Papakolea Projects Update
For Information Only
Item E-1

July 19, 2021
2403 Kaululaau St Rock Wall
2403 Kaululaau St Rock Wall

Wall Stabilization- Soil Nails, Shotcrete, Drainage
Objectives:

- Rock wall is leaning, so soil nails will tie back wall and shotcrete will strengthen wall face
- Drainage will be added to also help reduce loads on the wall
- Estimated Construction Cost: ~$300,000
2147 Tantalus Drive Rock Wall
2147 Tantalus Drive Rock Wall

Wall Stabilization - Soil Nails, Shotcrete, Drainage
Objectives:

- Rock wall is leaning, so soil nails will tie back wall and shotcrete will strengthen wall face
- Drainage will be added to also help reduce loads on the wall
- Estimated Construction Cost: ~$800,000
Kapahu Street Rockfall Improvements
Iaukea Street Drainage Improvements
Kapahu St Rockfall Slope Improvements

Legend:
- Existing Drain Easement
- Existing Sewer Easement
- Concrete Swale Alignment
- Limits of Geotechnical Work
- Temporary Construction Access
- Permanent Slope Access
- Existing Rock Protection Fence

Cost Estimate: $5.0 Million
Temporary Construction Access & Permanent Slope Access Points
Kapahu Street Rockfall Improvements
Iaukea Street Drainage Improvements
USE CLEARED AREA FOR STAGING AND EQUIPMENT LAYDOWN
Permanent Access Points
2312 & 2316 Kapahu Street (Kema/ Nagasako)

- Structure repairs
- Design to be completed mid 2021
- Funds Required: EST. $500,000
2312 & 2316 Kapahu Street (Kema/ Nagasako)
2312 & 2316 Kapahu Street (Kema/ Nagasako)
440 & 444 Kauhane Street (Rowland/ Contreras)

- Slope stabilization
- Design to be completed mid 2021
- Funds Required: EST. $250,000
440 & 444 Kauhane Street (Rowland/Contreras)

- Rock Removal
- Shotcrete
- Cost Estimate: $200,000
Papakolea Subdivision Phase 2
Sewer Improvements

July 2021
Objectives:

- Continue progress from Phase 1 sewer improvements projects
- Replace aging sewer system (50+ years old)
- Reduce sewer back ups and spills
Phase 2

- Phase 2A
  - Submitted Plans for City Review (May 2021)

- Phase 2B
  - Install remaining gravity sewer lines, sewer force mains, and low pressure sewer systems (LPSS).

- Sewer lines for both phases will be installed using pipe bursting and open trench construction methods.
Pipe Bursting

Pneumatic Pipe Bursting Process

- A pneumatic hammer cracks and breaks the existing pipe
- Pipe pieces are pushed into the surrounding soil
- New pipe is pulled behind the bursting tool
- Avoids exposing existing utilities
- Minimizes ground disturbance
Low Pressure Sewer System (LPSS)
An alternative to a conventional gravity sewer system. Utilizes a collection tank and control panel to pump sewage from the house to the roadway sewer system.
Phase 2A Scope of Work

Scope of Work

• Phase 2A
  • Designed sewer replacement for Sewer Lines C, C-2, D, D-1, D-3, D-5 & G, and spot repairs using pipe bursting and open trench methods
  • CLSM fill and abandon 2,000 feet of pipe along SL K, L
  • Replace 3,400 feet of gravity sewer lines
  • Cost Estimate: $5.0 Million
Phase 2A Impacts

Impacts

• Remove trees and shrubs
• Demolish and reconstruct walls, fences, driveways, and sidewalks. Temporarily inaccessible during construction.
• Relocate storage units/area, sheds, structures out of sewer easement.
• Reconnect sewer laterals

Photo 1 & 2. Reconstruct walkway and staircase between Auwaiolimu St. and Iaukea St.
Phase 2A Impacts

**Photo 1.** Existing sewer line crosses under the existing historic drainage channel.

**Photo 2.** Exist. Sewer line runs under an exist. mango tree. Tree to be removed.
Scope of Work

• Sewer System East of Tantalus Dr.
  • Replace Sewer Lines A, C, C-3, C-4, J
    • 2,120 feet of gravity sewer lines
  • Install 28 LPSS
    • SL D-2, D-4, I, & K-2 are inaccessible due to exist. structures
  • Upsize SL A south of laukea to 12-in.

• Sewer System West of Tantalus Dr.
  • Alternative 1
  • Alternative 2
Phase 2B – Alternate 1

West of Tantalus

- 38 LPSS
- 700 ft, 8-in gravity pipes
- 1,350 ft, 3-in sewer force mains
- CLSM fill and abandon 2,500 ft SL
  - SL is inaccessible and has safety concerns between SMH 318223-318567 due to exist. structures and steep terrain.

Alt. 1 Estimated Cost: $7.3 million
• Connect to existing sewer system in Auwaiolimu St.
  • 8-inch 1,040 LF in Auwaiolimu St.
West of Tantalus

- 21 LPSS
- 1,600 ft, 8-in gravity pipes
- 720 ft, 3-in sewer force mains
- CLSM fill and abandon 1,430 ft SL
  - SL is inaccessible and has safety concerns between SMH 318223-318567 due to exist. structures and steep terrain.

Alt. 2 Estimated Cost: $10.0 million
Hiilani Street

- Proposed sewer line runs between residential properties
- Restore existing staircase

Key Map
Phase 2B Impacts

- LPSS will req. coordination with homeowners
- Crosses the historic Auwaiolimu St. ditch
- Limited space to construct
- Coordinate with future City sewer system upgrades
DEPARTMENT OF HAWAIIAN HOME LANDS

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