Agenda Item No. 15.

Staff Report

Date: July 13, 2017

To: Mayor Robbins and Council Members

From: Richard Simonitch, Public Works Director/Town Engineer
Joe Chinn, Town Manager

Subject: Three Bear Hut and Natalie Coffin-Greene Park rehabilitation project status report and presentation by Consultant Garavaglia Inc.

Recommendation:
Staff recommends that the Town Council review the conceptual drawings, plans and methods of rehabilitation and provide input and recommendations to finalize the project scope and develop accurate cost estimates.

Background and discussion:
Three Bear Hut (the structure) was constructed in 1935-36 by the Civilian Conservation Corps (CCC). Designed in the so-called "Park Rustic" style, the picnic shelter is based on a standardized prototype called the "rock-type" shelter developed by the National Park Service for CCC projects. The structure is a rare and intact example of a Park Rustic-style public building constructed in Marin County during the Depression and is indeed a unique and valuable public resource for the citizens of Ross. Unfortunately, the structure is now in a serious state of disrepair and the failing roof structure is a hazard to the public. The structure is located on Town property in Natalie Coffin-Greene Park (NCGP), another significant public resource in Ross whose facilities and grounds require repair and rehabilitation.

As a first step toward developing a comprehensive rehabilitation plan, the Town contracted with Ver Plank Historic Preservation Consulting in 2016 to prepare a Historic Resource Evaluation Report (HRER) to analyze Three Bear Hut for its historical significance and eligibility for listing in the California Register of Historic Resources. Ver Plank found the structure to be eligible due to its association with the CCC and its rare and intact example of the "Park Rustic" style of architecture. At a regular Town Council meeting held on November 10, 2016, Town Council authorized staff to contract with a qualified architect to prepare plans and estimates for the rehabilitation of the structure under the Secretary of the Interior's *Standards for the Treatment of Historic Properties*. Garavaglia Inc. was the only firm to provide a qualified response and in March of 2017 the Town entered into a contract with Garavaglia to develop a work plan and prepare bid-ready plans specifications and estimates (PS&E) for the Three Bear Hut Rehabilitation Project. The PS&E for the Park site renovations are being prepared by the Town's Engineering staff and consultants. Conceptual renderings of the Three Bear Hut restoration and the proposed site plans for the park are included as an attachment to this staff report.

Phase One of the total project is the rehabilitation of the Three Bear Hut structure itself. Rehabilitation methods for the wood members of the structure will consist of removal and replacement of the deteriorated sections combined with epoxy injection. A detailed work plan and preliminary cost estimate for the rehabilitation of the structure is included as an attachment to this staff report. Phase Two will be the rehabilitation of the NCGP park area, including the restoration and installation of the picnic tables, improved pedestrian accessibility, group seating, and interpretive signage. Because of the diverse labor trades and specialty contractors needed for the project, the two phases will likely be bid under separate contracts. The parking lot area is a stand-alone project that may qualify for storm water grant funding and is therefore not included within the scope of this site plan.

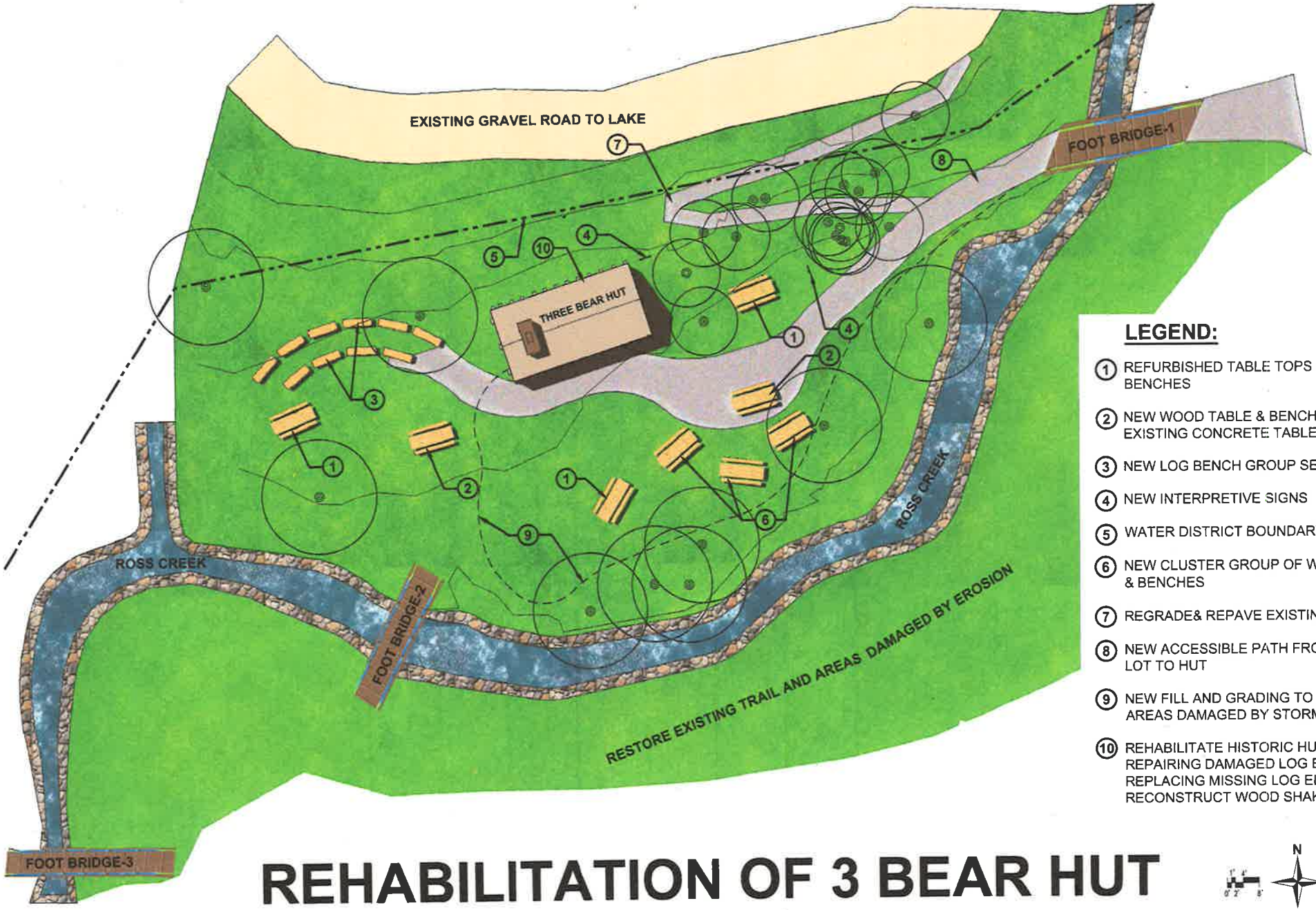
Staff is requesting direction from Town Council and the Public in the form of comments and suggestions regarding project elements and methods of construction prior to authorizing the consultants to proceed with final construction documents.

Fiscal, resource and timeline impacts:
Construction costs for both Three Bear Hut and the Natalie Coffin-Greene Park rehabilitation projects are expected to be in the $300,000-$400,000 range over FY17-18 and FY18-19. Funding for construction costs will be made up by donations and fundraising efforts. Funding for the HRER, architectural design development, engineering, and other "soft" costs for both projects are provided by $78,000 allocated under the Town facilities and equipment account 9062-66.

Environmental review (if applicable)
This project is exempt under the California Environmental Quality Act.

Attachments
1. Site plans and renderings.
2. Three Bear Hut Repair Plan
3. Three Bear Hut Preliminary Assessment Estimate

ATTACHMENT 1



LEGEND:

1. REFURBISHED TABLE TOPS & NEW BENCHES
2. NEW WOOD TABLE & BENCH IN PLACE OF EXISTING CONCRETE TABLE & BENCH
3. NEW LOG BENCH GROUP SEATING
4. NEW INTERPRETIVE SIGNS
5. WATER DISTRICT BOUNDARY
6. NEW CLUSTER GROUP OF WOOD TABLES & BENCHES
7. REGRADE& REPAVE EXISTING PATH
8. NEW ACCESSIBLE PATH FROM PARKING LOT TO HUT
9. NEW FILL AND GRADING TO RESTORE AREAS DAMAGED BY STORMS
10. REHABILITATE HISTORIC HUT BY REPAIRING DAMAGED LOG ELEMENTS, REPLACING MISSING LOG ELEMENTS, AND RECONSTRUCT WOOD SHAKE ROOF

REHABILITATION OF 3 BEAR HUT

SCALE: 1" = 10'-0"

N

REHABILITATION OF 3 BEAR HUT

REHABILITATION OF 3 BEAR HUT

ATTACHMENT 2

GARAVAGLIA ARCHITECTURE INC.
582 MARKET ST. SUITE 1800
SAN FRANCISCO, CA 94104

T: 415.391.9633
F: 415.391.9647

www.garavaglia.com

1 May 2017

3 Bear Hut
Ross, California

REPAIR PLAN – EXHIBIT

Stone
Minimal repair required at mortar joints adjacent to fireplace opening. One stone cracked. Damage likely from oxide jacking from steel lintel used at firebox opening.

Stones loose and missing at east end base at table. Stones may have been levered free by weight of table top as one or both log table legs tilted from deteriorating bottoms.

- loose stones may still be in area and just be buried or may have been removed or relocated by park visitors or maintenance staff

Stone surface floor of interior area is uneven due to natural surface of stone and the size and type of mortar joints.

Lichen and moss are very prominent on the exposed surfaces of the chimney above the roof. This does not present a concern for stone nor mortar joints at this time.

Carved graffiti is present on the southwest backrest of the bench by the fireplace. No indication of age of this damage.

Posts
In general the posts have centers that appear to be still solid structurally sound wood since there is no obvious signs of settlement or shifting of the roof structure. All posts have soft spots behind the solid shell of the log. The beginning of the deterioration varies in depth from the shell. Each post that has a split in the side had deterioration a short distance behind shell.

Each of the posts has deterioration within the saddle top the cradles the plate logs. The end grain of the post would likely not have been directly exposed to water intrusion if not for the failure of the roof assembly.

- the profile and the height of the saddle must be measured and photo documented before deteriorated wood is removed
- the deteriorated wood at top of post should be removed to the center of post leaving the still solid outer shell in place
    - the replacement filler within the shell would be an epoxy wood filler shaped to match existing saddle
    - an alternative would be to cut off top of saddle down to solid wood then fabricate a new top from same wood species and shaped to match the diameter profile of the existing post

The base may have deterioration that requires removal of bottom of post. There were no obvious signs during condition assessment that the center of base of posts is deteriorated to point of not being structurally sound.

- shell of logs, with exception of NW post, are solid with limited checks and some voids due to deterioration of diagonal brace.
    - an epoxy consolidant can be used at the deteriorated wood
    - voids in sides could be filled with dutchman shaped to match profile of log
- NW post has almost 1/4 +/- of the softwood missing from deterioration with a section of the shell missing at joint with stone on west elevation
    - one option would be to fill void with epoxy filler after consolidation
    - second option would be to remove the section of shell over the void and replace with a section of log shaped to match existing profile
- deteriorated wood behind the shell should be consolidated to prevent further deterioration
- if center is soft then bottom should be cut up to solid wood
    - the height cut off can be added to the height of the new saddle top to avoid two separate seams

Plates

The two plates have deterioration at tops due to the penetration of rafter attachments being exposed to water from roof assembly damage. The deterioration is limited to top 2" +/- of depth of log. The south plate has substantial side deterioration on the south face from chimney to mid-point of south entry. There is deterioration at each end of each plate.

- remove side deteriorated wood and replace with dutchman shaped to match profile of existing log
- remove deteriorated wood at ends back to solid wood and replace with log end following process similar to procedure noted in NPS Preservation Brief 26; replacement should be shaped to match existing diameter and profile of existing log

Diagonal Braces

The braces are typically deteriorated at two ends where it is in contact with a plate, a collar tie or a post. The damage is likely due to the exposure after failure of the roofing assembly. The southwest brace from post to plate is missing.

- remove the deteriorated wood at ends and replace with dutchman shaped to match profile of existing log and scribed to the existing log it is attached to

Spacer between Posts

There are two spacer logs between the eastern pair of posts with the one on the north side showing deterioration at both ends, more substantial on the west end. The spacer log on the south side is missing but left a round deteriorated void in side of easternmost post.

- remove the deteriorated wood at ends and replace with dutchman shaped to match profile of existing log and scribed to the existing log it is attached to
- replace the missing spacer log with diameter to match the diameter of the deteriorated void in the post with ends scribed to the posts

Ridge

The ridge is in two sections with each sitting is a stone pocket on east and west sides of the chimney. It was not obvious whether there was any deterioration of the pocketed end. The exposed ends showed signs of deterioration back about 12" from end. It could not be determined during assessment whether there is any deterioration of the top of the ridge log.

- remove any top deteriorated wood at under roof assembly and replace with dutchman shaped to match profile of existing log
- remove end deteriorated wood at ends back to solid wood and replace with log end following process similar to procedure noted in NPS Preservation Brief 26; replacement should be shaped to match existing diameter and profile of existing log

Collar ties
The collar tie logs are notched over the tops of the plate logs and beveled to fit below the 1x4 roof sheathing. Deterioration if present at the ends due to the failure of the roofing assembly.

- remove the deteriorated wood at ends back to solid wood and replace with dutchman shaped to match profile of existing log with notch and bevel.

King Posts
No obvious damage observed during condition assessment. An assessment should be conducted during disassembly to confirm condition of logs

- any beginnings of deterioration found should be treated with a consolidant to prevent further deterioration
- any substantial damage should be replaced with a dutchman shaped to match profile of existing log

Rafters
The rafters are typically notched over the ridge and over the plate. All of the rafters, including the rafter four tails at the chimney, have deterioration at the ends that extends back beyond the plate. The ends over the ridge do not appear to have any obvious damage. An assessment should be conducted during disassembly to confirm condition of those ends. The tops of the rafters may have deterioration due to deterioration of the roofing assembly. An assessment should be conducted during disassembly to confirm condition of tops of rafters.

- remove the deteriorated ends back to solid wood and replace with dutchman shaped to match profile of existing log with notch
    - a half lap joint can be used at most of the rafters to retain the solid bottom portion of the log
    - most rafters will retain the interior portion of notch at plate
    - a few rafters will require cutting back beyond the notch at plate
- if tops of rafters deteriorated then remove damage back to solid wood and replace with dutchman shaped to match profile of existing log

Roof Assembly
Both faces of roof have missing or severely deteriorated 1x6 (3/4"x5 5/8") straight roof sheathing. The existing sheathing may have been repaired or replaced since modern wire nails were used. Rot is evident in every sheathing board maybe with solid wood sections spanning up to three rafters at most.

- remove and replace the deteriorated 1x6 sheathing and replace with new 1x6 sheathing
- add plywood sheathing if required for structural upgrade
- apply a mineral cap sheet roofing membrane to achieve a Class A roof assembly
    - install flashing around chimney penetration
        - with irregular surface of stone a saw cut with sheet metal flashing may be best approach
- add a vent mat material over cap sheet to provide air flow below wood shakes
- replace deteriorated shakes with fire retardant treated wood shakes to match length, thickness and exposure of existing shakes

NOTES ON WOOD ELEMENTS:

1. All replace wood elements whether dutchman or whole log sections are to be treated with ____ to provide pest and rot resistance. Treatment should be done after cuts and shaping are complete but before final assembly.
2. Graffiti currently is on almost each log of the structure. Most are incised letters or carving into the shell of the log. Some are deeper cut than others so there is possibility that the less deeply cut ones can be eliminated by light sanding.
3. The logs all appear to have had some finish applied at one point but not clear whether this applied finish was original.
    a. Reapplying a finish to all of the logs may mask the less deeply carved graffiti as the light sanding.

Fireplace

The fireplace structure appears sound with exception of oxide jacking cracks in mortar and two stones adjacent to firebox opening.

- the lintel should be further inspected to determine extend of oxidation then decide whether it needs to be replaces or just be treated with a rust converter
- existing clay flue should be inspected for any damage in the liner
    - minor cracks may not be an issue with City want to use a pellet stove inserted in the firebox of the fireplace

ATTACHMENT 3

Leland Saylor Associates
A Certified DVBE

ASSESSMENT ESTIMATE

3 BEAR HUT

ROSS, CALIFORNIA

LSA JOB NUMBER:
17-061Ar1

June 13, 2017

PREPARED FOR
GARAVAGLIA ARCHITECTURE
BY LELAND SAYLOR ASSOCIATES

101 Montgomery St, Ste 800 | San Francisco | California | 94104
415-291-3200 | 415-291-3201 (f) | www.lelandsaylor.com

Leland Saylor Associates

PROJECT:	**3 BEAR HUT**	JOB NUMBER:	**17-061Ar1**
LOCATION:	**ROSS, CALIFORNIA**	PREPARED BY:	**EG**
CLIENT:	**GARAVAGLIA ARCHITECTURE**	BID DATE:	
DESCRIPTION:	**UPGRADE TO HISTORICAL WOOD STRUCTURE**	ESTIMATE DATE:	**6/13/2017**

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Leland Saylor Associates
A Certified DVBE

PROJECT:	**3 BEAR HUT**	JOB NUMBER:	**17-061Ar1**
LOCATION:	**ROSS, CALIFORNIA**	PREPARED BY:	**EG**
CLIENT:	**GARAVAGLIA ARCHITECTURE**	CHECKED BY:	**JS**
DESCRIPTION:	**UPGRADE TO HISTORICAL WOOD STRUCTURE**	ESTIMATE DATE:	**6/13/2017**

SECTION I

PREFACE AND NOTES TO THE ESTIMATE

Leland Saylor Associates
A Certified DVBE

PROJECT:	**3 BEAR HUT**	JOB NUMBER:	**17-061Ar1**
LOCATION:	**ROSS, CALIFORNIA**	PREPARED BY:	**EG**
CLIENT:	**GARAVAGLIA ARCHITECTURE**	BID DATE:	**EARLY 2018**
DESCRIPTION:	**UPGRADE TO HISTORICAL WOOD STRUCTURE**	ESTIMATE DATE:	**6/13/2017**

PREFACE AND NOTES TO THE ESTIMATE

1.0 PROJECT SYNOPSIS

1.1 TYPE OF STUDY:

ASSESSMENT ESTIMATE

1.2 PROJECT DESCRIPTION:

Construction Type:	EXISTING
Foundation Type:	REPAIR EXISITNG STONES
Exterior Wall Type:	NONE
Roof Type:	LUMBER
Stories Below Grade:	NONE
Stories Above Grade:	ONE
Sitework:	MINIMAL
Plumbing System:	N/A
Mechanical System:	N/A
Fire Protection System:	N/A
Electrical Service:	N/A

1.3 GENERAL NOTES REGARDING PROJECT:

REFURBISHMENT OF EXISTING LOG WOOD STRUCTURE WITH SEVERAL REPAIRS TO DETERIORATING WOOD & STONE CONDITIONS.

PREFACE AND NOTES TO THE ESTIMATE

2.0 DEFINITIONS

2.1 ESTIMATE OF COST:

An Estimate of Cost is prepared from a survey of the quantities of work - items prepared from written or drawn information provided at the design-development, working drawing or bid-documents stage of the design. Historical costs, information provided by contractors and suppliers, plus judgmental evaluation by the Estimator are used as appropriate as the basis for pricing. Allowances as appropriate will be included for items of work which are not indicated on the design documents provided that the Estimator is made aware of them, or which, in the judgment of the Estimator, are required for completion of the work. We cannot, however, be responsible for items or work of an unusual nature of which we have not been informed.

2.2 BID:

An offer to enter a contract to perform work for a fixed sum, to be completed within a limited period of time.

3.0 BIDS & CONTRACTS

3.1 MARKET CONDITIONS:

In the current market conditions for construction, our experience shows the following results on competitive bids, as a differential from Leland Saylor Associates final estimates:

Number of Bids		Percentage Differential
1	.....	+25 to 100%
2 - 3	.....	+10 to 25%
4 - 5	.....	0 to +10%
6 - 7	.....	0 to -10%
8 or more	.....	-10 to -20%

PREFACE AND NOTES TO THE ESTIMATE

Accordingly, it is extremely important to ensure that a minimum of 4 to 5 valid bids are received. Since LSA has no control over the bid process, there is no guarantee that proposals, bids or construction cost will not vary from our opinions or our estimate.

4.0 ESTIMATE DOCUMENTS

4.1 This Estimate has been compiled from the following documents and information supplied:

DRAWINGS:

Architectural	**Mechanical**	**Landscaping**
UNDATED	*NONE*	*NONE*
Structural	**Plumbing**	**Accessibility Standards**
UNDATED	*NONE*	*NONE*
Civil	**Electrical**	**Other**
NONE	*NONE*	*NONE*

SPECIFICATIONS / PROJECT MANUAL:
REPORT ONLY

COSTS PROVIDED BY OTHERS:
NA

4.2 The user is cautioned that significant changes in the scope of the project, or alterations to the project documents after completion of the assessment estimate can cause major cost changes. In these circumstances, Leland Saylor Associates should be notified and an appropriate adjustment made to the assessment estimate.

PREFACE AND NOTES TO THE ESTIMATE

5.0 GROSS SQUARE FEET

BUILDING	GSF
BUILDING	135
TOTAL GROSS SQUARE FEET	**135**

6.0 WAGE RATES

6.1 This Estimate is based on prevailing wage-rates and conditions currently applicable in ROSS, CALIFORNIA.

7.0 PRORATE ADDITIONS TO THE ESTIMATE

7.1 GENERAL CONDITIONS: 18.00%

An allowance based on 18.00% of the construction costs subtotal has been included for Contractor's General Conditions.

7.2 CONTINGENCY: 30.00%

An allowance based on 30.00% of the construction costs subtotal has been included for Design/Estimating Contingency.

NOTE: This allowance is intended to provide a Design Contingency sum only, for use during the design process. It is not intended to provide for a Construction Contingency sum.

7.3 ESCALATION: 5.00%

An allowance of 5.00% has been included in this estimate for construction material & labor cost escalation up to the anticipated mid-point of construction, based on the following assumptions:

PREFACE AND NOTES TO THE ESTIMATE

Construction start date:	**EARLY 2018**
Construction period:	**4 MONTHS**
Mid-point of construction:	**MID 2018**
Annual escalation rate:	**5.00%**
Allowance for escalation:	**5.00%**

No allowance has been made for Code Escalation or Technological Escalation.

7.4 PHASING ALLOWANCE 0.00%

No phasing in this Project.

7.5 BONDS & INSURANCE: 2.50%

An allowance of 2.50% of the construction cost subtotal is included to provide for the cost of Payment and Performance Bonds, if required.

7.6 CONTRACTOR'S FEE: 10.00%

An allowance based on 10.00% of the construction cost subtotal is included for Contractor's office Overhead and Profit. Office overhead of the contractor is always included with the fee.

All field overhead of the contractor is included in the General Conditions section of the estimate.

8.0 SPECIAL NOTES PERTAINING TO THIS ESTIMATE

8.1 SPECIFIC INCLUSIONS:

NONE

PREFACE AND NOTES TO THE ESTIMATE

8.2 SPECIFIC EXCLUSIONS:

The following items are specifically excluded from this estimate:

Hazmat
Soil Remediation
Independent Inspections
Building Permit

Leland Saylor Associates
A Certified DVBE

PROJECT:	**3 BEAR HUT**	JOB NUMBER:	**17-061Ar1**
LOCATION:	**ROSS, CALIFORNIA**	PREPARED BY:	**EG**
CLIENT:	**GARAVAGLIA ARCHITECTURE**	CHECKED BY:	**JS**
DESCRIPTION:	**UPGRADE TO HISTORICAL WOOD STRUCTURE**	ESTIMATE DATE:	**6/13/2017**

SECTION II

SUMMARY OF THE ESTIMATE

PROJECT:	**3 BEAR HUT**	JOB NO:	**17-061Ar1**
LOCATION:	**ROSS, CALIFORNIA**	PREPARED BY:	**EG**
CLIENT:	**GARAVAGLIA ARCHITECTURE**	CHECKED BY:	**JS**
DESCRIPTION:	**UPGRADE TO HISTORICAL WOOD STRUCTURE**	DATE:	**6/13/2017**
	SUMMARY OF THE ESTIMATE	GSF:	**519.39**

ASSESSMENT ESTIMATE

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
	SUMMARY OF THE ESTIMATE				
1.00	**BUILDING**	135	GSF	1,537.70	**$ 207,590**
	TOTAL PROJECT COSTS	**135**	**GSF**	**1,537.70**	**$ 207,590**
	PRORATES INCLUDED IN ABOVE COSTS				
	General Conditions	18.00%			
	Design Contingency	30.00%			
	Escalation	5.00%			
	Phasing Allowance				
	City Procurement / LBE Requirements				
	Bonds / Insurance	2.50%			
	Contractors Fee	10.00%			

Competitive Bidding

The prices in this Estimate are based on Competitive Bidding. Competitive Bidding is receiving responsive bids from at least five (5) or more General Contractors and three (3) or more responsive bids from Major Subcontractors or Trades. Major Subcontractors are Structural Steel, Plaster / EIFS Contractors, Mechanical, Plumbing and Electrical Subcontractors.

Without Competitive Bidding, Contractor bids can and have ranged from 25%-to 100% over the prices in this Estimate, depending on the size of the job.

We urge you to notify your client of the existing bidding climate, and work with them to ensure that the project is adequately publicized so that they can get the minimum number of bids for competitive bidding. Please contact LSA if you need ideas about how to publicize your project.

Leland Saylor Associates
A Certified DVBE

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SECTION III

BUILDING

PROJECT:	**3 BEAR HUT**	JOB NO:	**17-061Ar1**
LOCATION:	**ROSS, CALIFORNIA**	PREPARED BY:	**EG**
CLIENT:	**GARAVAGLIA ARCHITECTURE**	CHECKED BY:	**JS**
DESCRIPTION:	**UPGRADE TO HISTORICAL WOOD STRUCTURE BUILDING**	DATE:	**6/13/2017**
		BLDG GSF:	**135**
		SITE AREA:	**135**

ASSESSMENT ESTIMATE

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
	SUMMARY OF THE ESTIMATE				
1.00	GENERAL REQUIREMENTS				$ 3,200
4.00	MASONRY				$ 1,200
6.00	WOOD & PLASTICS				$ 99,734
8.00	DOORS & WINDOWS				$ 2,500
9.00	FINISHES				$ 13,970
	TOTAL JOB DIRECT COSTS	135	GSF		$ 120,604
	PRORATES				
	General Conditions	18.00%			$ 21,709
	Design Contingency	30.00%			$ 36,181
	Escalation	5.00%			$ 6,030
	Phasing Allowance				$ -
	City Procurement / LBE Requirements				$ -
	SUB-TOTAL	135	GSF		$ 184,524
	Bonds / Insurance	2.50%			$ 4,613
	Contractors Fee	10.00%			$ 18,452
	TOTAL PROJECT COSTS	135	GSF		$ 207,590

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		SITE AREA:	**135**

ASSESSMENT ESTIMATE

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
	ESTIMATE DETAIL				
1.0	**GENERAL REQUIREMENTS**				
	TREATMENT OF WOOD ELEMENTS WITH BORATE TO PROVIDE PEST AND ROT RESISTANCE	1	LS	3,200.00	**3,200**
	SUBTOTAL 1.0				**$ 3,200**
4.0	**MASONRY**				
	STONEWORK - REPAIR CRACKED STONE	1	LS	1,200.00	**1,200**
	SUBTOTAL 4.0			**8.89**	**$ 1,200**
6.0	**WOOD & PLASTICS**				
	LIGHT GRAFFITI TO BE SANDED DOWN ON SOUTHWEST BACKREST OF BENCH BY FIREPLACE	1	LS	1,200.00	**1,200**
	POSTS				
	POSTS - REMOVE WOOD AT TOP TO THE CENTER OF POST (LEAVE STILL SOLID OUTER SHELL IN PLACE)	8	EA	500.00	**4,000**
	POSTS - FILL WITH REPLACEMENT FILLER WITHIN THE SHELL (EPOXY WOOD FILLER) TO MATCH EXISTING SADDLE	8	EA	500.00	**4,000**
	POSTS - ALLOWANCE FOR INSPECTION, PHOTOGRAPHS, DOCUMENTATION, ETC.	8	EA	75.00	**600**
	ALLOWANCE FOR REPLACEMENT OF BOTTOM OF POST DEPENDENT ON EXTENT OF DETERIORATION.	8	EA	500.00	**4,000**

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		SITE AREA:	**135**

ASSESSMENT ESTIMATE

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
	PLATES				
	PLATES - REMOVE & REPLACE WOOD WITH DUTCHMAN SHAPED TO MATCH PROFILE OF EXISTING LOG	2	EA	500.00	**1,000**
	PLATES - REMOVE DETERIORATED WOOD AT ENDS BACK TO SOLID WOOD AND REPLACE WITH LOG	2	EA	750.00	**1,500**
	DIAGONAL BRACES				
	DIAGONAL BRACES - REMOVE DETERIORATED WOOD AT ENDS	15	EA	200.00	**3,000**
	DIAGONAL BRACES - REPLACE WITH DUTCHMAN SHAPED TO MATCH PROFILE OF EXISTING LOG AND SCRIBED TO EXISTING LOG IT IS ATTACHED TO	15	EA	300.00	**4,500**
	DIAGONAL BRACES - REPLACE IN FULL WITH LIKE ELEMENTS	1	EA	750.00	**750**
	DIAGONAL BRACES - ALLOW FOR TEMPORARY SUPPORTS & BRACING	1	LS	500.00	**500**
	SPACERS BETWEEN POSTS				
	SPACERS BETWEEN POSTS - REMOVE DETERIORATED WOOD AT ENDS	2	EA	300.00	**600**
	SPACERS BETWEEN POSTS - REPLACE WITH DUTCHMAN SHAPED TO MATCH PROFILE OF EXISTING LOG (SEMI-CIRCULAR) AND SCRIBED INTO EXISTING LOG IT IS ATTACHED TO.	2	EA	500.00	**1,000**
	SPACERS BETWEEN POSTS - REPLACE MISSING SPACER LOG WITH DIAMETER TO MATCH THE DIAMETER OF DETERIORATED VOID IN THE POST WITH ENDS SCRIBED TO THE POST	1	EA	500.00	**500**
	SPACERS BETWEEN POSTS - ALLOW FOR TEMPORARY SUPPORTS & BRACING	1	LS	500.00	**500**

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		SITE AREA:	**135**

ASSESSMENT ESTIMATE

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
	ROOF WORKS (INCLUDING RIDGE)				
	REMOVE EXISTING ROOFING SHEATHING & SHAKES, ETC.	402	SF	12.00	**4,824**
	INSTALL NEW 1 X 6 SHEATHING	402	SF	50.00	**20,100**
	INSTALL NEW MINERAL CAP SHEET ROOFING MEMBRANE TO ACHIEVE A CLASS A ROOF ASSEMBLY	402	SF	20.00	**8,040**
	INSTALL FLASHING AROUND CHIMNEY PENETRATION	34	LF	50.00	**1,700**
	ADD VENT MAT MATERIAL OVER CAP SHEET TO PROVIDE AIR FLOW BELOW WOOD SHAKES	402	SF	35.00	**14,070**
	COLLAR TIES				
	REMOVE DETERIORATED WOOD AT ENDS BACK TO SOLID WOOD	1	LS	1,000.00	**1,000**
	REPLACE DETERIORATED WOOD WITH DUTCHMAN SHAPED TO MATCH PROFILE OF EXISTING LOG WITH NOTCH AND BEVEL	1	LS	1,000.00	**1,000**
	ALLOWANCE FOR INSPECTION, PHOTOGRAPHS, DOCUMENTATION, ETC.	1	LS	300.00	**300**
	KING POSTS				
	APPLY CONSOLIDANT TO PREVENT FURTHER DETERIORATION	1	LS	750.00	**750**
	REPLACE WITH DUTCHMAN SHAPED TO MATCH PROFILE OF EXISTING LOG AS REQUIRED	1	LS	500.00	**500**
	ALLOWANCE FOR INSPECTION, PHOTOGRAPHS, DOCUMENTATION, ETC.	1	LS	300.00	**300**
	RAFTERS				
	REMOVE DETERIORATED ENDS BACK TO SOLID WOOD	26	EA	250.00	**6,500**
	REPLACE WITH DUTCHMAN SHAPED TO MATCH PROFILE OF EXISTING LOG WITH NOTCH	26	EA	500.00	**13,000**
	SUBTOTAL 6.0			**738.77**	**$ 99,734**

PROJECT:	**3 BEAR HUT**	JOB NO:	**17-061Ar1**
LOCATION:	**ROSS, CALIFORNIA**	PREPARED BY:	**EG**
CLIENT:	**GARAVAGLIA ARCHITECTURE**	CHECKED BY:	**JS**
DESCRIPTION:	**UPGRADE TO HISTORICAL WOOD STRUCTURE BUILDING**	DATE:	**6/13/2017**
		BLDG GSF:	**135**
		SITE AREA:	**135**

ASSESSMENT ESTIMATE

DIV #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTALS
8.0	**DOORS & WINDOWS**				
	INSTALL LOCKABLE DOORS IN FIREPLACE OPENING	1	LS	2,500.00	**2,500**
	SUBTOTAL 8.0			**18.52**	**$ 2,500**
9.0	**FINISHES**				
	FIREPLACE				
	STEEL LINTEL - PAINT EXPOSED STEEL LINTEL TO REVERSE OXIDIZATION	1	LS	200.00	**200**
	STEEL LINTEL - ALLOW FOR INSPECTION, DOCUMENTATION AND PHOTOGRAPHS	1	LS	150.00	**150**
	CLAY FLUE - INSPECT FOR DAMAGE AROUND THE LINER	1	LS	120.00	**120**
	INTERIOR FLOOR				
	MAKE EXISTING BASE FLAT USING EXISTING STONE FOR ACCESSIBILITY PURPOSES ESPECIALLY AROUND TABLE	135	SF	100.00	**13,500**
	SUBTOTAL 9.0			**103.48**	**$ 13,970**