

Reclamation District No. 2042
Bishop Tract
2018 Adequate Progress Report
For Urban Level of Protection

May 24, 2018

Prepared for:

Reclamation District No. 2042 – Bishop Tract and the City of Stockton

Prepared by:

Kjeldsen, Sinnock & Neudeck, Inc.

Contents

Overview	1
Project Improvements	3
Project Cost.....	4
Project Schedule	4
Project Funding	5

Appendices

- Appendix 1 – Conceptual Improvement Plans
- Appendix 2 – Detailed Cost Estimate
- Appendix 3 – Financial Report (as of 4/30/2018)
- Appendix 4 – 2017/2018 Budget

Overview

Reclamation District No. 2042 – Bishop Tract (RD 2042) has engaged Kjeldsen, Sinnock and Neudeck, Inc. (KSN) to prepare this document to support the demonstration of “adequate progress” toward the achievement of an Urban Level of Flood Protection (ULOP) within the RD 2042 basin. This document describes the steps that RD 2042 is taking to generate the local funding needed to advance and implement 200-Year levee improvements in accordance with the requirements of Senate Bill 5 (SB5).

RD 2042 is responsible for operating and maintaining the levee system and drainage facilities that provides flood protection for agricultural land, infrastructure, and urban development (comprised of residential and commercial). RD 2042 was formed in 1909, and currently encompasses an area of approximately 3,100 acres, surrounded by 8.0 miles of levee, all located within San Joaquin County. At the time of formation, RD 2042 originally consisted of nearly 2,200 acres. An annexation occurred in 1989 that extended the District’s eastern limits to Interstate 5 thereby adding just over 900 acres to RD 2042. Figure 1 shows the RD 2042 levees and boundary.

The levee system of RD 2042 currently provides a 100-year level of protection and is fully accredited by the U.S. Department of Homeland Security, Federal Emergency Management Agency (FEMA) as meeting the minimum certification criteria as outlined in Title 44, CFR, Section 65.10. FEMA maintains Flood Insurance Rate Maps (FIRMs) that delineate special flood hazard areas and assist lending institutions and federal agencies to determine whether flood insurance is required. RD 2042 is currently located on FIRM panel numbers 06077C0285F, 06077C0295F, 06077C0305F, and 06077C0315F

With the passage of SB5, the State of California has established that a 200-year level of protection shall be the new standard for urban and urbanizing areas. The existing RD 2042 levees currently do not meet the updated Urban Levee Design Criteria (ULDC) standards adopted by the Department of Water Resources, and the existing levees are not currently certified to provide 200-year protection.

Accordingly, the City of Stockton as the local land use agency, in coordination with RD 2042, are jointly pursuing efforts to achieve ULOP within the RD 2042 boundary.

On behalf of RD 2042, a team of Professional Engineers consisting of Peterson Brustad Inc. (PBI), KSN, and Kleinfelder has conducted an evaluation of the RD 2042 levee system in accordance with ULDC. The goal of the evaluation was to identify any deficiencies and countermeasures needed to comply with the State’s 200-year standards and to meet the requirements of making a ULOP finding for RD 2042’s levees for the City of Stockton. The purpose of this Adequate Progress Report is to address the ULOP requirements for adequate requirements:

1. Identify the geographic area which will have a ULOP once the improvements are completed
2. Describe the scope, schedule, and cost of completing the flood protection improvements described the Engineer’s Report
3. Identify critical features of the system which are under construction
4. Provide evidence that there are revenues sufficient to fund each year of the project improvements.

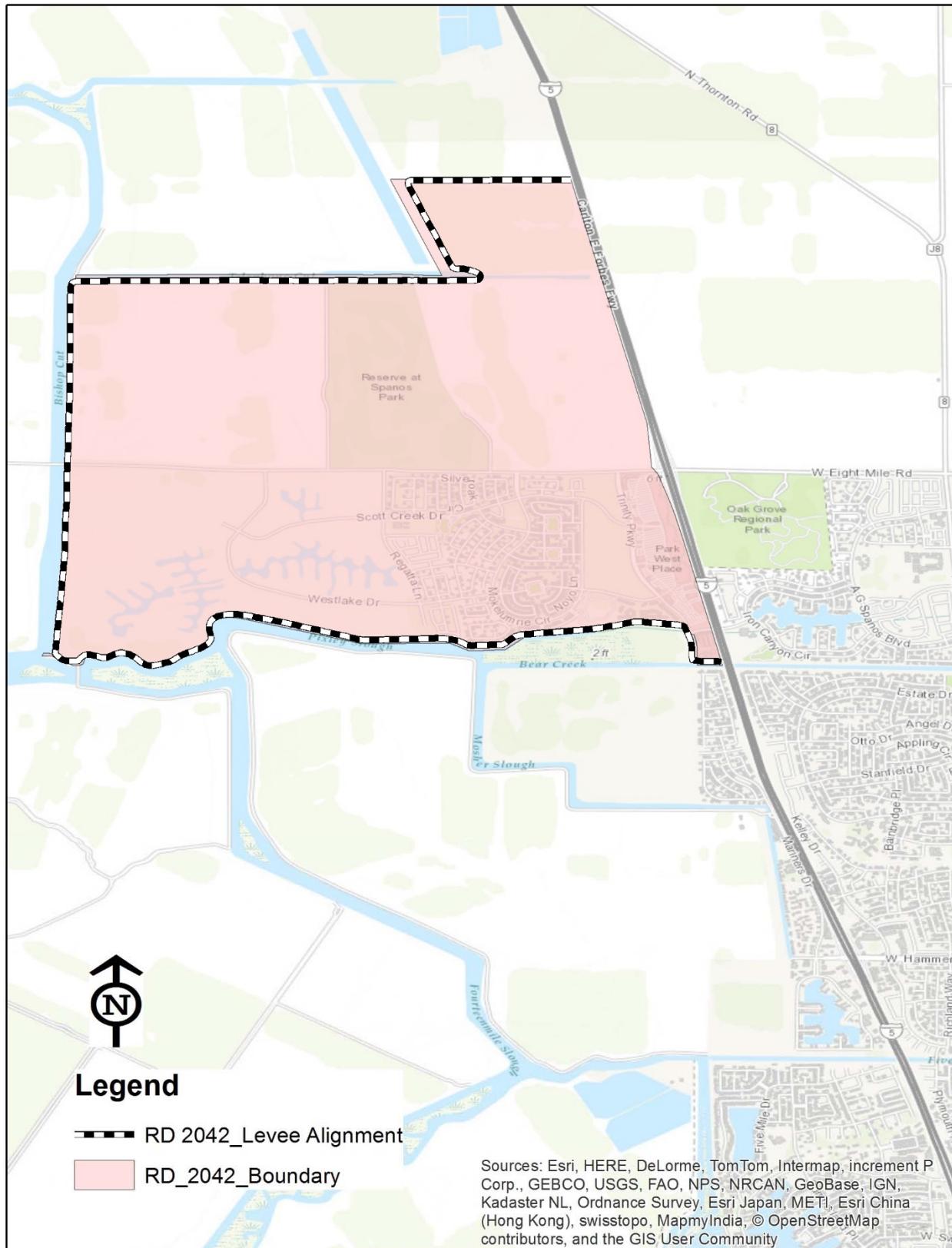


Figure 1 - RD 2042 Levee and Boundary

Project Improvements

In order for the RD 2042 levee system to meet ULDC, improvements are needed to pipe penetrations. Pipe penetration rehabilitation is necessary at various locations, primarily due to deteriorated conditions. The improvements consist of reconstructing pipe penetrations that cross the levee by removing and replacing the portion of pipe through the levee prism and installing a positive closure device (i.e. gate valve). The new pipes will be installed above the Design Water Surface Elevation (DWSE). Conceptual improvement plans are included in Appendix 1. Locations of the pipe penetrations to be rehabilitated are shown on Figure 2 and listed in Table 1.

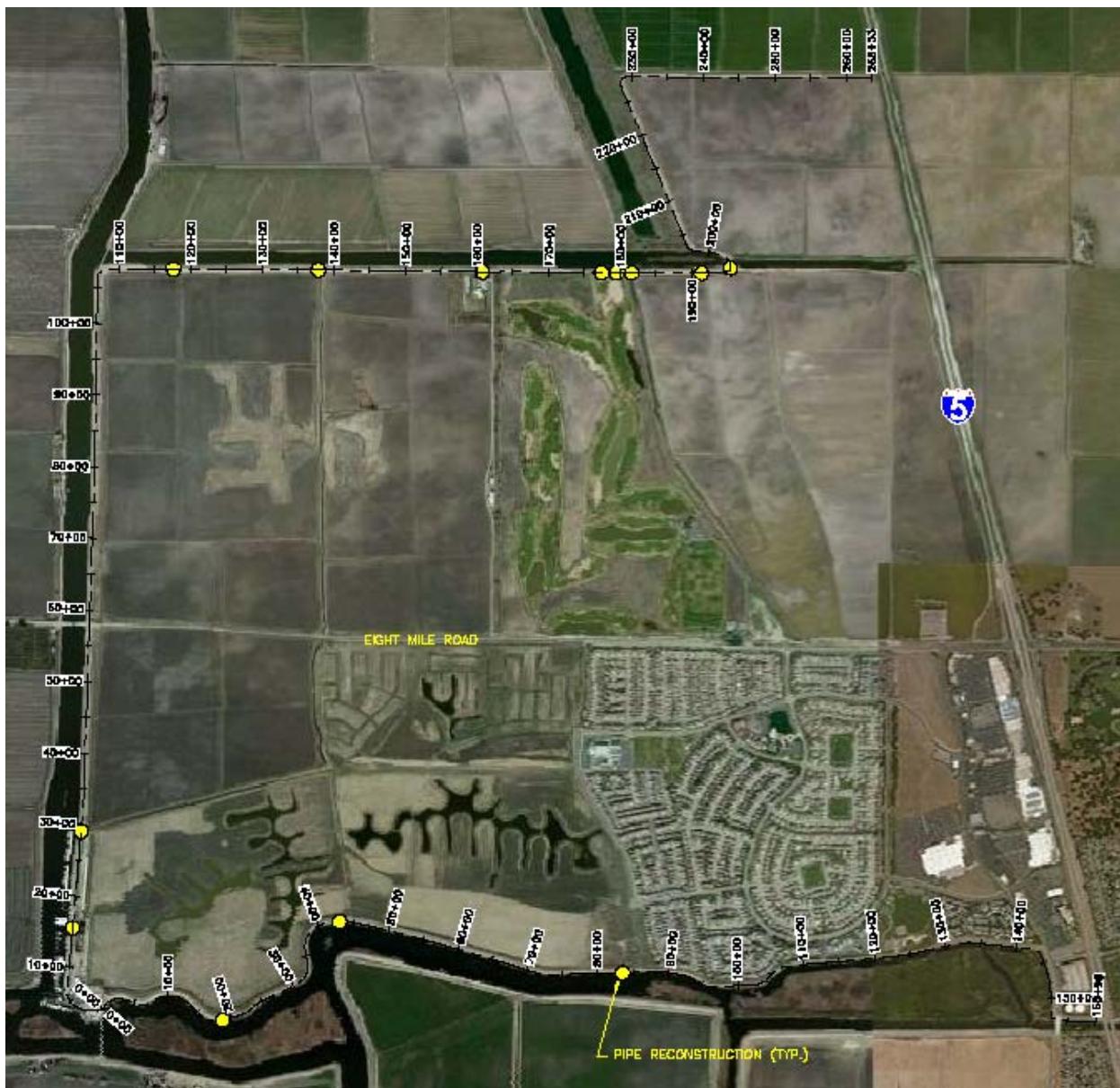


Figure 2 - Pipe Penetration Rehabilitation Locations

Table 1 - Pipe Penetration Rehabilitations

Station	Pipe Diameter (inches)
N 15+50	16
N 29+02	24
N 29+07	24
N 117+57 (completed)	12
N 137+81 (completed)	16
N 160+73 (completed)	16
N 177+38 (underway)	16
N 179+51 (no work needed ¹)	24
N 181+58 (underway)	16
N 191+34 (underway)	16
N 195+72	48
S 18+82	12
S 43+01	16
S 83+49	16

Project Cost

The total cost associated with the pipe penetration rehabilitations amounts to \$2,907,000 in 2017 dollars. This cost represents the total cost to obtain full ULDC compliance for the RD 2042 levee system. A summary of this cost is shown below in Table 2. A more detailed breakdown of the project costs is included in Appendix 2.

Table 2 - Summary of Project Costs

Description	Total Cost (2017\$)
Construction	\$1,730,000
Soft Costs	\$692,000
20% Contingency	\$484,400
Total:	\$2,907,000

Project Schedule

It is anticipated that approximately two pipes will be rehabilitated each year over a seven year time period. An estimated schedule of rehabilitation work is shown below in Table 3. An annual escalator of 3% was used to determine the total cost in any given year as shown in Table 3. Work on the 2018 penetrations is currently underway.

¹ Further investigation of the pipe penetration at Sta. N 179+51 has revealed that the pipe is newer and in much better condition than originally assessed. Therefore, no work is required for this pipe.

Table 3 - Estimated Project Schedule

Year	Pipe Penetration	Total Cost
2017	N 117+57, N 137+81, N 160+73	\$90,627 (actual)
2018	N 177+38, N 181+58, N 191+34	\$498,200
2019	N 195+72	\$604,700
2020	N 15+50, S 18+82	\$304,700
2021	N 29+02, N 29+07	\$609,500
2022	S 43+01, S 83+49	\$373,800

Project Funding

RD 2042 is the sole funding entity for the ULDC improvements. A current financial report that indicates balances for all RD 2042 funds is included in Appendix 3. There is currently a balance of \$1,237,820 in the contingency fund and \$503,892 in the ULDC fund.

As the sole funding entity, RD 2042 will be responsible for funding the improvements. The primary source of revenue for RD 2042 is from the existing assessment district which generates approximately \$550,000 per year. Other sources of income generate another \$107,000 per year. A copy of this year's RD 2042 budget is included in Appendix 4. In order to fund the improvements, RD 2042 has created a ULDC fund and will reallocate excess budget funds previously directed to the contingency fund. For the fiscal year 2017/2018, this translates to approximately \$300,000 being available to fund the second year of ULDC improvements.

A cash flow analysis that demonstrates a feasible solution for implementation of the needed 200-year ULDC improvements is shown below in Table 4. Table 4 conservatively assumes that the ULDC fund will be funded at \$300,000 per year. It is expected that this table will be refined over time as the planning and development of the project progress over time.

Table 4 - Cash Flow Analysis

Description	2017	2018	2019	2020	2021	2022
Beginning Balance	\$0	\$409,373	\$271,173	\$26,473	\$263,773	\$14,273
Revenues:						
ULDC Fund	\$0	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
Transfer from Contingency Fund	\$500,000	\$60,000	\$60,000	\$242,000	\$60,000	\$60,000
Total Revenues	\$500,000	\$360,000	\$360,000	\$542,000	\$360,000	\$360,000
Expenditures:						
ULDC Improvements	\$90,627	\$498,200	\$604,700	\$304,700	\$609,500	\$373,800
Total Expenditures	\$90,627	\$498,200	\$604,700	\$304,700	\$609,500	\$373,800
Ending Balance	\$409,373	\$271,173	\$26,473	\$263,773	\$14,273	\$473

Reclamation District No. 2042

Adequate Progress Report

Appendix 1
Conceptual Improvement Plans

RECLAMATION DISTRICT NO. 2042

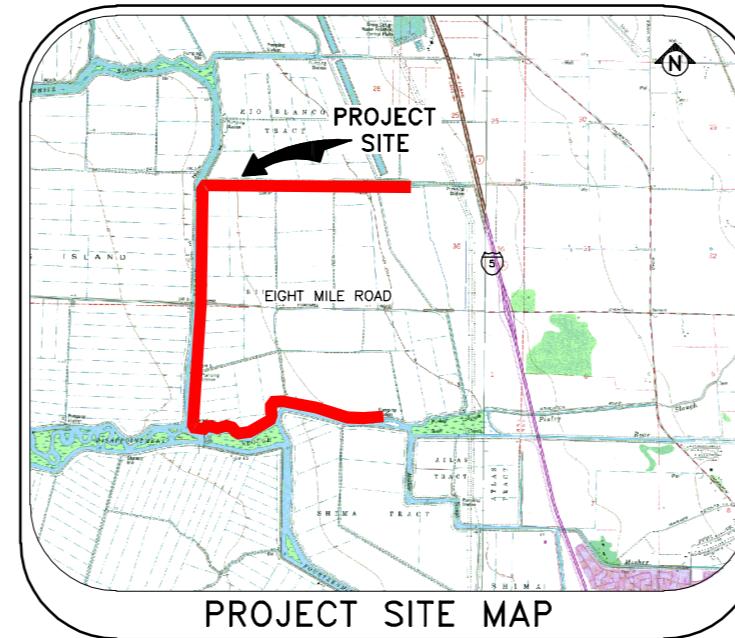
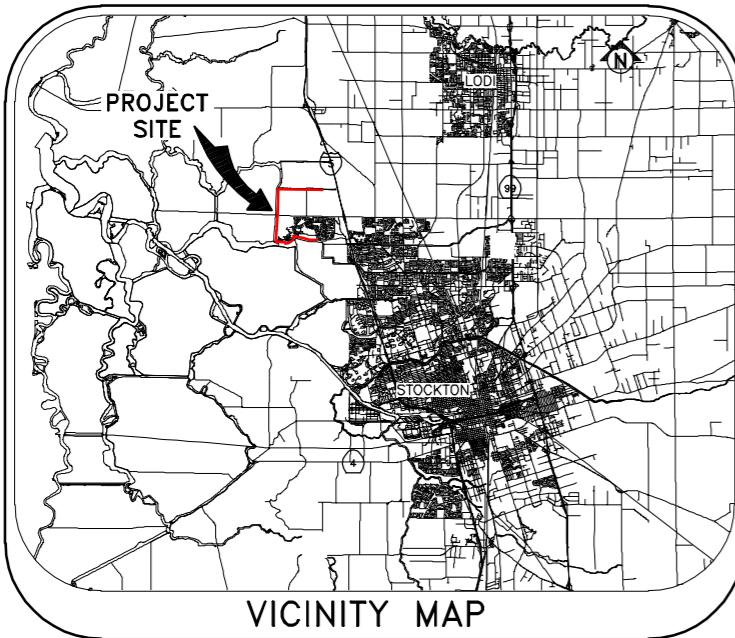
BISHOP TRACT

STOCKTON, CALIFORNIA

URBAN LEVEE DESIGN CRITERIA, PROJECT NO. 13.1

PENETRATION REHABILITATION

AT
VARIOUS LOCATIONS



SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	BASE MAP
3-5	DETAILS

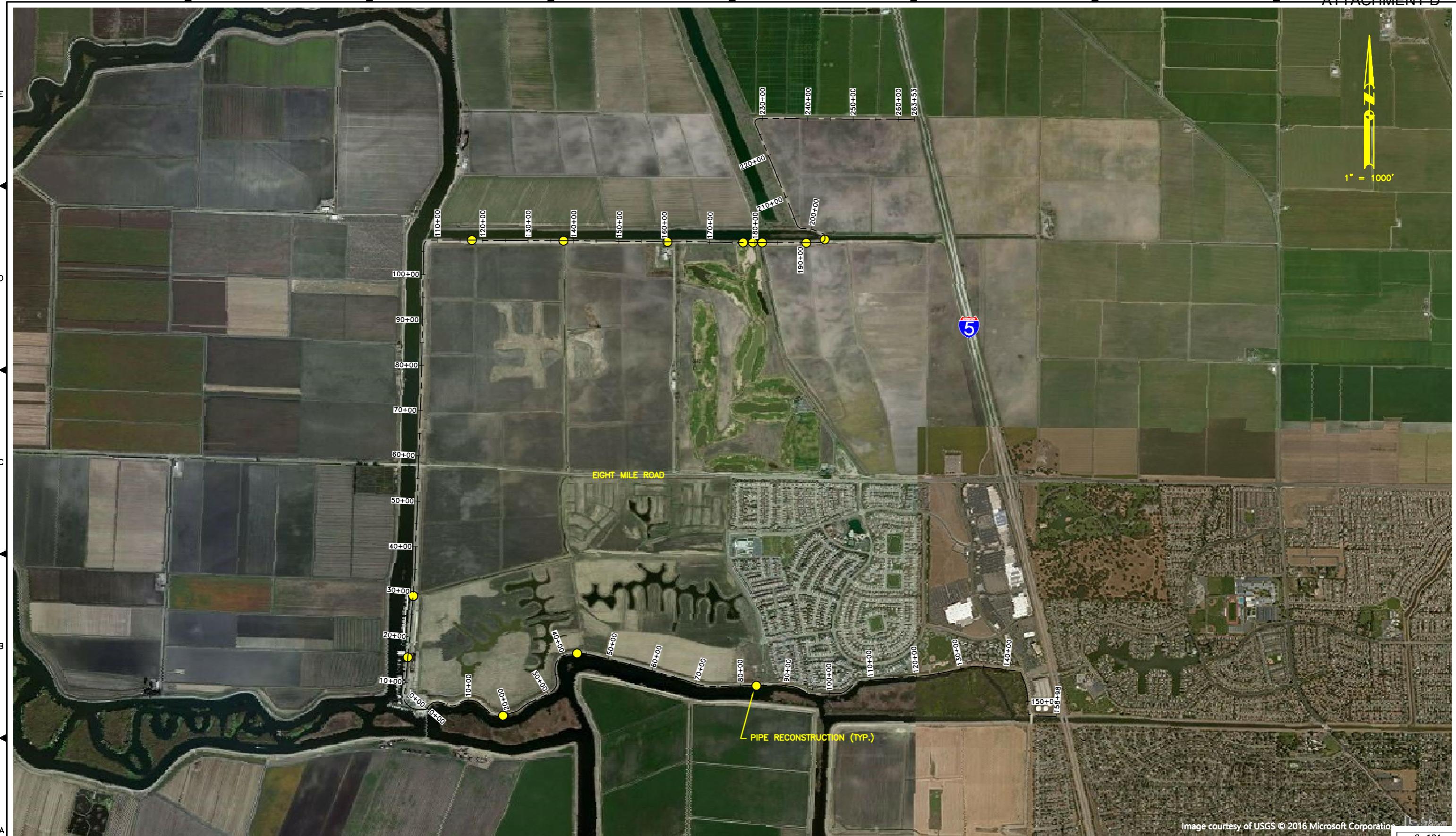
Submittal	
%	Date
10%	9/23/2016

**K
S
N**
**KJELDSEN
SINNOCK
NEUDECK**
 INC.
 Civil Engineers
and Land Surveyors
 711 N. Pershing Avenue
Stockton, CA 95203
(209) 946-0268
 1355 Holyard Drive, Suite 180
West Sacramento, CA 95691
(916) 403-5900
www.ksninc.com

RECLAMATION DISTRICT NO. 2042
ULDC PROJECT 13.1 – PENETRATION REHABILITATION
 STOCKTON, CALIFORNIA

TITLE SHEET

Revisions		Date	By	Aprvd. By	Design EEA	Scale	Date
No.	Description					AS SHOWN	SEPTEMBER 2016
					Drawn EEA	Sheet Number	
					Check CHN	Original Drawing Scale	
						0 1/2" 1"	
						1111111111	
						Project File No.	0752-0680



Submittal	
%	Date
10%	9/23/2016

**KJELDSEN
SINNOCK
NEUDECK**
INC. Civil Engineers
and Land Surveyors

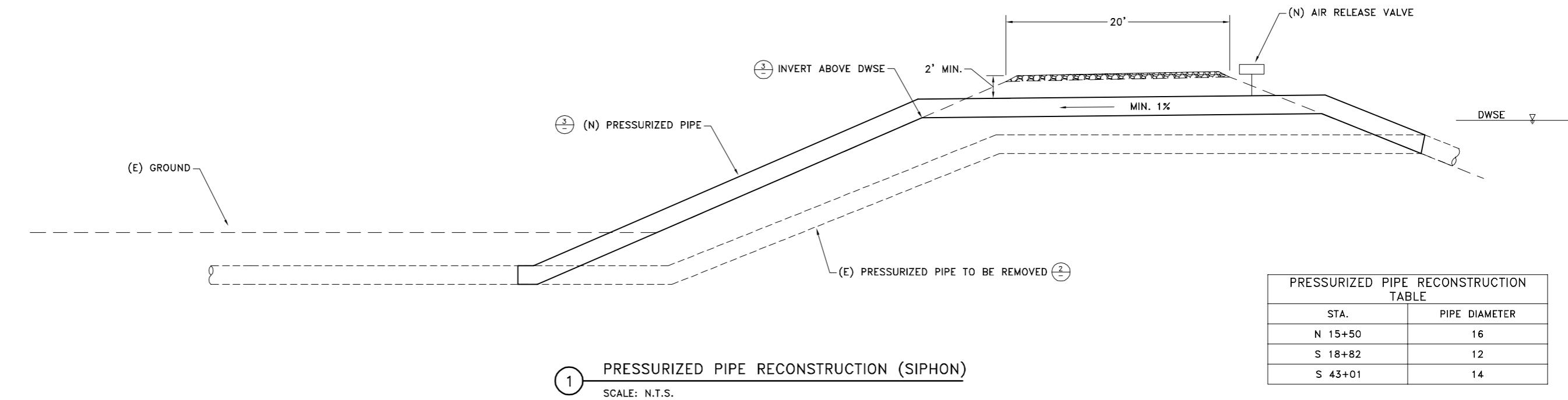
KJELDSEN SINNOCK NEUDECK
711 N. Pershing Avenue
Stockton, CA 95203
(209) 946-0268
1355 Halyard Drive, Suite
West Sacramento, CA 95835
(916) 403-5900
www.ksninc.com

RECLAMATION DISTRICT NO. 2042
ULDC PROJECT 13.1 - PENETRATION REHABILITATION
STOCKTON, CALIFORNIA

BASE MAP

2 BILITATION	Revisions					Design EEA	Scale 1" = 500'	Date SEPTEMBER 2016 Sheet Number 2 Of 5 Project File No. 0752-0680	
	No.	Description	Date	By	Aprvd. By				
						Drawn EEA	Original Drawing Scale 0 $\frac{1}{2}$ " 1 		
						Check CHN			

1 2 3 4 5 6 7 ATTACHMENT D



PRESSURIZED PIPE RECONSTRUCTION TABLE	
STA.	PIPE DIAMETER
N 15+50	16
S 18+82	12
S 43+01	14



Submittal	
%	Date
10%	9/23/2016



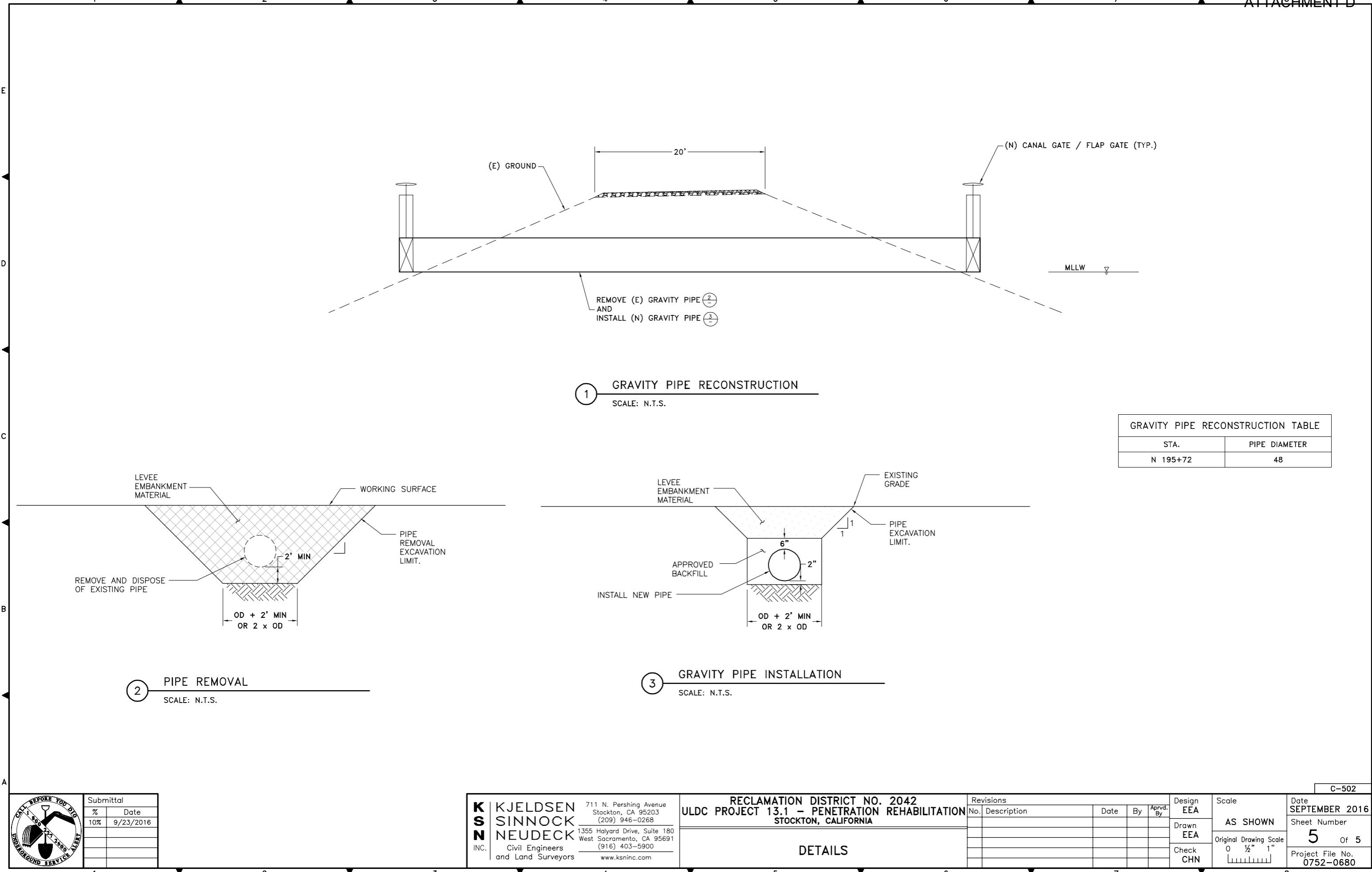
**KJELDSEN
SINNOCK
NEUDECK**
131
W
INC. Civil Engineers
and Land Surveyors

RECLAMATION DISTRICT NO. 2042
ULDC PROJECT 13.1 – PENETRATION REHABILITATION
STOCKTON, CALIFORNIA

DETAILS

Revisions					Design EEA	Scale AS SHOWN	Date SEPTEMBER 2016	
No.	Description	Date	By	Aprvd. By			Sheet Number	
							4	Of 5
					Drawn EEA	Original Drawing Scale 0 1/2" 1"		
					Check CHN		Project File No. 0752-0680	

FILE SPEC: P:\0722_Bishop\0680_147PC_Evaluation\08_Civil\400_Plans\020_CAD\Improvements\13_1_Sht 03_Details.dwg
FILE DATE: May 24, 2018
PILOT: 1.14.7PC



Reclamation District No. 2042

Adequate Progress Report

Appendix 2

Detailed Cost Estimate

RECLAMATION DISTRICT NO. 2042 - BISHOP TRACT
 ULDC EVALUATION
 STOCKTON, CALIFORNIA

OPINION OF PROBABLE COSTS
 DETAILS OF PROPOSED IMPROVEMENTS

Item	Description	Quantity	Unit	Unit Cost	Total Cost
------	-------------	----------	------	-----------	------------

PROJECT NO. 13.1

PENETRATION REHABILITATION

Construction

1. Mobilization				3%	\$49,000
2. Erosion Control				3%	\$49,000
3. Reconstruct Existing 12" Pipe	2	EA	\$60,000	\$120,000	
4. Reconstruct Existing 16" Pipe	8	EA	\$80,000	\$640,000	
5. Reconstruct Existing 24" Pipe	3	EA	\$125,000	\$375,000	
6. Reconstruct Existing 48" Pipe	1	EA	\$200,000	\$200,000	
7. Air Release Valve	13	EA	\$2,000	\$26,000	
8. 12" Valve	2	EA	\$4,000	\$8,000	
9. 16" Valve	8	EA	\$8,500	\$68,000	
10. 24" Valve	3	EA	\$25,000	\$75,000	
11. 48" Valve	2	EA	\$60,000	\$120,000	
				Subtotal:	\$1,730,000

Management / Environmental / Engineering

1. Administration		5%	\$86,500
2. Planning		3%	\$51,900
3. Environmental and Permitting		5%	\$86,500
4. Geotechnical Engineering		2%	\$34,600
5. Surveying and Civil Engineering		10%	\$173,000
6. Construction Management and Inspection		12%	\$207,600
7. Mitigation		3%	\$51,900
		Subtotal:	\$640,100

SUBTOTAL:	\$2,422,000
CONTINGENCY (20%):	\$484,400
PROJECT TOTAL:	\$2,907,000

Reclamation District No. 2042

Adequate Progress Report

Appendix 3

Financial Report
(as of 4/30/2018)

5/15/18
pay to Lick

05/15/2018 11:08:51 AM

Reclamation District 2042

GENERAL LEDGER
DATES: 5/1/2017 - 4/30/2018

101 - General Fund 53501

Date	Description	Debits	Credits	Ref	Doc #	Trans Title
5/1/17	Balance Forward	3480.82	0.00		0	
7/31/17	Interest Earned @ County	8.00	0.00	July reports	952	County Fund Report
10/31/17	Interest Earned @ County	9.00	0.00	Oct reports	961	County Fund Report
1/31/18	Interest Earned @ County	11.00	0.00	Jan reports	968	County Fund Report
3/31/18	Auditor fee	0.00	341.00	March report	971	County Fund Report
Totals:		3,508.82	341.00		Net:	3,167.82

106 - Fund 53511 Contingency

Date	Description	Debits	Credits	Ref	Doc #	Trans Title
5/1/17	Balance Forward	1726034.00	0.00		0	
6/29/17	to fund 53594	0.00	500000.00	June 2017 re	945	County Fund Report
7/31/17	Interest Earned @ County	4351.00	0.00	July reports	952	County Fund Report
10/31/17	Interest Earned @ County	3491.00	0.00	Oct reports	961	County Fund Report
1/31/18	Interest Earned @ County	3944.00	0.00	Jan reports	968	County Fund Report
Totals:		1,737,820.00	500,000.00		Net:	1,237,820.00

107 - Fund 53594 Maint & Op

Date	Description	Debits	Credits	Ref	Doc #	Trans Title
5/1/17	Balance Forward	403469.81	0.00		0	
	to fund 53596	0.00	500000.00	Fund transfe	937	Fund Transfer
6/29/17	from fund 53511	500000.00	0.00	June 2017 re	945	County Fund Report
7/31/17	Interest Earned @ County	203.00	0.00	July reports	952	County Fund Report
10/31/17	Interest Earned @ County	1166.00	0.00	Oct reports	961	County Fund Report
11/7/17	0082 State of California	131976.00	0.00	1516Hmp rei	304	0082 State of California
12/22/17	0120 Bank of Stockton	0.00	80000.00	to checking	236	0120 Bank of Stockton
12/31/17	2017/18 Assmt-53% Dec 2017	280166.41	0.00	Dec reports	965	County Fund Report
	Auditor SevChg	0.00	5079.00	Dec reports	965	County Fund Report
1/26/18	0067 Reclamation District 2042	0.00	60000.00	deposit to ch	238	0067 Reclamation District 2042
1/31/18	Interest Earned @ County	1949.00	0.00	Jan reports	968	County Fund Report
Totals:		1,318,930.22	645,079.00		Net:	673,851.22

112 - Fund 53596 ULDC

Date	Description	Debits	Credits	Ref	Doc #	Trans Title
5/1/17	from fund 53511	500000.00	0.00	Fund transfe	937	Fund Transfer
7/31/17	Interest Earned @ County	860.00	0.00	July reports	952	County Fund Report
10/31/17	Interest Earned @ County	1424.00	0.00	Oct reports	961	County Fund Report
1/31/18	Interest Earned @ County	1608.00	0.00	Jan reports	968	County Fund Report
Totals:		503,892.00	0.00		Net:	503,892.00

Grand Totals: 3,564,151.04 1,145,420.00 Net: 2,418,731.04

Reclamation District No. 2042

Adequate Progress Report

Appendix 4

2017/2018 Budget

RECLAMATION DISTRICT 2042
2017/18 BUDGET

Proposed 4/27/17

ATTACHMENT D

REVENUE	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	TOTAL	
Regular Assessment - County roll						\$250,000							\$250,000	\$500,000
Regular Assessment - Invoiced						25,000							25,000	50,000
Checking & Savings 7/19/17	82,868													82,868
County Operating Funds	50,000													50,000
Subventions Reimbursement													23,100	23,100
ULDC fund	500,000													500,000
Total Revenues	\$632,868	\$0	\$0	\$0	\$0	\$275,000	\$0	\$0	\$0	\$0	\$0	\$298,100	\$1,205,968	
General Operations	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	TOTAL	
PG & E	\$700	700	700	700	700	700	700	700	700	700	700	700	\$8,400	
Engineering	450	450	450	450	450	450	450	450	450	450	450	450	5,400	
Canal Maintenance					6,000						5,000		11,000	
Office Supplies, Dues, Fees, & Misc	100	100	100	100	100	100	100	100	100	100	100	100	1,200	
Accounting Services	750	750	750	750	700	7,000	750	750	750	750	750	750	15,200	
Legal Services	500	500	500	500	500	500	500	500	500	500	500	500	6,000	
Professional Services	750	750	750	750	750	750	750	750	750	750	750	750	9,000	
Worker's Compensation	1,200			300			300			300			300	2,400
Insurance, E&O & Liability							15,000	6,000						21,000
Agency Fees - County							7,000			1,000				8,000
SJ Flood Control														0
Property Taxes						2,200				300				2,500
Pump Maintenance - labor	100	100	100	100	100	100	100	100	100	100	100	100	1,200	
R/M Pumps & Pump Station	150	150	150	150	150	150	15,000	150	150	150	150	150	16,650	
ULDC Expenses			85,000	85,000	85,000	85,000								340,000
Total General Operations Expense - see	(\$4,700)	(\$3,500)	(\$88,800)	(\$94,500)	(\$88,450)	(\$97,250)	(\$40,350)	(\$9,500)	(\$4,800)	(\$8,800)	(\$3,500)	(\$3,800)	(\$447,950)	
Routine Maintenance	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	TOTAL	
Engineering	1,000	2,000	2,000	10,000	500	1,000	1,000	1,000	1,000	1,000	1,000	1,000	22,500	
Labor	120	120	120	120	120	120	120	120	120	120	120	120	1,440	
Rodent Control		500							1,000					1,500
Vegetation Control			6,000			7,000				5,000				28,000
Levee Patrol	170	170	170	170	170	170	170	170	170	170	170	170	2,040	
Levee Maintenance				2,000		2,000			2,000			2,000		8,000
Toe Ditch Maintenance						6,000				1,000				7,000
Professional Services	500	500	500	500	500	500	500	500	500	500	500	500	6,000	
Backslope m=Maintenance		10,000						20,000						10,000
Erosion repairs - rip rap														20,000
Road Maintenance				20,000								5,000		25,000
Total Routine Maint. Expenses	(\$1,790)	(\$13,290)	(\$10,790)	(\$30,790)	(\$16,290)	(\$21,790)	(\$1,790)	(\$4,790)	(\$6,790)	(\$7,790)	(\$13,790)	(\$1,790)	(\$131,480)	
Cumulative Expense Total	(\$6,490)	(\$23,280)	(\$122,870)	(\$248,160)	(\$352,900)	(\$471,940)	(\$514,080)	(\$528,370)	(\$539,960)	(\$556,550)	(\$573,840)	(\$579,430)		
Cumulative Revenue Total	\$632,868	\$632,868	\$632,868	\$632,868	\$632,868	\$907,868	\$1,205,968							
Net Cumulative Total	\$626,378	\$609,588	\$509,998	\$384,708	\$279,968	\$435,928	\$393,788	\$379,498	\$367,908	\$351,318	\$334,028	\$626,538		
													Estimated excess to contingency fund	

RESOLUTION AUTHORIZING THE PREPARATION AND
APPROVAL OF 2018 ADEQUATE PROGRESS REPORT
DELTA FARMS RECLAMATION DISTRICT NO. 2042
BISHOP TRACT
FOR URBAN LEVEL OF FLOOD PROTECTION (ULOP)

WHEREAS, State of California Senate Bill 5 has determined that a 200-year level of protection shall be the new standard for urban and urbanizing areas to achieve Urban Level of Flood Protection (ULOP); and,

WHEREAS, this Reclamation District is desirous of achieving said 200-year level of protection for Urban Level of Flood Protection (ULOP); and,

WHEREAS, the Reclamation District's Engineers have conducted an evaluation of its levee system to identify the work needed to comply with the Urban Levee Design Criteria (ULDC); and,

WHEREAS, the City of Stockton has requested the District prepare annually an Adequate Progress Report for Urban Level of Protection (ULOP) to demonstrate the steps RD 2042 is taking to secure adequate funding to implement the levee improvements necessary to achieve 200 Year Urban Levee of Flood Protection; and,

WHEREAS, the Reclamation District's Engineers, under the direction of the Board of Trustees, have prepared a 2018 Adequate Progress Report indicating work to be performed and the funding sources for said work through 2024.

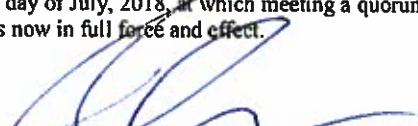
NOW, THEREFORE, BE IT RESOLVED AND ORDERED by the Board of Trustees of Delta Farms Reclamation District No. 2042 – Bishop Tract, as follows:

1. That that certain 2018 Adequate Progress Report prepared by the District Engineers on behalf of this Reclamation District is hereby approved.
2. That the officers of the District, the Chairman, and/or the Secretary, be, and either of them individually are, hereby authorized and directed to approve on behalf of this Reclamation District, the said 2018 Adequate Progress Report and any and all other agreements, addenda or other documents associated with the said 2018 Adequate Progress Report.

CERTIFICATE

I, MARC HARDY, Chairman of Delta Farms Reclamation District No. 2042, do hereby certify that the foregoing Resolution is a full, true and correct copy of a Resolution passed by the Board of Trustees of Delta Farms Reclamation District No. 2042 at a meeting thereof held on the 11th day of July, 2018, at which meeting a quorum was present; that said Resolution has never been revoked, and the same is now in full force and effect.

DATED: July 11, 2018



CHAIRMAN OF THE BOARD OF
TRUSTEES OF DELTA FARMS
RECLAMATION DISTRICT NO. 2042