CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST., SUITE 200
VENTURA, CA 93001
(805) 641-0142

Filed: 2/5/96
49th Day: 3/25/96
180th Day: 8/3/96
Staff: TAD-VNT
Staff Report: 2/23/96
Hearing Date: March 12-15, 1996
Commission Action:

STAFF REPORT: CONSENT CALENDAR

W17g

APPLICATION NO.: 4-96-001

APPLICANT: Los Angeles County Public Works Department (LACPWD)

AGENT: Andrew Akinpelu - LACPWD

PROJECT LOCATION: Hume Road near the intersection of Las Flores Canyon Road, Malibu area, Los Angeles County.

PROJECT DESCRIPTION: The construction of two H-beam piles and concrete lagging retaining walls between 7'-19' in height. One wall is 135' long the other 100'. The project also involves the installation of an 18" and 24" corrugated steel pipes (CSP) which will connect to a new 36" CSP which connects to an existing drainage structure located on Las Flores Canyon Road. Approximately 350 cubic yards of grading is involved.

LOCAL APPROVALS RECEIVED: None Required.

SUBSTANTIVE FILE DOCUMENTS: California Coastal Act of 1976, as of January 1995, CDP 4-94-059, CDP 4-95-187.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends that the Commission determine that the proposed project, as conditioned, is consistent with the requirements of the California Coastal Act. Staff further recommends special conditions regarding; landscape revegetation plans and erosion control plans.

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, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions 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.

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 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 or 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.

III. Special Conditions.

1. Revegetation Program

Prior to the issuance of a coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, revegetation plans for all areas impacted and disturbed by development activities. These plans shall incorporate the use of native, indigenous, plant species associated with the site and the surrounding area to minimize the need for irrigation and to soften the visual impact of development. These plans shall provide an outline of proposed maintenance activities, including the removal of weeds, or mid-course corrections (additional plantings), should they be required.

2. Erosion Control Plans

Prior to the issuance of a coastal development permit the applicant shall submit, for the review and approval of the Executive Director, an interim erosion control plan for all areas disturbed by development and grading activities, which includes:

1. Description of temporary drainage and erosion control features such as sandbagging, tarping, desilting basins, or any alternative best management practices to minimizing erosion from staging, construction areas, and access roads. The temporary plans shall also include an illustration of where these measures shall be applied on a site plan.

2. Time frame for the placement and removal of the temporary erosion control measures, and a maintenance schedule and criteria for maintenance.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description

The applicant seeks a coastal development permit for the construction of two H-beam piles and concrete lagging retaining walls between 7'-19' in height. One wall is 135' long the other 100'. The project also involves the installation of an 18" and 24" corrugated steel pipes (CSP) which will connect to a new 36" CSP which connects to an existing drainage structure located on Las Flores Canyon Road. Approximately 350 cubic yards of grading is involved. The site is located above Las Flores Canyon Road, and drainage associated with the project will flow into Las Flores Creek. The applicants states that this project is required to prevent slope failure above Las Flores Canyon Road.

B. Environmentally Sensitive Habitat Areas.

Section 30231 of the Coastal Act is designed to protect and enhance, or restore where feasible the biological productivity and quality of coastal waters, including streams:

Section 30231:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

In addition, Section 30240 of the Coastal Act states that environmentally sensitive habitat areas must be protected against disruption of habitat values:

Section 30240:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

ESHA Issue Analysis

The applicant seeks a coastal development permit for the construction of two H-beam piles and concrete lagging retaining walls between 7'-19' in height. One wall is 135' long the other 100'. The project also involves the installation of an 18" and 24" corrugated steel pipes (CSP) which will connect to a new 36" CSP which connects to an existing drainage structure located on Las Flores Canyon Road. Approximately 350 cubic yards of grading is involved. The site is located above Las Flores Canyon Road, and drainage associated with the project will flow into Las Flores Creek, an area recognized by the Commission as an Environmentally Sensitive Habitat Area (ESHA). In August of 1994, the Commission granted the applicant a coastal development permit, CDP #4-94-059, to develop a 200' long, 108" diameter corrugated steel culvert at this location; however, the landslide occurred prior to the development of this culvert, requiring that the project be redesigned to include a larger drainage structure and a buttress fill. A coastal development permit, #4-95-187, was granted to the applicant for this work in January, 1996.

The applicant submitted a Revegetation Program For Las Flores Canyon Road (Mile Marker 1.98), dated November 1994, prepared by Michael Brandman Associates, for CDP 4-94-059. The report states that the site contains Coastal Sage Scrub habitat, and that species such as California Gnatcatcher (Polioptila californica californica) and Coastal Cactus Wren (Campylorhychus brunneicapllus), both of which are listed State and Federally as threatened or as species of special concern, should be expected to occur at this site. In order to ensure that this habitat, and its species, remained viable, the applicant was required to submit a habitat restoration and monitoring program for the site and all areas affected by development. The restoration program submitted by the applicant involved the restoration of Coastal Sage Habitat through the seeding of the site with various species associated with this habitat, and which occur in the adjacent, non-disturbed, habitat areas. Furthermore, the applicant was required to monitor restoration activities for a period no less than five years.

This area has a great potential for erosion and landslide. Soil erosion and the associated sedimentation of streams can adversely impact upland chaparral and lowland riparian habitat. These adverse impacts can include:

1. Eroded soil contains nitrogen, phosphorus, and other nutrients. When carried into water bodies, these nutrients trigger algal blooms that reduce water clarity and deplete oxygen which lead to fish kills, and create odors.

2. Erosion of streambanks and adjacent areas destroys streamside vegetation that provides aquatic and wildlife habitats.

3. Excessive deposition of sediments in streams blankets the bottom fauna, "paves" stream bottoms, and destroys fish spawning areas.

4. Turbidity from sediment reduces in-stream photosynthesis, which leads to reduced food supply and habitat.

5. Suspended sediment abrades and coats aquatic organisms.

6. Erosion removes the smaller and less dense constituents of topsoil. These constituents, clay and fine silt particles and organic material, hold nutrients that plants require. The remaining subsoil is often hard, rocky, infertile, and droughty. Thus, reestablishment of vegetation is difficult and the eroded soil produces less growth.

The Coastal Act requires that environmentally sensitive habitat areas "be maintained, enhanced, and where feasible, restored." Special Condition #1 of the permit requires that the applicant submit for the review and approval of the Executive Director, a detailed Revegetation Program, for the replacement and enhancement of all habitat damaged as a result of the proposed work. This program shall incorporate the use of native indigenous plants species associated with the habitat of the project site (See the restoration goals and strategies identified in the program developed by Michael Brandman Associates for CDP #4-94-059). In order to ensure that revegetation of the site is conducted in a timely manner, Special Condition #2 requires the applicant to implement the revegetation program prior to the 1996-1997 rain season. The Commission finds that the project as conditioned has been mitigated to the greatest extend feasible. Therefore, the Commission finds that the project, as conditioned is consistent with Sections 30231 and 30240 of the Coastal Act.

C. Geologic Stability

Section 30253 of the Coastal Act states:

New development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The applicant seeks a coastal development permit for the construction of two H-beam piles and concrete lagging retaining walls between 7'-19' in height. One wall is 135' long the other 100'. The project also involves the installation of an 18" and 24" corrugated steel pipes (CSP) which will connect to a new 36" CSP which connects to an existing drainage structure located on Las Flores Canyon Road. Approximately 350 cubic yards of grading is involved. The site is located above Las Flores Canyon Road, and drainage associated with

the project will flow into Las Flores Creek. The applicants states that this project is required to prevent slope failure above Las Flores Canyon Road. The proposed development is located in the Santa Monica Mountains, an area which is generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to the Santa Monica Mountains include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Wild fires often denude hillsides in the Santa Monica Mountains of all vegetation, thereby contributing to an increased potential for erosion and landslide in the area.

The Coastal Act requires that new development assure "stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area..."

The applicant states that this project is necessary to keep Las Flores Canyon Road open. This road provides primary access to hundreds of residences in the area. Closure of this road would severely affect access to this area, and access would be via Saddlepeak Road which would require a detour of considerable time and distance. Closure of this road would also mean there would be only one access route into the area and emergency vehicle response times would be significantly increased.

The applicant has submitted a Geotechnical Engineering Investigation Report, dated June 29, 1995, by the LACPWD Geotechnical Engineering Division, which states:

> The proposed retaining structures will stabilize the outboard edges of Hume Road at the subject sites. However, the roadway is underlain by a deep-seated landslide complex, which the proposed retaining structures will not stabilize. The stability of this landslide complex has not been investigated. Therefore, mitigation of the landslide complex is beyond is beyond the scope of this project. If movement of the underlying landslide complex occurs, the roadway, proposed drainage culverts, and proposed retaining structures may be adversely affected.

As stated by the applicant, and the applicants geotechnical engineering division, this project is designed to address the stability of Hume Road and the protection of access along Las Flores Canyon Road only. The larger landslide complex will not be affected by these retaining walls. However, these retaining walls will stabilize the outboard edge of Hume Road and the slope above Las Flores Canyon Road. The proposed project increases the structural integrity of Hume Road and minimize the risk of additional surficial failures along this section of Hume Road. The proposed project is the least environmentally damaging alternative and least intrusive project alternative. The other alternatives would include massive amounts of grading to stabilize the slopes above the road and would result in considerable environmental and visual resource damage.

In order to minimize erosion and provide further geologic stability by inhibiting surface infiltration, the Commission finds it necessary to require the applicant to submit a Landscape Revegetation Plan for all areas of the site disturbed by development activities. This plan will require the applicant to re-establish a native, indigenous, vegetative cover at the site for habitat and erosion control purposes. Furthermore, Special Condition #2 requires the

applicant to submit interim erosion control plans for areas disturbed by grading and development activities which indicate the best management practices implemented to control erosion and sedimentation on site. The use of best management practices will help to ensure that sedimentation is controlled on site until such time that restoration efforts are completed. Only as conditioned is the proposed project consistent with Section 30253 of the Coastal Act.

D. Grading/Landform Alteration & Visual Resources

Section 30251 of the Coastal Act state:

Section 30251

> The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The applicant proposes the construction of two H-beam piles and concrete lagging retaining walls between 7'-19' in height. One wall is 135' long the other 100'. Approximately 350 cubic yards of grading is to be involved with this project. The proposed walls are very large and will be quite visible from Las Flores Canyon Road and possible from Hume Road located up slope of the project area. Although Las Flores Canyon road is not a designated scenic roadway, the road does afford some very scenic canyon vistas because of it's very steep and dramatic topgraphic relief. However, the visual impact of the proposed walls will not be significant given that the walls are located in a "switch back" area between Hume and Las Flores Canyon roads which has very little scenic value.

Furthermore, the alternative method to stabilizing this roadway would require massive amounts of grading which would result in significant landform alteration and severe adverse visual impacts. This proposed project requires minimal landform alteration; only 350 cu. yds. in 0.15 acres of disturbed area. The applicant has proposed the minimum amount of work and disturbance necessary to ensure site stability of the above referenced roads. In addition, any visual impacts resulting from the construction of the walls can be can be mitigated by revegetation of the site following construction activities.

Therefore, in order to mitigate the visual impacts associated with the construction of the proposed project, the Commission finds it necessary to require the applicant to submit a Landscape Revegetation Plan for the site. This plan shall require the applicant to restore those portions of the site disturbed by construction with native, indigenous, vegetation, which will in turn provide erosion control to the site, and restore the scenic and visual qualities of the area to a level compatible with the surrounding environment. The Commission finds that the project as conditioned, is consistent with Section 30251 of the Coastal Act.

E. Local Coastal Program.

Section 30604 of the Coastal Act states that:

> (a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of the local government to prepare a local coastal program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200).

Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act. On December 11, 1986, the Commission certified the Land Use Plan portion of the Malibu/Santa Monica Mountains Local Coastal Program. The certified LUP contains policies to guide the types, locations, and intensity of future development in the Malibu/Santa Monica Mountains area. Among these policies are those specified in the preceding sections regarding environmentally sensitive resources. As conditioned, the proposed development, as conditioned, will not create adverse impacts and is consistent with the policies contained in the LUP. Therefore, the Commission finds that approval of the proposed development will not prejudice the County's ability to prepare a Local Coastal Program implementation program for Malibu and the Santa Monica Mountains which is consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604(a).

F. CEQA.

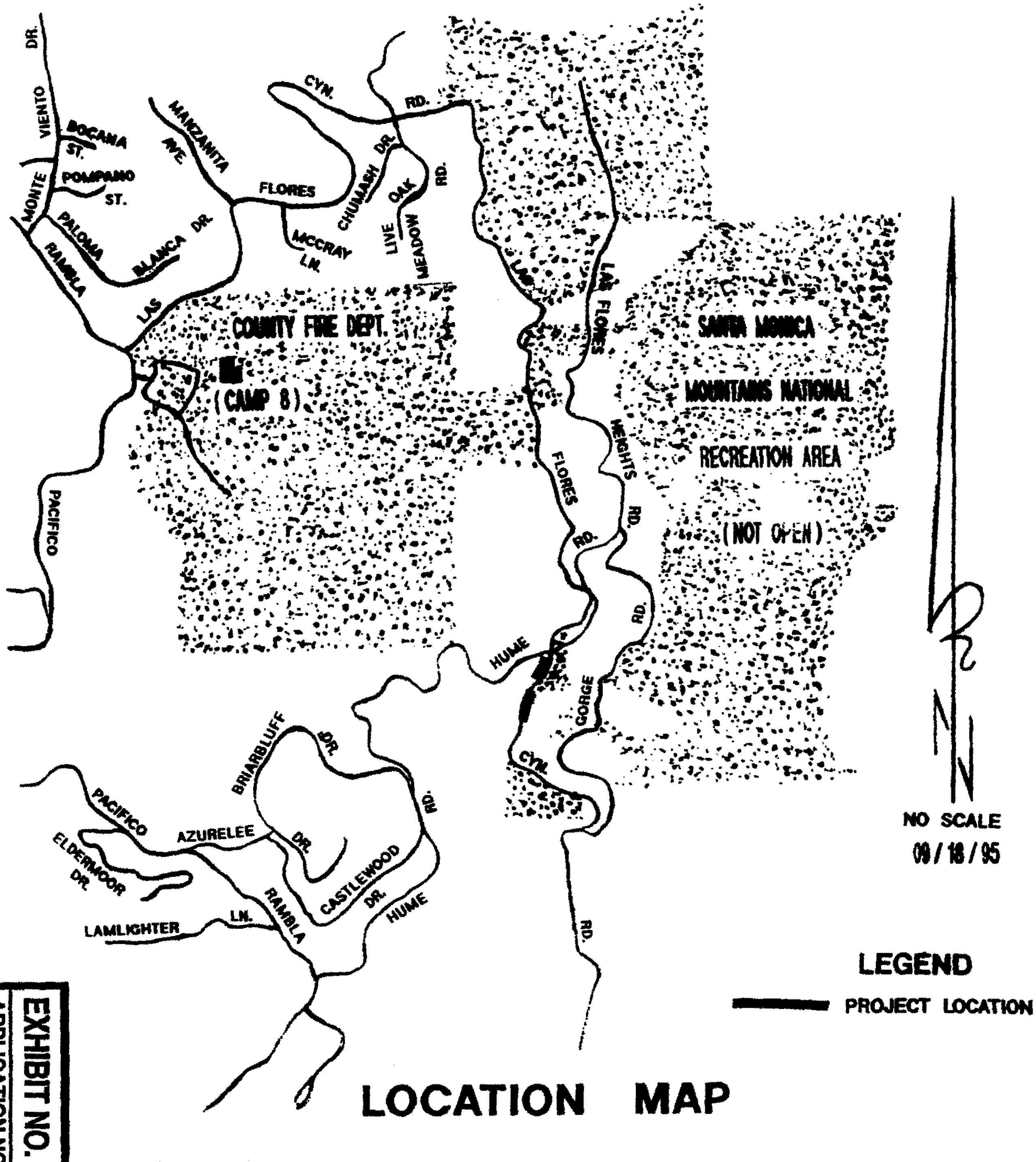
Section 13096(a) of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned, to be consistent with any applicable requirement of the California Environmental Quality Act (CEQA). 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. There are no negative impacts caused by the proposed development, as conditioned, which have not been adequately mitigated. Therefore, the proposed project, as conditioned, is found to be consistent with CEQA and the policies of the Coastal Act.

TAD-VNT
1933M

LOS ANGELES COUNTY

DEPARTMENT OF PUBLIC WORKS

LAS FLORES CANYON RETAINING WALL



LOCATION MAP

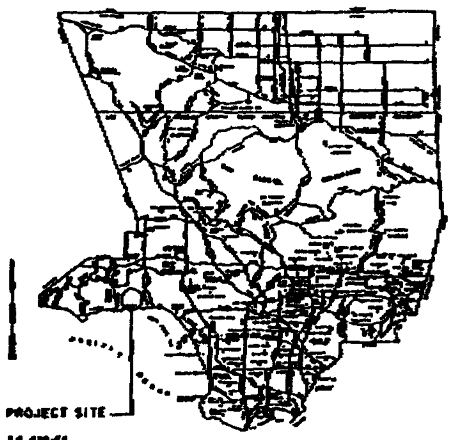
EXHIBIT NO.	1
APPLICATION NO.	4-96-001

EXHIBIT NO. 2
APPLICATION NO.
4-96-001

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

LAS FLORES CANYON ROAD
W/O HUME ROAD TO HUME ROAD

PROJECT LENGTH 0.13 MILE



LOCATION MAP

CONSTRUCTION LEGEND

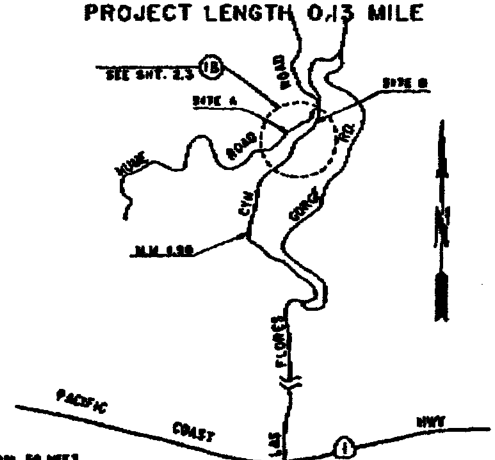
- (8) ASPHALT CONCRETE PAVEMENT.
- (18) DRAINAGE SYSTEM AS SHOWN ON SHEET INDICATED.
- (33) ANCHOR ASSEMBLY PER CALTRANS STD. PLAN D87-A (MOD.)
- (34) RURAL CATCH BASIN PER LACDPW STD. PLAN 3013-0 (MOD.)

CONSTRUCTION NOTES

1. PRIME CONTRACTOR LICENSE REQUIRED: CLASS A.
2. ALL STRUCTURES SHALL BE CONSTRUCTED PER APWA STANDARD PLANS, UNLESS OTHERWISE SHOWN. THE TOPOGRAPHY SYMBOLS SHOWN ON PLAN ARE PER STD. 100-A. THE AC PAVEMENT FOR PAVEMENT MIX TYPE, AS PER LACDPW STD 0010-8.
3. FIELD DENSITY AFTER ROLLING OF ALL ASPHALT CONCRETE PLACED ON THIS PROJECT SHALL BE A MINIMUM OF 95 PERCENT RELATIVE COMPACTION PER SUBSECTION 302-5.6.2 OF THE STANDARD SPECIFICATIONS.
4. THE ASPHALT CONCRETE MIX FOR PAVEMENT RESTORATION OVER THE TRENCH SHALL BE F-0 MIX.
5. ALL CSP JOINTS SHALL UTILIZE A WELDED RING CHANNEL COUPLING BAND WITH A RUBBER GASKET. THE COST OF THE JOINT CONNECTIONS SHALL BE INCLUDED IN THE BID PRICE FOR PIPE INSTALLATION.
6. PIPE BEDDING SHALL BE IN ACCORDANCE WITH LACDPW STD. 3080-1, CASE 3. THE COST OF BEDDING SHALL BE INCLUDED IN THE BID PRICE FOR PIPE INSTALLATION.
7. ALL DRAINAGE FACILITIES SHOWN HEREON SHALL BE MAINTAINED BY THE LACDPW ROAD MAINTENANCE DIVISION.
8. AN EROSION MAT CONSISTING OF JUTE MESH OR AN APPROVED EQUIVALENT SHALL BE PLACED ON THE FACE OF THE PROPOSED FILL SLOPE AND PLANTED WITH A NATIVE GRASS SEED MIX. GRASS SEED TO BE SUPPLIED BY THE LACDPW ROAD MAINTENANCE DIVISION. THE COST OF THIS EROSION CONTROL SHALL BE INCLUDED IN THE BID PRICE FOR COMPACTED FILL.
9. A REPRESENTATIVE OF THE GEOLOGY AND SOILS INVESTIGATIONS SECTION OF THE LACDPW MATERIALS ENGINEERING DIVISION SHALL BE PRESENT DURING THE EXCAVATION OF THE CUT SLOPE. A 72-HOUR ADVANCE NOTICE BEFORE START OF GRADING SHALL BE PROVIDED.

DRAIN MATERIAL TO MEET FOLLOWING SPECIFICATIONS OR APPROVED EQUIVALENT

SIEVE SIZE	% PASSING
3/4"	100
3/8"	90 - 100
NO. 4	50 - 65
NO. 8	45 - 50
NO. 16	30 - 35
NO. 30	15 - 40
NO. 50	5 - 20
NO. 100	0 - 10
NO. 200	0 - 5



KEY MAP

NO SCALE

RETAINING WALL SPECIFICATIONS

A.A.S.H.T.O. Standard Specifications for Highway Bridges, Thirteen Edition (1983) with supplements through 1993.

Design Strength:

Concrete	f'c = 3,250 psi
Reinforced Steel	fy = 60,000 psi
Structural Steel (A36)	Fy = 36,000 psi

PRELIMINARY
[illegible]
JAN 17 1996
LA COUNTY
[illegible]

SOIL DESIGN PARAMETERS:

SITE A

A. FAILING ON UPPER WALL:
1. Active E.F.P.
   a) In-beams
      E.F.P. = 5 pcf level backfill
2. Passive E.F.P. = 100 pcf (compacted fill)
   = 400 pcf (competent rock)

Maximum Passive Pressure = 2400 psf (compacted fill)
= 6000 psf (competent rock)

SITE B

B. FAILING ON LOWER WALL
1. Active E.F.P.
   a) In-Beams
      E.F.P. = 45 pcf (2:1 gradient backfill)
2. Passive E.F.P. = 400 pcf (competent rock)
   Maximum Passive Pressure = 4800 psf
   Live Load Surcharge = 100 psf

INDEX

GRADING REQUIREMENTS

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
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18. [illegible]
19. [illegible]

THIS DATE BEFORE YOU DIG
CALL USA TOLL FREE
1-800-422-4133

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LAS FLORES CANYON ROAD
W/O HUME ROAD TO HUME ROAD

CASH CONTRACT NO. 7130

FERNANDEZ | A. FERNANDEZ | 930021.HYD.TITLE

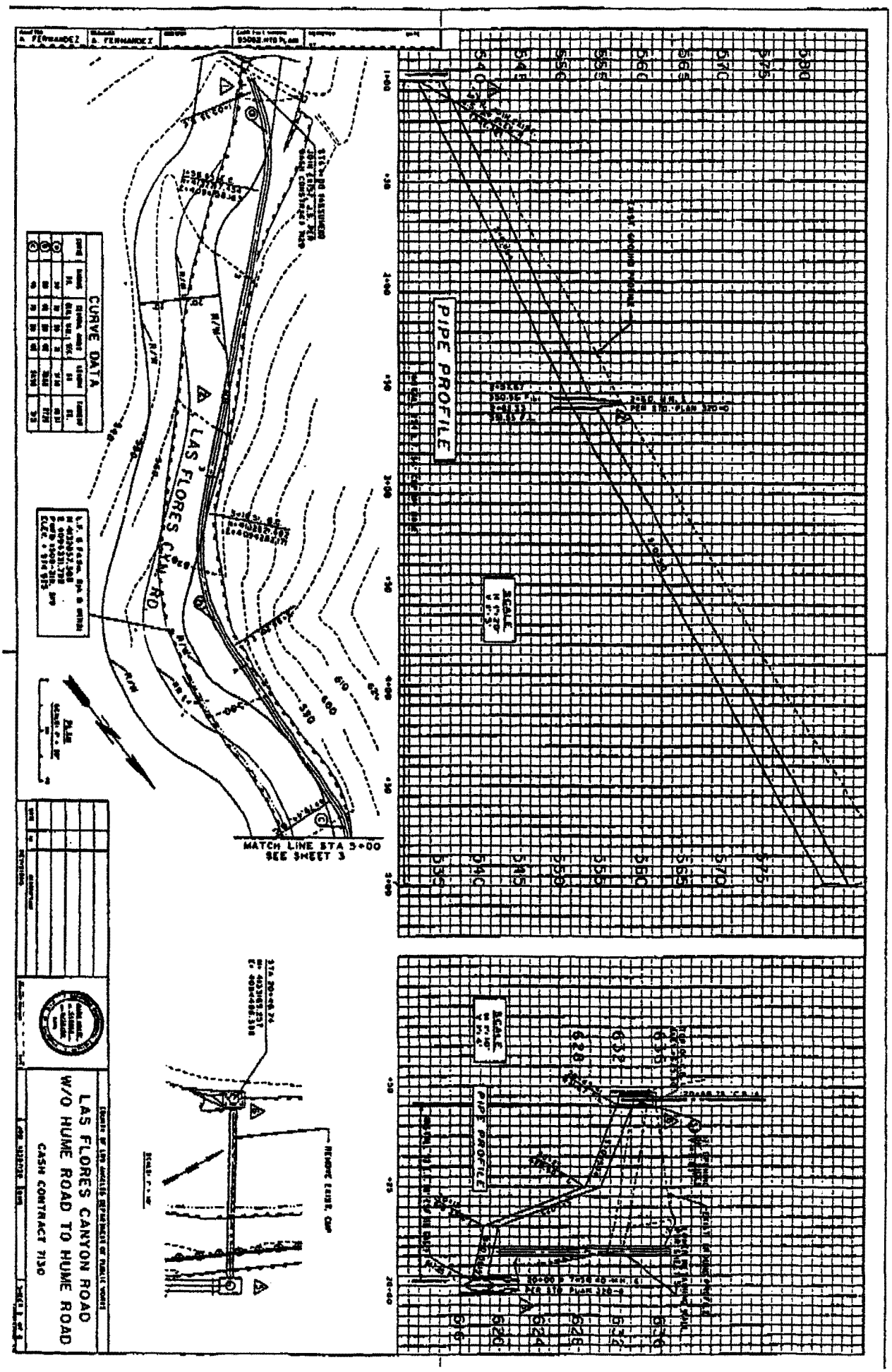


EXHIBIT NO. 2
APPLICATION NO.
4-96-60

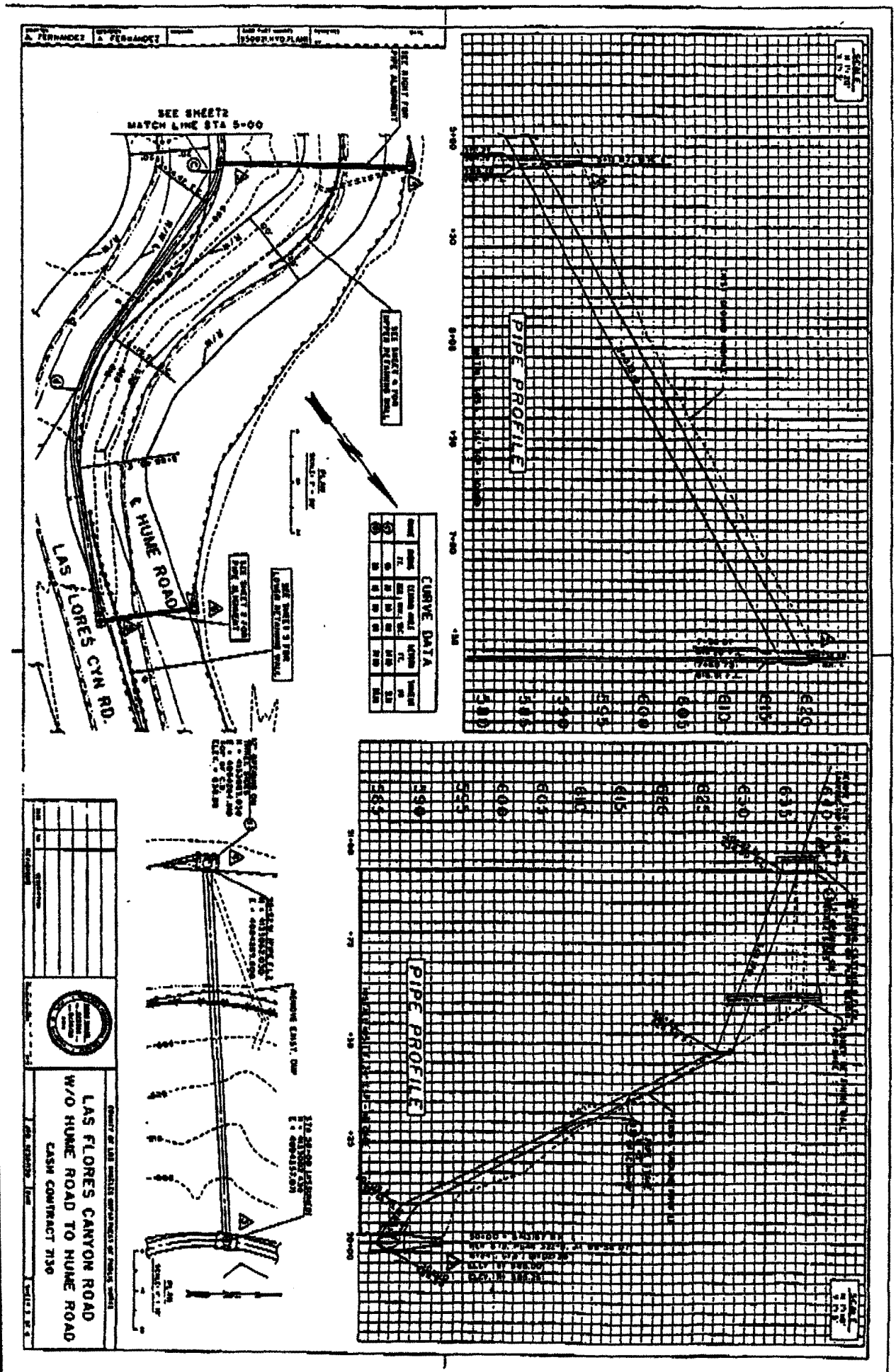
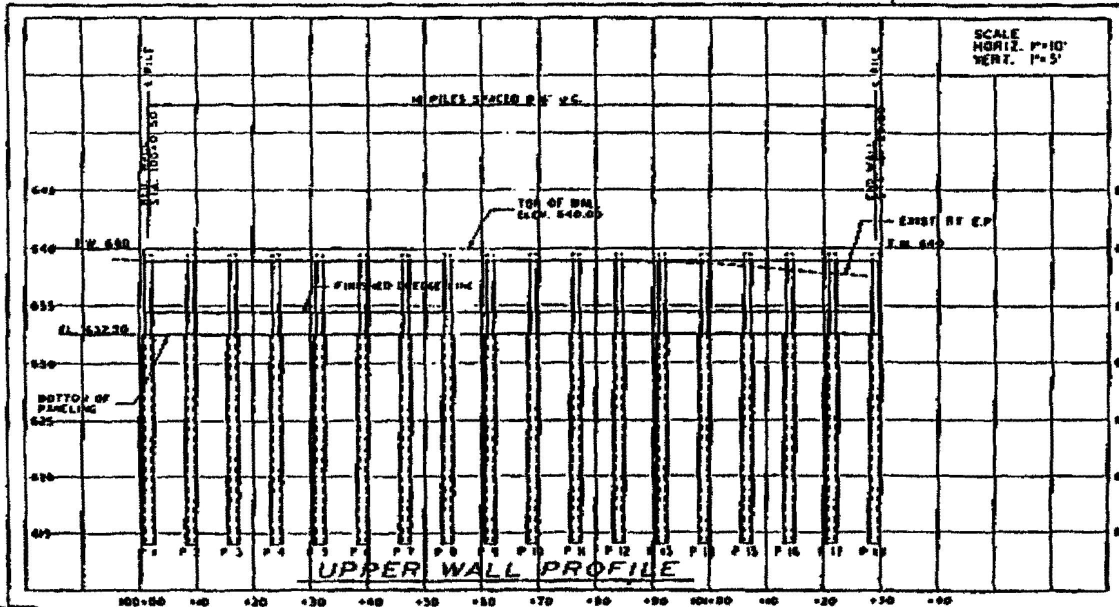


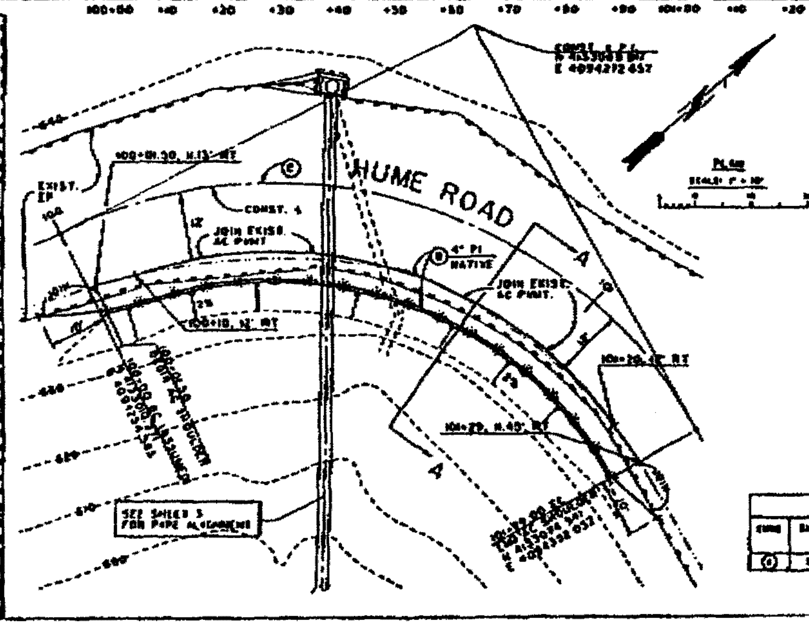
EXHIBIT NO. 4
APPLICATION NO.
4-96-001

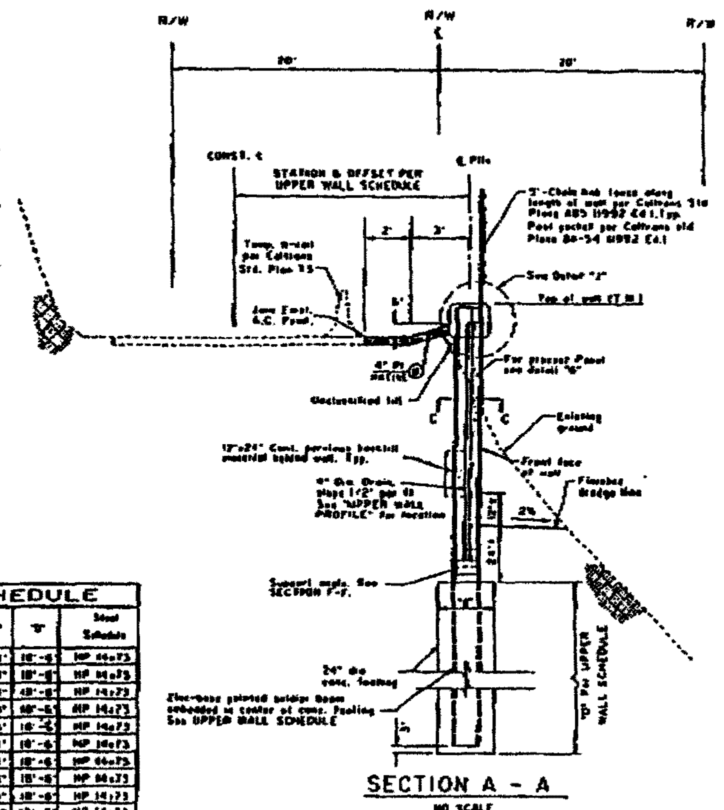
EXHIBIT NO. 5

APPLICATION NO.

4-96-001







UPPER WALL SCHEDULE						
Pile No.	Station Cons. piles at	Wall offset from Const. ℄	Design Retaining Wall hgt.	"A"	"B"	Steel Schedule
P 1	Sta.100+01.50	16.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P 2	Sta.100+09.00	16.77' RT.	7'-0"	24"	18'-6"	HP 14x73
P 3	Sta.100+16.50	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P 4	Sta.100+24.00	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P 5	Sta.100+31.50	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P 6	Sta.100+39.00	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P 7	Sta.100+46.50	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P 8	Sta.100+54.00	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P 9	Sta.100+61.50	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P10	Sta.100+69.00	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P 11	Sta.100+76.50	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P12	Sta.100+84.00	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P13	Sta.100+91.50	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P14	Sta.100+99.00	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P15	Sta.101+06.50	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73
P16	Sta.101+14.00	17.00' RT.	7'-0"	20"	18'-6"	HP 14x73
P17	Sta.101+21.50	17.00' RT.	7'-0"	20"	18'-6"	HP 14x73
P18	Sta.101+29.00	17.00' RT.	7'-0"	24"	18'-6"	HP 14x73

CURVE DATA						
Curve	Radius ft.	[illegible]	[illegible]	[illegible]	Length ft.	Tangent ft.
C	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

NOTE:

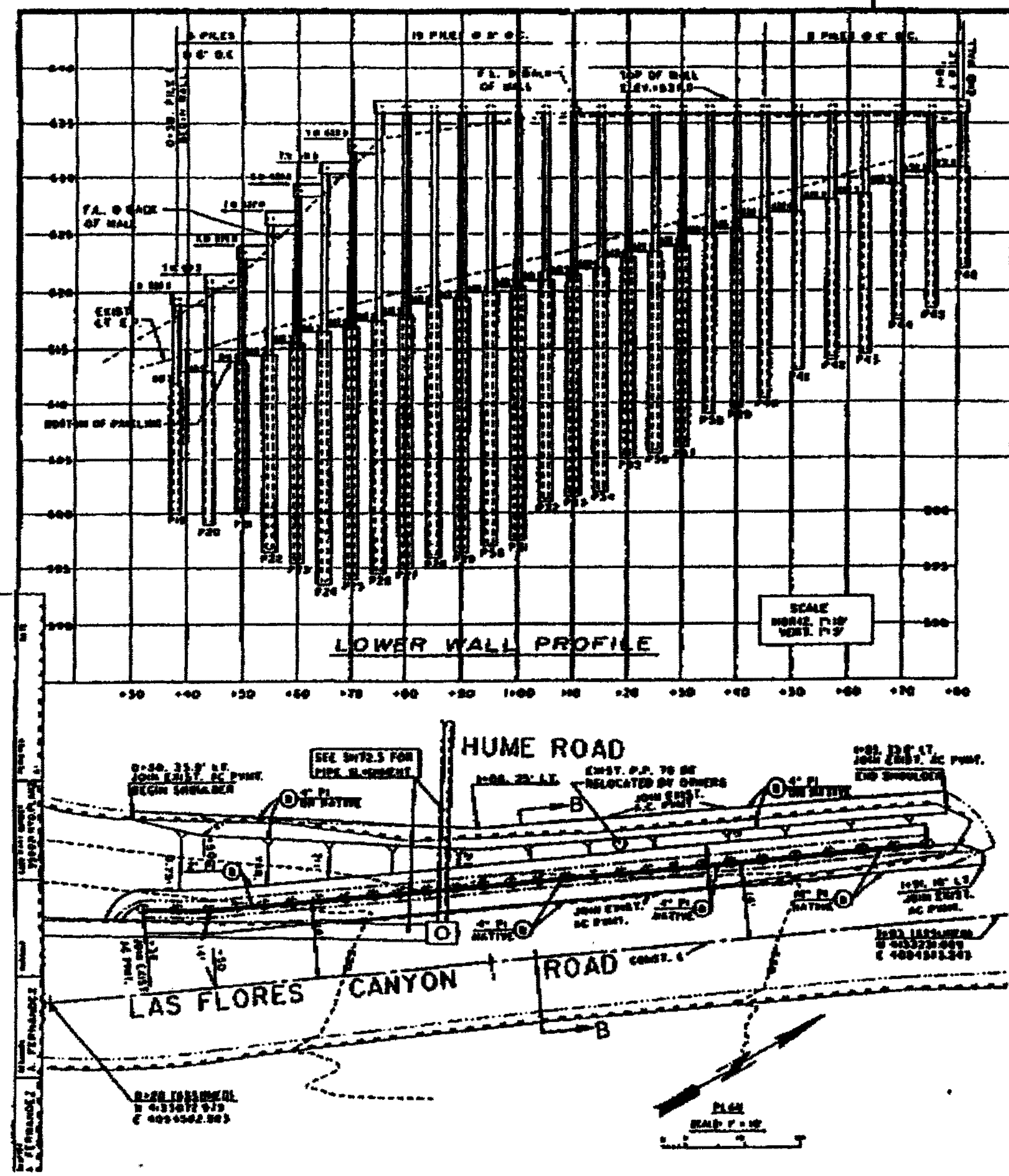
1. Cast-in-Place alternate shown. For precast panel alternate, see Precast Panel Detail below.
2. See Sheet 6 for Sections and Details.

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

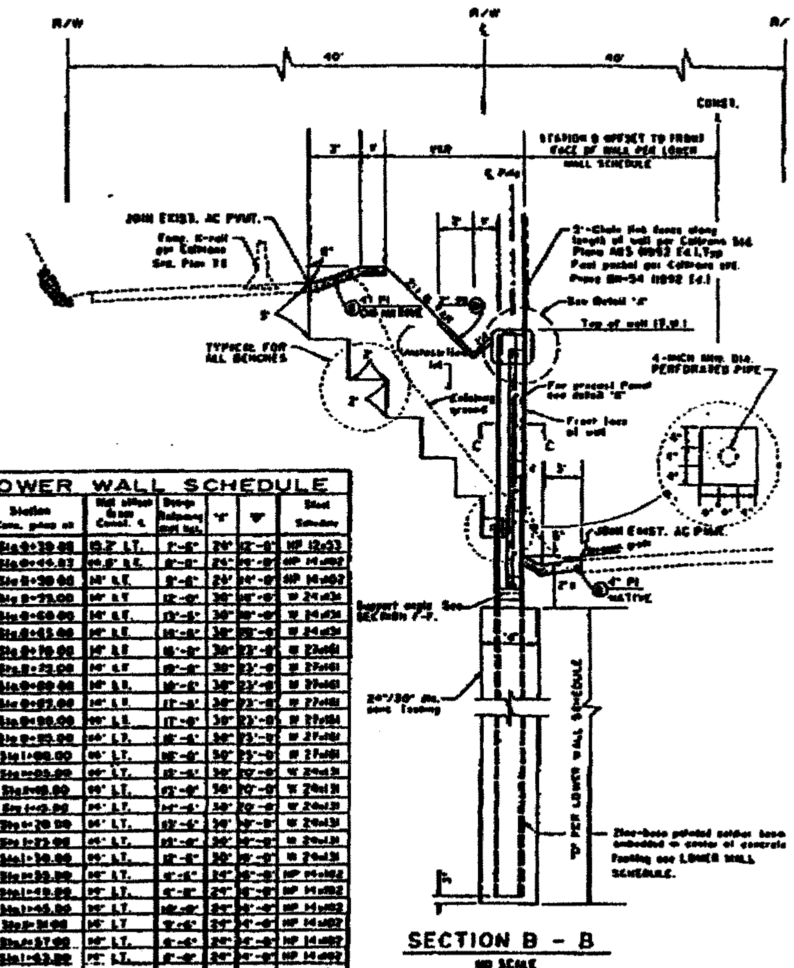
LAS FLORES CANYON ROAD
W/O HUME ROAD TO HUME ROAD

CASH CONTRACT 7130

EXHIBIT NO. 6
APPLICATION NO.
4-96-001



Pile No.	Station	Wall offset from Const. ℄	Design Retaining Wall hgt.	"t"	[illegible]	Steel Schedule
P19	Sta 0+30.00	15.2' LT.	2'-6"	24"	12'-0"	HP 12x53
P20	Sta 0+44.07	[illegible] LT.	8'-0"	24"	14'-0"	HP 14x102
P21	Sta 0+50.00	14' LT.	8'-0"	24"	14'-0"	HP 14x102
P22	Sta 0+55.00	14' LT.	12'-0"	30"	[illegible]	W 24x131
P23	Sta 0+60.00	14' LT.	[illegible]	30"	[illegible]	W 24x131
P24	Sta 0+65.00	14' LT.	[illegible]	30"	[illegible]	W 24x131
P25	Sta 0+70.00	14' LT.	[illegible]	30"	23'-0"	W 27x161
P26	Sta 0+75.00	14' LT.	[illegible]	30"	23'-0"	W 27x161
P27	Sta 0+80.00	14' LT.	[illegible]	30"	23'-0"	W 27x161
P28	Sta 0+85.00	14' LT.	[illegible]	30"	23'-0"	W 27x161
P29	Sta 0+90.00	14' LT.	[illegible]	30"	23'-0"	W 27x161
P30	Sta 0+95.00	14' LT.	[illegible]	30"	23'-0"	W 27x161
P31	Sta 1+00.00	14' LT.	[illegible]	30"	23'-0"	W 27x161
P32	Sta 1+05.00	14' LT.	[illegible]	30"	20'-0"	W 24x131
P33	Sta 1+10.00	14' LT.	[illegible]	30"	20'-0"	W 24x131
P34	Sta 1+15.00	14' LT.	[illegible]	30"	20'-0"	W 24x131
P35	Sta 1+20.00	14' LT.	[illegible]	30"	[illegible]	W 24x131
P36	Sta 1+25.00	14' LT.	[illegible]	30"	[illegible]	W 24x131
P37	Sta 1+30.00	14' LT.	[illegible]	30"	[illegible]	W 24x131
P38	Sta 1+35.00	14' LT.	[illegible]	24"	[illegible]	HP 14x102
P39	Sta 1+40.00	14' LT.	[illegible]	24"	[illegible]	HP 14x102
P40	Sta 1+45.00	14' LT.	[illegible]	24"	[illegible]	HP 14x102
P41	Sta 1+51.00	14' LT.	[illegible]	24"	[illegible]	HP 14x102
P42	Sta 1+57.00	14' LT.	[illegible]	24"	[illegible]	HP 14x102
P43	Sta 1+63.00	14' LT.	[illegible]	24"	[illegible]	HP 14x102
P44	Sta 1+69.00	14' LT.	[illegible]	24"	[illegible]	HP 12x53
P45	Sta 1+75.00	14' LT.	[illegible]	24"	[illegible]	HP 12x53
P46	Sta 1+81.00	14' LT.	[illegible]	24"	[illegible]	HP 12x53



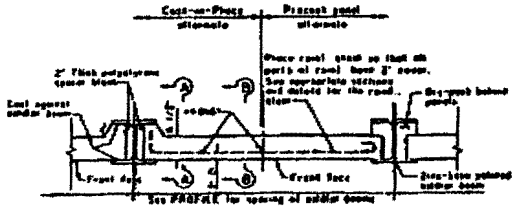
NOTES:
1. Cast-in-Place [illegible] shown. For precast panel [illegible], see Precast Panel Detail [illegible].
2. See sheet 6 for sections & details.

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

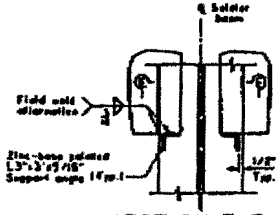
LAS FLORES CANYON ROAD
W/O HUME ROAD TO HUME ROAD

CASH CONTRACT 7130

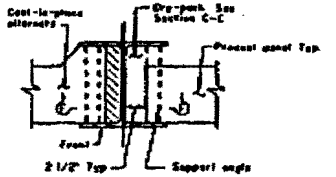
EXHIBIT NO. 7
APPLICATION NO.
4-96-001



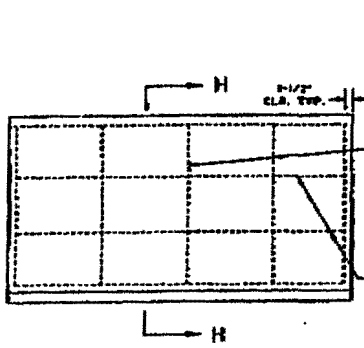
SECTION C-C
NO SCALE



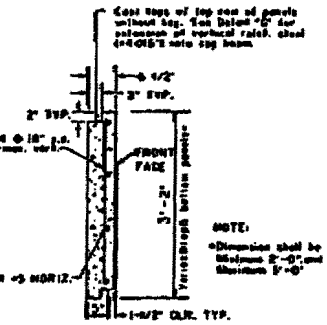
SECTION F-F
NO SCALE



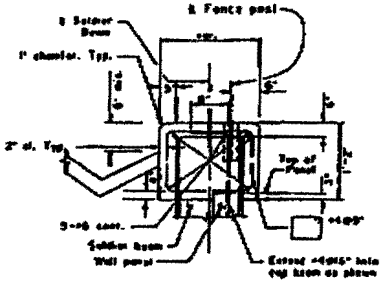
SECTION E-E
NO SCALE



DETAIL "G"
TYPICAL INTERMEDIATE PRECAST CONCRETE PANEL
NO SCALE



SECTION H-H
NO SCALE



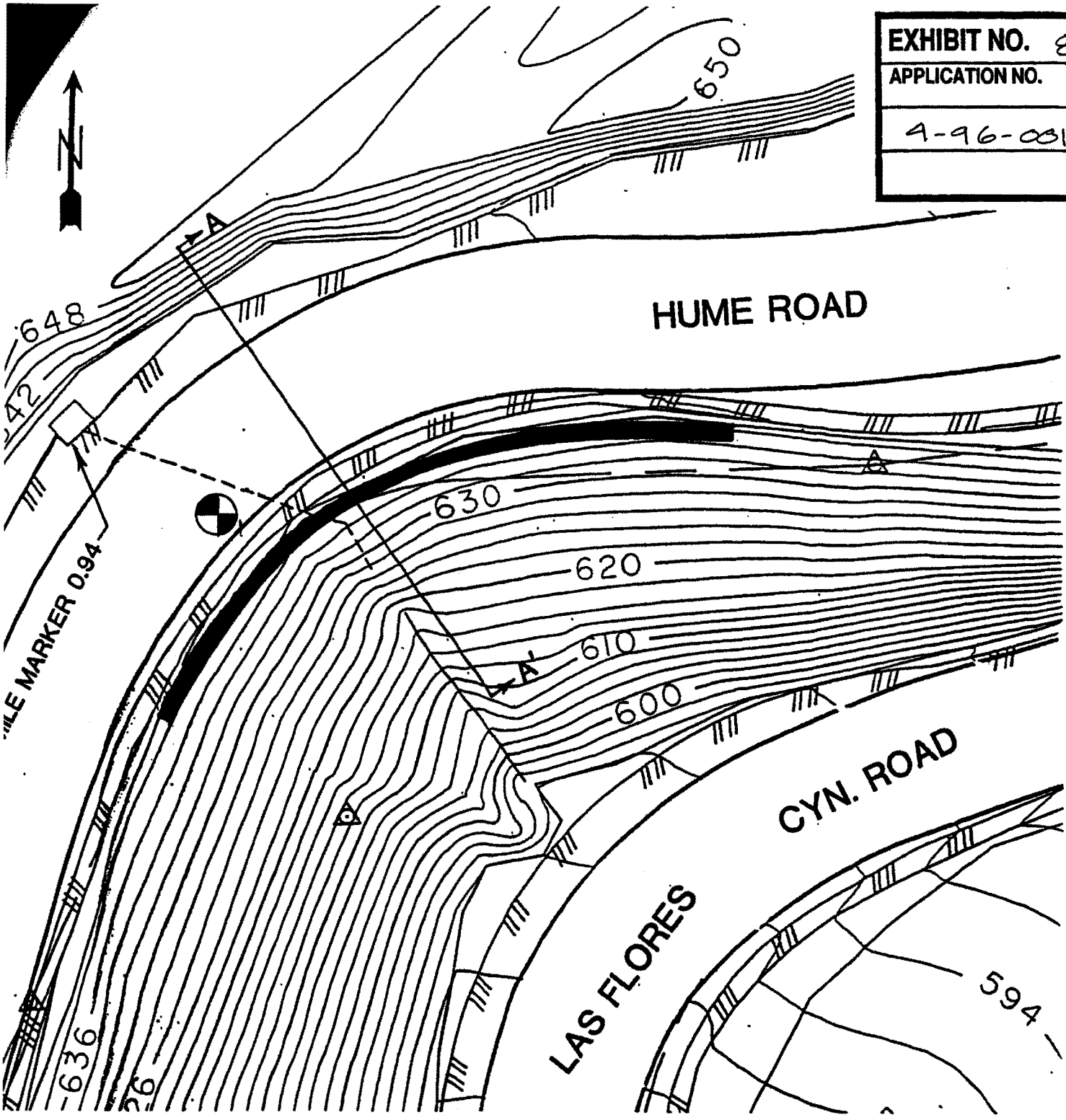
DETAIL "J"
NO SCALE

STRUCTURAL DETAILS

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

LAS FLORES CANYON ROAD
W/O HUME ROAD TO HUME ROAD
CASH CONTRACT 7430

EXHIBIT NO. 8
APPLICATION NO.
4-96-081



LEGEND

- – – – EXISTING 18-INCH DIAMETER CMP TO BE REPLACED WITH AN 18-INCH DIAMETER RCP
- ▬ PROPOSED H-BEAMS WITH TIMBER LAGGING
- ⊕ LOCATION OF BORING
- A' LOCATION OF SCHEMATIC CROSS SECTION

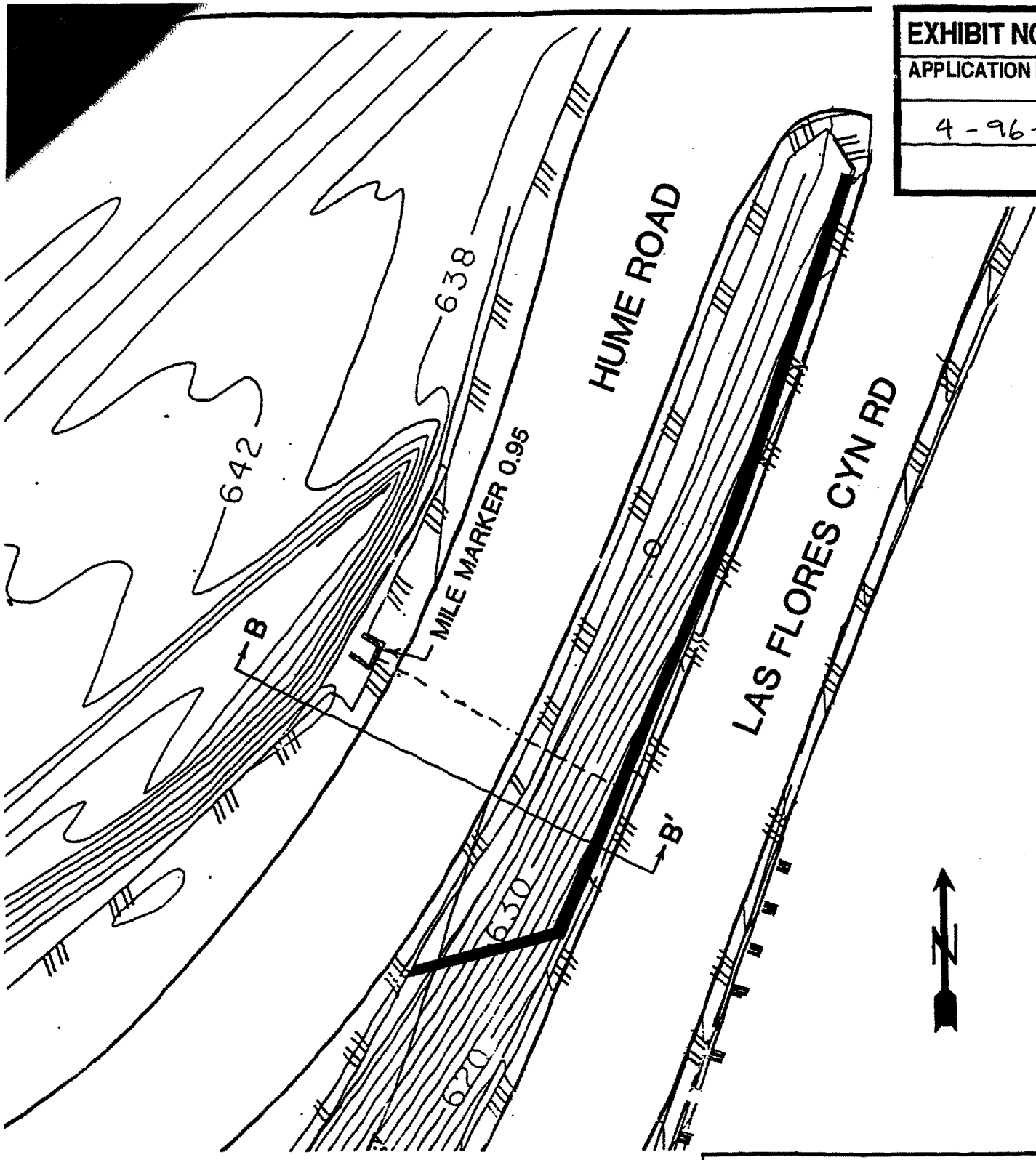
COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Materials Engineering Division
GEOTECHNICAL ENGINEERING SECTION

LAS FLORES CANYON ROAD
W/O HUME ROAD – SITE A
SITE PLAN OF PROPOSED DRAINAGE
CULVERT AND RETAINING STRUCTURE

Date:	Scale:	Prepared by:
6-29-95	1" = 20'	M.G.E.

FIGURE 2

EXHIBIT NO. 9
APPLICATION NO.
4-96-001



LEGEND

EXISTING 18-INCH DIAMETER CMP TO BE REPLACED WITH AN 18-INCH DIAMETER RCP

PROPOSED H-BEAMS WITH CONCRETE LAGGING SUPPORTING A SLOPING BACKFILL

B B'

LOCATION OF SCHEMATIC CROSS SECTION

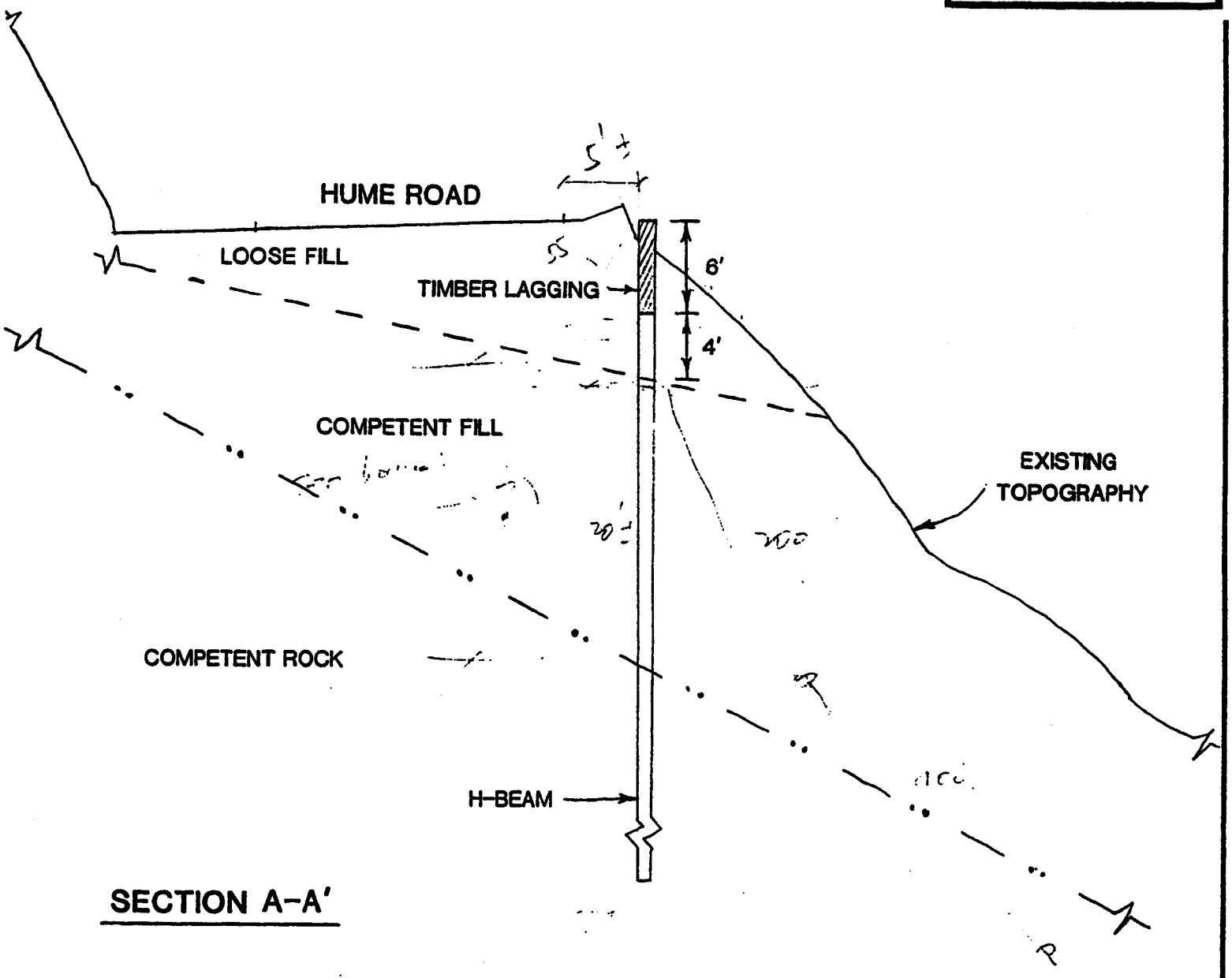
COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Materials Engineering Division
GEOTECHNICAL ENGINEERING SECTION

LAS FLORES CYN. ROAD
W/O HUME ROAD SITE B
SITE PLAN OF PROPOSED DRAINAGE CULVERT AND RETAINING STRUCTURE

Date:	Scale:	Prepared by:
6-29-95	1" - 20'	M.G.E.

FIGURE 2

EXHIBIT NO. 10
APPLICATION NO.
4-96-001



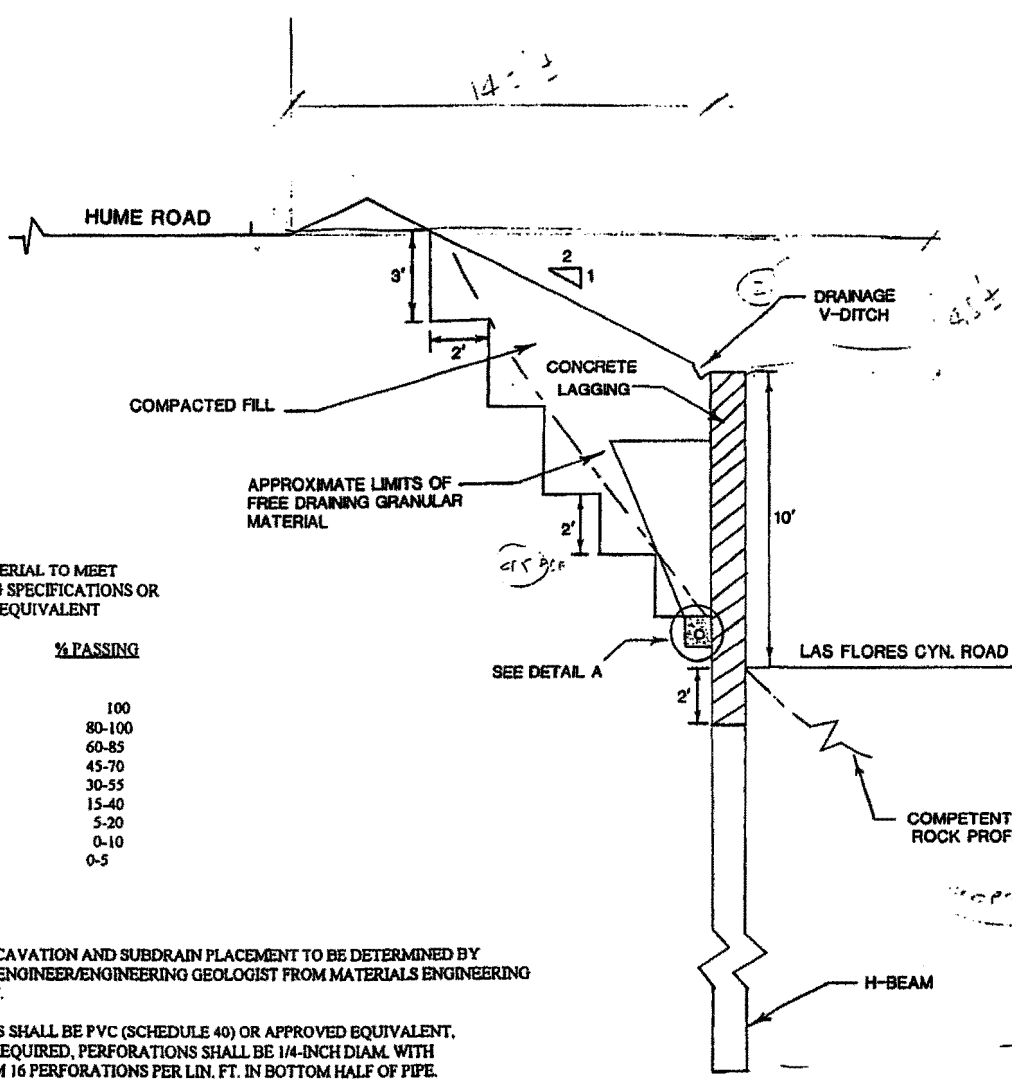
SECTION A-A'

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS Materials Engineering Division		
GEOTECHNICAL ENGINEERING SECTION		
LAS FLORES CANYON ROAD W/O HUME ROAD - SITE A SCHEMATIC OF PROPOSED RETAINING STRUCTURE		
Date: 6-29-95	Scale: 1" = 10'	Prepared by: M.G.E.

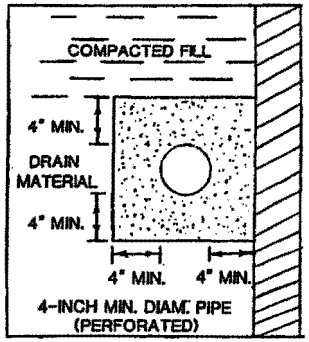
FIGURE 4

EXHIBIT NO. 11

APPLICATION NO. 4-96-001



SECTION B-B'



DETAIL A
(NO SCALE)

DRAIN MATERIAL TO MEET FOLLOWING SPECIFICATIONS OR APPROVED EQUIVALENT

SIEVE SIZE	% PASSING
3/4"	100
3/8"	80-100
No. 4	60-85
No. 8	45-70
No. 16	30-55
No. 30	15-40
No. 50	5-20
No. 100	0-10
No. 200	0-5

NOTES

1. OVEREXCAVATION AND SUBDRAIN PLACEMENT TO BE DETERMINED BY A SOILS ENGINEER/ENGINEERING GEOLOGIST FROM MATERIALS ENGINEERING DIVISION.
2. ALL PIPES SHALL BE PVC (SCHEDULE 40) OR APPROVED EQUIVALENT. WHERE REQUIRED, PERFORATIONS SHALL BE 1/4-INCH DIAM. WITH MINIMUM 16 PERFORATIONS PER LIN. FT. IN BOTTOM HALF OF PIPE.
3. AN EROSION MAT CONSISTING OF JUTE MESH, OR AN APPROVED EQUIVALENT, SHOULD BE PLACED ON THE FACE OF THE PROPOSED FILL SLOPE AND PLANTED WITH GRASS SEED TO ENHANCE SURFICIAL STABILITY AND LIMIT EROSION.

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Materials Engineering Division
GEOTECHNICAL ENGINEERING SECTION

LAS FLORES CANYON ROAD
W/O HUME ROAD SITE B
SCHEMATIC OF PROPOSED
RETAINING STRUCTURE

Date:	Scale:	Prepared by:
6-29-95	1"= 4'	M.G.E.

FIGURE 5