

**AMENDMENT NO. 1  
TO AGREEMENT FOR ENGINEERING SERVICES  
KINGS VIEW CONDO BRIDGEWATER CHANNEL EROSION  
RETAINING WALL RECONSTRUCTION AND EROSION MITIGATION ASSESSMENT  
PROJECT NO. CI1000**

THIS AMENDMENT NO. 1, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between Lake Havasu City, an Arizona municipal corporation (“City”), and Kimley-Horn & Associates, Inc. (“Consultant”), amending the Agreement for Engineering Services dated February 8, 2016, (“Agreement”), between City and Consultant for the project known as ***Kings View Condo Bridgewater Channel Erosion Retaining Wall Reconstruction And Erosion Mitigation Assessment, Project No. CI1000***. **The parties agree as follows:**

1. Exhibit A, Scope of Services, to the Agreement is revised and replaced in its entirety with the attached Exhibit “A” in order to amend Task 6 regarding permitting support.
  
2. Exhibit B to the Agreement is revised and replaced in its entirety with the attached Exhibit “B” in order to include the necessary fees and expenses related to the amended Task 6.

3. General Conditions

All other provisions of the Agreement not amended by this Amendment No. 1 shall remain in full force and effect as stated therein.

4. Indemnification

Consultant shall indemnify and hold harmless City, its officers, employees, and volunteers from and against any and all liabilities, damages, losses, and costs, including reasonable attorney's fees, but only to the extent caused by the negligence, recklessness, or intentional wrongful conduct of Consultant or other persons employed or used by the Consultant in the performance of this Agreement. It is agreed that Consultant will be responsible for primary loss investigation, defense, and judgment costs where this indemnification is applicable.

5. Insurance

Consultant certifies that the insurance requirements contained in the Agreement are applicable to, extend to, and include the services to be performed pursuant to this Amendment No. 1.

6. Israel

Consultant certifies that it is not currently engaged in, and agrees for the duration of this Agreement that it will not engage in, a boycott of Israel, as that term is defined in A.R.S. § 35-393.

This AMENDMENT NO. 1 TO AGREEMENT FOR ENGINEERING SERVICES is entered into as of the day and year first written above.

LAKE HAVASU CITY

CONSULTANT

BY: \_\_\_\_\_  
Title: City Manager  
Date: \_\_\_\_\_

BY: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

APPROVED AS TO FORM:  
Lake Havasu City Attorney's Office

ATTEST:  
(if corporation)

\_\_\_\_\_

\_\_\_\_\_

ADMINISTRATIVE SERVICES DEPARTMENT: WITNESS:

(if individual or partnership)

BY: \_\_\_\_\_  
Title: Administrative Services Director

BY: \_\_\_\_\_

CITY ENGINEER

BY: \_\_\_\_\_  
Title: Director



**LAKE HAVASU CITY (CITY)  
KINGS VIEW CONDO BRIDGEWATER CHANNEL EROSION  
RETAINING WALL RECONSTRUCTION AND EROSION MITIGATION ASSESSMENT  
CITY PROJECT NO. TBD**

**SCOPE OF SERVICES**

**Prepared January 25, 2016 - Revised August 3, 2016**

The Project Scope of Work is generally described as follows:

The project is located on the north bank of Bridgewater Channel that passes beneath the London Bridge, Lake Havasu City (City), Arizona. The channel was dredged circa 1995 through erodible silt, sand and gravel soils. In recent years, uncontrolled boat traffic has eroded the north bank exposing the footings of a retaining wall, undermining a public concrete sidewalk and creating a risk of damage to underground utilities. The City has on multiple occasions installed erosion control measures to slow or partially correct the soil loss in this area. On approximately January 1, 2016, the westernmost portion of the existing retaining wall adjacent to the Kings View Condominiums has substantially settled and rotated requiring mitigation. The scope of work for this project includes:

- Develop construction documents for bid advertisement to replace the westernmost portion of the existing retaining wall adjacent to the Kings View Condominiums.
- Provide a condition assessment that includes evaluating the remaining portion of the existing retaining wall along Kings View Condominiums east of the settled and rotated segment to determine if preventative construction measures are necessary such as a new cut off wall. In addition, the assessment will include locations along the north side of the Bridgewater Channel adjacent to the London Bridge Resort where City staff has identified concerns with the existing sea wall.

**Figure 1 – Project Limits and Proposed Scope of Work Locations**



**SCOPE OF SERVICES****Task 1. – Data Collection & Project Management (\$4,851)**

- a. Visit the site to observe and document existing conditions prior to the settlement and rotation of the existing retaining wall.
- b. Collect readily available record documents of public utilities, rights-of-way and existing improvements.
- c. Coordinate topographic and bathymetric surveys within the project limits.
- d. Review pre-dredging soil exploration report prepared by RAMM April 1995.
- e. General project management tasks such as project setup, invoicing, and project documentation.

**Task 2. – Condition Assessment (\$7,783)**

- a. Field review to visually inspect the existing retaining wall along Kings View Condominiums and locations along the north side of the Bridgewater Channel adjacent to the London Bridge Resort where City staff has identified concerns with the existing sea wall.
- b. Prepare Condition Assessment Report that documents the visual inspection performed by Kimley-Horn. The report will include discussion of the extent of risk the existing conditions pose to Lake Havasu City, mitigation options, Engineer's Opinion of Probable Costs, and recommendations.
- c. Meet (one time) with the client to review the Condition Assessment Report. Prepare meeting minutes to document City comments.

**Deliverables:** Condition Assessment Report, Preliminary Engineer's Opinion of Probable Cost

**Task 3. – Topographic and Bathymetric Survey (\$9,960)**

- a. Conduct topographic and bathymetric surveys within the project limits.

**Deliverables:** Survey provided in AutoCAD 2013 File Format with Survey Field Notes

**Task 4. – Retaining Wall Construction Documents (\$14,116)**

- a. Prepare construction drawings and technical specifications for the removal and reconstruction of the westernmost segment of the existing retaining wall adjacent to the Kings View Condominiums. The reconstructed retaining wall will be a cast-in-place (CIP) reinforced concrete cantilevered wall with a reinforced concrete toe-down or CIP reinforced concrete cantilevered wall with sheet piling at the toe similar to existing conditions. Final selection of wall type will be coordinated with the City.

- b. The construction drawings are anticipated to consist of the following:
  - i. Cover Sheet
  - ii. General/Structural Construction Notes
  - iii. Demolition & Construction Phasing Plan
  - iv. Retaining Wall Plan and Elevation
  - v. Retaining Wall Typical Section(s)
- c. The City will provide general contract documents (bid and contract documents, general conditions, and special provisions to Kimley-Horn to review and provide updates as needed. Kimley-Horn will prepare technical specifications utilizing City standard technical specifications as a baseline.
- d. Two design submittals are assumed (90% and final (sealed)). The 90% design submittal will be reviewed by the City and comments provided to Kimley-Horn (within two weeks). The final (sealed) design submittal will be submitted for preparation of the City's bid advertisement. Both design submittals shall consist of construction drawings, technical specifications, and an engineer's opinion of probable cost.
- e. It is anticipated that two meetings will be held with the City for the construction documents (one comment resolution meeting after the preliminary design submittal by teleconference and one pre-bid meeting at the City).
- f. Structural calculations will be developed for the proposed improvements and provided to the City upon request.

**Deliverables:** Preliminary and Final (Sealed) Construction Drawings and Specifications, Engineer's Opinion of Probable Cost

#### **Task 5. – Geotechnical Investigations (\$7,000)**

- a. RAMM would provide geotechnical investigations within the project limits.

**Deliverables:** Geotechnical Report

#### **Task 6. (Contingency) – Permitting Support (\$17,600)**

##### **Task 6A - Prepare and Process Preliminary Jurisdictional Delineation (PJD)**

Consultant will identify and establish boundaries for areas considered potential jurisdictional Waters of the U.S. (WOUS) under Section 404 of the Clean Water Act within the project site. Consultant will utilize methodology approved by the U.S. Army Corps of Engineers (Corps) for establishing the Ordinary High Water Mark (OHWM) for WOUS located within the project area. The Preliminary Jurisdictional Delineation (PJD) will be submitted to the Corps for concurrence with the proposed jurisdictional boundaries shown on aerial photography and documented in ground photography.

The task will include the following steps:

- Field reconnaissance to identify and establish boundaries of potential WOUS;
- Photographic and field note documentation of the establishment of the jurisdictional boundaries;
- Transfer of jurisdictional boundaries into GIS/CADD and overlay onto the aerial photography;
- Preparation of a technical memorandum that will document the methodology and results of the evaluation. This memorandum will be submitted to the Corps for concurrence on the PJD;
- Consultant will provide the Client the PJD in electronic form (GIS/CADD) to aid the Client in site planning and avoiding impacts to WOUS.

Consultant will submit the PJD to the Client for review and one (1) round of comments. Consultant will submit this application to the Corps for review and two (2) rounds of comments.

#### **Task 6B - Prepare and Process Section 404 Nationwide Permit (NWP) Pre-construction Notification (PCN)**

Consultant will prepare a PCN package including the following:

- Cover letter
- Corps 4345 Form
- Nationwide Permit Compliance Table
- Vicinity Map
- USGS Quadrangle Map
- Impacts to Waters of the U.S.
- Cross Section: Impacts to Water of the U.S.
- Biological Evaluation and Cultural Resources Survey completed under separate tasks will be attachments to the application

Consultant will submit this PCN package to the Client for review and one (1) round of comments. Consultant will submit this PCN package to the Corps for review and two (2) rounds of comments.

#### **Task 6C - Biological Evaluation**

Consultant will prepare a Biological Evaluation (BE) for the project area. Consultant's qualified Biologist will review the U.S. Fish and Wildlife Service (USFWS) threatened, endangered, proposed, and candidate species list for the project area to determine if species may occur in the project vicinity. The Arizona Game and Fish Department (AGFD) on-line environmental review will be accessed to determine special status species are known to occur in the project vicinity.

Analysis of effects, determination of effects and USFWS/Agency consultation requirements will be documented in the BE. State sensitive species, noxious and invasive species, and the

Migratory Bird Treaty Act, and any required mitigation measures will be discussed (as applicable). The AGFD's HabiMap™ Arizona will also be utilized to review species distribution information, habitat and wildlife data. The Biologist will assess potential impacts to listed species and make recommendations for future surveys/detailed assessments/mitigation measures (if applicable).

Biologist will submit the draft BE to the Client for review and one (1) round of comments. Biologist will finalize the BE based on the Client's comments. Biologist will submit this BE to the Corps for review and two (2) rounds of comments.

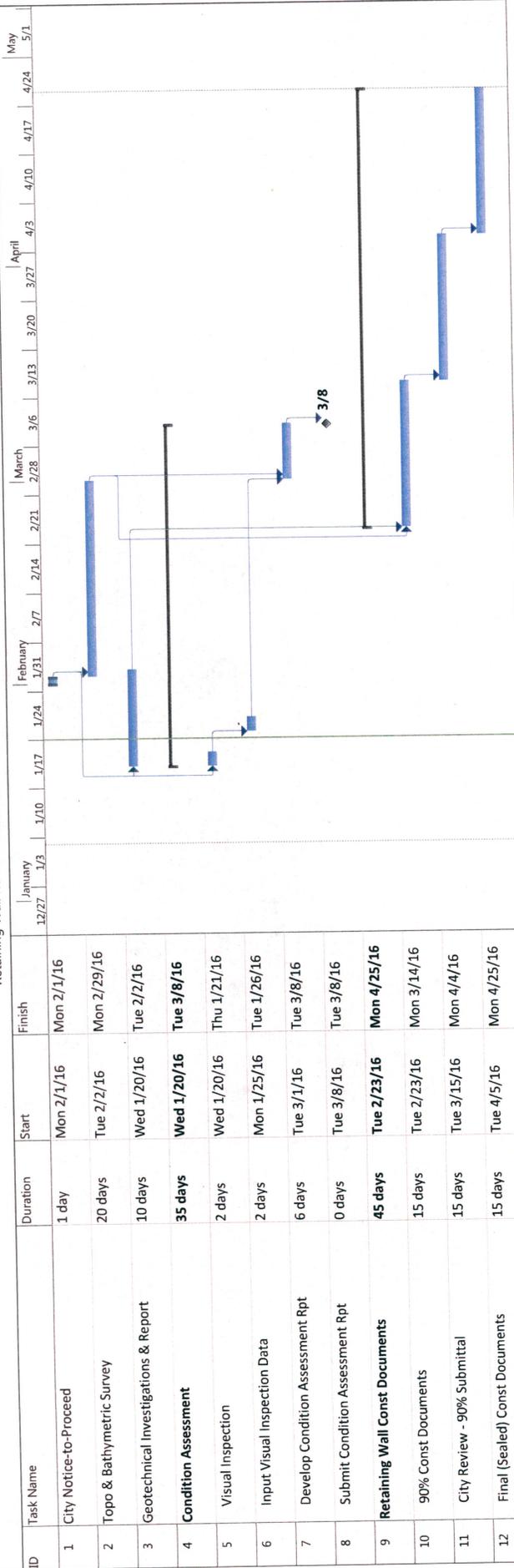
#### **Task 6D - Class III Archaeological Survey**

Archaeologist will examine records in the Arizona State Museum's (ASM) online AZSITE database to determine the location of any previously conducted archaeological projects or previously recorded archaeological sites within a one-mile radius of the project area. Government Land Office (GLO) maps housed at the BLM and historic USGS maps will also be consulted to evaluate the possible presence and location of historic Euroamerican features on the property. The National Register Information Database will also be consulted to evaluate if National Register-listed properties are present within or adjacent to the project area. The site file search results will be included in the survey report.

Archaeologist will conduct a full pedestrian inventory of all undisturbed portions of the project area following Arizona State Museum (ASM) and SHPO inventory standards and guidelines. Disturbed areas will be cursorily examined for cultural resources. Archaeologists will walk parallel transects spaced not more than 20 m apart. A Registered Professional Archaeologist (RPA) who meets the National Secretary of the Interior's professional standards will head the fieldwork.

Archaeologist will prepare a report that meets all ASM and SHPO standards. The report will include a review of the project area's environmental setting, a condition assessment of the project area, the results of the literature review, a description of the field methods, a detailed description of the survey results, and recommendations for site avoidance or mitigation (if applicable). Archaeologist will submit this draft report to the Client for review and consult with the Client on the results of the project.

Kings View Condos Bridgewater Channel Erosion  
Retaining Wall Reconstruction & Sea Wall Condition Assessment



Project: 20160109-Kings View  
Date: Sun 1/24/16

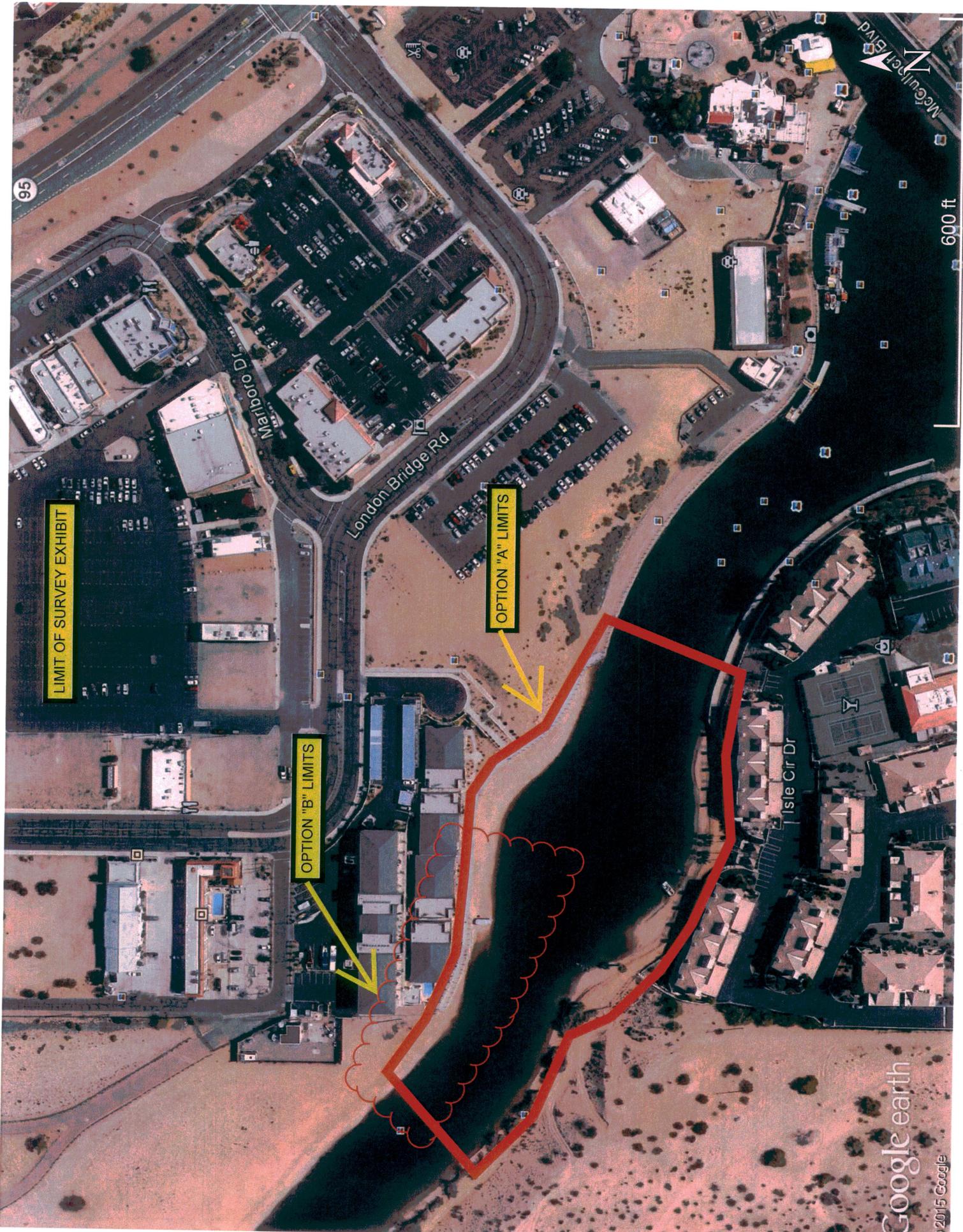
Task Split Milestone Summary

Project Summary Inactive Task Inactive Milestone Inactive Summary

Manual Task Duration-only Manual Summary Rollup Manual Summary

Start-only Finish-only External Tasks External Milestone

Deadline Progress Manual Progress



LIMIT OF SURVEY EXHIBIT

OPTION "B" LIMITS

OPTION "A" LIMITS

600 ft

Google earth

© 2015 Google



# Seafloor

## datasheet

## HydroLite-TM™

### benefits

- portable, integrated hydrographic survey solution
- adaptable to any vessel
- wireless data transfer
- meets IP-65 standards
- quickly export xyz data



Bathymetric image using single beam echosounder.  
Image provided by CBEC Engineering, Inc.

### about

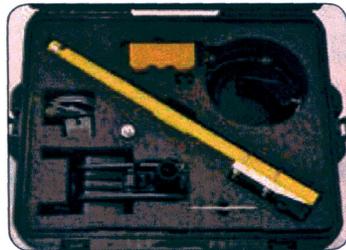
The HydroLite-TM™ should be included in every survey and engineering company's standard equipment kit for hydrographic surveying. Developed to meet the requirements of the U.S. Army Tactical Dive Teams, the rugged, wireless HydroLite-TM™ looks and feels like your traditional survey instrument. It quickly measures and logs depths more accurately than standard systems, making fast work of ponds, rivers, lakes, and more.



HydroLite-TM in river



HydroLite-TM mounted on HyDrone-RCV



Rugged Pelican case



HydroLite-TM™

### scope of supply

- Sonarmite Echosounder Kit
- Hydrolite Boat Mount/Pole Kit
- Pelican Case
- User Manual / Training Manual
- 1-year support and warranty

### options

- Coast Guard beacon receiver
- PC data acquisition
- digital bar check
- Tide Gauge

### echosounder

- frequency 200-KHz
- beam width: 4°
- ping rate: 6-Hz
- depth accuracy: 1cm / 0.1% of depth
- output formats: NMEA, ASCII, Quality
- range: 0.3m–75m
- I/O: serial, Bluetooth
- power: rechargeable 12v battery
- compatibility: Trimble, Leica, Topcon, Sokkia, Epoch, Ashtech, Magellan, Carlson

### Seafloor Systems, Incorporated

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(530) 677-1019 · [info@seafloorsystems.com](mailto:info@seafloorsystems.com) · [www.seafloorsystems.com](http://www.seafloorsystems.com)

### Budget Summary

Task 1 – Data Collection & Project Management	\$4,851
Task 2 – Condition Assessment	\$7,783
Task 3 – Topographic & Bathymetric Survey	\$9,960
Task 4 – Retaining Wall Construction Documents	\$14,116
Task 5 – Geotechnical Investigations	\$7,000
<b>Total Base Fee:</b>	<b>\$43,710</b>
Task 6 (Contingency) – Permitting Support	\$17,600
<b>Total Contingency Fee:</b>	<b>\$17,600</b>
<b>Estimated Expenses:</b>	<b>\$2,000</b>
<b>Total Proposed Contract:</b>	<b>\$63,310</b>

### Exclusions

The following items/services are not included in this scope of work and fee proposal. If these items/services are determined to be required, a separate agreement by contract amendment or new contract shall be coordinated between Lake Havasu City and Kimley-Horn.

- Additional areas outside the project limits reflected in Figure 1
- Final design construction documents for areas beyond the Kings View Condominiums that has currently failed (westernmost segment approximately 100 feet)
- Permit fees
- Environmental services including clearances
- Utility potholing
- Legal descriptions and exhibits for land acquisition and/or agreements
- Public meetings
- Landscape architecture
- Construction phase services
- Additional field work
- Additional cultural resources work
- Additional environmental study preparation
- Preparation and processing of an Individual Permit application
- Preparation of a mitigation plan (other than in-lieu fee)
- Additional meetings with the Corps
- Preparation of a Section 401 Certification application
- Coordination with the Arizona Department of Environmental Quality (ADEQ)
- Additional meetings with the Client not included in this scope

**DERIVATION OF COST PROPOSAL SUMMARY**

(Figures Rounded To The Nearest \$1)

**KIMLEY-HORN DESIGN BASE FEE**

CLASSIFICATION	PERSON HOURS	BILLING RATE/HOUR	TOTAL
Senior Project Manager	21	\$ 220.00	\$ 4,620
Project Manager	70	\$ 195.00	\$ 13,650
Project Engr	24	\$ 144.00	\$ 3,456
Engr/Designer	-	\$ 106.00	\$ -
Technician/Drafter	52	\$ 91.00	\$ 4,732
Administrative	4	\$ 73.00	\$ 292
	171	Hours	

Subtotal Kimley-Horn Design Base Fee \$ 26,750

**ESTIMATED OUTSIDE SERVICES AND CONSULTANTS**

Firm	Cost	Compensation Method
Accurate Professional Land Surveying	\$ 9,960	
RAMM (Geotech Investigations)	\$ 7,000	
		Subtotal Estimated Outside Services <span style="border: 1px solid black; padding: 2px;">\$ 16,960</span>

**DESIGN CONTINGENCIES**

Permitting Support	\$ 17,600	
		Subtotal Kimley-Horn Design Allowances <span style="border: 1px solid black; padding: 2px;">\$ 17,600</span>

**ESTIMATED DIRECT EXPENSES**

Miscellaneous Expenses	\$ 2,000	
		Subtotal Estimated Expenses <span style="border: 1px solid black; padding: 2px;">\$ 2,000</span>

**TOTAL PROJECT COST** **\$ 63,310**

\_\_\_\_\_  
Consultant Firm Signature

\_\_\_\_\_  
Date

Kings View Condo Bridgewater Channel Erosion  
Retaining Wall Reconstruction & Erosion Mitigation Assessment  
DESIGN BASE FEE

ESTIMATED STAFF HOURS

TASK	Scale	No Shts	Sr. PM	PM	ProjEngr	Engr/Design	Tech	Admin	Total	Cost
			\$ 220.00	\$ 195.00	\$ 144.00	\$ 106.00	\$ 91.00	\$ 73.00		1.00
<b>Task 1 Data Collection &amp; PM</b>										
1	Visit Site, Pictures, Video, Observe Conditions	N/A	N/A	9					9	\$ 1,755
2	Collect and Analyze Record Documents	N/A	N/A	4		4			8	\$ 1,244
3	Coordinate Survey	N/A	N/A	2					2	\$ 390
4	General Project Management	N/A	N/A	6				4	10	\$ 1,462
<b>Subtotal Task 1 Data Collection &amp; PM</b>										\$ 4,851
<b>Task 2 Conceptual Design</b>										
1	Visual Inspection	N/A	N/A	9					18	\$ 3,735
2	Develop Condition Assessment Report	N/A	N/A	4		8			16	\$ 2,388
3	Condition Assessment/Alts Mfg	N/A	N/A	4					8	\$ 1,660
<b>Subtotal Task 2 Conceptual Design</b>										\$ 7,783
<b>Task 3 Topo/Bathymetric Survey</b>										
1	Topo/Bathymetric Survey	N/A	N/A							\$ 9,960
<b>Subtotal Task 3 Topo/Bathymetric Survey</b>										\$ 9,960
<b>Task 4 Retaining Wall CDs</b>										
1	Construction Drawings	N/A	N/A	16	24	40			80	\$ 10,216
2	Specifications	N/A	N/A	8					8	\$ 1,560
3	Meetings	N/A	N/A	12					12	\$ 2,340
<b>Subtotal Task 4 Retaining Wall CDs</b>										\$ 14,116
<b>Task 5 - Geotechnical Investigations</b>										
1.1	Geotechnical Investigations	N/A	N/A							\$ 7,000
<b>Subtotal Task 5 - Geotechnical Investigations</b>										\$ 7,000
<b>Totals</b>			21	70	24	52	4		171	\$ 43,710

Kings View Condo Bridgewater Channel Erosion  
Retaining Wall Reconstruction & Erosion Mitigation Assessment  
DESIGN CONTINGENCIES

ESTIMATED STAFF HOURS

TASK	Scale	No Shts	Sr. PM	PM	ProjEngnr	Engnr/Design	Tech	Admin	Total	Cost
			\$ 220.00	\$ 195.00	\$ 144.00	\$ 106.00	\$ 91.00	\$ 73.00		1.00
<b>Task 6 (Contingency) - Permitting Support</b>										
1	Permitting Support	N/A	N/A	8		8			16	\$ 2,408
A	Preliminary Jurisdictional Delineation (PLD)	N/A	N/A	8		2		1	8	\$ 1,560
	Field Work	N/A	N/A	5					8	\$ 1,260
	Tech Memo	N/A	N/A	1					1	\$ 195
	Comment Responses	N/A	N/A							
B	404 Nationwide Permit Application	N/A	N/A	20		3		2	25	\$ 4,364
	Pre Construction Notification	N/A	N/A	6					6	\$ 1,170
	Coordination/Submittal	N/A	N/A							
C	Biological Evaluation	N/A	N/A	16				1	17	\$ 3,193
D	Class III Architectural Survey	N/A	N/A							\$ 3,450
<b>Subtotal Task 6 (Contingency) - Permitting Support</b>										
				64		13		4	81	\$ 17,600
<b>Totals</b>										
				64		13		4	81	\$ 17,600

