DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

C. MICHAEL STREET
DIRECTOR AND CHIEF ENGINEER

FELIX B. LIMTIACO
DEPUTY DIRECTOR

IN REPLY REFER TO:
93-12-0212

May 5, 1993

Mr. Brian Choy, Director
Office of Environmental Quality Control
State of Hawaii
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Mr. Choy:

Subject: Negative Declaration for the Hahaione Valley Boulder Basin Improvements Project, Honolulu, Oahu, Hawaii, TMK: 3-9-85: 60 and 3-9-85: 35 (Por.)

This letter is a notice of Negative Declaration by the proposing agency, the City and County of Honolulu, Department of Public Works. The subject action has been assessed according to Title 11, Chapter 200, Environmental Impact Statement Rules, and Chapter 343, HRS.

A determination has been made that an environmental impact statement is not required based on an environmental assessment which was prepared for the project. Enclosed are four copies of the environmental assessment and a copy of the document for publication form.

The pertinent information for this notice of determination is summarized below.

1. **PROPOSING AGENCY**

City and County of Honolulu, Department of Public Works.

2. DESCRIPTION OF THE PROPOSED ACTION

The City and County of Honolulu, Department of Public Works, is proposing to expand the two boulder basins in Hahaione Valley, located at the upstream termini of the Hahaione Valley Stream Channel. The east and west debris basins will be increased in capacity to accommodate debris volumes of 3,000 and 2,600 cubic yards, respectively. The expansion of each basin will primarily be confined to the existing basin properties. A small amount of land area needs to be acquired from two properties, adjacent to Boulder Basin #1 at Kahena Street. This acquisition is necessary to accommodate a proposed widening of the existing box culvert crossing Kahena Street which is also included in this project. The total project cost is estimated to be $1,507,000 and will be funded entirely by the City. Construction of the project is tentatively scheduled to begin in the early part of 1994 and will take approximately one year to complete.

3. DETERMINATION

After preparing an environmental assessment and consulting with other agencies, we have determined that the proposed project will not have a significant impact on the environment, and an Environmental Impact Statement is not required.

4. REASONS SUPPORTING DETERMINATION

Reasons and conclusion supporting determination are based on the following criteria.

The proposed project will not:

a. Involve an irrevocable commitment to loss or destruction of any natural or cultural resource;

b. Curtail the range of beneficial uses of the environment;

c. Conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;

d. Substantially affect the economic or social welfare of the community or State;

e. Substantially affect public health;

f. Involve substantial secondary impacts, such as population changes or effects on public facilities;

g. Involve a substantial degradation of environmental quality;

h. Substantially affect a rare, threatened, or endangered species or its habitat;

i. Detrimentally affect air or water quality or ambient noise levels; or

j. Detrimentally affect an environmentally sensitive area, such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

5. **CONTACT PERSON**

Melvin Takakura
Department of Public Works
Division of Engineering
Honolulu Municipal Building, 15th Floor
650 South King Street
Honolulu, Hawaii 96813

Telephone No.: 523-4931

Very truly yours,

for C. MICHAEL STREET
Director and Chief Engineer

Attachment (4 copies)

cc: Fukunaga & Associates, Inc. (w/o attach.)

1993-05-23-OA-FEA-~~Hahai~~ Hahaione Valley Boulder Basin Improvement

FINAL

ENVIRONMENTAL ASSESSMENT

FOR

HAHAIONE VALLEY BOULDER BASIN IMPROVEMENTS

Hahaione Valley, Honolulu
TMK: 3-9-85:60 and 3-9-85:35 (Por.)

Proposing Agency

Department of Public Works
Division of Engineering
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Prepared By

Fukunaga and Associates, Inc.
1388 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814

FINAL

ENVIRONMENTAL ASSESSMENT

FOR

HAHAIONE VALLEY BOULDER BASIN IMPROVEMENTS

Hahaione Valley, Honolulu
TMK: 3-9-85:60 and 3-9-85:35 (Por.)

Proposing Agency

Department of Public Works
Division of Engineering
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Submitted Pursuant to Chapter 343, HRS

Responsible Official: C. Michael Street MF Date 4/28/93
C. Michael Street
Director and Chief Engineer

Prepared By

Fukunaga and Associates, Inc.
1388 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814

April 19, 1993

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I. DESCRIPTION OF THE PROPOSED PROJECT

A. Purpose of Project

The Department of Public Works (DPW) of the City and County of Honolulu proposes to expand the two boulder basins situated at the upstream termini of the Hahaione Valley Stream Channel. The purpose of the project is to increase the capacities of both basins in order to mitigate a recurrence of the destruction caused by the New Year's Eve Flood of 1987-1988. In that flood, stormwaters and debris from the recesses of Hahaione Valley filled and overflowed Boulder Basin No. 1 located towards the west side of the valley's urbanized area. As a result, the *debris flow* made its way onto Kahena Street, washed out a major portion of the roadway, and damaged adjacent homes.

In January 1991, the DPW Division of Engineering retained Fukunaga and Associates, Inc. to investigate the causes of the damages associated with the above mentioned flood, and to make recommendations for improvements. That study, completed in March 1992, concluded that the most feasible improvement would be to enlarge the boulder basins. The study identified parameters for required basin sizing and other modifications. These will be incorporated into the project design.

B. Existing Boulder Basin Design

Boulder Basins 1 and 2, as shown on Figure 2, are located near the end of Kahena Street and Pukoo Street, respectively. Built on parcels identified by TMK: 3-9-85:60 (BB #1) and TMK: 3-9-85:35 (BB #2), both were constructed in the early 1970's as part of the final increment of the Hahaione Valley urbanized development. As their names imply, the primary function of the boulder basins was to trap boulders which would detach from the natural hillsides outside of the urban boundary and be carried down into the developed areas during a rainstorm or as a result of normal erosion. The basins, placed upstream of the major drainage channel improvements, would prevent the boulders from entering the channels and damaging the channel linings.

Figures 3 and 4 depict the present Hahaione Valley boulder basin construction. As indicated, each basin consists of a depression in the ground with bottom (invert) and sideslopes lined with reinforced concrete. The invert of the basin is sloped to drain and convey the normal stream flows into the channel improvements below. Boulders are retained by a boulder basin barrier--a concrete berm structure built into the basin invert and provided with openings to allow the passage of water and small, non-damaging debris. The basins at the time were sized based on best engineering judgement since there was no way to determine the number and/or size of boulders which would ultimately

end up in the basins. Cleaning out the basins after every storm, in addition to routine inspection and maintenance, is required to ensure that the maximum basin capacity is available at any given time. The capacity of each basin in Hahaione Valley is approximately 250 cubic yards.

C. Proposed Debris Basin Design

By comparison, the amount of debris generated during the 1987-1988 New Year's Eve Flood which overflowed Boulder Basin No. 1 was estimated to be about 2360 cubic yards. From recent studies of *debris flows* and development of *debris generation rates*, some guidelines have been developed for the design of debris retention structures. Sizing of the basins will be based on debris volume estimates provided by the United States Geological Survey (USGS). These estimates represent what the USGS has identified as the Hahaione Valley watershed's "long-term average volume removed per 100 years". As estimated for each basin, the volumes are as follows:

Basin No. 1 - 3000 cubic yards
Basin No. 2 - 2600 cubic yards

Although these estimates are preliminary and subject to change, they are considered the best information available at this time. Accordingly, it was determined that the scope of this project would be to increase the capacities of the existing basins so that they can retain, at the minimum, the above respective debris volumes.

In order to achieve the additional volumes required while remaining within the present site boundaries, the basins would need to be deepened by excavating down further into the existing ground, plus berming around the basin perimeter if necessary. A depth of up to 4 times the present basin depth can be obtained in this way. Since the resulting "hole" created will not be able to drain normally, an "outlet pipe" will be constructed to cross under the basin structure and emerge in the drain channel downstream of the basin. Debris will be prevented from entering and clogging the outlet pipe by constructing a perforated, concrete "outlet tower" above the outlet pipe opening inside the basin, which will extend to the top of the basin. The perforations in the outlet tower are intended to allow passage of water and the liquid portion of the debris flow, while keeping out the larger solid debris constituents. Should the outlet tower still become clogged or the outlet pipe, in some other way become unable to adequately drain the basin, the water inside the basin will rise until it reaches a spillway at the crest of the perimeter berm, where it will then be discharged. The outlet pipe, outlet tower and spillway are generally in accordance with design criteria set forth in the Design Manual, Debris Dams and Basins of the Los Angeles County Department of Public Works. (L.A.

County has one of the more well-developed programs in the United States for addressing debris-related design problems.) Figures 5 and 6 graphically depict these structures. In addition, like the existing boulder basins, the bottoms and sideslopes of the new basins will be concrete lined. Service roads for maintenance personnel and vehicles will also be provided, and both sites will be enclosed by security fencing, as they are presently, to prevent unauthorized access.

Adjacent to the Basin No. 1 site, an enlargement of the box culvert crossing Kahena Street from a 10'x7' section to a 14'x8' section is also proposed as part of this project. During the New Year's Eve Flood, the clogging of this culvert was the primary reason why the debris made its way onto Kahena Street. Although the new sizing of Debris Basin No. 1 is intended to prevent debris from reaching the culvert crossing, the proposed enlargement is an added protection against a repeat of the New Year's Flood disaster. The enlargement, however, will require some taking of private property from parcels adjacent to the culvert on either side of Kahena Street to accommodate the extra width. Figures 7, 8 and 9 represent conceptual designs of the proposed debris basin development.

D. Costs

Estimated costs for the construction of Debris Basin No. 1 and Debris Basin No. 2, including all land acquisition costs are $907,000 and $600,000, respectively. Accordingly, the total project cost is estimated to be $1,507,000. The project will be funded entirely by the City and no private funds will be used.

E. Schedule

Construction of the project is tentatively scheduled to begin in the early part of 1994. The construction period will be approximately one year in duration.

II. DESCRIPTION OF ENVIRONMENTAL SETTING

A. Location

Hahaione Valley is one of three major valley developments making up the Hawaii Kai residential area. As shown as the shaded area on Figure 1, Hahaione Valley is situated east of Kuliouou Valley and west of the remaining Hawaii Kai valleys, Kamiloiki Valley and Kalama Valley. The urban development of Hahaione Valley occurred over a 10-year period, from 1962 to 1972. It presently consists of residential lots and infrastructure supporting

over 630 homes, 4 condominiums, an elementary school, and a public park.

The existing boulder basin sites are situated at the extreme mauka edge of the urbanized boundary (see Figure 2). Positioned and aligned such that they intercept the two major streams entering the urban area, they each represent the point of transition from natural stream channel to improved (lined) stream channel.

B. Topography and Soil

The existing basin sites are sloped fairly steeply with average ground slopes outside the basins ranging from 20% to 50%. The basin structure typically occupies about 50% of the site and consists of three sections: the inlet channel sloped at approximately 30% to 40%, the outlet channel sloped at about 13% to 16% and the flatter boulder retention area between sloped at approximately 2% to 4%.

Soils in the project area are classified by the USDA Soil Conservation Service's Soil Survey, Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii as Stony Steep Land, characterized by a large amount (50% to 90%) of stones and boulders covering the surface, interspersed with vegetation such as kiawe, haole koa and grasses. Typically found on slopes ranging from 40% to 70%, it is most common on the sideslopes of drainageways.

C. Climate

Average rainfall at the project sites is approximately 40 inches. Temperatures range from an average minimum of 62 degrees F to an average maximum of 88 degrees F. Prevailing winds are northeast trades.

D. Land Use

The project sites are situated within the State Land Use Urban District, and are designated Residential on the City and County of Honolulu's East Oahu Development Plan Land Use Map. Zoning is R-5, Residential District.

E. Historic or Cultural Sites

The parcels in which the basin sites are situated have undergone extensive grading and other sitework associated with the basin construction. Accordingly, the existence of previously unknown sites of historic or cultural significance is unlikely. The State Historic Preservation Division of the Department of Land and Natural Resources has indicated that there are no known historic sites on either parcel. However, as is customary for City-

funded projects, the Contractor will be required to contact the above Historic Preservation Division should any artifacts be unearthed during construction.

F. Flora and Fauna

Due to the urbanization of the area, there are no known species of indigenous flora or fauna in the vicinity of the project sites. Existing trees include banyan, mango, plumeria, and Norfolk Pine, likely planted by neighboring residents, in addition to haole koa and California grass. Animal life typically includes mongoose, rats and feral cats and dogs. Birds consist of the common species of mynahs, doves, sparrows, thrushes, cardinals and bulbuls.

G. Drainage

The aforementioned study entitled Flood Evaluation Study for Hahaione Valley prepared by Fukunaga and Associates, Inc., identified drainage areas and determined corresponding storm runoff volumes for the entire Hahaione Valley Stream Channel, including the boulder basins. Based on a *clear-water* analysis, meaning that the stormwaters within the channel have a relatively low solids content, the channel improvements were determined to have adequate capacity to pass the 100-year flood flows. However, when a large amount of solids are introduced into the stormwaters, which would occur during a debris flow situation, the effect is that the stormwaters will *bulk*, or change in characteristics such that additional channel capacity would be required to contain it. Information provided by the U.S. Army Corps of Engineers, who conducted similar debris flow studies for neighboring Wailupe, Niu and Kuliouou Valleys, indicated that a debris-laden, 100-year flood flow for Hahaione Valley would be 3 to 4 times larger than the equivalent clear-water flow. The present channel improvements are unable to handle a flood of this magnitude.

The occurrence of debris flow and its potentially disastrous consequences were generally unheard of prior to the New Year's Eve Flood. Review of literature now available on the subject, however, identifies valley developments constructed on alluvial deposits as susceptible to debris flow events, especially if the development extends to the head of the valley, as is the case with the Hahaione Valley development. Accordingly, in order to provide protection from such occurrences, since it is not feasible to reconstruct the entire channel to the necessary size required to contain a debris-bulked flow, the only other alternative is to enlarge the boulder basins upstream of the channel to the extent that debris is kept out of the channel stormwaters, and a clear-water flow condition within the channel is maintained. The proposed project is predicated on this alternative.

III. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. Short Term, Construction Related Impacts

1. Economic

The construction of the project is estimated to cost $1,507,000. Funding for this project will be provided by the City and County of Honolulu as part of their Capital Improvements program. No private funds will be used. Job opportunities will be generated as a result of this project.

2. Air Quality

There will be an increase in dust and vehicular exhaust emissions in the immediate working area during construction. The dust generated should not occur at significant levels. Appropriate water sprinkling methods will be used to reduce dust if it becomes a problem. Exhaust emissions should not have any significant affect on the area because prevailing winds should disperse any exhaust gas concentrations.

3. Erosion and Water Quality

The need to excavate below the present ground elevations in selected locations, while creating berms in others, will result in temporarily exposed graded areas. However, phasing the construction to regulate the amount of area exposed at one time, and strict adherence to erosion control procedures and slope protection methods will minimize soil loss.

During normal, dry-weather conditions which occur most of the time, there is no stream flow through either basin. Intermittent flows which are created during rainy weather are generally small and should permit re-routing of the flows around work areas, thereby minimizing the opportunity for the flows to entrain unearthed soil.

A Department of the Army (DA) permit as issued by the Corps of Engineers will be required for this project. Filing and processing of the permit application will be carried out during the project's design phase.

4. Traffic

Portions of Kahena Street will have to be closed during construction of the new box culvert. Residents, however, will be provided access to their homes at all times. Temporary detours may cause slight inconvenience to the upper valley residents at various times during construction. If detours are necessary, a traffic plan and appropriate traffic control measures, which would include but not be limited to hiring off duty policeman to direct traffic, will be implemented. All open trenches will be covered with steel plates during non-working hours and any road closure will be limited to non-peak hours. There will be a slight increase in traffic due to the added presence of construction vehicles and personnel required for the project. The construction traffic, however, will be limited to weekdays.

5. Noise

There will be an increase in noise from the construction activity. Construction hours shall be limited to that permitted by law and no weekend work will be permitted. All noise generated by the construction activity shall conform to the noise regulations established by the State Department of Health.

6. Biological

There are no rare or endangered flora or fauna in the area. The no-flow (dry) conditions prevalent at both basin sites preclude the establishment of any permanent aquatic life within the basins. The existence of stream fauna in the higher reaches of the valley upstream of the basins has not been verified. However, the proposed project should not affect the characteristics and environment of these areas. The occurrence of a debris flow event and the subsequent retention of debris within the expanded basins may cause a back-up of such debris into the upstream areas. However, any adverse affects to possible fauna in these areas would have been caused by the debris flow itself, regardless of whether the basin improvements were implemented or not.

The need to expand the basins as much as possible will require removal of most of the planted trees. However, where possible, these trees will be relocated elsewhere on the site.

B. Long Term Impacts

All of the construction related impacts described above will cease upon completion of the proposed basin improvements. The only long term impacts associated with the project are socioeconomic and aesthetic.

1. Socioeconomics

The completed basins will incur a regular maintenance cost related to the routine cleaning which will be required during the entire basin service life. These costs, however, are already incurred with the existing basins.

Two parcels, TMK 3-9-85:55 and TMK 3-9-84:55, on either side of Kahena Street adjacent to the box culvert crossing, will lose a small portion of land area as result of the proposed widening of the culvert. The present use of the affected areas is primarily yard space which does not appear to possess any extraordinary intrinsic value. Accordingly, the loss of these areas, especially in exchange for fair compensation, is not seen as an unbearable hardship on the part of the respective owners.

By comparison, the potential cost savings resulting from the completed basin improvements are substantial. Repair and/or replacement costs for flood-damaged homes and infrastructure will be greatly reduced, if not eliminated. Loss of income and quality time due to required relocation and necessary clean-up efforts will likewise be minimized. Most importantly, the completed project will protect against the greatest cost of all, the loss of life.

As an added economic benefit, especially to the parcels relinquishing land area, the reduced threat of flood damage offered by the project could bring about an increase in neighboring property values.

2. Aesthetics

The construction of berms to obtain required basin capacity will result in higher ground elevations than are presently existing. Based on the conceptual design for Basin No. 1, the top of the front berm (closest to the road) will be approximately 10 feet higher than the existing ground at that location. While the increased visibility of the basin can be mitigated by attractive landscaping, the higher ground line could obstruct existing views into the base of the mauka valley walls. Reducing the berm height to preserve the views, while retaining the required basin capacity can

only be accomplished by spreading the basin over a larger area. Doing so, however, will require additional land acquisition from adjacent properties, and this was not considered feasible. Again, when compared to the benefits offered by the completed basins, the lost view plane was not considered an undue hardship.

The conceptual design for Basin No. 2 indicates that existing ground elevations will generally not be exceeded by the new improvements. The additional basin capacity required will be provided primarily by deepening and widening the existing basin. Like Basin No. 1, Basin No. 2 will be landscaped to maximize aesthetic appeal.

IV. ALTERNATIVES TO PROPOSED ACTION

A. Larger Scale Basin Improvements

From a planning standpoint, the single, most disturbing problem related to a debris flow event is its unpredictability. Frequency of occurrence and amount of debris generated cannot be forecast with any real certainty. A prime example of this shortcoming is that while Basin No. 1 was severely overtopped during the New Year's Eve Flood, Basin No. 2 was not adversely affected.

As earlier stated, the debris volumes provided by USGS upon which the proposed project design will be based are only provisional estimates derived from the best information currently available. To address the possibility of a debris flow event generating debris volumes in excess of the USGS volumes, alternatives to create basins with larger capacities were considered. Since the size of these basins would have to extend beyond the present site boundaries, construction of the basins would require either significant land acquisition from adjacent properties, or relocation of the basins into undeveloped areas deeper in the valley. Both scenarios would incur much higher costs in terms of land acquisition, construction, and environmental impact than the proposed project. The larger basins would provide a greater degree of protection, but a genuine need for the basins lacked supportable evidence. Accordingly, the high costs and the possibility of displacing area residents could not be justified, and the alternatives were eliminated from further consideration.

B. No Action

Debris flow literature emphasize that debris flow events are not "once-in-a-lifetime" occurrences, but can happen whenever certain geologic and meteorologic conditions are met. Accordingly, if no action is taken, the community will continue to be at risk from at least the same destruction

inflicted by the New Year's Eve Flood. Of greater concern is the continued threat to public health and safety, for although there was no loss of life directly resulting from the New Year's Eve Flood, it is inconceivable to expect the same outcome should a similar flood occur.

V. AGENCIES AND PERSONS CONSULTED

A. Federal Government
U.S. Army Corps of Engineers, Pacific Division,
Honolulu District Engineer
U.S. Geological Survey

B. State Government
Department of Health
Department of Land and Natural Resources

C. County Government
Department of Land Utilization
Department of Transportation Services
Department of General Planning
City Councilman John Henry Felix
Department of the Corporation Counsel

D. Private
Hawaii Kai Neighborhood Board No. 1

VI. DETERMINATION

After completing an assessment of the potential environmental affects of the proposed project, it is believed that an Environmental Impact Statement is not required. Accordingly, this document constitutes a Negative Declaration.

VII. FINDINGS AND REASONS SUPPORTING THE DETERMINATION

Findings and reasons supporting the Negative Declaration determination are as follows, using the criteria, policies, guidelines and provisions of Title 11, Chapter 200, Environmental Impact Statement Rules and Chapter 343, HRS. The proposed project will not:

A. Involve an irrevocable commitment to loss or destruction of any natural or culture resource;

B. Curtail the range of beneficial uses of the environment;

C. Conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;

D. Substantially affect the economic or social welfare of the community or State;

E. Substantially affect public health;

F. Involve substantial secondary impact, such as population changes or effects on public facilities;

G. Involve a substantial degradation of environmental quality;

H. Substantially affect a rare, threatened or endangered species, or its habitat;

I. Detrimentally affect air or water quality or ambient noise levels; or

J. Detrimentally affect an environmentally sensitive area, such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters. [Eff. Dec. 06, 1985] (Auth: HRS Sec. 343-6) (Imp. HRS Secs. 343, 343-6).

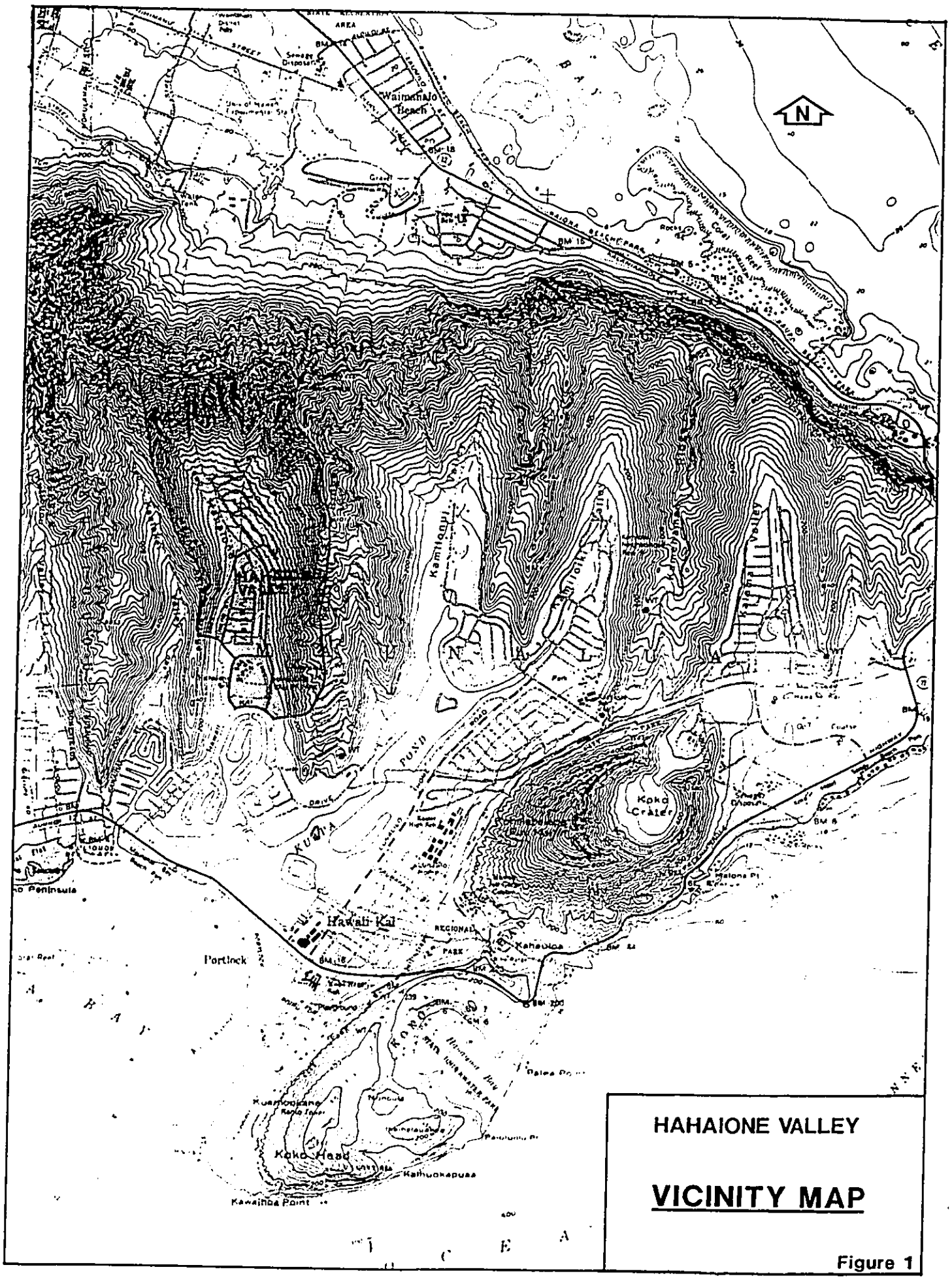
VIII. REFERENCES

A. Fukunaga and Associates, Inc., 1992, Flood Evaluation Study for Hahaione Valley, Division of Engineering, Department of Public Works, City and County of Honolulu.

B. U.S. Department of Agriculture, Soil Conservation Service, 1972, Soil Survey, Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii.

C. University of Hawaii, Department of Geography, 1973, Atlas of Hawaii, University of Hawaii Press.

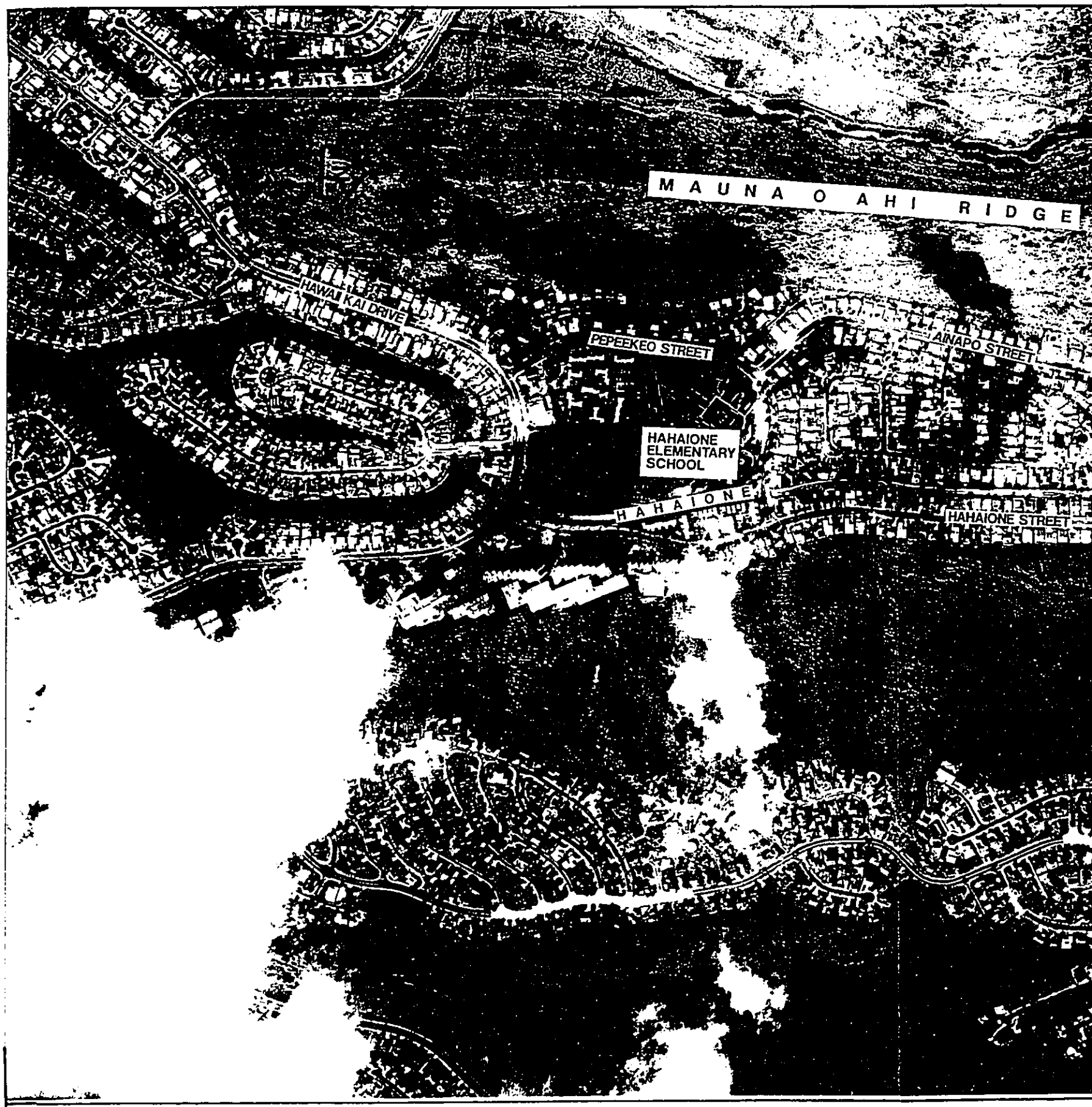
FIGURES



HAHAIONE VALLEY

VICINITY MAP

Figure 1



HAHAIONE VALLEY - LOCAT

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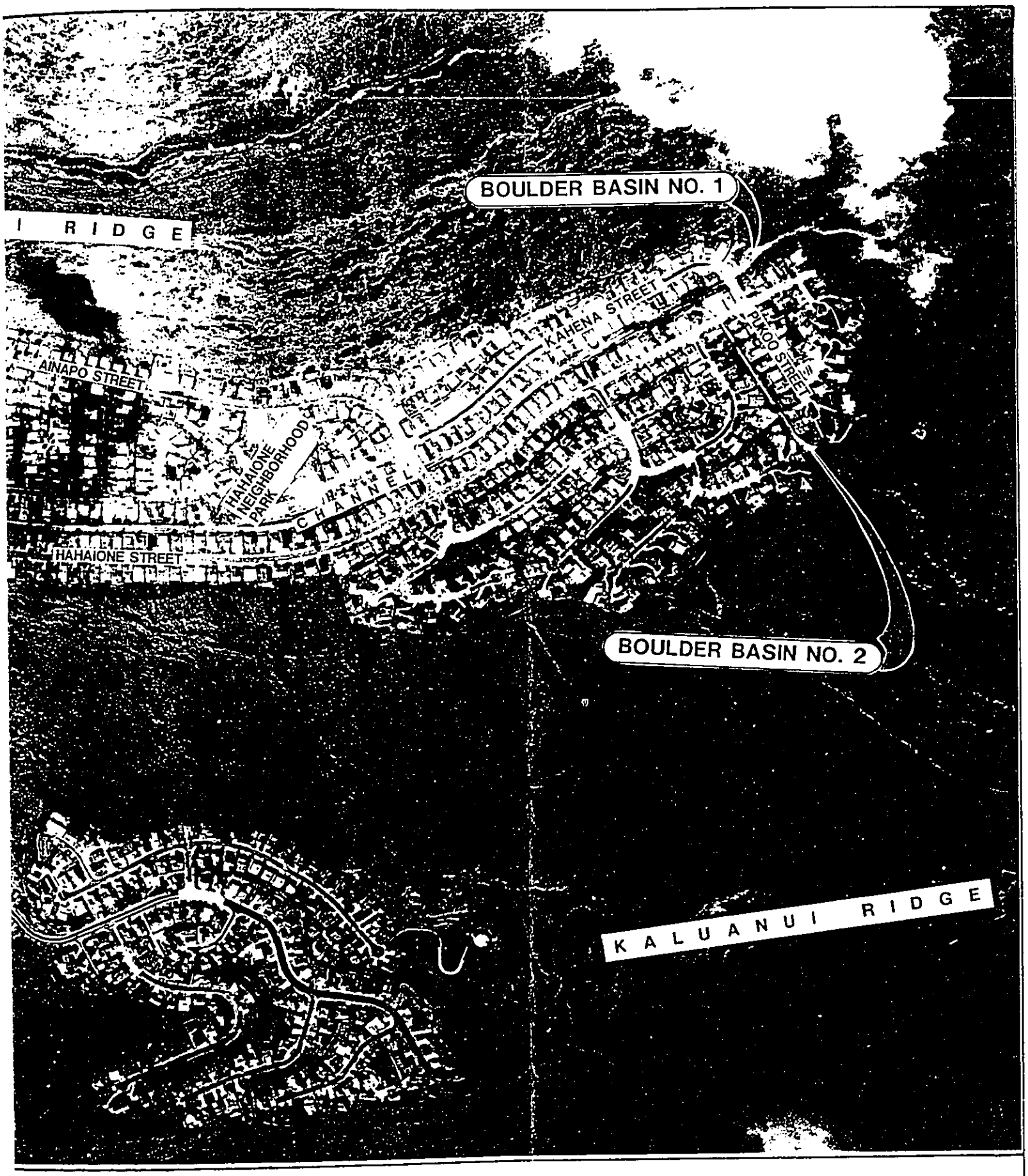
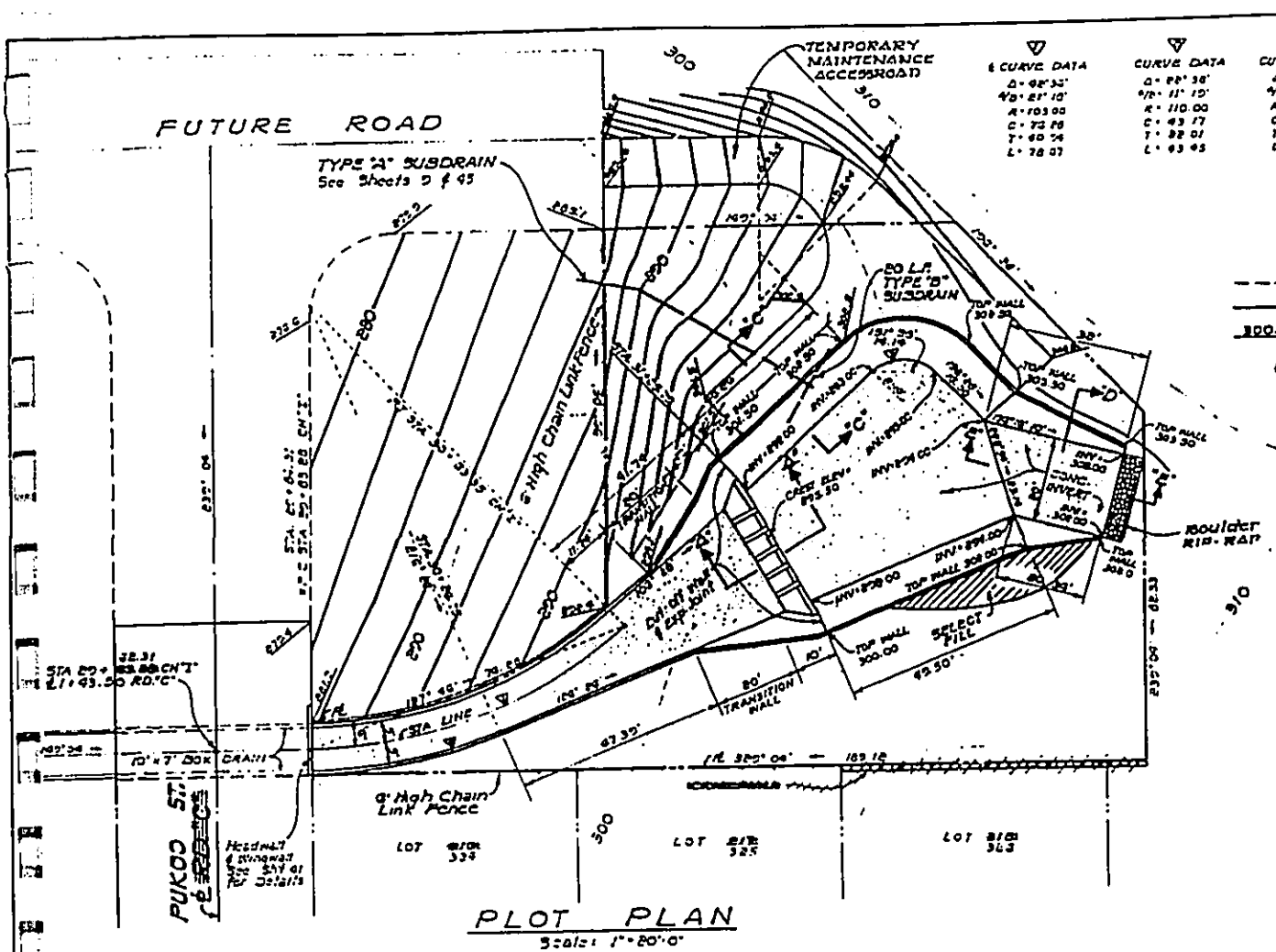


.EY - LOCATION MAP

Figure 2



PLOT PLAN
Scale: 1"=20'-0"

LEGEND

---300--- Existing Contour

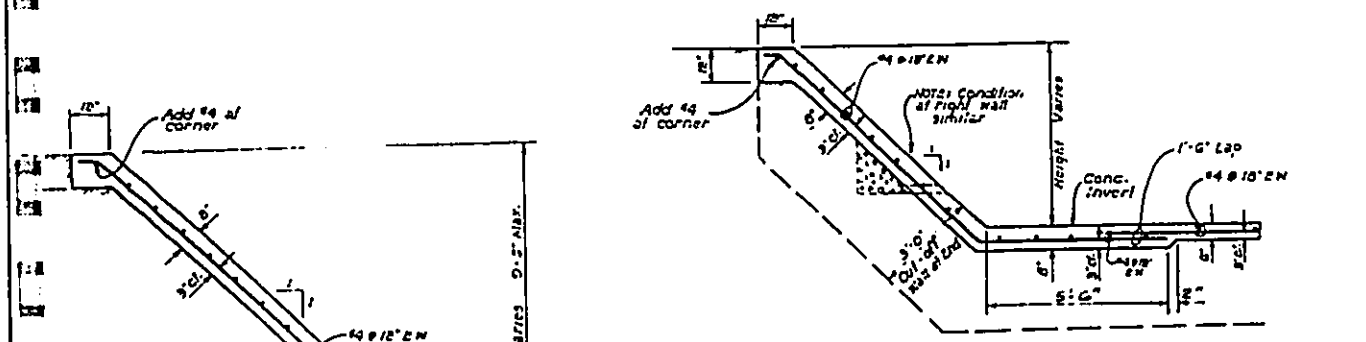
——300—— Finish Contour

300.0 Finish Spot Elevation

CAPACITY OF BASIN ----- 1,600 Cu Yds.

DRAINAGE RUNOFF AREA = 118 Ac

Q = 220 cfs



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SECTION "D-D"
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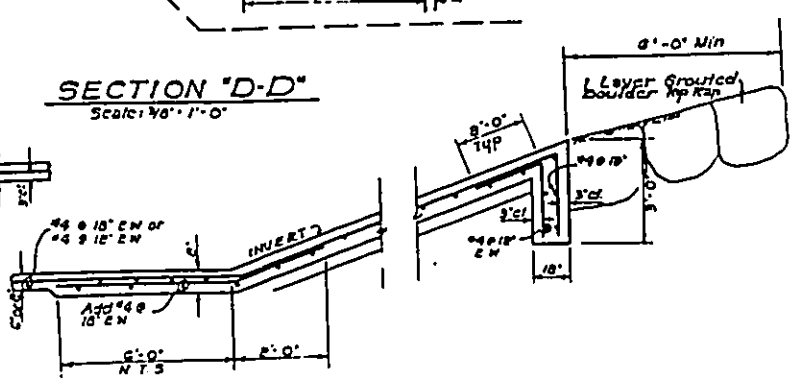

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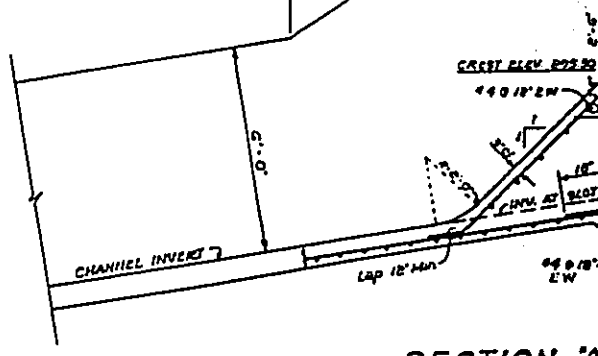
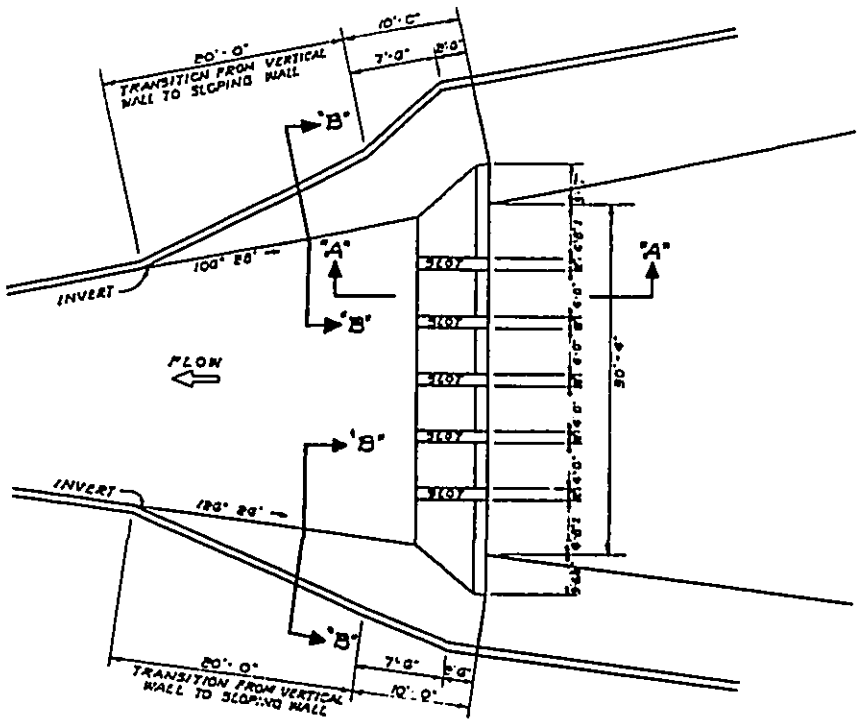


SECTION "A
Scale: 3/8"=1'-0"

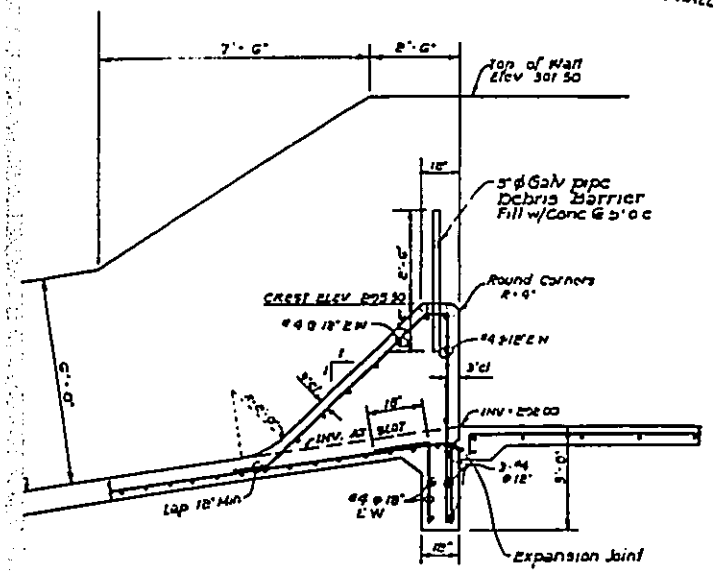
BOULDER BASIN #1

Contour
ntour
tion

ASIN ---- 1,600 Cu Yds.
AREA = 118 Ac
Q = 620 c/s



PLAN
Scale : 1/8" = 1'-0"



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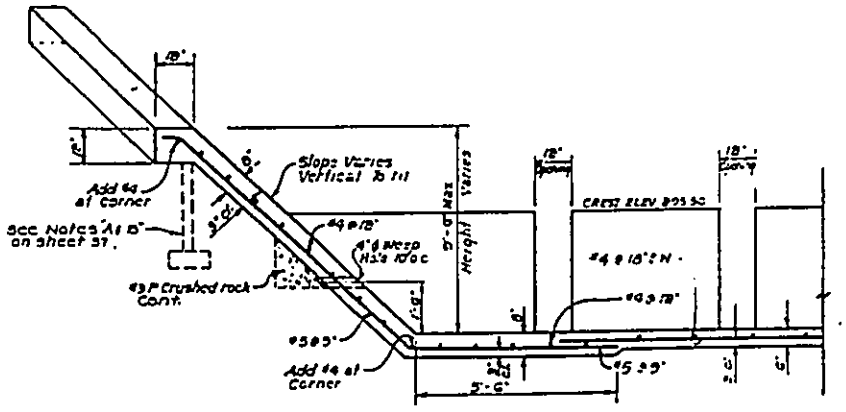


SECTION "B-B"
Scale : 3/8" = 1'-0"

BOULDER BASIN BARRIER

NO	REVISION	DATE	APPROVED

CHUNG DHO AHN & ASSOCIATES, INC.
CIVIL ENGINEERS

HAHAIONE VALLEY SUBD.
UNIT 2-B-2 & 4
AT MALINALUA, HONOLULU, OAHU
DETAILS
BOULDER BASIN # 1

OWNER B.P. BISHOP ESTATE
TAX MAP KEY: 3-9-08

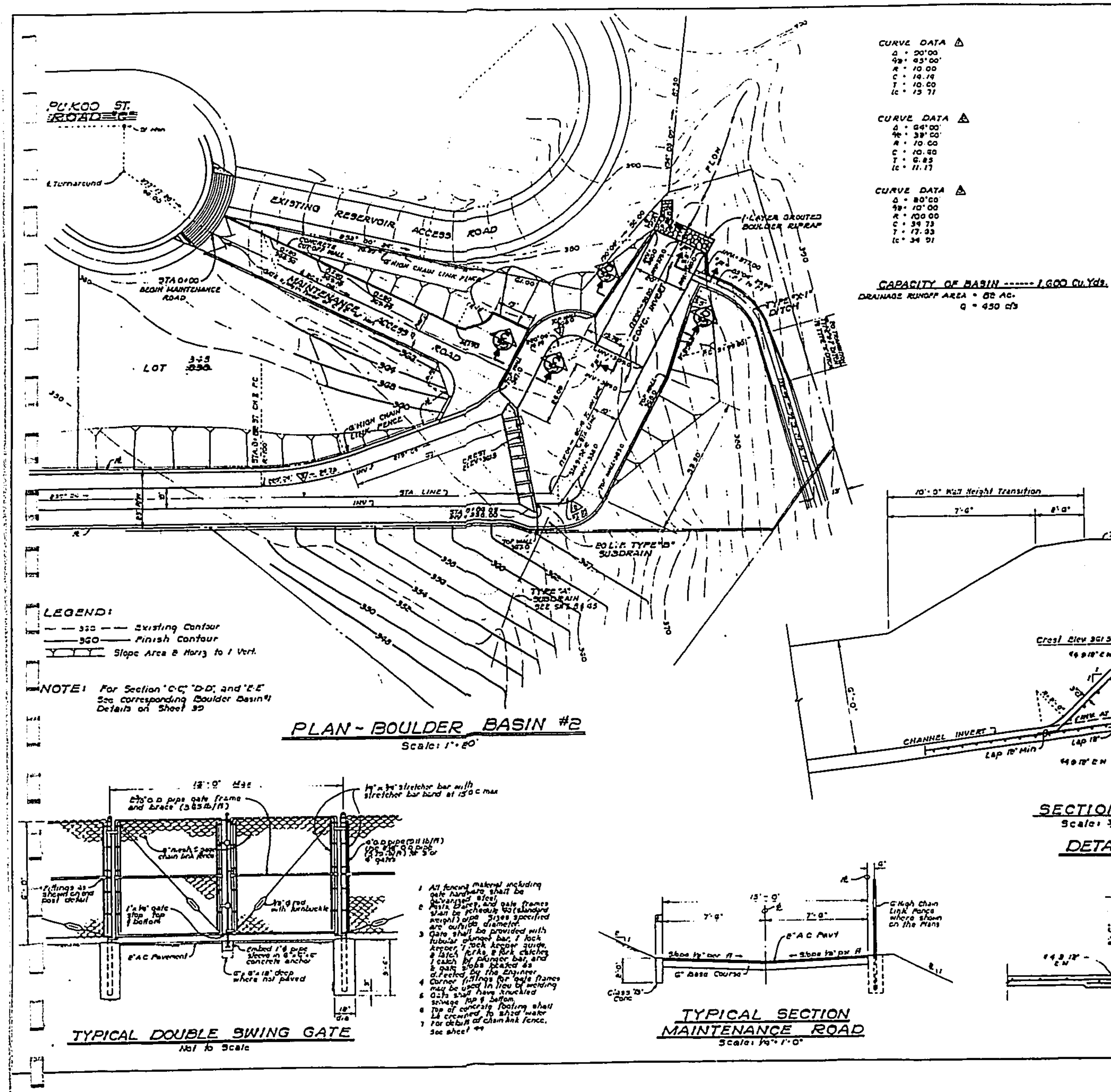
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DAVID M. YAMAMOTO
REGISTERED PROFESSIONAL ENGINEER
No. 1399
HAWAII U.S.A.

APPROVED 8/3/72
CHIEF, DIVISION OF ENGINEERING

AS BUILT

Figure 3



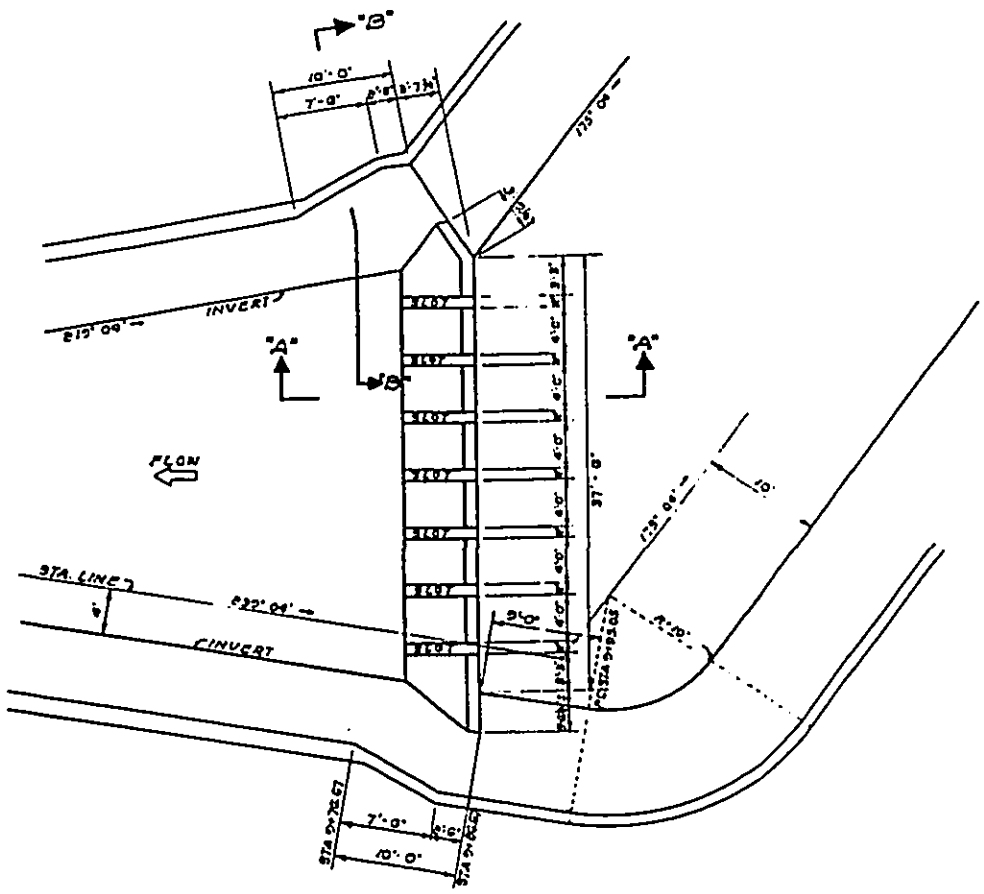
PUKOO ST.
ROAD "C"
EXISTING RESERVOIR ACCESS ROAD
MAINTENANCE ACCESS ROAD
6' HIGH CHAIN LINK FENCE
STA 0+00 BEGIN MAINTENANCE ROAD
LOT
CONC. INVERT
TYPE FX-1 DITCH
1-LAYER GROUTED BOULDER RIPRAP
FLOW
CREST ELEV 305
STA LINE
TYPE "A" SUBDRAIN
80 L.F. TYPE "B" SUBDRAIN
CURVE DATA
CAPACITY OF BASIN ------ 1,600 Cu.Yds.
DRAINAGE RUNOFF AREA = 88 Ac.
Q = 450 cfs
LEGEND:
Existing Contour
Finish Contour
Slope Area 8 Horiz to 1 Vert.
NOTE: For Section "C-C", "D-D", and "E-E" See corresponding Boulder Basin #1 Details on Sheet 39
PLAN - BOULDER BASIN #2
Scale: 1" = 20'
10'-0" Wall Height Transition
Crest Elev
CHANNEL INVERT
Lap 18" Min
SECTION
DETA
TYPICAL DOUBLE SWING GATE
Not to Scale
12'-0" Max.
Stretcher bar with stretcher bar band at 15" O.C. max
Fittings as shown on end post detail
2" A C Pavement
Embed 1" pipe sleeve in concrete anchor
1. All fencing material including gate hardware shall be galvanized steel.
2. Posts, braces, and gate frames shall be schedule 40 (standard weight) pipe. Sizes specified are outside diameter.
3. Gate shall be provided with tubular plunger bar, 1 lock keeper, 1 lock keeper guide, 8 latch forks, 2 fork catches, 1 catch for plunger bar, and 2 gate stops located as directed by the Engineer.
4. Corner fittings for gate frames may be used in lieu of welding.
5. Gate shall have knuckled selvage top & bottom.
6. Top of concrete footing shall be crowned to shed water.
7. For details of chain link fence, see sheet 44
TYPICAL SECTION MAINTENANCE ROAD
Scale: 1/2" = 1'-0"
15'-0"
7'-6"
2" A C Pavt
6" Base Course
6' High Chain Link Fence where shown on the Plans
Class "B" Conc

DATA △
90°00'
45°00'
10.00
14.14
10.00
15.71

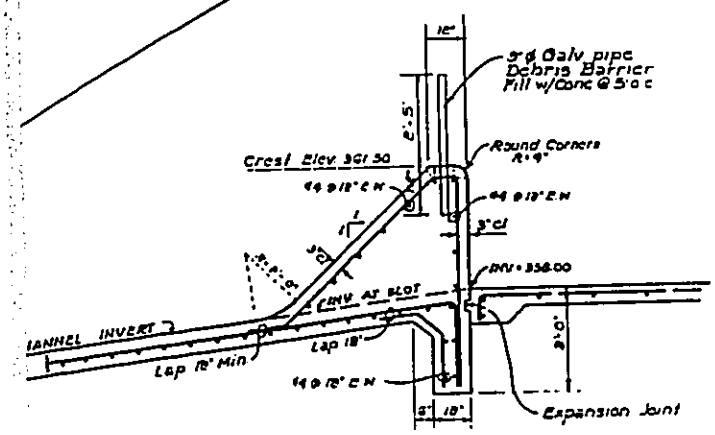
DATA △
64°00'
38°00'
10.00
10.60
6.85
11.17

DATA △
80°00'
10°00
100.00
39.73
17.93
34.91

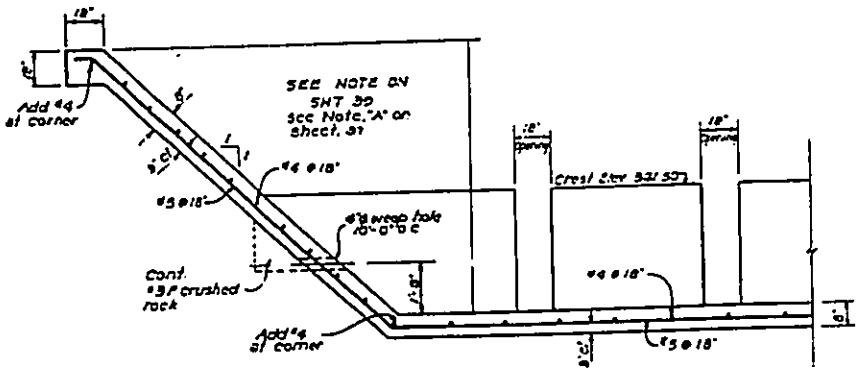
CITY OF BASIN ------ 1,600 Cu.Yds.
RUNOFF AREA = 82 AC.
Q = 450 cfs



PLAN
Scale: 1/8"=1'-0"

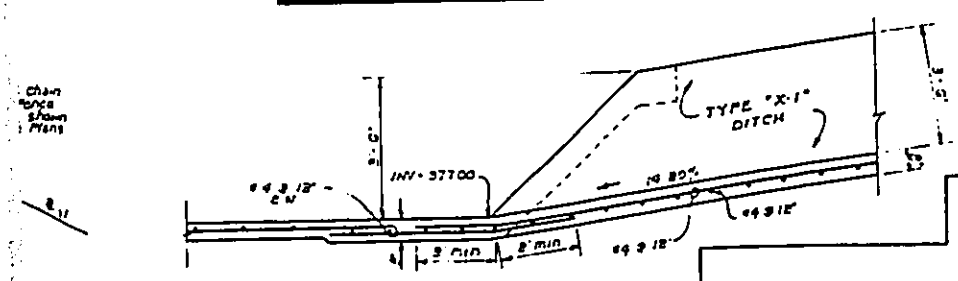


SECTION "A-A"
Scale: 1/8"=1'-0"



SECTION "B-B"
Scale: 1/8"=1'-0"

DETAILS ~ BOULDER BASIN BARRIER



SECTION "F-F"
Scale: 1/8"=1'-0"

NO	REVISION	DATE	APPROVED

CHUNG DHO AHN & ASSOCIATES, INC
CIVIL ENGINEERS

HAHAIONE VALLEY SUBD.
UNIT 2-B-2 & 4
AT MAUNALUA, HONOLULU, OAHU
DETAILS
BOULDER BASIN # 2

OWNER B.P. BISHOP ESTATE
TAX MAP KEY: 3-9-08

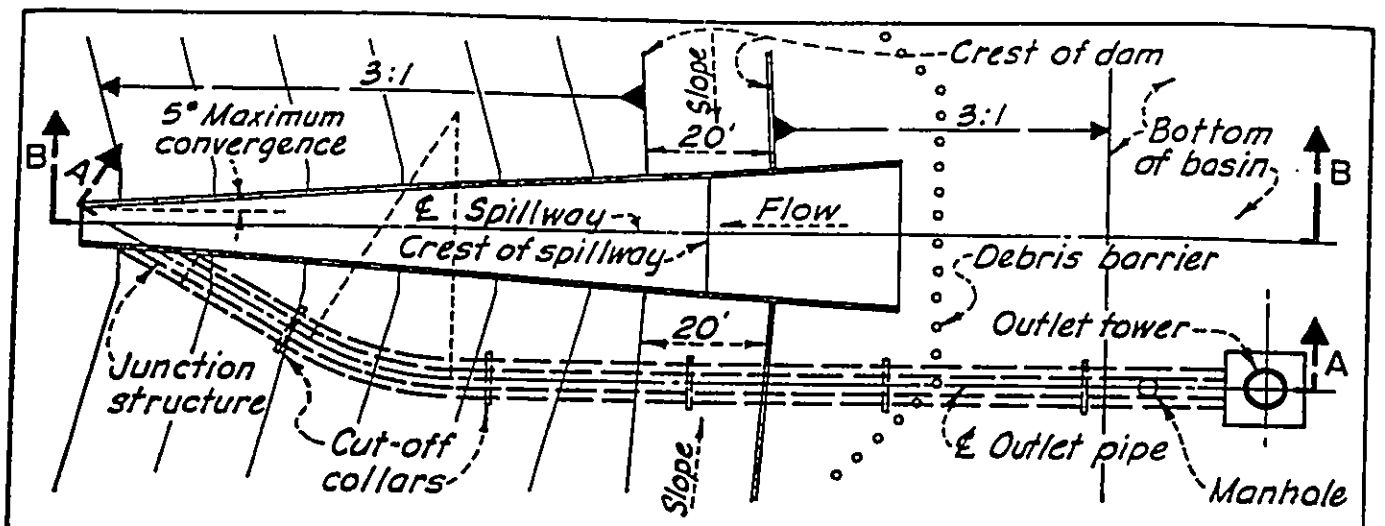
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DAVID M. YAMAMOTO REGISTERED PROFESSIONAL ENGINEER No. 1399 HAWAII, U.S.A.

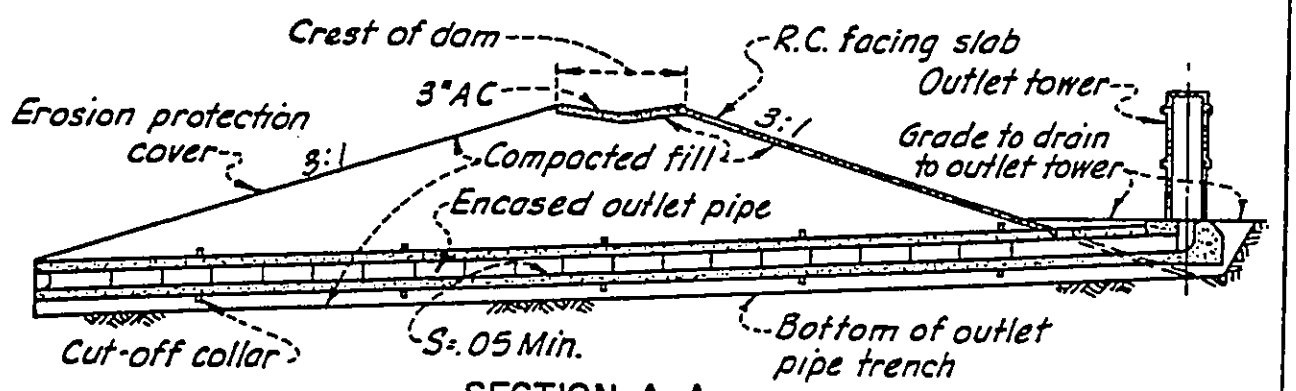
APPROVED
CHIEF, DIVISION OF ENGINEERING

AS BUILT

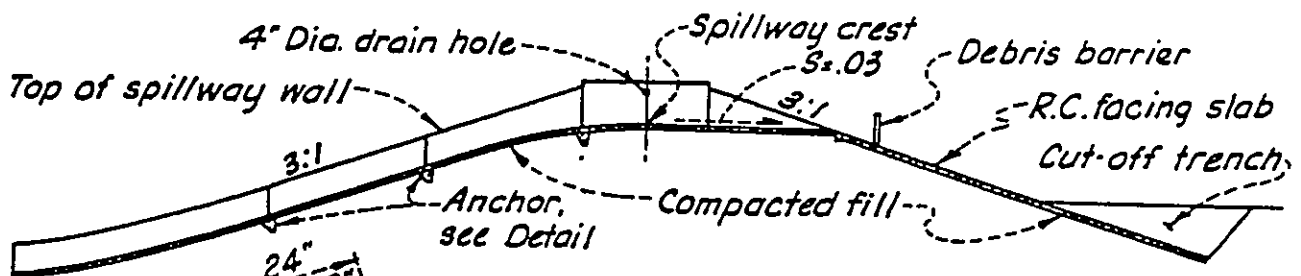
Figure 4



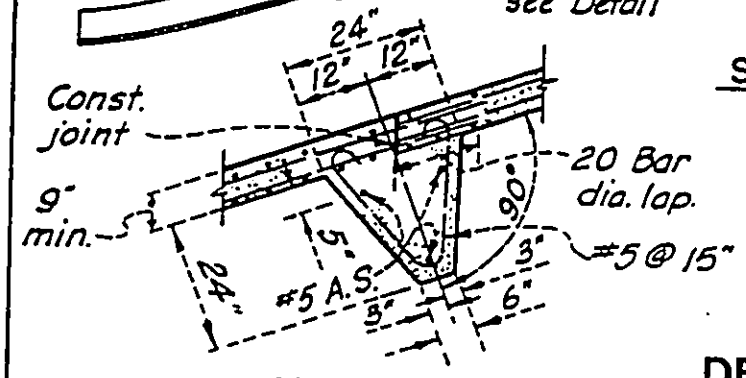
PLAN
TYPICAL SPILLWAY AND OUTLET WORKS



SECTION A-A



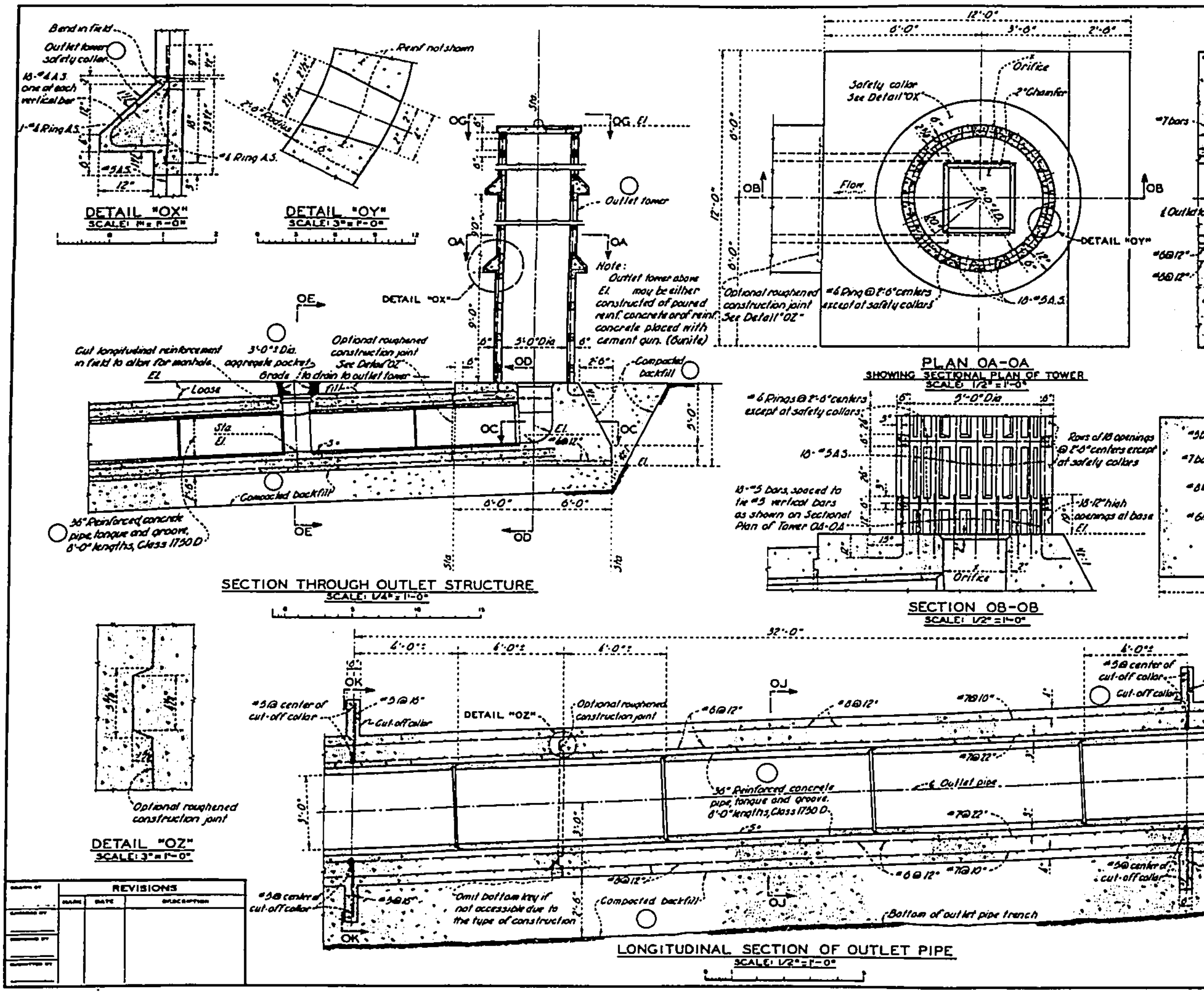
SECTION B-B

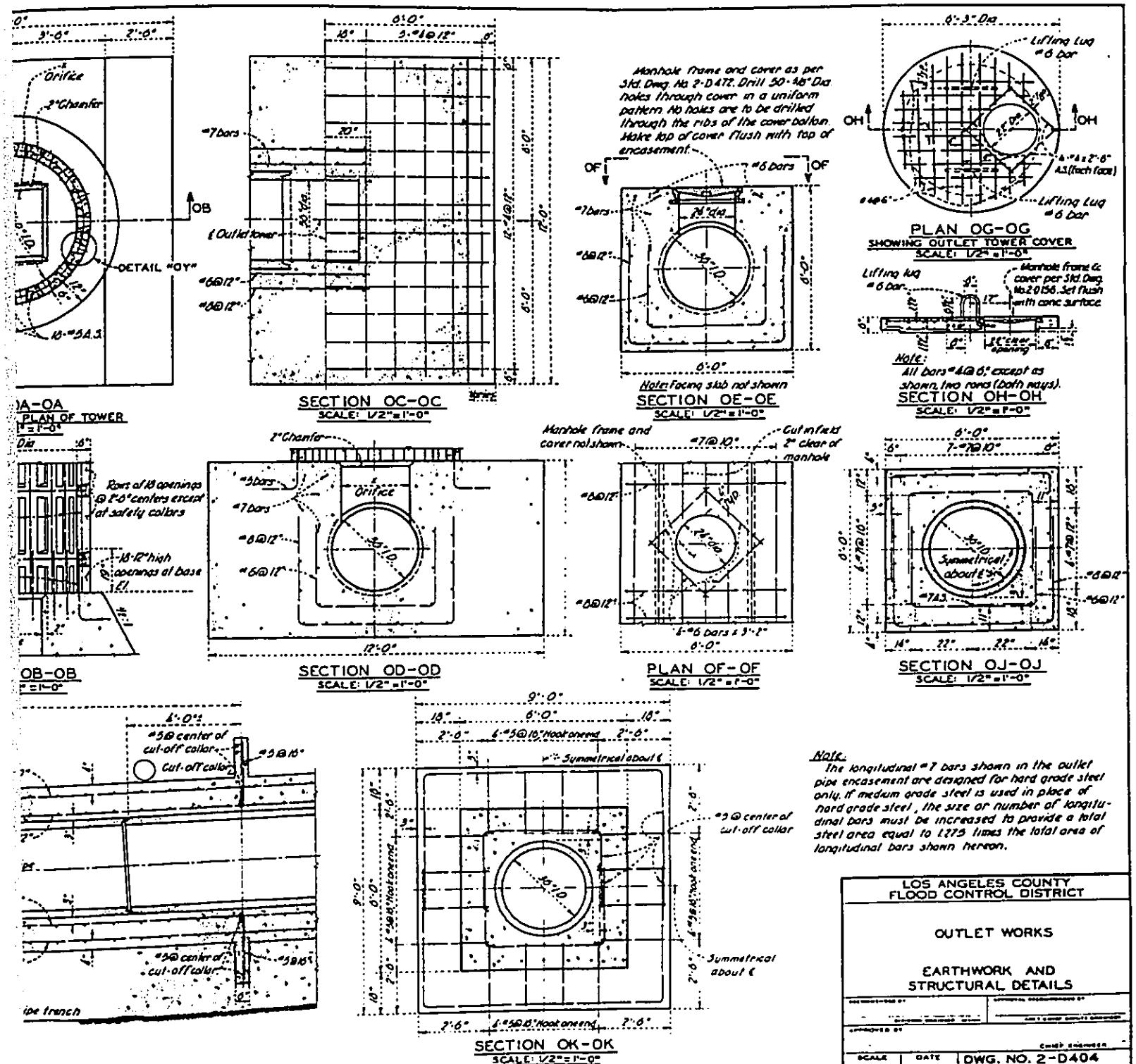


ANCHOR DETAIL

L.A. COUNTY
DEBRIS BASIN GUIDELINES

Figure 5


DETAIL "OX"
SCALE: 1" = 1'-0"
DETAIL "OY"
SCALE: 3" = 1'-0"
SECTION THROUGH OUTLET STRUCTURE
SCALE: 1/4" = 1'-0"
PLAN OA-OA
SHOWING SECTIONAL PLAN OF TOWER
SCALE: 1/2" = 1'-0"
SECTION OB-OB
SCALE: 1/2" = 1'-0"
DETAIL "OZ"
SCALE: 3" = 1'-0"
LONGITUDINAL SECTION OF OUTLET PIPE
SCALE: 1/2" = 1'-0"
REVISIONS
Outlet tower
Note: Outlet tower above El. may be either constructed of poured reinf. concrete or of reinf. concrete placed with cement gun. (Gunite)
Optional roughened construction joint
Compacted backfill
36" Reinforced concrete pipe, tongue and groove, 8'-0" lengths, Class 1750 D
Safety collar See Detail "OX"
Orifice
2" Chamfer
Flow
Cut-off collar
Omit bottom key if not accessible due to the type of construction
Bottom of outlet pipe trench

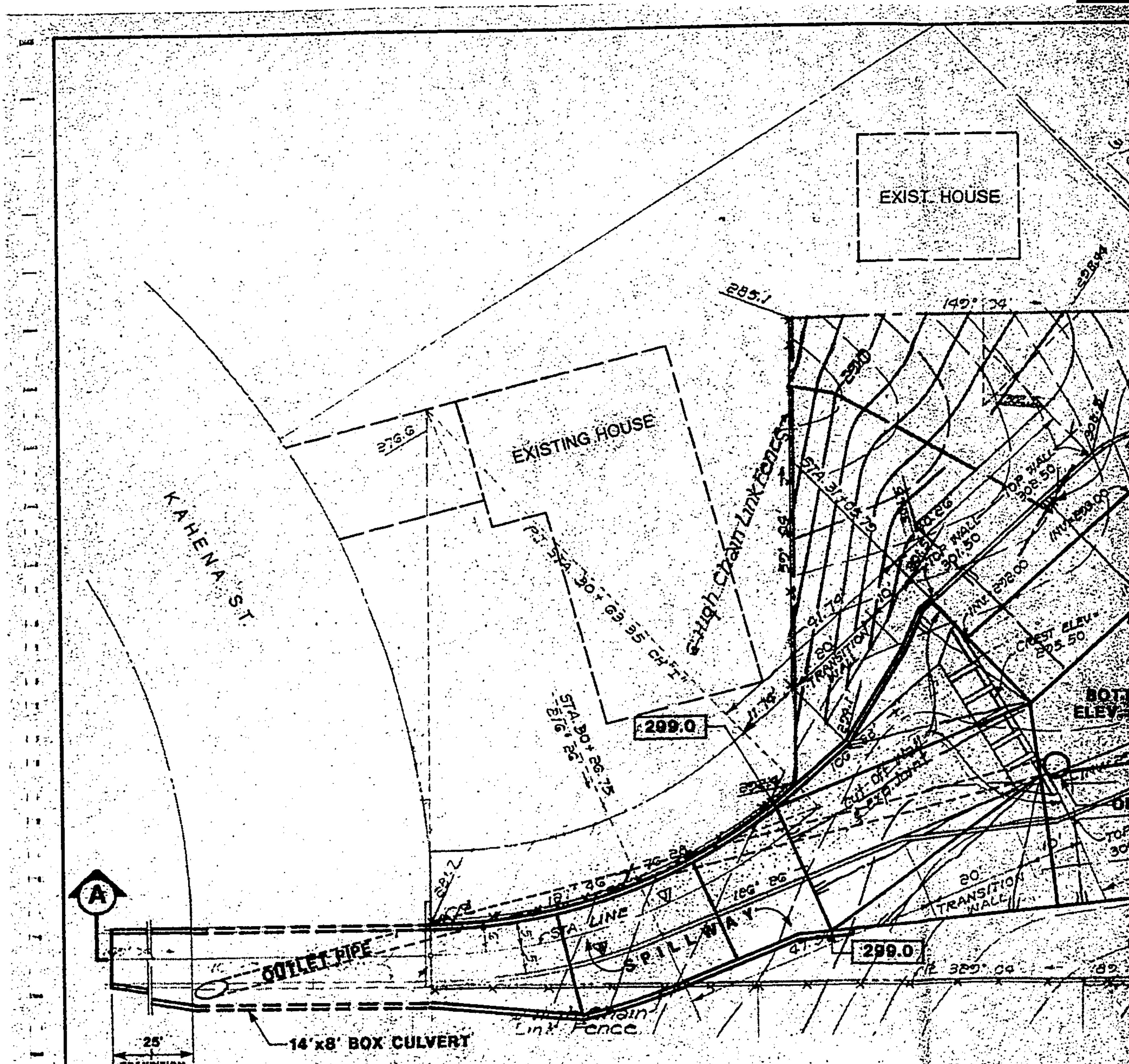


Note:
The longitudinal #7 bars shown in the outlet pipe encasement are designed for hard grade steel only. If medium grade steel is used in place of hard grade steel, the size or number of longitudinal bars must be increased to provide a total steel area equal to 1.275 times the total area of longitudinal bars shown hereon.

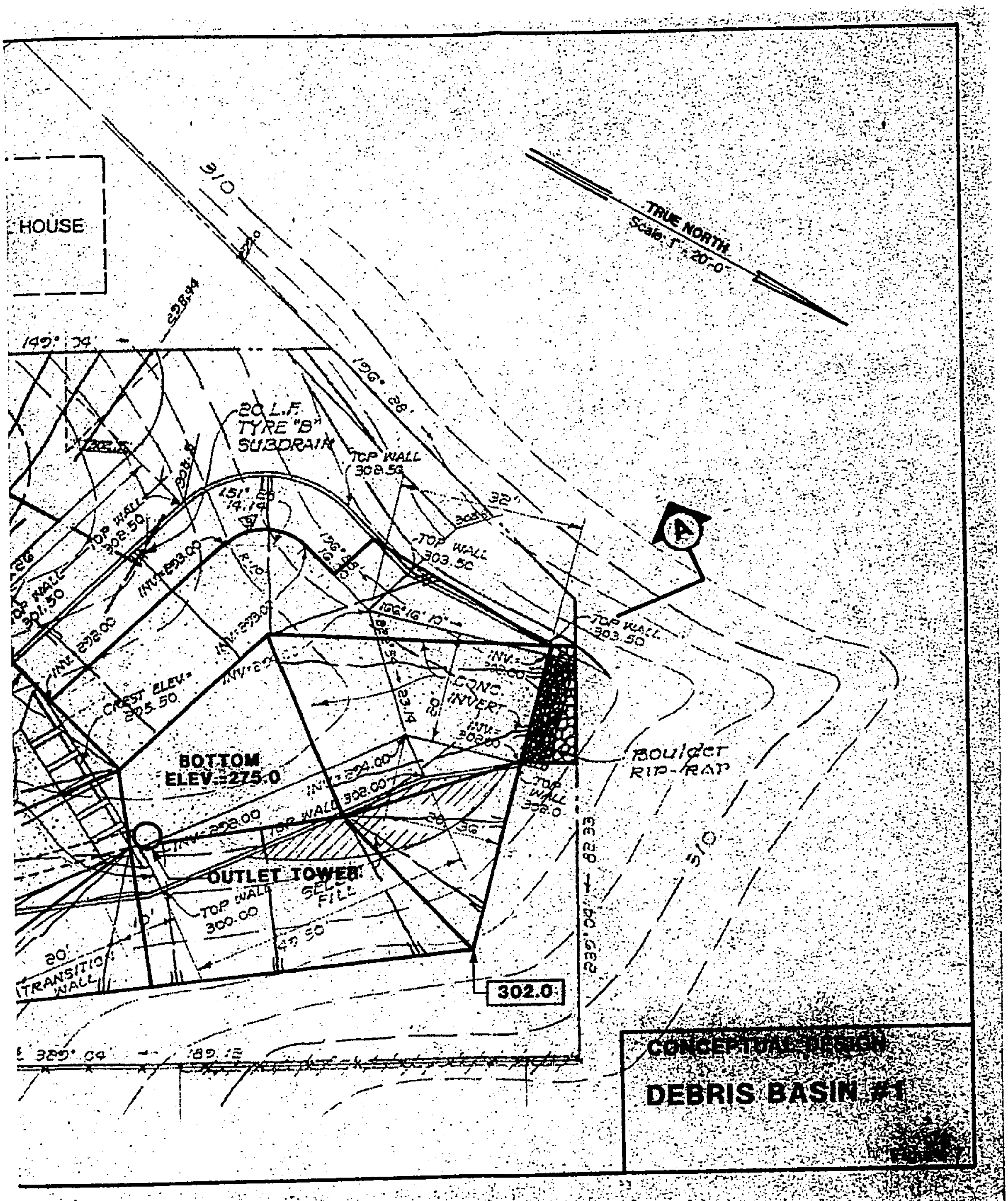
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT		
OUTLET WORKS EARTHWORK AND STRUCTURAL DETAILS		
SCALE: AS SHOWN	DATE: APRIL 1964	DWG. NO. 2-D404 SHEET OF

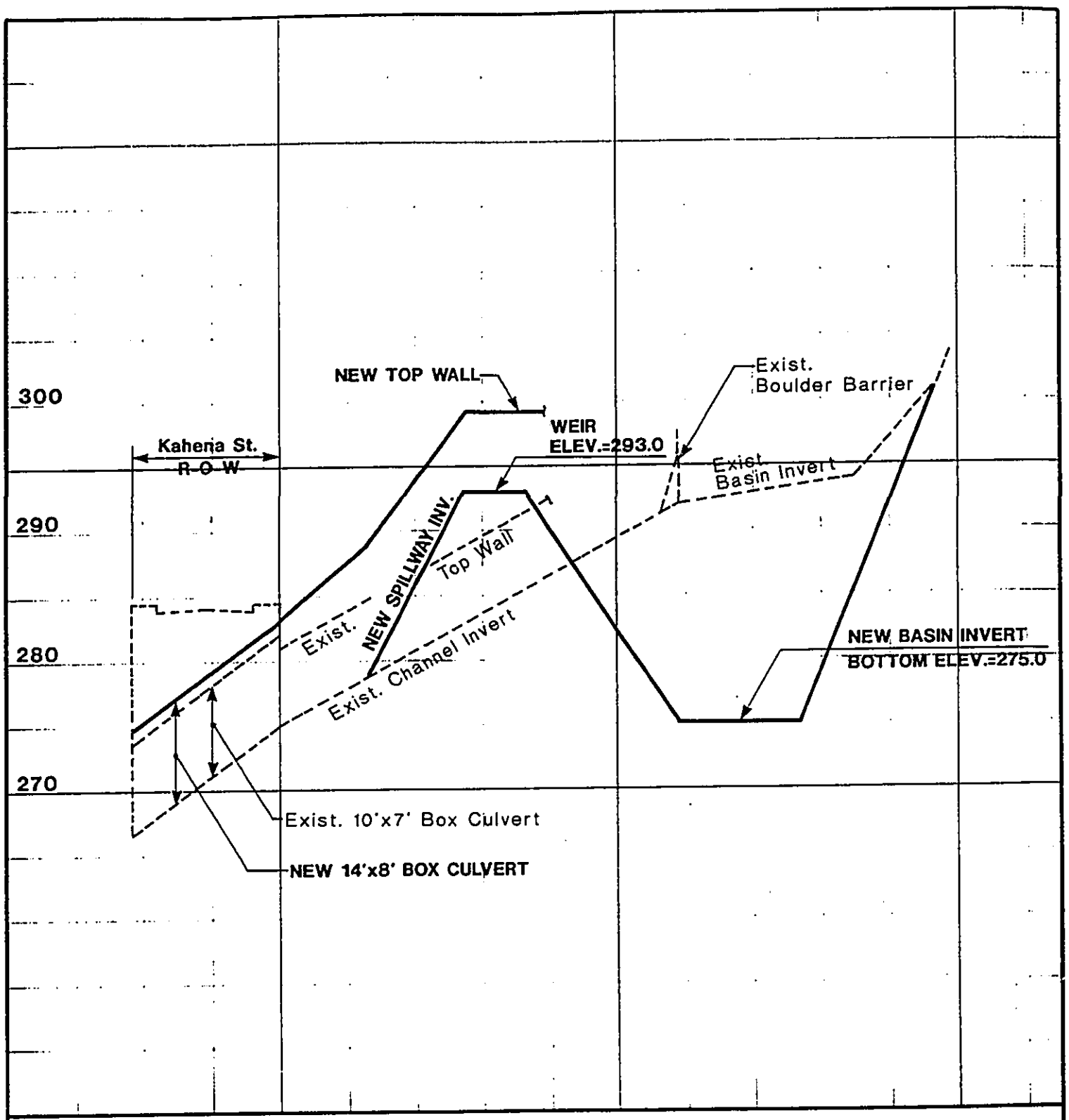
Revised 2-60 D. B. Man.

Figure 6



EXIST. HOUSE
EXISTING HOUSE
KAHENA ST.
High Chain Link Fence
STA. 30+69.35
STA. 30+26.75
299.0
299.0
TRANSITION WALL
TRANSITION WALL
CREST ELEV. 295.50
BOTT
ELEV
OUTLET PIPE
SPILLWAY
STA. LINE
Chain Link Fence
14'x8' BOX CULVERT
25'
TRANSITION
A

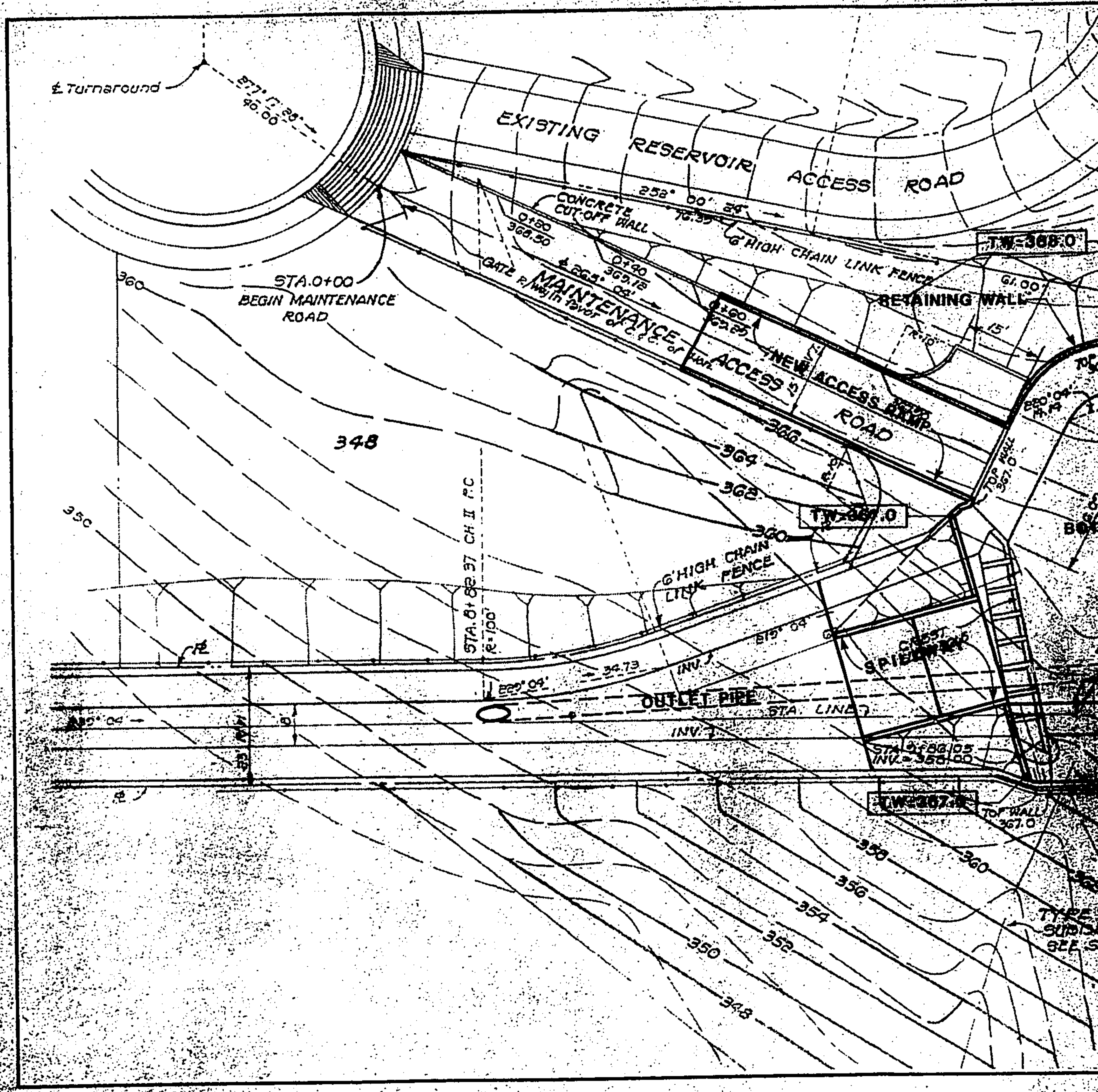

HOUSE
TRUE NORTH
Scale: 1" = 20'-0"
20 L.F. TYPE "B" SUBDRAIN
TOP WALL 308.50
TOP WALL 303.50
TOP WALL 303.50
CREST ELEV.= 295.50
BOTTOM ELEV.=275.0
CONC. INVERT
Boulder RIP-RAP
OUTLET TOWER
SELECT FILL
TOP WALL 300.00
20' TRANSITION WALL
302.0
CONCEPTUAL DESIGN
DEBRIS BASIN #1

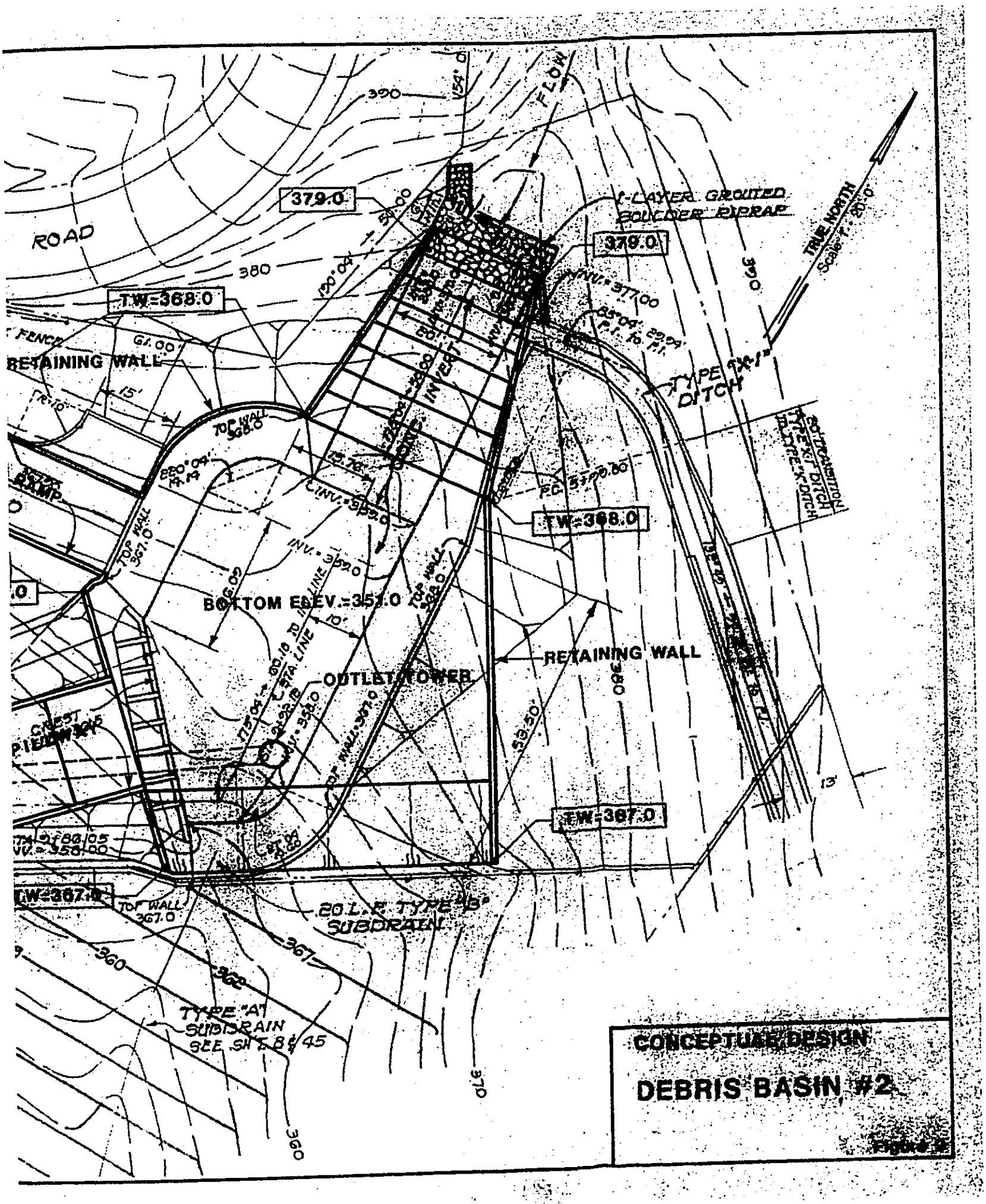


SECTION "A-A" (BASIN #1)

SCALE: HORIZ. 1" = 40'-0"
VERT. 1" = 10'-0"

Figure 8


℄ Turnaround
90.00
EXISTING RESERVOIR ACCESS ROAD
252° 00' 24"
CONCRETE CUT-OFF WALL
0+80
368.50
0+90
369.12
6' HIGH CHAIN LINK FENCE
TW=368.0
61.00'
RETAINING WALL
15'
R=10'
STA.0+00
BEGIN MAINTENANCE ROAD
MAINTENANCE ACCESS ROAD
NEW ACCESS RAMP
348
366
364
362
360
350
6' HIGH CHAIN LINK FENCE
STA. 8+82.37 CH II P.C
R=100'
34.73
INV.
OUTLET PIPE
STA. LINE
SPILLWAY
TW=367.0
TOP WALL 367.0
358
360
356
354
352
350
348


ROAD
379.0
TW=368.0
RETAINING WALL
FENCE
61.00'
15'
TOP WALL 368.0
680°04' 14.14
INV.=359.0
12.78'
TOP WALL 367.0
BOTTOM EDEV.=351.0
INV.=352.0
INV.=358.00
INV.=357.00
65°04' P.I. to 89°04' P.I.
FLOW
4-LAYER GROUTED BOULDER RIPRAP
379.0
TRUE NORTH
Scale: 1" = 20'-0"
TYPE "K-1" DITCH
60' TRANSITION TYPE "K" DITCH TO TYPE "K-1" DITCH
P.C. 5+90.80
TW=368.0
RETAINING WALL
OUTLET TOWER
CREST EL=367.45
FW=367.0
TOP WALL 367.0
20 L.F. TYPE "B" SUBDRAIN
TYPE "A" SUBDRAIN SEE SHTS. 8 & 45
360
365
367
370
CONCEPTUAL DESIGN
DEBRIS BASIN #2
Figure 2

APPENDIX A:
Comments from and Replies to Agencies and Persons Consulted During the Assessment Process

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

RECEIVED
DIV. OF ENGINEERING
FEB 18 4 10 PM '93

REPLY TO ATTENTION OF
Planning Division

February 16, 1993

93-0545
orig

Mr. Michael Street
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Street:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Hahaione Valley Boulder Basin Improvements Project, Hahaione Valley, Honolulu, Hawaii (TMK 3-9-85: 35, 60). The following comments are provided pursuant to 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 project will require a DA permit for expansion of the boulder basins in two intermittent drainageways. Please contact our Operations Division at 438-9258 and refer to file number PO93-031.

b. The flooding information presented on page 5 of the report is correct.

Sincerely,

Kisuk Cheung, P.E.
Director of Engineering

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

C. MICHAEL STREET
DIRECTOR AND CHIEF ENGINEER

FELIX B. LIMTIACO
DEPUTY DIRECTOR

IN REPLY REFER TO
93-12-0168

April 7, 1993

Mr. Kisuk Cheung, P.E.
Director of Engineering
U.S. Army Engineering District, Honolulu
Department of the Army
Building T-1, Room 105
Fort Shafter, Hawaii 96858

Dear Mr. Cheung:

Subject: Draft Environmental Assessment for the Hahaione Valley Boulder Basin Improvements Project, Hahaione, Oahu, Tax Map Key: 3-9-85: 60, Por. 35

Thank you for taking the time to review our environmental documents.

In response to the comments transmitted by your letter dated February 16, 1993, we will indicate in the environmental assessment that a Department of the Army (DA) permit will be required for the subject project. Filing for this and the related State permits--Section 401 Water Quality Certification, and Coastal Zone Management Permit--will be done during the project's design phase.

We hope we have addressed your concerns to your satisfaction. Thank you again for your comments.

Should you have any questions, please call our engineering consultant, Fukunaga & Associates, Inc., at 944-1821.

Very truly yours,

C. MICHAEL STREET
Director and Chief Engineer

cc: Fukunaga & Associates, Inc.

United States Department of the Interior

GEOLOGICAL SURVEY

677 Ala Moana Blvd. Suite 415
Honolulu, Hawaii 96813

March 1, 1993

93-0668

C. Michael Street
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
50 South King Street
Honolulu, HI 96813

Dear Mr. Street

I have reviewed the report "Draft Environmental Assessment for the Hahaione Valley Boulder Basin Improvements Project, Hahaione Valley, Honolulu, TMK: 3-9-85 and 3-9-85:35 (Por.) that was sent by your office and offer the following. Page 2 of the report includes the phrase "estimated sizing parameters developed by the United States Geological Survey". Page 9 of the report refers to "The sizing requirements provided by USGS upon which the proposed project design will be based". Both of the above statements refer to the following volumes:

Debris Basin No. 1 - 3000 cubic yards
Debris Basin No. 2 - 2600 cubic yards

To the best of my knowledge these values were based on a November 22, 1991 letter from Mr Stephen Ellen of the USGS to Mr. Mel Takakura of your staff. Clearly the estimates provided in the subject letter were not size requirements. The letter in question provided debris volume estimates for the two watersheds upstream from the debris basins in question, in cubic yards, for the following:

1. The volume of material that slid and flowed from hillsides during the New Year's Eve storm of 1987-1988

2. The long-term average volume of material removed per 100 years

3. The average volume removed per 100 years, as estimated from work by Moberly (1963)

Mr. Ellen's letter went on to say that the information provided was provisional, did not have USGS approval to be released to the public, and was subject to change. In addition he noted that the estimated volumes may be high or low by a factor of about 2.

I have no basis for disputing the volumes that were selected to be the basis for the designs of the two debris basins. I would simply suggest that the wording on pages 2 and 9 referencing the USGS be changed to more accurately reflect the content of Mr. Ellen's letter, as highlighted above.

If there any question regarding this matter please feel free to contact me in our Honolulu office at 808-541-2653.

Sincerely,

Richard Fontaine

Richard Fontaine
Surface-Water Specialist
USGS, Hawaii District

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

C. MICHAEL STREET
DIRECTOR AND CHIEF ENGINEER

FELIX B. LIMTIACO
DEPUTY DIRECTOR

IN REPLY REFER TO
93-12-0170

April 7, 1993

Mr. Richard Fontaine
Surface-Water Specialist
U.S. Geological Survey, Hawaii District
677 Ala Moana Boulevard, Suite 415
Honolulu, Hawaii 96813

Dear Mr. Fontaine:

Subject: Draft Environmental Assessment for the Hahaione Valley Boulder Basin Improvements Project, Hahaione, Oahu, TMK: 3-9-85: 60, Por. 35

Thank you for taking the time to review our environmental documents.

In response to the comments transmitted by your letter dated March 1, 1993, we will revise the wording in the draft EA to better reflect the content of Mr. Ellen's letter per your request. Upon review of Mr. Ellen's letter, we agree with you that to call Mr. Ellen's debris volume estimates "sizing requirements provided by USGS" is not quite accurate. Accordingly, the text will be modified to generally state that the USGS provided debris volume estimates representing Hahaione Valley watershed's "long-term average volume removed per 100 years". Although these estimates are provisional and subject to change, they are currently the best information available; and accordingly, the basins will be sized to retain these volumes.

We hope we have addressed your concerns to your satisfaction. Thank you again for you comments.

Should you have any questions, please call our engineering consultant, Fukunaga & Associates, Inc. at 944-1821.

Very truly yours,

for C. MICHAEL STREET
Director and Chief Engineer

cc: Fukunaga & Associates, Inc.

JOHN WAIHEE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HAWAII 96801

JOHN C. LEWIN, M. D.
DIRECTOR OF HEALTH

93-0837
env

In reply, please refer to:

March 9, 1993

93-035/epo

Mr. C. Michael Street
Director & Chief Engineer
Department of Public Works
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

RECEIVED
DIV. OF ENVIRONMENTAL
MAR 11 12 52 PM '93

Dear Mr. Street:

Subject: Draft Environmental Assessment for the Hahaione Valley Boulder Basin Improvements Project
Hahaione Valley, Honolulu
TMK: 3-9-85: 60 and 3-9-85: 35 (Por.)

Thank you for allowing us to review and comment on the subject project. We do not have any comments to offer at this time.

Very truly yours,

JOHN C. LEWIN, M.D.
Director of Health

JOHN WAIHEE
GOVERNOR OF HAWAII

RECEIVED
DEPT OF PUBLIC WORKS
MAR 11 10 54 AM '93

93-0841

REF: OCEA:KCK

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

File No.: 93-424
DOC. ID.: 2354

MAR 9 1993

RECEIVED
DIV. OF ENGINEERING
MAR 11 12 51 PM '93

Mr. C. Michael Street
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 So. King Street
Honolulu, Hawaii 96813

Dear Mr. Street:

Subject: Draft Environmental Assessment (DEA) for the Hahaione Valley Boulder Basin Improvements Project, Hahaione, Oahu, TMK: 3-9-85: 60, por. 35

We have reviewed the DEA information for the proposed boulder basin improvements transmitted by your letter dated February 1, 1993, and have the following comments:

Commission on Water Resource Management

The Commission on Water Resource Management comments that they request that additional information on stream fauna above the boulder basins be provided to determine whether the proposed project will require a Stream Channel Alteration Permit (SCAP) from the Commission on Water Resource Management.

We will forward the Historic Preservation Division comments as they become available.

We have no other comments to offer at this time. Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tagawa at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

John P. Keppeler II

JOHN P. KEPPELER, II
Acting Director

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Water and Land Development
Honolulu, Hawaii

MAR - 9 199?

TO: Mr. Roger C. Evans
Office of Conservation and Environmental Affairs

FROM: Manabu Tagomori

SUBJECT: Draft EA for Hahaione Valley Boulder Basin Improvements Project, Hahaione, Oahu, TMK: 3-9-85:60, por. 35. Doc. No. 2219

We have no objections to this proposed project which is a follow-up of the 1988 New Year's Eve flood disaster and agree with the City & County of Honolulu's efforts to reduce flood losses by increasing the capacity of the boulder basin.

TK:lc

March 5, 1993

LOG NO: 7540
DOC NO: 9303TD01

MEMORANDUM

TO: Roger C. Evans, Administrator
Office of Conservation and Environmental Affairs

FROM: Don Hibbard, Administrator
Historic Preservation Division

SUBJECT: **Department of Public Works, City and County of Honolulu, Draft Environmental Assessment for the Hahaione Valley Boulder Basin Improvements Project (File No. 93-424)**
Waikiki, Kona, O'ahu
TMK: 3-9-85: 35 & 60

A review of our records shows that there are no known historic sites at this plat. The parcels in question are boulder basins that retain debris during intermittent stream flow and are surrounded by residential development. We believe that expanding these boulder basins will have "no effect" on historic sites.

TD:amk

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR

C. MICHAEL STREET
DIRECTOR AND CHIEF ENGINEER

FELIX B. LIMTIACO
DEPUTY DIRECTOR

IN REPLY REFER TO.

93-12-0171

April 8, 1993

Mr. John P. Keppeler, II, Acting Director
Office of Conservation and Environmental Affairs
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Keppeler:

Subject: Draft Environmental Assessment for the Hahalone Valley Boulder Basin Improvements Project, Hahalone, Oahu, TMK: 3-9-85: 60, Por. 35

Thank you for taking the time to review our environmental documents. Our responses to your comments as transmitted by letter dated March 9, 1993 are as follows:

By observation, the existence of stream fauna in the vicinity of the boulder basins is questionable because during dry-weather conditions, which occur most of the time, there is no stream flow. The existence of aquatic life further up the valley beyond the limits of the basins and developed areas has not been verified. However, the proposed project should not affect the characteristics and environment of upstream areas. The occurrence of a debris flow event and the subsequent retention of debris within the expanded basins may cause a back-up of such debris into these areas. However, any adverse effects to any fauna upstream would have been caused by the debris flow itself, regardless of whether the boulder basin improvements were implemented or not.

The above statements will be incorporated into the final environmental assessment. In accordance with this rationale, we believe a Stream Channel Alteration Permit is not warranted.

We hope we have addressed your concerns to your satisfaction. Thank you again for your comments.

Should you have any questions, please call our engineering consultant, Fukunaga & Associates, Inc. at 944-1821.

Very truly yours,

C. MICHAEL STREET
Director and Chief Engineer

cc: Fukunaga & Associates, Inc.

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU HAWAII 96813

93-0534

FRANK F. FASI
MAYOR

JOSEPH M. MAGALDI, JR.
DIRECTOR

AMAR SAPPAL
DEPUTY DIRECTOR

env ah
ENG

TE-459
PL93.1.036
93-12-0054

February 17, 1993

MEMORANDUM

TO: C. MICHAEL STREET, DIRECTOR & CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM: JOSEPH M. MAGALDI, JR., DIRECTOR

SUBJECT: HAHAIONE VALLEY BOULDER BASIN IMPROVEMENTS
DRAFT ENVIRONMENTAL ASSESSMENT
TMK: 3-9-85: 60; 3-9-85: PORTION 35

This is in response to your memorandum dated February 1, 1993 requesting our comments on the subject draft environmental assessment.

Based on our review, we have no objections to the proposed improvements at this time. Construction plans for all work within the City's right-of-way should be submitted to our department for review. A traffic control plan showing temporary detours for pedestrians and vehicles should be included in these plans.

Should you have any questions, please contact Lance Watanabe of my staff at local 4199.

JOSEPH M. MAGALDI, JR.

PLANNING DEPARTMENT

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

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TO

FRANK F. FASI
MAYOR

ROBIN FOSTER
CHIEF PLANNING OFFICER

ROLAND D. LIBBY, JR.
DEPUTY CHIEF PLANNING OFFICER

TH 2/93-254

February 22, 1993

MEMORANDUM

TO: C. MICHAEL STREET, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM: ROBIN FOSTER, CHIEF PLANNING OFFICER
PLANNING DEPARTMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR THE HAHAIONE VALLEY BOULDER BASIN IMPROVEMENTS PROJECT, HAHAIONE VALLEY, HAWAII KAI, TAX MAP KEYS: 3-9-85: 60 AND 3-9-85: PORTION OF 35

In response to your memorandum of February 1, 1993, we have reviewed the subject DEA and offer the following comments.

1. We have no objections to the proposed drainage project.

2. The proposal to improve two boulder basins in upper Hahaione Valley is considered a minor project. Therefore, an amendment to the East Honolulu Development Plan Public Facilities Map is not required unless the total cost of the project exceeds $1 million.

Should you have any questions, please contact Tim Hata of our staff at 527-6070.

ROBIN FOSTER
Chief Planning Officer

RF:js

DEPARTMENT OF THE CORPORATION COUNSEL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII 96813
FAX NUMBER (808) 523-4583

FRANK F. FASI
MAYOR

RONALD B. MUN
CORPORATION COUNSEL

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February 26, 1993

TO: C. MICHAEL STREET, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM: LOWELL WOLF, DEPUTY CORPORATION COUNSEL

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE HAHAIONE VALLEY BOULDER BASIN IMPROVEMENTS PROJECT; YOUR REF NO. 93-12-0054

This is in response to your memorandum of February 1, 1993, which asks for our comments regarding the need for an Environmental Impact Statement ("EIS") in connection with the above-referenced project. We reviewed the Draft Environmental Assessment ("EA") attached to your memorandum and opine that, under the circumstances described in the EA, no EIS should be required. None of the "significance criteria" listed in Title 11, Chapter 200, EIS Rules (§ 11-200-12(b)) appear to be violated, according to the EA.

If you have any questions regarding this matter, please contact me at extension 4116.

Lowell Wolf
LOWELL WOLF
Deputy Corporation Counsel

APPROVED:

Ronald B. Mun
RONALD B. MUN
Corporation Counsel

LW:lt

DPW-BASN.TLW

HAWAII KAI NEIGHBORHOOD BOARD NO. 1
P.O. BOX 25804 • HONOLULU, HAWAII 96825

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February 25, 1993

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Mr. Michael Street, Director
Department of Public Works
City and County of Honolulu
650 S. King Street
Honolulu, Hawai: 96813

Subject : Draft Environmental Assessment for the Hahaione Valley Boulder Basin Improvements Project, *Hahaione Valley*, Honolulu

Reference: Letter No. 93-12-0054, dated February 1, 1993

Dear Mr. Street:

The subject project has been reviewed by the Hawaii Kai Neighborhood Board. We support the project and are in agreement with the findings and reasons set forth in Section 7 of the report.

Very truly yours,

Quincy Kaneshiro
Acting Chair

cc: Councilmember John Henry Felix
Senator Donna Ikeda
Representative David Stegmaier
Representative Gene Ward
Neighborhood Commission
Robert B. Fowler
Chairperson, Planning & Zoning Committee
Hawaii Kai Neighborhood Board No. 1