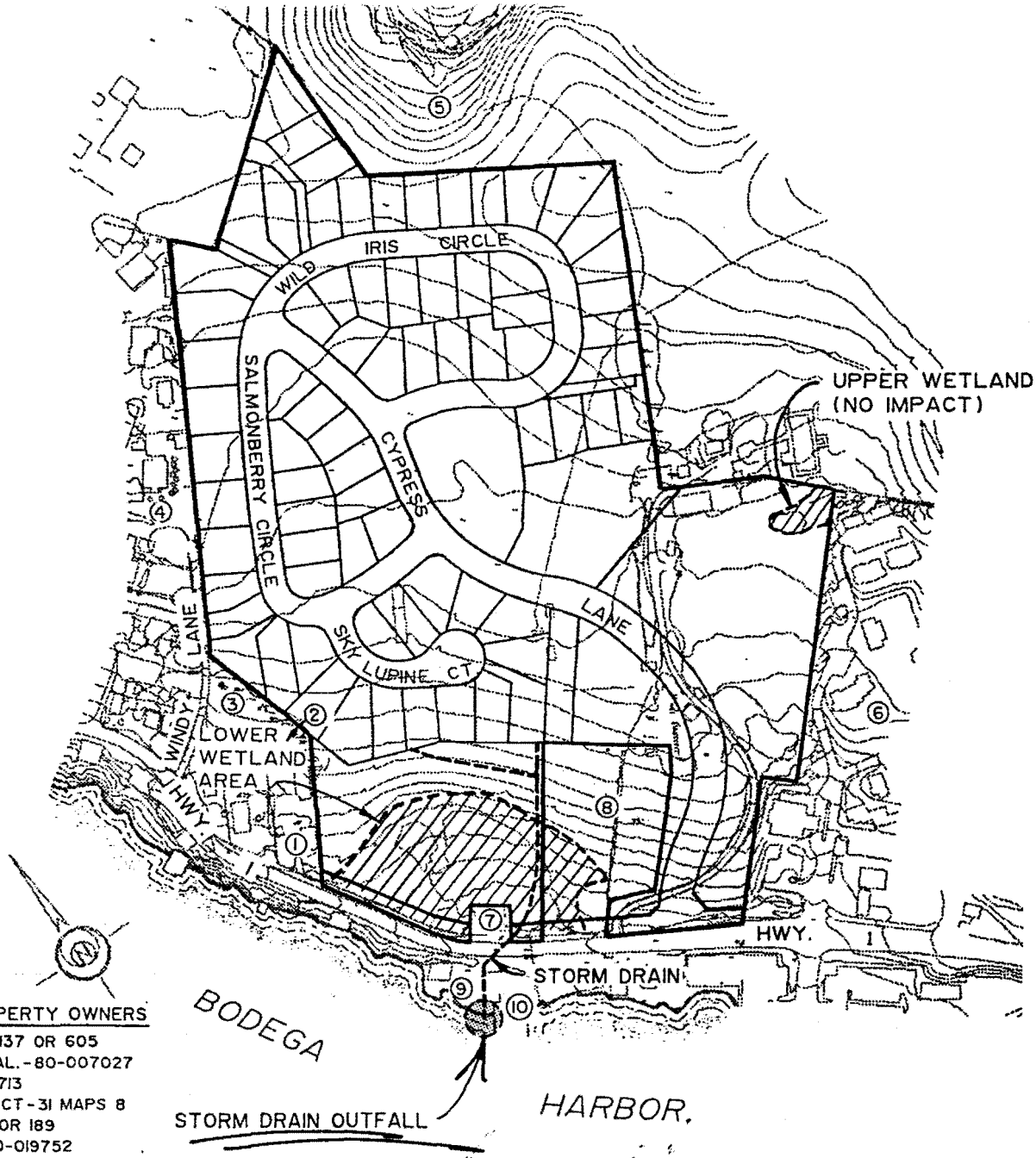
Sheet 3 of 3

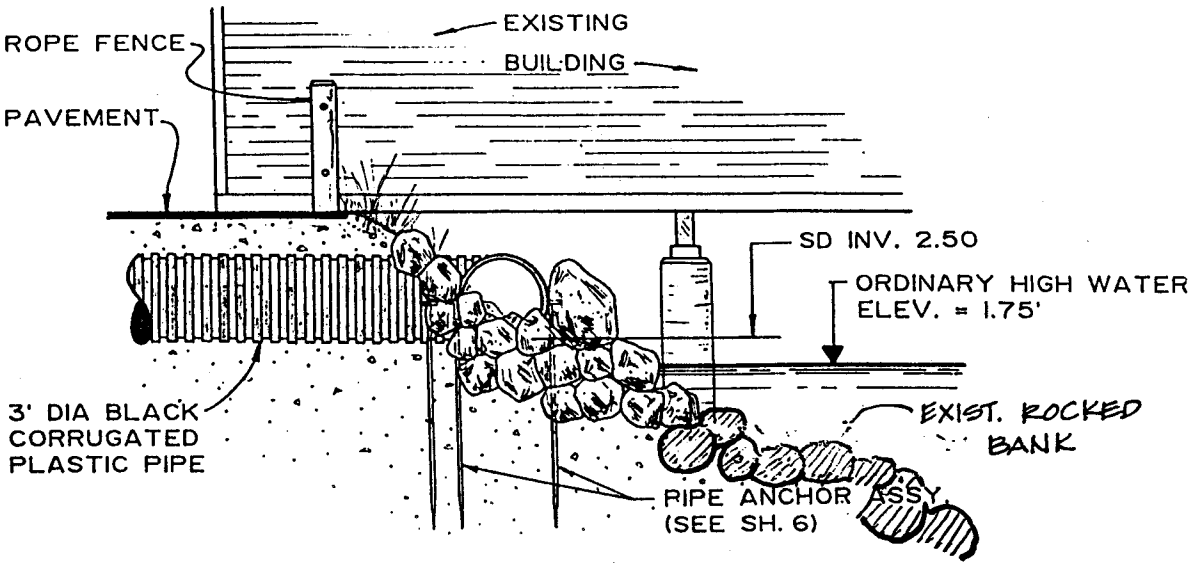


ADJACENT PROPERTY OWNERS

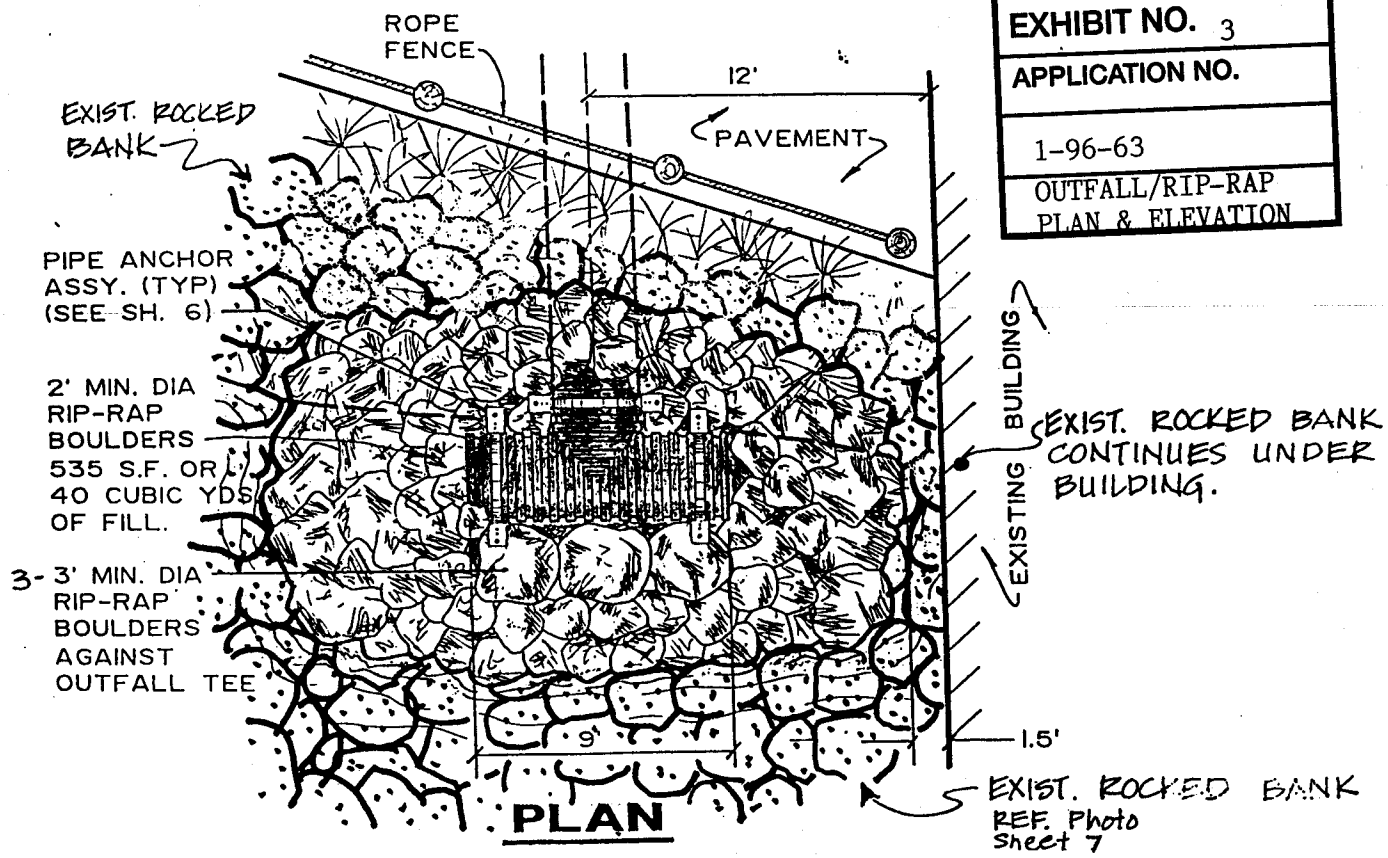
1. SHLESSER-3137 OR 605
2. BOYAN, ET. AL.-80-007027
3. WOOD-D030713
4. TAYLOR TRACT-31 MAPS 8
5. LAND-3558 OR 189
6. BUGATTO-80-019752
7. BODEGA BAY P.U.D.-3020 OR 832
8. BODEGA BAY PROPERTIES-3653 OR 768
9. WRIGHT-84-0066933
10. EUREKA FISHERIES, INC.-90-0074004

TITLE: OVERALL SITE MAP		PROPOSED HARBOR VIEW SUBDIVISION REQUEST FOR NATIONWIDE 7 PERMIT
PURPOSE: TO PROVIDE GUIDELINES FOR INSTALLATION OF RESIDENTIAL STORM DRAIN OUTFALL INTO BODEGA HARBOR.	SCALE: 1" = 300' 0 150 300 600 REDWOOD DEVELOPMENT PETER BOECK 2235 CHALLENGER WAY SANTA ROSA, CA. 95407	IN: BODEGA BAY AT: HWY 1 NEAR WINDY LANE COUNTY OF: SONOMA STATE: CALIF. APPLICATION BY: REDWOOD DEVELOPMENT SHEET: 3 OF 8 DATE: 9-25-96

EXHIBIT NO. 2
APPLICATION NO.
1-96-63
SITE LOCATION



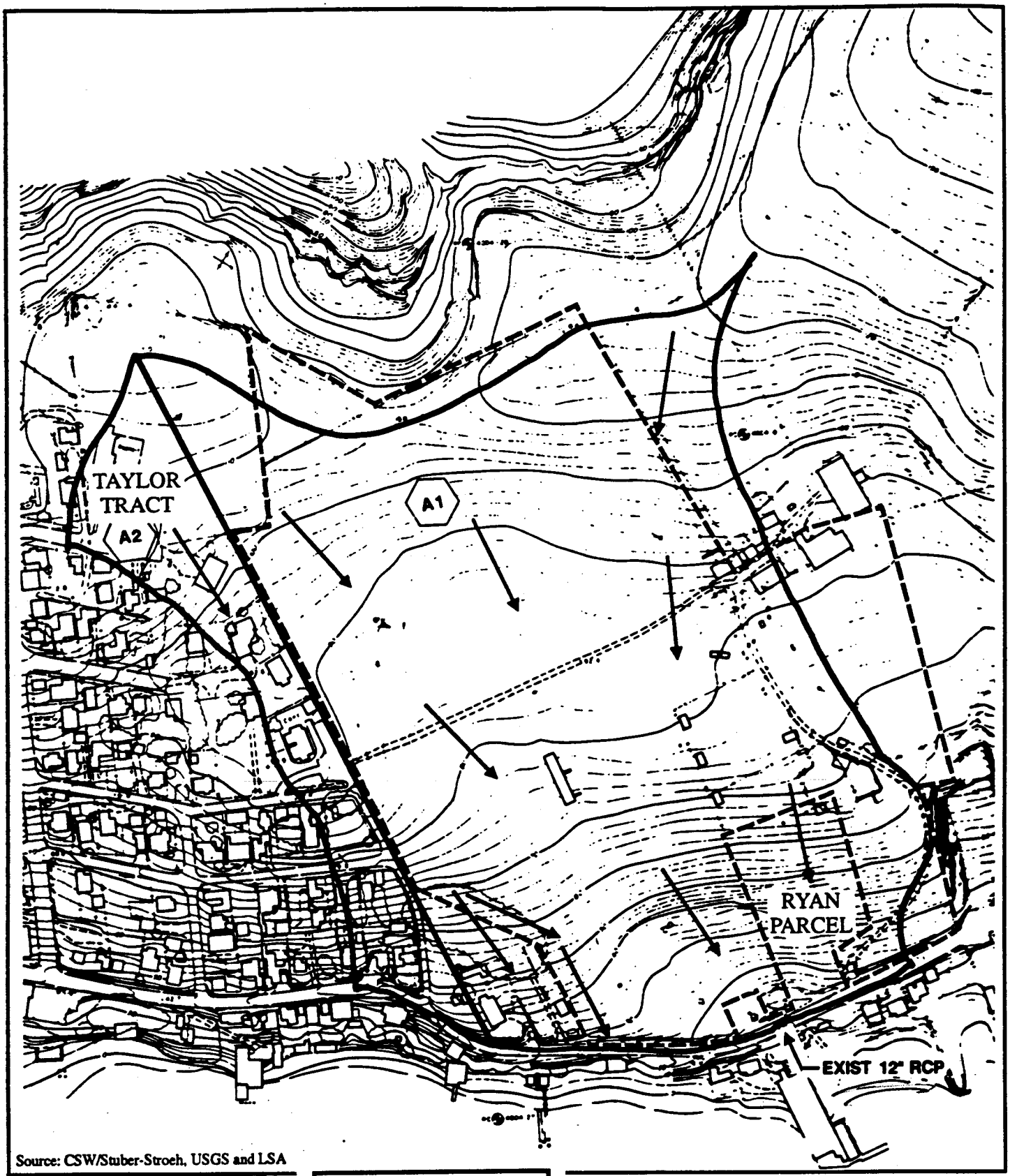
ELEVATION



PLAN

EXHIBIT NO. 3
APPLICATION NO.
1-96-63
OUTFALL/RIP-RAP PLAN & ELEVATION

TITLE: OUTFALL INSTALLATION DETAIL		PROPOSED HARBOR VIEW SUBDIVISION REQUEST FOR NATIONWIDE 7 PERMIT
PURPOSE: TO PROVIDE GUIDELINES FOR INSTALLATION OF RESIDENTIAL STORM DRAIN OUTFALL INTO BODEGA HARBOR.	NOT TO SCALE REDWOOD DEVELOPMENT PETER BOECK 2235 CHALLENGER WAY SANTA ROSA, CA. 95407	IN: BODEGA BAY AT: HWY 1 NEAR WINDY LANE COUNTY OF: SONOMA STATE: CALIF. APPLICATION BY: REDWOOD DEVELOPMENT SHEET: 5 OF 8 DATE: 9-25-96 10.31-96



Source: CSW/Stuber-Stroeh, USGS and LSA

02-15-94(SOC303)

Figure 12

EXHIBIT NO. 4
APPLICATION NO.
1-96-63
DRAINAGE PATTERNS

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LSA

Scale in feet
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Existing Site Drainage Patterns

EXHIBIT NO. 5
APPLICATION NO. 1-96-63
FILTER FACT SHEET
(1 of 3)

IMPORTANT QUESTIONS & ANSWERS

1) WHAT IS FOSSIL FILTER™?

Fossil Filter™ (patent pending) is a contaminant-absorbing trough apparatus which incorporates EPA-approved absorbents installed in water drainage inlets to collect hydrocarbons and other contaminants while permitting the undisturbed passage of water. Fossil Filter™ is a product owned by KriStar Enterprises, Inc. of Santa Rosa, California. Fossil Filter™ became available for purchase on June 1, 1995.

2) HOW DOES FOSSIL FILTER™ WORK?

Fossil Filter™ functions as a water purifying system at the point of entry on urban storm drain systems. As the water enters the installed drainage inlet, it falls into the Fossil Filter™ and flows through a replaceable filter cartridge which removes 98% of the petroleum-based contaminants.

3) WHAT MATERIAL IS THE FOSSIL FILTER™ MADE OF?

The Fossil Filter™ component parts for the square or rectangular drainage inlets are made of galvanized steel. The round Fossil Filter™ is made of fiberglass.

4) WILL THE USE OF FOSSIL FILTER™ SATISFY THE MANDATES OF THE STATE WATER RESOURCES CONTROL BOARD REGARDING URBAN WATER RUNOFF?

Based on federal EPA criteria, Fossil Filter™ offers the "Best Available Technology" that is also "economically feasible". The installed absorbent material meets or exceeds environmental compliance laws.

5) HOW IS FOSSIL FILTER™ INSTALLED IN A TYPICAL PARKING LOT FOUR-SIDED DROP INLET? CURB INLET?

With a drop inlet, four corner sections are cut to appropriate length and connected together to form a square or rectangle to fit inside dimension of inlet. The completed apparatus is installed by either using lag bolts or hanging on grate bearing surface. The filter cartridges (4) are then cut to length, one end cap is installed, loose absorbent material is poured into each one and the second cap is installed.

With a curb inlet that does not have a gutter grate, rails are cut the length of the curb opening and rail section end caps are installed on both ends. The filter cartridge process is as above. The completed apparatus is then installed just below the street level across the curb opening using concrete anchors. In areas of heavy debris and silt, see #9 below.

6) HOW LONG DOES IT TAKE TO INITIALLY INSTALL A FOSSIL FILTER™ IN A FOUR-SIDED PARKING LOT DROP INLET? IN A CURB INLET?

In most cases, using an experienced installer, the typical drop inlet will require no more than one hour. The curb inlet, when installing a dual stage filter, will take approximately 45 minutes.

7) WHEN IN PLACE IN THE INLET, WILL THE FOSSIL FILTER™ INHIBIT THE FLOW OF WATER RUNOFF?

The Fossil Filter™ is designed to filter storm drain runoff during initial and low flows, when the bulk of the contaminants enter the inlet. The size of the filter media particulates and low volume installed in the cartridge allow the particulates to recirculate and the water to flow smoothly through the filter (see Proper Fill Height Detail and Filtration Process Detail drawings). In addition, the Fossil Filter™ is designed to prevent backup in times of heavy flows which exceed its capacity by allowing the excess water to flow over the top of the filter rail into the open area and then on into the drainage system.

8) HAS THE FOSSIL FILTER™ BEEN SUBJECTED TO HYDROLOGICAL TESTING?

Late May 1995 tests by Sandine Engineering Associates of Santa Rosa, California, showed that the Fossil Filter™ installed in a typical curb inlet did not impede maximum design flow of inlets and effectively filtered up to 80 GPM. The Fossil Filter installed in a flat grated drain inlet did not impede maximum design flow of inlets and effectively filtered up to 65 GPM.

9) WHAT IS THE ABSORBENT ? IS IT HAZARDOUS?

Fossil Rock™ absorbent material is a natural material known as "Amorphous Alumina Silicate", an inert blend of minerals that contains no hazardous ingredients as defined by the Federal EPA, OSHA (Occupational Health & Safety Association) and WHO (World Health Organization). It does not, under OSHA standards, qualify as a carcinogen or as a substance causing Silicosis, a lung disease. However, if product is used and replaced in a confined area, or if the person replacing the filter material is allergic to dust, we recommend using a paper mask to avoid coughing from inhalation of fine particles.

Fossil Rock™ absorbent material contains no reactive chemicals, is non-carcinogenic, non-biodegradable and non-leaching. It is described as "non-toxic, non-flammable and environmentally safe and friendly. It is also non-injurious to asphalt, cement, carpet, tile, soil, or plant life" (see Material Safety Data Sheet).

10) HAS THE FOSSIL ROCK™ ABSORBENT MATERIAL BEEN TESTED FOR EFFICIENCY?

The useful life of the filter cartridge is based on the quantity of contaminants it collects. Fossil Rock™ absorbent material will absorb approximately 1.92 gallons of liquid contaminant per cubic foot of absorbent (A typical 24"x24" size filter containing .56 ft.^{3} of Fossil Rock™ would absorb approximately 1.08 gallons of liquid contaminants).

TCLP (Toxicity Characteristic Leaching Procedure) testing performed on the Fossil Rock™ in November 1995 show that the absorbent will remove as much as 98% of the petroleum-based contaminants from water runoff (see TCLP Testing Sheet).

11) HOW OFTEN DOES THE FOSSIL ROCK™ NEED TO BE REPLACED?

It is estimated that, under normal usage, the useful life of a filter cartridge is about six months. Heavily trafficked streets or parking lots may require more frequent changes. Periodic visual inspections should be conducted. It is recommended that each installation be checked prior to the rainy season or during routine maintenance operations.

(Question 11, continued)
The recommended service intervals vary from site to site depending on expected debris, silt and contaminant loading. We recommend a minimum of two annual visual inspections and debris removal, and a minimum of one annual change of the filter media.

12) WILL THE FOSSIL FILTER™ WORK IN AREAS OF HEAVY DEBRIS OR SILT?

Yes, however in such areas, use of a dual stage filter is recommended. The first (upper) stage filter catches the silt and debris during its filtering life. If it becomes clogged due to silt, the water will flow into the second (lower) stage and be filtered (see Typical Curb Inlet drawing). If product is properly maintained according to BMP and KriStar Enterprises recommendations, including regular sweeping and periodic visual inspections, the Fossil Filter™ will continue to filter effectively.

13) ARE THERE ANY KNOWN "ACCEPTED" PRODUCTS CURRENTLY ON THE MARKET THAT FUNCTION AS EFFICIENTLY?

Up until the creation of Fossil Filter™, the best available technology was oil/water separators. Compared to the Fossil Filter™, they are less efficient and more expensive to install and maintain.

14) COMPARE INSTALLATION COSTS FOR OIL/WATER SEPARATORS TO INSTALLATION COSTS OF THE FOSSIL FILTER™.

Based on a typical parking lot size of 10,000 square feet with four inlets, the installed cost of a 1,500 gallon precast concrete oil/water separator would be approximately $10,000 to $15,000 with required system modifications. For the same parking lot, estimated total cost of Fossil Filter™ installation (one in each of the four inlets) would be $2,000.

15) WHAT IS THE COST PER INSTALLATION OF FOSSIL ROCK™ ABSORBENT MATERIAL?

The estimated cost per 24" x 24" drop inlet (approximately .56 cubic feet of Fossil Rock™) would be well under $20.00. One 10-lb. bag (1.3 cubic feet) of Fossil Rock™ absorbent material costs approximately $23.00

16) ONCE REMOVED FROM THE FOSSIL FILTER™, IS THE ABSORBENT CONSIDERED HAZARDOUS MATERIAL?

Once the filter material absorbs contaminants, its technical classification is "Used Oil Absorbent Material" with disposal regulations similar to those for oily rags. However, the Fossil Rock™ absorbent material has been proven to be a non-leaching, environmentally friendly substance. Classification and disposal regulations may vary by state.

17) HOW IS THE USED FOSSIL ROCK™ DISPOSED OF?

Fossil Rock™ is designed to absorb petroleum-based pollutants. Because it has been proven to be a non-leaching product, the used absorbent material may be taken to a local landfill. However, disposal regulations vary by area. Therefore, we recommend that Fossil Filter™ maintenance companies contact their local regulatory agency prior to disposal to ensure compliance with local and state environmental legislation.

FOSSIL FILTER™

PATENT PENDING

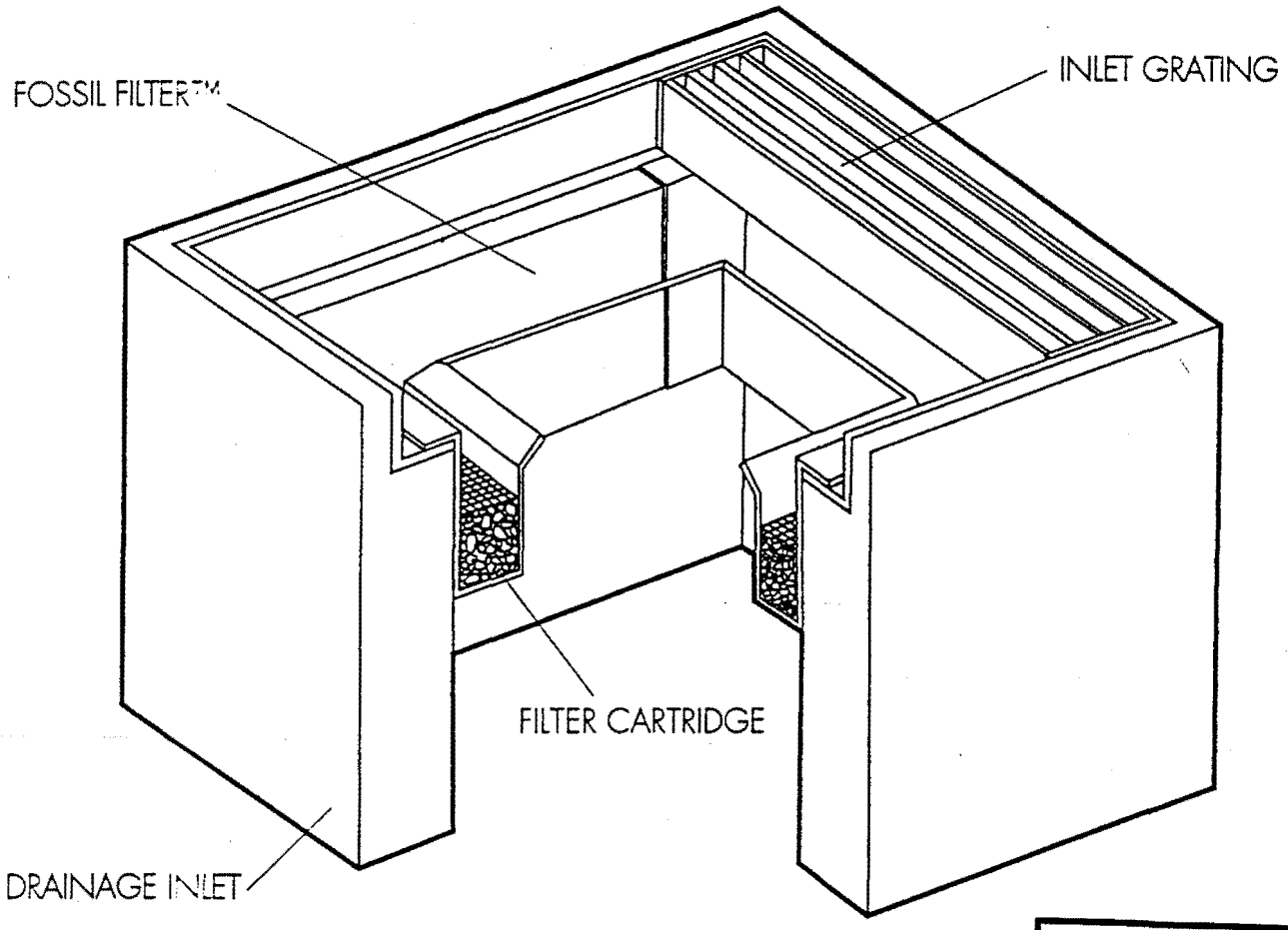

EXHIBIT NO. 6
APPLICATION NO.
1-96-63
FILTER INSTALLATION

INSTALLATION NOTES:

1. Remove inlet grating and measure inside dimension of inlet.
2. Cut FOSSIL FILTER corner sections to appropriate length.
3. Connect corner sections together and set FOSSIL FILTER into inlet (resting on grate bearing surface).
4. Cut the filter cartridge to fit FOSSIL FILTER.
5. Place end cap on one end of filter cartridge and fill unit from open end with absorbent.
6. Place other end cap on filter cartridge and place filled unit into the installed FOSSIL FILTER. Installation is complete.

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FOSSIL FILTER™

COMBINATION
CURB/GUTTER GRATE INLET

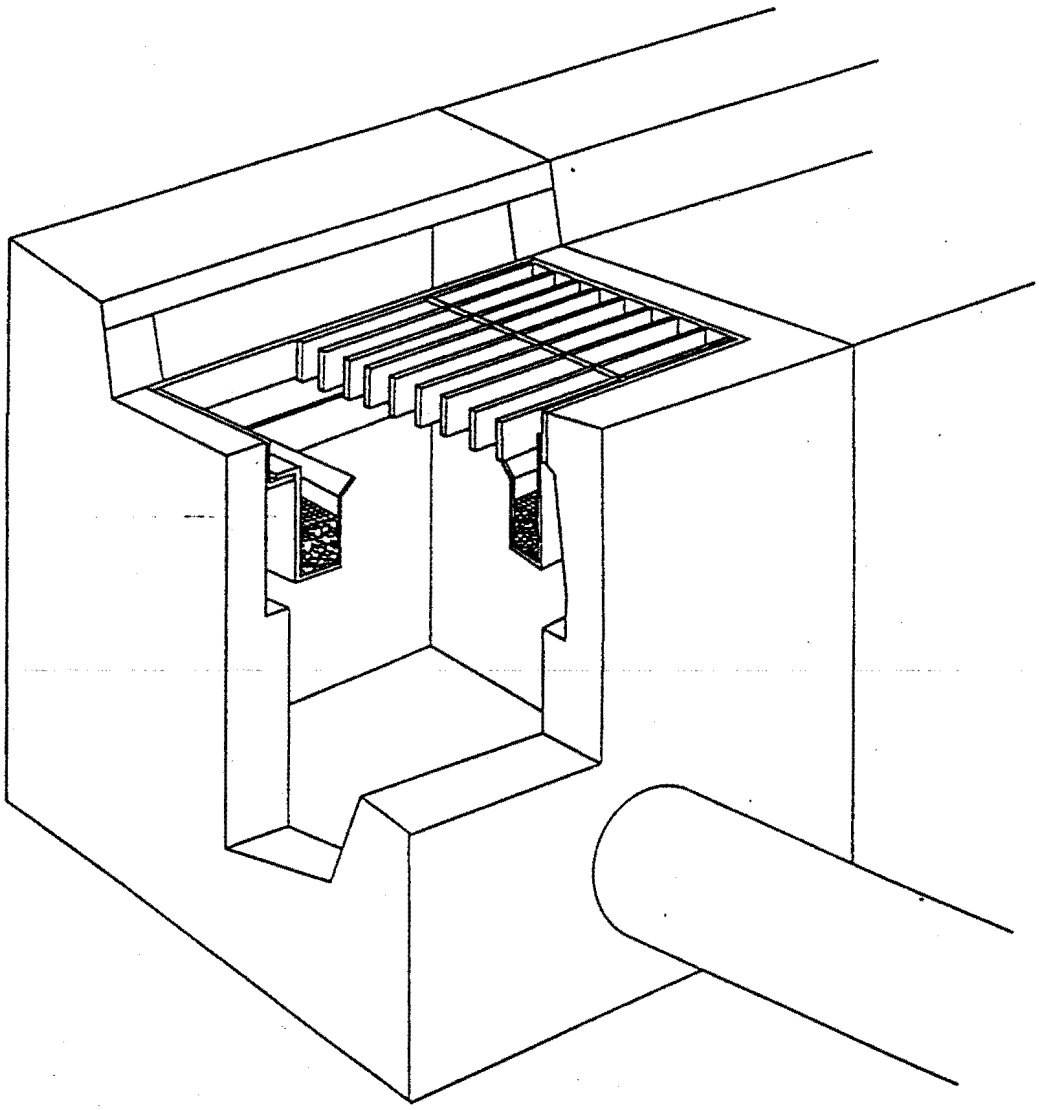

EXHIBIT NO. 7
APPLICATION NO.
1-96-63
DRAIN SHEET