

Progress Report No. 10



Project Name	Lane City Reservoir Project
TWDB Contract	1400011761
Reporting Period	March 1, 2017 to April 28, 2017 (TWDB 3Q2017)
From:	John S. McLeod, P.E., Project Manager
To	Matthew Webb/TWDB
Date:	May 30, 2017 Revised June 21, 2017

Summary

Overview: Construction of the Lane City Reservoir project continues to progress and is on schedule to be substantially complete by September 8, 2018. Weather during the period was generally favorable for construction but a 4" inch rain event in early March shut down most work for over a week. The river outfall cofferdam overtopped again in early April. A notable achievement was the start of construction of the river outfall canal structure. During the reporting period, over 8.6 inches of rain fell on the site during which there were 3 days with rainfall greater than 0.5-inches.

Grant Items: Construction of grant reimbursable items (river outfall, wave wall, and chimney drain) all continued to progress. A summary of work completed during the period is presented below:

- **River Outfall.** Contractor initiated construction of the river outfall canal outlet structure. This is the structure that feeds and controls water from the irrigation supply canal back into the river outfall. The in-river cofferdam overtopped again in early March. LCRA biologist captured and relocated aquatic species that were entrained within the flooded cofferdam. Note: The term "River Outfall" is also synonymously termed "River Return System" in the TWDB Contract.
- **Wave Wall.** Fabrication of wave wall segments continued during the period and approximately 1,590 completed segments were delivered to the site during the period. As of the end of April 2017, there were 2,065 segments on site, or approximately 60% of the planned 3,445 wave wall segments.
- **Chimney Drain.** Contractor's production rate increased during the period reflecting contractor continuing efforts to improve efficiency for installing chimney drains. Contractor achieved a project record by installing over 86,000 linear feet of chimney drain during April. Contractor completed 158,700 linear feet of chimney drain during the reporting period.

Payment Request: This status report will also accompany LCRA's request (Payment Request No. 4) for \$301,774 of reimbursable costs related to the construction of the wave wall segments. No payments are being requested for the chimney drain or river outfall as they have been 100% reimbursed. This payment request No. 4 completes all grant eligible TWDB reimbursements. To date, \$2,411,432 or 100% of the \$2,411,432 grant eligible work has been completed.

1. Work Completed During the Quarter

Table 1 summarizes work activities and accomplishments made during the reporting period. Note: The “(P)” indicates a photograph of the item is presented at the end of the report.

Table 1
Summary of Work Completed During Reporting Period

Scope Item	Description
Task 1 - Regulatory Considerations	<ul style="list-style-type: none"> • None. Task is complete
Task 2 - Construction	<ul style="list-style-type: none"> • <u>River Outfall</u> <ul style="list-style-type: none"> ○ Excavation of the river outfall canal structure. (P) ○ Relocated aquatic species entrained during cofferdam overtopping event.(P) • <u>Chimney Drain/Embankment</u> <ul style="list-style-type: none"> ○ Installed approximately 158,700 lineal feet (l-f) of chimney drain filter during the period, for a total installed footage of 617,846 l-f (P) • <u>Wave Wall</u> <ul style="list-style-type: none"> ○ Contractor delivered a large batch of segments during the period. Approximately 2,065 wave segments are currently on site.
Task 3 - Post Construction Documentation and Lessons Learned	<ul style="list-style-type: none"> • <u>Report</u> <ul style="list-style-type: none"> ○ Continued to collect and catalog construction photographs of construction means and methods. ○ Updated the table of contents and began work to identify report graphics and tables.
Task 4 - Outreach and Public Communication	<ul style="list-style-type: none"> • Presented paper at Texas Water 2017.

2. Work Planned for Next Quarter

Table 2 summarizes work activities planned for the next quarter.

Table 2
Summary Work Planned for Next Quarter

Scope Item	Work Planned
Task 1 - Regulatory Considerations	<ul style="list-style-type: none"> • None. Task is complete
Task 2 - Construction	<ul style="list-style-type: none"> • <u>River Outfall</u> <ul style="list-style-type: none"> ○ Place concrete at the canal inlet structure. ○ Begin construction of river outfall stilling basin.

Scope Item	Work Planned
	<ul style="list-style-type: none"> • <u>Chimney Drain</u> <ul style="list-style-type: none"> ○ Continue building chimney drain. • <u>Wave Wall</u> <ul style="list-style-type: none"> ○ Fabrication and delivery of approximately 300 wall segments.
Task 3 - Post Construction Documentation and Lessons Learned	<ul style="list-style-type: none"> • Continue collection and cataloging construction photographs of construction means and methods. • Completed first draft of table of contents, list of figures and tables.
Task 4 - Outreach and Public Communication	<ul style="list-style-type: none"> • Continue to explore other opportunities for public outreach.

3. Budget Status

Table 3 presents a summary of budgeted vs. actual for the 3 areas of work. Overall TWDB cost-share reimbursement to date is \$2,411,432 or 100% of the \$2,411,432 grant award.

**Table 3
Summary of Budget and Expenditures**

Item	Budget		Expenditures			Remaining TWDB Contribution
	Total Construction ¹	TWDB Contribution ⁵	Construction Paid to Date ²	Total TWDB Contribution To Date ³	% of TWDB Budget	
River Outfall	\$3,979,976.00	\$559,595.90	\$1,779,319.23	\$559,595.90	100%	\$0.00
Chimney Drain ⁴	\$5,052,170.00	\$1,316,968.41	\$4,187,498.92	\$1,316,968.41	100%	\$0.00
Wave Wall	\$3,848,167.00	\$534,867.69	\$1,755,533.87	\$534,867.69	100%	\$0.00
Total	\$12,880,313.00	\$2,411,432.00	\$7,722,352.02	\$2,411,432.00	100%	\$0.00

¹ Total construction budget is based on a construction contract with Phillips & Jordan (PJ) executed on Nov. 19, 2015. Construction budgets are based on contractor's baseline Schedule of Values.

² Total paid by LCRA to contractor for each Item.

³ Includes current reimbursement request

⁴ Contractor's estimated chimney drain cost component of embankment construction inception thru February 28, 2017.

⁵ TWDB Contribution budget reallocated. See Table 5 for details.

Table 4 presents a breakdown of TWDB contributions this period and inception to date.

**Table 4
TWDB Contribution Details**

Item	Total LCRA Expenditures During Period ¹	TWDB Contribution This Period ²	TWDB Contribution Previous Periods	Total TWDB Contribution To Date ³	TWDB Budget ⁵	TWDB Remaining Contribution
River Outfall	\$0.00	\$0.00	\$559,595.90	\$559,595.90	\$559,595.90	\$0.00
Chimney Drain ⁴	\$0.00	\$0.00	\$1,316,968.41	\$1,316,968.41	\$1,316,968.41	\$0.00
Wave Wall	\$1,014,376.87	\$301,773.82	\$233,093.87	\$534,867.69	\$534,867.69	\$0.00
Total	\$1,014,376.87	\$301,773.82	\$2,109,658.18	\$2,411,432.00	\$2,411,432.00	\$0.00

¹ LCRA actual expenditures to contractor during the period of Mar-Apr 2017. Note: LCRA expenditures for River Outfall and Chimney Drain not shown.

² Restricted to remaining TWDB Contribution per an effective rate of 29.7496% of Total LCRA Expenditures.

³ Includes current reimbursement request

⁴ Contractor's estimated chimney drain cost component of embankment construction inception thru February 28, 2017.

⁵ TWDB Budget reallocated. See Table 5 for details.

Table 5 presents the current allocation of grant budgets. There were no reallocations during the reporting period.

Table 5
Reallocation of TWDB Contribution Budget

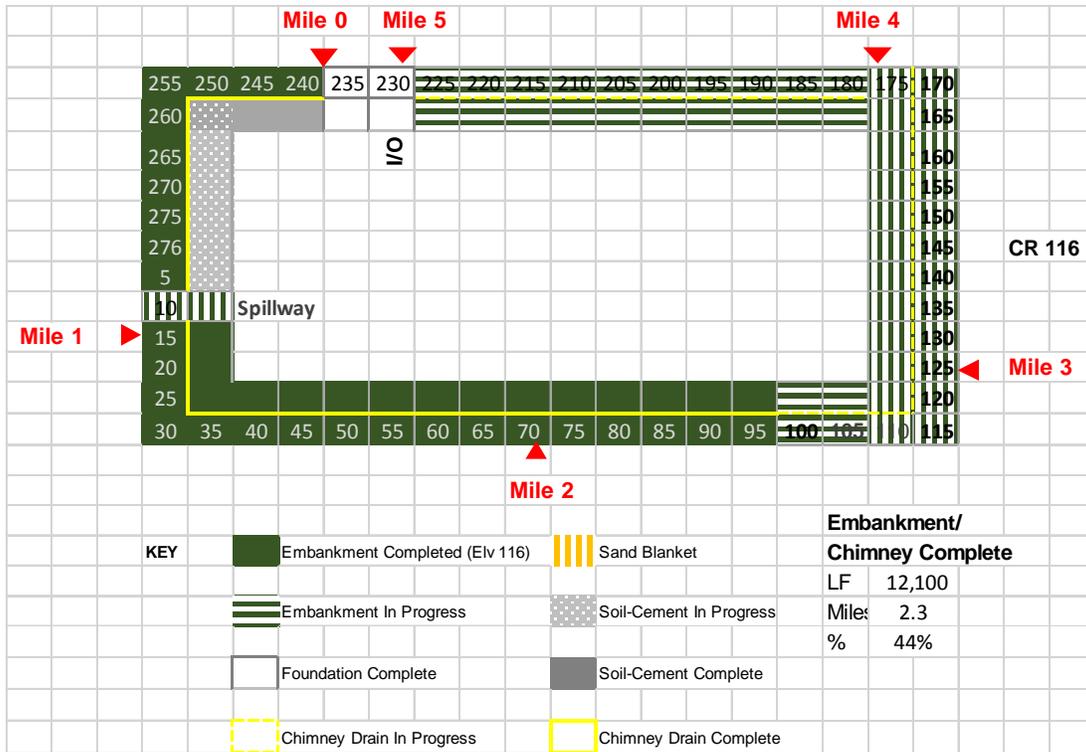
Item	Original Budget	Reallocated Budget	Change	Change as % of Original
River Outfall	\$723,430.00	\$559,595.90	-\$163,834.10	-23%
Chimney Drain ⁴	\$1,085,144.00	\$1,316,968.41	\$231,824.41	21%
Wave Wall	\$602,858.00	\$534,867.69	-\$67,990.31	-11%
Total	\$2,411,432.00	\$2,411,432.00	\$0.00	0%

4. Construction Status and Project Schedule

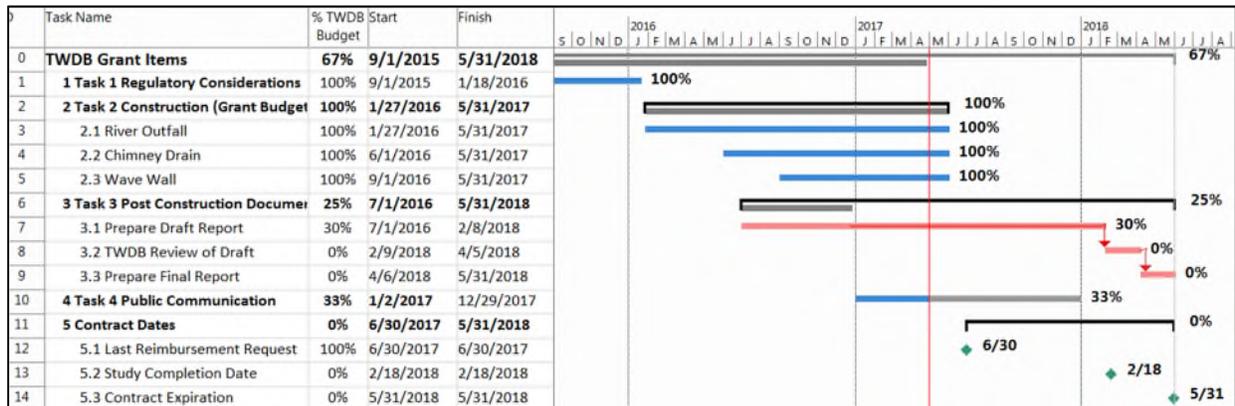
The status of Lane City Reservoir construction as of April 30, 2017 is summarized in Table 6 below. Percentages are for overall construction completion.

Table 6
Construction Status

Component	% Complete	Comments
Overall Project	57 %	Substantial completion for the project is Sept. 8, 2018, based on a Nov. 18, 2015 notice to proceed and a 1020 calendar day construction contract with Phillips & Jordan Inc. This contract includes construction of all 3 components included in the TWDB grant.
River Outfall	31%	Work progress in this facility is slower than anticipated due to high river flows. Contractor has completed excavation for the canal outlet structure, excavation of the outlet pipe trench, and construction of the temporary cofferdam. Pipe materials are on site. Contractor expects to continue excavation within the cofferdam and begin installation of the stilling well permanent sheet pile in June.
Chimney Drain & Embankment	66%	Overall embankment and chimney drain construction is approximately 66% complete. A graphical summary of embankment completion is shown in the figure below.
Wave Wall	60%	Based on discussion with contractor the wave wall approximately 2,065, or 60% of the 3,445 planned segments have been completed.



An overview of the grant schedule is shown in the figure below. It shows the reimbursement schedule for the river outfall, chimney drain, and wave wall components; delivery of the Task 3 Construction Report, and Task 4 Public Communication tasks.



5. Local Participation

Table 7 summarizes the local expenditures by the general contractor. Local expenditures account for approximately 14% of total expenditures for the construction component of the Lane City Reservoir Project.

Table 7
Local Participation Status through April 2017

<u>Local Subcontracts by County</u>	<u>Totals</u>
• Wharton	\$ 544,386
• Matagorda	\$ 1,282,519
• Colorado	\$ 6,411,987
Local Subcontracts	\$ 8,238,892
Local Labor (all counties)	\$6,002,213
Total Local Expenditures	\$ 14,241,105
Total Contractor Expenditures	\$ 99,288,729
% Local Participation	14%
Goal	15%

6. Risks and Concerns

None identified.

7. Photographs

**Toe Drain
Cleanout.**
2017.03.25



**Screening
Native Sand**
2017.03.21



**Vertical
Chimney
Drain**
~ STA 130+00
2017.03.25



**Inside RO
Cofferdam for
Relocation of
Aquatic**
2017.04.27



**River Outfall
Canal Inlet
Structure**
2017.04.24



**River Outfall
Canal Inlet
Structure**
2017.05.08



**River Outfall
Canal
Structure
Excavation**
2017.05.22



**TWDB Site
Visit**
2017.03.02

