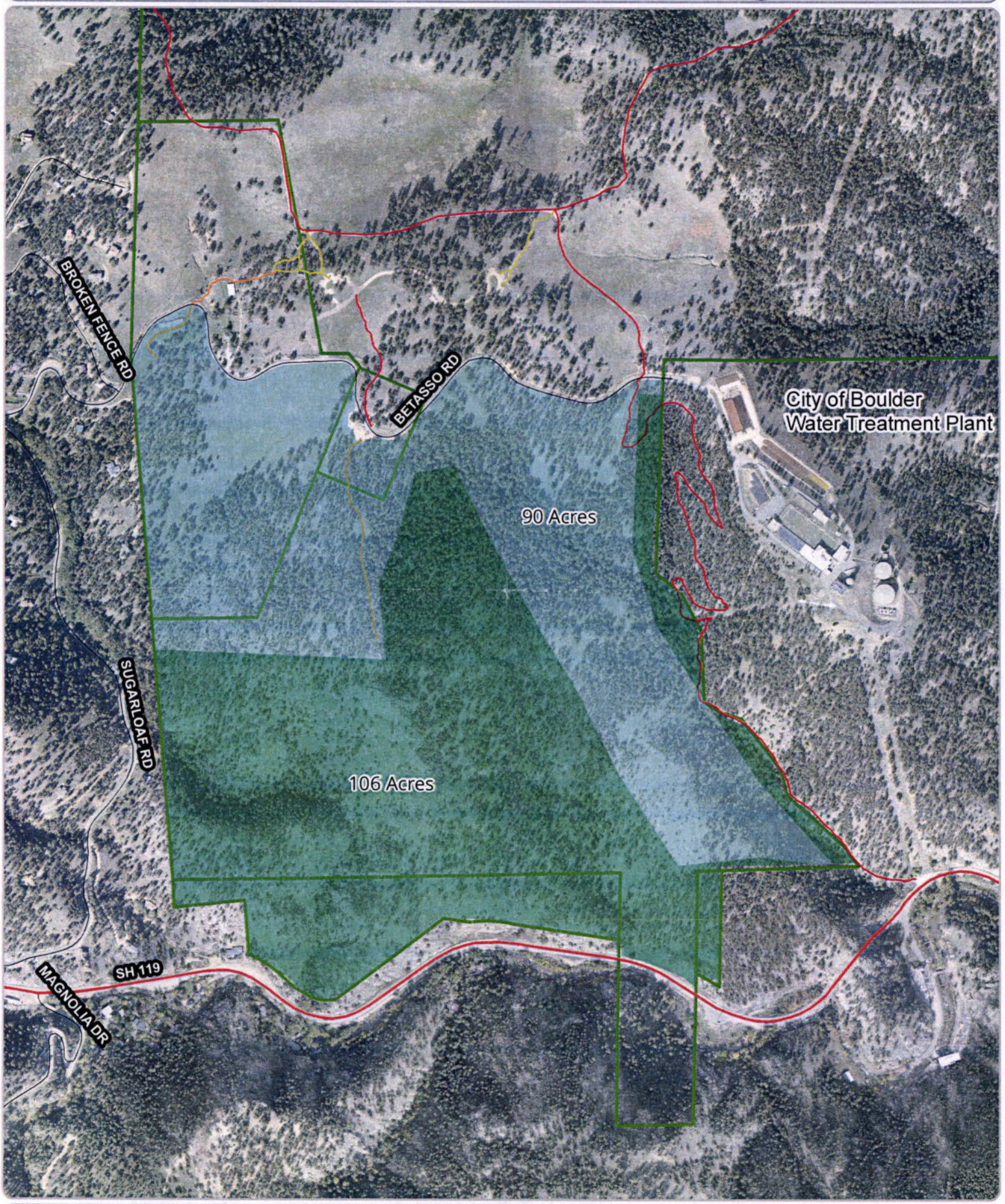
Betasso Preserve Hazardous Fuels Reduction

Boulder County Parks & Open Space



2014

Betasso Preserve

2013 Grant Treatment Area

2015 Grant Treatment Area

State Highway

Local

0 250 500 1,000 Feet

FILE: V:\gsp\Forestry\ArcMap_Projects\Properties\Betasso_Benjamin\BBPA1_2014.mxd

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For Terms of Use, please visit: www.bouldercounty.org/map/disclaimer

N W E S

Disbursement Voucher

Doc Nbr:	13894933	**Status:**	FINAL
Initiator:	kmuskopf@colostate.edu	**Created:**	09:11 AM 11/08/2017

expand all | collapse all

* required field

Print Disbursement Voucher Coversheet

Document Overview

hide

Document Overview

* **Description:**	HB 12-1032 Boulder County Parks and OS	**Explanation:**	FINANCIAL ASSISTANCE PROGRAM COOPERATIVE MATCH PROJECT; FOREST RESTORATION GRANT (FRG); HB12-1032 FY14 Forest Restoration Project; Project Number 1929600 BO-02. Final Payment. Betasso 2015 Fuels Reduction Project.
Organization Document Number:	5060		

Financial Document Detail

* **Bank Code**	02 GENERAL DISBURSEMENTS	**Total Amount:**	100,000.00

Payment Information

hide

Payment Information

* **Payment Reason Code:**	O - Program Obligations		
* **Payee ID:**	9610-0		
Payee Type:	Vendor	* **Payee Name:**	Boulder County
Invoice Number:		**Invoice Date:**	
* **Address 1:**	Parks And Open Space	**Address 2:**	5201 St Vrain Rd
* **City:**	Longmont	**State:**	CO
Country:	United States	**Postal Code:**	80503
* **Check Amount:**	100,000.00	* **Due Date:**	11/09/2017
Payment Type:	Is this a foreign payee: No Is this payee an employee: No Is this an employee paid outside of payroll:	**Other Considerations:**	Check Enclosure: No W-9/W-8BEN Completed
* **Payment Method:**	P - Check/ACH	* **Documentation Location Code:**	AP - Accounts Payable
* **Check Stub Text:**	Landowner Assistance Grant Reimbursement Forest Restoration Grant 1929600 BO-02 Final Payment 11-8-2017		

Accounting Lines

hide

Accounting Lines

hide detail

Source

	* Chart	* Account Number	Sub-Account	* Object	Sub-Object	Project	Org Ref Id	* Amount	Actions
1	CO Colorado State University	1929200 HB 1199 Extension of Forest Restoration Project		6693 Cost Share Reimbursement			BO	2,293.00	
	Line Description								
	SFA Boulder County Parks and OS								
2	CO Colorado State University	1929300 HB 1199 FY11 Extension of Forest Restoration Project		6693 Cost Share Reimbursement			BO	39,024.00	
	Line Description								
	SFA Boulder County Parks and OS								
3	CO Colorado State University	1929400 HB 1199 FY12 Extension of Forest Restoration Project		6693 Cost Share Reimbursement			BO	34,347.00	
	Line Description								
	SFA Boulder County Parks and OS								
4	CO Colorado State University	1929500 HB 12-1032 FY13 Forest Restoration Project		6693 Cost Share Reimbursement			BO	6,120.00	
	Line Description								
	SFA Boulder County Parks and OS								
5	CO Colorado State University	1929600 HB 12-1032 FY14 Forest Restoration Project		6693 Cost Share Reimbursement			BO	18,216.00	

Line Description
SFA Boulder County Parks and OS

Total: 100,000.00

Contact Information [hide]

Contact Information

- *** Contact Name:** Muskopf, Kristy Lynn
- *** Phone Number:** 970-491-3006
- **Email Address:** Kristy.Muskopf@colostate.edu
- **Campus Code:** MC - CSU Main Campus

Special Handling [show]

Nonresident Alien Tax [show]

Wire Transfer [show]

Foreign Draft [show]

Non-Employee Travel Expense [show]

Pre-Paid Travel Expenses [show]

Pre-Disbursement Processor Status [show]

General Ledger Pending Entries [show]

Notes and Attachments (1) [hide]

Notes and Attachments

	Posted Timestamp	Author	* Note Text	Attached File	Notification Recipient	Actions
add:				Choose File No file chosen CANCEL		add
1	11/08/2017 09:21 AM	Muskopf, Kristy Lynn	CSFS Boulder District Grant Reimbursement Request and Supporting Documentation.	Boulder County Parks and OS 1929600 BO-02 11-8-2017 $100,000 Doc # 13894933.pdf (879 KB, application/pdf)		send

Ad Hoc Recipients [show]

Route Log [show]

send ad hoc request | close | copy

CSFS GRANT REIMBURSEMENT REQUEST PACKAGE

Form 1 of 3

In order for the recipient to receive reimbursement, they **must** provide documentation supporting their costs and corresponding match. Reimbursement requests must be **typed** and contain Forms 1-3, receipts for actual costs (out of pocket expenses) incurred by the recipient, and any additional supporting documentation. Other costs and matching funds incurred by the recipient and/or donated by other resources must also be itemized and receipts provided when possible.

1. Make Payment To:

Name: Boulder County Parks & Open Space
Attn: Bridgette McCarthy
Address: 5201 St, Vrain Road
City, State, Zip: Longmont Co 80503

2. CSFS Account Number(s): SPLIT PAYMENT; 1929200, 1929300, 1929400, 1929500, 1929600

3. CSFS Account Title(s): HB12-1032 FY14 Forest Restoration Project

4. Payment Amount Requested: $100,000.00

Account Number: 1929200-6693 $2,293
Account Number: 1929300-6693 $39,024

5. Project Name: Betasso 2015 Fuels Reduction Project

6. Project Number (if applicable):

7. Total Award Amount: $100,000.00

Account Number: 1929400-6693 $34,347
Account Number: 1929500-6693 $6,120
Account Number: 1929600-6693 $18,216
Account Number:

8. Reimbursed Amount to Date: $0.00

9. Award Beginning Date: October 2, 2014
Award End Date: October 25, 2017

Payment number ***1st*** ***2nd*** ***3rd*** ***4th*** ***Final***

10. a) Reimbursement Request amount cannot exceed Total Award Amount.
b) Reimbursement will only be made if match requirement is met.
c) Reimbursement cannot exceed total project costs incurred by recipient.

A. Remaining Award Amount	B. Reimbursement Requested Amount (recipient cost)	C. Match Recipient and non-recipient (reimbursable costs that exceed the award amount and meet the scope of work or non-recipient cost donated and used as match)	D. Total Project Cost	E. Recipient Match Rate (%)
			B+C	C/D
$100,000.00	$100,000.00	$1,204,705.23	$1,304,705.23	93%

*** Results from Form 3 CSFS Cost Documentation Worksheet will auto populate the table above. Please review in detail and include all documentation supporting the recipient's costs and corresponding match.**

FOR STATE OFFICE USE ONLY

Checked for Federal suspension and debarment (State Office) https://www.sam.gov/portal/public/SAM/

Date: 11-8-2017 KFS Document Number: 13894933

Vendor Number: 9610-0 Approved for Payment: YES 11-7-2017 KW

ENCUMBERED

CSFS GRANT REIMBURSEMENT REQUEST PACKAGE

Form 2 of 3

11. What has been accomplished? Please document accomplishments for this reimbursement using the fields below that meet the requirements listed in the project Scope of Work. Please be specific and report numbers such as acres treated, numbers of defensible spaces, tons of, cubic feet or yards of slash collected, number of presentations, number of plans written, etc., for which the award was granted. Attach additional sheets as necessary.

Fuels Reduction

	Planned	Completed		Planned	Completed
Total Acres Treated:	190	200			
Number of Fuelbreaks:			(or) Acres:		
Number of D-Spaces:			(or) Acres:		
Cubic ft. or yards of Slash Collected:	1560/ton	1560/ton	(or) Acres:		

Reforestation

Number of trees planted:			(or) Acres:		

Education and Outreach

Number of workshops/meetings:		
Number of Attendees:		

Please list all communities impacted:

City of Boulder Watershed

Please provide any additional information regarding the project accomplishments:

Please refer to attached final report

12. I certify that to the best of my knowledge this re[illegible] ted are for the purposes set forth in the project documents (i.e. award notification, scope of w[illegible] nd accurate.

Grant Recipient Signature: Bridgette McCarthy

Date: 10/25/2017

Grant Recipient Name: (print) Bridgette McCarthy

13. Certification: Work meets standards and specifications as set forth by the CSFS in the Scope of Work.

District Forester Signature: [illegible]

Date: 11/1/17

District Forester Name: (print) Allen Owen

14. Funding is available and request is approved for reimbursement.

Program Manager Signature: [illegible]

Date: 11/2/17

Program Manager Name: (print) Diana Selby

*** Original Signatures are required for reimbursement.**

CSFS GRANT REIMBURSEMENT REQUEST PACKAGE

FORM 3 of 3

Cost Documentation Worksheet

A. Remaining Award Amount	B. Reimbursement Requested Amount (Recipient Cost)	Match C. Match Recipient and non-recipient (reimbursable costs that exceed the award amount and meet the scope of work or non-recipient cost donated and used as match)	D. Total Project Cost = B+C	E. Recipient Match Rate = C/D
$100,000.00	$100,000.00	$1,204,705.23	$1,304,705.23	93%

Date	By Whom	Activity/Expense	Hours	Reimbursement Value ($)	Match Value ($)	Category
Misc	Project Invoices	Fuels Reduction- Betasso I and Betasso II		$100,000.00	$1,204,705.23	Actual Cost
		See attached Boulder County IFAS reporting (grant & match); invoice copies				
		Total Project Cost:		$100,000.00	$1,204,705.23	

COPY

Doc. Nbr. 5395097

CSFS REQUEST FOR SUPPLIES OR SERVICES (other than GSA)

CSFS #805 (Rev. 4/93)

Date: Feb. 12, 2015 | Requested by: Allen Owen | Resale to: | CSFS Invoice #:

Vendor: Betasso 2015 Fuel Reduction Project / Boulder County Parks and Open Space

(PLEASE PROVIDE COMPLETE ADDRESS.)

Ship To: Allen Owen, District Forester
Colorado State Forest Service
5625 Ute Hwy
Longmont, CO 80503

(PLEASE PROVIDE COMPLETE ADDRESS.)

Reason for Vendor Selection: ____ Sole Source (attach completed Sole Source Justification form) ____ Previous Supplier ____ Other

Terms: ENCUMBERED 02-20-15 RO

Shipping Instructions: ____ FOB Fort Collins, Colorado ____ FOB

Delivery Date:

Deliver to: Initials ____ Bldg ____ Room ____ Phone ____

#	Account	Subcode	Qty	UOM	Description of Supplies or Services	Unit Price	Item Total
1	1929200	66693	1	1	Project # 1929400-B001	$1,433	$1433
2	HB 1199				Scope of work attached		
3	1929300	66693	1	1	Project # 1929600-B001	$8,421	$8,421
4	HB 1199	FY11			Scope of work attached		
5	1929300	66693	1	1	Project # 1929600-B001	$30,051	$30,051
6	HB 1199	FY11			Scope of work attached		
7	1929400	66693	1	1	Project # 1929600-B001	$40,029	$40,029
8	HB 1199	FY12			Scope of work attached		
9	1929400	66693	1	1	Project # 1929600-B001	$20,1666	$20,1666
10	HB 1199	FY12			Scope of work attached		

SPECIAL INSTRUCTIONS:

Please Encumber.

Expenditure Approval:

Authorized Signature: [signature]

Date: 2/19/15

Subtotal: $100,100

Discount: $ -0-

TOTAL: $100,100

4

HB 12-1032 FY 2014 Forest Restoration Grant

Last Updated 11/7/2017

Last Viewed 11/7/2017

Boulder District Project Number 1929600 BO-01 - Account 1929200 I $2,293 - 1929300 G $8,421 - 1929300 I $30,603 - 1929400 G $10,428 - 1929400 I $23,919 - 1929500 I $6,120 - 1929600 I $18,216

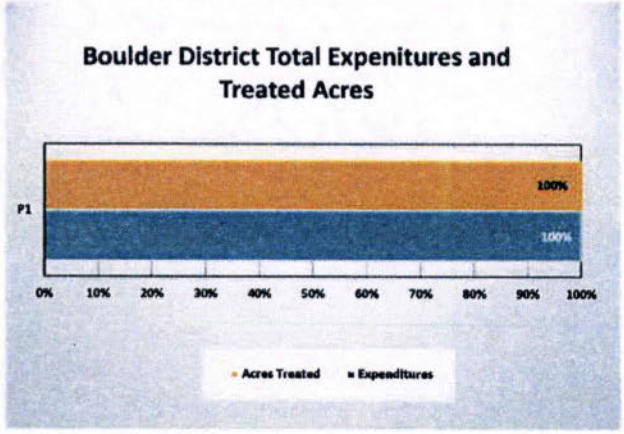
Project Start Date 8/13/13 - Project End Date 10/25/17

Project Progress

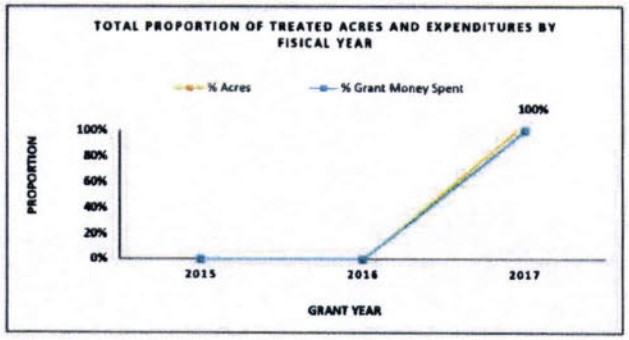
	Project Name / Cooperator	Project Award	Award Spent	Acres Targeted	Acres Completed
P1	Betasso 2015 Fuels Reduction Project / Boulder County Parks and Open Space (BCPOS)	$100,000	$100,000	190	200

Reimbursements To Date

Cooperator Name	Date	Account	Amount	Acres Treated
Boulder County Parks and Open space	11/10/2017	1929200	$2,293	200
		1929300	$39,024	
		1929400	$34,347	
		1929500	$6,120	
		1929600	$18,216	



Total Boulder Project Dollars	Project Balance	Total Reimbursements	Total Acres Treated
$100,000	**$0**	**$100,000**	**200**



Encumbrance Amount $0

Additional Accomplishments:
1,560 tons of biomass removal.

(6/22/16 Stephan)

BETASSO I: 90 ACRES

POM (FEMA)	334,240	
CFR	50,000	(.08)
	384,240 GRANTS	
CIP (2014, 2015)	178,522	
(2016)	53,027	
	615,789	

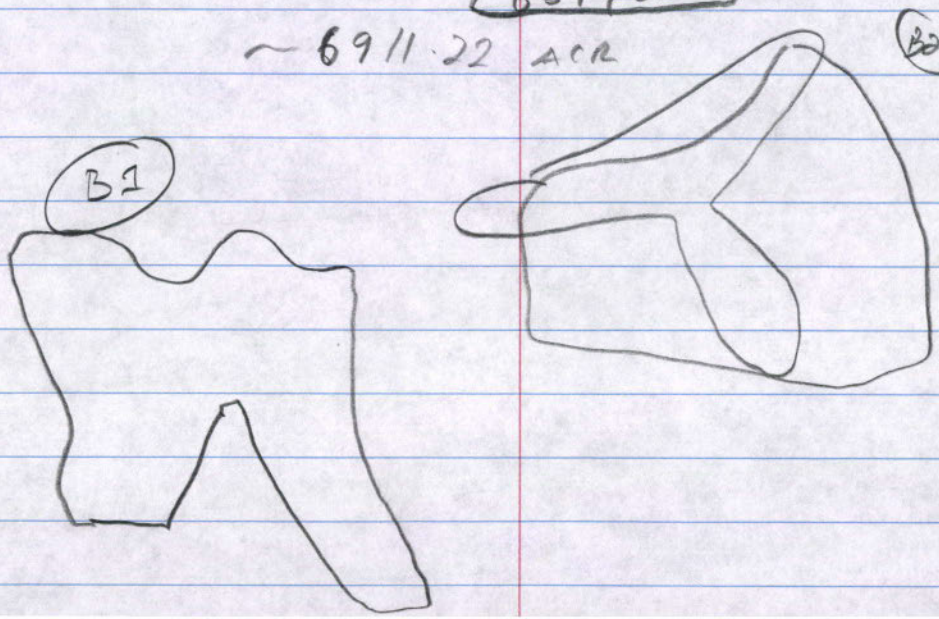
~ 6842.10 PER ACRE

1.3MM TOTAL PROJECT
189 ACRES TOTAL
6878/AC AVG COST

BETASSO II: 99 ACRES

HMGP	628,865	
CFR	50,000	(.07)
	678,865 GRANTS	
CIP	5,346	
	684,211	

~ 6911.22 ACR



1. when do you expect to go operational? (> July 5)
2. - Duration of Project?

Notes: · BCPOS expects 170-180 loads total-
· will use ≈ 70 loads internally
· July 5 - Award?
·

3. How did you get the Cost/Ac down to 6800/6900/Ac → from ≈ 9800?

4. What does "POM"/FEMA mean?
5. what does "HMPG" mean?
6. Who will be BCPOS POC for Reimbursement Request? (Scott?, Nick?, Stefan?)

Colorado State University
5060 Campus Delivery
Fort Collins, Colorado 80523-5060
(970) 491-6303
FAX: (970) 491-7736

August 3, 2016

Boulder County Parks and Open Space
Attn: Bridgette McCarthy
5201 St. Vrain Road
Longmont, CO 80503

Dear Bridgette:

On July 29, 2016 a request to extend the project period of the Betasso 2015 Fuels Reduction forest restoration project was submitted to me. This request is a result of budget limitations requiring more cost effective options to implement the project. The BCPOS has since successfully received a bid suitable for the budget and will modify implementation methods to use a combination of ground-based and aerial harvesting systems to complete the project.

Project deadline extensions are assessed on case-by-case extenuating circumstances. Careful consideration should be made when balancing project priorities. Success is the goal.

After thorough evaluation of the nature of the factors that delayed progress on the Betasso 2015 Fuels Reduction forest restoration project, the Colorado State Forest Service authorizes a one-year extension to complete the project according to the Exhibit A-Scope of Work to be eligible for full reimbursement of project expenses not to exceed the award amount of $100,000. The updated deadline of this project is **October 25, 2017** and documentation, including Final Closeout Report, will be expected to be received by the CSFS State Office no later than **November 13, 2017**.

Do not hesitate to contact me at 303-469-3520 or naomi.marcus@colostate.edu for any additional questions.

Thank you,

/s/ Naomi J. Marcus

Naomi J. Marcus
Assistant Staff Forester

Owen Jr,Allen

From: McCarthy, Bridgette <bmccarthy@bouldercounty.org>
Sent: Friday, November 13, 2015 11:58 AM
To: Owen Jr,Allen; Marcus,Naomi; Glowacki, Therese; Reinold, Stefan; Golden, Scott
Subject: Summary- CSFS/POS Meeting 11/13- CFR & Betasso Discussion

CFR

-Betasso I and II- POS plans to use funding 50/50 on these phases; POS will let CSFS know cost share rate in early December to confirm this approach.
-POS will draft an amendment to the SOW/Operations Plan that addresses revised timeline; POS will submit this to CSFS in approximately 2 weeks.

New CFR $:
-Stefan will review Betasso property (& timeline) to see if there is a potential to apply for additional CFR funding in early 2016 to expand our existing Phase II project; POS will let Naomi know if this is a possibility; Stefan will do this within approximately 2-3 weeks.

Documentation- New CFR:
-Naomi will send new SOW/Ops Plan forms to Bridgette; POS will fill out for Betasso I and Betasso II and give feedback to CFSF on forms- how well they work & other thoughts (we can use this as a trial for Betasso II- pre-project form)- Scott will look at and review and see if he wants to use this.
-Naomi will send us new Form D.

Bridgette McCarthy
Grant Coordinator
Boulder County Parks and Open Space
303-678-6276

Colorado State
FOREST
SERVICE
Colorado State University
Fort Collins, Colorado 80523-5060
(970) 491-6303
FAX: (970) 491-7736

September 11, 2014

Bridgette McCarthy
Boulder County Parks and Open Space (BCPOS)
5201 St. Vrain Road
Longmont, CO 80503

Dear Bridgette,

I am pleased to inform you that your application for the 2014 Colorado Forest Restoration Grant Program, established by the General Assembly through 2012 House Bill 1032, has been selected for a financial assistance grant. We would like to offer you **$100,000** in state grant funds to support your project titled **Betasso 2015 Fuels Reduction Project.**

All projects that involve on-the-ground forest management will comply with *Forestry Best Management Practices to Protect Water Quality in Colorado (2010)*, which are available on the Colorado State Forest Service (CSFS) website at http://csfs.colostate.edu/pdfs/ForestryBMP-CO-2010.pdf. An equally or more stringent best management practice is permitted and must be indicated on your Plan of Operations. If you have any questions about this, please contact your CSFS District Forester using the information provided below.

The amount being offered to you may be less than you requested in your project proposal. If you cannot complete the project with the reduced amount, please notify me immediately at (970) 491-6303. This grant program requires at least a 40% match of non-state funds. State funds are eligible match as long as the cumulative state share of the total project cost does not exceed 60%. You are required to provide the amount of match as stated in the Financial Assistance Program Cooperative Match Project notification and Exhibit A, Scope of Work, unless your project is completed under budget. Match amount is either as indicated in your proposal or adjusted proportionately if your project is partially funded. Projects completed under budget should match the same percentage of total project cost as identified in your proposal. The award amount may be adjusted for projects completed under budget.

If you cannot leverage the required amount of match, the award will either be adjusted or rescinded. Again, please contact us immediately if you have a question about your ability to match the offered award.

Additionally, if your proposal indicates employing a Colorado Youth Corps or another accredited youth corps association, you are required incorporate them in the implementation of your project.

If you are able to go forward with your project using the award offered, please see the two enclosed pages. Each of these pages will need immediate action from you in order to initiate project implementation:

1. Financial Assistance Program Cooperative Match Project notification: After you read the notification, and if you agree with the conditions of participation, please sign and date. Be sure to retain a copy for your records.

2. Exhibit A, Scope of Work: After you have read Exhibit A, and if you agree with the conditions of participation, please initial and date. Be sure to retain a copy for your records

Please return the original signed copy of Project Notification and initialed Scope of Work **no later than September 26, 2014** to:

Naomi J. Marcus, Assistant Staff Forester
Forest Management Division
Colorado State Forest Service
5060 Campus Delivery, CSU
Fort Collins, CO 80523

Included within this award notification package are the cost documentation procedures and forms. Since these forms are to be completed electronically, upon your acceptance of and CSFS receipt of the returned project award notification and Exhibit A, Scope of Work, you will receive the following cost documentation items electronically:

1. Detailed reimbursement procedures for proper documentation of accomplishments and project costs. This will include a list of items that are eligible for reimbursement and items not eligible for reimbursement.

2. Exhibit B, *CSFS Grant and Cost-Share Program Reimbursement Request*: Retain this form and use it to request reimbursement for qualifying project expenses. You may make additional copies if needed.

3. Form D, *CSFS Financial Assistance Cost-Share Program Reimbursement Calculation Worksheet*: Retain this form to document the summary of actual costs and/or values of labor, equipment use and supplies that contributed to the completion of this project. Other formats to outline cost documentation may be used; be sure to acquire approval from your CSFS District Forester for an alternative format. If other formats are used to document time, activities and expenses, use Form D to summarize and calculate

Reimbursement will be made for actual costs, not to exceed the award amount specified on your project notification, with consideration of the required match and accomplishments. The amount requested for reimbursement may not exceed 60 percent of the total project cost for the reimbursement period. Remember that your match for the total project cost of the project period must meet the required cost-share as accepted in your Project Notification and Scope of Work (e.g. if you proposed to provide 65% match, intermittent and final reimbursement requests should indicate at least 65% match of the total project cost for the given project period).

These grant funds may not be used to purchase capital equipment (individual items costing more than $5,000.00). The appropriate volunteer labor rate to be applied will be the current rate at the time of the reimbursement request.

We require strict documentation. Please be advised your payments will be based on achieving the specifics proposed in your grant as reiterated on Exhibit A, Scope of Work, including treatment of the full quantity of acres as defined in your grant application, as well as according to the details specified on the Plan of Operations. This award may be considered as income by the IRS. Please check with your tax advisor if appropriate.

As part of the Colorado Forest Restoration Grant program, we require you to provide a Final Closeout Report at the time of requesting your final reimbursement including the following items:

- Accomplishments: examples include (quantified: # acres treated; # miles of fuelbreak; # of defensible spaces implemented; # of presentations with # of participants).
- Summary of Youth Corps participation, if applicable—this includes crew size, duration of participation, activity.
- Summary of project costs
    - Summary of actual costs, which are eligible for reimbursement, such as
        - Out-of-pocket expenses
        - Youth Corps
        - Award recipient labor

        (This is a sample of actual costs eligible for reimbursement and not an all-inclusive list. See page 2 of Form D for more examples.)
    - Summary of costs not eligible for reimbursement, such as
        - Volunteer labor
        - Equipment purchases

        (This is a sample of costs not eligible for reimbursement and not an all-inclusive list. See page 2 of Form D for more examples.)
- Digital before and after photos submitted electronically. Please do not embed tiff or jpg files into other documents or files.
- Electronic map and GIS data—local CSFS District Office must have necessary data to report map of project area.

When you are ready for intermittent reimbursement, or to close out your project and claim final reimbursement, please submit an Exhibit B, Form D, and additional cost documentation (i.e. receipts, invoices, etc.) to your CSFS District Forester who will certify that the work is complete

and the documentation is adequate. Certification by the District Forester will require a site visit to the project location. Once the accomplishments and cost documentation are approved, the District Forester will then forward Exhibit B, Form D, and other accompanying documentation to the CSFS state office for processing.

Projects must be completed and certified by your CSFS District Forester no later than close of business on **October 25, 2016**. Your final reimbursement request with your signature, cost documentation and Final Closeout Report must be received by the CSFS District Forester no later than **November 8, 2016**. CSFS District Foresters must sign and submit the original reimbursement request, cost documentation and approved Final Closeout Report to the Forest Restoration Grant program manager, Naomi Marcus, no later than **December 5, 2016**.

The final 10% of the award amount will not be released until the Final Closeout Report is received and accepted. Your thoroughness in providing complete documentation will help expedite the reimbursement process.

For future reference, your CSFS District Forester is **Allen Owen.** You can reach him at (303) 823-5774 or allen.owen@colostate.edu.

Thank you for your interest in improving the health and sustainability of Colorado's forests and communities!

Sincerely,

Naomi J. Marcus
Assistant Staff Forester

Enclosures

cc: Allen Owen

Financial Assistance Program

Cooperative Match Project

COLORADO FOREST RESTORATION GRANT

To be conducted by:

Boulder County Parks and Open Space (BCPOS)

Funding Provided by CSFS:	**$100,000**
Minimum Recipient Match:	**$699,087**
Project to be Completed by:	**October 25, 2016**
Documentation due to District Office by:	**November 8, 2016**
Documentation due to State Office by: **(submitted and signed by District Forester)**	**December 5, 2016**

Based on the strength of the *Betasso 2015 Fuels Reduction Project* application submitted by Boulder County Parks and Open Space the Colorado State Forest Service is providing funding in the amount up to but not exceeding **$100,000** to accomplish the project described in the attached scope of work, Exhibit A, and the Plan of Operations.

As the cooperator, Boulder County Parks and Open Space will be reimbursed for costs incurred in implementing the project up to the amount listed above once the following requirements are met:

A. Complete all work as described in *enclosed EXHIBIT A, scope of work.*

B. Complete all work as described in *enclosed Plan of Operations.*

C. Provide appropriate cost documentation with *Form D, CSFS Financial Assistance Cost-Share Program Reimbursement Calculation Worksheet,* and *Exhibit B, CSFS Reimbursement Request Form* to reflect that project funds have been matched at amount stated in proposal which is at a minimum rate of 40%. Your required minimum match is listed above. *See notification letter if project is completed under budget.*

Complete and submit cost documentation through your local CSFS District Office for periodic and final grant reporting and reimbursement requests using the forms provided, as needed, as well as a Final Closeout Report that provides details on expenditures and accomplishments as a result of this project. Submission to:

Colorado State Forest Service
Attn: Allen Owen, District Forester
Boulder District
5625 Ute Hwy
Longmont, CO 80503

As a representative of the cooperator, I have read and understand the conditions of participating in this cooperative match project.

Cooperator Signature: Date:

Boulder County Parks and Open Space (BCPOS)

Mailing Address:	**Attn: Bridgette McCarthy** **5201 St. Vrain Rd** **Longmont, CO 80503**
Telephone Number:	**303-678-6276**
Email Address:	**bmccarthy@bouldercounty.org**

EXHIBIT A
COLORADO FOREST RESTORATION GRANT

SCOPE OF WORK

Cooperator: Boulder County Parks and Open Space
Work to be completed:

- Thin approximately 190 acres according to specifications outlined within the Management Plan of the Betasso Property
- Legacy-Tree Retention will retain all pine with characteristics of older, dominant trees as well as several replacements trees of the same species. The resulting structure will be a very open stand of large diameter trees with a vigorous understory
- Sanitation Cut will remove all pine infested with dwarf mistletoe in the areas where the infestation is concentrated
- Group Selection within homogenous pine stands to isolate clumps of trees in higher densities while opening up the surrounding forest
- Meadow Perimeter Strip Cut will remove all pine species within 50 feet of existing meadows greater than 1/4 acre in size.

All project standards and specifications to be followed are outlined in the enclosed Scope of Work and Plan of Operations. Additionally, an accredited youth corps will be utilized in the implementation of the Betasso 2015 Fuels Reduction project.

Standards or Guidelines: Will meet CSFS guidelines appropriate for treatment. Will comply with standards in *Forestry Best Management Practices to Protect Water Quality in Colorado (2010).* All CSFS guidelines applied for treatment and any other best management practice utilized will be indicated within the *Plan of Operations.*

Project Period: September 8, 2014 to October 25, 2016.

Funded Amount: **$100,000** **Minimum cooperator match**: **$699,087**

All work completed under this project must be certified as meeting minimum Colorado State Forest Service standards prior to any reimbursement being made to the cooperator. Form D entitled *CSFS Financial Assistance Cost-Share Program Reimbursement Calculation Worksheet* and Exhibit B entitled *CSFS Reimbursement Request Form* will be the document used to both request reimbursement and to certify that work has been completed to minimum standards.

Intermittent requests for reimbursement are permitted and must be accompanied by intermittent project accomplishments. Final requests for reimbursement must be accompanied by a final closeout report depicting total project accomplishments. Minimum reporting items:

- Accomplishments: examples include (quantified: # acres treated; # miles of fuelbreak; # of defensible spaces implemented; # of presentations with # of participants).
- Summary of Youth Corps participation, if applicable—this includes crew size, duration of participation, activity.
- Summary of project costs
  - Summary of actual costs, which are eligible for reimbursement, such as
    - Out-of-pocket expenses
    - Youth Corps
    - Award recipient labor

    (This is a sample of actual costs eligible for reimbursement and not an all-inclusive list. See page 2 of Form D for more examples)
  - Summary of costs not eligible for reimbursement, such as
    - Volunteer labor
    - Equipment purchases

    (This is a sample of costs not eligible for reimbursement and not an all-inclusive list. See page 2 of Form D for more examples)
- Digital before and after photos submitted electronically. Please do not embed tiff or jpg files into other documents or files.
- Electronic map and GIS data—local CSFS District Office must have necessary data to report map, or geospatial data, of project area.

Initials:

_____

_____

Scope of Work and Plan of Operations

July 2014

Complete the following worksheet with grant applicant prior to formal award notification and project implementation. Use attached pages as needed.

Grant Project Name: Betasso 2015 Fuels Reduction Project

Grant Applicant Name: Boulder County Parks and Open Space

The following information provided will allow for grant progress monitoring. Communication with CSFS district staff is necessary to ensure appropriate inspection, reimbursement & project closeout.

1. Scope of Work (Extracted from the project proposal and clarified as appropriate, i.e. install 100 acre fuelbreak, 100 feet wide and 4500 feet long, according to CSFS guidelines and fuel mitigation standards to protect the Ponderosa HOA community. Additionally, project implementation will utilize the *Colorado Forest Stewardship Guidelines to Protect Water Quality: Best Management Practices*). If another equally or more stringent BMP is being applied then be sure to specify the BMP resource.

Response: This proposed project will be completed on Betasso Preserve, a 1,100-acre open space property owned by Boulder County that is located north of Boulder Canyon at T1N R71W sec. 27, 28, 33, at an elevation of 6000 to 6500 ft. Boulder County Parks and Open Space (BCPOS) was awarded grant funding from FEMA's PDM in 2013 to help thin 90 acres (this project will begin in 2015) and BCPOS will expand this acreage to include an additional 100 acres using Hazard Mitigation Grant Program funding through FEMA (a 12.5% local match from the State of Colorado would be included in funding the project). In total, this 2015 Betasso Fuels reduction Project will thin approximately 190 acres. The project acreage has been modified slightly to reflect sensitive species habitat that has been identified by BCPOS wildlife staff.

This treatment proposal emphasizes goals of BCPOS and the fire mitigation needs of the various fire protection districts. The scientific foundation for this project is based on forest restoration and fuel reduction strategies outlined in Appendix A of the Boulder County Forestry Policy (2010). The policy is the basis for the current Management Plan of the Betasso Property as well as the Boulder County CWPP, and is supported by the Boulder County Comprehensive Plan.

Treatment area I includes approximately 90 acres. This treatment area will see a density reduction between 50% and 90% from current levels. This area of treatment will focus on the forested area south and west of the Water Treatment Facility and along the road leading to it. Terrain and fuel loading align in this area to make suppression activities nearly futile and dangerous for personnel active in those efforts. BCPOS will be treating this area to moderate fire behavior before it reaches the road (a containment line) and adversely affects the main water supply for the city of Boulder.

Treatment area II is approximately 144 acres in size and the intention is to mechanically treat 100 acres within the treatment area polygon. Inventory work in treatment area II will begin after the award of the grant. All forest inventory activities will be conducted by County staff and in accordance with standard practices. Overstory vegetation will be selected using a variable radius sampling and surface fuels will measured using either planar intercept sampling or photoload sampling. While specific objectives for this project will be refined, it is likely that the density of forest vegetation will decrease by as much as 90% due to this treatment. Several drainages are found within the treatment area and they will be treated in accordance with state BMPs.

Treatment area II has changed location from the previous application due to the presence of a rare color morph of male prairie lizards (*Scelopus consobrinus*: formerly "Western Fence lizard" *S. undulatus erythrocheilus*). The presence of this species was not known at the time of the original application and has since been identified on the hillside below treatment area I. To minimize impacts on possible habit for this species, BCPOS felt it was necessary to move the treatment area to the north and east of the Water Treatment Facility.

As both treatment areas fall within the Lower Montane life zone, objectives will focus on lowering the density of existing ponderosa pine on the more xeric sites and breaking up horizontal continuity of canopy fuels on the more mesic sites. Southern aspects will be treated more heavily while north aspects may not be treated at all.

2. Description of Work (Include detailed prescription, such as species retention and removal, quantity of which species to be planted, crown or clump spacing, etc.; location of planned implementation of BMPs (maps); specific treatment blocks (maps); percent slope for each block; treatment method; plan for removal and/or utilization of wood and slash; contractor(s) and capabilities; crew size and/or equipment to be used; logging system(s) to be implemented; placement of landings and skid trail(s).)

Response: Treatments in the Betasso project area would include variations of silviculture practices: 1) Legacy-Tree Retention will retain all pine with characteristics of older, dominant trees as well as several replacements trees of the same species. The resulting structure will be a very open stand of large diameter trees with a vigorous understory; 2) Sanitation Cut will remove all pine infested with dwarf mistletoe in the areas where the infestation is concentrated; 3) Group Selection will occur in the homogenous stands of pine with the intent to isolate clumps of trees in higher densities while opening up the surrounding forest; 4) Meadow Perimeter Strip Cut will remove all pine species within 50 feet of existing meadows which are greater than 1/4 acre in size.

Specific strategies for density removal in treatment area II will be determined after County staff has had an opportunity to inventory forest structure across the proposed treatment area of 144 acres. A sufficient number of monitoring points will be established and inventoried until staff has confidence that the data set is representative of the variation present within the treatment area. This information will be used to model growth and fire behavior in the formulation of a specific prescription for the forest resources.

Due to the severe slopes in the project area, the majority of the area will be treated via manual felling and yarded, whole-tree via helicopter, to a central landing for processing. Ground-based mechanized equipment may be used in areas where feasible. The Boulder County Youth Corps is planning to be utilized in the summer following treatment if they are needed for the rehabilitation of any impacts that may arise from the treatment itself. These activities may include weed mitigation, reseeding, and erosion control.

Material generated from the Betasso project will be utilized, in whole-tree chip form, as fuel for both of Boulder County's biomass heating systems. Boulder County's OSTC complex has been in successful operation since 2005 utilizing material generated from both its forested properties and community forestry sort yards. The Boulder County Jail biomass system has been online since 2011 and has the added advantage of domestic hot water. Since 2006, Boulder County has utilized the overwhelming majority of the woody biomass generated from BCPOS forestry projects as the primary fuel stream for the two heating plants which heat aproximately ~170,000 square feet, combined. Material will be processed at the landing via grinder or chipper and transported directly via live-floor chip van to both heating plant's respective fuel storage area.

3. Schedule of Work (Include projected start and end month for each block; the order of work among the various blocks; projected times to complete each block; specific measurable objectives for each block, such as residual density)

Response:

-Hire Project Manager (Spring 2015)
-Inventory forest stands (Summer 2015);

-Approve forest management prescription (Spring 2016);
-Write bid specifications (Spring 2016);
-Award Contract (Summer 2016)
-Initiate & Execute Contract (Fall 2016- to comply with MBTA)
-Project completion (2016/early 2017)

4. Quality Control (how grant reporting, documentation, and finances will be managed; description of how project will be managed to achieve grant scope of work)

Response:

The project will be managed by BCPOS forestry staff. A contractor will be hired to complete thinning operations and a Forestry Specialist will manage this project. BCPOS grant reporting, management and administration (finances) will be coordinated with Boulder County Finance and BCPOS Administration. Reporting will be provided based on CSFS requirements. BCPOS will be tracking staff time via electronic timekeeping.

CSFS GRANT REIMBURSEMENT REQUEST PACKAGE

Form 1 of 3

In order for the recipient to receive reimbursement, they **must** provide documentation supporting their costs and corresponding match. Reimbursement requests must be **typed** and contain Forms 1-3, receipts for actual costs (out of pocket expenses) incurred by the recipient, and any additional supporting documentation. Other costs and matching funds incurred by the recipient and/or donated by other resources must also be itemized and receipts provided when possible.

1. Make Payment To:

Name: Boulder County Parks & Open Space

Attn: Bridgette McCarthy

Address: 5201 St, Vrain Road

City, State, Zip: Longmont Co 80503

2. CSFS Account Number(s):

3. CSFS Account Title(s): BETASSO 2015 FUELS REDUCTION/FOREST Restoration PROJECT

4. Payment Amount Requested: $100,000.00 ***Account Number:*** SEE ATTACHED #805

Account Number:

5. Project Name: Betasso 2015 Fuels Reduction Project

6. Project Number (if applicable):

7. Total Award Amount: $100,000.00 ***Account Number:***

Account Number:

8. Reimbursed Amount to Date: $0.00 ***Account Number:***

Account Number:

9. Award Beginning Date: October 2, 2014

Award End Date: October 25, 2017

Payment number	***1st***	***2nd***	***3rd***	***4th***	***Final***

10. a) Reimbursement Request amount cannot exceed Total Award Amount.
b) Reimbursement will only be made if match requirement is met.
c) Reimbursement cannot exceed total project costs incurred by recipient.

A. Remaining Award Amount	B. Reimbursement Requested Amount (recipient cost)	C. Match Recipient and non-recipient (reimbursable costs that exceed the award amount and meet the scope of work or non-recipient cost donated and used as match)	D. Total Project Cost	E. Recipient Match Rate (%)
			B+C	C/D
$100,000.00	$100,000.00	$1,205,495.00	$1,305,495.00	92.34%

*** Results from Form 3 CSFS Cost Documentation Worksheet will auto populate the table above. Please review in detail and include all documentation supporting the recipient's costs and corresponding match.**

FOR STATE OFFICE USE ONLY

Checked for Federal suspension and debarment (State Office) https://www.sam.gov/portal/public/SAM/

Date: _____ KFS Document Number: _____

Vendor Number: _____ Approved for Payment: _____

CSFS GRANT REIMBURSEMENT REQUEST PACKAGE

Form 2 of 3

11. What has been accomplished? Please document accomplishments <u>for this reimbursement</u> using the fields below that meet the requirements listed in the project Scope of Work. Please be specific and report numbers such as acres treated, numbers of defensible spaces, tons of, cubic feet or yards of slash collected, number of presentations, number of plans written, etc., for which the award was granted. <u>Attach additional sheets as necessary.</u>

Fuels Reduction	***Planned***	***Completed***		***Planned***	***Completed***
Total Acres Treated:	199.2	199.2			
Number of Fuelbreaks:			(or) Acres:		
Number of D-Spaces:			(or) Acres:		
Cubic ft. or yards of Slash Collected:	1560/ton	1560/ton	(or) Acres:		

Reforestation					
Number of trees planted:			(or) Acres:		

Education and Outreach		
Number of workshops/meetings:		
Number of Attendees:		

Please list all communities impacted:

City of Boulder Watershed

Please provide any additional information regarding the project accomplishments:

Please refer to attached final report

12. I certify that to the best of my knowledge this re[illegible]ted are for the purposes set forth in the project documents (i.e. award notification, scope of w[illegible]nd accurate.

Grant Recipient Signature: Bridgette McCarthy Date: 10/25/2017

Grant Recipient Name: (print) Bridgette McCarthy

13. Certification: Work meets standards and specifications as set forth by the CSFS in the Scope of Work.

District Forester Signature: Allen Owen Date: 11/1/17

District Forester Name: (print) Allen Owen

14. Funding is available and request is approved for reimbursement.

Program Manager Signature: Date:

Program Manager Name: (print)

*** Original Signatures are required for reimbursement.**

CSFS GRANT REIMBURSEMENT REQUEST PACKAGE

FORM 3 of 3

Cost Documentation Worksheet

		Match		
A. Remaining Award Amount	**B. Reimbursement Requested Amount (Recipient Cost)**	**C. Match Recipient and non-recipient** (reimbursable costs that exceed the award amount and meet the scope of work or non-recipient cost donated and used as match)	**D. Total Project Cost = B+C**	**E. Recipient Match Rate = C/D**
$100,000.00	$100,000.00	$1,205,495.00	$1,305,495.00	92%

Date	By Whom	Activity/Expense	Hours	Reimbursement Value ($)	Match Value ($)	Category
Misc	Project Invoices	Fuels Reduction- Betasso I and Betasso II		$100,000.00	$1,205,495.00	Actual Cost
		See attached Boulder County IFAS reporting (grant & match); invoice copies				
		Total Project Cost:		**$100,000.00**	**$1,205,495.00**	

COPY

Doc. Nbr. 5395097

CSFS REQUEST FOR SUPPLIES OR SERVICES (other than GSA)

CSFS #805 (Rev. 4/93)

Date: Feb. 12, 2015 | Requested by: Allen Owen | Resale to: | CSFS Invoice #:

Vendor: Betasso 2015 Fuel Reduction Project / Boulder County Parks and Open Space

(PLEASE PROVIDE COMPLETE ADDRESS.)

Ship To: Allen Owen, District Forester
Colorado State Forest Service
5625 Ute Hwy
Longmont, CO 80503

(PLEASE PROVIDE COMPLETE ADDRESS.)

Reason for Vendor Selection:
____ Sole Source (attach completed Sole Source Justification form)
____ Previous Supplier
____ Other

Terms:

ENCUMBERED
02-20-15
RO

Shipping Instructions:
_____ FOB Fort Collins, Colorado
_____ FOB

Delivery Date:

Deliver to:
Initials _____ Bldg _____ Room _____ Phone _____

#	Account	Subc		UOM	Description of Supplies or Services	Unit Price	Item Total
1	1929200	6(			Project # 1929400-B001	$1,433	$1433
2	HB 1199				of work attached		
3	1929300	6			1929600-B001	$8,421	$8,421
4	HB 1199	F			of work attached		
5	1929300				# 1929600-B001	$30,051	$30,051
6	HB 1199				pe of work attached		
7	1929400				# 1929600-B001	$40,029	$40,029
8	HB 1199				pe of work attached		
9	1929400				# 1929600-B001	$20,1666	$20,1666
10	HB 1199				cope of work attached		

Hi Allen.
This copy is for Boulder Dist. Office file.
Best regards,
Karen Gaulin
(970) 491-8006
02-25-15

SPECIAL INSTRUCTIONS:

Please Encumber.

Approval:
Signature:
Date: 2/19/15

Subtotal: $100,100
Discount: $ -0-
TOTAL: $100,100

4

DISTRICT	PROJECT/APPLICANT	ACCOUNT #(S)/$ AMT	PROJECT #
BO	Betasso 2015 Fuel Reduction Project/ Boulder County Parks and Open Space	1929200 I (1433) 1929300 G (8421) 1929300 I (30,051) 1929400 G (40029) 1929400 I (20166)	1929600-BO01

Financial Assistance Program

Cooperative Match Project

COLORADO FOREST RESTORATION GRANT

To be conducted by:

Boulder County Parks and Open Space (BCPOS)

Funding Provided by CSFS:	**$100,000**
Minimum Recipient Match:	**$699,087**
Project to be Completed by:	**October 25, 2016**
Documentation due to District Office by:	**November 8, 2016**
Documentation due to State Office by: **(submitted and signed by District Forester)**	**December 5, 2016**

COPY

Based on the strength of the *Betasso 2015 Fuels Reduction Project* application submitted by Boulder County Parks and Open Space the Colorado State Forest Service is providing funding in the amount up to but not exceeding **$100,000** to accomplish the project described in the attached scope of work, Exhibit A, and the Plan of Operations.

As the cooperator, Boulder County Parks and Open Space will be reimbursed for costs incurred in implementing the project up to the amount listed above once the following requirements are met:

A. Complete all work as described in *enclosed EXHIBIT A, scope of work.*

B. Complete all work as described in *enclosed Plan of Operations.*

C. Provide appropriate cost documentation with *Form D, CSFS Financial Assistance Cost-Share Program Reimbursement Calculation Worksheet,* and *Exhibit B, CSFS Reimbursement Request Form* to reflect that project funds have been matched at amount stated in proposal which is at a minimum rate of 40%. Your required minimum match is listed above. *See notification letter if project is completed under budget.*

Complete and submit cost documentation through your local CSFS District Office for periodic and final grant reporting and reimbursement requests using the forms provided, as needed, as well as a Final Closeout Report that provides details on expenditures and accomplishments as a result of this project. Submission to:

Colorado State Forest Service
Attn: Allen Owen, District Forester
Boulder District
5625 Ute Hwy
Longmont, CO 80503

As a representative of the cooperator, I have read and understand the conditions of participating in this cooperative match project.

Cooperator Signature: Date:

Boulder County Parks and Open Space (BCPOS)

Mailing Address:	**Attn: Bridgette McCarthy** **5201 St. Vrain Rd** **Longmont, CO 80503**
Telephone Number:	**303-678-6276**
Email Address:	**bmccarthy@bouldercounty.org**

EXHIBIT A
COLORADO FOREST RESTORATION GRANT

SCOPE OF WORK

Cooperator: Boulder County Parks and Open Space
Work to be completed:

- Thin approximately 190 acres according to specifications outlined within the Management Plan of the Betasso Property
- Legacy-Tree Retention will retain all pine with characteristics of older, dominant trees as well as several replacements trees of the same species. The resulting structure will be a very open stand of large diameter trees with a vigorous understory
- Sanitation Cut will remove all pine infested with dwarf mistletoe in the areas where the infestation is concentrated
- Group Selection within homogenous pine stands to isolate clumps of trees in higher densities while opening up the surrounding forest
- Meadow Perimeter Strip Cut will remove all pine species within 50 feet of existing meadows greater than 1/4 acre in size.

All project standards and specifications to be followed are outlined in the enclosed Scope of Work and Plan of Operations. Additionally, an accredited youth corps will be utilized in the implementation of the Betasso 2015 Fuels Reduction project.

Standards or Guidelines: Will meet CSFS guidelines appropriate for treatment. Will comply with standards in *Forestry Best Management Practices to Protect Water Quality in Colorado (2010)*. All CSFS guidelines applied for treatment and any other best management practice utilized will be indicated within the *Plan of Operations*.

Project Period: September 8, 2014 to October 25, 2016.

Funded Amount: $100,000 **Minimum cooperator match: $699,087**

All work completed under this project must be certified as meeting minimum Colorado State Forest Service standards prior to any reimbursement being made to the cooperator. Form D entitled *CSFS Financial Assistance Cost-Share Program Reimbursement Calculation Worksheet* and Exhibit B entitled *CSFS Reimbursement Request Form* will be the document used to both request reimbursement and to certify that work has been completed to minimum standards.

Intermittent requests for reimbursement are permitted and must be accompanied by intermittent project accomplishments. Final requests for reimbursement must be accompanied by a final closeout report depicting total project accomplishments. Minimum reporting items:

- Accomplishments: examples include (quantified: # acres treated; # miles of fuelbreak; # of defensible spaces implemented; # of presentations with # of participants).
- Summary of Youth Corps participation, if applicable—this includes crew size, duration of participation, activity.
- Summary of project costs
  - Summary of actual costs, which are eligible for reimbursement, such as
    - Out-of-pocket expenses
    - Youth Corps
    - Award recipient labor

    (This is a sample of actual costs eligible for reimbursement and not an all-inclusive list. See page 2 of Form D for more examples)
  - Summary of costs not eligible for reimbursement, such as
    - Volunteer labor
    - Equipment purchases

    (This is a sample of costs not eligible for reimbursement and not an all-inclusive list. See page 2 of Form D for more examples)
- Digital before and after photos submitted electronically. Please do not embed tiff or jpg files into other documents or files.
- Electronic map and GIS data—local CSFS District Office must have necessary data to report map, or geospatial data, of project area.

COPY

Initials:

_____

_____

Carlin,KAREN

From: Marcus,Naomi
Sent: Friday, February 20, 2015 11:23 AM
To: Carlin,KAREN
Cc: Curtis,Richard
Subject: RE: Quick Question - Encumbrance for Betasso 2015 Fuel Reduction 1929600-BO01

Karen,

I appreciate you bringing this discrepancy to my attention. Since I have some unobligated dollars from 1929600, I have plenty of wiggle room to accommodate that extra $100. So let's stick with $100,100.

Thank you, again.

Naomi J. Marcus
Forest Stewardship Coordinator
CSFS-Forest Management Div.
(o) 970-491-7287

From: Carlin,KAREN
Sent: Friday, February 20, 2015 10:54 AM
To: Marcus,Naomi
Cc: Curtis,Richard
Subject: Quick Question - Encumbrance for Betasso 2015 Fuel Reduction 1929600-BO01

Hi, Naomi.

Your Project Listing for the HB12-1032 FY14 Forest Restoration Projects reflects a total of $100,100 for the Betasso 2015 Fuel Reduction project – Project Number 1929600-BO01; however, the Scope of Work only reflects an award of $100,000 (see pages 2 and 3 of the attached.) Please let me know which is correct. And, if the $100,000 is correct which account you would like me to adjust. Thanks.

Best regards,
Karen Carlin
Administrative Services
Colorado State Forest Service
(970) 491-3006

Final Report-CFR 2015 Betasso

Summary:

In 2014 Boulder County Parks and Open Space (BCPOS) was awarded a $100,000 Community Forest Restoration (CFR) grant to support a fuels reduction and forest restoration project at Betasso Preserve (Betasso), in northwestern Boulder County west of the City of Boulder. With this grant funding from the CFR program and matching funds from the State's Pre-Disaster Mitigation Program and the Hazard Mitigation Grant Program, Boulder County Parks and Open Space (BCPOS) was able to complete fuels reduction and forest restoration on approximately 209 acres in two units at Betasso.

Property Information:

Betasso Preserve is a 1,100-acre open space property owned by Boulder County which is located north of Boulder Canyon at T1N R71W Sec. 27, at an elevation of 5800 to 6500 ft., with several private homes directly adjacent to the east and south. The property is an extremely popular open space property in Boulder County, and includes recreational trails for biking and hiking as well as providing important ecological habitat areas. The entire property is located within the Boulder Creek watershed, and is a high priority area for fuel reduction activities in our County.

The City of Boulder Betasso Water Treatment Facility and Boulder Canyon Hydroelectric Facility are located within the project vicinity and their protection is a priority for Boulder County. The Betasso Water Treatment Facility is one of the two primary water sources for all City of Boulder residents. This project will help protect these water supplies. The Four Mile Fire (2010) occurred northwest of this project. This project will moderate future fire intensity and behavior, before it impacts the Water Treatment Facility.

BCPOS, through our Forestry program, was awarded grant funding from FEMA's Pre-Disaster Mitigation (PDM) program in 2013 to treat 91 acres. BCPOS expanded this acreage to include an additional 109 acres utilizing Hazard Mitigation Grant Program (HMGP) funding

Grant Approved Scope of Work/Deliverables:

Treatments in the Betasso project area would include variations of four silviculture practices:

1) Legacy Shelterwood will retain all pine with charactersistics of older, dominant trees as well as several replacements trees of the same species. The resulting structure will be a very open stand of large diameter trees with a vigorous understory;

2) Sanitation Cut will remove all pine infested with dwarf mistletoe in the areas where the infestation is concentrated. This will result in 6-12 acres of openings;

3) Group Selection will occur in the homogenous stands of pine with the intent to isolate clumps of trees in higher densities while opening up the surrounding forest;

4) Meadow Perimeter Strip Cut will remove all pine species within 50 feet of existing meadows which are greater than 1/4 acre in size.

Treatments would occur on approximately 200 acres, with the goal of reducing tree density by 50 to 70 percent. Due to the severe slopes in the project area, a portion of the trees were proposed to be hand cut and removed via helicopter or a cable-yarding system. Mechanized equipment wwas proposed to be used in areas where accessible.

The primary objective for the project was to provide opportunities to moderate potential fire intensity and behavior before it impacts the Betasso Water Treatment Facility and/or neighboring homes. Removing 50%-90% of overstory forest vegetation density across the project area would decrease the probability of torching in moderate and severe weather conditions, conditions based on Boulder County weather trends. The decreased probability of torching and discontinuous horizontal arrangement of the remaining trees would make it less likely for a sustained crown fire to occur. Increasing the canopy base height will increase torching index, the wind speed needed to carry fire into the tree crowns. The increase in canopy base height will require higher wind speeds for a crown fire to occur. The combination of treatments provide options for fire suppression before the water treatment facility is impacted, as well as provide opportunities and additional time for egress of the water treatment plant employees.

Background:

The risk of catastrophic wildfires in Colorado's forests is extremely high in part because of fuel loading due to closely spaced trees as well as shrubs and dead plant material that have accumulated over time. The amount of fuel loading within a specific area is influenced by forest type, insects/disease, weather conditions, and interval since last wildfire. In addition, the number of homes constructed in the wildland/urban interface (WUI) has increased sharply in recent years, and these homes represent additional areas that require protection during a wildfire (CSFS 2008), and increase the potential monetary loss associated with a wildfire. The Betasso area has been identified in the Colorado Statewide Forest Resource Assessment (2010) and was placed in the highest or second highest categories for all 3 National Themes for priority landscapes and emphasis areas for Colorado.

The hazardous fuels reduction treatment was planned as part of the Betasso Preserve Management Plan (2009), and BCPOS Forest Management Policy (2010. The management plan sets forest management objectives to thin the forest to reduce risk from catastrophic wildfires. Hazard fuel reduction is recommended by the Sugarloaf, Four Mile Canyon and Boulder County Community Wildfire Protection Plans (CWPPs) as part of a community-wide effort to reduce risk from wildfire and protect critical infrastructure.

Betasso Preserve has been actively managed throughout its ranching and mining history through present. The first Betasso Preserve Management Plan was written in 1985 and called for restoration and ecology based treatments. In the plan iterations since then, the forest objectives have remained largely unchanged, reflecting goals in wildfire protection, effective wildlife habitat and forest restoration.

Management Plan Recommendations, Betasso Preserve Management Plan

The applicable management plan objectives are excerpted below:

1985 Objectives (Page 17):

"5. Manage the property to encourage restoration of presettlement plant communities and to serve as an outdoor laboratory of a typical montane ecosystem.

6. Manage the forest resource of Betasso Preserve to minimize extreme fire hazards and perpetuate an ecologically sound forest environment. (BCPOS 1985, page 3)"

1988 Addendum:

"Forest Management Goals

- *To promote a healthy and vigorously growing forest through established silvicultural practices*
- *To maintain sufficient forest density and diversity to preserve wildlife habitat for birds and mammals*
- *To reduce fire hazards*
- *To improve and/or restore natural and scenic qualities"*

2009 Update (Page 38): *"A. Natural Resources Evaluation*

4. Forestry and Fire *...*

a. Discussion. *The majority of forested ecosystems across Betasso Preserve are within the lower montane zone. The historic forest type in this area was probably an uneven-aged mix of ponderosa pine and Douglas fir, which was present across the lower montane landscape for many centuries prior to European settlement, which occurred around 1860. Historical photos, settlers notes, fire ecology studies with fire scars and tree rings, and the dry climate preserving old logging evidence, all suggest a low density uneven-aged forest historically that consisted of about 10-60 trees per acre with a basal area range of 20-60 square feet per acre. These trees grew in clumps that varied in size and shape, and there were many small, medium and large size openings in between these clumps. These forested ecosystems below 8000 feet were subject to frequent, low-severity disturbances such as grazing and surface fire. Fire intervals historically ranged from 10-30 years. These low-severity frequent surface fires consumed surface fuels and consumed high percentages of seedlings and saplings that had established between fire events. Southern aspects at low elevation were even drier and had tree densities as low as 5-10 trees per acre. North facing aspects in the lower canyons historically had a higher tree density, and Douglas fir was also a component. These slopes did not burn as frequently as the south, west and east aspects, and the fire severity on north facing slopes was more mixed with some stand-replacing events. Bark beetles were probably also agents of change at the stand level, rather than the landscape level, due to low tree densities in the historical lower montane forests. That was not the case for the higher elevation forests to the west. Betasso Preserve currently is outside of its historic range of variability for low-elevation ponderosa pine-dominated ecosystems. A high percentage of the area consists of south and east aspects. Juniper is present on the low elevation, south and east aspects, which acts as a ladder fuel to increase the chance of fire getting into the canopy. Due to past overgrazing and fire suppression, the current densities are ranging from 60-2000+ trees per acre with basal area ranging from 60-200+ square feet per acre. Disturbances now occur infrequently and are more moderate-to-severe when they do occur. Bark-beetle activity will have a greater chance of higher mortality due to the density and lack of age diversity. Snags are also lacking on the property. The area is within the wildland urban interface of the City of Boulder, including its water treatment plant, which is located in the southeast corner of Betasso Preserve. Homes are also present around the entire property.*

The highest priority for forest management is in the southern portion of Betasso Preserve due to the infrastructure associated with the Betasso Water Treatment Plant, the Canyon Loop trailhead, and adjacent homes (Figure 8)(not shown). *Due to lack of access and very steep terrain within the Benjamin property, forestry management options are limited. Fourmile Fire Protection District has recently completed a shaded fuel break along Alaska Road for emergency access to homes on that road. BCPOS recommends that a higher density mixed and uneven-aged ponderosa pine and Douglas fir forest be maintained in this area for wildlife species dependent on higher density forests."*

Results:

Betasso Preserve PDM Unit: 90.0 acres

Three distinct prescriptions were utilized to reach the goal of fuels reduction and the 50-70% reduction. The prescription nuances emerged after on site characteristics were observed and the differences across the site became apparent. The prescriptions are recommended by scientific study and practice, primarily Reynolds, et al. 2013, and Huckaby et al. 2003, and through experience gained on similar fuels reduction projects on the Front Range and in the Lower montane ecozone.

1) Legacy Shelterwood- The legacy shelterwood is a traditional silvicultural prescription applied to ponderosa pine displaying old growth characteristics- (legacy trees). In areas with legacy trees, most young or transitional trees were removed, re-opening the canopy, resulting in an open forest of mainly large diameter trees that supports a variety of grasses and forbs in the understory. Legacy and remaining transition trees were arranged singly, and in groups and clumps, creating characteristic uneven-aged heterogeneous patterns on the landscape. The standard purpose of a shelterwood cut is to create uneven aged stands, removing the overstory over multiple entries to encourage growth of younger trees (Wenger, 1984). This treatment applied the principles of shelterwood, encouraging uneven aged stands, but the legacy trees were not removed.

Candidate areas for legacy shelterwood were south to south-west facing, moderately sloped, with two or more distinct canopy cohorts. Legacy trees met criteria outlined by Huckaby et al. (2003), and were not individually aged. Three to four well-formed transitional trees were left for every legacy tree. Transitional trees were left singly or in clumps, avoiding an evenly space appearance. Saplings/poles and transitional trees within 30' of legacy trees were removed unless they contributed significantly to the heterogeneity and character of the stand.

2) Group Selection- This silvicultural treatment was applied in the even-aged stands occurring primarily on north and north east slopes. These areas supported higher tree density, greater tree height, and diameter. In order to create a heterogeneous landscape mosaic, small group selection of 2-50 trees was utilized, resulting in a 30-50% reduction. This was distinct from the legacy shelterwood prescription because legacy trees were not targeted to remain, and were not a significant component. Group selection created canopy gaps and separated the uncharacteristic continuous stand into a mosaic of openings and small groups.

3) Mistletoe Sanitation- There was several pockets of heavy mistletoe infestation, mainly on the east and west flanks of Bummers Rock. Infested pockets have poor growth form and are often stunted with dead tops and multiple witches' brooms. The Dwarf Mistletoe Rating (DMR) was 4-6 on a scale of 0-6, with 6 being the highest level.

There were approximately 12 infested acres slated for treatment. Predominant residual tree cover is Douglas-fir and Rocky Mountain juniper, with a large increase in grass and forbs expected. Areas targeted for mistletoe sanitation were generally on west and northwest slopes, with moderate to low slope and multiple rocky outcrops. The terrain and remaining vegetation should mitigate any negative effects from a high density removal.

Betasso Preserve HMGP Unit: 109 acres

Three different forestry treatments, described below, were performed in specific areas throughout the project to meet distinct objectives.

1) Shaded fuel break, 40 acres

A shaded fuel break was placed along the ridgetop within the project area. The fuel break is 300 feet wide located along the ridge. All trees under 18 inches dbh were removed; no trees over 18 inches and no snags were felled. Most trees were removed via whole-tree method with minimal residual slash/activity fuels generated by the treatment as a result. Lopping and scattering of cut trees 0-6 inches to a depth less than 12 inches was utilized as a cost-containment measure but only increased slash by 1.2 tons per acre. In addition, any incidental slash generated by felling operations was lopped and scattered to less than 12 inches.

Removals:
297 trees per acre
1306 cubic feet per acre size class 6-18in
92 cubic feet per acre size class 0-6in

2) Thinning, 59 acres

Thinning of ponderosa pine occurred throughout 59 acres of the project area. Ponderosa pine trees were thinned to ~ 60% of the pre-treatment basal area (BA) throughout all age classes under 18 inches. No trees over 18 inches were felled. Trees 6-18" d.b.h. were removed whole-tree, while the 0-6 inch trees were lopped and scattered. The resulting slash depth does not exceed 12 inches, on average and increased surface fuels by approximately one ton per acre.

Generally, ponderosa pine trees were retained singly and in small, age-diverse groups. Dead trees/snags were retained on site for wildlife habitat and coarse woody debris. Trees with good growth form and vigor Keene's class 1 or 2 were selected for retention over class 3 or 4.

Removals:
172 trees per acre
814 cubic feet per acre size class 6-18in
32 cubic feet per size age class 0-6in

3) Pruning and < 6inch removal, 10 acres

Along the northeast border of the project area, a pruning and understory cutting regime was completed. All ponderosa pine trees < 6 inches dbh were cut. All trees were pruned to 7 feet, but no more than 33% of the live tree crown was removed. Trees designated for removal, as well as all slash, was lopped and scattered to a depth less <12 inches which resulted in an approximate increase of one ton per acre of slash. Slash was removed from under the crowns of the residual overstory.

Removals:
125 trees per acres
57 cubic feet per acre size class 0-6in

***Legacy ponderosa pines** are pines that meet at least 5 of the 7 criteria for old growth, but have not been age verified through dendrochronology.*

Summary of work completed:

Unit borders and excluded wildlife habitat areas were marked using paint. Unit was harvested utilizing 'designation by description'. Individual or groups of trees, with unique, desirable characteristics, were marked for retention with descriptive flagging or paint. Specific marking styles were indicated in the RFP Scope of Work. All borders and exclusions were indicated on a map prior to harvesting operations.

The harvesting method for this project was whole-tree. Felling was accomplished manually with chainsaws. Due to adverse terrain and erosive soils, aerial yarding, with a helicopter, was utilized. 1560 tons (64 semi-loads) of harvested material was subsequently processed at a pre-designated landing, via grinder, directly into live-floor vans, for transportation to Boulder County's biomass heating systems located in Boulder and Longmont. In addition, 8 semi-loads of logs were shipped to the Gilpin County biomass heating system. Excess material disposal was the responsibility of the contractor.

This project was completed, per contract specs, December 21, 2016. Completion of landing rehabilitation, including seeding of disturbed areas, occurred spring of 2017 when site conditions were favorable.

Final Budget:

Budget Tasks:	Grant	Grant Actual	Match	Match Actual	Total Project
Betasso 1- PDM Unit	$50,000	$50,000	$619,047	$565,789	$615,789
Betasso 2- HMGP Unit	$50,000	$50,000	$529,203	$639,706	$689,706
Total	$100,000	$100,000	$1,148,250	$1,205,495	$1,305,495

Attachments:

- Pictures
  - Before/after forestry treatment
  - Post- Treatment Landscape
- Maps
  - Overall Project Area Location

Boulder County IFAS Reporting (Grant and Match account);
Invoices

PDM Unit Pix

Boulder County

Operations

PDM Unit Pix

Betasso Preserve – Pre project

PDM Unit Pix

Boulder County

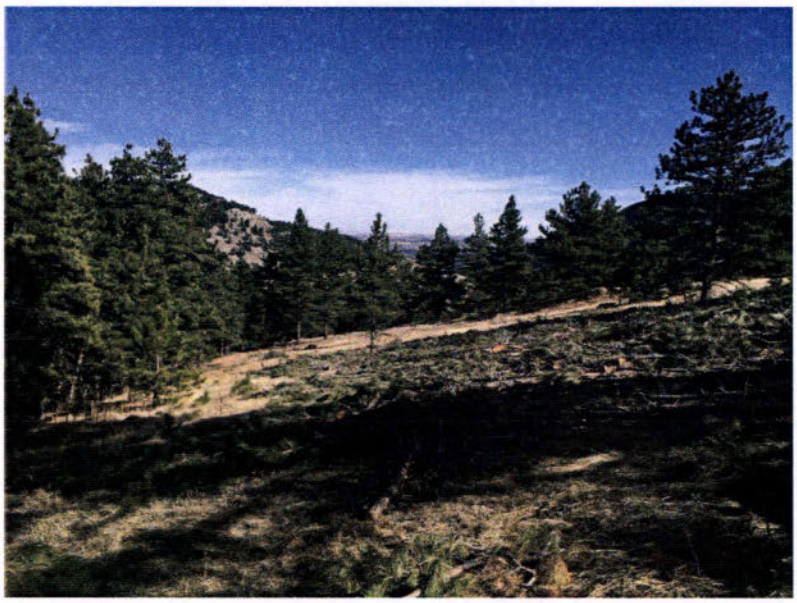
Betasso Preserve – Post project

Pix- HMGP Unit

PRE & POST PROJECT PHOTOS

Pix- HMGP Unit

Pix- HMGP Unit



Pix- HMGP Unit

Pix- HMGP Unit

Heliqwest Invoices			
	Invoice #	Invoice Date	Invoice Amount (before 5% Retainage)
PDM	2429	10/27/2016	$21,310.80
PDM	2435	10/31/2017	$15,500.00
PDM	2443	11/10/2016	$11,500.00
PDM	2457	11/29/2016	$456,179.40
PDM	2475	12/16/2016	$111,298.80
		Subtotal	$615,789.00
HMGP	2430	10/27/2016	$23,411.20
HMGP	2433	10/31/2016	$112,517.80
HMGP	2442	11/10/2016	$438,873.01
HMGP	2474	12/15/2016	$109,518.12
HMGP	2505	2/6/2017	$5,385.60
		Subtotal	$689,705.73
		Grand Total Invoices	$1,305,494.73

Invoices & IFAS Documentation

Parks and Open Space

[ ] CREDIT CARD MEMO [ ] FLOOD

[XX] PURCHASE MEMO

Vendor: _HeliQwest International INC

Invoice Total:_$21, 310.80 (Minus 5% Retainer)

FLOOD purchases must be invoiced separately from O&M

FLOOD: Three quotes required for purchases between $5,000 to under $100,000

FLOOD: Regardless of amount, all SERVICES require a contract "first"

:

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	017-5500-002	77400	LUWFFEBET	77400	$20,245.26
Desc	P117502, INV 2429, Less 5% Retainer $1065.54 Felling at Betasso 1				
Codes					
Desc					
Codes					
Desc					
Codes					

PAY THIS AMOUNT

FLOOD INFORMATION (Required)		
*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	
Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)		
*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links		
*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)		

Signature REINOLD **Date** 11/1/16

HELIQWEST
INTERNATIONAL INC.

11915 Airport Way #6
Broomfield, CO 80021

Phone (303) 469-2932
Fax (303) 466-3522

www.heliqwest.com

BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
27/10/2016	2429

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		P117502

Description	Qty	Rate	Amount
PROJECT - Betasso Preserve Open Space Forestry Management Services - Project Area PDM PA1			
Felling 90.3 Acers	90.3	236.00	21,310.80
SUBTOTAL			21,310.80
		Total	$21,310.80
		Balance Due	$21,310.80

- 5% RETAINER $ 1,065.54

Total $20,245.26

Parks and Open Space

[ ] **CREDIT CARD MEMO** [ ] **FLOOD**

[XX] **PURCHASE MEMO**

Vendor: _HeliQwest International INC

Invoice Total:_ $23,411.20 (Minus 5% Retainer)

FLOOD purchases must be invoiced separately from O&M

FLOOD: Three quotes required for purchases between $5,000 to under $100,000

FLOOD: Regardless of amount, all SERVICES require a contract "first"

:

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	010-3902-200	77400	11315J2001	77400	$22,240.64
Desc	P117502, INV 2430, Less 5% Retainer $1,170.56 Felling at Betasso 2				
Codes					
Desc					
Codes					
Desc					
Codes					

PAY THIS AMOUNT

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)

*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links

*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature (REINOLD) **Date** 11/1/16

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BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
27/10/2016	2430

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		P 117502

Description	Qty	Rate	Amount
PROJECT - Betasso Preserve Open Space Forestry Management Services - Project Area HMGP PA2			
Felling 99.2 Acers	99.2	236.00	23,411.20
SUBTOTAL			23,411.20
		Total	$23,411.20
		Balance Due	$23,411.20

- 5% Retainer $ 1,170.56

Total $22,240.64

Parks and Open Space

[ ] CREDIT CARD MEMO [ ] FLOOD

[XX] PURCHASE MEMO

Vendor: _HeliQwest International INC

Invoice Total:_ $112,517.80 (Minus 5% Retainer)

FLOOD purchases must be invoiced separately from O&M

FLOOD: Three quotes required for purchases between $5,000 to under $100,000

FLOOD: Regardless of amount, all SERVICES require a contract "first"

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	010-3902-200	77400	11315J2001	77400	$106,891.91
Desc	P117502, INV 2433, Less 5% Retainer $5,625.89 Aerial Yarding at Betasso 2				
Codes					
Desc					
Codes					
Desc					
Codes					

Pay this Amount

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)

*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links

*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature (REINOLD) **Date** 11/1/16

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BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
31/10/2016	2433

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		P 117502

Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services - Project Area HMGP PA2			
Aerial Yarding Per Acres	20	5,068.66	101,373.20
Processing Per Acres	20	557.23	11,144.60
SUBTOTAL			112,517.80
		Total	$112,517.80
		Balance Due	$112,517.80

-5% RETAINER $5,625.89

Total 106,891.91

Parks and Open Space

[ ] CREDIT CARD MEMO [ ] FLOOD

[xx] PURCHASE MEMO

Vendor: _HeliQwest International INC

Invoice Total:_$15,500.00 (Minus 5% Retainer)

FLOOD purchases must be invoiced separately from O&M

FLOOD: Three quotes required for purchases between $5,000 to under $100,000

FLOOD: Regardless of amount, all SERVICES require a contract "first"

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	001-1501-000	73650	415501001	73650	$14,725.00
Desc	P117502, INV 2435, Less 5% Retainer $775.00 Biomass Hauling at Betasso 2				
Codes					
Desc					
Codes					
Desc					
Codes					

PAY THIS AMOUNT

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)

*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links

*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature (RSINOLD) **Date** 11/1/16

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BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
31/10/2016	2435

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		P 117 502

Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services - Project Area HMGP PA2			
Chip Loads	31	500.00	15,500.00
SUBTOTAL			15,500.00
		Total	$15,500.00
		Balance Due	$15,500.00

-5% Retainer $ 775.00

Total $14,725

Parks and Open Space

[ ] CREDIT CARD MEMO [ ] FLOOD

[xx] PURCHASE MEMO

Vendor: _HeliQwest International INC

Invoice Total:_ $438,873.01 (Minus 5% Retainer)

FLOOD purchases must be invoiced separately from O&M

FLOOD: Three quotes required for purchases between $5,000 to under $100,000

FLOOD: Regardless of amount, all SERVICES require a contract "first"

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	10.39022	77400	11315J2001	77400	$416,929.36
Desc	P117502, INV 2442, Less 5% Retainer $21,943. Aerial Yarding at Betasso 2				
Codes					
Desc					
Codes					
Desc					
Codes					

Pay this Amount

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)

*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links

*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature (REINOLD) **Date** 11/14/16

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Broomfield, CO 80021

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BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
10/11/2016	2442

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		

Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services - Project Area HMGP PA2 PO# P117502			
Aerial Yarding Per Acres	79	5,068.66	400,424.14
Processing Per Acres	69	557.23	38,448.87
SUBTOTAL			438,873.01

Total	$438,873.01
Balance Due	$438,873.01

-5% Retainer $21,943.65

Total $416,929.36

Parks and Open Space

[ ] CREDIT CARD MEMO [ ] FLOOD

[xx] PURCHASE MEMO

Vendor: _HeliQwest International INC

Invoice Total:_$11,500 (Minus 5% Retainer)

FLOOD purchases must be invoiced separately from O&M

FLOOD: Three quotes required for purchases between $5,000 to under $100,000

FLOOD: Regardless of amount, all SERVICES require a contract "first"

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	001-1501000	73650	415501001	73650	$10,925.00
Desc	P117502, INV 2443, Less 5% Retainer $575.00. Hauling				
Codes					
Desc					
Codes					
Desc					
Codes					

Pay this Amount

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)

*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links

*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature (REINOLD) **Date** 11/14/16

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BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
10/11/2016	2443

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		

Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services - Project Area HMGP PA2 PO# P117502			
Chip Loads	23	500.00	11,500.00
SUBTOTAL			11,500.00

Total	$11,500.00
Balance Due	$11,500.00

-5% RETAINER $575.00

Total $10,925

Parks and Open Space

[ ] CREDIT CARD MEMO [ ] FLOOD

[xx] PURCHASE MEMO

Vendor: _HeliQwest International INC

Invoice Total:_ $456,179.40 (Minus 5% Retainer)
FLOOD purchases must be invoiced separately from O&M
FLOOD: Three quotes required for purchases between $5,000 to under $100,000
FLOOD: Regardless of amount, all SERVICES require a contract "first"

:

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	017-5500-002	77400	LUWFFEBET	77400	$433,370.43
Desc	P117502, INV 2457, Less 5% Retainer $22,808.97 Aerial Yarding Betasso 1				
Codes					
Desc					
Codes					
Desc					
Codes					

Pay this Amount

FLOOD INFORMATION (Required)		
*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	
Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)		
*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links		
*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)		

Signature (REVOLV) **Date** 12/1/16

HELIQWEST
INTERNATIONAL INC.

11915 Airport Way #6
Broomfield, CO 80021

Phone (303) 469-2932
Fax (303) 466-3522

www.heliqwest.com

BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
29/11/2016	2457

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		

Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services - Project Area HMGP PA1 PO# P117502			
Aerial Yarding Per Acre	90	5,068.66	456,179.40
SUBTOTAL			456,179.40
		Total	$456,179.40
		Balance Due	$456,179.40

-5% Retainer $22,808.97
Total 433,370.43

Parks and Open Space

[ ] **CREDIT CARD MEMO** [ ] **FLOOD**

[XX] **PURCHASE MEMO**

Vendor: _HeliQwest International INC

Invoice Total:_$109,518.12 (Minus 5% Retainer $5475.91) $104,042.21 — Pay this Amount

FLOOD purchases must be invoiced separately from O&M

FLOOD: Three quotes required for purchases between $5,000 to under $100,000

FLOOD: Regardless of amount, all SERVICES require a contract "first"

:

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	001-1501-000	77400	415501001	77400	$1,350.00
Desc	PO P117502, INV 2474, Betasso PA2 (Final From Facilities)				
Codes	010-3902-200	77400	11315J2001	77400	$47,500.00
Desc	PO P117502, INV 2474, Betasso PA2 (HMGP Grant)				
Codes	010-3902-200	77400	11315J2004	77400	$50,009.84
Desc	PO P117502, INV 2474, Betasso PA2 (CFR Grant)				
Codes	010-3902-200	77400	11315J2003	77400	$5,182.37

Pay these Amounts From THESE ACCOUNT STRINGS

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)

*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links

*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature (RS INVOLD) **Date** 1/4/17

HELIQWEST
INTERNATIONAL INC.

11915 Airport Way #6
Broomfield, CO 80021

Phone (303) 469-2932
Fax (303) 466-3522

www.heliqwest.com

BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
15/12/2016	2474

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		

Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services - Project Area PA2 PO# P117502			
All Pay Categories Complete	1	109,518.12	109,518.12
SUBTOTAL			109,518.12
		Total	$109,518.12
		Balance Due	$109,518.12

5% RETAINER $ 5,475.91
Total $104,042.21

Parks and Open Space

[ ] **CREDIT CARD MEMO** [ ] **FLOOD**

[XX] **PURCHASE MEMO**

Vendor: _HeliQwest International INC

Invoice Total:_ $111,298.80 (Minus 5% Retainer $5564.94) $105,733.86 → Pay this Amount

FLOOD purchases must be invoiced separately from O&M

FLOOD: Three quotes required for purchases between $5,000 to under $100,000

FLOOD: Regardless of amount, all SERVICES require a contract "first"

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	017-5500-002	77400	LUWFFEBET	77400	$48,708.21
Desc	PO P117502, INV 2475, Betasso PA1 (PDM Grant)				
Codes	017-5500-002	77400	PFBT14000	77400	$47,500.00
Desc	PO P117502, INV 2475, Betasso PA1 (CFR Grant)				
Codes	017-5500-002	77400	415501001	77400	$9,525.65
Desc	PO P117502, INV 2475, Betasso PA1 (CIP)				
Codes					

Pay These Amounts Totaling $105,733.86

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)

*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links

*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature (REWOLD) **Date** 1/4/16

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www.heliqwest.com

BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
16/12/2016	2475

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		

Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services - Project Area PA1 PO# P117502			
All Pay Categories Complete	1	111,298.80	111,298.80
SUBTOTAL			111,298.80
		Total	$111,298.80
		Balance Due	$111,298.80

-5% RETAINER $5,564.94
Total $105,733.86

Parks and Open Space

[ ] CREDIT CARD MEMO [ ] FLOOD

[XX] PURCHASE MEMO

Vendor: _HeliQwest International INC

Invoice Total:_$5,385.60 (Minus 5% Retainer $269.28) $5,116.32
FLOOD purchases must be invoiced separately from O&M
FLOOD: Three quotes required for purchases between $5,000 to under $100,000
FLOOD: Regardless of amount, all SERVICES require a contract "first"

:

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	010-3902-200	77400	11315J2003	77400	$5,116.32
Desc	Inv 2505, PO P118267 Payment for work(Change Order) completed at Betasso 2 with 5%, $269.28 Retained.				
Codes					
Desc					
Codes					
Desc					
Codes					

PAY THIS AMOUNT

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)
*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links
*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature (REINOLD) **Date** 2/22/17

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INTERNATIONAL INC.

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Broomfield, CO 80021

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Fax (303) 466-3522

www.heliqwest.com

BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
02/06/2017	2505

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		P118267

Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services			
Additional Work 10.2 acres @ $528.00	10.2	528.00	5,385.60
SUBTOTAL			5,385.60

Total	$5,385.60
Balance Due	$5,385.60

-5% RETAINER 269.28

Total $5,116.32

Parks and Open Space

[ ] **CREDIT CARD MEMO** [ ] **FLOOD**

[XX] **PURCHASE MEMO**

Vendor: _HeliQwest International INC

Invoice Total:_ $29,439.45

FLOOD purchases must be invoiced separately from O&M

FLOOD: Three quotes required for purchases between $5,000 to under $100,000

FLOOD: Regardless of amount, all SERVICES require a contract "first"

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	017-5500-002	77400	LUWFFEBET	77400	$26,438.10
Desc	PO# P118267, Inv 2523, Retainer from Invoice 2429 ($1065.54), 2457($22,808.97),portion of 2475 ($2,563.59)				
Codes	017-5500-000	77400	PFBT14000	77400	$2,500.00
Desc	PO# P118267, Inv 2523, Portion of retainer from Invoice 2475 ($2,500.00)				
Codes	017-5500-000	77400	415501001	77400	$501.35
Desc	PO# P118267, Inv 2523, Portion of retainer from Invoice 2475 ($501.35)				
Codes					

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)

*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links

*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature **Date** 3/8/17

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BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
05/03/2017	2523

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		

Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services - Retainer from PDM Project - PA1			
PO# P117502 P118267			
PDM Invoice 2429	1	1,065.54	1,065.54
PDM Invoice 2457	1	22,808.97	22,808.97
PDM Invoice 2475	1	5,564.94	5,564.94
SUBTOTAL			29,439.45

Total	$29,439.45
Balance Due	$29,439.45

Parks and Open Space

[ ] **CREDIT CARD MEMO** [ ] **FLOOD**

[X X X] **PURCHASE MEMO**

ADMIN ONLY	
Vendor#:	FEMA PW#:
Inv Date:	PW Ref#:
Invoice #:	Category:
PO#:	Project JL Key:
Inv Total:	

Vendor: _HeliQwest International INC

Invoice Total:_ $35,045.79

FLOOD purchases must be invoiced separately from O&M
FLOOD: Three quotes required for purchases between $5,000 to under $100,000
FLOOD: Regardless of amount, all SERVICES require a contract "first"

	COST CENTER / SUB(GL KEY)	ACCOUNT # (GL OBJECT)	PROJECT CODE / SUB (JL KEY)	ACCOUNT # (JL OBJECT)	AMOUNT
EXAMPLE	*2711000*	*72500*	*800599000 or SEPT12G00*	*72500*	*$25.00*
Desc	*Copy Room/ Pens & Pencils*				
Codes	010-3902-200	77400	11315J2001	77400	$32,793.25
Desc	PO# P118267, Inv 2525, Retainer Invoice 2430($1,170.56), 2433($5,625.89),2442 ($21,943.65), 2435 ($775.00), 2443 ($575.00), part 2474 ($2703.15)				
Codes	010-3902-200	77400	11315J2003	77400	$326.01
Desc	PO# P118267, Inv 2525, retainer from 2505 ($269.28) and poprtion from 2474 ($56.73)				
Codes	010-3902-200	77400	11315J2004	77400	$1,926.53
Desc	PO# P118267, Inv 2525, Portion of retainer from Invoice 2474 ($2716.03), minus damage(-$789.50)				
Codes					

FLOOD INFORMATION (Required)

*Check County Approved Vendor (Debarment) List:		Date:
*Federal Debarment List Checked, (must attach screen print)		Date:
POS Project Number and Property Name:		
Physical Addresss or Lat/Long:		
Describe Damage and Scope of Work to Repair or Replace:	**Please type descrip/SOW, below:**	

Attach Photo of Flood Damage With Purchase Memo (FEMA requires photo documentation)
*County Debarment List: "First" check: InsideBC/Financial Services/Flood Tab/Quick Links
*Federal Debarment List website: "www.sam.gov" (if not listed in county's website)

Signature [signature] **Date** 3/8/17

HELIQWEST INTERNATIONAL INC.

11915 Airport Way #6
Broomfield, CO 80021

Phone (303) 469-2932
Fax (303) 466-3522

www.heliqwest.com

BILL TO
BOULDER COUNTY PARKS & OPEN SPACE DEPT 5201 ST. VRAIN RD LONGMONT CO 80503

Invoice

Date	Invoice #
05/03/2017	2525

AIRCRAFT	TERMS	P.O. NUMBER
N202WM		

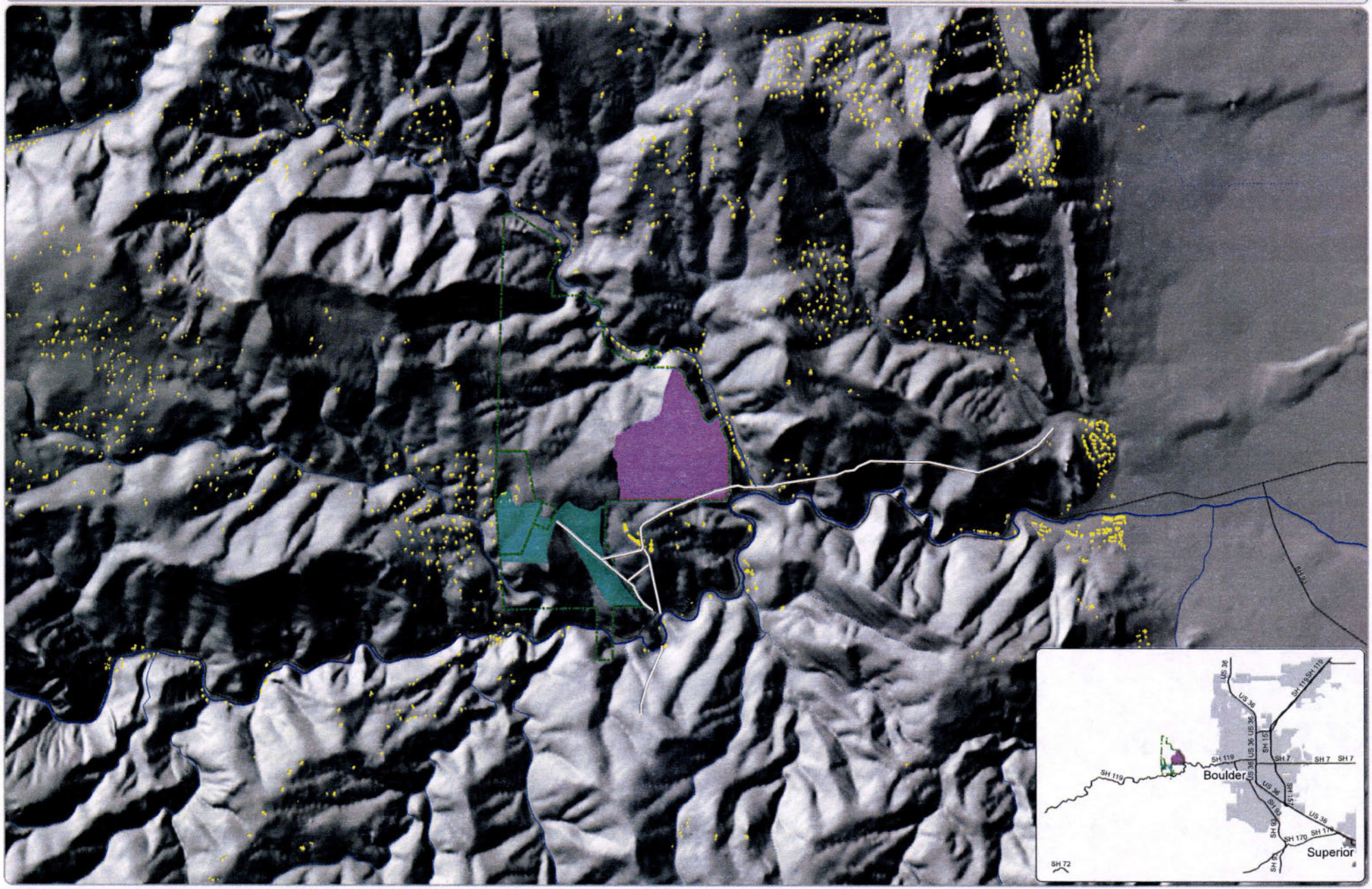
Description	Qty	Rate	Amount
Project: Betasso Preserve Open Space Forestry Management Services - Retainer from HMGP Project - PA2 PO# P117502			
HMGP Invoice 2430	1	1,170.56	1,170.56
HMGP Invoice 2433	1	5,625.89	5,625.89
HMGP Invoice 2435	1	775.00	775.00
HMGP Invoice 2442	1	21,943.65	21,943.65
HMGP Invoice 2443	1	575.00	575.00
HMGP Invoice 2474	1	5,475.91	5,475.91
HMGP Invoice 2505	1	269.28	269.28
Property Damage	1	-789.50	-789.50
SUBTOTAL			35,045.79

Total	$35,045.79
Balance Due	$35,045.79

Invoice	Inv. Date	Invoice Amt.	ACCOUNTS PA	Boulder County	From 1/1/2016 to 12/31/2017	Description	Account	Check Date	Check #
V18263	HELIQWEST INTERNATIONAL								
2429	10/27/16	20,245.26	V18263	OH353434	Paid	Betasso I,Forestry Fuel Reduct	GL 5500002-77400 / BC LUWFFEBET-77400	11/30/16	33583263
2430	10/27/16	22,240.64	V18263	OH353052	Paid	Betasso II, Forestry Fuel	GL 3902200-77400 / CW 11315J2001-77400	11/16/16	33582311
2433	10/31/16	106,891.91	V18263	OH353053	Paid	Betasso II, Forestry Fuel	GL 3902200-77400 / CW 11315J2001-77400	11/16/16	33582311
2442	10/11/16	416,929.36	V18263	OH354208	Paid	Betasso II, Forestry Fuel	GL 3902200-77400 / CW 11315J2001-77400	11/30/16	33583263
2457	11/29/16	433,370.43	V18263	OH356392	Paid	Betasso I,Forestry Fuel Reduct	GL 5500002-77400 / BC LUWFFEBET-77400	12/09/16	33583983
2474	12/15/16	47,500.00	V18263	OH360631	Paid	P117502 Batasso PA2 Facilities	GL 3902200-77400 / CW 11315J2001-77400	01/27/17	33587283
2474	12/15/16	50,009.84	V18263	OH360631	Paid	P117502 Betasso PA2 HMGPGrant	GL 3902200-77400 / CW 11315J2004-77400	01/27/17	33587283
2474	12/15/16	5,182.37	V18263	OH360631	Paid	P117502 BetassoPA2 CFR Grant	GL 3902200-77400 / CW 11315J2003-77400	01/27/17	33587283
2475	12/16/16	48,708.21	V18263	OH361344	Paid	Betasso I Forestry Reduction	GL 5500002-77400 / BC LUWFFEBET-77400	01/23/17	33586931
2475	12/16/16	47,500.00	V18263	OH361344	Paid	Betasso I Forestry Reduction	GL 5500002-77400 / BC PFBT14000-77400	01/23/17	33586931
2475	12/16/16	9,525.65	V18263	OH361344	Paid	Betasso I Forestry Reduction	GL 5500002-77400 / BC 415501001-77400	01/23/17	33586931
2505	02/06/17	5,116.32	V18263	OH367175	Paid	BETASSO 11 Forestry Fuel Reduc	GL 3902200-77400 / CW 11315J2003-77400	03/08/17	33590166
2523	03/05/17	26,438.10	V18263	OH368676	Paid	BETASSO 1 Forestry Fuel Reduct	GL 5500000-77400 / BC LUWFFEBET-77400	03/15/17	33590860
2523	03/05/17	2,500.00	V18263	OH368676	Paid	BETASSO 1 Forestry Fuel Reduct	GL 5500000-77400 / BC PFBT14000-77400	03/15/17	33590860
2523	03/05/17	501.35	V18263	OH368676	Paid	BETASSO 1 Forestry Fuel Reduct	GL 5500000-77400 / BC 415501001-77400	03/15/17	33590860
2525	03/05/17	32,793.25	V18263	OH368749	Paid	BETASSO 11 Forestry Fuel Reduc	GL 3902200-77400 / CW 11315J2001-77400	03/15/17	33590860
2525	03/05/17	1,926.53	V18263	OH368749	Paid	BETASSO 11 Forestry Fuel Reduc	GL 3902200-77400 / CW 11315J2004-77400	03/15/17	33590860
2525	03/05/17	326.01	V18263	OH368749	Paid	BETASSO 11 Forestry Fuel Reduc	GL 3902200-77400 / CW 11315J2003-77400	03/15/17	33590860

BCPOS Forestry CFRI Grant 2014

Parks & Open Space



Legend

- Major Perennial Stream
- Perennial Stream
- Intermittent Stream
- Underground Aqueduct
- Buildings and Structures
- U.S./State Highway
- County Open Space
- Treatment Area II (144 acres)
- Treatment Area I (92 acres)

2014

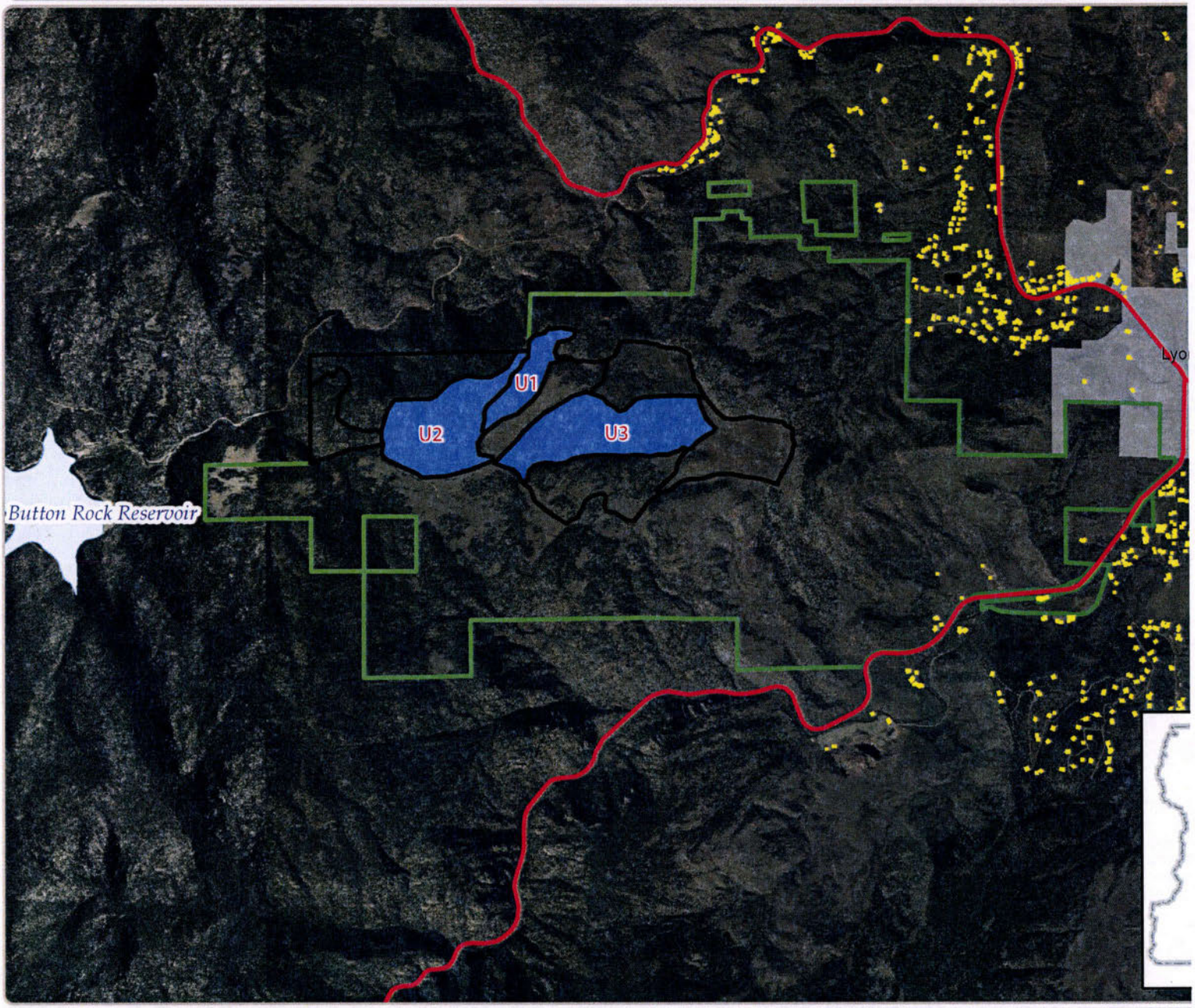
0 0.25 0.5 1 Miles

The user agrees to all Terms of Use set forth by Boulder County
For Terms of Use, please visit: www.bouldercounty.org/mapdisclaimer

FILE: V:\gisapl\Forestry\Staff\Nick\projects\CFRIGrant_Between_17x22_Land_20140716.mxd

N W E S

2014 WUI SFA Grant Concept Map: Hall Ranch Project Area 6 Units 1 & 2
Fuels Reduction & Forest Restoration Project



2013 Treatment Unit | Structures | County Open Space | FEDERAL/STATE HIGHWAY

0 0.5

Forest Restoration Grant Review Template

BCPOS

Project Name	Rank
Betasso 2015 Fuel Reduction Project	1

Map included

Yes

Cost-share rate—minimum 60:40

Yes

CWPP

Yes

Addresses water supply protection

Yes

Includes an ecological assessment of current conditions

Yes

Youth Corps involvement

Yes

Firewise Community/USA

No

Connection to Forest Action Plan

Yes

Forest product utilization

No discussion in application, see comment below

Validity of performance standards

Valid

Additional Comments

Overmatched (way) utilizing Fed, County and State money. Not sure what the state funding source is, but it's a very small percentage, would not affect overall project success or funding. Probably OEM $. Cost per acre is high, due to heli-logging or cable-yarding operation on steep slopes. Ecological assessment can be found in multiple POS documents, forest management plans, etc. Water supply protection includes Betasso water treatment plant (primary drinking water source for COB) and the Boulder Creek watershed. A solid larger landscape, watershed protection app. Product utilization is directed at the County's multiple Biomass heating facilities (jail and POS facility)

200ac | 5000/Ac

2014 HB12-1032 Colorado Forest Restoration Grant Program

FOR OFFICIAL USE ONLY	
Entity Submitting Project:	
County:	
Acres:	
Date:	
Dollar Amount Requested:	**$164,250**
Matching Share:	**$1,148,250**

1 Applicant Information

Name of Project:	Betasso 2015 Fuels Reduction Project
Applicant:	Boulder County Parks and Open Space (BCPOS)
Contact Person:	Chad Julian/Bridgette McCarthy
Address:	5201 St. Vrain Road
City/Zip Code:	Longmont, Co 80503
Phone (Work/Cell):	303-678-6202/303-678-6276
Email:	cjulian@bouldercounty.org/bmccarthy@bouldercounty.org
Fax:	303-678-6179

2 Community-at-Risk Information

Community Name:	Boulder
County:	Boulder County
Name of CWPP	Four Mile, Sugarloaf, Boulder County
Location to obtain/review	CSFS website: http://csfs.colostate.edu/

3 Grant Contributors (Matching Share)

(Applications will be disqualified if sufficient match is not identified.) Please specifythe name of each match contributor and the dollar amount of each contribution. Please DO NOT show grant -requested funds in this table. This is for matching share only, which is a minimum of 40 percent of total project cost.

Contributors: (Please specify)	BCPOS	FEMA PDM-2013	HMGP-FEMA-2014	State of Colorado			**TOTAL**
Dollars (Hard Match):	$181,440	$262,060	$595,500	$99,250	$0	$0	**$1,138,250** ✓
In-Kind (Soft Match):	$10,000	$0	$0	$0	$0	$0	**$10,000** ✓
TOTAL:	**$191,440**	**$262,060**	**$595,500**	**$99,250**	**$ 0**	**$ 0**	**$1,148,250** ✓

4 Total Project Expense (break down matching share totals from block three)

	Grant Share $ Amount requested	**Match (carry from block three above)**		**TOTAL**
		Dollars	**In-Kind**	
Personnel / Labor:	$0	$0	$10,000	**$10,000**
Operating:	$0	$0	$0	**$ 0**
Travel:	$0	$0	$0	**$ 0**
Contractual Services:	$164,250	$1,138,250	$0	**$1,302,500**
Equipment:	$0	$0	$0	**$ 0**
Indirect Costs:	$0	$0	$0	**$ 0**
TOTAL:	**$164,250** ✓	**$1,138,250** ✓	**$10,000** ✓	**$1,312,500** ✓

	Project Summary (check all that apply and answer related questions)			
	Does this project address the protection of water supplies? ☒Yes ☐ No			
	Is this project based on an ecological assessment of current conditions? ☒Yes ☐ No			
	Is this project area identified within a CWPP? ☒Yes ☐ No			
	Is this project identified through a CWPP? ☒Yes ☐ No			
	Is this project located within a Firewise Community/USA? ☐Yes ☒ No Identify the community(ies).			
	Is this project's concept identified in Colorado's State Forest Action Plan (Statewide Forest Resource Assessment & Strategy? ☒Yes ☐ No			
	Project Objectives (check all that apply) Any box checked needs to be further explained in proposal, and documented and implemented to receive grant reimbursement. See request for proposal-application instructions.			
5	Reducing threat of large, high-intensity wildfires and the negative effects of excessive competition between trees by restoring ecosystem functions, structures, and species composition, including the reduction of non-native species.		☒Yes	☐ No
	Preserving old and large trees to the extent consistent with ecological values and science.		☒Yes	☐ No
	Replanting trees in deforested areas, if such areas exist in the project area.		☒Yes	☐ No
	Improving the use of, or adding value to, small diameter trees.		☒Yes	☐ No
	Number of acres to be treated:	200	Estimated cost/acre:	$5,000.00
	Will the implementation of this project involve a contract with the Colorado Youth Corps Association or another accredited Colorado youth corps?		☒Yes	☐ No
	List the communities directly affected by this project:		City of Boulder, Fourmile Canyon, Sugarloaf	
	Project location (latitude/longitude or legal description):		40° 1' 8.864" N, 105° 20' 22.610" W	

	Budget Narrative **All information for the project must fit into the allotted character space provided below.** **Attachments will not be considered by the review committee. Characters include letters, numbers, spaces and punctuation.**
6	**Provide a brief description explaining exactly how the grant dollars will be spent and how these expenditures tie directly to the projects goals and objectives.** 500 characters Grant funds will be used to pay contractors to perform thinning operations on BCPOS lands to reduce wildland fire behavior and intensity; the contract will be managed by BCPOS staff. A Boulder County Youth Corps team will be used to help rake and pile in targeted project locations and for invasive weed mitigation.
	Project Area Description **All information for the project must fit into the allotted character space provided below.** **Attachments will not be considered by the review committee. Characters include letters, numbers, spaces and punctuation.**
7	**Provide a brief overview of the project and project area. Specify size (i.e. acreage) of project and land ownerships involved (e.g. private, county, state, federal, etc.). Include information on the relevant watershed. Describe how this project supports Colorado's State Forest Action Plan. Submit a single one-page map of the project area (view application instructions).** 1,750 characters This proposed project will be completed on Betasso Preserve, a 1,100-acre open space property owned by Boulder County that is located north of Boulder Canyon at T1N R71W sec. 33, at an elevation of 6000 to 6500 ft.,with private homes adjacent to the east and two structures within the project boundary. The property is a well used open space property for Boulder County, and includes recreational trails for biking and hiking and provides important ecological habitat closure areas. BCPOS was awarded grant funding from FEMA's PDM in 2013 to help thin 91 acres (this project will begin in 2015). BCPOS would like to expand this acreage to include an additional 109 acres using Hazard Mitigation Grant Program funding through FEMA (a 12.% local match from the State of Colorado would be included in funding the project). In total, this 2015 Betasso Fuels Reduction Project will thin 200 acres. The entire property is located within the Boulder Creek watershed, which incurred significant flooding during the Colorado 2013 Flood, and is a high priority area for thinning activities in our County. This area has been identified in the Colorado Statewide Forest Resource Assessment (2010) and was placed in the highest or second highest categories for all 3 National Themes for priority landscapes and emphasis areas for Colorado.
	Protection of Water Supplies **All information for the project must fit into the allotted character space provided below.** **Attachments will not be considered by the review committee. Characters include letters, numbers, spaces and punctuation.**
8	**Describe how the proposed project will contribute to the protection of water supplies, such as water quality, water quantity, and/or associated infrastructure.** 700 characters The City of Boulder Betasso Water Treatment Facility and Boulder Canyon Hydroelectric Facility are located within the project vicinity and their protection is a priority for Boulder County. The Betasso Water Treatment Facility is one of the two primary water sources for all City of Boulder esidents. This project will help protect these water supplies. The Four Mile Fire (2010) occurred northwest of this project. and mud slides are a significant concern with wildfires, as deposits of debris enter into nearby streams. This proposed project will moderate fire intensity and behavior, before it impacts the Treatment Facility, by removing 50%-70% of the standing forest vegetation density.

	Scope of Work **All information for the project must fit into the allotted character space provided below.** **Attachments will not be considered by the review committee. Characters include letters, numbers, spaces and punctuation.**
9	**Provide a brief scope of work. Describe what will be accomplished and measurements to define project completion, including forest product utilization specifications. Describe the scientific foundation for the project, specifically the practice and utilization standards (e.g. forest management plan, CWPP, professional publications, other professional technical resources, professional foresters or other natural resources professionals) that will be applied.** 2,000 characters Treatments in the Betasso project area would include variations of four silviculture practices: 1) Legacy Shelterwood will retain all pine with charactersistics of older, dominant trees as well as several replacements trees of the same species. The resulting structure will be a very open stand of large diameter trees with a vigorous understory; 2) Sanitation Cut will remove all pine infested with dwarf mistletoe in the areas where the infestation is concentrated. This will result in 6-12 acres of openings; 3) Group Selection will occur in the homogenous stands of pine with the intent to isolate clumps of trees in higher densities while opening up the surrounding forest; 4) Meadow Perimeter Strip Cut will remove all pine species within 50 feet of existing meadows which are greater than 1/4 acre in size. Treatments would occur on approximately 200 acres, with the goal of reducing tree density by 50 to 70 percent. Due to the severe slopes in the project area, the trees may be hand cut and removed via helicopter or a cable-yarding system. Mechanized equipment would be used in areas where accessible. This restoration proposal emphasizes forest restoration goals of BCPOS and the fire mitigation needs of the various fire protection districts. The scientific foundation for this project is based on forest restoration and fuel reduction strategies outlined in Appendix A of the Boulder County Forestry Policy (2010). The policy is the basis for the current Management Plan of the Betasso Property as well as the Boulder County CWPP, and is supported by the Boulder County Comprehensive Plan.
	Project Timeline **All information for the project must fit into the allotted character space provided below.** **Attachments will not be considered by the review committee. Characters include letters, numbers, spaces and punctuation.**
10	**Provide a timeline for the project, including significant accomplishment milestones during the project period.** 500 characters -Inventory forest stands (completed); -Write forest management prescription (Summer 2014); -Write bid specifications (Fall 2014); -Award Contract and initiate project (Early 2015); -Project completion (2015)

	Collaboration **All information for the project must fit into the allotted character space provided below.** **Attachments will not be considered by the review committee. Characters include letters, numbers, spaces and punctuation.**
11	**Specify the private, local, tribal, county, state, federal and/or non-governmental (501c3) organizations that participated in the design of this project, and describe how such partners will contribute to, or participate in, the project's implementation. Specify the role of any Youth Conservation Corps that will participate in project implementation.** 1,000 characters This project is part of a collaborative fuels reduction project being conducted with the City of Boulder, Nederland and BVSD. BCPOS works with the Boulder County Ecosystem Cooperative, and the Boulder County Wildfire Mitigation Group on thinning projects; these groups include USFS, CSFS, City of Boulder, Boulder County Land Use Department, and other agencies. BCPOS also uses Boulder County Youth Corps for various components onfuels reductions projects. Our agency will use this area to showcase as a successful demonstration and education site to other forestry operators. The CSFS will be a partner, if this grant is awarded, and County Land Use (Boulder County Wildfire Mitigation Group) will use this site as a demonstration area to showcase our work. BCPOS also participated with the Colorado Forest Restoration Institute in field assessments on this project.
	Project Longevity/Maintenance **All information for the project must fit into the allotted character space provided below.** **Attachments will not be considered by the review committee. Characters include letters, numbers, spaces and punctuation.**
12	**Identify the long-term benefits of the project and clearly specify the plans to sustain the long-term benefits of the project beyond project completion.** 500 characters This project is part of a phased project, and will be maintained by BCPOS: Post treatment monitoring: first year after project completion and every fifth year from that point. All resources (plants, wildlife) are monitored by BCPOS staff and maintenance will be funded by BCPOS. BCPOS has 10 years of monitoring history/results for comparison. Maintenance: prescriptions burns in 3-5 years; annual weed spraying.

ALL INFORMATION MUST FIT INTO THE BOXES PROVIDED. ATTACHMENTS, OTHER THAN THE REQUIRED MAP, AND/OR MODIFICATIONS WILL NOT BE CONSIDERED BY THE COMMITTEE.

Scope of Work and Plan of Operations

July 2014

Complete the following worksheet with grant applicant prior to formal award notification and project implementation. Use attached pages as needed.

Grant Project Name: Betasso 2015 Fuels Reduction Project

Grant Applicant Name: Boulder County Parks and Open Space

The following information provided will allow for grant progress monitoring. Communication with CSFS district staff is necessary to ensure appropriate inspection, reimbursement & project closeout.

1. Scope of Work (Extracted from the project proposal and clarified as appropriate, i.e. install 100 acre fuelbreak, 100 feet wide and 4500 feet long, according to CSFS guidelines and fuel mitigation standards to protect the Ponderosa HOA community. Additionally, project implementation will utilize the *Colorado Forest Stewardship Guidelines to Protect Water Quality: Best Management Practices*). If another equally or more stringent BMP is being applied then be sure to specify the BMP resource.

Response: This proposed project will be completed on Betasso Preserve, a 1,100-acre open space property owned by Boulder County that is located north of Boulder Canyon at T1N R71W sec. 27, 28, 33, at an elevation of 6000 to 6500 ft. Boulder County Parks and Open Space (BCPOS) was awarded grant funding from FEMA's PDM in 2013 to help thin 90 acres (this project will begin in 2015) and BCPOS will expand this acreage to include an additional 100 acres using Hazard Mitigation Grant Program funding through FEMA (a 12.5% local match from the State of Colorado would be included in funding the project). In total, this 2015 Betasso Fuels reduction Project will thin approximately 190 acres. The project acreage has been modified slightly to reflect sensitive species habitat that has been identified by BCPOS wildlife staff.

This treatment proposal emphasizes goals of BCPOS and the fire mitigation needs of the various fire protection districts. The scientific foundation for this project is based on forest restoration and fuel reduction strategies outlined in Appendix A of the Boulder County Forestry Policy (2010). The policy is the basis for the current Management Plan of the Betasso Property as well as the Boulder County CWPP, and is supported by the Boulder County Comprehensive Plan.

Treatment area I includes approximately 90 acres. This treatment area will see a density reduction between 50% and 90% from current levels. This area of treatment will focus on the forested area south and west of the Water Treatment Facility and along the road leading to it. Terrain and fuel loading align in this area to make suppression activities nearly futile and dangerous for personnel active in those efforts. BCPOS will be treating this area to moderate fire behavior before it reaches the road (a containment line) and adversely affects the main water supply for the city of Boulder.

Treatment area II is approximately 144 acres in size and the intention is to mechanically treat 100 acres within the treatment area polygon. Inventory work in treatment area II will begin after the award of the grant. All forest inventory activities will be conducted by County staff and in accordance with standard practices. Overstory vegetation will be selected using a variable radius sampling and surface fuels will measured using either planar intercept sampling or photoload sampling. While specific objectives for this project will be refined, it is likely that the density of forest vegetation will decrease by as much as 90% due to this treatment. Several drainages are found within the treatment area and they will be treated in accordance with state BMPs.

Treatment area II has changed location from the previous application due to the presence of a rare color morph of male prairie lizards (*Scelopus consobrinus*: formerly "Western Fence lizard" *S. undulatus erythrocheilus*). The presence of this species was not known at the time of the original application and has since been identified on the hillside below treatment area I. To minimize impacts on possible habit for this species, BCPOS felt it was necessary to move the treatment area to the north and east of the Water Treatment Facility.

As both treatment areas fall within the Lower Montane life zone, objectives will focus on lowering the density of existing ponderosa pine on the more xeric sites and breaking up horizontal continuity of canopy fuels on the more mesic sites. Southern aspects will be treated more heavily while north aspects may not be treated at all.

2. Description of Work (Include detailed prescription, such as species retention and removal, quantity of which species to be planted, crown or clump spacing, etc.; location of planned implementation of BMPs (maps); specific treatment blocks (maps); percent slope for each block; treatment method; plan for removal and/or utilization of wood and slash; contractor(s) and capabilities; crew size and/or equipment to be used; logging system(s) to be implemented; placement of landings and skid trail(s).)

Response: Treatments in the Betasso project area would include variations of silviculture practices: 1) Legacy-Tree Retention will retain all pine with characteristics of older, dominant trees as well as several replacements trees of the same species. The resulting structure will be a very open stand of large diameter trees with a vigorous understory; 2) Sanitation Cut will remove all pine infested with dwarf mistletoe in the areas where the infestation is concentrated; 3) Group Selection will occur in the homogenous stands of pine with the intent to isolate clumps of trees in higher densities while opening up the surrounding forest; 4) Meadow Perimeter Strip Cut will remove all pine species within 50 feet of existing meadows which are greater than 1/4 acre in size.

Specific strategies for density removal in treatment area II will be determined after County staff has had an opportunity to inventory forest structure across the proposed treatment area of 144 acres. A sufficient number of monitoring points will be established and inventoried until staff has confidence that the data set is representative of the variation present within the treatment area. This information will be used to model growth and fire behavior in the formulation of a specific prescription for the forest resources.

Due to the severe slopes in the project area, the majority of the area will be treated via manual felling and yarded, whole-tree via helicopter, to a central landing for processing. Ground-based mechanized equipment may be used in areas where feasible. The Boulder County Youth Corps is planning to be utilized in the summer following treatment if they are needed for the rehabilitation of any impacts that may arise from the treatment itself. These activities may include weed mitigation, reseeding, and erosion control.

Material generated from the Betasso project will be utilized, in whole-tree chip form, as fuel for both of Boulder County's biomass heating systems. Boulder County's OSTC complex has been in successful operation since 2005 utilizing material generated from both its forested properties and community forestry sort yards. The Boulder County Jail biomass system has been online since 2011 and has the added advantage of domestic hot water. Since 2006, Boulder County has utilized the overwhelming majority of the woody biomass generated from BCPOS forestry projects as the primary fuel stream for the two heating plants which heat aproximately ~170,000 square feet, combined. Material will be processed at the landing via grinder or chipper and transported directly via live-floor chip van to both heating plant's respective fuel storage area.

3. Schedule of Work (Include projected start and end month for each block; the order of work among the various blocks; projected times to complete each block; specific measurable objectives for each block, such as residual density)

Response:

-Hire Project Manager (Spring 2015)
-Inventory forest stands (Summer 2015);

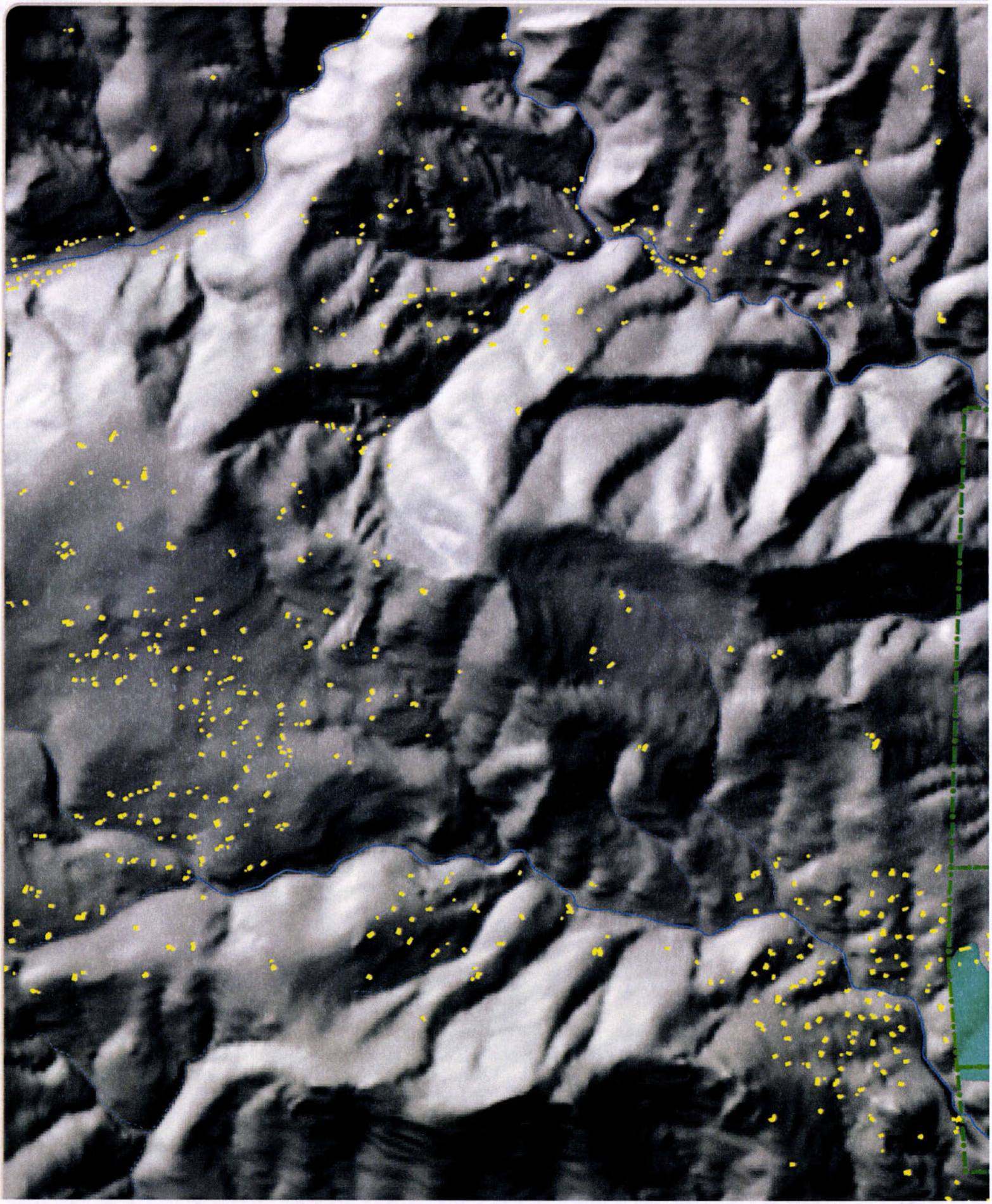
-Approve forest management prescription (Spring 2016);
-Write bid specifications (Spring 2016);
-Award Contract (Summer 2016)
-Initiate & Execute Contract (Fall 2016- to comply with MBTA)
-Project completion (2016/early 2017)

4. Quality Control (how grant reporting, documentation, and finances will be managed; description of how project will be managed to achieve grant scope of work)

Response:

The project will be managed by BCPOS forestry staff. A contractor will be hired to complete thinning operations and a Forestry Specialist will manage this project. BCPOS grant reporting, management and administration (finances) will be coordinated with Boulder County Finance and BCPOS Administration. Reporting will be provided based on CSFS requirements. BCPOS will be tracking staff time via electronic timekeeping.

BCPOS Forestry CFRI Grant 2014



Owen Jr,Allen

From: Marcus,Naomi
Sent: Wednesday, July 16, 2014 4:56 PM
To: Julian, Chad (cjulian@bouldercounty.org); McCarthy, Bridgette (bmccarthy@bouldercounty.org)
Cc: Owen Jr,Allen
Subject: 2014 Forest Restoration Grant Program
Attachments: SOW_Plan_of_Operations_2014(2).docx

Congratulations!

Your 2014 Colorado Forest Restoration Grant project has been approved for partial funding.

Project Name: Betasso 2015 Fuel Reduction Project

Award Amount: $100,000

Treatment Area: 121 acres

This notification is not your green light to initiate implementation. However, at this time you are to coordinate with your local CSFS District Forester to develop your detailed project Scope of Work and Plan of Operations.

District Forester: Allen Owen

Phone: 303-823-5774

Email: allen.owen@colostate.edu

Once the Scope of Work and Plan of Operations is completed and approved by the local CSFS District, the CSFS District will submit the project plans electronically to me **no later than August 6**. As soon as I receive the Scope of Work and Plan of Operations, I will prepare and send you the official award notification via postal service.

You may initiate project implementation as soon as you return to me the signed award notification as instructed within the notification cover letter.

Due to the late awarding timeline, I anticipate the project period to terminate around October/November 2016.

Please remember that any efforts, activities, and expenses prior to the official award notification are not eligible for reimbursement or match.

Please let me know if you have any questions about this project or this process.

Thank you,

Naomi J. Marcus
Forest Stewardship Coordinator
CSFS-Forest Management Div.
Colorado State University