

LINDA CROCKETT LINGLE
Mayor



BRIAN MISKAE
Planning Director
GUY A. HAYWOOD
Deputy Planning Director

**COUNTY OF MAUI
PLANNING DEPARTMENT**

260 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

'91 OCT -4 A11 49

September 26, 1991

Office of Environmental
QUALITY CONTROL

Dr. Brian Choy, Director
Office of Environmental Quality Control
220 South King Street
Fourth Floor
Honolulu, Hawaii 96813

Dear Dr. Choy:

RE: Environmental Assessment for the proposed
construction of a shoreline revetment within the
shoreline setback area in Sprecklesville, Maui,
Hawaii TMK 3-8-2:94 & 65
91/EA-008

At its September 24, 1991 meeting the Maui Planning
Commission reviewed the above request and determined that
the project will not have any significant impact on the
environment and that an environmental impact statement is
not required. Further, the attached Department's Report
was adopted as the Negative Declaration.

If additional clarification is required, please contact
Mr. Rory Frampton of my office.

Very truly yours,

A handwritten signature in dark ink, appearing to read "B. Miskae".

BRIAN MISKAE
Planning Director

encl.

cc: James Riley
Peter Martin
Colleen Suyama
Rory Frampton

1991-10-23-MA-PBA

*Riley & Martin Constructors of a
Shoreline Revetment*

FILE COPY

BEFORE THE MAUI PLANNING COMMISSION
COUNTY OF MAUI
STATE OF HAWAII

RECEIVED

'91 OCT -4 AM 1:50

In the matter of the request of)
Mr. JAMES RILEY and)
Mr. PETER MARTIN)
requesting an Environmental)
Assessment for the proposed)
construction for a shoreline)
revetment within the shoreline)
setback area in Spreckelsville,)
Island of Maui TMK 3-8-2:94 & 65)

OFC. OF BUSINESS &
QUALITY

Docket No. 91/EA-008

Mr. JAMES RILEY
Mr. PETER MARTIN

MAUI PLANNING DEPARTMENT'S REPORT

For the Maui Planning Commission Meeting on
September 24, 1991

Department of Planning
County of Maui
250 S. High Street
Wailuku, HI 96793

Environmental Assessment

BEFORE THE MAUI PLANNING COMMISSION
COUNTY OF MAUI
STATE OF HAWAII

In the matter of the request of)	
)	
Mr. JAMES RILEY and)	Docket No. 91/EA-008
Mr. PETER MARTIN)	
)	
requesting an Environmental)	Mr. JAMES RILEY
Assessment for the proposed)	Mr. PETER MARTIN
construction for a shoreline)	
revetment within the shoreline)	
setback area in Spreckelsville,)	
Island of Maui TMK 3-8-2:94 & 65)	
)	

MAUI PLANNING DEPARTMENT'S REPORT

For the Maui Planning Commission Meeting on
September 24, 1991

THE APPLICATION

This matter arises from an application for an Environmental Assessment Determination filed on June 5, 1991, pursuant to Chapter 343, Hawaii Revised Statutes, as amended, by Mr. James Riley and Mr. Peter Martin for the proposed construction of a shoreline revetment within the shoreline setback area in Spreckelsville, Island of Maui TMK 3-8-2:94 & 65.

PURPOSE OF THE APPLICATION

The applicants are requesting an Environmental Assessment Determination to construct a shoreline revetment within the shoreline setback area in order to prevent further erosion of their property. Proposed actions within the shoreline setback area require environmental impact review pursuant to Chapter 343, Hawaii Revised Statutes. The applicants have also requested a Shoreline Area Variance and Special Management Area Permit. These matters will be scheduled before the Maui Planning Commission after the Commission makes a determination on the subject request.

APPLICABLE REGULATIONS

Standards for reviewing an Environmental Assessment are found in the Hawaii Administrative Rules, Title 11, Department of Health, Chapter 200 Environmental Impact Statement Rules, Subchapter 6, Determination of Significance, §11-200-12 Significance Criteria.

GENERAL DESCRIPTION OF THE AFFECTED ENVIRONMENT

Project location and surrounding area. The Riley/Martin property is located in the Spreckelsville area, about 2,000 feet west of Papaula point and about 4 miles east of Kahului Harbor. The Riley/Martin parcel is identified as TMK 3-8-2:94 and to the west the adjacent property is owned by Mr. Jim Haines and is identified as TMK 3-8-2:65. (Exhibit 1)

The Riley/Martin property extends approximately 140 feet along the shoreline and is fronted by a sandy beach. The beach continues to the west for approximately 1,400 feet to Kanaha Beach Park. Along the western beach, several small groins have been constructed to encourage sand retention and a few vertical seawalls have been constructed, including one on the adjacent property owned by Mr. Haines. The beach extends eastward approximately 2,000 feet to Papaula Point.

In front of the property, the remnants of an old seawall extend along the eastern half of the shoreline some distance into the tidal zone. The alignment of the foundation coincides with the existing concrete wall on the Haines property to the west. It appears as though the seawall at one time extended about 600 feet further east. It is apparent the beach extended as a continuous shoreline extending about 40 feet beyond the present limit before the seawall was breached.

The 0.65 acre Riley/Martin property includes 2 buildings and surrounding landscaped areas. (Exhibit 2) Access to the property is from Spreckelsville Beach Road via a road easement parallel to the eastern property line.

Shoreline area. The present crest of the shoreline is about 35 feet from the western building and within 40 feet of the eastern building. Based on a prior shoreline survey, there has been approximately 7 to 16 feet of erosion since 1984. This is in addition to the 30 feet of shoreline retreat represented by the position of the foundation remnants of the old seawall.

As indicated in the cross sections in Exhibit 3, the shoreline consists of an abrupt 4- to 5-foot eroded scarp between the top of the beach and the backshore. The scarp has encroached into a hedge, and is locally stabilized into two projections by existing trees, the roots of which are being rapidly undercut. The upper

beach averages a slope of 10 to 12 degrees, flattening towards the west to about 3 degrees.

Coastal processes. The beach fronting the site is subject to seasonal changes in dimension due to the longshore transport of sand. The sand comes and goes on a cyclical basis, but gradually has been lost over the past years. According to a coastal survey conducted by the Office of State Planning, the erosion problem has been more pronounced to the east of the property towards Papaula Point. To the west a series of groins appear to have led to accretion in some areas.

Subsurface conditions. Test pits were excavated in order to determine subsurface conditions. The excavations revealed a relatively uniform layer of brown clean sand in a loose to medium dense consistency. Above the scarp, the sand is overlain by sod and about 6 inches of organic topsoil.

Archaeology. The Department of Land and Natural Resources' Division of Historic Preservation believes that significant historic sites are not present along the shoreline of this property. This is based on negative results of extensive archaeological subsurface testing conducted to the west of the parcel at the proposed Kanaha Beach Park expansion and airport transient apron. Also, their review of the engineering report indicates that the sand deposit in this area is probably the result of recent accretion.

DESCRIPTION OF THE PROPOSED ACTION

The proposed action involves the construction of a rock revetment along the beach scarp. The location and exterior slopes of the revetment have been designed to be placed below the normal profile of the foreshore and backshore to the degree possible. The outer slope of the revetment has been designed to minimize disruption of existing wave runup and longshore drift patterns while minimizing the impact on useable land. The proposed cross section is shown in Exhibit 4.

A design wave height of five feet has been used to calculate both the required weight of rock to be used in the revetment as well as the anticipated depth of scour under design conditions.

To achieve the required design configuration, it would be necessary to excavate to elevation -3.0 feet MSL for the toe of the revetment. The heel of the revetment, based on a 5:1 slope, would be at Elevation 0 feet MSL. The face of the revetment would be a steeper slope (1.5:1) that would provide runup control and energy dissipation.

The rock sizes to be used in the revetment have been calculated based on the exterior slope of the revetment and the design wave. One zone of rock is planned. Rock thickness will range between 24 and 54 inches and weigh an average of 3100 lbs.

A filter fabric would be placed on the base of the excavation prior to placing any rock. The purpose of the filter fabric is to prevent loss of foundation support by migration of underlying beach sediments into the rockfill.

The crest of the revetment would be constructed to Elevation +9 feet MSL. A 2-foot high cap wall is planned, the mauka side of the cap would be backfilled to original site grade for landscaping.

At the western end of the revetment, it is proposed that the revetment be tied into the existing shoreline protection feature on the Haines property. A 20-foot southward return is provided at the east end of the revetment to key into the backshore. The total length of the revetment would be approximately 200-feet, including the return and tie-in at the ends of the revetment. (Exhibit 5)

AGENCIES REVIEW

The following agencies have been have reviewed the subject application:

- Department of Land and Natural Resources (Exhibit 6)
- Department of Public Works (Exhibit 7)
- U.S. Army Corps of Engineers (Exhibit 8)
- University of Hawaii Environmental Center (Exhibit 9)

IDENTIFICATION AND SUMMARY OF MAJOR IMPACTS, ALTERNATIVES AND MITIGATION MEASURES

Coastal processes. Potential negative impacts from shoreline protection structures include the acceleration of erosion at the toe or flanks of the structure or on adjacent properties due to wave energy deflection. This is especially true for vertical faced structures such as seawalls and bulkheads which allow for little wave energy dissipation. Vertical structures also are more easily overtopped by waves and spray. Thus, a vertical faced structure is a sub-optimal alternative for shoreline protection.

The outer slope of the proposed revetment has been designed to minimize disruption of existing wave runup and longshore drift patterns. Because it would be a covering layer to the existing beach scarp and generally would be above the level of natural coastal processes, the revetment would not significantly interfere with natural processes. In addition, the proposed revetment would mostly lie below the normal beach level, thus, having no affect on

natural processes. Even during periods of extreme erosion, a revetment of this design would not unduly impede the longshore transport of sand past the revetment.

Other alternatives for erosion prevention involve work on the foreshore and include breakwaters, jetties, groins, and artificial construction and maintenance of sand beaches. A series of jetties and groins to the west of the parcel were constructed prior to the 1950s. These groins have led to accretion of sand especially on the updrift sides. Jetties in the Kanaha Park area, while leading to major accretion in the updrift areas, have led to significant erosion on the downdrift sides. Potential for major environmental impacts to nearshore ecosystems make jetties and groins a less attractive alternative. Furthermore, constructing jetties and groins on State controlled submerged lands for protection of private property involves a very difficult permitting and approval process. Consequently, this method does not appear practical for a small private property owner.

Off-shore mining of sand deposits and replacement in eroded beach areas has been found to be an environmentally acceptable method of preventing shoreline retreat. These procedures, however, are limited by availability of acceptable sources of sand and the economic feasibility of undertaking beach maintenance in perpetuity. It does not appear that this method is practical for the private homeowner.

Neighboring properties. Wave action beyond the ends of a revetment could continue to erode the beach scarp on adjacent properties, if these were not similarly protected. At this site the revetment would be extended to abut against the existing wall on the Haines parcel to the west. Regression of the beach scarp has already occurred on the east side of the property. Wave erosion on the adjacent properties is largely restricted to attack of the beach scarp. In order to minimize the potential for flank erosion and to tie in to the backshore, a 20-foot southward return is provided at the east end of the revetment.

Shoreline access. Except during severe erosion periods, the revetment would be covered with beach deposits, thus, there would be no impedance of lateral shoreline access. Public access to the shoreline is currently provided to the west of the property in the Stables Beach area. There is an existing 10-foot private shoreline access to the shoreline adjacent property's eastern boundary. The access is partially owned by the applicants. This access is commonly used by fisherman and surfers. The proposed action would not impede usage of this access.

Construction impacts. Minor siltation of inshore waters could result during construction of the revetment. Because nearly all the material to be excavated consists of relatively clean sand, this problem should be minor. In addition siltation would

represent a short-term event, occurring during construction and for a short period thereafter. Prevailing nearshore currents would rapidly dilute and disperse any silt plumes. Furthermore the water quality disturbance would be minor in comparison to the present episodes of severe backshore erosion.

SIGNIFICANCE CRITERIA

Pursuant to the Chapter 200 of the Department of Health Rules and Regulations, the following criteria have been established in order to determine where an action will have a significant affect on the environment. In most instances an action shall be determined to have a significant affect on the environment if it:

- (1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource.

The proposed revetment has been designed to protect private property from the effects of shoreline erosion while having minimal adverse impacts to natural coastal processes. The selected alternative should result in little, if any, loss of public beach area.

According to the Division of Historic preservation there would be no loss of historic resources if the action were to occur.

- (2) Curtails the range of beneficial uses of the environment.

The proposed action would not significantly impede access to and along the shoreline and, thus, would not curtail public use of this area.

- (3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes.

The action would not conflict with Chapter 344, HRS.

- (4) Substantially affects the economic or social welfare of the community or state.

The action is limited in scope and would have negligible social or economic affects to the community or state.

- (5) Substantially affects public health.

Construction activities would generate some air, noise and water pollution. These impacts would occur only over the short term and would be negligible compared to existing background levels. Thus, the project would not have any substantial affect on public health.

(6) Involves substantial secondary impacts, such as population changes or effects on public facilities.

Due to the limited and confined scope of the project, it would not result in substantial secondary impacts.

(7) Involves a substantial degradation of environmental quality.

The action could result in minor degradation of nearshore waters as a result of disturbance of topsoil during the construction phase. Prevailing nearshore currents should rapidly dilute and disperse silt plumes. Furthermore, the water quality disturbance would be minor in comparison to the present episodes of severe backshore erosion.

(8) Is individually limited but cumulatively has considerable effect upon the environment or involves commitment for larger action.

Shoreline protection structures have the potential to exacerbate erosion on adjacent properties, leading the neighboring property owner no choice but to construct a similar structure. At this site, the revetment would be extended westward to abut against the existing seawall. On the east side, regression of the beach scarp has already occurred and the proposed revetment should not aggravate the existing conditions. Thus, a decision by the neighboring property owner to construct a shoreline protection structure would likely be the result of erosive actions which have already occurred.

(9) Substantially affects a rare, threatened or endangered species, or its habitat.

There are no known rare, threatened or endangered species or habitat within the project area.

(10) Detrimentially affects air or water quality or ambient noise levels.

As discussed, construction activities would result in short term nuisance to adjacent property owners and beach goers. Because construction is estimated to last only 2 weeks, the impacts are considered minimal.

(11) Affects an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

Other than having minimal affects on coastal water quality, the action would not substantially affect an environmentally sensitive area.

RECOMMENDATION


The Planning Department hereby recommends that the following conclusions of law and determination be adopted by the Maui Planning Commission.

Conclusion of law.

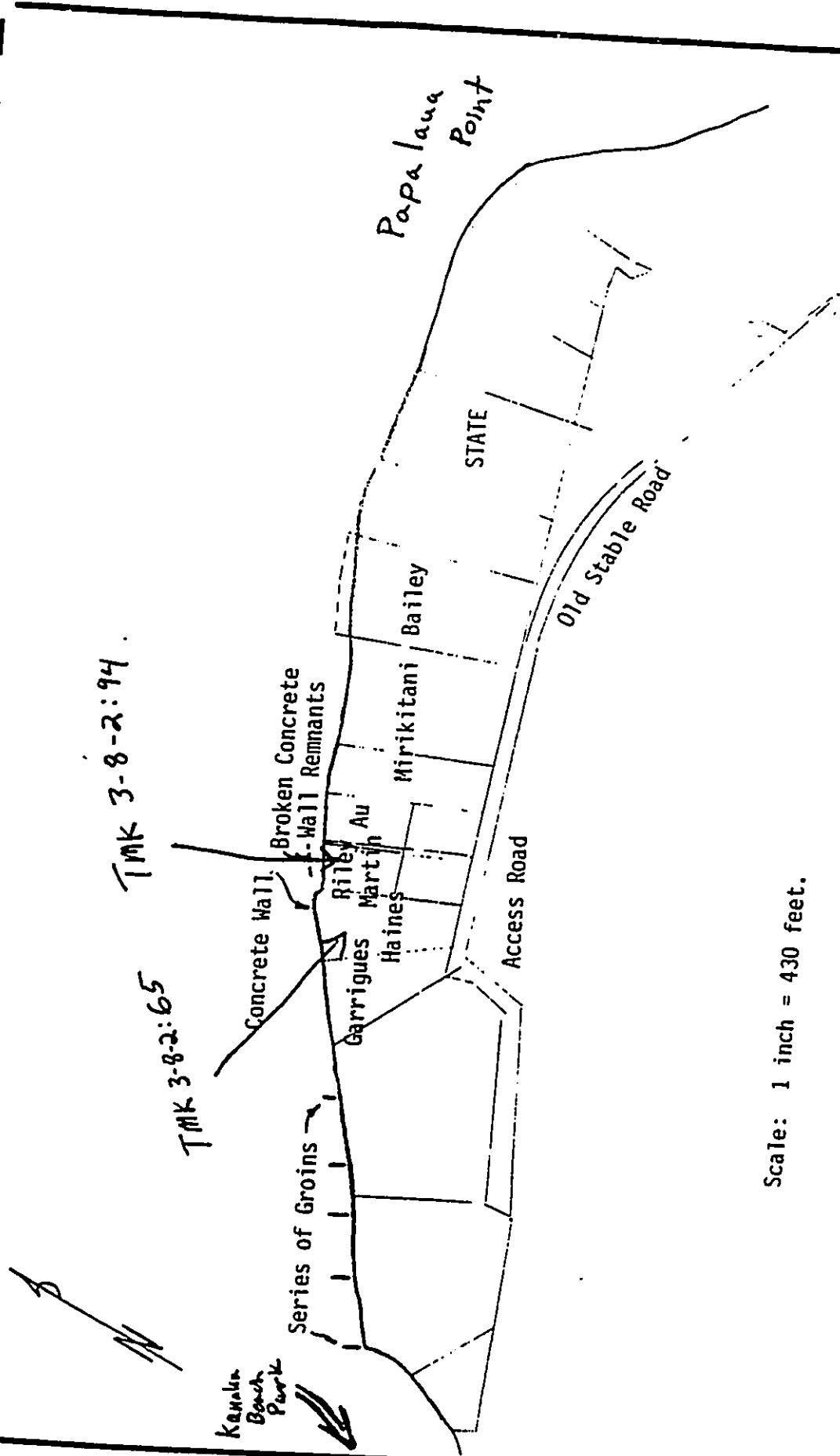
It is hereby determined that with the incorporation of necessary mitigation measures the proposed project will not have a significant adverse impact on the environment as defined by Chapter 343, Hawaii Revised Statutes, and the Environmental Impact Statement Rules of the Department of Health, State of Hawaii; and that an environmental impact statement is not required for the proposed project.

Determination

Pursuant to §11-200-11(C) of the Environmental Impact Statement Rules, the Director's Report is hereby adopted as the Negative Declaration for the referenced project.



For BRIAN MISKAE
Planning Director



Scale: 1 inch = 430 feet.

EXHIBIT

PROJECT No.	R 77701	SRK-ROBINSON INC.	
PROJECT	Shoreline Protection for Jim Riley & Peter Martin		
LOCATION	Sprecklesville, Maui	LOCATION PLAN	
		DATE	FIGURE No.
		October 1990	1
		DRAWN BY	
		KER	

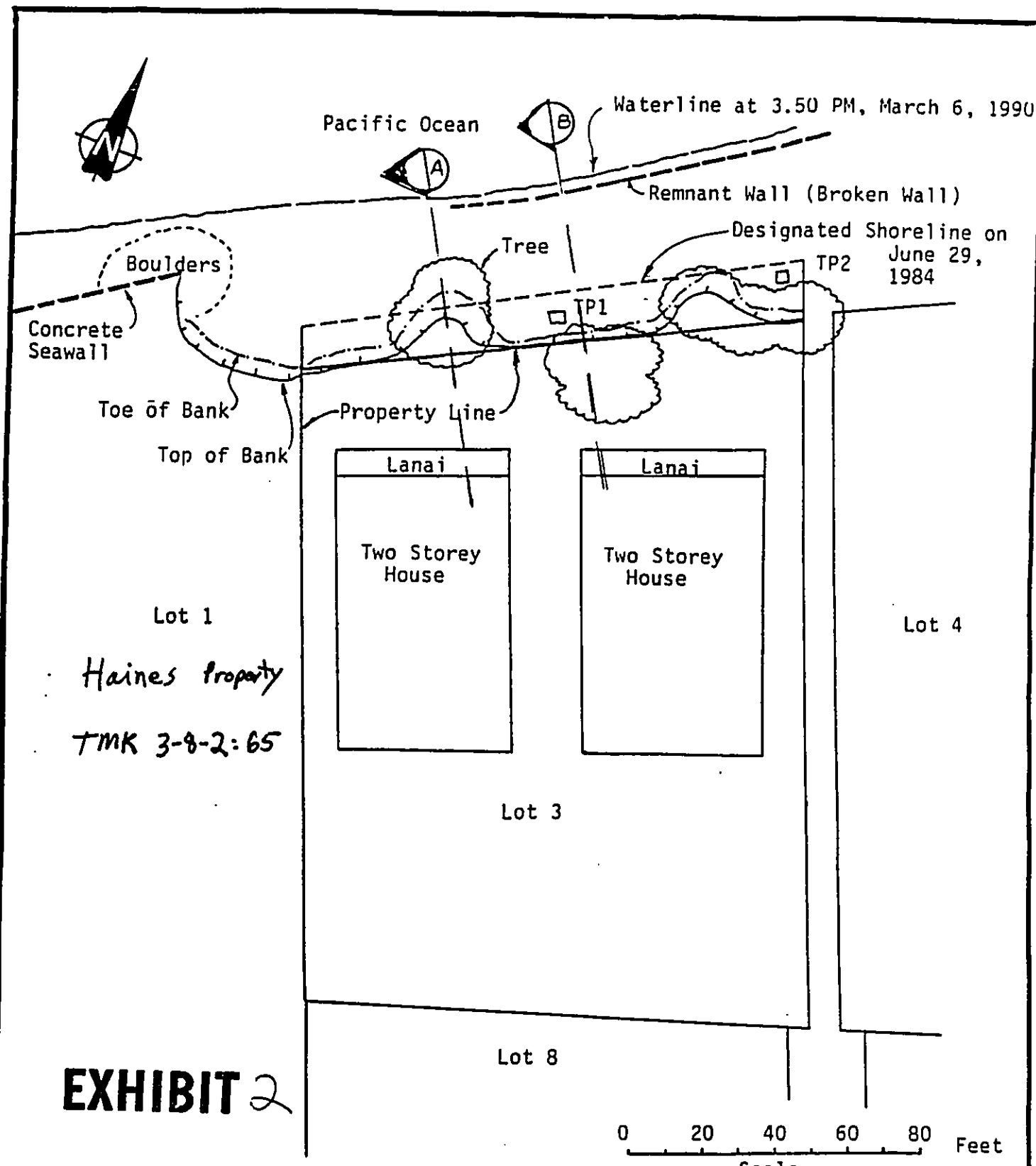


EXHIBIT 2

PROJECT No. R 77701
 PROJECT Shoreline Protection for Jim Riley and Peter Martin
 LOCATION Sprecklesville, Maui

SRK-ROBINSON INC.

SITE PLAN

DATE October 1990	DRAWN BY KSS	FIGURE No. 2
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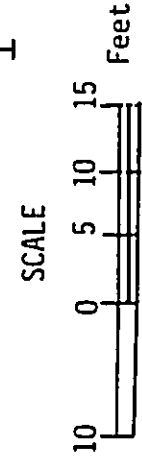
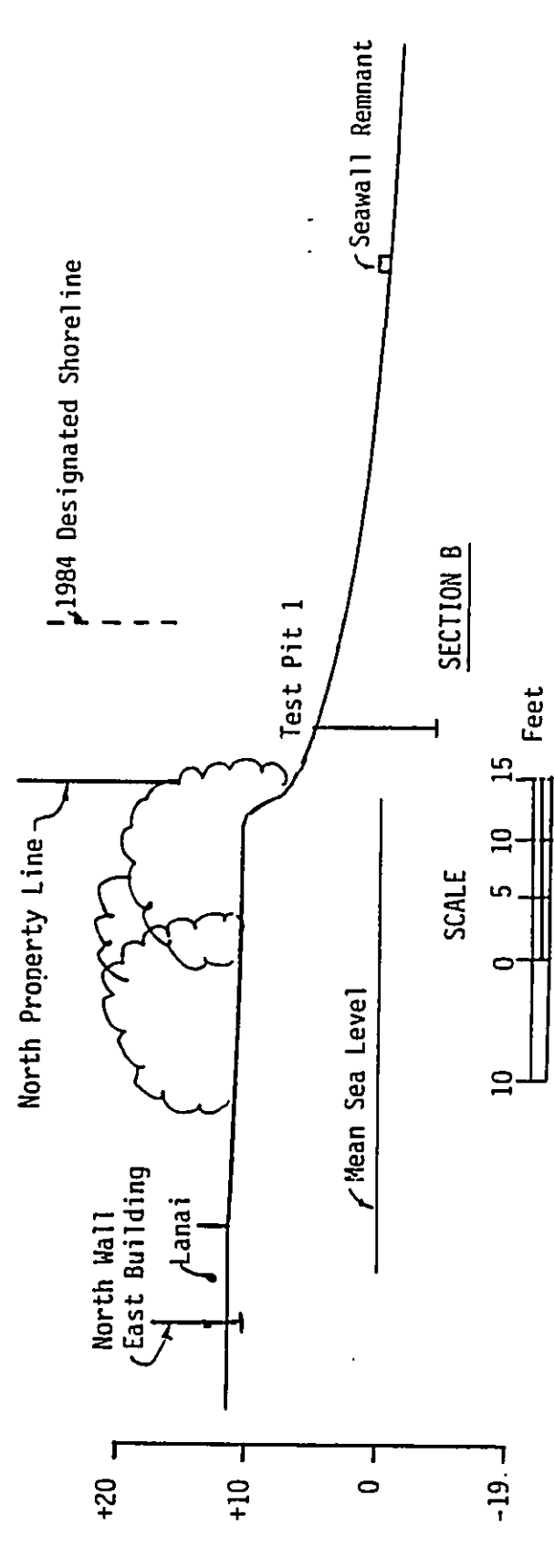
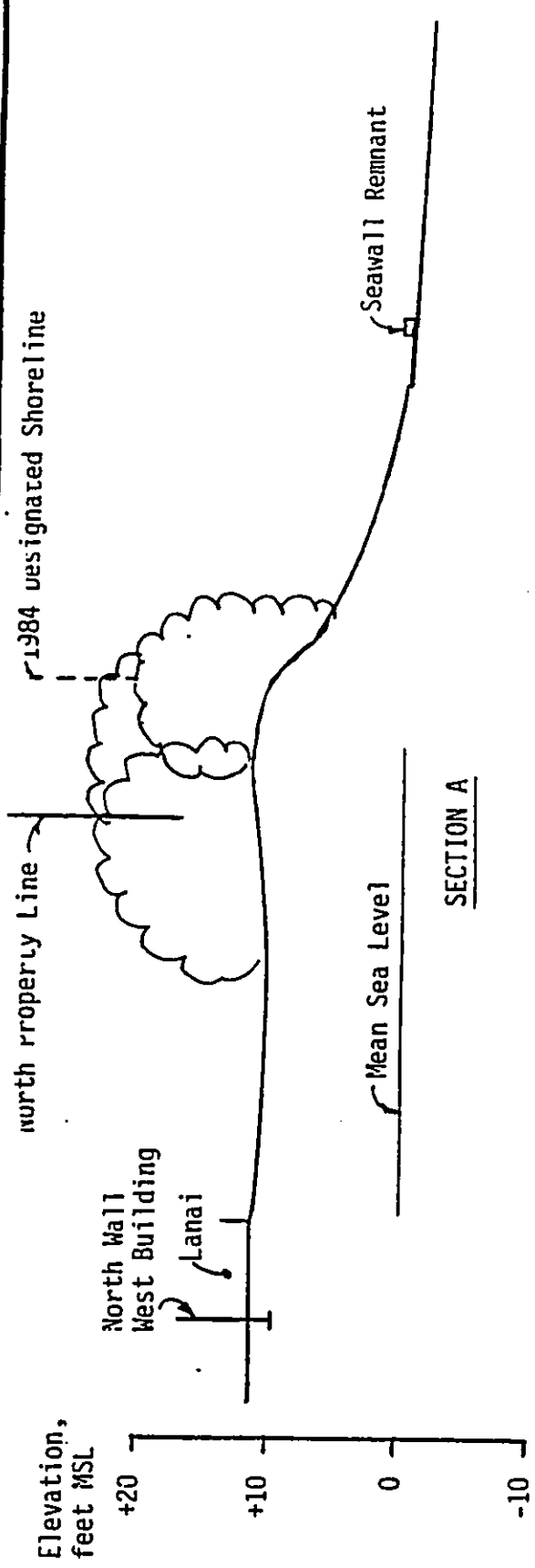
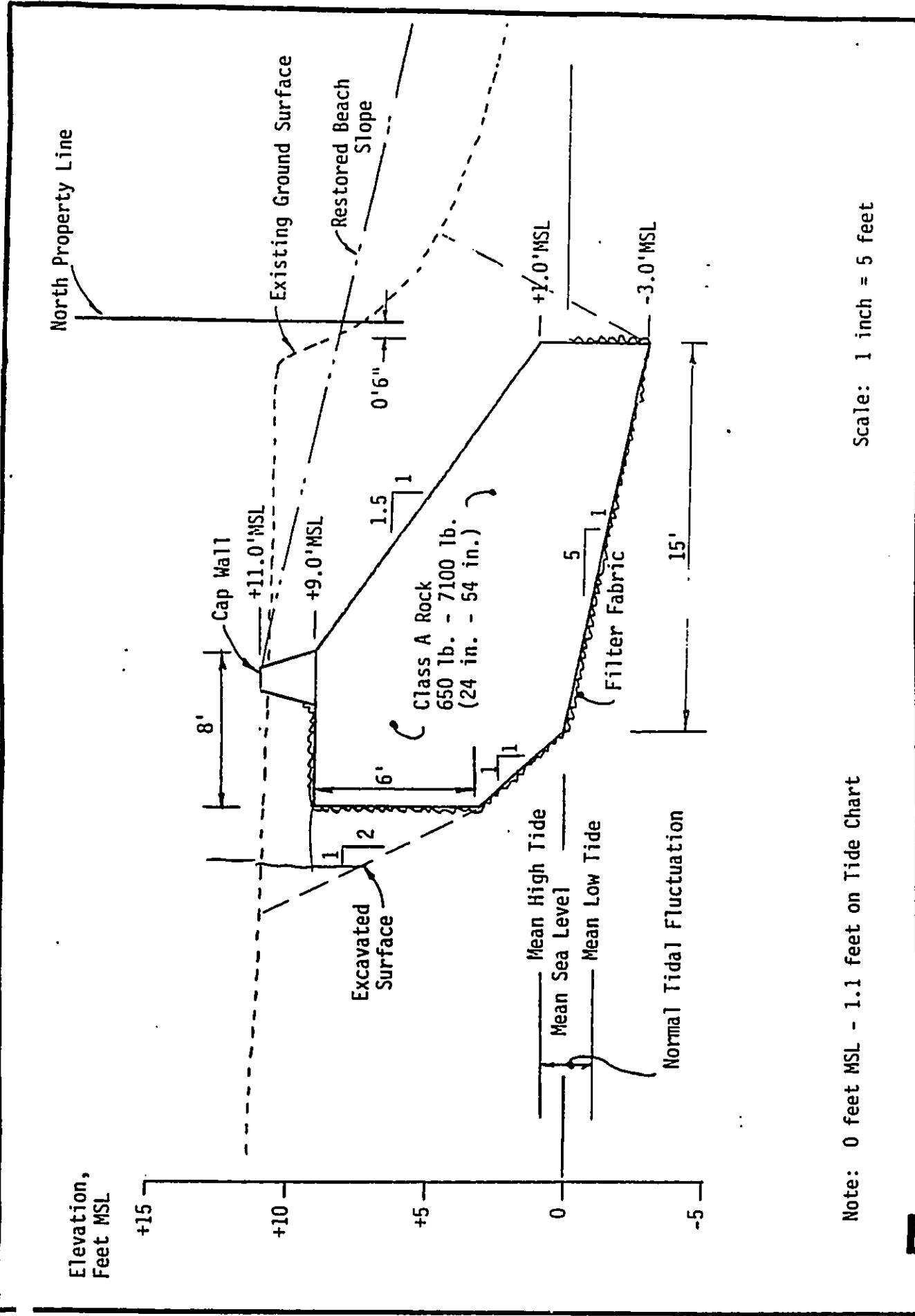


EXHIBIT 3

PROJECT No. R 77701	SRK-ROBINSON INC.	
PROJECT Shoreline Protection for Jim Riley and Peter Martin	TYPICAL PROFILES	
LOCATION Sprecklesville, Maui	DATE October 1990	FIGURE No. 5
	DRAWN BY P.M.C.	

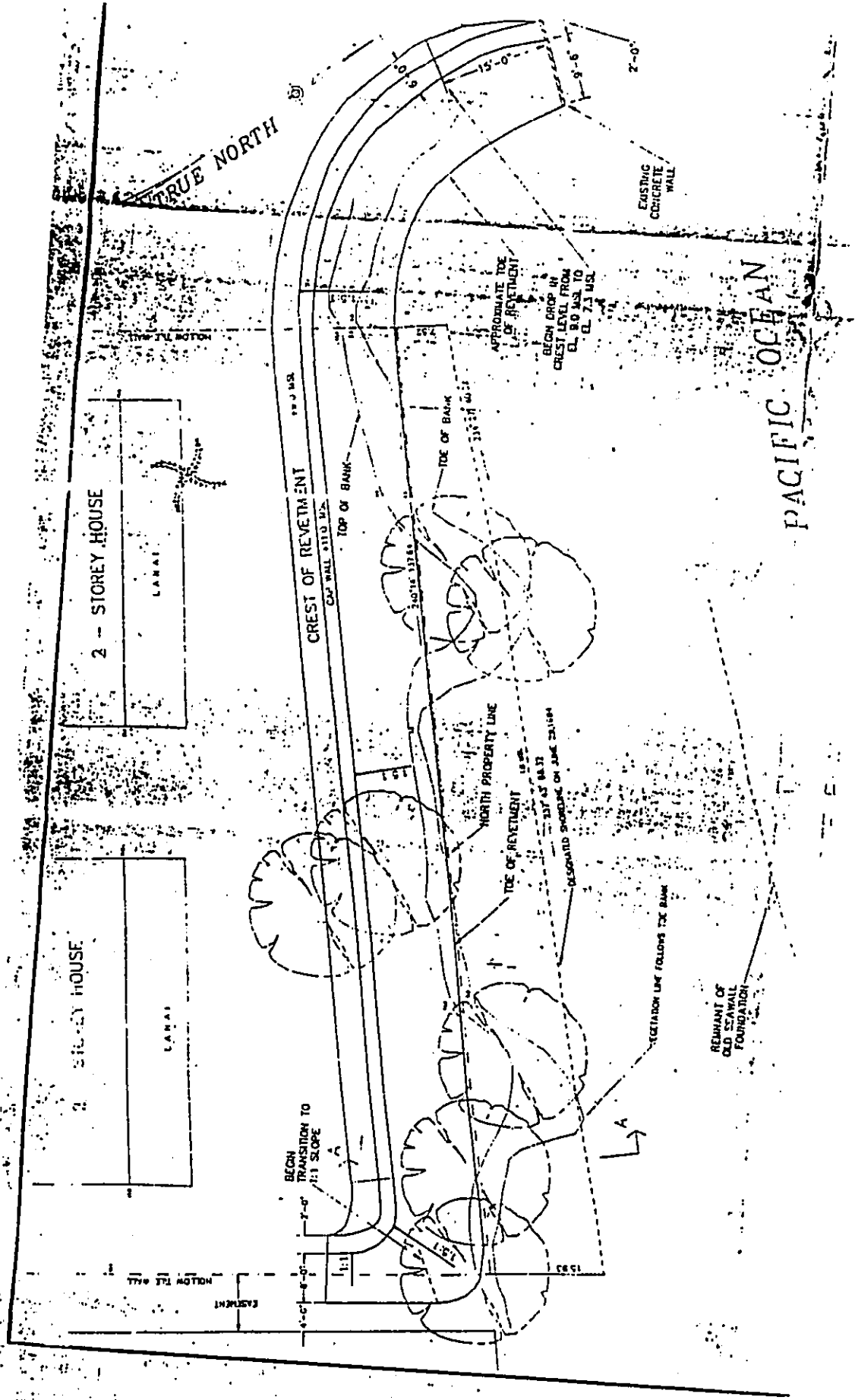


Note: 0 feet MSL - 1.1 feet on Tide Chart

Scale: 1 inch = 5 feet

EXHIBIT 4

PROJECT No. R 77701		SRK-ROBINSON INC.	
PROJECT Shoreline Protection for Jim Riley and Peter Martin		REVETMENT DESIGN	
LOCATION Sprecklesville, Maui	DATE October 1990	DRAWN BY MHL	FIGURE No. 6



JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

KEITH W. AMUE
MANABU TAGOMORI
Dan T. Kochi

AQUACULTURE DEVELOPMENT
PROGRAM
AQUATIC RESOURCES
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

FILE NO.: 91-548
DOC. NO.: 1190E

'91 JUL 26 P3:08
DEPT OF PLANNING
L. NEED

JUL 20 1991

The Honorable Brian Miskae
Director, Department of Planning
County of Maui
250 S. High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Miskae:

SUBJECT: Comments on Environmental Assessment for Rock Revetment
(Shoreline Setback Variance)
(Special Management Area Permit)
Location: Spreckelsville, Maui
TMK: 3-08-02: 94 & 95

Our Department's Aquatic Resources Division Comments that the proposed rock revetment should have no long-term significant adverse impact to aquatic resource values provided precautions are taken during construction activities to prevent debris, wastes, eroded materials or other contaminants from entering the marine environment.

We note on page 3 that "The [applicant's] property extends about 140 feet along the shoreline..." and on page 9 that "The total length of the revetment would then be 210 feet, including the return and tie-ins at the ends..." Page 9 states that "[the revetment would] extend 10 feet across the [existing] road easement." We also understand that the revetment would extend onto adjacent properties and tie on one end to an existing revetment.

Measures should be taken by the applicants to maintain or enhance traditional and historical public access to and along the shoreline. Public access for fishing and other recreational activities should not be excessively impeded, inhibited or restrained during or after placement of the revetment.

EXHIBIT 6

Mr B. Misake

-2-

DOC. NO.: 1190E

Finally, revetment construction should only be allowed mauka of the applicant's and adjoining owner's properties (deeded boundary).

The Division of Historic Preservation has determined that the construction of the revetment wall will have "no effect" on significant historic sites. Based on the negative results of extensive archaeological subsurface testing conducted to the west of the parcel at the proposed Kanaha Beach Park expansion and airport transient apron, we believe that significant historic sites are not present along the shoreline of this property. Also, our review of the engineering report by SRK-Robinson Inc. indicates that the sand deposit in this area is probably the result of recent accretion.

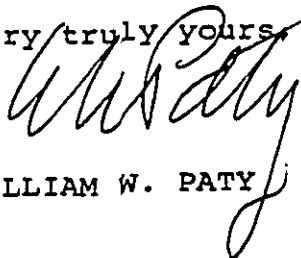
Should you have any questions, please contact Ms Annie Griffin at 587-0013.

Our Department's Land Management Division prefers the revetment wall be completely constructed mauka of the 1983 deeded parcel line and, when the certified shoreline falls within the parcel, mauka of the shoreline as certified in December, 1990.

The applicant may, however, apply to the Board of Land and Natural Resources for an easement if the wall cannot be constructed completely within the above-cited conditions. The applicant should be advised that there can be no assurance that the Board will consent to any part of the wall being placed on State lands.

Thank you for your cooperation in this matter. If you have any questions feel free to contact me or Sam Lemmo at our Office of Conservation and Environmental Affairs, at 548-7837, should you have any questions.

Very truly yours,



WILLIAM W. PATY

LINDA CROCKETT LINGLE
Mayor
GEORGE N. KAYA
Director
CHARLES JENCKS
Deputy Director



AARON SHINMOTO, P.E.
Land Use and Codes Administration
EASSIE MILLER, P.E.
Wastewater Reclamation Division
RALPH NAGAMINE, P.E.
Engineering Division
BRIAN HASHIRO, P.E.
Solid Waste Division
MELVIN HIPOLITO
Highways Division

'91 AUG 13 P3:04

DEPT OF PUBLIC WORKS
RECEIVED

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
LAND USE AND CODES ADMINISTRATION
250 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793
August 12, 1991

MEMO TO: Brian Miskae, Planning Director

F R O M: George N. Kaya, Director of Public Works *George N. Kaya*

SUBJECT: Applications for Shoreline Setback Variance and Special Management Area Permit by Peter Martin Etal for Proposed Martin Revetment Wall at 590 Old Stable Road, Spreckelsville, Maui, TMK: 3-8-02:94 & 95 (91/SSV-4, 91/SML-28)

We have reviewed the above request and offer the following comments:

1. It appears that work is also being done on the adjacent property to the west (Lot 2). Authorization should be obtained.
2. Seawalls built to protect property from wave erosion can deflect the power of the waves to cause scouring at the foot of the seawall. Also, wave energy can be deflected so that the beach can erode in either end of the seawall. Eventually, owners of adjacent properties then decide to build seawalls, causing a chain reaction of seawall construction and the loss of the beach itself.

Therefore, should the request be granted, the applicant should have the wall designed so that the natural accumulation of sand can occur. The slope should not solely be "governed by the available area of construction."
3. The applicant's consultant shall certify that there will be no adverse effects to the adjacent and neighboring properties as a result of the project.
4. A current certified shoreline map should be submitted.
5. That no clearing and grubbing material shall be disposed of at the County sanitary landfill. For additional information, the developer is requested to contact the Solid Waste Division.

AS:sn

cc: Engineering Division
Wastewater Reclamation Division
Solid Waste Division

EXHIBIT 7

DOCUMENT CAPTURED AS RECEIVED



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF:

July 11, 1991

'91 JUL 15 AM 1:08

Planning Division

DEPT OF THE ARMY

Mr. Brian Miskae
Planning Director
Maui Planning Department
250 South High Street
Wailuku, Maui, Hawaii 96793

Dear Mr. Miskae:

Thank you for the opportunity to review and comment on the Special Management Area Permit Application and Shoreline Setback Variance Application for a proposed shoreline revetment at Sprecklesville, Maui (TMK 3-8-2: 94, 65). The following comments are provided pursuant to the Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. The proposed project will require a DA permit. By copy of this letter, the applicants are advised to contact the Operations Division at 438-9258 for permit requirements. File No. PO91-180 has been assigned to this project; please refer to this number in any future correspondence.

b. According to the Federal Emergency Management Agency's Flood Insurance Rate Map, Panel 150003-0190-B, dated June 1, 1981 (copy enclosed), the project site is in Zone V23 (areas inundated by the 100-year coastal flood with velocity hazards and a base flood elevation of 19 feet above mean sea level).

Sincerely,

Kisuk Cheung
Director of Engineering

Enclosure

EXHIBIT 8

September 10, 1991
RE0000

Mr. Rory Frampton
Maui Planning Department
250 S. High St.
Wailuku, Maui, Hawaii 96793

Dear Mr. Frampton:

Martin Revetment Wall Environmental Assessment
Old Stable Road, Sprecklesville, Maui

The referenced document proposes construction of a rock revetment of approximately 210 feet in length to provide shoreline protection for two residential structures. The revetment would be installed within the north property line and would present an exterior slope of 1.5H to 1V. The design thickness is 4 - 8 feet, and the crest of the structure would rise to +9 feet MSL, with an additional 2-foot high cap wall. The ends of the revetment would be tied into existing or future protection features.

The Environmental Center has conducted a review of the referenced Environmental Assessment (EA) with the assistance of Jacquelin Miller, Environmental Center.

Shoreline Certification

Pursuant to Chapter 205A, HRS, recertification of the existing shoreline is warranted prior to approval of plans to install protective structures.

Void Spaces

From the General Specifications included on the design blueprint, it appears that the revetment is to be constructed with "the least amount of void space". Given that it is the irregularity and porosity of the surface which provides for wave absorption, there needs to be some thought given to the reflective properties of varying void space distribution.

Rock Size

The use of a single size range of stone is fairly conventional.

EXHIBIT 9

However, when filter cloth is used, it is advisable to overlay the filter cloth with a smaller sized rock in order to protect the cloth from punctures during emplacement of the large armor stones. It would probably be advisable to overlay the filter cloth with a layer of gravel for more certain protection (see Shore Protection Manual, Vol. II, p. 6-11.)

Beach Replenishment

We consider the statement that, "some beach sand could return as a result of revetment construction to be speculative, unsupported by evidence presented in the document, and highly unlikely. Beach accretion and/or erosion are long-term processes which respond to variable oceanographic and meteorological patterns. While there have been examples of beach accretion following revetment construction, it is far from clear that the revetment was directly responsible for the subsequent sand accumulation. If beach replenishment is desired, hydraulic pumping of sand from offshore deposits provides the most cost-effective, least environmentally threatening method by which such restoration may be accomplished.

Composite Slope

An alternative design which might be considered is the composite slope, wherein a flat shelf interrupts the crosssection of the structure (see p. 7-39, SPM Vol. II). In addition to providing for further dissipation of wave energy, such a structure would provide for improved public access along the shoreline.

We appreciate the opportunity to comment on this document, and please feel free to contact us if you have any questions.

Sincerely,

John T. Harrison, Ph.D.
Environmental Coordinator

cc: R. Fujioka, WRRRC
J. Miller