

Budget Category and Line Item	Current Approved Budget				Spent												Total Spent as of 12/31/2014	Balance
	Rate	Unit	#	Total	Quarter 1			Quarter 2			Quarter 3			Quarter 4				
PERSONNEL					Rate	#	Total	Rate	#	Total	Rate	#	Total	Rate	#	Total		
Personnel 1: Hon Project Director	0	month	24	0.00	0.00	3	0.00			0.00			0.00				0.00	0.00
Personnel 2: Project Coordinator	750	month	24	18,000.00	500.00	3	1,500.00			0.00			0.00				1,500.00	16,500.00
Personnel 3: Senior Architect	525.00	month	24	12,600.00	566.67	3	1,700.01			0.00			0.00				1,700.01	10,899.99
Personnel 4: Field Monitoring	330.00	month	24	7,920.00	373.33	3	1,119.99			0.00			0.00				1,119.99	6,800.01
Personnel 5: Site Supervision	500.00	month	24	12,000.00	330.00	3	990.00			0.00			0.00				990.00	11,010.00
Personnel 6: Procurement	225.00	month	24	5,400.00	235.11	3	705.33										705.33	4,694.67
Personnel 7: Site Works	250.00	month	24	6,000.00	250.00	3	750.00										750.00	5,250.00
Personnel 8: Field Coordination	264.00	month	24	6,336.00	239.11	3	717.33										717.33	5,618.67
Personnel 9: Accounts	160.00	month	24	3,840.00	160.00	3	480.00										480.00	3,360.00
Total Personnel	3,004.00			72,096.00	2,654.22	3	7,962.66			0.00			0.00				7,962.66	64,133.34
FRINGE BENEFITS																		
Fringe Benefit 1				0.00			0.00			0.00			0.00				0.00	0.00
Fringe Benefit 2				0.00			0.00			0.00			0.00				0.00	0.00
Fringe Benefit 3				0.00			0.00			0.00			0.00				0.00	0.00
Total Fringe Benefits				0.00			0.00			0.00			0.00				0.00	0.00
Travel																		
Travel 1: Documentation Centre	120.00	each	18	2,160.00	120.00	8	960.00			0.00			0.00				960.00	1,200.00
Travel 2: Hon Project Director	120.00	each	21	2,520.00	120.00	4	480.00			0.00			0.00				480.00	2,040.00
Travel 3: Project Coordinator	170.00	each	40	6,800.00	120.00	7	840.00			0.00			0.00				840.00	5,960.00
Travel 4: Monitoring	170.00	each	24	4,080.00	170.00	3	510.00										510.00	3,570.00
Travel 5: Conservation Civil Engr.	450.00	each	4	1,800.00	519.25	1	519.25										519.25	1,280.75
Travel 6: Evaluation Committee	450.00	each	6	2,700.00	330.00	1	330.00										330.00	2,370.00
Total Travel				20,060.00			3,639.25			0.00			0.00				3,639.25	16,420.75
Equipment																		
Equipment 1				0.00			0.00			0.00			0.00				0.00	0.00
Equipment 2				0.00			0.00			0.00			0.00				0.00	0.00
Equipment 3				0.00			0.00			0.00			0.00				0.00	0.00
Total Equipment				0.00			0.00			0.00			0.00				0.00	0.00
Supplies																		
Supply 1: Technical	Lot	Lot	1	6,500.00	224.48	1	224.48			0.00			0.00				224.48	6,275.52
Supply 2: Furniture	Lot	Lot	1	5,200.00	0.00	1	0.00			0.00			0.00				0.00	5,200.00
Supply 3: Site Teams	Lot	Lot	1	10,000.00	623.00	1	623.00			0.00			0.00				623.00	9,377.00
Supply 4: Workshop	Lot	Lot	1	8,000.00	664.00	1	664.00			0.00			0.00				664.00	7,336.00
Supply 5: General Office	300.00	month	24	7,200.00	188.87	3	566.61										566.61	6,633.39
Supply 6: Site supply bamboo etc	Lot	Lot	1	14,000.00	1,321.00	1	1,321.00										1,321.00	12,679.00
Supply 7: Site supply lime/grvel etc	Lot	Lot	1	27,000.00	1,345.00	1	1,345.00										1,345.00	25,655.00
Supply 8: Sundry materials	Lot	Lot	1	31,500.00	3,546.61	1	3,546.61										3,546.61	27,953.39
Total Supplies				109,400.00			8,290.70			0.00			0.00				8,290.70	101,109.30
Contractual																		
Contractual 1: Physical Survey	Lot	Lot	1	5,000.00	855.00	1	855.00			0.00			0.00				855.00	4,145.00
Contractual 2: Conservation Engr	Lot	Lot	1	4,000.00	2,000.00	1	2,000.00			0.00			0.00				2,000.00	2,000.00
Contractual 3: Geotechnical study	Lot	Lot	1	3,000.00	1,750.00	1	1,750.00			0.00			0.00				1,750.00	1,250.00
Contractual 4: Condition Survey	Lot	Lot	1	4,000.00	0.00	1	0.00										0.00	4,000.00
Contractual 5: Evaluation	Lot	Lot	1	3,000.00	328.00	1	328.00										328.00	2,672.00
Contractual 6: Master Artisans	900.00	month	21	18,900.00	619.00	3	1,857.00										1,857.00	17,043.00
Total Contractual				37,900.00			6,790.00			0.00			0.00				6,790.00	31,110.00
Construction																		
Construction 1	0.00			0.00			0.00			0.00			0.00				0.00	0.00
Construction 2	0.00			0.00			0.00			0.00			0.00				0.00	0.00
Construction 3	0.00			0.00			0.00			0.00			0.00				0.00	0.00
Total Construction				0.00			0.00			0.00			0.00				0.00	0.00
Other Direct Costs																		
Other Direct Cost 1:Telephone etc	120.00	month	24	2,880.00	224.00	3	672.00			0.00			0.00				672.00	2,208.00
Other Direct Cost 2:Utilities	300.00	month	24	7,200.00	285.00	3	855.00			0.00			0.00				855.00	6,345.00
Other Direct Cost 3:Site Laboiur	500.00	month	21	10,500.00	512.00	3	1,536.00			0.00			0.00				1,536.00	8,964.00
Total Other Direct Costs				20,580.00			3,063.00			0.00			0.00				3,063.00	17,517.00
Indirect Costs																		
X%	0.00			0.00			0.00			0.00			0.00				0.00	0.00
Total Indirect Costs				0.00			0.00			0.00			0.00				0.00	0.00
USG Total				260,036.00			29,745.61			0.00			0.00				29,745.61	230,290.39
Cost Share																		
Cost Share 1: Personnel	287.50	month	24	6,900.00	287.50	3	862.50			0.00			0.00				862.50	6,037.50
Cost Share 2: Travel	120.00	month	24	2,880.00	120.00	3	360.00			0.00			0.00				360.00	2,520.00
Cost Share 3: Computer etc	2,300.00	lot	1	2,300.00	2,300.00	1	2,300.00			0.00			0.00				2,300.00	0.00
Cost Share 4: Courier/Photocopy	3,600.00	lot	1	3,600.00	276.00	1	276.00										276.00	3,324.00
Cost Share 5: Rent & Security	500.00	month	24	12,000.00	500.00	3	1,500.00										1,500.00	10,500.00
Total Grantee Cost Share Costs				27,680.00			5,298.50			0.00			0.00				5,298.50	22,381.50
GRAND TOTAL				287,716.00			35,044.11			0.00			0.00				35,044.11	252,671.89

# US Ambassador's Fund for Cultural Preservation

## ***Tombs of Sultan Ibrahim & Amir Sultan Muhammad at WHS Makli, Thatta***

### *Progress Report First Quarter - 2014/009-012*



**1st- 30th September, 2014**

An agreement for the AFCP Project of the Tombs of Sultan Ibrahim and Amir Sultan Muhammad was signed on the 15th of September between US Embassy, Islamabad, and C.E.O, Heritage Foundation of Pakistan (HF) Ar. Yasmeen Lari. Over the next two years, the project will undertake the conservation of two 17th century tombs along with setting up of a documentation center and training workshops for various building crafts required at site. An official announcement of the project was made when the US envoy H.E. Richard G. Olson visited the site with a team from the US consulate in Karachi, along with the Minister of Culture, Government of Sindh, Hon'ble Ms. Sharmila Farooqi. Various preparation were undertaken by HF on site including the construction of a boundary fencing around the two tombs and setting up of tent pavilions and refreshments for participants.

The visit was eventful, with the Ambassador and his team visiting the entire length of the World Heritage Site and making detailed visits of over 10 different tombs. The Ambassador showed great appreciation of the the heritage assets, and paid special attention to detailed inscriptions carved in stone at the various monuments. The visit ended with a lunch hosted by Government of Sindh and a detailed discussion between Mr. Richard Olson, Ms. Sharmila Farooqi, Ar. Yasmeen Lari, and US Consul General Brian Heath, Director, Archaeology and Museums, Mr. Qasim Ali Qasim, and other participants about the project and the way forward.



*H.E. Ambassador Olson announcing the AFCP award to HF at Makli*



*Welcome by Hon'ble Minister Ms. Faruqi*



*Delegation at Tomb of Jam Nizam al-Din*



*Delegation visiting the Tomb of Dewan Shurfa Khan*



It has been decided that all costs incurred prior to the 1st of October will be borne by HF as part of its contribution to the project.

### ***1st – 31st October***

The MoU between Government of Sindh and HF for work on the project was signed in a ceremony arranged by Culture Department, Government of Sindh. The MoU was signed in the presence of the Minister Hon'ble Ms. Sharmila Faruqi, on 15th October, 2014 between Secretary, Culture Department, Mr. Aijaz Ahmed Memon, and CEO, HF Ar. Yasmeen Lari. The MoU provides facilitation to HF for undertaking work at the Tombs of Sultan Ibrahim and Amir Sultan Muhammad.

For additional works at site, including the setting up of artisans workshops near the southern entrance and refurbishment of kilns at the eastern boundary of the site, permission was granted to HF by the Department. A verbal permission was issued by the Director, Archaeology and Museums, Government of Sindh on 31st of October, 2014, while a written permission was received by Heritage Foundation on the 5th of November, 2014.

The month of October was also spent in identifying the various consultants required for the various studies to be conducted at site and necessary formalities were completed.

The names of Technical Consultative Committee members were finalized for consultation and involvement at various stages of work.



*Welcome speech by Director, Archaeology*



*Secretary Culture Department at MoU signing*



*Construction of boundary fencing at Tomb*



*Construction of Boundary fencing at Tombs of Sultan Ibrahim and Amir Sultan Muhammad.*



### **1st – 30th November**

With a permission received from the Department of Culture for setting up artisan's workshops at the site, and a refreshments corner, work by HF was begun in the designated area in the buffer zone of the site during the first week of November.

Additionally, permission was granted for the rehabilitation of existing brick kilns at the site, which were also undertaken. Signage was also placed at the Tombs of Sultan Ibrahim and Amir Sultan Muhammad indicating the work being undertaken at the monuments.

In view of absence of regular water supply, it was considered essential to arrange for supply of water for work to be undertaken at the site. HF undertook the installation of a supply line to the buffer zone, in the designated area for artisans' workshops. A pipeline was also installed near the Tomb of Sultan Ibrahim for ease of supply once conservation work is undertaken.

The first outreach program was held at Makli on the 7th of November. 90 students from 7 schools in the vicinity of the World Heritage Site, along with over 30 university students from Mehran University of Jamshoro and Indus Valley School of Art and Architecture, US Consul General and several other members from the US consulate in Karachi participated in the event. School children painted heritage themed large murals, while university students and other volunteers helped in cleaning of the tombs of Sultan Ibrahim and Amir Sultan Muhammad. (Annex A-1)



*Progress of cluster of artisan's workshops, Buffer Zone, WHS Makli*



*Signage: Tomb of Sultan Ibrahim & Amir Sultan*



*Installation of water supply line at Makli*



*Heritage cleaning and heritage mural painting day at Tomb of Sultan Ibrahim & Amir Sultan*



It was important for studies on site to be undertaken at the earliest. In this regard, Heritage Conservation Engineer, Engr. Amin Tariq, MD, Amin Tariq Associates undertook an initial visit to assess the damages and make a preliminary report (Annex A-2). The final structural rehabilitation report will be prepared once geo-technical studies have been completed.

Geo-technical studies were begun by Consolidated Engineering Services led by Engr. Danish. Mobilization to the site was undertaken by the second week of November, with a plan to complete work by the end of the month. The field teams, however encountered various problems: the initial smaller machine was unable to cut through the hard stone along the edge of the ridge, and had to be replaced with a larger drilling machine. The second machine also had several problems as the hard core of the rock made drilling impossible, with drill bits constantly breaking and several boreholes had to be abandoned and restarted at a different position. All four boreholes were completed after three weeks, two weeks beyond the estimated time. The finalized report of the geo-technical studies will be available by mid-December.



*Visit by Amin Tariq for preliminary evaluation of the tombs*



*Initial machine brought to the site which was unable to conduct tests*



*Setting up of the second, much larger machine for soil investigation*



*Core samples from geotechnical soil investigation*



*Discussion with Osmani & Co. at Makli on physical survey drawings*



*Survey being conducted with total station on site*



Physical surveys were undertaken by Osmani & Co, under the guidance of Engr. Atif Osmani. The field teams were deputed to the site during mid-October. Since drawings of the best quality are required for all conservation work to be planned and assessments of the building be accurate, it was decided that another surveyor would also be engaged. The intricacies of the interior of the building and minor damaged to walls required detailed surveying, that would not be possible for one team to complete in time.



*Visit by survey engineers from Orbit Geodetic Services to the Tomb of Sultan Ibrahim*

Various further quotations were sought and Orbit Geo Tech Services were engaged to complete the task. It is estimated that the physical survey will be completed in the month of December. Due to the various issues on site, HF architects began a parallel study of the structure, including hand measured drawings and photo documentation.



*Heritage Foundation teams conduct studies at site*

Inclusion of the local community as stakeholders of the site is considered an essential part of the project goals and aims. A detailed survey of the village that lies to the east of the site was undertaken. It was found that the communities living on the dried river bed have makeshift homes constructed with reeds and straw. HF is exploring the possibility of helping the community with its disaster preparedness program, along with developing their stake in heritage safeguarding.



*Community living along the river bed near the tomb of Sultan Ibrahim and Amir Sultan*

In addition to other regular visits that are being undertaken by other HF staff, Ar. Hina Zaidi, made a monitoring visit on 27th November. It matches work on site to set targets and prepares an internal evaluation for the project to assess if goals for the timeline have been met.



*Monitoring visit by Ar. Hina Zaidi at site to measure progress for project goals*



**1st – 31st December, 2014**

As the month of December began, various activities were begun on site. HF artisans fabricated and installed a module of the external scaffolding made of bamboo. The scaffolding was erected on the South West External Façade and was fabricated to test how workers would be able to reach the highest point of the dome and drum. After fabrication, it was determined that subsequent scaffoldings would be of a shorter span for ease of movement to other façade and elevations. Additionally, measures were undertaken to ensure safety of workers who would be above ground.

All openings have been blocked to restrict entry to avoid damage by visitors. Since the work is proceeding, it is important that un-authorise persons should not enter which can be cause of dmaage. Additionally, all opening were also closed with a metallic netting to keep out various pests i.e. squirrels and birds that were currently occupying and damaging internal walls of the main tomb. Since there are bird nests which are a cause of pollution as well as dmage to the fragile surfaces carrying stone carved interlacemets, freso decoration and stucco work.



*Erection of scaffolding along South-West facade*



*Erection of Bamboo Scaffolding along South-West Facade*



*Blocking openings with bamboo doors*



*Blocked opening with bamboo door*



*Placement of metallic mesh on all openings*



The artisans also reached the completion stage of the artisan's cluster of workshops at the site and the remaining finishing touches including final finished stone flooring. Since the site is now fully mobilized with HF supervisory staff and artisans being trained to learn to handle various delicately executed surfaces, the site is being readied to undertake the test patches and various samples of mortars and investigations that must be completed before the first Consultative Committee meeting scheduled to be held on 6th March. As artisans have been identified and more interviews and investigations taking place, the workshop area is expected to be functional by March 2015.

A master artisan permanently employed with the Department of Culture was interviewed and various articles required for the process were noted. The various chemicals, moulds, forms and tools required will be purchased in the coming months to ensure that the artisans can begin their trainings as per the project schedule.

Since all work to be undertaken at the site requires the use of slaked lime which has been cured for a minimum of three months, the existing lime pits on the site constructed by the Department of Archaeology at various times were identified and cleaned. New high quality lime was purchased and slaked.

With the water supply lines installed during the past months, it was possible to ensure that all lime slaked on site used clean portable water that could replenish the pits on a daily basis. It was also decided that testing of other sources of lime would also be undertaken to ensure that lime used for various purposes could be differentiated.

With the monuments being neglected for many years, the tombs have been defaced with various forms of graffiti, i.e.



*Artisan Clusters nearing completion at Makli*



*Stone flooring being prepared on Site*



*Cleaning graffiti that defaces the monument*



*Cleaning being undertaken on Site*



*Removing tough enamel paint from groves between stone carving*



with spray paints, scratched surfaces, charcoal, pens, pencils and markers. A thorough cleaning undertaken over many months with dry soft bristle brushes, gentle organic acid free soap, alkaline powders and other gentle cleaners has been initiated. The cleaning methods were first experimented on small sections of the building to ensure that no further damage would be caused to the monuments and subsequently implemented all along the facades of the tombs.

It was decided that since work had begun on site, an information display space would be constructed near the site. This space would hold various panels of information on the details of the project, i.e. a short history of the tomb and prior work of conservation undertaken, project time line and milestones achieved, conservation work being undertaken during the month along with a small sample area. The layout of the display space was undertaken and construction begun. The completion of the unit has been set to the end of February, 2015.

As mentioned earlier, the site work of the Geo-technical Study was completed and all samples had been sent to the laboratories for analysis by November. The Study's report was submitted on 17th December, 2014 and the results of the findings were forwarded for further analysis by the Structural Consultant. An evaluation report along with possible solutions to the issues on site would be furnished by Amin Tariq and Associates by the early January, 2014.

Due to the complex nature of the building and its defects, the physical survey of the building has proven to be the most testing activity thus far. Two separate consultants had been engaged, but after various on-site discussions, meetings in Karachi, peri-



*Layout of display area near Sultan Ibrahim*



*Work being undertaken for construction of display space at Sultan Ibrahim*



*Physical Survey being undertaken at Sultan Ibrahim*



*Smoking wasp infestation between walls*



odic sharing of information and drawings, the final output of drawings by both consultants was not according to the requirements specified by structural consultants. Defects in the form of bulges, leans of walls, damage to masonry and squinches could not be highlighted by the as-built drawings prepared. Therefore, it was decided in the middle of December, that the physical survey and further details would be completed in-house by HF itself.

Alongside completion of physical survey, a photogrammetric documentation was undertaken. This involves the capturing of the built structure with the use of a GPS camera followed by rigorous processes in various software, to prepare a 3d model, which represents the complete condition of the monuments. The 3d model can then be used to prepare as built drawings, complete the conjectural information of the conservation process and highlight the various defects in the structure. Detailed drawings are being prepared in order to record each and every part of the subject structures. As valuable time was spent in preparing drawings, it was decided that Damage Assessments and Condition Surveys would be undertaken in a parallel fashion. Accordingly, condition survey and various treatments are in the process of finalization, for which services of Conservation Specialist, Ms. Saba Samee have been procured for finalization of the report in Febraury 2014.

The monitoring visit due on 25th December was undertaken by Ms. Hina Zaidi, which matched work progress to project timeline and found that although the team had encountered various problems on site and with consultants, work could be completed according to time schedule.



*Roof details being developed for Photogrammetric Documentation*



*Internal view being developed for Photogrammetric Documentation*



*HF personnel undertaking Photogrammetric Documentation*



*External views being developed for Photogrammetric Documentation*