



# NAPA SANITATION DISTRICT

GHD - TASK ORDER No. 56

Phase 1A Asset Management Program Implementation

Date: \_\_\_\_\_

Issued under Professional Services Agreement dated \_\_\_\_\_.

To: GHD

**Project Description:**

Provide technical assistance with implementation of the asset management program  
Phase 1A tasks as defined in the Asset Management Plan.

**Description of Scope of Services to be performed by Consultant under this Task Order:**

See Exhibit 'A' – Scope of Services

**Description of Services to be Provided by District:** See Exhibit 'A' –Scope of Services

**Deliverables:** See Exhibit 'A' –Scope of Services

**Consultant Project Manager:** Ted Whiton, PE

**Consultant Quality Control Manager:** Gage Muckleroy, PE

**Schedule to Perform Services:** FY 17/18

**Time & Materials Not-to-Exceed Cost Limit:** \$145,000

See Exhibit 'B' –Fee Schedule

**APPROVALS:**

**GHD**

By: \_\_\_\_\_  
Authorized Representative

\_\_\_\_\_  
Date

**NAPA SANITATION DISTRICT**

By: \_\_\_\_\_  
Purchasing Agent

\_\_\_\_\_  
Date

NSD Account No.: \_\_\_\_\_



July 12, 2017

Ms. Robin Gamble Holley  
Asset Management Analyst  
Napa Sanitation District  
515 Soscol Ferry Road  
Napa, CA 94558

**RE: Proposal for Assistance with Implementing Phase 1(A) Tasks from the NapaSan Asset Management Plan**

Dear Robin:

The following proposal describes GHD's scope of services to assist with implementing the Phase 1(A) tasks from NapaSan's Asset Management Plan. Phase 1(A) includes tasks recommended under Phase 1 in the Asset Management Plan (AMP), including developing workflows for asset condition assessments, formatting asset registers for the long-term asset management program, and creating an interim solution for creating a workable interface between Hansen and GIS. All other initiatives recommended in the AMP for Phase 1 will be implemented under separate contracts.

**SCOPE OF SERVICES**

GHD will assist NapaSan with implementing Phase 1(A) tasks as described below.

**Task 1 – Project Initiation and Coordination**

GHD will convene a kickoff meeting with NapaSan to review the scope and schedule, and to identify available background information needed to complete the work. GHD will provide coordination among project team members throughout the execution of the work, and will provide a detailed progress report with monthly invoices detailing budget status; work completed over the billing period, and planned work for the upcoming billing period.

**Task 2 – Asset Condition Assessments (CS3 in AMP)**

Asset condition assessments are necessary to answer the question "What is the state of my assets?" The asset condition scores form the basis of Probability of Failure scores, which in turn form the basis for Business Risk Exposure. Business Risk Exposure is the basis for prioritizing maintenance and renewal/replacement spending. The condition assessment protocol (CAP) includes a Level 1 Assessment (desktop), a Level 2 Assessment (visual inspection), and a Level 3 Assessment (physical measurement). The level of condition assessment is dependent on the criticality and estimated remaining life of an asset. Asset condition information logged in the CMMS is an important attribute displayed in the asset register.

The objective of this Phase 1(A) task includes establishing a condition assessment protocol for treatment plant assets and a separate protocol for collection system assets. (The recycled water and biosolids facilities would use the same protocol as the treatment plant.) GHD will meet with NapaSan staff to review current practices for performing condition assessments (methods, frequency, scoring systems, responsible parties) and to discuss potential improvements to the process. GHD will then draft recommended CAPs for the treatment plant and collection system and summarize the recommendations in a technical memorandum (TM1).

**Task 2 Deliverables:**

- Treatment plant Condition Assessment Protocols
- Collection system Condition Assessment Protocols
- TM1 summarizing recommended CAPs



### **Task 3 – Asset Register Formatting and Data Security (SS2 in AMP)**

A complete and up-to-date asset register is essential to a successful asset management program. The asset register organizes assets and defines their attributes. The information is entered and retrieved through the CMMS and is the fundamental data from which asset management decisions are made and spending is prioritized. This AMP initiative develops the asset hierarchy, unique identifiers, asset descriptions/names, and Maintenance Strategy Groups (MSGs) for the new CMMS selected under AMP initiative SS3. This initiative also includes reviewing and updating (if necessary) data security and backup procedures to maintain the integrity of the asset register over time.

This Phase 1(A) task includes a review of the existing asset register and development of a recommended format and content for the asset register set up with the future CMMS implemented under a separate contract. GHD will prepare a preliminary asset register format based on available information from the AMP and screen shots from the current CMMS asset registers.

NapaSan will then convene a review workshop to discuss the appropriateness of the recommended asset register format for implementation of the full asset management program and ease of data integration from the existing CMMS databases to the future CMMS programs. GHD will attend the meeting to answer questions and provide context for future asset register fields. Based on NapaSan's input, GHD will finalize the recommended asset register format and content and summarize the recommendations in a technical memorandum (TM2).

#### **Task 3 Deliverables:**

- Recommended asset register format and content (for workshop)
- TM2 summarizing recommended asset register format and content

### **Task 4 – CMMS and IS Improvements (SS3 in AMP)**

NapaSan currently uses MP2 as the CMMS for the treatment plant assets, and Hansen for the collection system assets. The two platforms are separate, and the Hansen software does not interface with the GIS system that capturing some of the asset data for the collection system. This AM improvement initiative has three objectives:

1. Create an interim solution creating an interface between Hansen and GIS;
2. Replace Hansen with a new CMMS and evaluate options for replacing Hansen and MP2 with a single CMMS platform; and
3. Developing an Information System (IS) Plan that identifies gaps and needs for supporting the full asset management program.

This Phase 1(A) task addresses the first objective, which is to provide an interim solution creating an interface between Hansen and GIS until a new CMMS is implemented in the future.

#### **Subtask 4.1 – Evaluate Data Collection and Management Improvements**

GHD will evaluate costs and benefits of several possible improvements to the existing collection system data management and work flows. Improvements may include:

- Convert current GIS database to an enterprise database (SQL Server)
- Link CCTV videos of laterals to a GIS layer
- Publish NapaSan GIS layers to hosted webmap service for accessing information outside of GIS (County's webmap environment or third party)
- Provide access to GIS from mobile devices
- Connect GIS layers to the permitting system (Trak-it)



- Create connection between enterprise database and CMMS (Hansen)
- Provide recommendations how NapaSan could support these data integrations mid to long-term

Execution of this task will require workshops with NapaSan staff and with Napa County IT and GIS staff (one workshop with each group) to review current system configurations and work flows, and tasks required to achieve the desired improvements. GHD will meet a second time with each group to review recommended improvements including the breakdown of tasks and responsible parties to implement the improvements. After incorporating feedback from NapaSan and Napa County, GHD will summarize the evaluation of these improvements and provide recommendations in a technical memorandum (TM3).

#### Subtask 4.2 – Implement Recommended Improvements

GHD will explore options and collaborate with NapaSan and County IS staff to recommend and implement an intermediary solution to enable the GIS and Hansen system to interrogate from the same point of truth SQL database. It is suggested the integration will allow NapaSan to use their collection system data more effectively for the period while the District selects and deploys a new integrated GIS/CMMS system in the near to medium-term.

GHD suggests NapaSan's GIS and Hansen system datasets will be harmonized using FME by Safe Software. FME is an ETL (extract, transform & load) software which allows the transformation and assembly of data from a wide variety of source inputs. It is unknown if NapaSan or Napa County have the software available to them but GHD considers that FME would be instrumental to deliver several of the bulk data transformation items listed in Subtask 4.1. These data loading tasks will be performed as an upfront bulk transformation to support the short-term goal to develop one point of truth database.

GHD will populate attributes into a segmented GIS layer to support linking of CCTV video using global UID of pipe lateral sections; and suggest a framework to support the mid-term goals of NapaSan to automate the batch or patterned loading of data between NapaSan's disconnected systems to harmonize their data across these systems. GHD considers a batch or patterned ETL framework an appropriate mechanism to cover the short-term and mid-term goals of integrating the GIS and Hansen system and place NapaSan favorably to deploy a more integrated GIS/CMMS system using a single enterprise SQL database and maintain data continuity across field-data collection systems long-term. GHD will provide recommendations of these improvements identified under Subtask 4.1.

#### CLOSING

GHD will perform the scope of services for a fee not to exceed \$145,000 as shown on the attached fee estimate. This estimate is based on limited information about the current systems and practices, and assumes that NapaSan will assist with the execution of the scope of work as described herein. We anticipate having the scope of work executed by June 30, 2018. Please contact me with any questions you have regarding our proposal at 707-540-9007 or email me at [ted.whiton@ghd.com](mailto:ted.whiton@ghd.com).

Regards,  
GHD Inc.

A handwritten signature in blue ink, appearing to read "T. B. Whiton", is written over the typed name and title.

Theodore B. Whiton, P.E.  
Principal/Sr. Civil Engineer

Attachment: estimated fee

# Exhibit 'B' - Fee Schedule



## PROJECT ESTIMATING SHEET

Project Name: Assistance with Implementing Phase 1(A) Tasks from the NapaSan Asset Management Plan

Prepared by: Ted Whiton

12 July 2017

LABOR CATEGORY >		LABOR COSTS								SUBCONSULTANTS FEE COMPUTATION		
		Project Manager	AM Tech Lead	Sr. AM Consultant	Project Engineer	Sr. GIS Consultant	GIS Consultant	GIS Assistant	Project Tech	*Sub-contractor Fees	**OTHER DIRECT COSTS	TOTAL FEE
Task / Item	RATE >	\$265 /HR	\$245 /HR	\$175 /HR	\$150 /HR	\$155 /HR	\$140 /HR	\$110 /HR	\$115 /HR			
<b>TASK- 1.0 Project Initiation and Coordination</b>												
1.1 Kickoff Meeting	Hours	8				8			2			18
	Subtotal	\$2,120	\$0	\$0	\$0	\$1,240	\$0	\$0	\$230		\$150	\$3,740
1.2 Coordination	Hours	16	8			8			4			36
	Subtotal	\$4,240	\$1,960	\$0	\$0	\$1,240	\$0	\$0	\$460		\$250	\$8,150
	Hours Subtotal											54
<b>SUBTOTAL TASK 1.0</b>		<b>\$6,360</b>	<b>\$1,960</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,480</b>	<b>\$0</b>	<b>\$0</b>	<b>\$690</b>	<b>\$0</b>	<b>\$400</b>	<b>\$11,890</b>
<b>TASK- 2.0 Asset Condition Assessments (CS3 in AMP)</b>												
2.1 Meetings w/ NapaSan Staff	Hours	8	4	4	8							24
	Subtotal	\$2,120	\$980	\$700	\$1,200	\$0	\$0	\$0	\$0		\$200	\$5,200
2.2 Draft Tech Memo (TM1)	Hours	16	8	8	8	2			2			44
	Subtotal	\$4,240	\$1,960	\$1,400	\$1,200	\$310	\$0	\$0	\$230		\$300	\$9,640
2.3 Finalize Tech Memo (TM1)	Hours	12	4	4	8	2			2			32
	Subtotal	\$3,180	\$980	\$700	\$1,200	\$310	\$0	\$0	\$230		\$250	\$6,850
	Hours Subtotal											100
<b>SUBTOTAL TASK 2.0</b>		<b>\$9,540</b>	<b>\$3,920</b>	<b>\$2,800</b>	<b>\$3,600</b>	<b>\$620</b>	<b>\$0</b>	<b>\$0</b>	<b>\$460</b>	<b>\$0</b>	<b>\$750</b>	<b>\$21,690</b>
<b>TASK- 3.0 Asset Register Formatting (SS2 in AMP)</b>												
3.1 Draft Tech Memo (TM2)	Hours	12	12	12	8	4			2			50
	Subtotal	\$3,180	\$2,940	\$2,100	\$1,200	\$620	\$0	\$0	\$230		\$350	\$10,620
3.2 Review Meeting/Workshop	Hours	8	8	8	4				2			30
	Subtotal	\$2,120	\$1,960	\$1,400	\$600	\$0	\$0	\$0	\$230		\$200	\$6,510
3.3 Finalize Tech Memo (TM2)	Hours	12	8	8	8	2			2			40
	Subtotal	\$3,180	\$1,960	\$1,400	\$1,200	\$310	\$0	\$0	\$230		\$250	\$8,530
	Hours Subtotal											120
<b>SUBTOTAL TASK 3.0</b>		<b>\$8,480</b>	<b>\$6,860</b>	<b>\$4,900</b>	<b>\$3,000</b>	<b>\$930</b>	<b>\$0</b>	<b>\$0</b>	<b>\$690</b>	<b>\$0</b>	<b>\$800</b>	<b>\$25,660</b>
<b>TASK- 4.0 CMMS and IS Improvements (SS3 in AMP)</b>												
4.1.1 Workshops/Meets (4)	Hours	24				24	16	8	2			74
	Subtotal	\$6,360	\$0	\$0	\$0	\$3,720	\$2,240	\$880	\$230		\$1,000	\$14,430
4.1.2 Evaluate Improvements	Hours	2		4		40	40	24				110
	Subtotal	\$530	\$0	\$700	\$0	\$6,200	\$5,600	\$2,640	\$0		\$750	\$16,420
4.1.3 Prepare Tech Memo (TM3)	Hours	12	4	4	8	8	8	4	2			50
	Subtotal	\$3,180	\$980	\$700	\$1,200	\$1,240	\$1,120	\$440	\$230		\$360	\$9,450
4.2 Implement Improvements	Hours	8	4	8	8	100	100	60	4			292
	Subtotal	\$2,120	\$980	\$1,400	\$1,200	\$15,500	\$14,000	\$6,600	\$460		\$3,200	\$45,460
	Hours Subtotal											526
<b>SUBTOTAL TASK 5.0</b>		<b>\$12,190</b>	<b>\$1,960</b>	<b>\$2,800</b>	<b>\$2,400</b>	<b>\$26,660</b>	<b>\$22,960</b>	<b>\$10,560</b>	<b>\$920</b>	<b>\$0</b>	<b>\$5,310</b>	<b>\$85,760</b>
<b>Hours Total</b>												<b>800</b>
<b>PROJECT TOTAL (NOT-TO-EXCEED)</b>		<b>\$36,570</b>	<b>\$14,700</b>	<b>\$10,500</b>	<b>\$9,000</b>	<b>\$30,690</b>	<b>\$22,960</b>	<b>\$10,560</b>	<b>\$2,760</b>	<b>\$0</b>	<b>\$7,260</b>	<b>\$145,000</b>

\*Subcontractor Costs plus 15% mark up..

\*\*OTHER DIRECT COSTS include telephone, mileage, printing, photocopies and other miscellaneous direct expenses.