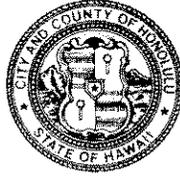


DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
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FEB - 8 2009

MUFI HANNEMANN  
MAYOR



RECEIVED

RUSSELL H. TAKARA, P.E.  
ACTING DIRECTOR

'09 JAN 28 A2:11 WW.P 09-005

January 21, 2009

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

Ms. Katherine Puana Kealoha, Director  
Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

Dear Ms. Kealoha:

Subject: Final Environmental Assessment (FEA) for Amelia Street Relief Sewer Project, Tax map Key: 1-3-15, Honolulu, Oahu, Hawaii

The City and County of Honolulu, Department of Design and Construction (DDC) is the proposing agency and accepting authority for the subject project. DDC has reviewed and responded to comments received during the 30-day public comment period for the Draft Environmental Assessment.

DDC has determined that this project will not have significant environmental effects and is issuing a notice of determination of a Finding of No Significant Impact. Please publish the notice in the February 8, 2009 issue of The Environmental Notice

Enclosed a completed OEQC Publication Form, two hard copies of the FEA and an electronic copy of the FEA and the project summary on disk.

Please call Carl Arakaki at 768-8738 if you have any questions.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Russell H. Takara".

Russell H. Takara, P.E.  
Acting Director

Enclosure

FINAL ENVIRONMENTAL ASSESSMENT  
FOR  
AMELIA STREET SEWER RELIEF PROJECT  
Honolulu, Oahu, Hawaii  
Tax Map Key: 1-3-15

Prepared for:

Department of Design and Construction  
Wastewater Division  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Prepared By:

Kwock Associates, Inc.  
1953 South Beretania Street, Suite PH-B  
Honolulu, Hawaii 96826

JANUARY 2009

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## PREFACE

This Final Environmental Assessment (FEA) and Finding of No Significant Impact (FONSI) has been prepared pursuant to Chapter 343, Hawaii Revised Statutes (HRS) and Title 11, Chapter 200, Administrative Rules, Department of Health, State of Hawaii. City and County of Honolulu funds will be used to fund a project to replace the existing 6-inch and 10-inch sewer pipes along Amelia Street and the existing 12-inch sewer pipe on School Street with a 16-inch sewer pipe. The larger sewer pipe is required to relieve surcharge in the smaller pipes and provide adequate capacity to handle the required flows, eliminate inflow and infiltration from ground water and reduce the possibility of potential sewage spills and overflow.

This FEA will be processed as a Finding of No Significant Impact (FONSI) by the Department of Design and Construction after determining that the impacts of this project are not significant to require the preparation of an Environmental Impact Statement and thus satisfying the requirements of Chapter 343, HRS.

## INTRODUCTION

### 1.1 PROPOSING AGENCY AND ACTION

The Department of Design and Construction of the City and County of Honolulu proposes to replace the existing 6-inch and 10-inch sewer pipes on Amelia Street and the 12-inch sewer pipe on School Street between Amelia Street and Kino Street. The existing sewer pipes on Amelia Street were installed in the 1930's when Amelia Street was constructed and the 10-inch sewer pipe does not have the capacity to handle the current and future sewage flows. The existing 12-inch sewer pipe on School Street was replaced in 1977 with the School Street Relief Sewer Project and is also deficient in capacity. The deficiency in the sewer lines was identified through field investigation and the analysis in the Sewer Rehabilitation and Infiltration and Inflow Minimization Study conducted by the Wastewater Division.

The project begins on North School Street at Kino Street heading southeast for 335 linear feet and extends southwest for 796 linear feet down Amelia Street. It will replace the existing 10-inch vitrified clay sewer pipes on Amelia Street with 16-inch polyvinyl chloride (PVC) pipes. The sewer laterals for the 15 properties on Amelia Street are currently connected to an existing 6-inch parallel sewer line in Amelia Street. The existing 6-inch sewer line will be abandoned after the new sewer laterals are connected to the new 16-inch sewer line. The new sewer line will cross Kalihi Stream twice, once at the bridge on School Street and again at the end of Amelia Street.

### 1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

Any proposed project using public funds is subjected to the environmental review process under Chapter 343, Hawaii Revised Statutes (HRS), Act 241, Session Laws of Hawaii (SLH) 1992, and Chapter 200 Title 11, Department of Health (DOH) Administrative rules, "Environmental Impact Statement Rules". The Department of Design and Construction is the designated design agency for the City and County of Honolulu and the City will fund the construction. This environmental assessment (EA) has been prepared to address potential impacts that may occur during and construction and/or operation of the proposed 16-inch sewer line. Findings of the assessment are used to determine the project's significance.

### 1.3 PERMITS REQUIRED OR POTENTIALLY REQUIRED

Government permits needed to implement the proposed action are listed in Table 1.

Table 1: Potential Government Permits and Approvals

| Type   | Agency   |
|--|--|
| National Pollutant Discharge Elimination System (NPDES) Notice of Intent for Dewatering (Form G) | State Department of Health,<br>Clean Water Branch  |
| Nationwide Permit (NWP)  | U. S. Army Corps of Engineers  |
| Section 401 Water Quality Certification  | State of Hawaii<br>Department of Health<br>Clean Water Branch  |
| Stream Alteration Permit   | State of Hawaii<br>Department of Land and Natural<br>Resources<br>Commission on Water Resource<br>Management                           |
| Coastal Zone Management (CZM)<br>Determination   | State of Hawaii<br>Office of State Planning, CZM<br>Program Office<br>Hawaii Coastal Zone<br>Management Program Federal<br>Consistency |
| Construction permit/trenching permit   | City and County of Honolulu,<br>Department of Planning and<br>Permitting, Civil Engineering<br>Branch                                  |

---

Noise Permit

State of Hawaii  
Department of Health,  
Noise, Radiation and Indoor  
Air Quality Branch

---

Review of construction drawings and  
Request for right-of-entry for portions  
Have proposed project within City highway  
Branch  
Right-of-way, Review and approval of  
a traffic Control plan, street usage permits

City and County of Honolulu  
Department of Planning and  
Permitting, Traffic Review

## 2. PROPOSED ACTION

### 2.1 PROJECT DESCRIPTION AND LOCATION

Currently Amelia Street has two sewer lines. A 6-inch sewer line that provide services to the existing buildings on Amelia Street and a 10-inch sewer line that convey sewage from the sewer line on Kino Street and School Street through Amelia Street.

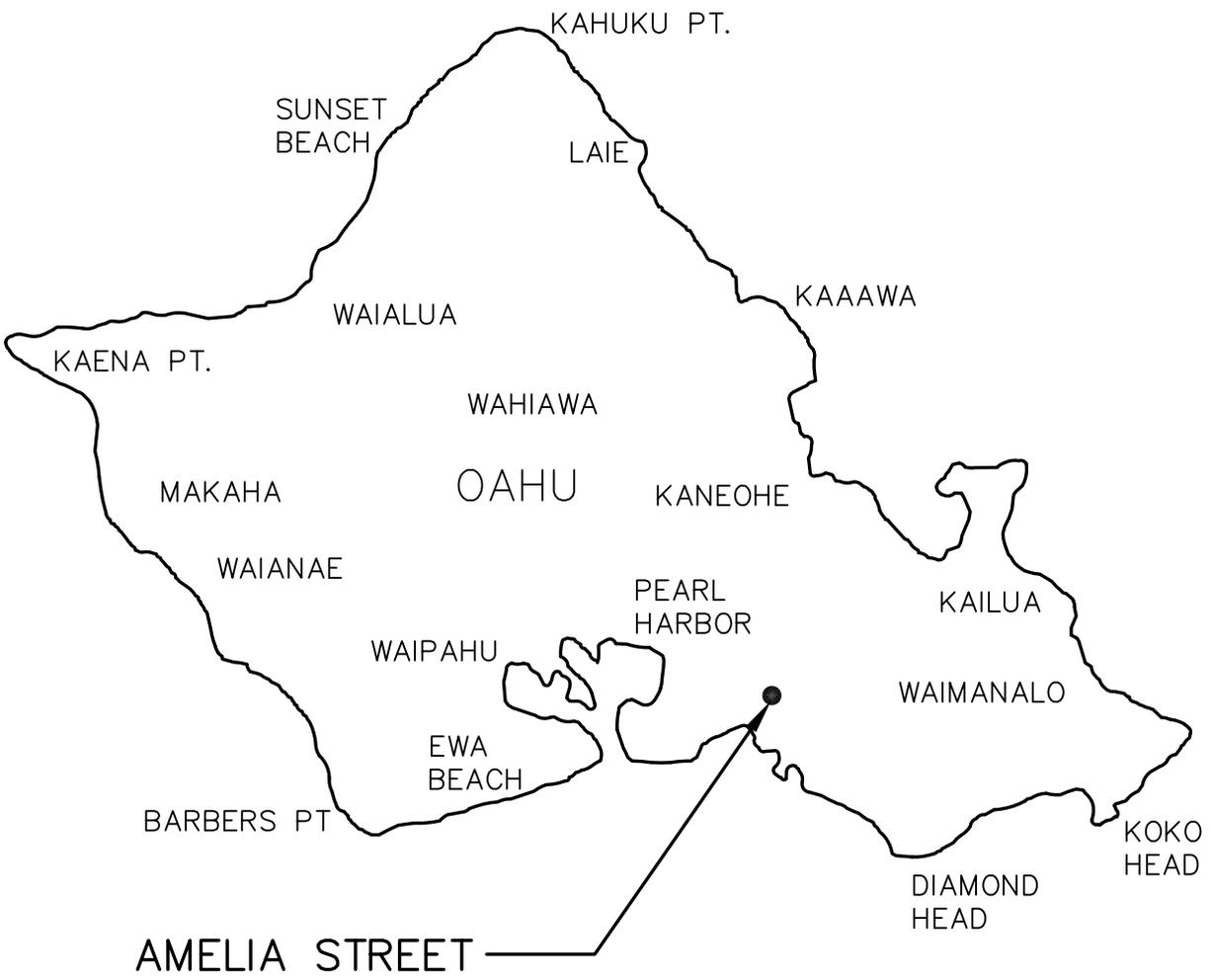
Analysis conducted in the Sewer Rehabilitation and Infiltration and Inflow Minimization Study by the Wastewater Division of the Department of Design and Construction found that the existing 10-inch sewer lines on Amelia Street and School Street were deficient and did not have the capacity to handle the current and future sewage flows.

The City proposes to replace the existing 6-inch and 10-inch sewer pipes on Amelia Street and the existing 12-inch sewer pipe on School Street with a new 16-inch sewer pipe in the same location and depth as the existing sewer pipe. The existing pipe will be removed and the new pipe will be installed in the same location and depth as the existing pipe. The existing sewer manholes will remain and the new pipes will connect to the existing sewer manholes. The invert of the existing sewer manholes will be re-channelized to accommodate the larger pipes. Except to install sewer manhole cover inserts to make the covers watertight and to re-channelizing the invert, no improvements are required for the existing sewer manholes.

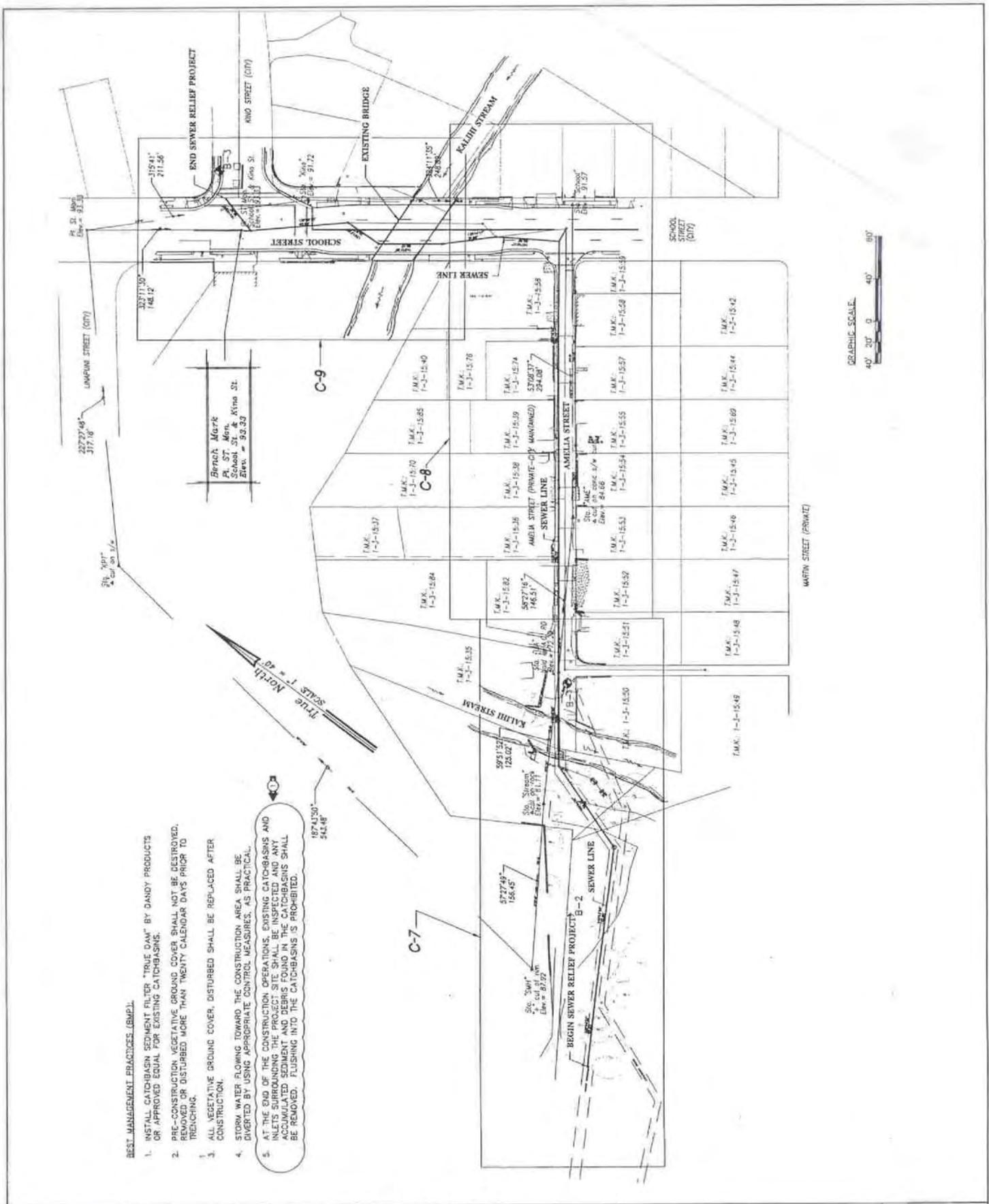
The existing 6-inch sewer line on Amelia Street that currently provides sewer service to the existing buildings on Amelia Street will be eliminated and new 6-inch sewer laterals will be constructed to connect the 15 existing house lots to the new 16-inch sewer pipe.

The new 16-sewer line on School Street where it crosses Kalihi Stream will be suspended on the existing bridge further downstream than the existing 12-inch sewer in accordance with the current City and County of Honolulu policy for placing utilities on bridges. The existing 12-inch sewer on the bridge will be removed once the new 16-inch sewer line is operational.

Amelia Street is a twenty feet wide right of way with only asphalt concrete pavement and has no concrete curbs, gutters and sidewalks. Although Amelia Street is currently a private street, the City and County of Honolulu maintain the roadway. The City is in the process of obtaining ownership of the right-of-way. Amelia Street being only 20 feet wide is sub-standard according to the Department of Planning and Permitting Subdivision Street Standards. School Street and Kino Street are both under City and County of Honolulu jurisdiction with concrete curbs, gutters, sidewalks and asphalt concrete pavement.



|   |   |  |                    |
|---|---|--|--------------------|
| PREPARED FOR:<br>DEPARTMENT OF<br>DESIGN AND CONSTRUCTION | SEWER RELIEF PROJECT<br>AT AMELIA STREET<br>HONOLULU, OAHU, HAWAII<br><b>LOCATION MAP</b> | KWOCK ASSOCIATES, INC.<br>CONSULTING ENGINEERS | FIGURE<br><b>1</b> |
|---|---|--|--------------------|



- BEST MANAGEMENT PRACTICES (BMP):**
1. INSTALL CATCH-BASIN SEDIMENT FILTER "TRUE DAM" BY DANDY PRODUCTS OR APPROVED EQUAL FOR EXISTING CATCHBASINS.
  2. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN TWENTY CALENDAR DAYS PRIOR TO TRENCHING.
  3. ALL VEGETATIVE GROUND COVER, DISTURBED SHALL BE REPLACED AFTER CONSTRUCTION.
  4. STORM WATER FLOWING TOWARD THE CONSTRUCTION AREA SHALL BE DIVERTED BY USING APPROPRIATE CONTROL MEASURES, AS PRACTICAL.
  5. AT THE END OF THE CONSTRUCTION OPERATIONS, EXISTING CATCHBASINS AND ANY LEFT-BEHIND SITES SHALL BE RESTORED TO ORIGINAL CONDITION. ACCUMULATED SEDIMENT AND DEBRIS FOUND IN THE CATCHBASINS SHALL BE REMOVED. FLUSHING INTO THE CATCHBASINS IS PROHIBITED.

|   |  |  |                    |
|---|--|--|--------------------|
| PREPARED FOR:<br>DEPARTMENT OF<br>DESIGN AND CONSTRUCTION | SEWER RELIEF PROJECT<br>AT AMELIA STREET<br>HONOLULU, OAHU, HAWAII<br><b>SITE PLAN</b> | KWOCK ASSOCIATES, INC.<br>CONSULTING ENGINEERS | FIGURE<br><b>2</b> |
|---|--|--|--------------------|

At the end of Amelia Street the new sewer line will replace the existing sewer line in an existing easement in favor of the City and County of Honolulu. The new sewer in the easement will be 302 linear feet long.

Figure 2 shows the location of the proposed action. The new sewer main will begin at the existing sewer manhole 242496 at the end of Amelia Street and connect to existing sewer manhole 242063 on Kino Street.

The segments of roadways and easement directly affected by the proposed project are shown below:

| ROADWAY/EASEMENT | IMPROVEMENTS  | AFFECTED SEGMENT<br>(approx. in feet) |
|------------------|---------------|---------------------------------------|
| School Street    | New 16" Sewer | 335                                   |
| Amelia Street    | New 16" Sewer | 494                                   |
| Easement         | New 16" Sewer | 302                                   |

The proposed action is located in a mostly residential area of single family residences on Amelia Street and School Street. At the intersection of School Street and Kino Street, however, there is a commercial building. The residential uses consist of small single family residences.

## 2.2 PROJECT PURPOSE

The replacement of the existing gravity sewer lines in School Street and Amelia Street is required because studies have shown that the existing pipes do not have the capacity to carry the present and future sewage flow. Presently the existing pipes are flowing under a surcharge condition that could lead to overflow and spillage. Under the Consent Decree the City and County of Honolulu entered into with the Federal and State government, the City is obligated to maintain the existing sewer pipes and replace the inadequate sewer pipes to eliminate sewage spills that could pollute the environment.

The construction of the new 16-inch sewer line is in response to the Consent Decree entered into between the City and County of Honolulu and the United States Government to install or implement preventive maintenance and sewer replacement and rehabilitation necessary to reduce and prevent spills from its collection system. Construction of the new sewer pipe will eliminate structural pipe failures associated with inadequate preventive maintenance and excessive infiltration and inflow in the sewer collection system. The larger size sewer pipe is needed to provide adequate capacity to handle the sewage flow in the area, to avoid any sewage spillage and eliminate existing infiltration of ground water into the existing 10-inch sewer line. Any overflow or spillage could affect the water quality of Kalihi Stream and damage the environment of the surrounding areas with devastating consequences.

During the planning stage of the project, television inspection of the existing 10-inch sewer pipe found open pipe joints and tree root intrusion into the sewer pipe.

## 2.3 TECHNICAL DESCRIPTION OF THE PROJECT

The project will replace the existing 12-inch sewer line on School Street and existing 6-inch and 10-inch sewer line on Amelia Street with a new 16-inch sewer line. The entire length of the project is 1,131 linear feet long. The existing 6-inch sewer pipe on Amelia Street will be abandoned in place after the existing 16-inch sewer line on Amelia Street is operational and the existing residences are connected to the new 16-inch sewer line. The existing sewer manholes will remain and be reused. The invert of the sewer manhole will be re-channelized to accommodate the larger size pipe. The new sewer line and depth of pipe will be in the same location and depth as the existing 10-inch sewer line. 302 linear feet of the sewer line is in an easement that is in favor of the City and County of Honolulu at the end of Amelia Street. The remaining 829 linear feet of sewer line will be located in the asphalt concrete pavement area of Amelia Street and School Street.

Where the sewer line crosses Kalihi Stream at the School Street Bridge the new sewer line will be suspended on the bridge structure. Two new sewer manholes will be constructed on School Street on either side of the existing bridge for Kalihi

Street to relocate the sewer line location to conform to the City and County of Honolulu Design Guidelines for Installation of Utilities on City Bridges. Where the sewer line crosses Kalihi Stream at the end of Amelia Street, the new pipe will replace an existing underground sewer pipe and a concrete jacket constructed to protect the pipe.

New sewer laterals shall be constructed to connect the existing buildings to the new 16-inch sewer line. The existing 6-inch sewer line that currently provides sewer services to the lots will be abandoned in place. The tops of the existing sewer manholes will be removed and the manholes backfilled.

The project will replace the existing vitrified clay sewer pipes with larger diameter polyvinyl chloride (PVC) sewer pipe in the same location and depth as the existing pipe except for the Kalihi Stream Bridge crossing on School Street. At the School Street Bridge the sewer alignment was modified to meet the current standards of the City and County of Honolulu for placing utilities on bridges. The new PVC sewer pipe has the following advantages over the existing vitrified clay sewer pipe.

1. The PVC pipe comes in longer length reducing the number of pipe joints where many of the problems with leakage occur. The longer length also makes construction easier.
2. The PVC pipe is pressure rated where the vitrified clay pipe is strictly for gravity flow in an open channel condition. The PVC sewer pipe has the same pressure rating as PVC water pipe.
3. The PVC pipe is more efficient by having a lower roughness coefficient, which allows the pipe to have a higher capacity for the same size diameter vitrified clay pipe.
4. The PVC pipe joints are water tight and better suited to resist tree root intrusion.

Where the pipe is suspended on the bridge or is concrete jacketed, ductile iron pipe will be used.

Pipe material for the new 16-inch pipe will be polyvinyl chloride (PVC) sewer pipe conforming to AWWA C-905, AWWA Standard for Polyvinyl Chloride (PVC) Transmission Pipe, Nominal Diameters 14-inches Through 36-inches. Pipe material for pipes 12-inch and smaller shall conform to AWWA C-900, AWWA Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch through 12-inch For Water Distribution. Fittings shall be pressure fittings conforming to AWWA C-907 with elastomeric gasket type joints compatible with C-900 PVC pipe. Pipe material for both Kalihi Stream crossings shall be ductile iron pipe conforming to

ANSI A-21.51 and AWWA C151. Ductile iron pipe fittings shall conform to ANSI A-21.10 and AWWA C110 with mechanical joints.

Construction will be by the open trench method and by-pass pumping will be provided to maintain sewer service at all times. Excavation will be by the open trench method and limited to the only the length between two manholes at any one time. Because Amelia Street is so narrow, the excavated trench material will be loaded into trucks and hauled to a near-by staging area for storage. After the new sewer line has been installed, the stored material will be loaded into trucks and return back to Amelia Street to backfill the trench. Non skid steel plates and barricades shall be placed over during non-working hours. Temporary repair of the asphalt pavement will follow immediately after the trench backfill and permanent asphalt pavement repair will be made after all of the new sewer line on Amelia Street and School Street has been constructed. Trench repair asphalt concrete pavement will be in conformance with the standards of the City and County of Honolulu. Access to driveways will be limited during construction but residents will be accommodated whenever possible.

Working hours shall be between 8:30 am and 3:30 p.m. Monday through Friday. Road closure for Amelia Street shall be done in two phases. Lane closure on School Street will allow a minimum of one lane of traffic in each direction. No weekend work will be allowed without the prior approval of the Director of the Department of Design and Construction. Traffic controls including signs, cones, flagman and police will be in accordance with the Traffic Control Plans approved by the Traffic Review Branch of the Site Development Division of the Department of Planning and Permitting.

## 2.4 PROJECT SCHEDULE AND COST

The project is scheduled to begin in the spring of 2009 and be completed in 365 calendar days (approximately 12 months). Construction cost is estimated to cost \$2,500,000.00. Cost of the project will be funded entirely by the City and County of Honolulu. Construction of the project cannot begin until the Finding of No Significant Impact (FONSI) is issued and all necessary permits are obtained.

## 2.5 PROJECT SUMMARY

A description of the project and applicable land-use restrictions is contained in Table 2.

Table 2: Project Summary

| ITEM   | DATA  |
|--|---|
| Tax Map Key:   | 1-3-015 and 1-3-019:por: 021  |
| State Land Use Designations                            | Urban   |
| Primary Urban Center Development Land Use Designations | Residential, Commercial   |
| Zoning Designations                                    | R-3.5 Residential, R-5 Residential and B-2 Community Business District  |
| Flood Insurance Rate Map                               | Zone X and Zone AE  |
| Length and Diameter of Sewer Line                      | 1,131 linear feet, 16-inch diameter   |
| Landowner  | Amelia Street – Private<br>School Street – City and County of Honolulu<br>Kino Street – City and County of Honolulu |

### 3. AFFECTED ENVIRONMENT

#### 3.1 PHYSICAL ENVIRONMENT

##### 3.1.1 Geology and Topography

The site is located on the southeastern flank of the elongated Koolau Mountain range. The mountain range is believed to have formed during the late Tertiary/early Pleistocene time (between 1 and 12 million years ago) by lava that flowed from rift zones roughly paralleling the existing mountain crest trend to form the main shield of the volcano.

After cessation of the main volcanic activity, erosion reduced the height of the volcanic dome by as much as 1,000 feet. Stream activity cut deep valleys into the mountain range. During high stands of sea levels, the valleys were infilled with sediment (alluviated) grading to the high sea level stands (Stearns, 1967).

Late-stage volcanic eruptions occurred on the southeasterly end of the Koolau mountains. These late-stage eruptions, known as the Honolulu Volcanic Series, form familiar landmarks on Oahu such as Diamond Head, Punchbowl, Tantalus, Round Top and Salt Lake craters (Stearns and Vaksvik, 1935).

The subsurface condition at the site was determined by drilling three test borings to depths of 25 feet below existing grade. Boring No. 1 drilled at the west end of Amelia Street found moderate stiff to stiff, brown CLAY to a depth of 3.75 feet followed by loose COBBLES to a depth of 5.5 feet, then by soft stiff CLAY to a depth of 12 feet. Below the Clay, moderately hard to hard, gray BASALTIC ROCK was found to the final depth of the boring.

Boring No. 2 was drilled in the easement area beyond the end of Amelia Street found very stiff, brown CLAY with gravel to a depth of 6.0 feet followed by moderately hard to hard, gray BASALTIC ROCK to the final depth of the boring. Cobbles and concrete fragments (debris) were found in the boring at depths of 1.5 to 4.0 feet.

Boring No. 3 was located on Kino Street near the North School Street intersection. The existing asphalt concrete pavement was found to be 4 inches thick. Beneath the asphalt concrete (A.C.), dense, gray GRAVEL was found to a depth of 2.0 feet followed by soft, gray brown CLAY grading to stiff then hard to a depth of 12.5 feet then by soft, gray BASALTIC ROCK grading to moderately hard at 19 feet to the final depth of the boring.

No groundwater was observed in the borings at the time of the field investigation. This however does not preclude the presence of seepage water or free groundwater at lower elevations, near the stream, or during rainy periods.

From the USDA Soil Conservation Service "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii", the site is located in an area designated as Kaena clay, 2 to 6 percent slopes (KaB). The series consists of very deep, poorly drained soils on alluvial fans and talus slopes. These soils developed in alluvium and colluvium from basic igneous material (USDA, 1972, pp. 49 and 50, Plate 62)

The topography of the area is generally flat with a slight decline in the Diamond Head direction on School Street from Kino Street to Amelia Street. There is a gentle slope on Amelia Street from the intersection of School Street to the end of Amelia Street.

There is no drainage system on Amelia Street and the runoff from the area flows overland down Amelia Street into Kalihi Stream.

### Potential Impacts and Mitigation Measures

The replacement of the existing 10-inch sewer pipe and installation of the new 16-inch relief sewer will require open trench excavation to depths between 3.5 feet and 7.0 feet in the roadways and up to 22 feet in the easement area. Because the new sewer line is being installed in the same location and depth of the existing sewer line, excavation is not expected to be difficult because of the previous trench excavation and backfill. Because Amelia Street is narrow, the excavated material cannot be stored on the roadway and the material must be trucked to a staging area during excavation and trucked back for backfill of the trench. By-passing pumping is required to keep the sewer line operational at all times during construction.

Potential impacts and mitigation measures include:

Soil conditions are not expected to have a significant affect on this project.

1. Most of the existing sewer line to be replaced is located within the roadway except for the portion in the sewer easement. Because of the previous excavation and backfill, the trench excavation is not expected to encounter any hard material that would require blasting or pneumatic drill to break up the hard material.
2. The new sewer line will replace the existing sewer line at the same location and depth. Except for a portion of the sewer line in the easement outside of the road right-of-way, the trench depth will be nominal. Trench depth will range from 3.5 feet to 7.0 feet depth.
3. No ground water was found during the sub-surface investigation and de-watering of the trenches is not required. Therefore trench excavation will proceed at a fairly rapid rate.

4. At the School Street Kalihi Stream crossing, the new sewer line will not be placed underground but structurally supported and attached to the existing bridge structure.
5. At the end of Amelia Street where the new sewer line will cross under Kalihi Stream, the Contractor will implement Best Management Practices (BMP) in accordance with Permit requirements to cross the stream. The BMPs include temporary stream diversion, keeping mechanical equipment out of the stream, daily inspection, creating sediment trap and removing sediment buildup. The area will be restored to as good or better condition after construction.

### 3.1.2 SOILS

The soils in the area are primary Kaena clay (KaB), and is suitable for sewer construction. Any excavated materials from the trenches will hauled to a staging area and stored for reuse as trench backfill material.

#### Potential Impacts and Mitigation Measures

Because of the lack of space at the project site to stored the excavated material, the excavated material must be loaded into a truck and hauled to a staging area for storage. When the trench is ready to be backfilled, the material must again be loaded on a truck, hauled to the project site and unloaded. The multiple handling of the material is time consuming and expensive but in this case unavoidable.

1. Multiple handling of the material may generate dust. Using water to wet the material to reduce dust can mitigate this.
2. At the staging area, water should be used to keep the material damp to avoid dust when the wind blows. The watering should be a fine mist and not a powerful spray. Caution should be exercised to not use an excessive amount of water that would cause runoff from the site.
3. Best Management Practices must be in placed prior to the start of construction and maintained throughout the construction period.

### 3.1.3 Climate and Air Quality

The Kalihi area receives rainfall of about 39 inches annually principally from the orographic lifting of trade winds along the Koolau mountain slope. In the absence of trade winds, cyclonic circulation may occur during which widespread storm rainfall is common. Cyclonic rainfall is less influence by the topography and tends to be more uniformly distributed. This type of rainfall is generally a winter phenomenon. Rainfall may be very intense, occasionally resulting in

widespread flooding. Four kinds of major storms produce heavy rainfall in Hawaii. They are Kona storms (subtropical cyclones), cold fronts, and upper-tropospheric low-pressure systems and on rare occasions, tropical cyclones. In the Hawaiian Islands, the Kona cyclone has an annual frequency of about three to four occurrences and accounts for more than half the rainfall received in drier area of Hawaii. Cold fronts affect the Hawaiian Islands about 15 times each winter, occasionally bringing heavy rainfall. On average at least 5 heavy rain and flooding events occur annually in the Hawaiian Islands.

### Potential Impacts and Mitigation Measures

Climatic conditions are not expected to have a significant affect on the project. Temporary and localized negative impacts on air quality will occur in areas adjacent to the construction site. Equipment used during the construction phase will emit exhaust and airborne particulate, and construction work will produce dust during construction. The increase exhaust emissions from equipment during construction will only be a temporary effect on the ambient air quality. The Contractor will be required to provide effective dust control measures to prevent or minimize fugitive dust emission generated by construction.

1. Trench excavation will be limited to a small area at one time. Trench excavation and pipe laying will take place between two existing sewer manholes with a maximum distance of 221 feet.
2. No work will be performed during periods of heavy rainfall.
3. Kalihi Stream crossing work will be performed during the dry months of the year.
4. Dust control with water spraying will be required to prevent air borne dust.

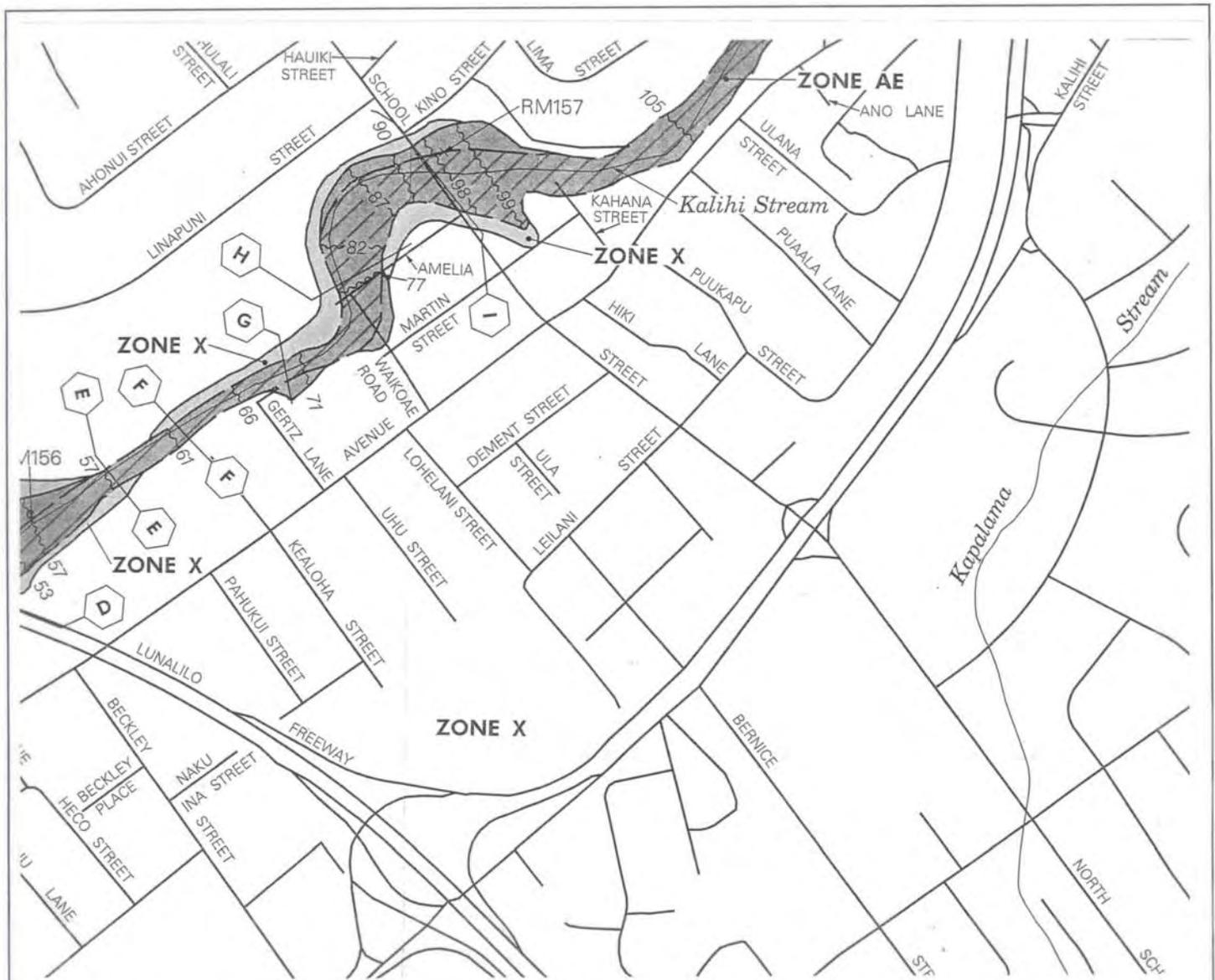
### 3.1.4 Natural Hazards

#### Flood Zone

The Flood Insurance Rate Map (FIRM) No. 15003C0353F, dated September 30, 2004, shows that the lower part of Amelia Street, near the Kalihi Stream, and portions of School Street are located the Floodway Area in Zone AE (base flood elevations determined). The remainder of Amelia Street and Kino Street are located in Zone X (areas determined to be outside the 500-year floodplain).

#### Seismic Activity

Based on the Uniform Building Code (UBC), Oahu is placed in Seismic Zone 1 or the lowest level for potential seismic induced ground movement. No special design consideration is required for this project due to potential seismic activity.



### LEGEND



**SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD**

- ZONE A** No base flood elevations determined.
- ZONE AE** Base flood elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE A99** To be protected from 100-year flood by Federal flood protection system under construction; no base flood elevations determined.
- ZONE V** Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- ZONE VE** Coastal flood with velocity hazard (wave action); base flood elevations determined.

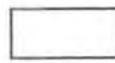


**FLOODWAY AREAS IN ZONE AE**



**OTHER FLOOD AREAS**

**ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.



**OTHER AREAS**

**ZONE X** Areas determined to be outside 500-year floodplain.

**ZONE D** Areas in which flood hazards are undetermined.

PREPARED FOR:  
DEPARTMENT OF  
DESIGN AND CONSTRUCTION

SEWER RELIEF PROJECT  
AT AMELIA STREET  
HONOLULU, OAHU, HAWAII  
**FIRM MAP**

**KWOCK ASSOCIATES, INC.**  
CONSULTING ENGINEERS

FIGURE  
**4**

## Potential Impacts and Mitigation Measures

1. No construction materials should be stored in the project areas designated Floodway.
2. In the event of heavy rainfall or forecast heavy rainfall work shall cease for the Kalihi Stream crossing and diversions measures removed to allow for Kalihi Stream to have maximum flow capacity.
3. Kalihi Stream crossing shall be scheduled for the dry months with less potential for flooding.

### 3.1.5 Hydrology

The project will cross Kalihi Stream twice, once on School Street and the other at the end of Amelia Street. The sewer pipe at the School Street crossing will be mounted between the girders on the existing bridge and will have no effect on the flow in Kalihi Stream. The Kalihi Stream crossing at the end of Amelia Street will be underground and will require a temporary diversion of Kalihi Stream in order to construct the sewer line. The new sewer line will be at the same invert as the existing sewer pipe and will be protected by a reinforced concrete jacket. Upon completion of construction, the new sewer line should have no impact on the flow of Kalihi Stream.

Biologists from ACEOS, Inc. on February 8, 2008 conducted a reconnaissance survey of Kalihi Stream to ascertain biological resource and assess water quality. The report dated March 17, 2008 considered the aquatic environment at the project site and assessed potential impacts of the proposed project on aquatic resource in Kalihi Stream. The results of the February 8, 2008 sampling found turbidity and total suspended solids values were high reflecting the poor visibility in the stream during the survey. Both the turbidity and suspended solids results exceeded the State water quality criterion. Neither pesticides nor "Oil and Grease" were detected in the stream. The aquatic biota survey found mosquito fish (*Gambusia affinis*) and guppies (*Poecilia reticulata*) to be common in sheltered pools near the stream banks. Swordtails (*Xipophorus helleri*) are abundant in larger pools with moderate water flow and in fast flowing waters behind debris or vegetation.

The report found that the relatively poor water quality of Kalihi Stream to be consistent with its listing as an impaired water body by the State of Hawaii. This indicates that the stream does not meet the Hawaii Water Quality Standards for certain parameters. The pollutants listed for Kalihi Stream are: nitrite/nitrate (wet/dry season), total nitrogen (wet season), turbidity (dry season), and trash.

The conclusion of the report was that aside from brief episodes of poor water quality attributed to suspended sediments during the construction process, the

proposed project would have no long term, adverse consequences on the water quality of Kalihi Stream. None of the aquatic species observed in Kalihi Stream are considered valuable or of special concern from a natural resource preservation perspective. In fact most are generally described as invasive/pest species which at least partially contribute to the decline of native fish and invertebrate populations. No federally endangered or threatened species were encountered during the survey.

### Potential Impacts and Mitigation Measures

The proposed project will have no long term impact, adverse consequences on the water quality of Kalihi Stream. A Best Management Practices (BMP) plan will be developed and implemented to minimize environmental impacts to water quality and aquatic biota in the vicinity of the project site.

#### 3.1.6 Noise Quality

Existing noise levels in the project area are consistent with that found in an urban environment with noise primarily generated by vehicle travelling on public streets in the project area. Buses and large commercial vehicles travel on School Street and passenger vehicles on Amelia Street.

Construction will generate noise during working hours with the use of heavy equipment. A noise permit will be obtained from the State Department of Health prior to construction to operate vehicles, construction equipment, power tools and other noise generating items. Heavy equipment shall have mufflers to lessen the noise generated during construction.

### Potential Impacts and Mitigation Measures

Construction generated noise will conform to levels allowed by the Noise Permit from the State Department of Health. Hours of construction operations will also be limited to daytime hours during the period from Monday through Friday. Construction equipment and vehicles that exhaust gas or air must be equipped with mufflers.

## 3.2 BIOLOGICAL ENVIRONMENT

### 3.2.1 Flora and Fauna

Construction of the project will occur primarily in the roadway right-of-way in the paved area and should not have an impact on existing vegetation in the developed area. In the easement area beyond Amelia Street, the vegetation consists mainly of grass and haole koa. There are no rare, endangered or threatened species of plants in the project corridor.

Fauna in the project area would include species commonly found in residential and commercial areas and include rats, domesticated cats and domesticated dogs. Birds in the area include the common mynas, spotted dove, sparrows and pigeons.

#### Potential Impacts and Mitigation Measures

There will be temporary disturbance of the grass in the easement area but the grass will be able to re-generate after construction. There will no other disturbance of existing vegetation in the project area since the work will be performed in the roadway right-of-way. There are no known rare, endangered or threatened species of plants within the project area. The project will not have any adverse impact on wildlife resources in the area.

### 3.3 SOCIO-ECONOMIC ENVIRONMENT

#### 3.3.1 Population and Employment

The project area is in Census Tract 61 and according to the 2000 Census of the U.S. Census Bureau had a population of 3,838. The residential area is one of the oldest in Honolulu having been developed in the 1930's. The roadways are sub-standard with Amelia Street being only a 20-foot wide right of way with only A.C. pavement and no curbs, gutters and sidewalk improvements. The area is fully developed and the population is not expected to increase.

There are a few commercial buildings on School Street near the intersection of Kino Street that have opportunity for employment. However most the businesses are family run and employ family members. Therefore there are very limited opportunities for employment in the area.

#### Potential Impacts and Mitigation Measures

The project is not expected to have an effect on the population. The current sewer pipes are too small and do not have the capacity to carry the required sewage flow. The flow backs up in the sewer manholes and builds up a hydraulic head in order to push the flow through the inadequate sewer pipes. If the head builds up high enough in the sewer manholes, it could lead to potential sewage spillage and overflow. Therefore installing larger diameter sewer pipes is intended to eliminate the surcharge in the system and allow a gravity flow condition in the system rather to provide additional capacity for future development.

#### 3.3.2 Surrounding Land Uses

The project area is in a developed area consisting of older single family residential homes along Amelia Street, School Street and Kino Street built on small lots. There are a few commercial zoned parcels on School Street at the Kino Street intersection. Construction plans for the construction of Amelia Street date back to the 1930's. The newer buildings can be found on School Street and Kino Street.

#### Potential Impacts and Mitigation Measures

Vehicular traffic will be impacted during construction with road and lane closures. All road and lane closures will be in accordance with the Traffic Control Plan approved by the Traffic Review Branch of the Site Development Division of the Department of Planning and Permitting of the City and County of Honolulu. Disruption in traffic will temporary and will not have a long-term impact on traffic in the area. On School Street there will be a minimum of one lane of traffic in each direction at all times. A section of Amelia Street could be closed during the working hours and open to traffic during non-working hours. Alternate routes are also available for traffic to avoid the construction area. Except for slight delays during working hours, the bus route on School Street should not be affected.

#### 3.3.3 Scenic and Visual Resources

There are no significant visual resources in the area that would be impacted by the construction of the new sewer pipes. The scenic mountain views in the area will be preserved. The tranquil water flow in Kalihi Stream will not be interrupted.

#### Potential Impacts and Mitigation Measures

Construction of the underground sewer pipes will have no adverse impacts on existing views, view planes or aesthetic resources. During construction there may be short-term visual impact but the proposed construction will not include any permanent above ground structures. Therefore there will be no long-term impact to scenic and visual resources.

#### 3.3.4 Archaeological, Historic and Cultural Resources

The project site has been disturbed by construction of the existing sewer system and other underground utilities. This project will remove the existing sewer pipes and install larger diameter sewer pipes in the same location and depth as the existing pipes. Artifacts of archaeological or historic value would have been discovered during the earlier construction and none are anticipated during the proposed construction.

#### Potential Impacts and Mitigation Measures



Kalihi Stream at the end of Amelia Street



The end of Amelia Street



Amelia Street



School Street between Amelia Street and Kino Street



Kino Street at the intersection with School Street

The proposed construction is not expected to result in an impact to archaeological, historical or cultural resources due to the location of the project mainly within the road right-of-way or previously excavated trenches. In the event of an unlikely discovery, the contract documents will require the Contractor to stop work and notify the Honolulu Police Department and the State Department of Land and Natural Resources-Historic Preservation Division.

The actual wording is as follows “ Pursuant to Chapter 6E, HRS, in the event any artifacts or human remains are uncovered during construction operations, the Contractor shall immediately suspend work and notify the Honolulu Police Department, the State Department of Land and Natural Resources-Historic Preservation Division (692-8015). In addition, for non-city projects, the Contractor shall inform the Civil Engineering Branch, Department of Planning and Permitting (768-8084); and for City projects, notify the responsible City Agency.”

### 3.4 TRAFFIC AND CIRCULATION

#### Existing Roadway System

The project will construct within the following right-of-way:.

- Entire length of Amelia Street
- School Street from Amelia Street to Kino Street
- Kino Street at the intersection of School Street

Amelia Street is currently privately owned but maintained by the City and County of Honolulu. The City and County of Honolulu is in the process of obtaining the ownership of the right-of-way. The street is sub-standard and does not conform to the requirements of the Department of Planning and Permitting Subdivision Street Standards. The right-of-way is only 20 feet wide and the roadway does not have any curbs, gutters and sidewalk.

School Street is classified as a secondary roadway with a 60 feet right-of-way. School Street is 40 feet wide curb to curb and has four 10-foot wide lanes, two in each direction. School Street is part of the bus route. One lane of traffic in each direction will be maintained at all times during construction.

The project will connect to the existing sewer manhole on Kino Street at the intersection of School Street. There will be only minor impact to the traffic on Kino Street because of construction.

Amelia Street, School Street and Kino Street are accessible from two directions. Vehicular traffic has alternate routes to Amelia Street, School Street and Kino Street. The only area that will not be accessible will be the roadway area closed for construction during working hours. During non-working hours all lanes of the roadways will be opened to traffic.

## Potential Impacts and Mitigation Measures

Traffic impact will only be temporary during construction and there will no long-term impact to traffic upon completion of construction. Amelia Street and Kino Street have alternate routes that can be used during construction. Two way traffic will be maintained on School Street during construction. Lane or road closure will be limited to the non-peak hours between 8:30 am and 3:30 p.m.

All residents in the area will be given advance notice prior to the start of construction. Contractor is responsible to notifying the residents of impending construction and possible lane and road closures. Besides the residents, the Neighborhood Board and the City Bus Company (TheBus) will need prior advance notification prior to the start of construction.

Traffic control plans approved by the Traffic Review Branch of the Department of Planning and Permitting will be followed during construction. Flagmen/police will be required on site to direct traffic. Road usage permit must be obtained.

### 3.5 PUBLIC UTILITIES

#### Drainage System

There is no drainage system on Amelia Street. Rainfall runoff flows by surface flow from School Street to the end of Amelia Street where it flows into Kalihi Stream. There is an underground drainage system on School Street with standard catchbasins, manholes and underground 24" and 42" pipe systems. The drain pipes are deeper than the sewer line and will not be impacted by this project.

#### Water System

The existing water system in the area is owned and maintained by the Board of Water Supply. There is an underground 36" transmission main and a 16" distribution main on School Street. Water service on Amelia Street is provided by a 6" water line. Kino Street has an 8" water line. The existing water lines will not be impacted by the project because the new sewer lines will replace the existing sewer lines in the same location and depth.

#### Sewerage System

The method of construction for this project requires 24 hours by-pass pumping to keep the sewerage system in operation. Construction will be limited to the area between two existing sewer manholes to minimize the by-pass pumping required.

Electric, Telephone, CATV and Street Lighting Systems.

The existing electric, telephone, CATV and street lighting systems on Amelia Street, School Street and Kino Street are mounted overhead on poles. Excavation to install the sewer pipes will not have an impact on the existing electric, telephone, CATV and street lighting system.

### Gas System

There is gas service in the area provided by underground gas pipes in School Street and Amelia Street. The gas lines are small in diameter and will not be impacted by the construction of this project.

### Potential Impacts and Mitigation Measures

All existing utilities in the area will remain in service during construction. No shut down of any utility will be required to construct this project. Continuous sewer service will be provided with by-pass pumping 24 hours. Since the new sewer pipes will replace the existing sewer pipes in the same location and depth, no relocation of existing water line and gas line is required. The electric, telephone, CATV and street lighting systems are overhead and will not be impacted by construction.

## 3.6 PUBLIC HEALTH AND SAFETY

Police, fire and ambulance services are provided by the City and County of Honolulu. The nearest police sub-station is the Kalihi Sub-station located at 1865 Kamehameha IV Road. The nearest fire station is the Kalihi Fire Station located on North King Street near the intersection with Kalihi Street. The nearest ambulance would respond from Hawaii Medical Center East in Liliha. With the existing traffic circulation pattern, the City should be able to maintain all services without interruption to the area during construction. No significant delay in response time is anticipated because of lane closures during construction. Alternative routes and detours are available when lane closures are in effect.

### Potential Impacts and Mitigation Measures

There will be no impact on existing police, fire and ambulance services for the area as a result of this project.

#### 4. LAND USE PLANS, POLICIES AND CONTROLS

##### 4.1 STATE LAND USE CLASSIFICATION

The State Land Use Commission classified all lands in the State into one of four land use districts: urban, rural, agricultural and conservation. The entire area of the project falls under “urban” classification. Activities permitted within the “urban” classification are regulated by the City and County of Honolulu.

##### 4.2 CITY AND COUNTY OF HONOLULU LAND USE REGULATIONS

The project is consistent with the General Plan of the City and County of Honolulu, as amended in 1992, especially the following objectives and policies of Chapter V, Transportation and Utilities:

- Objective B. To meet the needs of the people of Oahu for ... environmental sound systems of waste disposal.  
  
Policy 5. Provide safe efficient, and environmental sensitive waste collection and waste disposal services.
- Objective C. To maintain a high level of service for all utilities.  
  
Policy 1. Maintain existing utility systems in order to avoid major breakdowns.  
  
Policy 2. Provide improvements to utilities in existing neighborhoods to reduce substandard conditions.

The project also conforms to the Primary Urban Center Development Plan (PUC DP) effective June 21, 2004 provide guidelines and policies for development by identifying permissible land uses. Permissible land uses and various public facilities and improvements are designated by the PUC DP.

Land uses permitted under the Development Plan for the project area include Residential and Commercial.

Zoning districts in the project area include

- R-3.5 Residential
- R-5 Residential
- B-2 Community Business

The PUC DP states the Primary Urban Center’s aging sewerage collection system is recognized as a major obstacle to the orderly development of the city. In large parts of central Honolulu, new development is restricted due to the

inadequate sewer capacity. This project conforms to the PUC DO vision and will provide relief to sewerage system in the area. The larger sewer pipes will provide adequate capacity for revitalization of the area.

The Public Infrastructure Map (the PIM Ordinance No. 07-37 was adopted on October 4, 2007. The PIM Ordinance requires symbols for qualified publicly funded facilities for a development plan area to be shown on the applicable PIM prior to the appropriation of land acquisition or construction funds.

In accordance with Section 4-8.3(a) of the Revised Ordinances of Honolulu (ROH), the proposed project will not require the addition of a symbol for the publicly funded facility to the Primary Urban Center (PUC PIM). Underground sewer line is not a type of public infrastructure to be shown on the PIM.

#### 4.3 SPECIAL MANAGEMENT AREA AND SPECIAL DISTRICT

The project is not in the Special Management Area and is not in any designated Special District.

### 5. POSSIBLE ALTERNATIVES

#### 5.1 NO ACTION

The “no action” alternative relies on the existing sewer system to handle the flows through the system. The existing system does not have adequate capacity to handle the existing flow and the sewer pipes are flowing in a surcharged condition. This condition could lead to potential sewage overflow and spillage. Any overflow and spillage would be in violation of the Clean Water Act and the Consent Decree that the City and County of Honolulu has with the Federal Government.

#### 5.2 DELAYED ACTION

Delaying the project would not improve the carrying capacity of the sewer system and further delay would only increase the construction cost. If the project is delayed and there is an overflow and spillage, the consequences would be disastrous. The City and County of Honolulu could be cited for violating the Consent Decree with the Federal Government.

#### 5.3 ALTERNATIVE ALIGNMENTS

Alternative alignments were studied but determined not to be feasible because the sewer system is a gravity system and depends on the slope of the terrain for the flow capacity. Replacing the existing sewer pipe in the same location and depth was determined to be the best solution and would have the least impact on the surrounding area.



|   |  |  |                            |
|---|--|--|----------------------------|
| <p>PREPARED FOR:</p> <p>DEPARTMENT OF<br/>DESIGN AND CONSTRUCTION</p> | <p>SEWER RELIEF PROJECT<br/>AT AMELIA STREET<br/>HONOLULU, OAHU, HAWAII</p> <p><b>ZONING MAP</b></p> | <p>KWOCK ASSOCIATES, INC.<br/>CONSULTING ENGINEERS</p> | <p>FIGURE<br/><b>3</b></p> |
|---|--|--|----------------------------|

## 6 DETERMINATION

Based on the information contained in this document and review comments received, the proposed project will not produce any significant social, economic, cultural or environmental impacts. As a result, a Finding of No Significant Impact (FONSI) has been declared by the Department of Planning and Permitting pursuant to the provisions of Subchapter 6 of Chapter 200, Title 11, Hawaii Administrative Rules of the Department of Health.

## 7 FINDINGS AND REASONS SUPPORTING THE FONSI DETERMINATION

This Environmental Assessment, prepared in accordance with Chapter 343, HRS, as amended, determined that the potential for impacts associated with the proposed project will short term during construction and there will be no long term significant impacts. Traffic disruption is unavoidable during construction but traffic will return to normal upon completion of construction. Potential environmental impacts will be of short duration and temporary and are not expected to have a long-term adverse impact on the environmental quality of the area.

The potential effects of the proposed project were evaluated based on the significance criteria in Section 11-200-12 of the Hawaii Administrative Rules, revised in 1996, The summary of potential effects of the proposed project is as follows:

### Significance Criteria

1. Irrevocable commitment to loss or destruction of natural or cultural resources.

The proposed project is located within the roadway right-of-way of public streets and private street maintained by the City and County of Honolulu and is not anticipated to adversely impact natural and cultural resources. The streets to be disturbed have been disturbed repeatedly by roadwork and installation of other underground utilities such as water, drain and gas.

2. Curtailment of the range of beneficial uses of the environment

Placement of utilities within the public streets for public infrastructure is an appropriate, beneficial use of the man made environment. It is a common practice to place utility lines underground in or along side roadways because it also facilitates access for maintenance and repairs.

3. Conflicts with the State's long term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders.

The proposed project is consistent with the environmental policies, goals and guidelines defined in Chapter 344, HRS. An adequate sewer system will protect the environment and ensure that the natural resources are not harmed.

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

The project will ensure the safe passage of sewage through the developed residential areas. The increase in pipe size eliminates the surcharge condition and prevents overflow and spillage which could effect the economic and social welfare of the community.

5. Substantially affects public health.

The project will obtain all of the necessary permits and comply with rules and regulations of the various governmental agencies having jurisdiction over the work. The Contractor as part of the Permit process is required to meet the environmental standards, rules and regulations and best management practices. Public health concerns include air quality, noise, traffic and water quality Impacts. These impacts however can be minimized or reduced to negligible levels by appropriate use of the mitigation measures proposed in this document.

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

The population of the project area according to the U.S. Census Tract 61 is only 3,838. The project area is one of the older residential areas of Honolulu and is fully developed. Unless the area is re-zoned to a higher density land use in the future, the lack of vacant land for development in the project area makes it highly unlikely that the project will generate additional population growth.

7. Involves substantial degradation of environmental quality.

During previous construction projects, all of the existing roadways were disturbed repeatedly in the past. Any disturbances to existing roadway caused by this project will be temporary in nature and all roadway improvements will be restored to equal pre-construction condition or better than pre-construction condition at the end of construction.

8. Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for large actions.

The proposed project is only a small part of a larger sewerage system that conveys and transports sewage flow to one of the regional wastewater treatment plants on Oahu for treatment and disposal. The project is not expected to have significant impacts on local, regional, and island-wide land use and/or population.

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

The project area is an older established urban neighborhood with no known rare, threatened, or endangered species.

10. Detrimently affects air or water quality or ambient noise levels.

The short term impacts on the air quality and noise levels in and around the Construction area generated by construction will be minimized or reduced significantly by implementing the mitigation and best management practices required by the various permits and rules and regulations of the various governmental agencies.

11. Affect or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters.

The project area is not located nor impacted by flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater or coastal waters.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies.

The sewer pipes will be installed underground in the public rights-of way and will have no impact on scenic vistas and view planes.

13. Requires substantial energy consumption.

Construction methods for the proposed project are standard and typical for the work to be performed. The project will not require substantial expenditure of energy during construction and will not require any energy consumption upon completion of construction.

8. ORGANIZATIONS AND AGENCIES CONSULTED IN PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT

- 8.1 City and County of Honolulu, Department of Planning and Permitting  
Board of Water Supply  
Hawaiian Electric Company  
Hawaiian Telcom  
Oceanic Cable  
Honolulu Gas Company

8.2 Organizations to be contacted during DEA Comment Period

The organizations and agencies listed below will be contacted during the 30-day comment period for the Draft Environmental Assessment. A copy of the DEA will be placed at the Kalihi-Palama Public Library for public review.

State Agencies

Department of Business, Economic Development & Tourism, Office of Planning  
Department of Hawaiian Homes Lands  
Department of Land and Natural Resources  
Department of Land and Natural Resources, State Historic Preservation Division  
Department of Health, Environmental Management Division  
Office of Environmental Quality Control  
Office of Hawaiian Affairs  
Kalihi-Palama Public Library

City and County of Honolulu Agencies

Department of Design and Construction  
Department of Environmental Services  
Department of Planning and Permitting  
Department of Parks and Recreation  
Department of Facility Maintenance  
Department of Transportation Services  
Fire Department  
Police Department  
Oahu Transit Services

## Private and Community Organizations and Elected Officials

Councilmember Romy M. Cachola  
Kalihi-Palama Neighborhood Board  
State Representative Joey Monahan, House District 19  
State Senator Donna Mercado Kim, Senate District 14  
Hawaiian Electric Company  
Hawaiian Telcom  
Honolulu Gas Company  
Oceanic Cable

## 9 BIBLIOGRAPHY

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Fukunaga and Associates, Inc., City and County of Honolulu, Department of Design and Construction, Sewer Rehabilitation and Infiltration & Inflow Minimization Study, Volume 5 of 9, Sand Island I/I Engineering Report, December 1999.

Fukunaga and Associates, Inc., City and County of Honolulu, Department of Design and Construction, Final Sewer I/I Plan, December 1999.

Federal Emergency Management Agency, Flood Insurance Rate Map #15003C0353E, Effective November 20, 2000.

Shinsato Engineering, Inc., Soil Investigation Report, Amelia Street Relief Sewer, December 21, 2006

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## APPENDIX A – GLOSSARY OF TERMS

|          |   |
|----------|---|
| A.C.     | Asphaltic Concrete                              |
| ANSI     | American National Standards Institute           |
| AWWA     | American Water Works Association                |
| BMP      | Best Management Practices                       |
| CATV     | Communications and Television                   |
| CZM      | Coastal Zone Management                         |
| DEA      | Draft Environmental Assessment                  |
| DOH      | Department of Health                            |
| DTS      | Department of Transportation Services           |
| EA       | Environmental Assessment                        |
| FEA      | Final Environmental Assessment                  |
| FIRM     | Federal Insurance Rate Map                      |
| FONSI    | Finding of No Significant Impact                |
| HRS      | Hawaii Revised Statutes                         |
| NPDES    | National Pollutant Discharge Elimination System |
| NWP      | Nationwide Permit                               |
| OTS      | Oahu Transit Services                           |
| PVC      | Polyvinyl Chloride                              |
| PUC (DP) | Primary Urban Center Development Plan           |
| SLH      | Session Laws of Hawaii                          |
| UBC      | Uniformed Building Code                         |
| USDA     | United State Department of Agriculture          |

APPENDIX B  
COPIES OF DRAFT EA CORRESPONDENCES

Hawaiian Telcom

September 9, 2008

Mr. Eugene C. Lee, P.E., Director  
Department of Design and Construction  
City & County of Honolulu  
650 South King Street, 14<sup>th</sup> Floor  
Honolulu, Hawaii 96813  
Attention: Mr. Carl Arakaki

Dear Mr. Arakaki:

**Subject: Draft Environmental Assessment for Amelia Street Sewer Relief Project**

Thank you for the opportunity to review and comment on the subject project in preparation of the Environmental Assessment.

Hawaiian Telcom does not have any comments to offer at this time. Because Hawaiian Telcom has underground and aerial facilities within the project site, please continue to include us during the design stages of the project.

If you have any questions or require assistance in the future on this project, please call Les Loo at 546-7761.

Sincerely,

*Eugene C. Lee*

Lynette Yoshida  
Section Manager - OSP Engineering  
Network Engineering & Planning

cc: K. Kwock - Kwock Associates, Inc.  
K. Keahoha - Office of Environmental Quality Control  
File [Kalihii]

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
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MUFI HANNEMANN  
MAYOR



EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR

WWW.P.08-265

September 24, 2008

Ms. Lynette Yoshida  
Section Manager - OSP Engineering  
Network Engineering & Planning  
Hawaiian Telcom  
P.O. Box 2200  
Honolulu, Hawaii 96841

Dear Ms. Yoshida:

**Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment  
Tax Map Key: 1-3-015**

Thank you for your letter dated September 9, 2008, indicating that Hawaiian Telcom has underground and aerial facilities within the project site. For your information Hawaiian Telcom was consulted during the design stage and comments received were incorporated into the plans.

If you have any questions or further comments, please call Mr. Carl Arakaki at 768-8738. Thank you for participating in the environmental review process.

Very truly yours,

*Eugene C. Lee*  
FOR Eugene C. Lee, P.E.  
Director

c: Office of Environmental Quality Control  
Kwock Associates, Inc.

LINDA LINGLE  
GOVERNOR OF HAWAII



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

CHRYME L. PUKINO, M.D.  
DIRECTOR OF HEALTH

In reply, please refer to:  
File #

September 10, 2008

TO: Mr. Eugene C. Lee, P.E., Director  
Department of Design and Construction  
City and County of Honolulu

FROM: Russell S. Takata, Program Manager  
Indoor and Radiological Health Branch

SUBJECT: Comments to Draft Environmental Assessment for Amelia Street  
Sewer Relief Project, Honolulu, Oahu, Hawaii, TMK: 1-3-15

Our comments should be printed as follows:

"Project activities shall comply with the Administrative Rules of the Department of Health:

- Chapter 11-46 Community Noise Control.

Should there be any questions, please contact me at 586-4701.

cc: Mr. Kenneth Kwock  
Ms. Katherine Puana Keahoha

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 758-8480 • Fax: (808) 523-4567  
Web site: www.honolulu.gov



MUFI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR  
WWW.P 08-263

September 24, 2008

Mr. Russell S. Takata, Program Manager  
Indoor and Radiological Health Branch  
Department of Health  
State of Hawaii  
P.O. Box 3378  
Honolulu, Hawaii 96801-3378

Dear Mr. Takata:

Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment  
Tax Map Key: 1-3-015

Thank you for your comments dated September 10, 2008. Your comments that the project activities shall comply with the Administrative Rules of the Department of Health:

- Chapter 11-46 Community Noise Control will be incorporated into the Final Environmental Assessment.

If you have any questions or further comments, please call Mr. Carl Arakaki at 768-8738. Thank you for participating in the environmental review process.

Very truly yours,

Eugene C. Lee, P.E.  
Director

cc: Office of Environmental Quality Control  
Kwock Associates, Inc.

POLICE DEPARTMENT  
CITY AND COUNTY OF HONOLULU  
801 SOUTH BERETANIA STREET - HONOLULU, HAWAII 96813  
TELEPHONE: (808) 529-3111 - INTERNET: www.honolulu-pd.org



MUFI HANNEMANN  
MAYOR

OUR REFERENCE BS-KP

September 10, 2008

TO: EUGENE C. LEE, P.E., DIRECTOR  
DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: BOISSE P. CORREA, CHIEF OF POLICE  
HONOLULU POLICE DEPARTMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT  
AMELIA STREET SEWER RELIEF PROJECT  
HONOLULU, OAHU, HAWAII; TMK: 1-3-15

This is in response to a letter from Mr. Kenneth Kwock of Kwock Associates, Inc., requesting comments on the subject project.

This project should have no significant impact on the facilities or operations of the Honolulu Police Department.

If there are any questions, please call Major Kurt Kendro of District 5 at 529-3156 or Mr. Brandon Stone of the Executive Office at 529-3644.

BOISSE P. CORREA  
Chief of Police

By *Deborah A. Tandal*  
DEBORA A. TANDAL  
Assistant Chief of Police  
Support Services Bureau

cc: Mr. Kenneth C. W. Kwock,  
Kwock Associates, Inc.  
Ms. Katherine Puana Kealoha,  
OEQC

*Serving and Protecting With Aloha*

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU  
850 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8480 • Fax: (808) 523-4557  
Web site: www.honolulu.gov



MUFI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKAMA, P.E.  
DEPUTY DIRECTOR

WWW.P.08-266

September 24, 2008

TO: BOISSE P. CORREA, CHIEF OF POLICE  
HONOLULU POLICE DEPARTMENT

FROM: *Boisse P. Correa*  
EUGENE C. LEE, P.E., DIRECTOR  
FOR DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: AMELIA STREET RELIEF SEWER PROJECT  
DRAFT ENVIRONMENTAL ASSESSMENT  
Tax Map Key: 1-3-015

Thank you for your Memorandum dated September 10, 2008, informing us that the project should have no significant impact on the facilities or operations of the Honolulu Police Department.

If you have any questions or further comments, please call Mr. Carl Arakaki at 768-8738. Thank you for participating in the environmental review process.

c: Office of Environmental Quality Control  
Kwock Associates, Inc.

**GAS**

P.O. Box 3000  
Honolulu, Hawaii 96802-3000

September 11, 2008

Mr. Eugene C. Lee, P.E., Director  
Department of Design and Construction  
City and County of Honolulu  
650 South King Street, 14<sup>th</sup> Floor  
Honolulu, Hawaii 96813

Attention: Mr. Carl Arakaki

Gentlemen:

Subject: Draft Environmental Assessment for Amelia Street Sewer Relief Project,  
Honolulu, Oahu, Hawaii, TMK: 1-3-15

Please be advised that The Gas Company, LLC maintains underground utility gas mains in the project vicinity, which serves commercial and residential customers in the area. We would appreciate your consideration during the project planning and design process to minimize any potential conflicts with the existing gas facilities in the project area.

Thank you for the opportunity to comment on the Draft Environmental Assessment. Should there be any questions, or if additional information is desired, please call Kekoa Ramos at 594-5008.

Sincerely,



Charles E. Calvet, P.E.  
Manager, Engineering

CEC:krs  
08-171

cc: Mr. Kenneth C. W. Kwock, Kwock Associates, Inc.  
Ms. Katherine Puana Kealoha, Office of Environmental Quality Control

DEPARTMENT OF DESIGN AND CONSTRUCTION  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8480 • Fax: (808) 523-4567  
Web site: [www.honolulu.gov](http://www.honolulu.gov)



MUFI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR

WW/P 08-267

September 24, 2008

Mr. Charles E. Calvet, P.E., Manager, Engineering  
The Gas Company  
P.O. Box 3000  
Honolulu, Hawaii 96802-3000

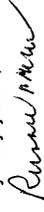
Dear Mr. Calvet:

Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment  
Tax Map Key: 1-3-015

Thank you for your letter dated September 11, 2008, informing us that Honolulu Gas Company maintains underground utility gas mains in the project vicinity, which serves commercial and residential customers in the area. For your information Honolulu Gas Company was consulted during the design stage and comments received were incorporated into the plans.

If you have any questions or further comments, please call Mr. Carl Arakaki at 768-8738. Thank you for participating in the environmental review process.

Very truly yours,



Eugene C. Lee, P.E.  
Director

cc: Office of Environmental Quality Control  
Kwock Associates, Inc.

LINDA LINGLE  
GOVERNOR OF HAWAII



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

September 12, 2008

CHIYOME LEINAALA FUKINO, M.D.  
DIRECTOR OF HEALTH

In reply, please refer to:  
EMD /WB  
LUD-013 015.000

MUFI HANNEMANN  
MAYOR



DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8480 • Fax: (808) 523-4567  
Web site: www.honolulu.gov

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR  
WWW.P.08-264

Mr. Kenneth C.W. Kwock  
President  
Kwock Associates, Inc.  
1953 S. Beretania Street Suite PH-B  
Honolulu, Hawaii 96826-1343

Dear Mr. Kwock:

Subject: **Draft Environmental Assessment for Amelia Street Sewer Relief Project, Honolulu, Oahu** TMK: (1) 1-3-015

Thank you for allowing us the opportunity to review the above subject project which states that the Department of Design and Construction of the City and County of Honolulu proposes to replace the existing 10-inch sewer pipes on Amelia Street and on School Street between Amelia Street and Kino Street.

We have no objections to the proposed replacements of existing sewer lines and offer our approval of such an undertaking to insure the protection of our water sources through improved wastewater collection system.

Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at (808)586-4294.

Sincerely,

TOMAS S. SEE, P.E., CHIEF  
Wastewater Branch

c: City & County of Honolulu's, DDC, Wastewater Division, Carl Arakaki  
DOH's Environmental Planning Office Jiakai Liu

September 24, 2008

Mr. Tomas S. See, P.E., Chief  
Wastewater Branch  
Department of Health  
State of Hawaii  
P.O. Box 3378  
Honolulu, Hawaii 96801

Dear Mr. See:

Subject: **Amelia Street Relief Sewer Project Draft Environmental Assessment Tax Map Key: 1-3-015**

Thank you for your letter dated September 12, 2008, stating no objections to the proposed replacement of existing sewer lines and offering your approval of such an undertaking to insure the protection of our water sources through improved wastewater collection system.

If you have any further comments or concerns, please call Mr. Carl Arakaki at 768-8738. Thank you for participating in the environmental review process.

Very truly yours,

Eugene C. Lee, P.E.  
FOR Director

c: Office of Environmental Quality Control  
Kwock Associates, Inc.

DEPARTMENT OF PARKS AND RECREATION  
**CITY AND COUNTY OF HONOLULU**  
KAPOLEI HALE • 1000 ULUOHA STREET, SUITE 309 • KAPOLEI, HAWAII 96707  
TELEPHONE: (808) 768-3003 • FAX: (808) 768-7053 • INTERNET: [www.honolulu.gov](http://www.honolulu.gov)



MUFI HANNEMANN  
MAYOR

LESTER K. C. CHANG  
DIRECTOR  
GAIL Y. HARAGUCHI  
DEPUTY DIRECTOR

September 12, 2008

TO: EUGENE C. LEE, P. E., DIRECTOR  
DEPARTMENT OF DESIGN AND CONSTRUCTION

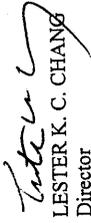
FROM: LESTER K. C. CHANG, DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT  
AMELIA STREET SEWER RELIEF PROJECT  
TMK 1-3-15

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Amelia Street Sewer Relief Project.

The Department of Parks and Recreation has no comment and as the proposed project will not impact any program or facility of the department you are invited to remove us as a consulted party to the balance of the EIS process.

Should you have any questions, please contact Mr. John Reid, Planner, at 768-3017.

  
LESTER K. C. CHANG  
Director

LKCC:jr  
(278099)

cc: Mr. Kenneth C. W. Kwock, Kwock Associates, Inc.  
Ms. Katherine Puana Keahoha, Director, Office of Environmental Quality Control

DEPARTMENT OF DESIGN AND CONSTRUCTION  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8480 • Fax: (808) 523-4567  
Web site: [www.honolulu.gov](http://www.honolulu.gov)



MUFI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR  
WWW.P 08-262

September 24, 2008

TO: LESTER K.C. CHANG, DIRECTOR  
DEPARTMENT OF PARKS AND RECREATION

FROM: EUGENE C. LEE, P.E., DIRECTOR  
*Eugene C. Lee*  
FOR DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: AMELIA STREET RELIEF SEWER PROJECT  
DRAFT ENVIRONMENTAL ASSESSMENT  
Tax Map Key: 1-3-015

Thank you for your Memorandum dated September 12, 2008, informing us that there are no comments as the proposed project will not impact any program or facility of the Department of Parks and Recreation.

If you have any questions or further comments, please call Mr. Carl Arakaki at 768-8738. Thank you for participating in the environmental review process.

c: Office of Environmental Quality Control  
Kwock Associates, Inc.



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

September 26, 2008

Mr. Eugene C. Lee, P.E.

Director  
Department of Design and Construction  
City and County of Honolulu  
650 South King Street, 14<sup>th</sup> Floor  
Honolulu, Hawaii 96813

Attention: Mr. Carl Arakaki  
Wastewater Division

Dear Mr. Lee:

**Subject: Draft Environmental Assessment for Amelia Street Sewer Relief Project  
Honolulu, Oahu, Hawaii**

The Department of Health (DOH), Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your plan. Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at <http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf>.

1. Any project and its potential impacts to State waters must meet the following criteria:
  - a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
  - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
  - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).

In reply, please refer to  
EAD/CWB  
09095PKP.08

Mr. Eugene C. Lee, P.E.  
September 26, 2008  
Page 2

09095PKP.08

2. The document indicates that the subject project will cross Kaihi Stream. Kaihi Stream is identified as a Priority Category 5 waters in the Section 303(d) of the Clean Water Act list of impaired water bodies. Category 5 waters are described as surface waters where available data and/or information indicate that at least one (1) designated use is not being supported or is threatened, and a Total Maximum Daily Load is needed. Accordingly, the subject document should also include this consideration toward ensuring the protection and improvement of this water body with respect to the subject facility.
  3. The Army Corps of Engineers should be contacted at (808) 438-9258 to see if any project requires a Department of the Army (DA) permit. Permits may be required for work performed in, over, and under navigable waters of the United States. Projects requiring a DA permit also require a Section 401 Water Quality Certification (WQC) from our office.
  4. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:
    - a. Storm water associated with construction activities, including excavation, grading, clearing, demolition, uprooting of vegetation, equipment staging, and storage areas that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.
    - b. Hydrotesting water.
    - c. Construction dewatering effluent.
- You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before to the start of construction activities. The NOI forms may be picked up at our office or downloaded from our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.
5. You must also submit a copy of the NOI or NPDES permit application to the State DLNR, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the CWB

COPY

09095PKP.08

Mr. Eugene C. Lee, P.E.  
September 26, 2008  
Page 3

that SHPD has or is in the process of evaluating your project. Please submit a copy of your request for review by SHPD or SHPD's determination letter for the project along with your NOI or NPDES permit application, as applicable.

6. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 Water Quality Certification are required, must comply with the WQS. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation.

If you have any questions, please visit our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the Engineering Section, CWB, at 586-4309.

Sincerely,

  
ALEC WONG, P.E., CHIEF  
Clean Water Branch

c: Mr. Kenneth Kwock, Kwock Associates, Inc.  
Ms. Katherine Puana Kealoha, Office of Environmental Quality Control

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 17TH FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8480 • Fax: (808) 768-4567  
Web site: [www.hoodulu.gov](http://www.hoodulu.gov)

MUIRI HANNEMANN  
MAYOR



EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR

WWW.P 08-281

October 10, 2008

Mr. Alec Wong, P.E., Chief  
Clean Water Branch  
Department of Health  
State of Hawaii  
P.O. Box 3378  
Honolulu, Hawaii 96801-3378

Dear Mr. Wong:

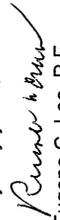
Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment (DEA)  
TMK: 1-3-015

Thank you for your letter dated September 26, 2008, with your comments. Our response to your comments is as follows:

1. The project will meet the criteria stated.
2. The DEA will be revised to include consideration toward ensuring the protection and improvement of Kalihī Stream.
3. An application for the Department of Army permit has been submitted.
4. Applicable National Pollutant Discharge Elimination System permits will be obtained prior to construction.
5. The Notice of Intent will also be submitted to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD). Copy of request for review or SHPD's determination letter will be sent to the Clean Water Branch.
6. All discharges related to the project construction or operations activities will comply with the Water Quality Standard.

If you have any further comments or concerns, please call Mr. Carl Arakaki at 768-8738 or our Consultant Mr. Kenneth Kwock at 973-9010. Thank you for participating in the environmental review process.

Very truly yours,

  
FOR Eugene C. Lee, P.E.  
Director

c: Office of Environmental Quality Control  
Kwock Associates, Inc.

DEPARTMENT OF FACILITY MAINTENANCE  
CITY AND COUNTY OF HONOLULU  
1000 Ulukoua Street, Suite 215, Kapaolei, Hawaii 96707  
Phone: (808) 768-3343 • Fax: (808) 768-3381  
Website: www.honolulu.gov



MUFI HANNEMANN  
MAYOR

CRAIG I. NISHIMURA, P.E.  
DIRECTOR AND CHIEF ENGINEER  
GEORGE "KEDOKI" MIYAMOTO  
DEPUTY DIRECTOR

IN REPLY REFER TO:  
DRM 08-813

September 30, 2008

MEMORANDUM

TO: EUGENE C. LEE, P.E., DIRECTOR  
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTENTION: CARL ARAKAKI  
WASTEWATER DIVISION

FROM: CRAIG I. NISHIMURA, P.E., DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF FACILITY MAINTENANCE

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)  
AMELIA STREET SEWER RELIEF PROJECT

Thank you for the opportunity to provide comments on the DEA dated September 2008 for the subject sewer line replacement project.

The DEA proposes to replace existing deficient sewer lines within Amelia and School Streets by open trench construction. A problem inherent with open trench construction is inadequate compaction of the backfill. Therefore, we request that flowable fill or Controlled Low Strength Material (CLSM) be considered during the design and construction phases of the project for use as backfill material.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 768-3697.

c: Kwok Associates, Inc.  
Office of Environmental Quality Control

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU  
850 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-6480 • Fax: (808) 768-4667  
Web site: www.honolulu.gov



MUFI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR

WWW.P 08-282

October 10, 2008

TO: CRAIG I. NISHIMURA, P.E., DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF FACILITY MAINTENANCE

FROM: ~~FOREUGENE C. LEE, P.E., DIRECTOR~~  
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)  
AMELIA STREET SEWER RELIEF PROJECT  
TMK: 1-3-15

Thank you for your Memorandum dated September 30, 2008, informing us of your concern with inadequate compaction of the backfill for open trench construction. Your recommendation to consider flowable fill or Controlled Low Strength Material during the design and construction phases of the project for use as backfill material will be studied to see if it is appropriate for this project.

If you have any questions or further comments, please call Mr. Carl Arakaki at extension 8738 or our Consultant Mr. Kenneth Kwok at 973-9010. Thank you for participating in the environmental review process.

c: Office of Environmental Quality Control  
Kwok Associates, Inc.

PHONE (808) 594-1888

FAX (808) 594-1885

Carl Arakaki  
October 2, 2008  
Page 2



STATE OF HAWAII  
OFFICE OF HAWAIIAN AFFAIRS  
711 KAPOLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813

October 2, 2008

HRD08/3825

Carl Arakaki  
Department of Design and Construction  
Project Manager  
650 South King Street, 14<sup>th</sup> Floor  
Honolulu, Hawaii 96813

RE: Request for comments on the proposed Amelia Street sewer relief project and design environmental assessment (DEA), Honolulu, Hawaii, TMK: 1-3-15.  
Aloha e Carl Arakaki,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated September 5, 2008. OHA has reviewed the project and offers the following comments.

OHA understands that there are some anticipated impacts from suspended sediments during proposed work in Kalihi stream. (DEA, page 18) OHA points out that BMPs require skillful installation, application and maintenance to be effective. Once implemented, they require monitoring to ensure that they are achieving the objectives for which they were selected. As such, OHA looks forward to reviewing the mentioned best management practices (BMP) plan.

We also note that substantial inflow could potentially enter manholes below the frame due to misalignment, damaged mortar or cone, or other problems. In some cases, rain induced infiltration may also enter through the manhole cone if the surrounding soil is highly permeable and the cone exhibits porous brick mortar joints. Inflow of storm runoff through manhole covers, particularly in areas that are inundated due to poor drainage, can be significant. The City has an ongoing program to outfit manholes with "rain stopper" inserts to minimize the amount of rainwater entering the manhole cover pick-holes and leaking between the cover and frame. The intent is to reduce inflow and infiltration which will result in additional capacity in the existing system, decrease the extent of sulfates in the wastewater to reduce potential for odors and corrosion, reduce peak flows and mitigate the need for wet-weather storage facilities. We ask if the applicant has considered these potential effects in their proposed manholes.

OHA does not agree with the idea that "Artifacts of archaeological or historic value would have been discovered during the earlier construction and none are anticipated during the proposed construction." (DEA, page 20) Recent and continuing events in heavily urbanized Honolulu testify to the falsity of this belief. However, we are somewhat assured by the language on page 24 of the DEA that complies with Chapter 6E, Hawaii Revised Statutes.

Thank you for the opportunity to comment. If you have further questions, please contact Grant Arnold by phone at (808) 594-0263 or e-mail him at grant@oha.org.

'O wau iho no me ka 'oia 'i'o,

Clyde W. Nānu'o  
Administrator

RECEIVED

08 OCT -9 3:07

DESIGN & CONSTRUCTION  
WASTEWATER DIVISION

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8450 • Fax: (808) 768-4567  
Web site: [www.honolulu.gov](http://www.honolulu.gov)



MUJI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR

WWW.P 08-288

October 15, 2008

Mr. Clyde W. Namuo, Administrator  
Office of Hawaiian Affairs  
State of Hawaii  
711 Kapiolani Boulevard, Suite 500  
Honolulu, Hawaii 96813

Dear Mr. Namuo:

Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment (DEA)  
TMK: 1-3-015

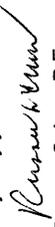
Thank you for your letter dated October 2, 2008, with your comments on the DEA. The project will require both a Department of the Army Nationwide Permit and a 401 Clean Water Certification from the State Department of Health for the Kalihi Stream work. The 401 Clean Water Certification requires monitoring and testing of the water quality of Kalihi Stream during the pre-construction, construction and post construction stages.

The project will install sewer manhole cover inserts to make the covers watertight to minimize inflow into the manholes.

The DEA was also submitted to the State Historic Preservation Division of the Department of Land and Natural Resources for comment regarding artifacts of archaeological or historic value.

If you have any further comments or concerns, please call our consultant, Mr. Kenneth Kwock at 973-9010 or our project manager, Mr. Carl Arakaki at 768-8738. Thank you for participating in the environmental review process.

Very truly yours,

  
Eugene C. Lee, P.E.  
Director

c: Office of Environmental Quality Control  
Kwock Associates, Inc.



October 2, 2008

City and County of Honolulu  
Department of Design and Construction  
650 South King Street, 14<sup>th</sup> Floor  
Honolulu, Hawaii 96813

Attention: Mr. Eugene C. Lee

**Subject: Draft Environmental Assessment for Amelia Street Sewer Relief Project.  
Honolulu, Oahu, Hawaii, TMK:1-3-15**

Dear Mr. Lee,

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for your project. After reviewing the plan, we have determined that there will be no conflict with the existing Oceanic Time Warner facilities within the area of the project. The existing Oceanic Time Warner Cable owned facilities within the area of your project are aerial and are located on existing joint owned poles. Should there be any changes to your plan, please notify us so that we can determine if the changes are in conflict with our facilities. Please be advised that we do not track underground service drops placed by individual property owners from joint poles. Keep in mind that the locations of the facilities shown on the attached print are approximate only. Please contact me at 625-8549 should you have any further questions or concerns.

Sincerely,

Gary Sumida  
OSP Engineer  
Oceanic Time Warner Cable

CC: Kenneth Kwock  
Katherine Puana Kealoaha

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8480 • Fax: (808) 768-4567  
Web site: www.honolulu.gov



MUFI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR

WWW.P 08-278

October 10, 2008

Mr. Gary Sumida  
OSP Engineer  
Oceanic Time Warner Cable  
200 Akamama Street  
Milliani, Hawaii 96789-3999

Dear Mr. Sumida:

Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment  
TMK: 1-3-015

Thank you for your letter dated October 2, 2008, informing us that there will be no conflict with the existing Oceanic Time Warner facilities within the area of the project.

If you have any questions or further comments, please call Mr. Carl Arakaki at 768-8738 or our Consultant Mr. Kenneth Kwock at 973-9010. Thank you for participating in the environmental review process.

Very truly yours,

FOR Eugene C. Lee, P.E.  
Director

c: Office of Environmental Quality Control  
Kwock Associates, Inc.

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813  
TELEPHONE: (808) 768-6000 FAX: (808) 768-6001  
INTERNET: [www.honolulu.gov](http://www.honolulu.gov) • DEPT. WEB SITE: [www.honoluludpp.org](http://www.honoluludpp.org)



MUFI HANNEMANN  
MAYOR

HENRY ENG, FAICP  
DIRECTOR

DAVID K. TANQUE  
DEPUTY DIRECTOR

2008/ELOG-2202 (rys)

October 7, 2008

Mr. Kenneth C. W. Kwock  
President  
Kwock Associates, Inc.  
1953 South Beretania Street, Suite PH-B  
Honolulu, Hawaii 96826-1343

Dear Mr. Kwock:

Subject: Draft Environmental Assessment (DEA) for Amelia Street  
Sewer Relief Project, Honolulu, Oahu, Hawaii; TMK: 1-3-15

This is in response to your September 5, 2008 letter, requesting comments on the Draft Environmental Assessment (DEA), for the proposed Amelia Street Sewer Relief Project prepared by Kwock Associates, Inc., for the Department of Design and Construction (DDC), in accordance with Chapter 343, Hawaii Revised Statutes (HRS). A Finding of No Significant Impact (FONSI) is anticipated.

We offer the following comments for your review and consideration for inclusion in the DEA:

1. A glossary, if needed, listing the abbreviations/acronyms and the definitions/items/entities represented would be helpful.
2. Project Description and Location on page 4:
  - a. There is an apparent discrepancy between the statements on page 4 and on pages 8 and 9 about the sewer lines to be replaced.
    - The third paragraph of Section 2.1 PROJECT DESCRIPTION AND LOCATION ON PAGE 4 states that "The City proposes to replace the existing 6-inch, 10-inch, and 12-inch sewer line on Amelia Street and School Street with a new 16-inch sewer line in the same location and depth as the existing sewer line."
    - The first paragraph of Section 2.3 TECHNICAL DESCRIPTION OF THE PROJECT on page 8 states that "Only the existing 10-inch sewer line will be replaced." The second paragraph on page 9 states that "The existing 6-inch sewer line that currently provides sewer services to the lots will be abandoned in place."
    - Page 4 should be rewritten to reflect the information provided on pages 8 and 9 above. The revision should also clarify that the 12-inch sewer line is located in School Street and not in Amelia Street, and that the 12-inch

Mr. Kenneth C. W. Kwock, President  
Kwock Associates, Inc.  
October 7, 2008  
Page 2

sewer line will not be included in the scope of this sewer line improvement project.

- b. Paragraph 6 on page 4 and the second paragraph of Section 3.4 on page 24 states that "Amelia Street being only 20 feet wide is sub-standard according to the Department of Planning and Permitting Land Use Code". Land Use Code should be replaced with the Department of Planning and Permitting Subdivision Street Standards.
3. Figure 2; please revise so the sewerlines are clearer. A map should be provided showing the existing and new sewer lines.
4. Table 2 on page 11. Project Summary: add the TMK 1-3-019; por. 021 for Kino Street.
5. Flood Zone on page 15: Suggested revisions to the current paragraph as follows: "The Flood Insurance Rate Map (FIRM) No. 15003C0353F, dated September 30, 2004, shows that the lower part of Amelia Street, near the Kaihi Stream, and portions of School Street are located in the Floodway Area in Zone AE (base flood elevations determined). The remainder of Amelia Street and Kino Street are located in Zone X (areas determined to be outside the 500-year floodplain)".
6. The last paragraph of Section 3.3.1 Population and Employment on page 19: Please define "surcharge condition" and clarify the apparent conflict in the last sentence: "The existing sewer pipes are presently flowing under a surcharge condition and the larger sewer pipes being installed will relieve the surcharge and prevent potential sewage spillage and overflow rather than allow for future development." It would seem that new larger lines would allow future growth.
7. Section 4.2. City and County of Honolulu Land Use Regulations
  - a. Add a discussion of the project's consistency with the *General Plan* of the City and County of Honolulu, as amended in 1992. Especially the following objectives and policies of Chapter V. Transportation and Utilities:
    - Objective B. To meet the needs of the people of Oahu for ... environmental sound systems of waste disposal.
    - Policy 5. Provide safe, efficient, and environmentally sensitive waste-collection and waste-disposal services.
    - Objective C. To maintain a high level of service for all utilities.
    - Policy 1. Maintain existing utility systems in order to avoid major breakdowns.
    - Policy 2. Provide improvements to utilities in existing neighborhoods to reduce substandard conditions.
  - b. The Development Plan Land Use and Development Plan Public Facilities Maps were superseded by the *Primary Urban Center Development Plan* (PUC DP).

Mr. Kenneth C. W. Kwok, President  
Kwok Associates, Inc.  
October 7, 2008  
Page 3

effective June 21, 2004. The DEA should indicate the project's conformity with PUC DP's visions, including a discussion of the policies and guidelines in Section 4.2 (Wastewater System).

The DEA should discuss how the project will address the current and anticipated future sewage flows based on the plans for the area as envisioned by the PUC DP.

The City Council approved the PUC DP on June 21, 2004 as Ordinance 04-14. A copy is available on DPP's website (<http://honolulu.dpp.org/> under "Planning Information") or it may be purchased at the City's Bookstore (768-3760).

c. A new section, entitled "Public Infrastructure Map" (the PIM Ordinance No. 07-37, adopted on October 4, 2007) should be added to this section. The PIM Ordinance requires symbols for qualified publicly funded facilities for a development plan area to be shown on the applicable PIM prior to the appropriation of land acquisition or construction funds.

In accordance with Section 4-8.3(a) of the Revised Ordinances of Honolulu (ROH), the proposed project will not require the addition of a symbol for the publicly funded facility to the Primary Urban Center (PUC PIM). Underground sewer lines are not a type of public infrastructure to be shown on the PIM.

8. We recommend that the applicant solicit comments from all of the affected neighborhood boards for future projects. Although it is "after-the-fact", we suggest mailing copies of the FEA to the Kailini-Valley Neighborhood Board No. 16, which is just "nauka" of the project limits. A copy of the FEA should also be forwarded to the Department of Transportation Services (DTS), which oversees Oahu Transit Services (OTS). OTS is the contractor that manages and operates the City's public transit system, including both the fixed route system (TheBus) and the paratransit system (TheHandi-Van).

Thank you the opportunity to review the DEA and to offer comment. We look forward to receiving a copy of the anticipated FONSI. Please call Ray Sakai of my staff at 768-8042 if you have any questions.

Very truly yours,

  
Henry Eng, FAICP, Director  
Department of Planning and Permitting

HE:js

cc: Eugene C. Lee, P.E., Director, Department of Design and Construction  
Katherine Puana Kealoha, Director, Office of Environmental Quality Control  
p:\planning\divfunction\ea-eis\2008\2008ea\og202.doc

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU  
650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII, 96813  
Phone: (808) 768-3430 • Fax: (808) 768-4567  
Web site: [www.honolulu.gov](http://www.honolulu.gov)

MUFI HANNEMANN  
MAYOR



EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR  
WWW.P.08-290

October 16, 2008

TO: HENRY ENG, FAICP, DIRECTOR  
DEPARTMENT OF PLANNING AND PERMITTING

FROM: *Ray Sakai*  
EUGENE C. LEE, P.E., DIRECTOR  
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: AMELIA STREET SEWER RELIEF PROJECT  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)  
TAK MAP KEY: (1)1-3-015 AND 1-3-019;POR. 021

Thank you for your letter dated October 7, 2008, with your comments on the DEA. Our response is as follows:

1. As suggested a glossary of abbreviations/acronyms will be added to the Appendix.
- 2a. Statements on pages 8 and 9 will be revised for consistency.
- 2b. Reference to the Land Use Code will be deleted and reference replaced with the Department of Planning and Permitting Subdivision Street Standards.
3. Figure 2 will be replaced with a clearer map.
4. Tax Map Key for Kino Street will be added.
5. Paragraph on Flood Zone will be revised as suggested.
6. Normally the sewer lines flow by gravity at less than full capacity. When the pipes are too small and does not have enough capacity to carry the flow, the sewage backs up in the manhole and requires a hydraulic head to push the sewage through the pipes. This creates a pressure or surcharge condition. Will revise narrative.
- 7a. Discussion of the project's consistency with the General Plan of the City and County of Honolulu will be added.
- 7b. The DEA will be revised to indicate the project's conformity with the Primary Urban Center Development Plan.
- 7c. New section entitled "Public Infrastructure Map" will be added.

8. The DEA was sent to the Oahu Transit Services and the Kailhi-Palama Neighborhood Board for comments. The Final Environmental Assessment will also be sent to both the Department of Transportation Services and the Kailhi Valley Neighborhood Board.

If you have any questions or further comments, please call our consultant, Mr. Kenneth Kwock at 973-9010 or the project manager, Mr. Carl Arakaki at 768-8738. Thank you for participating in the environmental review process.

c: Office of Environmental Quality Control  
Kwock Associates, Inc.

HONOLULU FIRE DEPARTMENT  
CITY AND COUNTY OF HONOLULU

636 South Street  
Honolulu, Hawaii 96813-5007  
Phone: 808-725-7139 Fax: 808-725-7111 Internet: www.honolulu.gov/hfd



MUFI HANNEMANN  
MAYOR

KENNETH G. SILVA  
FIRE CHIEF  
ALVIN K. TOMITA  
DEPUTY FIRE CHIEF

October 10, 2008

TO: EUGENE LEE, P.E., DIRECTOR  
DEPARTMENT OF DESIGN AND CONSTRUCTION

ATTN: CARL ARAKAKI

FROM: KENNETH G. SILVA, FIRE CHIEF

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT  
AMELIA STREET SEWER RELIEF PROJECT

In response to a letter from Kenneth Kwock of Kwock Associates, Inc. dated September 5, 2008, regarding the above-mentioned subject, the Honolulu Fire Department reviewed the material provided and has no objections.

Should you have any questions, please call Battalion Chief Socrates Bratakos of our Fire Prevention Bureau at 723-7151.

*Alvin K. Tomita*  
for  
KENNETH G. SILVA  
Fire Chief

KGS/SY:bh

cc: Katherine Puana Kealoha, Office of Environmental Quality Control  
Kenneth Kwock, Kwock Associates, Inc.

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
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Web site: www.honolulu.gov



MUFI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR  
WWW.P 08-286

October 15, 2008

TO: KENNETH G. SILVA, FIRE CHIEF  
HONOLULU FIRE DEPARTMENT

*Russell H. Takara*  
FROM: FOR EUGENE C. LEE, P.E., DIRECTOR  
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: AMELIA STREET SEWER RELIEF PROJECT  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)  
TMK: (1)1-3-015

Thank you for your Memorandum dated October 10, 2008, informing us that the Honolulu Fire Department had no objections to the project.

If you have any questions or further comments, please call our consultant, Mr. Kenneth Kwock at 973-9010 or the project manager, Mr. Carl Arakaki at extension 8738. Thank you for participating in the environmental review process.

c: Office of Environmental Quality Control  
Kwock Associates, Inc.

0004  
282501

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
ASSISTANT DIRECTOR  
WWW.P 08-287

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU  
650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
Phone: (808) 768-8480 • Fax: (808) 768-4587  
Web site: [www.honolulu.gov](http://www.honolulu.gov)



MUFI HANNEMANN  
MAYOR

October 3, 2008

Mr. Eugene C. Lee P.E., Director  
Department of Design and Construction  
City and County of Honolulu  
650 South King Street, 14<sup>th</sup> Floor  
Honolulu, Hawaii 96826

Dear Mr. Lee,

Thank you for providing the NRCS the opportunity to review the Draft Environmental Assessment for Amelia Street Sewer Relief Project, Honolulu, Oahu, Hawaii, TMK 1-3-15. In review of the project site location it was found that no Prime or Important Farmlands exist or will be impacted at this site. In addition, no hydric soils are located in the project area. Hydric soils identify potential areas of wetlands. If wetlands do exist, any proposed impacts to these wetlands would need to demonstrate compliance with the "Clean Water Act", and may need an Army Corp of Engineers 404 permit.

Please find enclosed two soil reports for soil map unit Kab-Kaena clay, 0 to 6 percent slopes. As your report indicates this is the NRCS soil survey map unit that is located at the site of your project. The water features report identifies the area has a seasonal high water table at 2.5 to 5 feet below the soil surface. The selected soils interpretation report, shallow excavations, rates the area as very limited due to clayey soils, cutbanks cave, and depth to saturation zone. These ratings do not preclude the intended land use, however they do identify potential limitations for the use, which may require corrective measures, increase costs, and/or require continued maintenance.

If you have any questions concerning the soils for this project please contact, Tony Rolles, Assistant State Soil Scientist, by phone (808) 541-2600 x129 or email, [Tony.Rolles@hi.usda.gov](mailto:Tony.Rolles@hi.usda.gov).

Sincerely,

LAWRENCE T. YAMAMOTO  
Director  
Pacific Islands Area

Enclosures: (2)

cc: Michael Robotham, Asst. Director for Soil Science and Natural Resource Assessments,  
USDA-NRCS, Honolulu, HI

Helping People Help the Land  
An Equal Opportunity Provider and Employer

October 15, 2008

Mr. Lawrence T. Yamamoto, Director  
Pacific Islands Area  
Natural Resources Conservation Service  
P.O. 50004, Room 4-118  
Honolulu, Hawaii 96850

Dear Mr. Yamamoto:

Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment (DEA)  
TMK: 1-3-015

Thank you for your letter dated October 3, 2008, informing us that no Prime or Important Farmlands exist or will be impacted at this site by this project. Although no hydric soil are located in the project area indicating potential areas of wetland, the project will apply for the Department of Army Nationwide Permit and the State 401 Clean Water Certification because of the Kaili Stream crossing.

If you have any further comments or concerns, please call our consultant, Mr. Kenneth Kwok at 973-9010 or our project manager, Mr. Carl Arakaki at 768-8738. Thank you for participating in the environmental review process.

Very truly yours,

EUGENE C. LEE, P.E.  
Director

c: Office of Environmental Quality Control  
Kwok Associates, Inc.

LINDA JUNGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
LAND DIVISION

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809



LAURA H. THULEN  
CHAIRPERSON  
COMMISSION ON WATER RESOURCE MANAGEMENT

October 2, 2008

Department of Design & Construction  
650 South King Street 14th Floor  
Honolulu, Hawaii 96813

Attention: Mr. Carl Arakaki

Gentlemen:

Subject: Draft environmental assessment for Amelia Street Sewer Relief Project

Thank you for the opportunity to review and comment on the subject matter. The Department of Land and Natural Resources' (DLNR), Land Division distributed or made available a copy of your report pertaining to the subject matter to DLNR Divisions for their review and comment.

Other than the comments from Engineering Division, Land Division, the Department of Land and Natural Resources has no other comments to offer on the subject matter. Should you have any questions, please feel free to call our office at 587-0433. Thank you.

Sincerely,

*Morris M. Atta*  
Morris M. Atta  
Administrator

Cc: Kwock Associates, Inc.  
OEQC

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
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MUFI HANNEWMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR

WWW.P.08-280

October 10, 2008

Mr. Morris M. Atta, Administrator  
Land Division  
Department of Land and Natural Resources  
State of Hawaii  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Atta:

Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment (DEA)  
TMK: 1-3-015

Thank you for your letter dated October 2, 2008, transmitting comments from the Commission on Water Resource Management that a Stream Alteration Permit is required. On page 2 of the DEA the Stream Alteration Permit was listed as a required permit.

If you have any further comments or concerns, please call Mr. Carl Arakaki at 768-8738 or our Consultant Mr. Kenneth Kwock at 973-9010. Thank you for participating in the environmental review process.

Very truly yours,

*Eugene C. Lee*  
Eugene C. Lee, P.E.  
Director

c: Office of Environmental Quality Control  
Kwock Associates, Inc.



**BOARD OF WATER SUPPLY**  
 CITY AND COUNTY OF HONOLULU  
 630 SOUTH BERETANIA STREET  
 HONOLULU, HI 96843

October 1, 2008

**TO:** EUGENE C. LEE, P.E., DIRECTOR  
 DEPARTMENT OF DESIGN AND CONSTRUCTION

**ATTN:** CARL ARAKAKI

**FROM:** KEITH S. SHIDA, PROGRAM ADMINISTRATOR  
 CUSTOMER CARE DIVISION *K.S.*

**SUBJECT:** THE DRAFT ENVIRONMENTAL ASSESSMENT FOR AMELIA STREET  
 SEWER RELIEF PROJECT. TMK: 1-3-15

Thank you for the opportunity to comment on the subject document.

The construction drawings should be submitted for our review and approval. The construction schedule should be coordinated to minimize impact to the water system.

if you have any questions, please contact Robert Chun at 748-5443.

cc: Mr. Kenneth Kwock, Kwock Associates, Inc.  
 Ms. Katherine Puana Keahoha, Office of Environmental Quality Control

MUFI HANNEMANN, Mayor  
 RANDALL Y. S. CHUNG, Chairman  
 SAMUEL T. HATA  
 ALLY J. PARK  
 JAMES J. SANDIFF  
 MARC C. TILKER

CRAIG I. NISHIMURA, E.-Office  
 BREWERTON T. MORIYAMA, Ex-Office  
 CLIFFORD P. LUM  
 Manager and Chief Engineer  
 DEAN A. NAKANO  
 Deputy Manager and Chief Engineer

**DEPARTMENT OF DESIGN AND CONSTRUCTION**  
**CITY AND COUNTY OF HONOLULU**  
 650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
 HONOLULU, HAWAII 96813  
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 Web site: www.honolulu.gov



MUFI HANNEMANN  
 MAYOR

EUGENE C. LEE, P.E.  
 DIRECTOR  
 RUSSELL H. TAKARA, P.E.  
 DEPUTY DIRECTOR

WW.P 08-279

October 10, 2008

**TO:** CLIFFORD P. LUM, P.E., MANAGER AND CHIEF ENGINEER  
 BOARD OF WATER SUPPLY

**ATTN:** KEITH S. SHIDA, PROGRAM ADMINISTRATOR  
*Keith S. Shida*

**FROM:** FOR EUGENE C. LEE, P.E., DIRECTOR  
 DEPARTMENT OF DESIGN AND CONSTRUCTION

**SUBJECT:** DRAFT ENVIRONMENTAL ASSESSMENT (DEA)  
 AMELIA STREET SEWER RELIEF PROJECT  
 TMK: 1-3-15

Thank you for your Memorandum dated October 1, 2008, with the comments on the DEA. Our standard procedure is to submit the construction drawings to the Board of Water Supply for review and comments.

if you have any questions or further comments, please call Mr. Carl Arakaki at extension 8738 or our Consultant Mr. Kenneth Kwock at 973-9010. Thank you for participating in the environmental review process.

c: Office of Environmental Quality Control  
 Kwock Associates, Inc.



DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
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MUFI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR

WWW.P 08-313

December 8, 2008

Ms. Nancy McMahon, Deputy State Historic Preservation Officer  
State of Hawaii  
Department of Land and Natural Resources  
Historic Preservation Division  
601 Kamokila Boulevard, Room 555  
Kapolei, Hawaii 96707

Dear Ms. McMahon:

Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment  
TMK: 1-3-015

Thank you for your letter dated November 17, 2008, with the determination that no historic properties will be affected by this project because residential development/urbanization has altered the land.

If you have any questions or further comments, please call our project manager, Mr. Carl Arakaki at 768-8738 or our consultant, Mr. Kenneth Kwock at 973-9010.

Thank you for participating in the environmental review process.

Very truly yours,

Eugene C. Lee, P.E.  
Director

c: OEQC  
Kwock Associates, Inc.



November 19, 2008

Mr. Eugene C. Lee, P.E., Director  
Department of Design & Construction  
City & County of Honolulu  
650 South King Street - 14th Floor  
Honolulu, HI 96813

Attn: Mr. Carl Arakaki

Dear Lee:

Re: **Amelia Street Sewer Relief Project**  
Honolulu, Oahu (TMK: 1-3-15)

Thank you for the opportunity to comment on the DEA of the above-referenced project. Hawaiian Electric Company, Inc. (HECO) has no objections. The following comments were received from the Transmission & Distribution Division of our Engineering Department:

- (1) HECO has overhead lines within the area of the subject project. The lines do not conflict with the project, but we will require continued access for maintenance of our facilities. We appreciate your efforts to keep us apprised of the planning process. As the renovation project progresses, please continue to keep us informed. We will be better able to evaluate any effects on our system facilities further along in the project's development. We request that development plans show all affected HECO facilities and address any conflicts between the proposed plans and our existing facilities. Please forward the pre-final development plans to HECO for review. A brief description and environmental analysis of any requirements for relocation or new facilities should be included in the DEA.
- (2) Should it become necessary to relocate HECO's facilities, please submit a request in writing and we will work with you so that construction of the project may proceed as smoothly as possible. Please note that there may be costs associated with any relocation work, and that such costs may be borne by the requestor. Because any redesign or relocation of our facilities may cause lengthy delays, upon determination that HECO facilities will need to be relocated or built, HECO should be notified immediately in order to minimize any delays in or impacts on the project schedule.

Our point of contact for this project is Michelle Yoshioka, Transmission & Distribution Division, Engineering Department (543-7082). I suggest dealing directly with her to coordinate HECO's continuing input in this project.

Sincerely,

Kirk S. Tomita  
Senior Environmental Scientist

cc: Ms. Katherine Kealoha (OEQC)  
Mr. Kenneth Kwock  
M. Yoshioka/M. Lum

DEPARTMENT OF DESIGN AND CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11<sup>TH</sup> FLOOR  
HONOLULU, HAWAII 96813  
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Web site: [www.honolulu.gov](http://www.honolulu.gov)



MUFI HANNEMANN  
MAYOR

EUGENE C. LEE, P.E.  
DIRECTOR  
RUSSELL H. TAKARA, P.E.  
DEPUTY DIRECTOR

WWW.P 08-314

December 8, 2008

Mr. Kirk S. Tomita  
Senior Environmental Scientist  
Hawaiian Electric Company  
P.O. Box 2750  
Honolulu, Hawaii 96840-0001

Dear Mr. Tomita:

Subject: Amelia Street Relief Sewer Project  
Draft Environmental Assessment  
TMK: 1-3-015

Thank you for your letter dated November 19, 2008 stating that Hawaiian Electric Company (HECO) has no objections to the project.

For your information construction plans for the project has been submitted to HECO for review and comments.

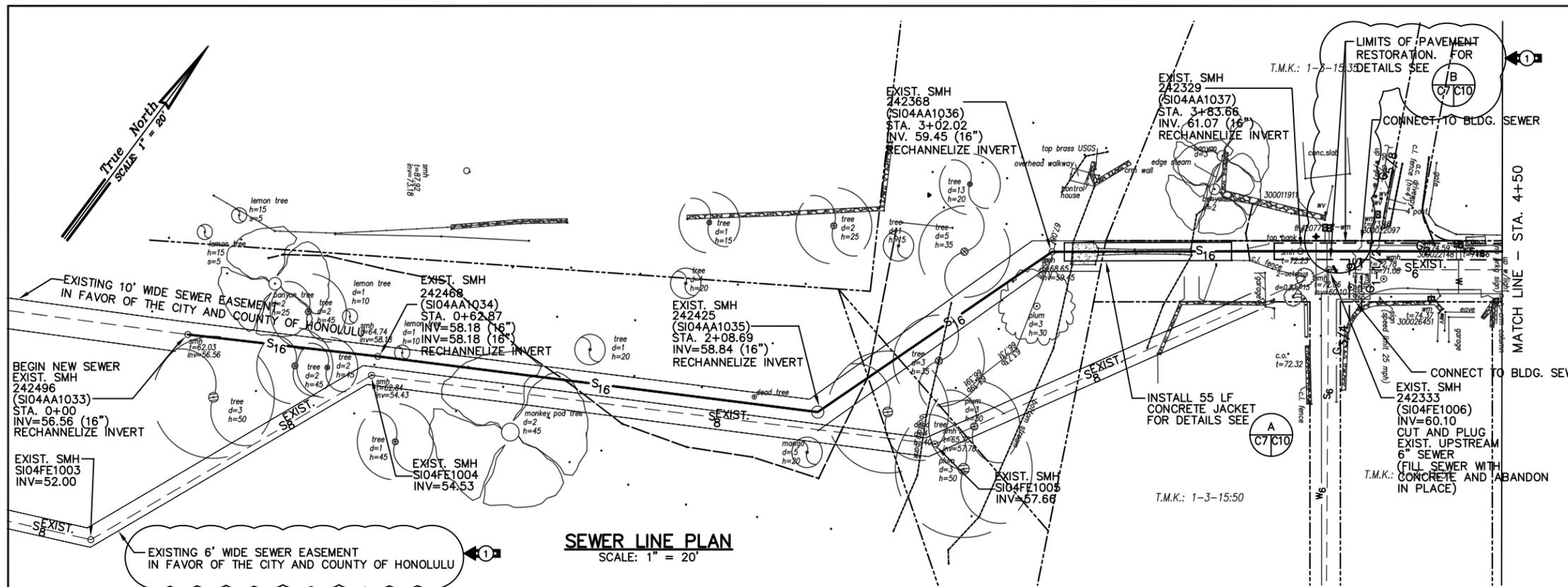
If you have any questions or further comments, please call our project manager, Mr. Carl Arakaki at 768-8738 or our consultant, Mr. Kenneth Kwock at 973-9010.

Thank you for participating in the environmental review process.

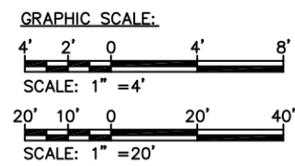
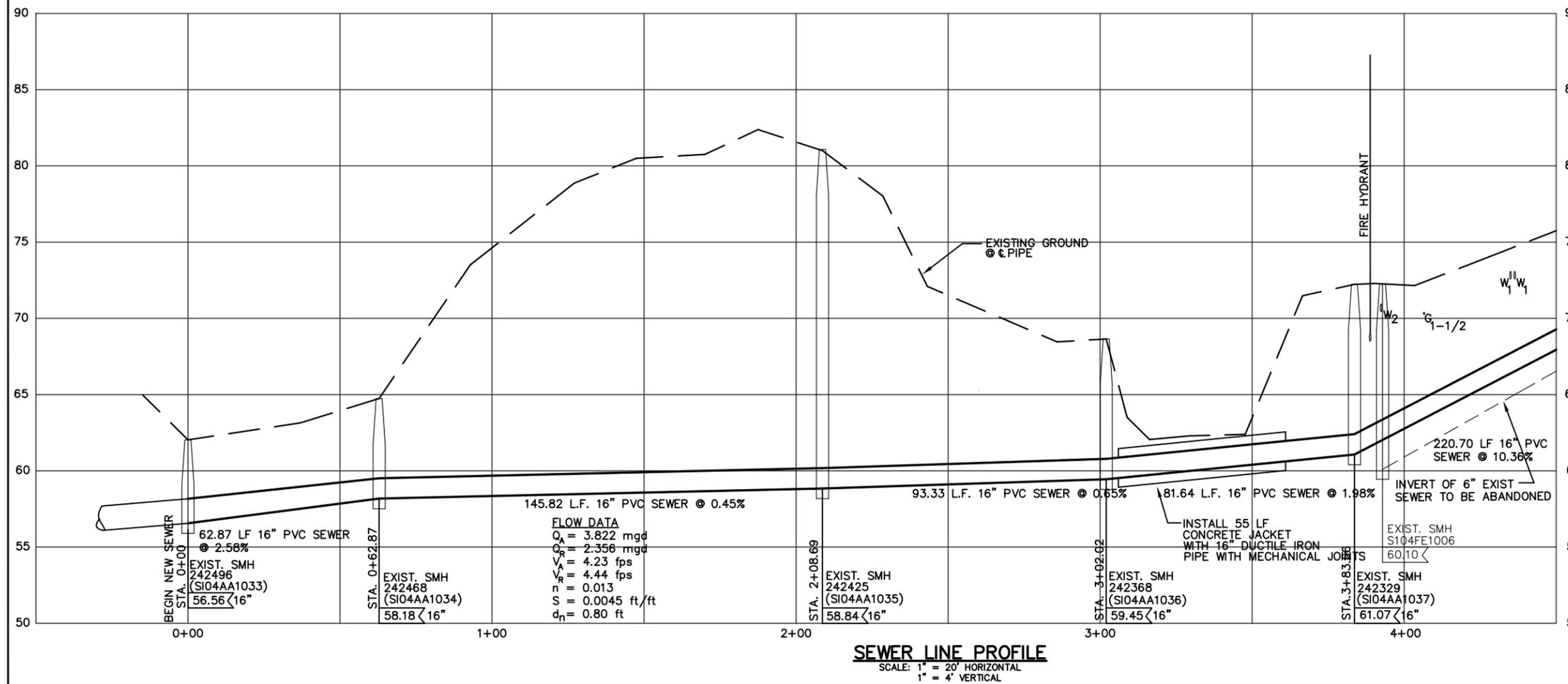
Very truly yours,

Eugene C. Lee, P.E.  
Director

c: OEQC  
Kwock Associates, Inc.



- NOTES:
1. CONSTRUCT NEW 16" SEWER LINE ALONG ALIGNMENT OF EXISTING 10" SEWER LINE.
  2. THE EXISTING MANHOLES ARE IDENTIFIED IN PARENTHESIS BY THE CITY'S GIS SEWER IDENTIFICATION NUMBER AND ISAP MANHOLE NUMBERING SYSTEM.



|          |         |                        |     |          |
|----------|---------|------------------------|-----|----------|
| REVISION | DATE    | DESCRIPTION            | BY  | APPROVED |
| 1        | 2/15/08 | D.P.P. REVIEW COMMENTS | KAI |          |

WASTEWATER DIVISION  
DEPARTMENT OF DESIGN & CONSTRUCTION  
CITY AND COUNTY OF HONOLULU

PROJECT: **AMELIA STREET SEWER RELIEF PROJECT**

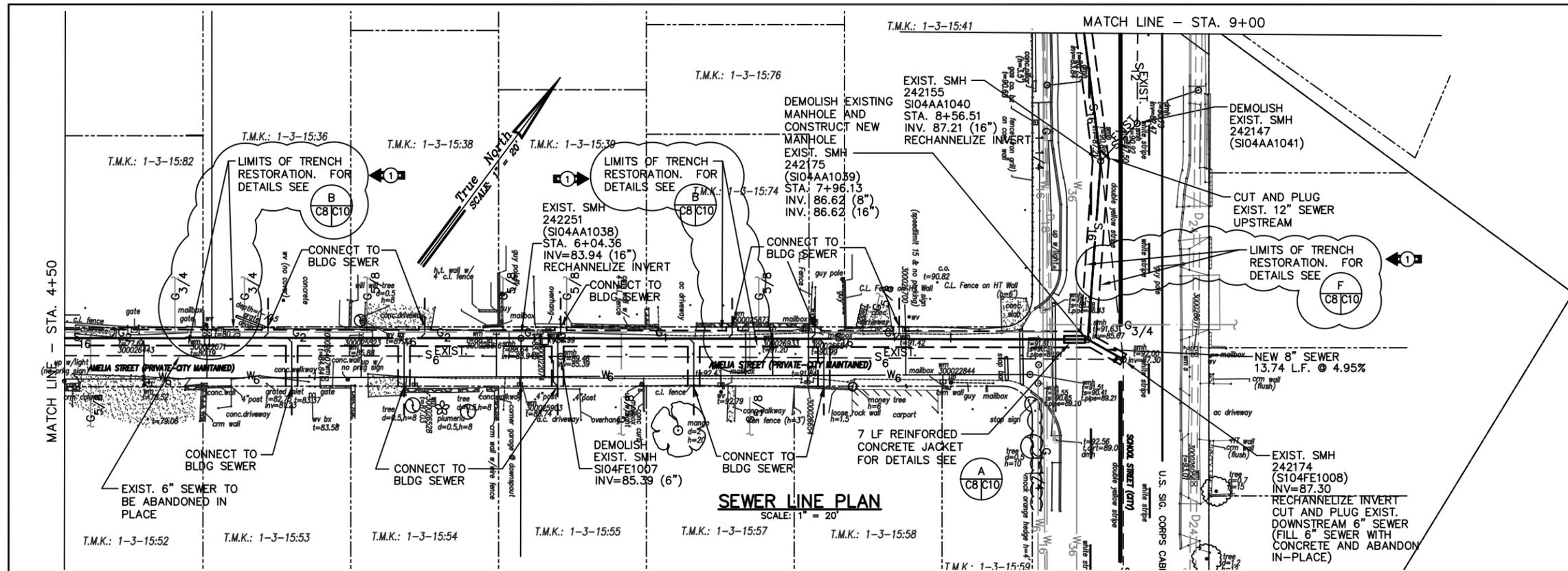
ITEM: **PLAN AND PROFILE STA. 0+00 TO STA. 4+50**

DESIGNED BY: KCK, PGK  
DRAWN BY: PGK, BK  
APPROVED: \_\_\_\_\_

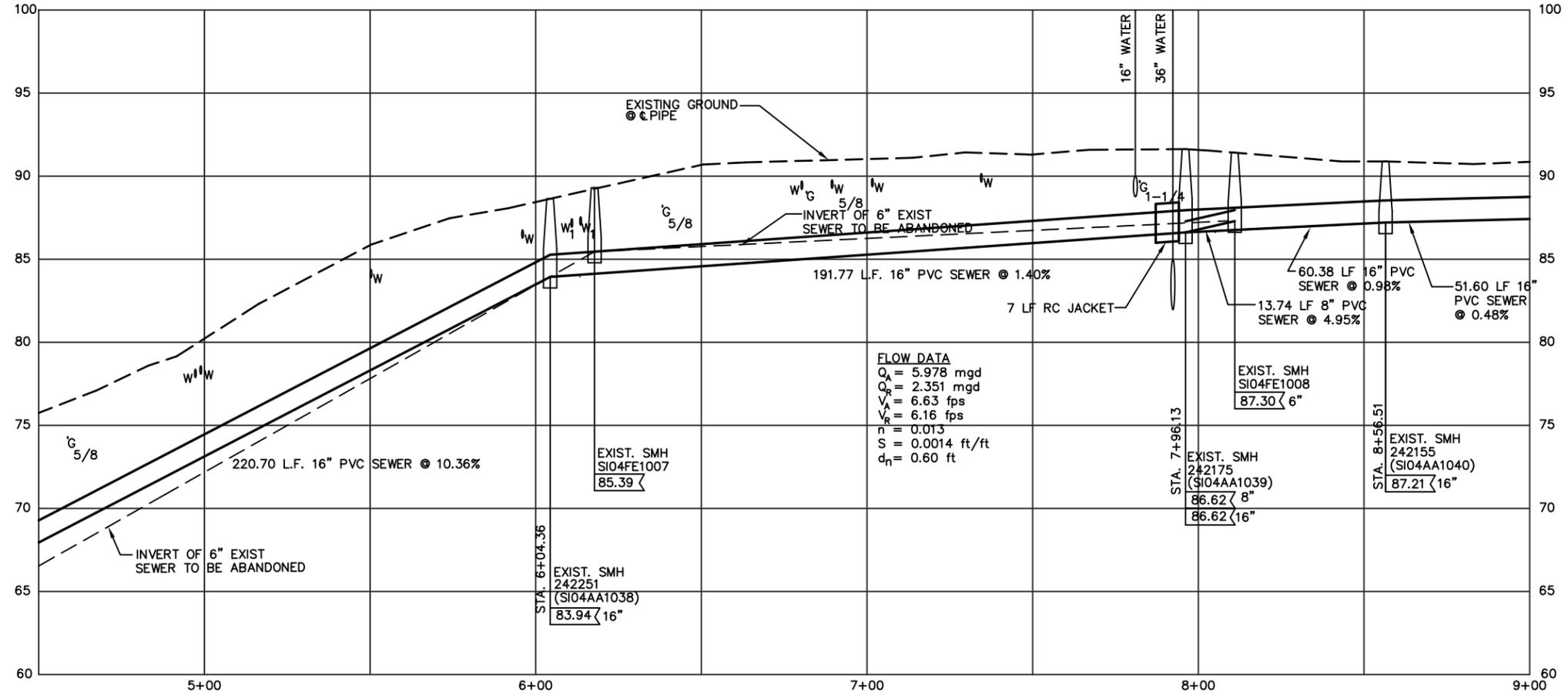
CHECKED BY: \_\_\_\_\_  
SECTION HEAD: \_\_\_\_\_  
BRANCH HEAD: \_\_\_\_\_

DATE: \_\_\_\_\_

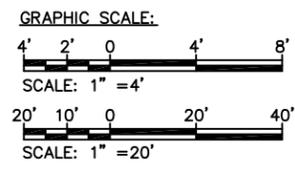
W2-02



**SEWER LINE PLAN**  
SCALE: 1" = 20'



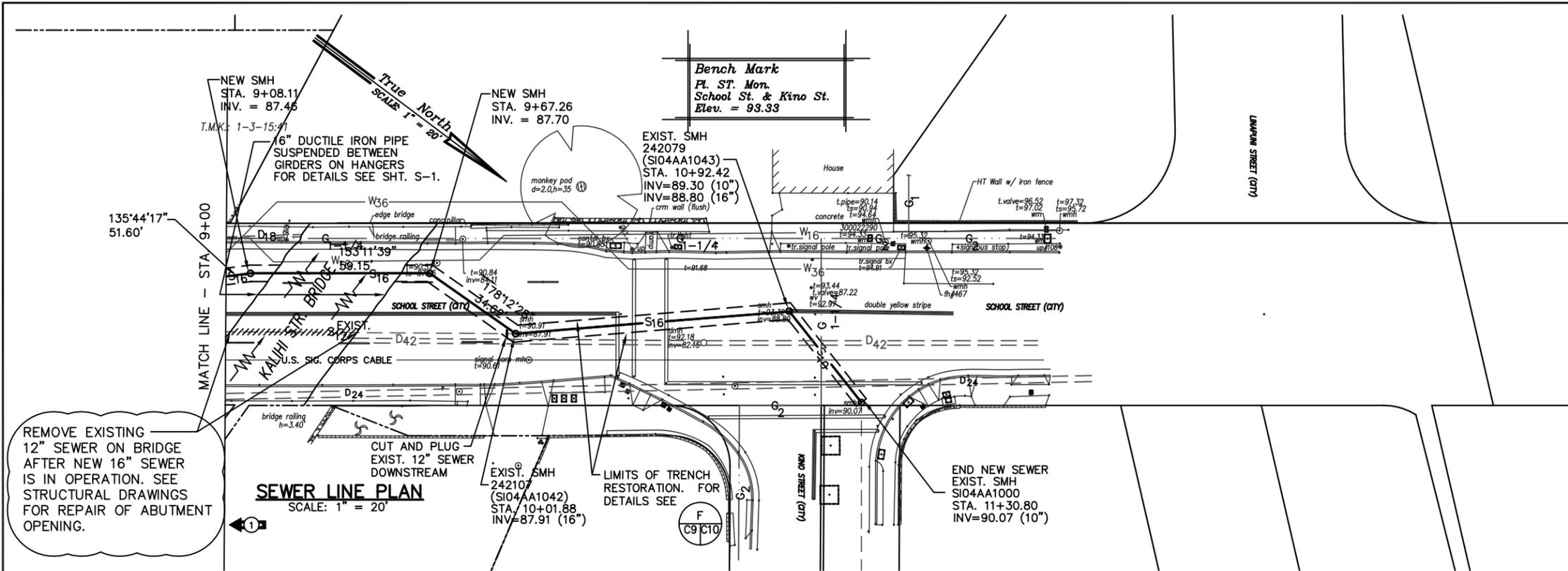
**SEWER LINE PROFILE**  
SCALE: 1" = 20' HORIZONTAL  
1" = 4' VERTICAL



**FLOW DATA**  
 $Q_A = 5.978$  mgd  
 $Q_B = 2.351$  mgd  
 $V_A = 6.63$  fps  
 $V_B = 6.16$  fps  
 $n = 0.013$   
 $S = 0.0014$  ft/ft  
 $d_n = 0.60$  ft

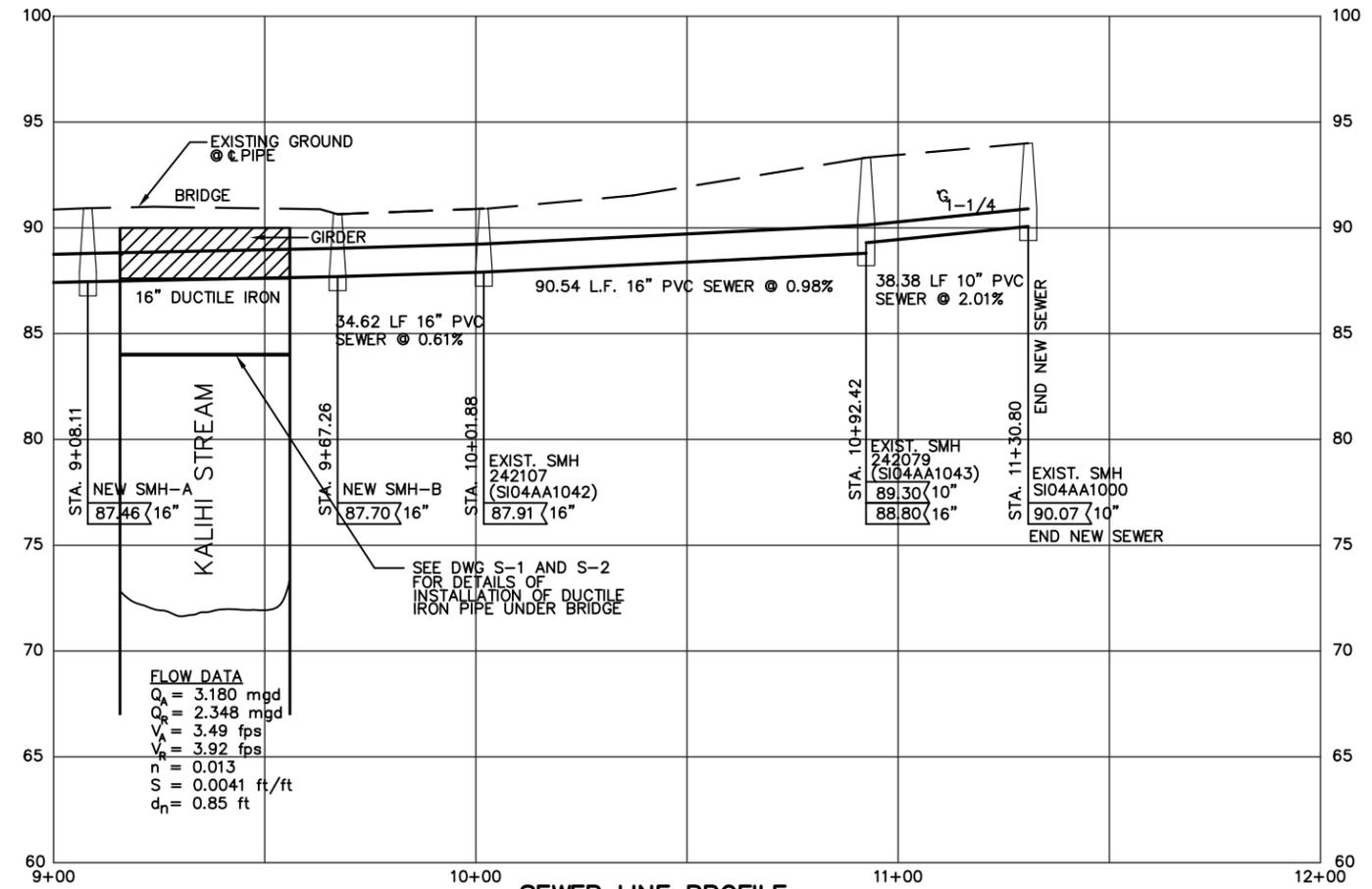


|  |          |                        |     |
|--|----------|------------------------|-----|
| REVISION   | DATE     | D.P.P. REVIEW COMMENTS | KAI |
| 1  | 2/15/08  |                        |     |
| <b>WASTEWATER DIVISION</b><br>DEPARTMENT OF DESIGN & CONSTRUCTION<br>CITY AND COUNTY OF HONOLULU |          |                        |     |
| <b>PROJECT:</b><br><b>AMELIA STREET</b><br><b>SEWER RELIEF PROJECT</b>                           |          |                        |     |
| <b>ITEM:</b><br><b>PLAN AND PROFILE</b><br><b>STA. 4+50 TO STA. 9+00</b>                         |          |                        |     |
| DESIGNED BY:   | KCK, PGK | CHECKED BY:            |     |
| DRAWN BY:  | PGK, BK  | SECTION HEAD:          |     |
| APPROVED:  |          | BRANCH HEAD:           |     |
| SIGNATURE  |          | DATE                   |     |
| 4/30/2008  |          |                        |     |
| <b>W2-02</b>   |          |                        |     |

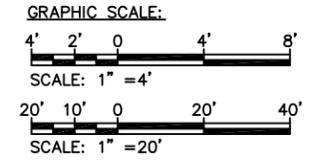


REMOVE EXISTING 12" SEWER ON BRIDGE AFTER NEW 16" SEWER IS IN OPERATION. SEE STRUCTURAL DRAWINGS FOR REPAIR OF ABUTMENT OPENING.

**SEWER LINE PLAN**  
SCALE: 1" = 20'



**SEWER LINE PROFILE**  
SCALE: 1" = 20' HORIZONTAL  
1" = 4' VERTICAL

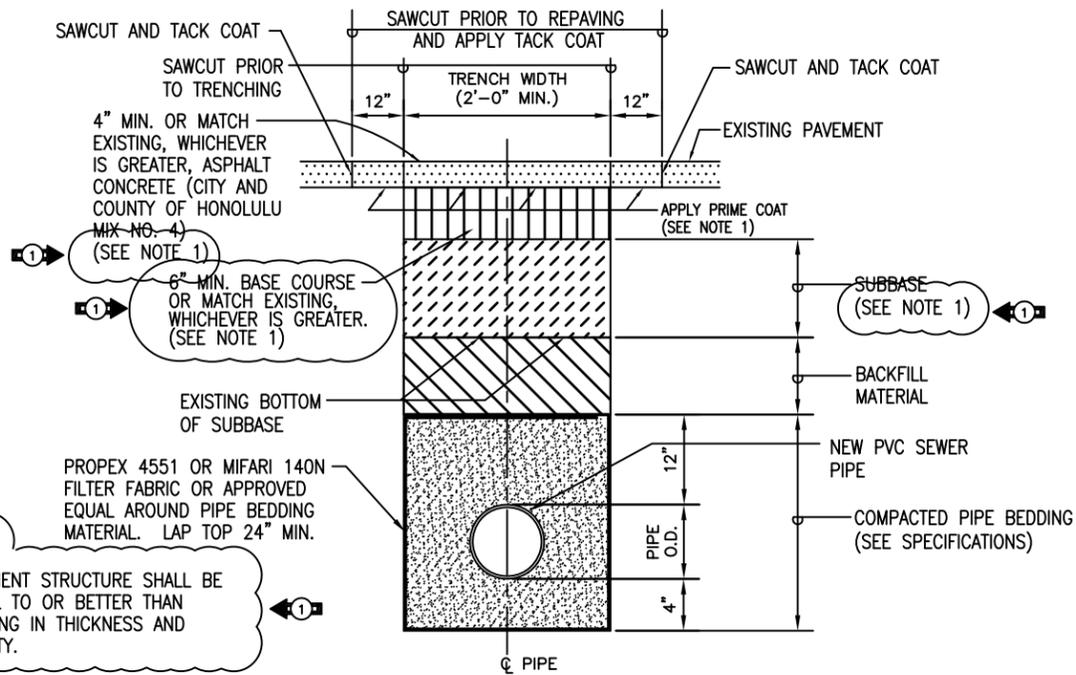


**FLOW DATA**  
 $Q_s = 3.180$  mgd  
 $Q_g = 2.348$  mgd  
 $V_s = 3.49$  fps  
 $V_g = 3.92$  fps  
 $n = 0.013$   
 $S = 0.0041$  ft/ft  
 $d_n = 0.85$  ft

SEE DWG S-1 AND S-2 FOR DETAILS OF INSTALLATION OF DUCTILE IRON PIPE UNDER BRIDGE

|              |         |   |     |
|--------------|---------|---|-----|
| REVISION     | DATE    | D.P.P. REVIEW COMMENTS  | KAI |
| 1            | 2/15/08 |   |     |
| PROJECT:     |         | WASTEWATER DIVISION<br>DEPARTMENT OF DESIGN & CONSTRUCTION<br>CITY AND COUNTY OF HONOLULU |     |
| ITEM:        |         | AMELIA STREET<br>SEWER RELIEF PROJECT   |     |
| DESIGNED BY: |         | KCK, PGK  |     |
| DRAWN BY:    |         | PGK, BK   |     |
| APPROVED:    |         | SECTION HEAD<br>BRANCH HEAD   |     |
| SIGNATURE    |         | DATE  |     |
| 4/30/2008    |         | W2-02   |     |

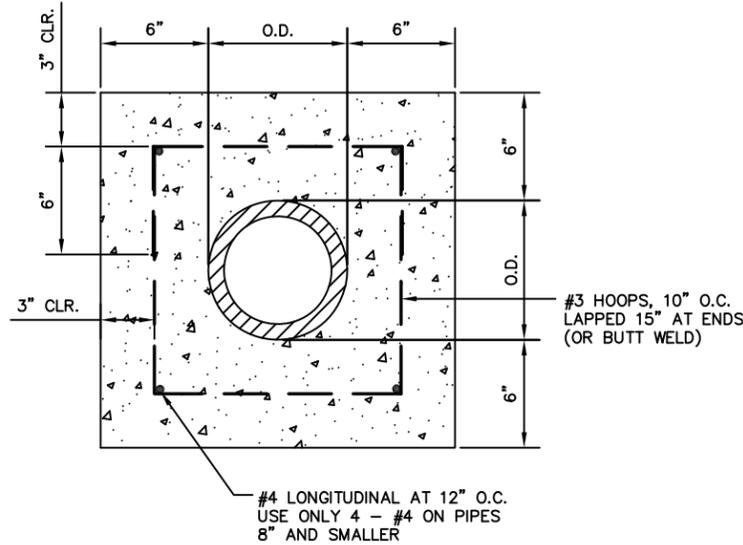




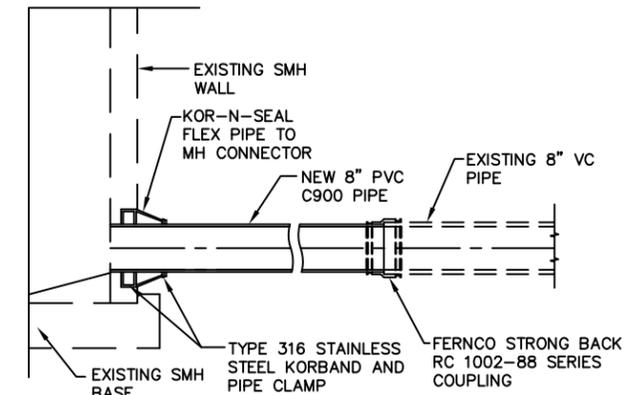
NOTES:  
1. PAVEMENT STRUCTURE SHALL BE EQUAL TO OR BETTER THAN EXISTING IN THICKNESS AND QUALITY.

**AMELIA STREET  
A.C. PAVEMENT TRENCH REPAIR**  
NOT TO SCALE

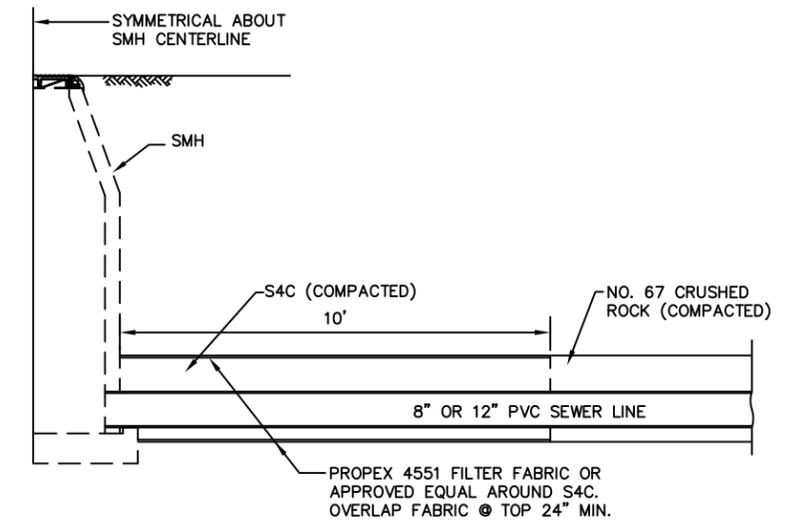
| PIPE SIZE | TRENCH WIDTH | A.C. RESURFACE WIDTH |
|-----------|--------------|----------------------|
| 6"        | 24"          | 48"                  |
| 8"        | 24"          | 48"                  |
| 10"       | 24"          | 48"                  |
| 16"       | 41"          | 65"                  |



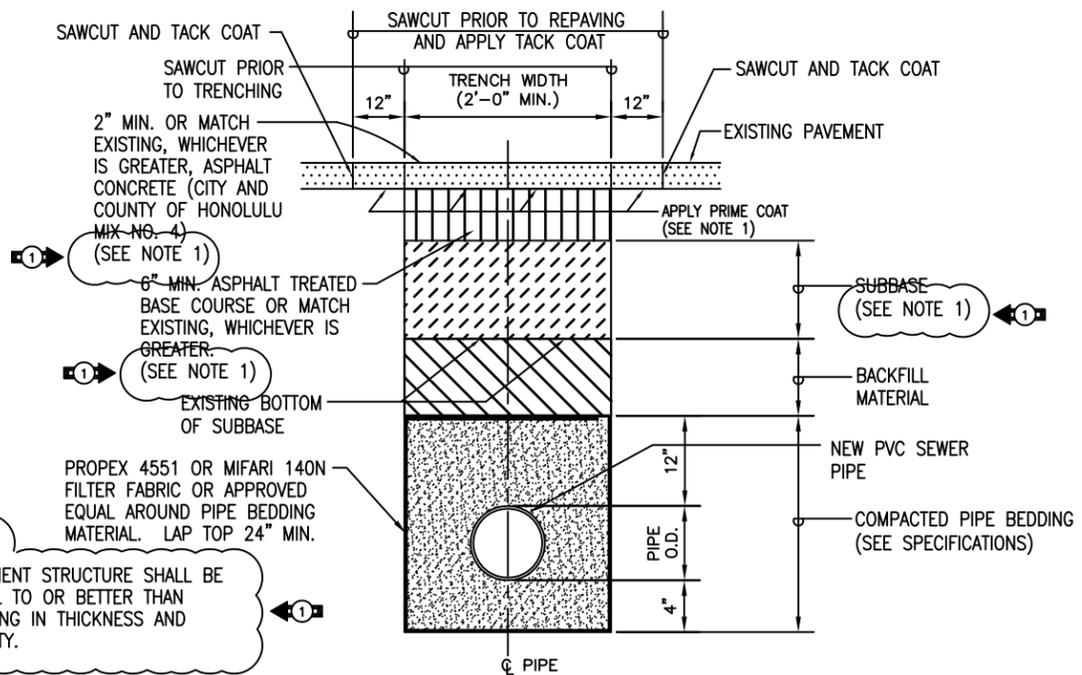
**REINFORCED CONCRETE JACKET DETAIL**  
NOT TO SCALE



**CONNECTION DETAILS AT MANHOLE & FOR SPOT REPAIRS**  
SCALE: 3/4" = 1'-0"

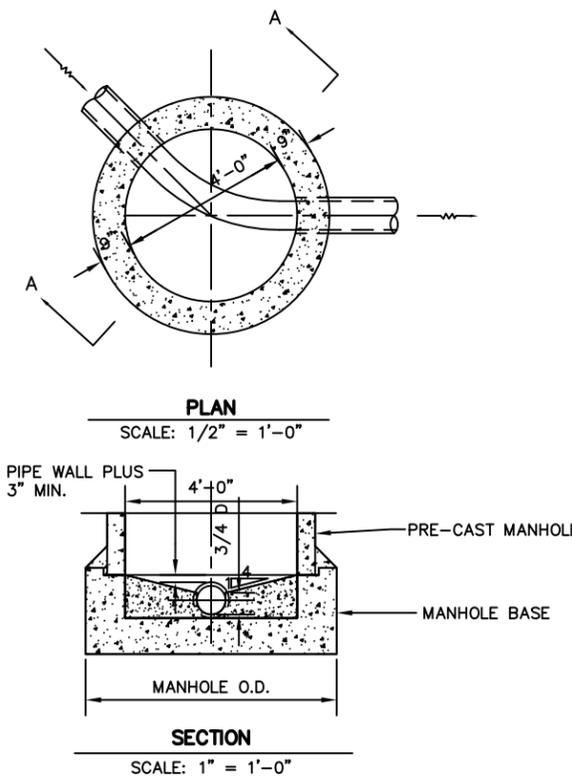


**S4C CRADLE SEALS @ SEWER MANHOLES**  
NOT TO SCALE

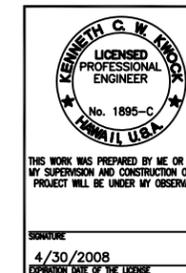
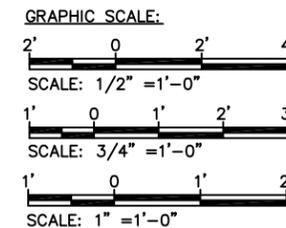


NOTES:  
1. PAVEMENT STRUCTURE SHALL BE EQUAL TO OR BETTER THAN EXISTING IN THICKNESS AND QUALITY.

**SCHOOL STREET  
A.C. PAVEMENT TRENCH REPAIR**  
NOT TO SCALE



**CHANNELIZATION DETAIL**  
SCALE: 1" = 1'-0"



|  |         |                     |                 |     |
|--|---------|---------------------|-----------------|-----|
| REVISION   | DATE    | D.P.P.              | REVIEW COMMENTS | KAI |
| 1  | 2/15/08 |                     |                 |     |
| <b>WASTEWATER DIVISION</b><br>DEPARTMENT OF DESIGN & CONSTRUCTION<br>CITY AND COUNTY OF HONOLULU |         |                     |                 |     |
| <b>PROJECT: AMELIA STREET SEWER RELIEF PROJECT</b>   |         |                     |                 |     |
| <b>SEWER DETAILS</b>   |         |                     |                 |     |
| DESIGNED BY: KCK, PGK  |         | CHECKED BY: _____   |                 |     |
| DRAWN BY: PGK, BK  |         | SECTION HEAD: _____ |                 |     |
| APPROVED: _____  |         | BRANCH HEAD: _____  |                 |     |
| DATE: 4/30/2008  |         | DATE: _____         |                 |     |
| <b>W2-02</b>   |         |                     |                 |     |

**GENERAL NOTES**

1. ALL WORK SHALL CONFORM TO APPLICABLE PORTIONS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1986, OF THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, AND THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION, SEPTEMBER 1984, AS AMENDED BY THE DEPARTMENT OF PUBLIC WORKS, CITY AND COUNTY OF HONOLULU, UNLESS OTHERWISE INDICATED.
2. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND PUBLIC DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCES, TECHNIQUES OR PROCEDURES NECESSARY IN PERFORMING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. PROTECT FROM DAMAGE ALL SURROUNDING AREAS NOT SCHEDULED FOR DEMOLITION OR NEW WORK. ANY SUCH DAMAGE SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
3. DISCREPANCIES - CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS, AND SHALL REPORT ANY DISCREPANCIES IN WRITING TO THE ENGINEER. DISCREPANCIES SHALL BE RESOLVED BEFORE COMMENCING WORK OR ORDERING MATERIALS.
4. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES AND TYPICAL DETAILS. DETAILS SHOWN ON DRAWINGS SHALL BE TYPICAL FOR ALL SIMILAR CONDITIONS. MODIFY DETAILS FOR SPECIAL CONDITIONS AS DIRECTED BY THE ENGINEER.
5. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY, INCLUDING TEMPORARY ITEMS USED FOR THE CONSTRUCTION OF THE PROJECT.
6. DUST/POLLUTION CONTROL - DUST AND NOISE SHALL BE KEPT WITHIN ACCEPTABLE LEVELS AT ALL TIMES IN CONFORMANCE WITH THE STATE DEPARTMENT OF HEALTH, HAWAII ADMINISTRATIVE RULES. CONTRACTOR SHALL PROVIDE A DUST BARRICADE ENCLOSURE AROUND THE IMMEDIATE CONSTRUCTION AREA. REDUCE OR ELIMINATE DUST AND/OR NOISE LEVELS WHEN DIRECTED BY THE ENGINEER.

**STRUCTURAL STEEL**

1. ALL STEEL SHALL CONFORM TO ASTM A36, UNLESS OTHERWISE NOTED.
2. BOLT HOLES IN STEEL SHALL BE 1/16" LARGER DIAMETER THAN NOMINAL SIZE OF BOLT USED.
3. UNLESS OTHERWISE NOTED, ALL STEEL AND HEAVY-HEX NUTS SHALL BE ZINC HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. FIELD TOUCH-UP ALL NICKS AND SCRATCHES AFTER INSTALLATION WITH 3 COATS ZINC-RICH PAINT. SURFACE PREPARATION AND PRIME PER MANUFACTURER'S RECOMMENDATIONS.
4. ALL WELDS SHALL BE IN CONFORMITY WITH THE STRUCTURAL WELDING CODE AWS D1.1-2000 OF THE AMERICAN WELDING SOCIETY. ELECTRODES SHALL BE E70 MINIMUM.
5. ALL WELDING SHALL BE DONE IN THE SHOP BY CERTIFIED WELDERS ONLY.
6. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC "LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," CHAPTER M, 2001 EDITION.
7. EXPANSION BOLTS SHALL BE HILTI KWIK BOLTS, OR APPROVED EQUAL. EXPANSION BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL TYPE 304 OR 316.
8. FIELD VERIFY EXISTING CONDITIONS PRIOR TO FABRICATION OR ORDERING MATERIALS.

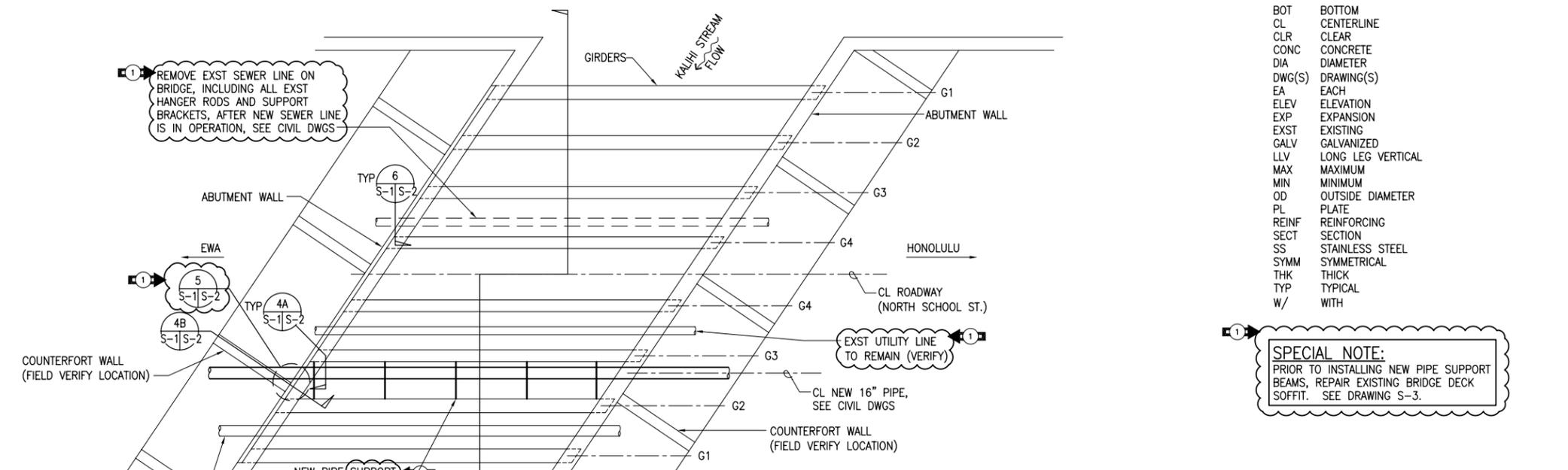
**CONCRETE AND REINFORCING STEEL**

1. ALL CONCRETE SHALL BE CLASS A (3000 PSI).
2. CONCRETE ADMIXTURES CONTAINING CHLORIDE OR CHLORIDE SALTS SHALL NOT BE USED.
3. MINIMUM CLEAR COVER OF CONCRETE OVER REINFORCING STEEL SHALL BE AS SHOWN ON DRAWINGS.
4. ALL REINFORCING STEEL SHALL BE WELL SECURED IN POSITION PRIOR TO PLACEMENT OF THE CONCRETE.
5. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
6. WELDING OF REINFORCING STEEL SHALL NOT BE PERMITTED.

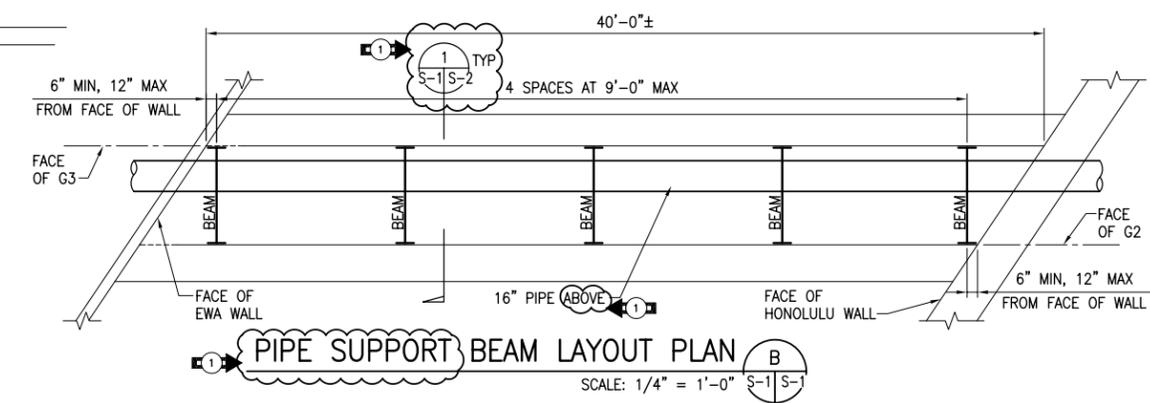
**ABBREVIATIONS**

|        |                   |
|--------|-------------------|
| BOT    | BOTTOM            |
| CL     | CENTERLINE        |
| CLR    | CLEAR             |
| CONC   | CONCRETE          |
| DIA    | DIAMETER          |
| DWG(S) | DRAWING(S)        |
| EA     | EACH              |
| ELEV   | ELEVATION         |
| EXP    | EXPANSION         |
| EXST   | EXISTING          |
| GALV   | GALVANIZED        |
| LLV    | LONG LEG VERTICAL |
| MAX    | MAXIMUM           |
| MIN    | MINIMUM           |
| OD     | OUTSIDE DIAMETER  |
| PL     | PLATE             |
| REINF  | REINFORCING       |
| SECT   | SECTION           |
| SS     | STAINLESS STEEL   |
| SYMM   | SYMMETRICAL       |
| THK    | THICK             |
| TYP    | TYPICAL           |
| W/     | WITH              |

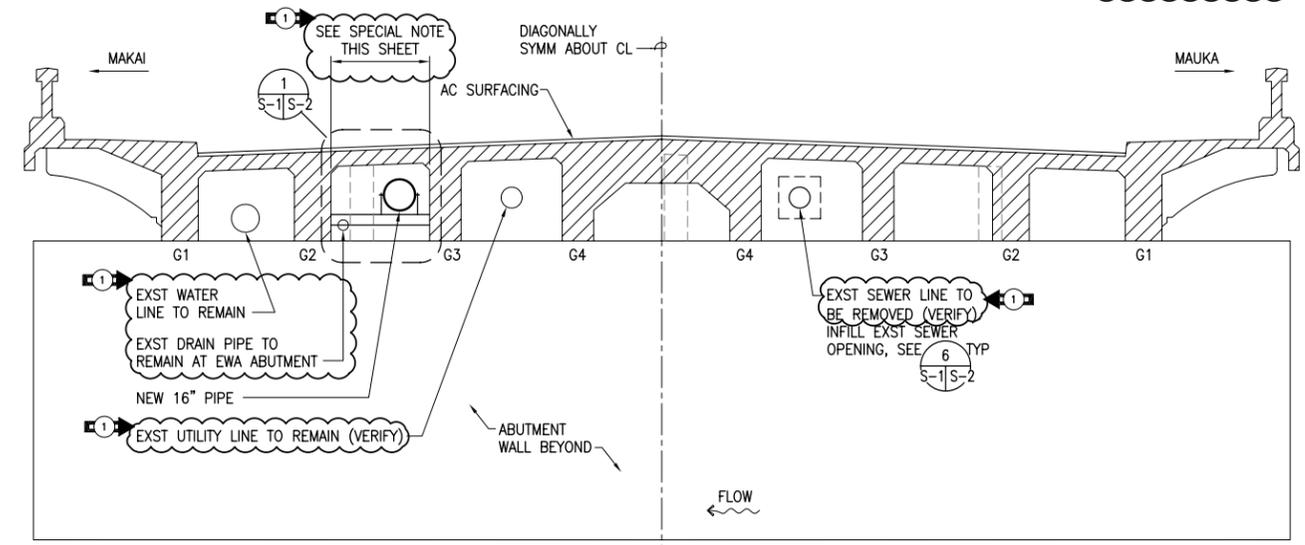
**SPECIAL NOTE:**  
PRIOR TO INSTALLING NEW PIPE SUPPORT BEAMS, REPAIR EXISTING BRIDGE DECK SOFFIT. SEE DRAWING S-3.



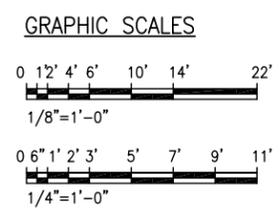
**BRIDGE PLAN A**  
SCALE: 1/8" = 1'-0"



**PIPE SUPPORT BEAM LAYOUT PLAN B**  
SCALE: 1/4" = 1'-0"



**BRIDGE SECTION 1**  
SCALE: 1/4" = 1'-0"



|  |                |                |       |          |
|--|----------------|----------------|-------|----------|
| REVISION   | DATE           | BRIEF          | BY    | APPROVED |
| 1  | 2/27/08        | REVISE DETAILS |       |          |
| <b>WASTEWATER DIVISION</b><br>DEPARTMENT OF DESIGN & CONSTRUCTION<br>CITY AND COUNTY OF HONOLULU |                |                |       |          |
| PROJECT: AMELIA STREET SEWER RELIEF PROJECT  |                |                |       |          |
| ITEM: GENERAL NOTES, BRIDGE PLAN AND SECTION   |                |                |       |          |
| DESIGNED BY: KU  | CHECKED BY: DO |                |       |          |
| DRAWN BY: LL   | SECTION HEAD:  |                |       |          |
| APPROVED:  | BRANCH HEAD:   |                |       |          |
| SIGNATURE: <i>Dwight M. Okawa</i>  |                |                | DATE: |          |
| 04/30/2010 EXPIRATION DATE OF THE LICENSE  |                |                |       |          |

