

**REVISED WORK PLAN  
NĀ‘ĀLEHU COMMUNITY  
LARGE CAPACITY CESSPOOL (LCC) REPLACEMENT PROJECT**

**Nā‘ālehu , District of Ka‘ū, County of Hawai‘i, Hawai‘i  
April 21, 2017**

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## I. Background

The majority of the Nā‘ālehu Community, a historical sugar farming and processing operation which shut down in 1996, is currently served by three (3) LCCs. C. Brewer previously owned and operated the sugar enterprise and community wastewater systems/infrastructure.

In 2003, C. Brewer requested assistance from the County to close their LCCs. Subsequently, the County held a community meeting to present sewer system replacement alternatives. Voting took place to choose the preferred sewer improvement alternative resulting in 87% of returned ballots in favor of the installation of a new sewer collection, treatment and disposal system to be operated and maintained by the County.

In 2006, C. Brewer asked the County, who agreed by way of a County Council Resolution, to construct and maintain a new and improved community sewer system. In anticipation of C. Brewer’s dissolution, C. Brewer proposed, and the County agreed, to enter into a formal agreement to not only construct and maintain a new and improved community sewer system, but to assume ownership of the existing system including the LCC’s by April 30, 2010.

In 2007, the proposed wastewater improvements were large capacity septic tanks and reuse of the LCCs as seepage pits. This was based upon available land area to the County in the immediate vicinity of the Nā‘ālehu Community. The County issued a FONSI and finalized the EA for the proposed LCC replacement project which included: new collection system within County right-of-way; construction of large capacity septic tanks LCS(s); and conversion of LCC(s) to seepage pit(s). However field studies including percolation tests concluded that septic/seepage pit system was not the best wastewater treatment system. Also, reuse of the LCCs as seepage pits was determined to not be the best choice as they were found to be in poor and failing condition. The County began to look for new land where conditions would allow a seepage pit or leach field. The County also looked beyond this at possible land to construct a secondary treatment system to fulfill a longer term vision of better treatment and possible growth of the community.

Thirteen site options were evaluated in terms of land size, proximity to residential areas and potable water wells, flood zones, lava tubes, cultural and archaeological sites, etc. The preliminary selection was narrowed down to a property owned by the State of Hawai‘i Department of Land and Natural Resources (DLNR) as the best viable solution for siting the facility. The County had initiated several cultural and archaeological surveys resulting in the documentation of several cultural and archaeological items. A flora and fauna survey was also conducted. A petroglyph was found within this property area and a mitigation measure has been proposed.

In 2011, the County obtained approval from DLNR for approximately 20 acres of land to install a wastewater treatment and disposal facility. Coordination with SHPO, OHA and FWS was initiated. In November 2013, the County updated the previously final version of the EA by drafting an amendment that presents options for the wastewater treatment

and disposal facility. However, during 2013 and 2014, local native community leaders/members voiced concerns/objections over the proposed location for the future wastewater treatment and disposal facility. The revised draft EA has not been issued for public review and comment until an informational community outreach has been conducted.

While federal funds were planned to be utilized for the project (EPA Grant XP 96942401) due to delays created by public opposition to the proposed location of the Wastewater Treatment and Disposal system, grant funds have been shifted to the Pāhala LCC Replacement Project.

## II. Location

The Nā‘ālehu Community is located within the District of Ka‘ū in the County of Hawai‘i (Figure 1). The District of Ka‘ū is situated at the southern tip of the Island and extends across the southern and southeastern flanks of Mauna Loa. With a land area of over 630,000 acres and an estimated population of over 5,000 persons, the District of Ka‘ū is relatively isolated and unspoiled. The Nā‘ālehu Community is one of two major population centers in the District of Ka‘ū with a population of 919 according to the year 2000 census. Since the closing of the Ka‘ū Sugar Company in 1996, many of the residents within the community are former sugar workers and their descendants.

## III. Purpose

Per Federal regulations, all existing LCCs must be closed and the Nā‘ālehu Community must be serviced by an acceptable wastewater collection, treatment and disposal system. There are no existing County of Hawai‘i (County) wastewater treatment plants in the Ka‘ū District. The closest County wastewater treatment plant is located in the town of Hilo which is approximately 60 miles north of Nā‘ālehu. Currently, the residential community is served by a sewer system comprised of substandard gravity lines that convey sewage to three (3) large capacity cesspools (LCCs) which were previously owned and operated by C. Brewer and Company, Ltd. (C. Brewer) and are approximately 60 years old. The existing Nā‘ālehu Sewer System is as shown in Figure 2 herein.

## IV. Objectives

The objectives are to replace the existing Nā‘ālehu sewer system servicing 163 properties with one that meets State of Hawai‘i as well as County standards; install a Secondary Wastewater Treatment and Disposal facility; and close the existing LCCs that are currently serving the Nā‘ālehu Community. An additional 30 properties, including the Nā‘ālehu Elementary School, that are not currently being served by the C. Brewer system will be made accessible to the County Sewer system as required by Hawai‘i County Code Chapter 21, Sewers, and Hawai‘i Administrative Rules (HAR) Section 11-62-06, Wastewater Systems. The result is a total of 193 properties serviced by the Nā‘ālehu Collection, Treatment, and Disposal system.

The new proposed Nā‘ālehu Collection System is as shown in [Figure 3](#) herein and the new proposed Wastewater Treatment and Disposal System (WWTP) is as shown in [Figure 4](#) herein. The new proposed WWTP location differs from previous plans as follows:

1. The proposed WWTP has been relocated to the portion of the State property (TMK 9-5-012:002) that is furthest west from the Makahiki site with the disposal system planned to be located on an 8 acre property which is currently privately owned (TMK 9-5-011:003) but is up for sale by the property owner.
  - a. A Preliminary Archaeological study was conducted on TMK 9-5-011:003 by Pacific Legacy in March 2017 which resulted in a determination that the entire property has been previously disturbed and that there no traditional Hawaiian cultural resources, sites, or features were observed on the property. A copy of the preliminary report is provided as [Figure 5](#) herein.
  - b. The County notes, however, that the report concludes that it is probable that the State Historic Preservation Division (SHPD) will require a formal Archaeological Inventory Survey with time devoted to investigating probable sugar industry resources and undertaking subsurface backhoe testing within the property.

## V. Methods

To meet the objectives, the County will be utilizing two (2) engineering design consultant firms. One firm will be responsible for planning (archaeological, cultural, ethno-history, flora/fauna studies) and designing a new wastewater treatment and disposal system as well as overall project management of entire project. The other engineering design consultant firm will be responsible for planning and design of the new wastewater collection system.

The methods include a design to address abandonment of the substandard sewer lines that run within private properties, and installing new sewer lines that will reside primarily in County and/or State right-of-ways although some easements within private properties may be required. Approximately 7,500 linear feet (LF) of 8-inch sewer lines with sewer laterals will be installed within the Nā‘ālehu Community and the sewer line will be extended to the proposed location for the new Wastewater Treatment and Disposal system. The end results are Secondary Treatment of the wastewater from the Nā‘ālehu Community and the closure of the three (3) existing LCC’s in Nā‘ālehu town.

## VI. Project Schedule/Milestones

The project consists of fourteen (14) major tasks as follows with additional information provided within Table 1 (Project Schedule).

Task 1: Alternative Site for Treatment and Disposal

Due to community opposition to the previously proposed site for Wastewater Treatment and Disposal on the State Property (TMK 9-5-012:002) adjacent to the Makahiki Site (TMK 9-5-012:005); an alternative site for the facility has been determined with the facility located on the western boundary of the State Property and the disposal system located on a currently privately-owned parcel (TMK 9-5-011:003).

Task 1: Consultant Contract for Phase 1 ESA

Task 1.1 The County is currently in the process of executing a contract with the consultant for performance of a Phase 1 Environmental Site Assessment of a portion of the State Property proposed to be utilized for a WWTP site (TMK 9-5-012:002) as well as TMK 9-5-011:003 which is proposed to be utilized for the disposal system.

Task 2: Perform Phase 1 ESA

Task 2.1 Perform a Phase 1 Environmental Site Assessment of a portion of the State Property proposed to be utilized for a WWTP site (TMK 9-5-012:002) as well as TMK 9-5-011:003.

Task 3: HRS 343 EA/PER/Program Management

Task 3.1 Execute contract with consultant for preparation of an Environmental Assessment meeting HRS 343 requirement, preparation of a Preliminary Engineering Report, and Program Management for the project.

Task 3.2 Community outreach including consultation with public officials, site visit to the Honoka'a WWTP which utilizes a similar treatment process, up to 4 public meetings.

Task 3.3 Acquire property for the Wastewater Treatment and Disposal site.

Task 4: Preliminary Engineering Report

Task 4.1 to 4.3 Provide a Preliminary Engineering Report for the Wastewater Treatment and Disposal system following final site selection.

Task 5: HRS 343 Environmental Assessment

Task 5.1 to 5.6 Provide Environmental Assessment (EA) meeting HRS 343 requirements.

Task 6: Nā‘ālehu Wastewater Treatment and Disposal System Design

Design of the new Wastewater Treatment and Disposal system will include design of the new sewer transmission main from the Nā‘ālehu Collection System to the new Wastewater Treatment Plant. Final selected Wastewater Treatment process will also be dependent on available land area as well as comments and concerns from the community obtained during the Public Outreach phase.

Task 6.1 to 6.3 Complete design of the final Wastewater Treatment and Disposal System as well as the transmission main from the Collection System to the WWTP based on the final Preliminary Engineering Report as well as the final HRS 343 EA.

Task 7: Nā‘ālehu Wastewater Treatment and Disposal System Construction

Construction will take place with a new sewer main conveying wastewater from the existing Nā‘ālehu Collection System to the proposed location for the Wastewater Treatment and Disposal system as shown in Figure 4, and the treatment and disposal system itself.

Task 7.1 Bidding period by Contractors for installation of the WW Treatment and Disposal System

Task 7.2 Bid evaluation period by County

Task 7.3 Bid Award and Contract Execution

Task 7.4 Construction of WW Treatment and Disposal System

Task 7.5 DOH Approval to Operate the new WWTP

Task 8: Connect Existing Collection System to WWTP and Close LCC's

Task 8.1 Close LCC No. 3 located on TMK 9-5-024:010

Task 8.2 Close LCC No. 4 located on TMK 9-5-024:011

Task 8.3 Close LCC No. 5 located on TMK 9-5-024:001

Task 9: Collection System Design

Task 9.1 Complete Collection System Design

Task 10: Design Connection of Private Properties to New System

Task 10.1 Obtain County Council approval for performance of work within Private Properties

Task 10.2 Consultant Contract

Task 10.3 Obtain Right of Entry for work in Private Properties

Task 10.4 Preparation of Bid Documents for connection of Properties serviced by Existing Nā'ālehu Collection System by the County.

Task 11: Construction Contract for Collection system Private Connections

Task 11.1 Bidding period by Contractors

Task 11.2 Bid evaluation period by County

Task 11.3 Bid Award and Contract Execution

Task 11.4 Construction of Collection System

Task 11.5 Connection of Collection System to Opukea Line

Task 11.6 Connection of Private Properties on Existing System

Task 12: Connection of Additional Properties not Currently served by LCC's

Task 12.1 Issue Connection Notice to additional properties which will be serviced by the new Collection System and Wastewater Treatment and Disposal System advising them that connection is required within 180 calendar days after notice in accordance with Hawai'i County Code Chapter 21, Wastewater Systems

Task 12.2 Additional Properties to Connect

## VII. Project Costs

It is intended that Clean Water State Revolving Fund (CWSRF) monies be utilized for the project. It is currently estimated that the project will cost \$14M.

## VIII. Performance Evaluation

The following will be used to evaluate the success of the project:

1. Timely completion of the project in accordance with the plans and specifications.
2. Elimination of the large capacity cesspools previously owned by C. Brewer that are currently serving a large portion of the Nā'ālehu Community.
3. Compliance with the EPA regulations, 40 CFR 144 & 145.

## IX. Reporting Schedule to EPA

The County will participate in quarterly meetings with the USEPA in order to provide updates to the project and will provide semi-annual reports regarding project status.

## X. Project benefits to the Public

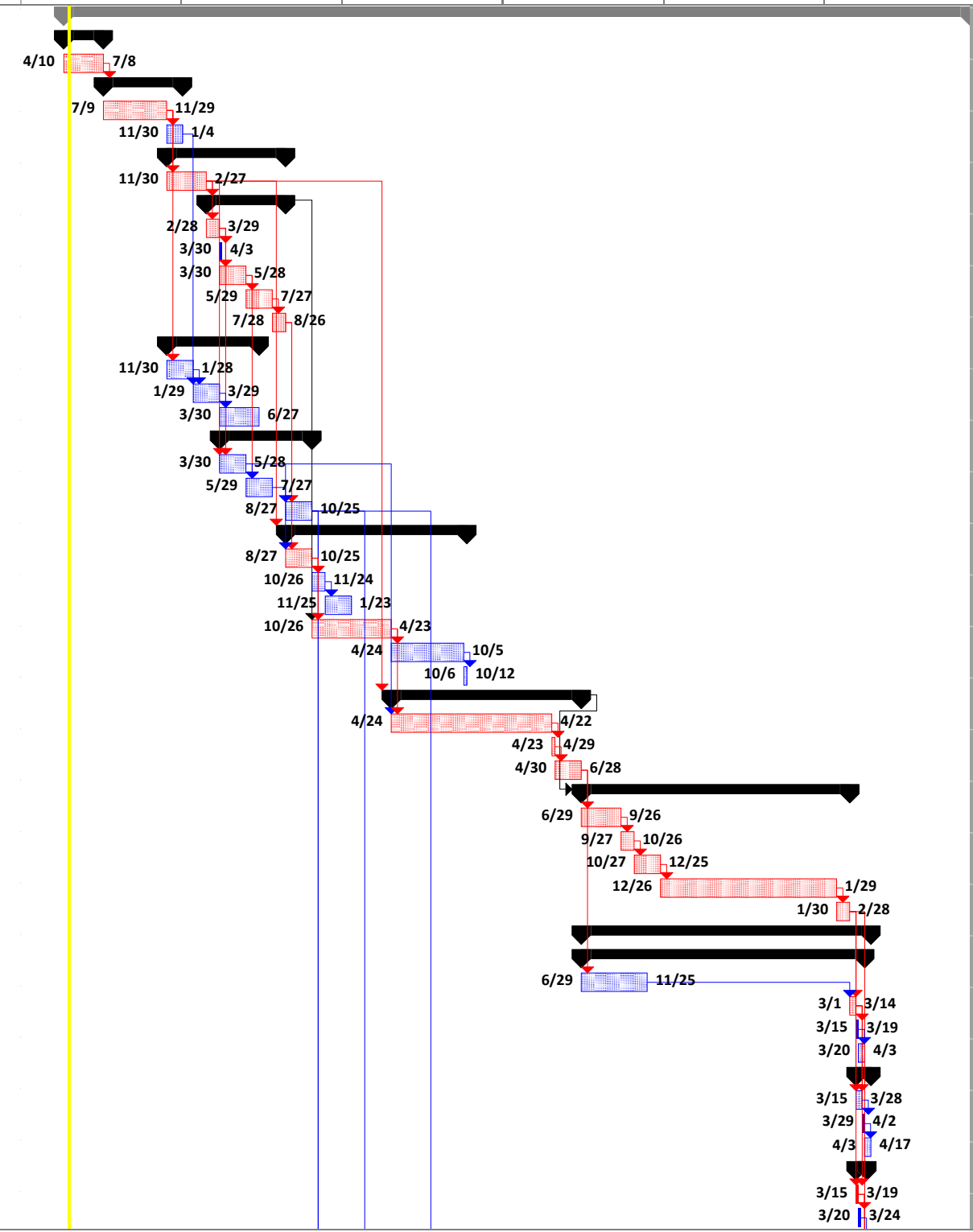
The expected output and outcome is a design and construction project that will produce a new wastewater treatment and collection system that will replace C. Brewer's Sugar Plantation Sewer System consisting of 60-year old sewer lines and LCCs that are in poor condition. The benefit is to the Nā'ālehu residents will no longer need to be concerned about the reliability of their sewer system from a health and welfare standpoint. Dependable sewer service will be available to 161 properties currently served by the existing sewer system in the Nā'ālehu Community and to an additional 32 properties that are not currently being served by the existing sewer system.



## **XI. Attachments**

TABLE 1  
 NAALEHU PROJECT SCHEDULE  
 (04/20/2017 REVISION 11 - FINAL)

ID	Task Name	Duration	Start	Finish	Predecessors	'16	'17	'18	'19	'20	'21	'22	'23	'24
0	Nā'ālehu Schedule	2060 days	Mon 4/10/17	Tue 11/29/22										
1	1 Consultant Contract - B&C (Contract 1)	90 days	Mon 4/10/17	Sat 7/8/17										
2	1.1 Consultant Contract for WWTP - B&C (Phase I ESA)	90 days	Mon 4/10/17	Sat 7/8/17										
3	2 Perform Phase 1 ESA (Contract 1) - Refer Item 1.1	180 days	Sun 7/9/17	Thu 1/4/18	2									
4	2.1 80% Completion of Phase 1 ESA	144 days	Sun 7/9/17	Wed 11/29/17										
5	2.2 100% Completion of Phase 1 ESA	36 days	Thu 11/30/17	Thu 1/4/18	4									
6	3 HRS 343 EA/PER for Naalehu - B&C (Contract 2)	270 days	Thu 11/30/17	Sun 8/26/18										
7	3.1 Consultant Contract including Program Mgmt	90 days	Thu 11/30/17	Tue 2/27/18	4									
8	3.2 Community Outreach - Site Selection	180 days	Wed 2/28/18	Sun 8/26/18	7									
9	3.2.1 Initial Consultation with Appropriate Public Officials	30 days	Wed 2/28/18	Thu 3/29/18	7									
10	3.2.2 Site visit of Honokaa WWTP (Similar Process)	5 days	Fri 3/30/18	Tue 4/3/18	9									
11	3.2.3 Initial Public Outreach for Selected Site (Item 1.1) - 2 MTGS	60 days	Fri 3/30/18	Mon 5/28/18	9									
12	3.2.4 Additional Public Outreach for Selected Site (Item 1.1) - 2 MT	60 days	Tue 5/29/18	Fri 7/27/18	11									
13	3.2.5 Address Public Comments Regarding Selected Site (Item 1.1)	30 days	Sat 7/28/18	Sun 8/26/18	12									
14	3.3 Acquire Property from Owner	210 days	Thu 11/30/17	Wed 6/27/18										
15	3.3.1 Property Appraisal (Finance)	60 days	Thu 11/30/17	Sun 1/28/18	4									
16	3.3.2 Offer to Property Owner	60 days	Mon 1/29/18	Thu 3/29/18	15,5									
17	3.3.3 Acquire Property	90 days	Fri 3/30/18	Wed 6/27/18	16									
18	4 Preliminary Engineering Report - B&C (Contract 2)	210 days	Fri 3/30/18	Thu 10/25/18										
19	4.1 PER 30% Completion	60 days	Fri 3/30/18	Mon 5/28/18	7,9									
20	4.2 PER 60% Completion	60 days	Tue 5/29/18	Fri 7/27/18	19,11									
21	4.3 100% PER to Reflect new WWTP	60 days	Mon 8/27/18	Thu 10/25/18	20,13									
22	<b>5 HRS 343 EA Process</b>	<b>412 days</b>	<b>Mon 8/27/18</b>	<b>Sat 10/12/19</b>	<b>7</b>									
23	5.1 Initial Public Outreach for Project (2 meetings)	60 days	Mon 8/27/18	Thu 10/25/18	13,19									
24	5.2 Address Public Comments	30 days	Fri 10/26/18	Sat 11/24/18	23									
25	5.3 Additional Public Meetings to Address Comments (2 meeting)	60 days	Sun 11/25/18	Wed 1/23/19	24									
26	5.4 30% EA Completion	180 days	Fri 10/26/18	Tue 4/23/19	8,23									
27	5.5 100% EA Completion	165 days	Wed 4/24/19	Sat 10/5/19	26									
28	5.6 Final Public Meeting	7 days	Sun 10/6/19	Sat 10/12/19	27									
29	6 WWTP Design - B&C (Contract 3)	432 days	Wed 4/24/19	Sun 6/28/20	7									
30	6.1 WW Treatment & Disposal Design	365 days	Wed 4/24/19	Wed 4/22/20	19,26									
31	6.2 Submit WWTP design to DOH for Approval	7 days	Thu 4/23/20	Wed 4/29/20	30									
32	6.3 DOH approval to Construct	60 days	Thu 4/30/20	Sun 6/28/20	31									
33	7 WW Treatment & Disposal Construction	610 days	Mon 6/29/20	Mon 2/28/22	29									
34	7.1 Bidding Period	90 days	Mon 6/29/20	Sat 9/26/20	32									
35	7.2 Bid Evaluation	30 days	Sun 9/27/20	Mon 10/26/20	34									
36	7.3 Bid Award and Contract Execution	60 days	Tue 10/27/20	Fri 12/25/20	35									
37	7.4 Construction	400 days	Sat 12/26/20	Sat 1/29/22	36									
38	7.5 DOH Approval to Operate	30 days	Sun 1/30/22	Mon 2/28/22	37									
39	8 Conn. Exist Coll. Sys to WWTP and Close LCC's	658 days	Mon 6/29/20	Sun 4/17/22										
40	8.1 LCC on TMK 9-5-024:010 (LCC NO. 3)	644 days	Mon 6/29/20	Sun 4/3/22										
41	8.1.1 Install new Sewer Line on Opukea to New WWTP	150 days	Mon 6/29/20	Wed 11/25/20	32									
42	8.1.2 Intercept Existing Sewer to LCC 3 and Connect to New Line	14 days	Tue 3/1/22	Mon 3/14/22	41,38									
43	8.1.3 Close LCC	5 days	Tue 3/15/22	Sat 3/19/22	42									
44	8.1.4 Submit LCC Closure Report to DOH and EPA	15 days	Sun 3/20/22	Sun 4/3/22	43									
45	8.2 LCC on TMK 9-5-024:011 (LCC NO. 4)	34 days	Tue 3/15/22	Sun 4/17/22										
46	8.2.1 Intercept Existing Sewer to LCC 4 and Connect to new Line	14 days	Tue 3/15/22	Mon 3/28/22	38,42									
47	8.2.2 Close LCC	5 days	Tue 3/29/22	Sat 4/2/22	46									
48	8.2.3 Submit LCC Closure Report to DOH and EPA	15 days	Sun 4/3/22	Sun 4/17/22	47									
49	8.3 LCC on TMK 9-5-024:001 (LCC NO. 5)	25 days	Tue 3/15/22	Fri 4/8/22										
50	8.3.1 Intercept Existing Sewer to LCC 5 and Connect to new Line	5 days	Tue 3/15/22	Sat 3/19/22	38,42									
51	8.3.2 Close LCC	5 days	Sun 3/20/22	Thu 3/24/22	50									

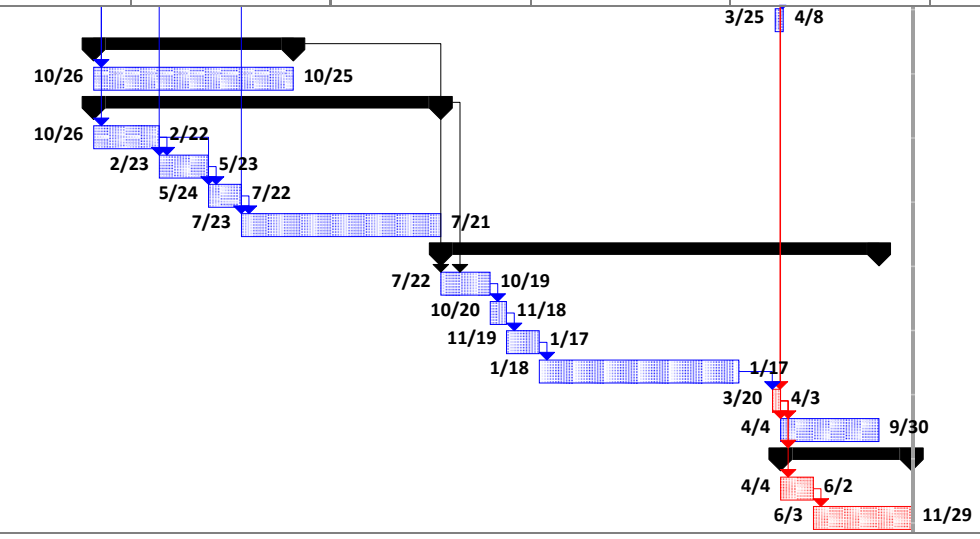


Project: Nā'ālehu Schedule  
 Date: Thu 4/20/17

Task		Milestone		Rolled Up Critical Task		Split		Group By Summary	
Critical Task		Summary		Rolled Up Milestone		External Tasks		Deadline	
Progress		Rolled Up Task		Rolled Up Progress		Project Summary			

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 NAALEHU PROJECT SCHEDULE  
 (04/20/2017 REVISION 11 - FINAL)

ID	Task Name	Duration	Start	Finish	Predecessors	'16	'17	'18	'19	'20	'21	'22	'23	'24
52	8.3.3 Submit LCC Closure Report to DOH and EPA	15 days	Fri 3/25/22	Fri 4/8/22	51							3/25	4/8	
53	9 Collection System Design - F&A (Exg. Contract)	365 days	Fri 10/26/18	Fri 10/25/19										
54	9.1 Collection System Design - F&A	365 days	Fri 10/26/18	Fri 10/25/19	21									
55	10 Design Conn of Private Prop - F&A (Contract 4)	635 days	Fri 10/26/18	Tue 7/21/20										
56	10.1 Obtain County Council Approval for Work on Private Properties	120 days	Fri 10/26/18	Fri 2/22/19	21									
57	10.2 Consultant Contract for Design of Private Connections	90 days	Sat 2/23/19	Thu 5/23/19	56,21									
58	10.3 Obtain Right of Entry for Surveying	60 days	Fri 5/24/19	Mon 7/22/19	56,57									
59	10.4 Design Connection of Residential Properties.	365 days	Tue 7/23/19	Tue 7/21/20	58,21									
60	11 Constr. Contract for Coll. Sys & Exg. Private Properties	801 days	Wed 7/22/20	Fri 9/30/22										
61	11.1 Bidding Period	90 days	Wed 7/22/20	Mon 10/19/20	53,55									
62	11.2 Bid Evaluation	30 days	Tue 10/20/20	Wed 11/18/20	61									
63	11.3 Bid Award and Contract Execution	60 days	Thu 11/19/20	Sun 1/17/21	62									
64	11.4 Construction of Collection w/o Connecting	365 days	Mon 1/18/21	Mon 1/17/22	63									
65	11.5 Connection of Collection System to Opukea Line	15 days	Sun 3/20/22	Sun 4/3/22	50,64									
66	11.6 Connection of Private Properties	180 days	Mon 4/4/22	Fri 9/30/22	38,65									
67	12 Connection of Additional Properties	240 days	Mon 4/4/22	Tue 11/29/22	65									
68	12.1 Issue Connection Notice to Additional Properties	60 days	Mon 4/4/22	Thu 6/2/22	65									
69	12.2 Properties to connect with 180 days of Notification	180 days	Fri 6/3/22	Tue 11/29/22	68									



Project: Nā'ālehu Schedule  
 Date: Thu 4/20/17

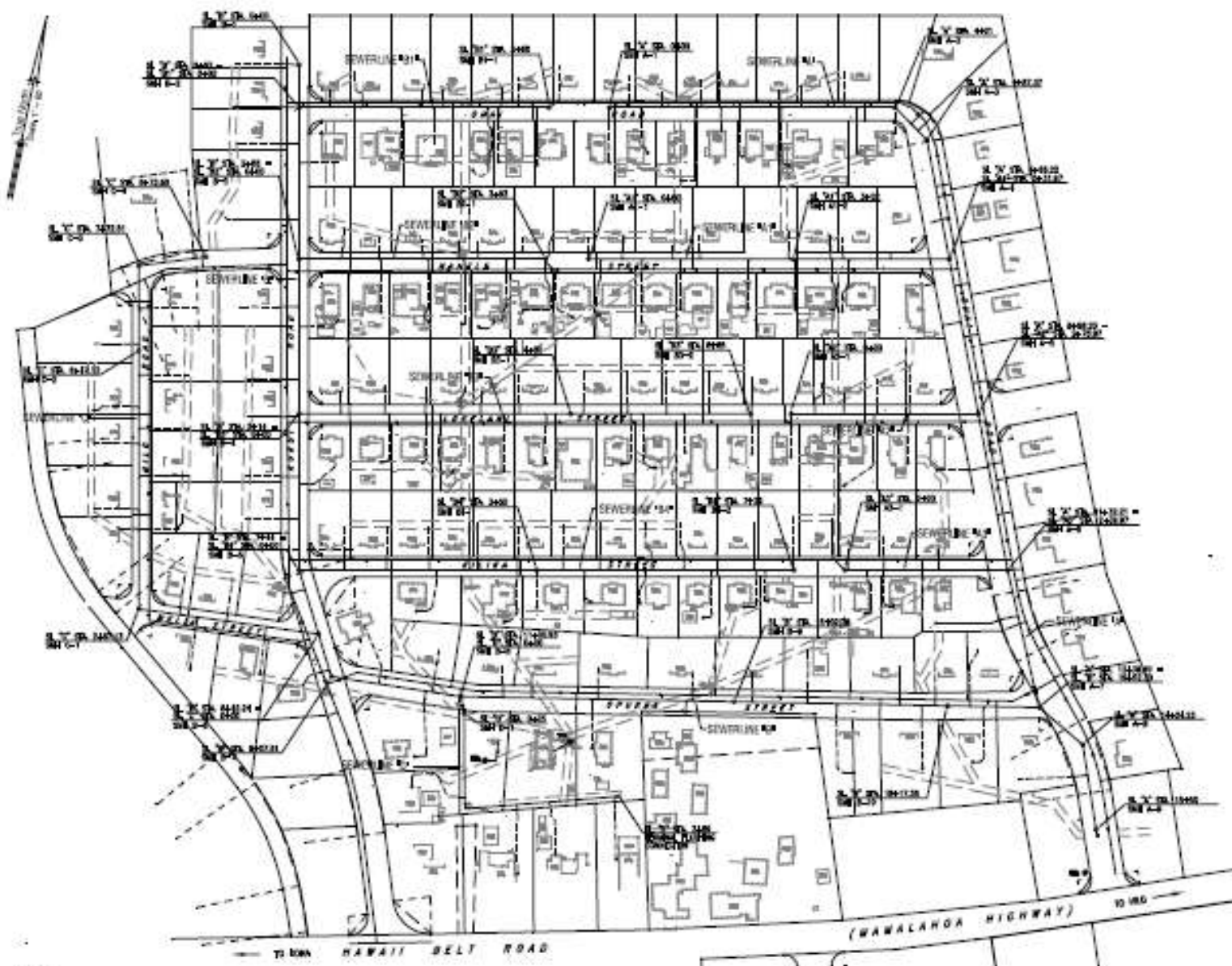
Task		Milestone		Rolled Up Critical Task		Split		Group By Summary	
Critical Task		Summary		Rolled Up Milestone		External Tasks		Deadline	
Progress		Rolled Up Task		Rolled Up Progress		Project Summary			



**FIGURE 1: COUNTY OF HAWAII**

# Map/Results





- LEGEND:**
- NEW LATERAL
  - - - NEW PRESSURE LATERAL
  - - - PRIVATE DRIVEY LATERAL (EXISTING)
  - GRINDER PUMP HOLDING AND PRESSURE LATERAL (EXISTING)
  - - - EXISTING SEWER CASING

**GENERAL PLAN**  
 SCALE: 1" = 30'-0"

# Naalehu TMK 9-5-008:013 & 014, TMK 9-5-011:003



February 14, 2017

- |                                   |                       |                                      |                              |                              |
|-----------------------------------|-----------------------|--------------------------------------|------------------------------|------------------------------|
| ✕ Lost Manholes                   | — 4"                  | ✕ Connection Exemption               | ▣ County of Hawaii (not WWD) | ➤ County of Hawaii (WWD)     |
| ● Naalehu-Pahala Cleanouts        | — 3"                  | ✕ Not Connected                      | ▣ Military                   | ➤ County of Hawaii (not WWD) |
| ● Naalehu-Pahala LCCs             | ▣ Grease Interceptors | ✕ Not Connected - Additional Lateral | ▣ Private                    | ➤ Military                   |
| ● Naalehu-Pahala Sewer Manholes   | ● Services            | ✕ Failed Inspection                  | ▣ State                      | ➤ Private                    |
| <b>Naalehu-Pahala Sewer Lines</b> | ● Connected           | <b>Discharges</b>                    | ▣ Unknown                    | ➤ State                      |
| — 8"                              | ● Assumed Connected   | ▣ Dedication Pending                 | <b>Pumps</b>                 | ➤ Unknown                    |
| — 6"                              | ✕ Permit Pending      | ▣ County of Hawaii (WWD)             | ▣ Dedication Pending         |                              |

