AGENDA
SPECIAL MEETING OF THE BOARD OF DIRECTORS
EL DORADO IRRIGATION DISTRICT
District Board Room, 2890 Mosquito Road, Placerville, California
September 28, 2015 ~ 9:00 A.M.

Board of Directors

BILL GEORGE
BOARD PRESIDENT
Division III

GEORGE W. OSBORNE
BOARD VICE PRESIDENT
Division I

Greg Prada
Board Director
Division II

Dale Coco, MD
Board Director
Division IV

Alan Day
Board Director
Division V

General Manager and Executive Staff

JIM ABERCROMBIE
GENERAL MANAGER

THOMAS D. CUMPSTON
GENERAL COUNSEL

Jennifer Sullivan, Clerk to the Board

Jesse Saich, Communications

Brian Mueller, Engineering

Mark Price, Finance

Jose Perez, Human Resources

Tim Ranstrom, Information Technology

Tom McKinney, Operations

In accordance with the Americans with Disabilities Act and California law, it is the policy of the El Dorado Irrigation District to offer its public programs, services and meetings in a manner that is readily accessible to everyone, including individuals with disabilities. If you are a person with a disability and require information or materials in an appropriate alternative format; or if you require any other accommodation for this meeting, please contact the EID ADA coordinator at 530-642-4045 or e-mail at adacoordinator@eid.org at least 72 hours prior to the meeting. Advance notification within this guideline will enable the District to make reasonable accommodations to ensure accessibility.

PUBLIC COMMENT**: Anyone wishing to comment about items not on the Agenda may do so during the public comment period. Those wishing to comment about items on the Agenda may do so when that item is heard and when the Board calls for public comment. **Public comments are limited to five minutes per person.

***PUBLIC RECORDS DISTRIBUTED LESS THAN 72 HOURS BEFORE A MEETING:** Any writing that is a public record and is distributed to all or a majority of the Board of Directors less than 72 hours before a meeting shall be available for immediate public inspection in the office of the Clerk to the Board at the address shown above. Public records distributed during the meeting shall be made available at the meeting.*

CALL TO ORDER

Roll Call
Pledge of Allegiance
Moment of Silence

ADOPT AGENDA

PUBLIC COMMENT

WORKSHOP ITEM

1. **Engineering (Mueller)**
   2016-2020 Capital Improvement Plan (CIP) Workshop: Review of draft CIP including Water, Wastewater, Recycled Water and General District projects.

   Recommended Action: None – Information only.

REVIEW OF ASSIGNMENTS

ADJOURNMENT

TENTATIVELY SCHEDULED ITEMS FOR FUTURE MEETINGS

Engineering

- 2016-2020 Capital Improvement Plan (CIP) Workshop: Review of draft CIP including Water, Wastewater, Recycled Water and General District projects, September 28 (Mueller)
- Consideration to award a professional services contract for the preparation of an Environmental Impact Report for the Main Ditch Project, Action Item, regular Board meeting, October 13 (Schaeffer)
- Consideration to award a construction contract for the Bridlewood Canyon Lift Station Upgrades Project, Action Item, regular Board meeting, October 13 (Brink)
- Adoption of the Capital Improvement Plan (CIP), Action Item, regular Board meeting, October 13 (Mueller)
- Consideration to approve the Regional Water Authority Project Agreement to administer the 2014 Integrated Regional Water Management (IRWM) Drought Grant for the Upper Main Ditch Project, Action Item, regular Board meeting, October 13 (Eden-Bishop)
- Consideration to award a professional services contract for the SCADA System Replacement Project at 21 wastewater lift stations, Action Item, regular Board meeting, October 26 (T. Sullivan)

Finance

- Budget Workshop, regular Board meeting, October 26 (Price)

Office of the General Counsel

- Re-evaluation of Director Division Boundaries Pursuant to Board Policy 1010, Action Item, regular Board meeting, October 13 (Cumpston)

EL DORADO IRRIGATION DISTRICT

SUBJECT: 2016-2020 Capital Improvement Plan (CIP) Workshop

Previous Board Action:

- October 14, 2014 – The Board approved the 2015 – 2019 CIP, subject to available funding.
- December 8, 2014 – The Board adopted the 2015-2016 operating budget and 2015-2019 Financial Plan

Board Policies (BP), Administrative Regulations (AR), and Board Authority:

BP 3010 states that the Board shall adopt, every year, a five-year Capital Improvement Plan (CIP) and approve funding on an as-needed basis.

Summary of Issue:

This CIP workshop will review the overall draft 2016-2020 capital improvement plan.

Staff Analysis:

On October 14, 2014, the Board adopted the 2015-2019 CIP. The five-year plan projected expenditures of $104 million. The following lists some of the capital projects that were completed in the last year or were approved and are currently ongoing. These projects respond to mandated regulatory requirements, maintain and improve service reliability, and/or protect health and safety:

Completed or substantially complete:

- Flume 42/43 replacement
- Esmeralda tunnel Phase 1
- Moose Hall pump station
- Camp 2 bridge
- Rancho del Sol waterline replacement

Ongoing and newly approved projects:

- Esmeralda tunnel Phase 2 and 3
- Powerhouse safety improvements and north structure removal
- Forebay Dam (design and environmental)
- Canal/flume upgrades by District crews
- Flume 44 (design)
- Penstock assessment
- Main Ditch (design and environmental)
- Mormon Island/Lakeridge Oaks lift station abandonment
- Carson Creek sewer lift station (Replaces Business Park 2 lift station)
- SMUD/El Dorado water rights
- Vehicle replacement program
- Enterprise GIS

Capital Expenses Actual vs Budgeted

Capital expenditures in 2014 totaled $13.6 million. In 2015, capital expenses through the 2nd quarter totaled approximately $9 million (45% of the estimated capital budget). The District strives to spend between 70%-80% of the capital budget each year to keep up with the planned replacement needs of our infrastructure.

Calendar Year 2015

Department	Adopted 2015 Budget	Jan-Mar Expenditures Mar-15 YTD Actuals	% of Budget	Jan-Jun Expenditures Jun-15 YTD Actuals	% of Budget	Jan-Sep Expenditures Sep-15 YTD Actuals	% of Budget	Jan-Dec Expenditures Dec-15 YTD Actuals	% of Budget
General District	$ 2,283,400	$ 346,596	15.2%	$ 920,620	40.3%		0.0%		0.0%
Drinking Water Operations	4,903,680	531,761	10.8%	1,108,306	22.6%		0.0%		0.0%
Wastewater Operations	6,137,000	1,210,363	19.7%	2,883,078	47.0%		0.0%		0.0%
Recycled Water Operations	50,000	-	0.0%	-	0.0%		0.0%		0.0%
Hydroelectric	5,305,000	2,151,291	40.6%	3,821,742	72.0%		0.0%		0.0%
FERC	855,436	99,217	11.6%	175,128	20.5%		0.0%		0.0%
Recreation	92,000	1,634	1.8%	1,634	1.8%		0.0%		0.0%
Total District	**$19,626,516**	**$ 4,340,861**	**22.1%**	**$ 8,910,508**	**45.4%**	**$ -**	**0.0%**	**$ -**	**0.0%**

Calendar Year 2014

Department	Adopted 2014 Budget	Jan-Mar Expenditures Mar-14 YTD Actuals	% of Budget	Jan-Jun Expenditures Jun-14 YTD Actuals	% of Budget	Jan-Sep Expenditures Sep-14 YTD Actuals	% of Budget	Jan-Dec Expenditures Dec-14 YTD Actuals	% of Budget
General District	$ 3,910,950	$ 337,222	8.6%	$ 504,724	12.9%	$ 623,651	15.9%	$ 1,491,443	38.1%
Drinking Water Operations	5,622,000	1,008,212	17.9%	1,368,237	24.3%	1,875,327	33.4%	2,516,162	44.8%
Wastewater Operations	3,831,000	624,823	16.3%	997,820	26.0%	1,538,031	40.1%	2,437,494	63.6%
Recycled Water Operations	85,000	-	0.0%	-	0.0%	-	0.0%	-	0.0%
Hydroelectric	3,060,000	379,658	12.4%	728,771	23.8%	2,036,460	66.6%	6,787,527	221.8%
FERC	718,436	87,594	12.2%	140,115	19.5%	235,358	32.8%	348,464	48.5%
Recreation	100,000	30,596	30.6%	33,895	33.9%	33,895	33.9%	33,879	33.9%
Total District	**$17,327,386**	**$ 2,468,104**	**14.2%**	**$ 3,773,561**	**21.8%**	**$ 6,342,721**	**36.6%**	**$13,614,968**	**78.6%**

The 2016-2020 CIP process

Staff updated the descriptions, funding status and priority of ongoing and planned projects and developed new estimates of expenditures for the five-year planning period. The new five-year estimate totals approximately $119 million, with average annual planned expenditures of approximately $23.8 million. Actual expenditures will likely be between $16 million to $19 million per year.

Prioritization

All projects have been prioritized according to the criteria developed in February 2014:

Priority 1 projects are a) required for health and safety; b) required by law, regulations, contract, agreement or license; or c) under construction.

Priority 2 projects a) maintain existing assets, including life cycle replacement of pump stations, pipelines, flumes, canals and other assets; b) provide for increased revenues and/or reduced costs; or c) meet demands of increasing growth and increased water supply.

Priority 3 projects are discretionary projects to a) increase service levels; b) improve efficiency; or c) provide aesthetic or community benefit.

Each project has been assigned a letter category (a, b or c) in accordance with the defined priorities outlined above, and an additional sub-category (1, 2 or 3) has been assigned to each project in an effort to distinguish the relative importance and condition of similar ranked projects, and the timeline for when work on a project should be commencing.

Non-rate revenue generating projects

Staff included funding in the 2016 CIP for further study of non-rate revenue generating projects such as in-line small hydro projects and potential expansion of solar at El Dorado Hills and Deer Creek wastewater treatment plants. If the District pursues these projects, significant up front capital would be required, but with an anticipated long term reduction in operating costs by offsetting electricity rates. For in-line hydro projects, the Reservoir 7 facility design is complete and the most ready to proceed to construction. FERC granted an extension which now requires start of construction by December 2016. Staff also plans to evaluate an in-line project at Reservoir 3, and also incorporate an in-line hydro project study as part of the Sly Park Intertie. The CIP also includes preliminary study of solar expansion as well as a cogeneration project associated with the Deer Creek and El Dorado Hills wastewater plants. These various studies are planned in 2016.

Long term needs

For several years, the capital improvement plan has been constrained both financially and constrained by the available resources to carry out the plan. Every year during CIP development staff defers projects or reduces the scope to comply with the financial objectives before it is presented to the Board. However, it is also beneficial to keep the longer term capital needs in our sights. Staff conducted a brief analysis looking beyond the next five years and developed a listing of known projects on the horizon that are expected to form the backbone of the capital improvement plan for the next 5-year increment to 2025.

Program	DESCRIPTION	Estimated cost (2021-2025)
HY	Silver Lake Dam	$10,000,000
HY	Flume Replacement	$20,000,000
HY	Canal liner replacement	$1,000,000
HY	Powerhouse painting	$1,600,000
HY	Diversion dam - fish ladder, air blow down	$1,000,000
HY	Echo Conduit replacement	$5,000,000
HY	P184 inverted syphon assessments	$500,000
WA	Floating Cover replacements	$3,500,000
WA	EDHWTP Improvements	$5,000,000
WA	Res A WTP Improvements	$2,000,000
WA	Water pipeline replacement	$5,000,000
WA	Water pump station replacement	$1,500,000
WA	Water storage tank rehab/replacement	$7,500,000
WW	Lift station upgrades	$15,000,000
WW	EDH Collection system upgrades	$3,000,000
WW	DC Collection system upgrades	$16,000,000
RW	Recycled water system upgrades	$1,000,000
	Total	**$98,600,000**

Financial Planning

In December 2014, the Board unanimously approved the 2015-2016 operating budget and the 2015-2019 Financial Plan using 0, 5, 5, 4, 3% annual rate increases for the water and recycled water utilities and 0, 0, 5, 4, 3% annual rate increases for the wastewater utility (Scenario 3). This included approximately $46 million in debt proceeds to fund large projects including Forebay Dam, flume replacements, Sly Park Intertie lining, Main Ditch piping, and Esmeralda tunnel. The financial plan also generates annual cash flow to fund pay-as-you-go construction projects of approximately $10 million per year.

The draft 5-year CIP complies with this financial plan. The total 2016-2020 planned expenditures are approximately $119 million, and actual expenditures are expected to be between $83 million and $95 million. Subtracting those larger projects that are proposed to be paid through the bond issue leaves approximately $9 million to $11 million per year for smaller pay-go projects, which is in the range contemplated in the adopted financial plan.

Following the review of this plan and incorporation of Board input, the 2016–2020 CIP will be presented for consideration of adoption on October 13, 2015.

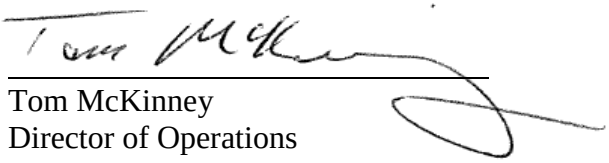
Board Decisions/Options:

Information Item. No action required.

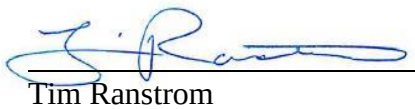
Supporting Documents Attached:

A. Overall 2016-2020 Capital Improvement Plan (draft)
B. CIP project worksheets

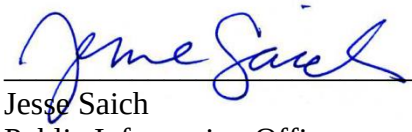
Brian Mueller
Director of Engineering



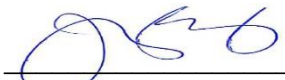
Tom McKinney
Director of Operations



Tim Ranstrom
Director of Information Technology



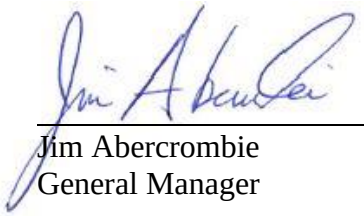
Jesse Saich
Public Information Officer



Jose Perez
Human Resources Manager

Mark Price
Director of Finance

Brian Poulsen
Senior Deputy General Counsel



Jim Abercrombie
General Manager

2016-2020 CAPITAL IMPROVEMENT PLAN

	2016 PLANNED	2017 PLANNED	2018 PLANNED	2019 PLANNED	2020 PLANNED	FIVE-YEAR PLAN TOTAL
FERC	$1,989,709	$3,610,020	$702,371	$870,762	$365,195	$7,538,057
Water	$4,427,500	$7,223,600	$6,103,000	$5,805,000	$7,425,000	$30,984,100
Wastewater	$4,895,000	$3,970,000	$3,130,000	$4,751,600	$4,727,000	$21,473,600
Recycled Water	$275,000	$85,000	$0	$0	$0	$360,000
Hydroelectric	$8,220,000	$12,315,000	$17,660,000	$7,230,000	$5,410,000	$50,835,000
Recreation	$0	$0	$0	$0	$0	$0
General District	$2,515,500	$2,225,500	$1,675,000	$786,000	$1,056,000	$8,258,000
TOTAL	**$22,322,709**	**$29,429,120**	**$29,270,371**	**$19,443,362**	**$18,983,195**	**$119,448,757**

EL DORADO IRRIGATION DISTRICT
FIVE-YEAR CAPITAL IMPROVEMENT PLAN
2015-2019

	2015 PLANNED	2016 PLANNED	2017 PLANNED	2018 PLANNED	2019 PLANNED	FIVE-YEAR PLAN TOTAL
FERC	$855,436	$2,919,709	$2,981,020	$897,371	$313,762	$7,967,298
Water	$4,903,680	$6,641,000	$4,678,600	$5,544,000	$5,811,000	$27,578,280
Wastewater	$6,137,000	$2,672,750	$3,579,750	$3,607,750	$1,587,750	$17,585,000
Recycled Water	$50,000	$35,000	$150,000	$0	$0	$235,000
Hydroelectric	$5,305,000	$13,600,000	$13,235,000	$4,175,000	$6,765,000	$43,080,000
Recreation	$92,000	$0	$0	$0	$0	$92,000
General District	$2,283,400	$1,761,500	$1,431,000	$1,427,500	$1,205,000	$8,108,400
TOTAL	**$19,626,516**	**$27,629,959**	**$26,055,370**	**$15,651,621**	**$15,682,512**	**$104,645,978**

El Dorado Irrigation District

2016 - 2020 Capital Improvement Plan
FERC Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2016 PLANNED	2017 PLANNED	2018 PLANNED	2019 PLANNED	2020 PLANNED	2016-2020 TOTAL
10007	FERC C51.2 RM Caples Boat Launch	FERC	1	40,000	40,000	40,000	40,000	40,000	200,000
15016	FERC:C50.2 CAPLES LAKE CAMPGROUND	FERC	1	200,000	1,000,000	0	0	0	1,200,000
06019H	FERC C35 OYSTER CREEK	FERC	1	80,000	250,000	0	0	0	330,000
06021H	FERC C37.8 WATER TEMP	FERC	1	20,000	30,000	20,000	30,000	20,000	120,000
06024H	FERC C40 Gaging Facility	FERC	1	20,000	40,000	0	0	0	60,000
06025H	FERC C41 Canal Release point	FERC	1	0	60,000	0	0	0	60,000
06076H	FERC:C38.4B CAPLES Spillway Channel Stabilization	FERC	1	100,000	100,000	80,000	570,000	0	850,000
06078H	FERC:C50.3 CAPLES DAM PRK Lot Improvements	FERC	1	150,000	0	0	0	0	150,000
06081H	FERC:C50.8 Pacific Crest Trail Crossing	FERC	1	0	75,000	200,000	7,000	0	282,000
06082H	FERC:C50.1 SILVER LAKE EAST CG FS Upgrade	FERC	1	662,000	1,324,000	0	0	0	1,986,000
06086H	FERC:C33 LAKE ALOHA TROUT	FERC	1	12,000	12,000	12,000	12,000	12,000	60,000
06087H	FERC:C37.1 FISH MONITORING	FERC	1	60,000	60,000	0	0	0	120,000
06088H	FERC:C37.2 MACROINVERTEB	FERC	1	55,000	55,000	0	0	0	110,000
06089H	FERC:C37.3 AMPHIBIAN MON	FERC	1	87,000	17,000	17,000	17,000	17,000	155,000
06090H	FERC:C37.4 RIPARIAN SPEC	FERC	1	14,000	0	0	0	0	14,000
06091H	FERC:C37.5 RIPARN RECRUIT	FERC	1	12,000	0	0	0	0	12,000
06092H	FERC:C37.7 GEOMORPH EVAL	FERC	1	45,000	10,000	10,000	0	0	65,000
06096H	FERC:C56 HERITAGE RSRCE	FERC	1	20,000	0	0	0	0	20,000
06097H	FERC C59 Facility Management Plan	FERC	1	10,000	5,000	0	0	0	15,000
06098H	FERC:C46-9 RECREATION RSC	FERC	1	30,000	30,000	50,000	0	0	110,000
07003H	FERC C37.9 WATER QUALITY	FERC	1	80,000	0	80,000	0	80,000	240,000
07005H	FERC C51.3 RM ECHO TRAIL	FERC	1	5,000	5,000	5,000	5,000	5,000	25,000
07006H	FERC C51.5&C51.7 RM USFS	FERC	1	43,709	45,020	46,371	47,762	49,195	232,057
07008H	FERC C51.8 SILVER LAKE CG West Upgrade	FERC	1	30,000	300,000	0	0	0	330,000
07009H	FERC C51.8 RM WOODS CREEK	FERC	1	5,000	5,000	5,000	5,000	5,000	25,000
07010H	FERC C15 PESTICIDE USE	FERC	1	70,000	70,000	70,000	70,000	70,000	350,000
07011H	FERC C38 ADAPTIVE MGMT	FERC	1	50,000	50,000	50,000	50,000	50,000	250,000
07030H	FERC C57 Transportation Management Plan	FERC	1	5,000	10,000	0	0	0	15,000
08025H	FERC C44 Noxious Weed Implementation	FERC	1	34,000	17,000	17,000	17,000	17,000	102,000
PLANNED	Echo Parking Lot Repaving	FERC	1	50,000	0	0	0	0	50,000
				1,989,709	**3,610,020**	**702,371**	**870,762**	**365,195**	**7,538,057**

El Dorado Irrigation District

2016 - 2020 Capital Improvement Plan

Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2016 PLANNED	2017 PLANNED	2018 PLANNED	2019 PLANNED	2020 PLANNED	2016-2020 TOTAL
10022	Silva Valley Interchange (DOT)	WA	1	100,000	0	0	0	0	100,000
11033	Summerfield Ditch / Finnon Reservoir Fill System	WA	1	66,500	0	0	0	0	66,500
14015	R1WTP Spent Backwash Treatment	WA	1	150,000	486,600	1,000,000	0	0	1,636,600
15014	DOT Construction Projects - Water	WA	1	25,000	25,000	25,000	25,000	25,000	125,000
15025	American River Bridge Pipeline	WA	1	0	175,000	500,000	0	0	675,000
PLANNED	Diamond Springs Parkway	WA	1	75,000	200,000	0	0	0	275,000
PLANNED	Green Valley Road Bridge Replacements	WA	1	20,000	30,000	200,000	0	0	250,000
PLANNED	Prospector Plaza	WA	1	25,000	125,000	0	0	0	150,000
SDWL04	Reservoir Floating Cover Replacement Program	WA	1	30,000	30,000	30,000	30,000	30,000	150,000
11032	Main Ditch - Forebay to Res 1	WA	2	525,000	2,782,000	2,693,000	0	0	6,000,000
13014	Monte Vista Tank Replacement	WA	2	500,000	500,000	0	0	0	1,000,000
13015	Outingdale Lower Tank Replacement	WA	2	630,000	0	0	0	0	630,000
13043	Outingdale WTP Automation Replacement	WA	2	75,000	75,000	0	0	0	150,000
14003	Res 3 Tank Upgrade	WA	2	1,056,000	0	0	0	0	1,056,000
14019	Res A Chemical Feed/Containment	WA	2	0	420,000	0	0	0	420,000
14025	Waterline Replacement Program	WA	2	75,000	250,000	250,000	250,000	250,000	1,075,000
14027	PLC Replacement	WA	2	80,000	80,000	0	0	0	160,000
15009	Sly Park Intertie	WA	2	200,000	200,000	390,000	2,000,000	3,800,000	6,590,000
15013	Water Tank Recoating Program	WA	2	0	0	0	1,000,000	1,000,000	2,000,000
15019	Sly Park Reservoir Intake	WA	2	150,000	0	0	0	0	150,000
15021	Pump Station Upgrade Program	WA	2	50,000	110,000	110,000	110,000	110,000	490,000
15024	EDH Raw Water Pump Station Upgrades	WA	2	10,000	200,000	200,000	2,000,000	2,000,000	4,410,000
PLANNED	Swansboro Tank Replacement	WA	2	40,000	600,000	0	0	0	640,000
PLANNED	Res 1 WTP Backwash Return Pump Station Rehab	WA	2	0	0	260,000	0	0	260,000
PLANNED	In Conduit Hydro Assessment	WA	2	50,000	0	0	0	0	50,000
PLANNED	Water SCADA Network Reliability Program	WA	2	50,000	0	0	0	0	50,000
PLANNED	Water Facility Replacement Program	WA	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	Storage Evaluation Report Update	WA	2	70,000	0	0	0	0	70,000
PLANNED	Permit 21112 Change in Point of Diversion	WA	2	50,000	150,000	200,000	0	0	400,000
PLANNED	Outingdale Intake Pump Station	WA	2	0	300,000	0	0	0	300,000
PLANNED	Spencers Road Waterline Replacement	WA	2	0	130,000	0	0	0	130,000
PLANNED	EDHWTP Assessment	WA	2	100,000	100,000	0	0	0	200,000
PLANNED	PRS Replacement Program	WA	2	110,000	110,000	110,000	110,000	110,000	550,000
11040	Ditch Water Rights/SCADA	WA	3	15,000	45,000	5,000	0	0	65,000
PLANNED	Water System Management Technnology	WA	3	0	0	30,000	0	0	30,000
PLANNED	Construction Storage Facility	WA	3	0	0	0	180,000	0	180,000
				4,427,500	**7,223,600**	**6,103,000**	**5,805,000**	**7,425,000**	**30,984,100**

El Dorado Irrigation District

2016 - 2020 Capital Improvement Plan
Wastewater Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2016 PLANNED	2017 PLANNED	2018 PLANNED	2019 PLANNED	2020 PLANNED	2016-2020 TOTAL
12030	DCWWTP Permit Renewal	WW	1	75,000	0	0	0	0	75,000
14020	Carson Creek 1 Lift Station	WW	1	700,000	0	0	0	0	700,000
14021	DOT Construction Projects - WW	WW	1	25,000	25,000	25,000	25,000	25,000	125,000
14028	EDHWWTP Odor Control	WW	1	0	600,000	0	0	0	600,000
PLANNED	Fall Protection at Lift Stations	WW	1	165,000	165,000	0	0	0	330,000
12012	Wastewater Generator Replacement	WW	2	130,000	130,000	130,000	130,000	130,000	650,000
12015	DCWWTP Change of Use Permit	WW	2	250,000	50,000	0	0	0	300,000
12021	WW SCADA System Reliability	WW	2	700,000	800,000	0	0	0	1,500,000
13004	Lift Station Elimination Study	WW	2	50,000	50,000	50,000	0	0	150,000
13024	El Dorado Lift Station Upgrades	WW	2	0	0	0	200,000	1,400,000	1,600,000
13026	2013 Lift Station Upgrades	WW	2	150,000	0	0	0	0	150,000
15015	Bridlewood Lift Station Rehab	WW	2	1,500,000	0	0	0	0	1,500,000
15023	EDHWWTP Solar Rehab	WW	2	150,000	0	0	0	0	150,000
PLANNED	WWTP Energy, Process, and Solar Array Study	WW	2	100,000	0	0	0	0	100,000
PLANNED	Silva Valley - EDH Sewerline	WW	2	50,000	100,000	200,000	3,271,600	2,547,000	6,168,600
PLANNED	WW Collection System Pipeline Replacement	WW	2	75,000	300,000	250,000	250,000	250,000	1,125,000
PLANNED	Business Park 3 Lift Station Improvements	WW	2	0	0	75,000	500,000	0	575,000
PLANNED	South Point Lift Station Rehab	WW	2	0	0	1,280,000	0	0	1,280,000
PLANNED	Wastewater SCADA Network Reliability Program	WW	2	125,000	0	0	0	0	125,000
PLANNED	Rancho Ponderosa Lift Station Rehab	WW	2	0	50,000	700,000	0	0	750,000
PLANNED	Waterford 7 Lift Station Rehab	WW	2	0	1,200,000	0	0	0	1,200,000
PLANNED	Wastewater Equipment Replacement Program	WW	2	350,000	250,000	250,000	250,000	250,000	1,350,000
PLANNED	Wastewater Facilities Replacement Program	WW	2	125,000	125,000	125,000	125,000	125,000	625,000
PLANNED	EDHWWTP Food Waste and DC Sludge to Energy	WW	2	50,000	0	0	0	0	50,000
PLANNED	Collections SCADA Improvements	WW	3	0	0	45,000	0	0	45,000
PLANNED	Deer Creek Dissolved Oxygen Automation	WW	3	125,000	50,000	0	0	0	175,000
PLANNED	Promontory 1 Odor Control	WW	3	0	75,000	0	0	0	75,000
				4,895,000	**3,970,000**	**3,130,000**	**4,751,600**	**4,727,000**	**21,473,600**

El Dorado Irrigation District

2016 - 2020 Capital Improvement Plan
Recycled Water Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2016 PLANNED	2017 PLANNED	2018 PLANNED	2019 PLANNED	2020 PLANNED	2016-2020 TOTAL
PLANNED	Recycled Water System Improvements	RW	2	175,000	0	0	0	0	175,000
PLANNED	Recycled Water SCADA Remote Control	RW	3	0	45,000	0	0	0	45,000
PLANNED	DC Discharge Management	RW	3	100,000	40,000	0	0	0	140,000
				275,000	**85,000**	**0**	**0**	**0**	**360,000**

El Dorado Irrigation District

2016 - 2020 Capital Improvement Plan
Hydroelectric Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2016 PLANNED	2017 PLANNED	2018 PLANNED	2019 PLANNED	2020 PLANNED	2016-2020 TOTAL
11004	Lake Aloha Dam Regulatory Improvements	HY	1	15,000	15,000	370,000	0	0	400,000
11005	Silver Lake Dam Regulatory Study	HY	1	50,000	50,000	150,000	300,000	300,000	850,000
14029	Esmeralda Tunnel	HY	1	2,000,000	0	0	0	0	2,000,000
03011H	Forebay Dam Upgrades	HY	1	1,500,000	9,000,000	8,500,000	0	0	19,000,000
11008	Flume 39-40 Replacement	HY	2	1,585,000	10,000	0	0	0	1,595,000
11023	Echo Conduit Replacement	HY	2	0	50,000	100,000	400,000	1,000,000	1,550,000
14014	Canals and Flumes Upgrades	HY	2	500,000	500,000	500,000	500,000	500,000	2,500,000
14024	Flume 44 Replacement	HY	2	540,000	1,600,000	2,500,000	0	0	4,640,000
14041	Project 184 SCADA System HW Replacement	HY	2	100,000	100,000	100,000	0	0	300,000
15018	Penstock Assessment	HY	2	370,000	80,000	20,000	0	0	470,000
PLANNED	Flume Assessment Program	HY	2	150,000	250,000	0	0	0	400,000
PLANNED	Flume 30 Replacement	HY	2	0	500,000	5,000,000	10,000	0	5,510,000
PLANNED	Pacific Tunnel	HY	2	0	0	0	1,210,000	0	1,210,000
PLANNED	Flume 45 Bench and Rock Wall Stabilization	HY	2	50,000	50,000	320,000	4,210,000	10,000	4,640,000
PLANNED	Hydro Facility Replacement Program	HY	2	100,000	100,000	100,000	100,000	100,000	500,000
PLANNED	Flume 38 Replacement	HY	2	1,260,000	10,000	0	0	0	1,270,000
PLANNED	Flume 48 Replacement	HY	2	0	0	0	500,000	3,500,000	4,000,000
				8,220,000	**12,315,000**	**17,660,000**	**7,230,000**	**5,410,000**	**50,835,000**

2016 - 2020 Capital Improvement Plan
Recreation Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2016 PLANNED	2017 PLANNED	2018 PLANNED	2019 PLANNED	2020 PLANNED	2016-2020 TOTAL
No Recreation projects planned for 2016-2020									

General District Projects

PROJECT NO.	PROJECT DESCRIPTION	PROGRAM	PRIORITY	2016 PLANNED	2017 PLANNED	2018 PLANNED	2019 PLANNED	2020 PLANNED	2016-2020 TOTAL
06004G	SMUD / El Dorado Agreement Water Rights	GD	1	337,500	300,000	0	0	0	637,500
89069E	Water Rights for 17,000 Acre Feet	GD	1	25,000	50,000	25,000	0	0	100,000
14036	Security Equipment Reliability Program	GD	2	33,000	13,500	0	0	0	46,500
15001	AMR/Small Meter Replacement	GD	2	300,000	100,000	100,000	100,000	100,000	700,000
PLANNED	IT Network and Communications Reliability Program	GD	2	375,000	395,000	455,000	0	25,000	1,250,000
PLANNED	Shared IT Computing Reliability Program	GD	2	535,000	290,000	390,000	490,000	540,000	2,245,000
PLANNED	SCADA Configuration & Alarm Response	GD	2	50,000	0	0	0	0	50,000
PLANNED	2016 Vehicle Replacement Program	GD	2	425,000	267,000	205,000	91,000	286,000	1,274,000
PLANNED	Cyber Security Improvements	GD	2	0	480,000	120,000	0	0	600,000
PLANNED	SCADA Hardware Replacement	GD	2	80,000	0	0	0	0	80,000
PLANNED	Radio TLM and Network Replacement Program	GD	2	60,000	35,000	35,000	10,000	10,000	150,000
14035	Enterprise GIS	GD	3	200,000	200,000	250,000	0	0	650,000
PLANNED	Business Application Software Enhancement Program	GD	3	50,000	50,000	50,000	50,000	50,000	250,000
PLANNED	SCADA Software Efficiency Program	GD	3	45,000	45,000	45,000	45,000	45,000	225,000
				2,515,500	**2,225,500**	**1,675,000**	**786,000**	**1,056,000**	**8,258,000**

Attachment B

DRAFT
2016-2020 CIP

Project Worksheets

FERC
Projects

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06019H

Project Name: FERC: C35 Oyster Creek

Project Category: Regulatory Requirements

Priority: 1 **PM:** Eymann **Board Approval:**

Project Description:

This project is required by Condition 35 of the Settlement Agreement, and the USFS 4(e) Conditions part of the FERC License. The licensee shall be responsible for those portions of the plan that the FS, in cooperation with the licensee, determines to be Project-related by 2011. The District has conducted a channel assessment and prepared a stabilization plan as required by FS for the Oyster Creek channel. The FS and SWRCB have approved the District's revised plan in 2013. Environmental permitting is ongoing through 2017 with construction anticipated in fall 2017.

Basis for Priority:

EID would not be in compliance with the Settlement Agreement and USFS 4(e) Condition requirements contained in the FERC License.

Project Financial Summary:			
Funded to Date:	$ 294,950	Expenditures through end of year:	$ 214,797
Spent to Date:	$ 194,797	2016 - 2020 Planned Expenditures:	$ 330,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 544,797
Project Balance	$ 80,153	Additional Funding Required	$ 249,847

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design	$ 80,000					$ 80,000
Construction		$ 250,000				$ 250,000
						$ -
TOTAL	$ 80,000	$ 250,000	$ -	$ -	$ -	$ 330,000

Funding Sources	Percentage	2016 Amount
Water FCCs	53%	$0
Water Rates	47%	$0
		$0
Total	100%	$0

Funding Comments:

2016 CAPITAL IMPROVEMENT PLAN Program: FERC

Project Number: 06021H

Project Name: FERC C37.8 Water Temperature

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. Funding is necessary to implement an annual water temperature monitoring program at project reservoirs and stream reaches. The data collected from this monitoring effort will be used to determine if the coldwater beneficial uses are being met in designated project reaches.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Sections 7 and 12 of the Settlement Agreement, USFS 4(e) conditions 37 and 42, and SWRCB Water Quality Certification condition 14.

Project Financial Summary:			
Funded to Date:	$ 214,500	Expenditures through end of year:	$ 196,481
Spent to Date:	$ 191,481	2016 - 2020 Planned Expenditures:	$ 120,000
Cash flow through end of year:	$ 5,000	Total Project Estimate:	$ 316,481
Project Balance	$ 18,019	Additional Funding Required	$ 101,981

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Monitoring	$15,000	$25,000	$15,000	$25,000	$15,000	$ 95,000
Reporting	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
						$ -
						$ -
TOTAL	$ 20,000	$ 30,000	$ 20,000	$ 30,000	$ 20,000	$ 120,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$1,050
Water Rates	47%		$931
			$0
Total	100%		$1,981

Funding Comments: Annual monitoring is required until it can be demonstrated that operation of the project reasonably protects the cold freshwater beneficial use as determined by the SWRCB, FS, and ERC; coordinated with water quality sampling in even numbered years

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06024H

Project Name: FERC: C40 Gaging Facilities

Project Category: Regulatory Requirements

Priority: 1 **PM:** Noel **Board Approval:**

Project Description:

Required by the License Settlement Agreement USFS 4(e) Conditions 40, the District must develop and file for FERC approval a Streamflow and Reservoir Storage Gaging Plan (gaging plan) that meets United States Geological Survey (USGS) standards. The licensee shall implement the plan upon approval. The plan was approved in 2008 and implementation is now ongoing.

Gage improvements completed to date: A-6, A-13, A-24,A-10, A-51,A-54 (in progress)
To be completed: No Name Cr below Diversion (A-50), Bull Cr Diversion (A-52), and Ogilby Cr below Diversion (A-53). Note that design and construction of A-52 diversion and gaging facility will be included in the Flume 30 Replacement Project plannted to be constructed in 2018.

Basis for Priority:

The project is required by the Project 184 FERC License and is on-going.

Project Financial Summary:			
Funded to Date:	$ 165,000	Expenditures through end of year:	$ 121,706
Spent to Date:	$ 121,706	2016 - 2020 Planned Expenditures:	$ 65,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 186,706
Project Balance	$ 43,294	Additional Funding Required	$ 21,706

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Planning/Environmental	$ 10,000					$ 10,000
Design	$ 10,000					$ 10,000
Construction		$ 40,000				$ 40,000
						$ -
TOTAL	$ 20,000	$ 40,000	$ -	$ -	$ -	$ 60,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06025H

Project Name: FERC: C41 Canal Release Points

Project Category: Regulatory Requirements

Priority: 1 **PM:** Noel **Board Approval:**

Project Description:

Required by the License Settlement Agreement and USFS 4(e) Condition 41, the District must develop and file for FERC approval a canal drainage structure and release point plan. The licensee shall implement the plan upon approval. The plan has been approved and implementation is underway. An update to the plan is needed in 2016 to include the upgrades made at Spillway 46 and the removal of Spillway 47C.

Remaining work includes: Spillway 3 and Spillway 20 A/B improvements as identified in the plan to be completed by 2017.

Basis for Priority:

This project is required by the Project 184 FERC License and is on-going.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 28,848
Spent to Date:	$ 28,848	2016 - 2020 Planned Expenditures:	$ 60,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 88,848
Project Balance	$ 21,152	Additional Funding Required	$ 38,848

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction		$ 60,000				$ 60,000
						$ -
TOTAL	$ -	$ 60,000	$ -	$ -	$ -	$ 60,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **FERC**

Project Number: 06076H

Project Name: FERC C38.4b Caples Spillway Channel Stabilization

Project Category: Regulatory Requirements

Priority: 1 **PM:** Eymann **Board Approval:**

Project Description:

The USFS and SWRCB requires a stabilization plan (Plan) for the spillway channel below Caples Lake Auxiliary Dam. The level of stabilization has yet to be approved. The Plan has been submitted for approval. However, the USFS and SWRCB requested that the District conduct an alternatives analysis. This added scope will push out design into 2016-2017, permitting 2017-2018 and construction in 2019. The construction estimate requires significant further detailed project development and cost estimating which will occur after the alternatives analysis is complete and when regulatory input is received upon the plan.

Basis for Priority:

Compliance with the FERC license, Section 8 of the Settlement Agreement, USFS 4(e) conditions 38.4b, and SWRCB Water Quality Certification condition 5.

Project Financial Summary:			
Funded to Date:	**$ 232,692**	**Expenditures through end of year:**	**$ 239,166**
Spent to Date:	**$ 199,166**	**2016 - 2020 Planned Expenditures:**	**$ 850,000**
Cash flow through end of year:	**$ 40,000**	**Total Project Estimate:**	**$ 1,089,166**
Project Balance	**$ (6,474)**	**Additional Funding Required**	**$ 856,474**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design	**$ 100,000**	**$ 100,000**	**$ 80,000**			**$ 280,000**
Construction				**$ 570,000**		**$ 570,000**
TOTAL	**$ 100,000**	**$ 100,000**	**$ 80,000**	**$ 570,000**	**$ -**	**$ 850,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water FCCs	53%		$56,431
Water Rates	47%		$50,043
			$0
Total	**100%**		**$106,474**

Funding Comments: Construction cost placeholder will be replaced with actual estimates after the stabilization plan has been developed and approved by the USFS and SWRCB

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06078H

Project Name: FERC: C50.3 Caples Lake Dam Parking Improvements

Project Category: Regulatory Requirements

Priority: 1 **PM:** Noel **Board Approval:**

Project Description:

Required by the License Settlement Agreement, and the USFS 4(e) Conditions 50.3, the District must re-pave the Caples Lake Dam Parking area and it shall be reconstructed and upgraded to meet the current FS design standards and the USDA Forest Service Region 5 access standards and the Americans with Disabilities Act. Includes a van-accessible parking space near the toilet, with required markings and signage. Actual improvement costs are to be split 50%-50% with EID and USFS.

Basis for Priority:

This project is required to comply with the FERC License Condition No. 50.3 and USFS 4(e) Condition requirements. The District requested and received a 5-year extension of this requirement, however it is now due in 2016.

Project Financial Summary:			
Funded to Date:	$ 62,000	Expenditures through end of year:	$ 5,720
Spent to Date:	$ 5,720	2016 - 2020 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 155,720
Project Balance	$ 56,280	Additional Funding Required	$ 93,720

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design	$ 15,000					$ 15,000
Construction	$ 135,000					$ 135,000
						$ -
TOTAL	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$49,671
Water Rates	47%		$44,048
			$0
Total	100%		$93,720

Funding Comments: Construction costs TBD after consultation with USFS

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06081H

Project Name: FERC: C50.8 Pacific Crest Trail Crossing

Project Category: Regulatory Requirements

Priority: 1 **PM:** Noel **Board Approval:**

Project Description:

Required by the FERC License, Settlement Agreement, and the USFS 4(e) Conditions. Condition 50.8: Within 5 years, the licensee shall construct a crossing for the Pacific Crest National Scenic Trail across the Echo Conduit, to meet current FS design standards, at a location agreed to by the FS. Construction methods and types have not yet been determined.

Basis for Priority:

Project is required by Project 184 license, but the District has some discretion as to when construction occurs. FERC and FS approved the District's request to extend the project completion date to 2016. The District is currently coordinating with the FS.

Project Financial Summary:			
Funded to Date:	$ 12,000	Expenditures through end of year:	$ 1,891
Spent to Date:	$ 1,891	2016 - 2020 Planned Expenditures:	$ 282,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 283,891
Project Balance	$ 10,109	Additional Funding Required	$ 271,891

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning		$ 35,000				$ 35,000
Design		$ 40,000				$ 40,000
Construction			$ 200,000			$ 200,000
Warranty/FERC QCIP				$ 7,000		$ 7,000
TOTAL	$ -	$ 75,000	$ 200,000	$ 7,000	$ -	$ 282,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments: Construction costs TBD after consultation with USFS

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06082H

Project Name: FERC: C50.1 Silver Lake Campground East Re-Construction

Project Category: Regulatory Requirements

Priority: 1 **PM:** Noel **Board Approval:**

Project Description:

Required by the License Settlement Agreement and the USFS 4(e) Conditions, the District must reconstruct the paved surfaces, toilets, and water system at the 62-unit USFS Silver Lake Campground, including upgrade of this facility to meet the current FS design standards and the USDA Forest Service Region 5 accessibility standards requirements of the Americans with Disabilities Act (ADA). The construction schedule shows that improvements to the Silver Lake East and West Campgrounds and the Caples Lake Dam Parking Project occurring at the same time to realize cost savings due to the close proximity, similarity of the work to be completed, and construction efficiencies. Project funding represents the cost estimates agreed upon by USFS and EID in the Dangermond Report for the campground improvements and have been adjusted to reflect 2015 dollars ($1,786,046). The remaining amount is for District staff time and should not be considered as part of the potential USFS settlement amount.

Basis for Priority:

This project is required to comply with the FERC License Condition No. 50.1 and USFS 4(e) Condition requirements. FERC and FS approved the District's request to extend the project completion date to 2016.

Project Financial Summary:			
Funded to Date:	$ 92,135	Expenditures through end of year:	$ 36,925
Spent to Date:	$ 36,925	2016 - 2020 Planned Expenditures:	$ 1,986,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 2,022,925
Project Balance	$ 55,210	Additional Funding Required	$ 1,930,790

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction	$ 662,000	$ 1,324,000				$ 1,986,000
						$ -
TOTAL	$ 662,000	$ 1,324,000	$ -	$ -	$ -	$ 1,986,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$321,599
Water Rates	47%		$285,191
			$0
Total	100%		$606,790

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06086H

Project Name: FERC C33 Lake Aloha Trout Removal

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. Funding only necessary in years when a spill occurs over the auxiliary dams at Lake Aloha. If spill occurs, EID is required to manually remove trout from the pools downstream of the auxiliary dams to help reduce potential impacts to mountain yellow-legged frogs by trout predation.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 33, and SWRCB Water Quality Certification condition 4.

Project Financial Summary:			
Funded to Date:	$ 87,000	Expenditures through end of year:	$ 43,123
Spent to Date:	$ 43,123	2016 - 2020 Planned Expenditures:	$ 60,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 103,123
Project Balance	$ 43,877	Additional Funding Required	$ 16,123

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$12,000	$12,000	$12,000	$12,000	$12,000	$ 60,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 60,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments: Amphibian surveys also required if Lake Aloha spills; funding for amphibian surveys from CIP # 06089H

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **FERC**

Project Number: 06087H

Project Name: FERC C37.1 Fish Monitoring

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate the status of fish populations in selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	**$ 170,000**	**Expenditures through end of year:**	**$ 157,664**
Spent to Date:	**$ 157,664**	**2016 - 2020 Planned Expenditures:**	**$ 120,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 277,664**
Project Balance	**$ 12,336**	**Additional Funding Required**	**$ 107,664**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Monitoring	**$ 50,000**	**$ 50,000**				**$ 100,000**
Staff time	**$ 10,000**	**$ 10,000**				**$ 20,000**
						$ -
TOTAL	**$ 60,000**	**$ 60,000**	**$ -**	**$ -**	**$ -**	**$ 120,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water FCCs	53%		$25,262
Water Rates	47%		$22,402
			$0
Total	**100%**		**$47,664**

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06088H

Project Name: FERC: C37.2 Macroinvertebrate Monitoring

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate the status of macroinvertebrates in selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 106,000	Expenditures through end of year:	$ 104,719
Spent to Date:	$ 89,719	2016 - 2020 Planned Expenditures:	$ 110,000
Cash flow through end of year:	$ 15,000	Total Project Estimate:	$ 214,719
Project Balance	$ 1,281	Additional Funding Required	$ 108,719

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Monitoring	$ 50,000	$ 50,000				$ 100,000
Staff time	$ 5,000	$ 5,000				$ 10,000
						$ -
						$ -
TOTAL	$ 55,000	$ 55,000	$ -	$ -	$ -	$ 110,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$28,471
Water Rates	47%		$25,248
			$0
Total	100%		$53,719

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06089H

Project Name: FERC: C37.3 Amphibian Monitoring

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. Amphibian surveys are required June through September if at any time flows in the South Fork of the American River (SFAR) are 100 cfs or less and the diversion into the canal causes the flow in the SFAR to change 50 cfs or more in 1 day. The objective of these surveys is to assess the effects of flow fluctuations on foothill yellow-legged frog egg masses and tadpoles. Amphibian surveys for mountain yellow-legged frog (MYLF) and foothill yellow-legged frog (FYLF) are also required every five years at project reservoirs and stream reaches as part of the El Dorado Hydroelectric Project No. 184 Adaptive Management Program. Amphibian surveys are also required in years when a spill occurs over the auxiliary dams at Lake Aloha. If spill occurs, EID is required to survey for mountain yellow-legged frogs in the pools downstream of the auxiliary dams.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 228,000	Expenditures through end of year:	$ 194,655
Spent to Date:	$ 194,655	2016 - 2020 Planned Expenditures:	$ 155,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 349,655
Project Balance	$ 33,345	Additional Funding Required	$ 121,655

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
FYLF/MYLF monitoring	$ 60,000					$ 60,000
SFAR flow fluctuations	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000
Lake Aloha monitoring	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 60,000
Staff time	$ 10,000					$ 10,000
TOTAL	$ 87,000	$ 17,000	$ 17,000	$ 17,000	$ 17,000	$ 155,000

Funding Sources	Percentage	2016 Amount
Water FCCs	53%	$28,437
Water Rates	47%	$25,218
		$0
Total	100%	$53,655

Funding Comments: Flow fluctuation monitoring only required if license criteria is triggered. Monitoring at Lake Aloha is only necessary in years when a spill occurs over the auxiliary dams.

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06090H

Project Name: FERC: C37.4 Riparian Species Composition

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate riparian species composition at selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 30,000	Expenditures through end of year:	$ 16,369
Spent to Date:	$ 16,369	2016 - 2020 Planned Expenditures:	$ 14,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 30,369
Project Balance	$ 13,631	Additional Funding Required	$ 369

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Monitoring	$ 12,000					$ 12,000
Staff time	$ 2,000					$ 2,000
						$ -
						$ -
TOTAL	$ 14,000	$ -	$ -	$ -	$ -	$ 14,000

Funding Sources	Percentage	2016 Amount
Water FCCs	53%	$196
Water Rates	47%	$173
		$0
Total	100%	$369

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06091H

Project Name: FERC: C37.5 Riparian Vegetation Recruitment

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to evaluate riparian vegetation recruitment at selected stream reaches for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 15,000	Expenditures through end of year:	$ 13,713
Spent to Date:	$ 13,713	2016 - 2020 Planned Expenditures:	$ 12,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 25,713
Project Balance	$ 1,287	Additional Funding Required	$ 10,713

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Monitoring	$ 10,000					$ 10,000
Reporting	$ 2,000					$ 2,000
						$ -
						$ -
TOTAL	$ 12,000	$ -	$ -	$ -	$ -	$ 12,000

Funding Sources	Percentage	2016 Amount
Water FCCs	53%	$5,678
Water Rates	47%	$5,035
		$0
Total	100%	$10,713

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06092H

Project Name: FERC: C37.7 Geomorphology Evaluation

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. The objective of this monitoring effort is to monitor representative stream channel areas for comparison to the ecological resource objectives to help determine if ecological resource objectives are achievable and being met, as specified in the El Dorado Hydroelectric Project No. 184 Adaptive Management Program.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 49,276	Expenditures through end of year:	$ 48,059
Spent to Date:	$ 48,059	2016 - 2020 Planned Expenditures:	$ 65,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 113,059
Project Balance	$ 1,217	Additional Funding Required	$ 63,783

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Monitoring	$ 40,000	$ 10,000	$ 10,000			$ 60,000
Staff time	$ 5,000					$ 5,000
						$ -
						$ -
TOTAL	$ 45,000	$ 10,000	$ 10,000	$ -	$ -	$ 65,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$23,205
Water Rates	47%		$20,578
			$0
Total	100%		$43,783

Funding Comments: Includes post-project monitoring in 2016, 2017, and 2018 for Oyster Creek Stabilization Plan 06019H and Caples Spillway Channel Stabilization Plan 06076H

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06096H

Project Name: FERC: C55 Heritage Resources

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. Funding is necessary to complete and implement the Heritage Properties Management Plan (HPMP). The HPMP provides management protocols and mitigation measures for the ongoing protection of archaeological resources located within the FERC boundary.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) conditions 55 and 56.

Project Financial Summary:			
Funded to Date:	$ 279,580	Expenditures through end of year:	$ 211,344
Spent to Date:	$ 208,344	2016 - 2020 Planned Expenditures:	$ 20,000
Cash flow through end of year:	$ 3,000	Total Project Estimate:	$ 231,344
Project Balance	$ 68,236	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Reporting	$20,000	*	*	*	*	$ 20,000
						$ -
						$ -
						$ -
TOTAL	$ 20,000	$ -	$ -	$ -	$ -	$ 20,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments: Finalize HPMP and implement upon approval. Funding in future years will depend on implementation schedule developed in consultation with the USFS

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06097H

Project Name: FERC: C59 Facility Management Plan

Project Category: Regulatory Requirements

Priority: 1 **PM:** Gibson **Board Approval:**

Project Description:

Required by the License Settlement Agreement, and the USFS 4(e) Condition 59: Within 1 year of license issuance, the licensee shall file with FERC a Facility Management Plan that is approved by the FS. The licensee shall implement the plan upon approval. Every 5 years, the licensee shall prepare a 5-year plan that will identify the maintenance, reconstruction, and removal needs for Project facilities within the FERC boundary and located on Forest Service property. The plan was approved by the USFS and filed with FERC. Items remaining to be completed include: remove buildings at Spillway 20A boathouse; the winch house at the surge chamber, and the water tank shed. The next plan update is scheduled for 2017.

Basis for Priority:

Project is required by Project 184 license and is on-going.

Project Financial Summary:			
Funded to Date:	$ 70,000	Expenditures through end of year:	$ 43,512
Spent to Date:	$ 43,512	2016 - 2020 Planned Expenditures:	$ 15,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 58,512
Project Balance	$ 26,488	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 10,000	$ 5,000				$ 15,000
Design		*				$ -
Construction			*			$ -
						$ -
TOTAL	$ 10,000	$ 5,000	$ -	$ -	$ -	$ 15,000

Funding Sources	Percentage	2016 Amount
Water FCCs	53%	$0
Water Rates	47%	$0
		$0
Total	100%	$0

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 06098H

Project Name: FERC: C46 thru C49 Recreation Resource Management

Project Category: Regulatory Requirements

Priority: 1 **PM:** Hawkins **Board Approval:**

Project Description:

Required by the new FERC License, Settlement Agreement, and the USFS 4(e) Conditions. Conditions 46-49: Condition No. 46 – Implementation Plan. A recreation implementation plan shall be developed by the licensee in coordination with the FS within 6 months of license issuance. Condition No. 47 - Recreation Survey. The licensee shall conduct a Recreational Survey and prepare a Report on Recreational Resources that is approved by the FS every 6 years from the date of license issuance. Condition No. 48 – Forest Service Liaison. The FS and the licensee shall each provide an individual for liaison whenever planning or construction of recreation facilities, other major Project improvements, and maintenance activities are taking place within the National Forest. Condition No. 49 - Review of Recreation Developments. The FS and the licensee shall meet at least every 6 years to review all recreation facilities and areas associated with the Project and to agree upon necessary maintenance, rehabilitation, construction, and reconstruction work needed and its timing, as described in Conditions No. 49 and 50. Following the review, the licensee shall develop a 6-year schedule for maintenance, rehabilitation, and reconstruction.

This is a mandatory requirement of the October 18, 2006 FERC Order Issuing New License

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	$ 179,888	**Expenditures through end of year:**	$ 185,254
Spent to Date:	$ 180,254	**2016 - 2020 Planned Expenditures:**	$ 110,000
Cash flow through end of year:	$ 5,000	**Total Project Estimate:**	$ 295,254
Project Balance	$ (5,366)	**Additional Funding Required**	$ 115,366

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$30,000			$0	$0	$ 30,000
Survey		$ 30,000				$ 30,000
Reporting			$ 50,000			$ 50,000
						$ -
TOTAL	$ 30,000	$ 30,000	$ 50,000	$ -	$ -	$ 110,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$18,744
Water Rates	47%		$16,622
			$0
Total	**100%**		**$35,366**

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07003H

Project Name: FERC: C37.9 Water Quality

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. Funding is necessary to implement the water quality monitoring program at Project No. 184 reservoirs and stream reaches. The data collected from this monitoring effort will be used to characterize water quality under current project operations and help determine if applicable water quality objectives/criteria are being met and whether designated beneficial uses are protected.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 7 of the Settlement Agreement, USFS 4(e) conditions 37, and SWRCB Water Quality Certification condition 13.

Project Financial Summary:			
Funded to Date:	$ 392,000	Expenditures through end of year:	$ 368,530
Spent to Date:	$ 363,530	2016 - 2020 Planned Expenditures:	$ 240,000
Cash flow through end of year:	$ 5,000	Total Project Estimate:	$ 608,530
Project Balance	$ 23,470	Additional Funding Required	$ 216,530

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Monitoring	$ 40,000		$ 40,000		$ 40,000	$ 120,000
Lab analysis	$ 25,000		$ 25,000		$ 25,000	$ 75,000
Staff time	$ 15,000		$ 15,000		$ 15,000	$ 45,000
						$ -
						$ -
TOTAL	$ 80,000	$ -	$ 80,000	$ -	$ 80,000	$ 240,000

Funding Sources	Percentage	2016 Amount
Water FCCs	53%	$29,961
Water Rates	47%	$26,569
		$0
Total	100%	$56,530

Funding Comments: Future monitoring dependent on agency review of first four years monitoring results (2008, 2010, 2012, and 2014). Staff to prepare proposal to FS, SWRCB, and ERC to reduce or eliminate monitoring for parameters and/or at sites that are not affected by Project operations.

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07005H

Project Name: FERC: C51.3 RM Echo Trailhead

Project Category: Regulatory Requirements

Priority: 1 **PM:** Hawkins **Board Approval:**

Project Description:

Required by the new FERC License, Settlement Agreement, and the USFS 4(e) Conditions. Conditions 51.3: The licensee shall be responsible for the following annual maintenance items for USFS Property on USFS Lands.

a. Toilet pumping.
b. Trash removal/litter pick-up within the site.

This is a mandatory requirement of the October 18, 2006 FERC Order Issuing New License

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	$ 30,000	Expenditures through end of year:	$ 15,398
Spent to Date:	$ 14,198	2016 - 2020 Planned Expenditures:	$ 25,000
Cash flow through end of year:	$ 1,200	Total Project Estimate:	$ 40,398
Project Balance	$ 14,602	Additional Funding Required	$ 10,398

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$5,000	$5,000	$5,000	$5,000	$5,000	$ 25,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07006H

Project Name: FERC: C51.5 and C51.7 RM USFS Payments

Project Category: Regulatory Requirements

Priority: 1 **PM:** Hawkins **Board Approval:**

Project Description:

Required by the new FERC License, Settlement Agreement, and the USFS 4(e) Conditions. Conditions 51.5 and C51.7: (5.) Special Use Administration Funding: The licensee shall annually pay, by October 1, the amount of $4,800 (year 2002 cost basis) to provide for performing monitoring and permit compliance assurance for the campground concessionaire special use permits at Caples Lake Campground and Silver Lake East Campground. The costs shall be escalated based on the U.S. Gross Domestic Product – Implicit Price Deflator (GDP-IDP). (7.) Dispersed Area Patrol Funding on Lands Affected by the Project: The licensee shall annually pay, by October 1, $25,000 (year 2002 cost basis). The cost shall be escalated based on the U.S. Gross Domestic Product – Implicit Price Deflator (GDP-IDP). These funds are to provide for patrol and operation of non-concessionaire developed and dispersed recreation facilities, as well as trails and other locations utilized by visitors to the Project, within and adjacent to the Project boundary. The licensee shall annually provide a boat and operator at least twice each season (time to be determined by mutual
agreement between the licensee and the FS) on Caples Lake and Silver Lake to share with the FS in policing the shoreline along Silver Lake and Caples Lake, and to clean up litter.

This is a mandatory requirement of the October 18, 2006 FERC Order Issuing New License

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	$ 328,154	Expenditures through end of year:	$ 367,867
Spent to Date:	$ 327,867	2016 - 2020 Planned Expenditures:	$ 232,057
Cash flow through end of year:	$ 40,000	Total Project Estimate:	$ 599,924
Project Balance	$ (39,713)	Additional Funding Required	$ 271,770

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$43,709	$45,020	$46,371	$47,762	$49,195	$ 232,057
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 43,709	$ 45,020	$ 46,371	$ 47,762	$ 49,195	$ 232,057

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$44,214
Water Rates	47%		$39,209
			$0
Total	100%		$83,422

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07008H

Project Name: FERC: C51.8 Silver Lake Campgrounds West Improvements

Project Category: Regulatory Requirements

Priority: 1 **PM:** Noel **Board Approval:**

Project Description:

Required by the Settlement Agreement, and the USFS 4(e) Conditions, Condition 51.8: the District shall reconstruct the EID Silver Lake Campground, or equivalent location into compliance with accessibility standards for the Americans with Disabilities Act (ADA). Within 5 years of license issuance, the licensee shall bring the Silver Lake West recreation facilities up to Forest Service standards and ADA compliance. The construction schedule shows the improvements to the Silver Lake West Campground and the FERC:C50 Caples Lake Dam Parking Project occurring at the same time to realize cost savings due to the close proximity and similarity of the work to be completed and construction efficiencies. Planning is now underway to determine the required improvements.

Basis for Priority:

This project is required to comply with the FERC License Condition No. 51.8 and USFS 4(e) Condition requirements. FERC and FS approved the District's request to extend the project completion date to 2016.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 31,124
Spent to Date:	$ 31,124	2016 - 2020 Planned Expenditures:	$ 330,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 361,124
Project Balance	$ 18,876	Additional Funding Required	$ 311,124

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design	$ 30,000					$ 30,000
Construction		$ 300,000				$ 300,000
						$ -
TOTAL	$ 30,000	$ 300,000	$ -	$ -	$ -	$ 330,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$5,896
Water Rates	47%		$5,228
			$0
Total	100%		$11,124

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07009H

Project Name: FERC: C51.8 RM Woods Creek Fishing Access

Project Category: Regulatory Requirements

Priority: 1 **PM:** Hawkins **Board Approval:**

Project Description:

Required by the new FERC License, Settlement Agreement, and the USFS 4(e) Conditions. Conditions 51.8: Licensee Recreation Sites: Within 10 years of license issuance, the licensee shall bring the Ferguson Point, Sandy Cove, Woods Creek Fishing Access, and Silver Lake West recreation facilities or equivalent locations into compliance with accessibility standards for the Americans with Disabilities Act. These facilities, along with the Silver Lake Boat Ramp, shall continue to be operated and maintained by the licensee throughout the term of the license. Woods Creek was erroneously listed in the license as EID Property, however this misstatement does not relieve EID from the obligation to maintain this facility.

This is a mandatory requirement of the October 18, 2006 FERC Order Issuing New License

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	$ 44,500	Expenditures through end of year:	$ 34,145
Spent to Date:	$ 32,145	2016 - 2020 Planned Expenditures:	$ 25,000
Cash flow through end of year:	$ 2,000	Total Project Estimate:	$ 59,145
Project Balance	$ 10,355	Additional Funding Required	$ 14,645

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$5,000	$5,000	$5,000	$5,000	$5,000	$ 25,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 25,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07010H

Project Name: FERC: C15 Pesticide Use

Project Category: Regulatory Requirements

Priority: 1 **PM:** Gibson **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. Funding is requested to implement the integrated pest management plan (IPMP). The IPMP addresses pesticide use at EID facilities within the jurisdiction of the El Dorado National Forest (ENF) and Lake Tahoe Basin Management Unit (LTBMU).

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license and USFS 4(e) condition 15.

Project Financial Summary:			
Funded to Date:	$ 623,000	Expenditures through end of year:	$ 544,869
Spent to Date:	$ 544,869	2016 - 2020 Planned Expenditures:	$ 350,000
Cash flow through end of year:		Total Project Estimate:	$ 894,869
Project Balance	$ 78,131	Additional Funding Required	$ 271,869

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Implementation	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 60,000	$ 300,000
Equipment / Supplies	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 50,000
						$ -
						$ -
TOTAL	$ 70,000	$ 70,000	$ 70,000	$ 70,000	$ 70,000	$ 350,000

Funding Sources	Percentage	2016 Amount
Water FCCs	53%	$0
Water Rates	47%	$0
		$0
Total	100%	$0

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07011H

Project Name: FERC: C38 Adaptive Management Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. Funding is for staff time to implement the adaptive management program (Condition 38) of the FERC license. This program requires coordination with the Ecological Resources Committee (ERC), implementation of the resource monitoring program, and evaluation of monitoring results to determine if resource objectives are achievable and being met.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 14 of the Settlement Agreement, and USFS 4(e) condition 38.

Project Financial Summary:			
Funded to Date:	$ 502,000	Expenditures through end of year:	$ 487,551
Spent to Date:	$ 477,551	2016 - 2020 Planned Expenditures:	$ 250,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 737,551
Project Balance	$ 14,449	Additional Funding Required	$ 235,551

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Implementation	$50,000	$50,000	$50,000	$50,000	$50,000	$ 250,000
						$ -
						$ -
						$ -
TOTAL	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$18,842
Water Rates	47%		$16,709
			$0
Total	100%		$35,551

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 07030H

Project Name: FERC: C57 Transportation System Management Plan

Project Category: Regulatory Requirements

Priority: 1 **PM:** Gibson **Board Approval:**

Project Description:

Condition 57 states within 1 year of license issuance, the licensee shall file with FERC a transportation system management plan that is approved by the FS for roads on or affecting National Forest System lands. The plan was prepared and approved and established the level of licensee responsibility for project-related roads. Also included in this CIP is the Trails Maintenance Plan. Implementation of the plan and the 5-year maintenance updates are now underway. Remaining work to be completed is ongoing road maintenance. The next plan update is scheduled for 2017. Overall work timeline is 2016 - Camp 2 culvert, 2017 - develop new 5 year plan, * - dependant on consultation with the Forest Service.

Basis for Priority:

Project is required by Project 184 license and is on-going.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 41,306
Spent to Date:	$ 41,306	2016 - 2020 Planned Expenditures:	$ 15,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 56,306
Project Balance	$ 8,694	Additional Funding Required	$ 6,306

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 5,000	$ 10,000				$ 15,000
Design		*	*			$ -
Construction			*	*		$ -
						$ -
TOTAL	$ 5,000	$ 10,000	$ -	$ -	$ -	$ 15,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments:

2016 CAPITAL IMPROVEMENT PLAN Program: FERC

Project Number: 08025H

Project Name: FERC C44 Noxious Weed Monitoring

Project Category: Regulatory Requirements

Priority: 1 **PM:** Deason **Board Approval:**

Project Description:

Mandatory requirement of the FERC license. Funding is requested to implement the noxious weed plan for the prevention and control of noxious weeds at Project No. 184 facilities. The plan was amended in 2012 to reduce annual monitoring requirements to conduct annual surveys only at areas where high priority noxious weeds are known to occur and at areas where ground disturbance occurred during the previous year. The amended plan also specifies that the entire project area only needs to be surveyed every 5 years. This amendment significantly reduced the scope and cost associated with this requirement.

Basis for Priority:

If unfunded, EID would be out of compliance with the FERC license, Section 8 of the Settlement Agreement, and USFS 4(e) condition 44.

Project Financial Summary:			
Funded to Date:	$ 179,342	Expenditures through end of year:	$ 164,382
Spent to Date:	$ 161,382	2016 - 2020 Planned Expenditures:	$ 102,000
Cash flow through end of year:	$ 3,000	Total Project Estimate:	$ 266,382
Project Balance	$ 14,960	Additional Funding Required	$ 87,040

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Implementation	$30,000	$15,000	$15,000	$15,000	$15,000	$ 90,000
Reporting	$ 4,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 12,000
						$ -
						$ -
TOTAL	$ 34,000	$ 17,000	$ 17,000	$ 17,000	$ 17,000	$ 102,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$10,091
Water Rates	47%		$8,949
			$0
Total	100%		$19,040

Funding Comments: The monitoring plan requires the entire project area be surveyed every five years - this survey is scheduled to be conducted in 2016.

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 10007

Project Name: FERC C51.2 RM Caples Boat Launch

Project Category: Regulatory Requirements

Priority: 1 **PM:** Hawkins **Board Approval:**

Project Description:

This is a mandatory requirement of the October 18, 2006 FERC Order Issuing New License. Required by the new FERC License, Settlement Agreement, and the USFS 4(e) Conditions. Condition 51.2: The licensee shall be responsible for operating and maintaining the boat launching ramp, associated parking lot, and other public facilities constructed at this site for the term of the license. The licensee shall also be responsible for maintenance of signboards. The USFS shall be responsible for maintaining the information on those signboards to USFS standards. Caples Lake Auxiliary Dam maintenance ($5k) responsibility rotates every 5th year with EID responsible from 2015-2019.

Basis for Priority:

EID would not be able to comply with the FERC License, Settlement Agreement and USFS 4(e) Condition requirements.

Project Financial Summary:			
Funded to Date:	$ 182,000	Expenditures through end of year:	$ 145,888
Spent to Date:	$ 143,888	2016 - 2020 Planned Expenditures:	$ 200,000
Cash flow through end of year:	$ 2,000	Total Project Estimate:	$ 345,888
Project Balance	$ 36,112	Additional Funding Required	$ 163,888

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$40,000	$40,000	$40,000	$40,000	$40,000	$ 200,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 200,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$2,061
Water Rates	47%		$1,827
			$0
Total	100%		$3,888

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: 15016

Project Name: FERC: C50.2 Caples Lake Campground Re-Construction

Project Category: Regulatory Requirements

Priority: 1 **PM:** Noel **Board Approval:**

Project Description:

Required by the License Settlement Agreement and the USFS 4(e) Conditions 50.2, the District must reconstruct the paved surfaces, toilets, and water system at the 36-unit USFS Caples Lake Campground, including upgrade of this facility to meet the current FS design standards and the USDA Forest Service Region 5 accessibility standards requirements of the Americans with Disabilities Act (ADA). The construction schedule shows that improvements to the Caples Lake Campground and the Caples Lake Dam Parking Project occurring at the same time to realize cost savings due to the close proximity, similarity of the work to be completed, and construction efficiencies. Project funding represents the cost estimates agreed upon by USFS and EID in the Dangermond Report for the campground improvements and have been adjusted to reflect 2015 dollars ($1,067,064) and estimated staff time.

Basis for Priority:

This project is required to comply with the FERC License Condition No. 50.2 and USFS 4(e) Condition requirements. FERC and FS approved the District's request to extend the project completion date to 2016.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 1,030
Spent to Date:	$ 1,030	2016 - 2020 Planned Expenditures:	$ 1,200,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 1,201,030
Project Balance	$ 48,970	Additional Funding Required	$ 1,151,030

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction	$ 200,000	$ 1,000,000				$ 1,200,000
						$ -
TOTAL	$ 200,000	$ 1,000,000	$ -	$ -	$ -	$ 1,200,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$80,046
Water Rates	47%		$70,984
			$0
Total	100%		$151,030

Funding Comments: Project funding represents the cost estimates agreed upon by USFS and EID in the Dangermond Report for the campground improvements and have been adjusted to reflect 2015 dollars and staff time.

2016	CAPITAL IMPROVEMENT PLAN	Program:	FERC

Project Number: PLANNED

Project Name: Echo Parking Lot Repaving

Project Category: Regulatory Requirements

Priority: 1 **PM:** Noel **Board Approval:**

Project Description:

Required by the License Settlement Agreement, and the USFS 4(e) Conditions 50.7, the District must re-pave/upgrade the Echo Parking Area to meet the current FS design standards and the USDA Forest Service Region 5 access standards and the Americans with Disabilities Act. Actual improvement costs are to be split 50%-50% with EID and USFS.

Basis for Priority:

This project is required by the FERC license.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 50,000
Project Balance	$ -	Additional Funding Required	$ 50,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design	$ 15,000					$ 15,000
Construction	$ 35,000					$ 35,000
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Funding Sources	Percentage	2016	Amount
Water Rates	47%		$23,500
Water FCCs	53%		$26,500
			$0
Total	100%		$50,000

Funding Comments:

Water Projects

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 10022

Project Name: Silva Valley Interchange (DOT)

Project Category: State/County Road Projects

Priority: 1 **PM:** Brink **Board Approval:** 10/22/12

Project Description:

The new Silva Valley Interchange at Highway 50 had been in the planning stages for many years. EID has existing water, recycled water and sanitary sewer utilities in the public right-of-way that had to be relocated at EID's cost. On October 22, 2012 the Board of Directors approved a Reimbursement Agreement with El Dorado County for the design and construction of the impacted facilities. The project also impacted an existing recycled water line that is located in a private easement, plus existing water service to a local business where EID has an existing easement. The County will pay the full cost of the design and construction associated with relocations where EID has prior right. The design was performed by the same consultant the County used for the design of the interchange, and the relocations performed by the contractor retained by the County. Construction started in mid-2013. Work on EID facilities is expected to be completed by the end of 2015. However, receipt and payment of the invoice from the County is not expected until early 2016.

Basis for Priority:

Since EID has utilities in the public right of way, EID must relocate them at EID's costs to make way for DOT's project. The Board authorized the reimbursement agreement and the project is in active construction.

Project Financial Summary:			
Funded to Date:	$ 431,872	Expenditures through end of year:	$ 228,976
Spent to Date:	$ 218,976	2016 - 2020 Planned Expenditures:	$ 100,000
Cash flow through end of year:	$ 10,000	Total Project Estimate:	$ 328,976
Project Balance	$ 202,896	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction	$ 100,000					$ 100,000
						$ -
TOTAL	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000

Funding Sources	Percentage	2016	Amount
Water Rates	70%		$0
Wastewater Rates	20%		$0
Recycled Water Rates	10%		$0
Total	100%		$0

Funding Comments: Funding split is proportional to impacted utilities

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 11032

Project Name: Main Ditch - Forebay to Reservoir 1

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eden-Bishop **Board Approval:**

Project Description:

The Main Ditch is approximately three miles long and conveys a maximum of 15,080 acre-feet of raw water annually at a maximum rate of 40 cubic feet per second from Forebay Reservoir to the Reservoir 1 Water Treatment Plant. Because the Main Ditch is an unlined earthen canal, a portion of the flow up to 1,300 acre-feet per year, is lost to seepage and evapotranspiration. This water could be made available for drinking water or power generation. The benefits of the project include: improved supply reliability; elimination of contamination potential; reduced operations and maintenance costs; water rights protection from unreasonable use claims; reduction in Folsom Reservoir pumping costs; and on an interim basis, increased hydroelectric revenues. The District has received $235,000 in grant funding from the El Dorado County Water Agency (EDCWA) that has been used to conduct environmental, wetlands, and cultural resources studies, surveys and initial design work. Final design and construction was originally anticipated in 2019, however the severity of the drought has intensified the need for water conservation and acceleration of this project. Additional grant funding has been approved by EDCWA for final design and environmental assessment in the amount of $365,000 and the Department of Water Resources has awarded the District a $1 M grant for construction of the project, which will facilitate acceleration of the project schedule. The project cost estimate was developed with the Basis of Design Report completed in July 2014. Construction is planned to occur over two ditch outage seasons, 2016/17 and 2017/18.

Basis for Priority:

Improves water quality, conserves water supply, protects health and safety of customer and the public and reduces operations costs.

Project Financial Summary:			
Funded to Date:	$ 747,852	**Expenditures through end of year:**	$ 608,028
Spent to Date:	$ 358,028	**2016 - 2020 Planned Expenditures:**	$ 6,000,000
Cash flow through end of year:	$ 250,000	**Total Project Estimate:**	$ 6,608,028
Project Balance	$ 139,824	**Additional Funding Required**	$ 5,860,176

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design/Environmental	$405,000	$182,000	$93,000			$ 680,000
Construction Costs		$2,600,000	$2,600,000			$ 5,200,000
Land Procurement	$120,000					$ 120,000
TOTAL	$ 525,000	$ 2,782,000	$ 2,693,000	$ -	$ -	$ 6,000,000

Funding Sources	Percentage	2016 Amount
Water Rates	100%	$385,176
		$0
		$0
Total	**100%**	**$385,176**

Funding Comments: The project replaces an existing facility, therefore is funded by water rates. Estimated annual capital expenditures have not been reduced by grant funding in the amount of $1M from Department of Water Resources and $365,000 from EDCWA. The project is estimated to reduce operations cost by over $300,000 annually.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 11033

Project Name: Summerfield Ditch / Finnon Reservoir

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Rice **Board Approval:**

Project Description:

This District incurred a legal obligation to provide water to Finnon Lake as a part of the annexation of the Mosquito Area and transfer of the Slab Creek water rights to Folsom Lake. In 2011 the Mosquito Volunteer Fire Association (MVFA), completed the dam restoration project which then triggered the District's obligation. District Staff has reviewed multiple options for delivery of either raw or treated water to supplement filling the reservoir. The simplest and most economical alternative involves conveying treated water to the reservoir. Existing funds from 2012 have supported obtaining a discharge permit from the Regional Board, design and procurement of the autoflush plumbing, piping, and passive treatment systems, and environmental review for the construction. After several years of independent negotiations between the MVFA and private property owners, a compromise is near and construction now being anticipated to occur in early 2016. To facilitate a settlement and moving forward with the project, the District has agreed to provide additional easement documentation, field survey work and county recording fees; and the proposed budget addition includes funds for alignment survey, easement documentation and filing fees, and construction by District staff for the flushing system to supplement Finnon Reservoir.

Basis for Priority:

The project is a legal obligation required by prior agreements with the Mosquito Volunteer Fire Agency.

Project Financial Summary:			
Funded to Date:	$ 153,151	Expenditures through end of year:	$ 115,199
Spent to Date:	$ 108,415	2016 - 2020 Planned Expenditures:	$ 66,500
Cash flow through end of year:	$ 6,784	Total Project Estimate:	$ 181,699
Project Balance	$ 37,952	Additional Funding Required	$ 28,548

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction Costs	$66,500					$ 66,500
						$ -
TOTAL	$ 66,500	$ -	$ -	$ -	$ -	$ 66,500

Funding Sources	Percentage	2016 Amount
Water Rates	100%	$28,548
		$0
		$0
Total	100%	$28,548

Funding Comments: Project involves no planned increase in capacity or new service connections, therefore funding is 100% water rates.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: 11040

Project Name: Ditch Water Rights SCADA Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Strahan **Board Approval:**

Project Description:

In August 2010, the District and USBR executed a Warren Act Contract for the Rediversion of the Ditch Water Rights. A requirement of that contract is to report diversions at several gaging stations to the USBR on a regular basis. In order to provide accurate and reliable diversion data, the gage stations known as S42, W5, and W4 require upgrading to automation. The automation upgrades consist of installation of telemetry equipment and SCADA. Each station is estimated to cost $5,000 to $10,000 each to install.

Basis for Priority:

Since the Warren Act has been signed, the District is required to report to the USBR. Upgrading the SCADA at the gage stations will provide reliable and accurate reporting.

Project Financial Summary:			
Funded to Date:	$ 40,000	**Expenditures through end of year:**	$ 3,290
Spent to Date:	$ 3,290	**2016 - 2020 Planned Expenditures:**	$ 65,000
Cash flow through end of year:		**Total Project Estimate:**	$ 68,290
Project Balance	$ 36,710	**Additional Funding Required**	$ 28,290

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						$ -
Design	$ 5,000					$ 5,000
Construction	$ 10,000	$ 45,000	$ 5,000			$ 60,000
						$ -
TOTAL	$ 15,000	$ 45,000	$ 5,000	$ -	$ -	$ 65,000

Funding Sources	**Percentage**	**2016 Amount**
Water Rates	100%	$0
		$0
		$0
Total	**100%**	**$0**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: 13014

Project Name: Monte Vista Water Tank Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

The Monte Vista water tank is well beyond the typical life span of a bolted tank and is suffering an increasing number of leaks each year. The original plan for Monte Vista was to replace the tank with a new tank of improved construction for a longer life cycle, and sized appropriately to satisfy current domestic and fire service needs for the number of connections served. The 2002 Storage Capacity Report recommended a second tank as development in the area continued to grow with a total build out storage capacity of up to 600,000 gallons. However, the existing 130,000 gallon tank is at the far end of a several mile long transmission main, recently resulting in MCL exceedance for HAA5 and subsequent Compliance Order from SWRCB-DDW. A new larger tank would exacerbate these water quality concerns and not resolve the Compliance Order. Staff is evaluating options for serving the Monte Vista area by upgrading the pump station and/or construction ofa new waterline from a higher pressure zone. Cost estimates are placeholders and will be updated upon further study.

Basis for Priority:

Compliance order from SWRCB-DDW and failing condition of asset putting reliability of service in jeopardy provides basis for this being a Priority 1 project.

Project Financial Summary:			
Funded to Date:	**$ 50,000**	**Expenditures through end of year:**	**$ 49,336**
Spent to Date:	**$ 43,336**	**2016 - 2020 Planned Expenditures:**	**$ 1,000,000**
Cash flow through end of year:	**$ 6,000**	**Total Project Estimate:**	**$ 1,049,336**
Project Balance	**$ 664**	**Additional Funding Required**	**$ 999,336**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Design	**$50,000**	**$50,000**				**$ 100,000**
Capitalized Labor	**$40,000**	**$30,000**				**$ 70,000**
Construction Costs	**$410,000**	**$420,000**				**$ 830,000**
						$ -
TOTAL	**$ 500,000**	**$ 500,000**	**$ -**	**$ -**	**$ -**	**$ 1,000,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	70%		$349,535
FCC's	30%		$149,801
Total	**100%**		**$499,336**

Funding Comments: Funding source percentages are based on number of existing and potential future service connections.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: 13015

Project Name: Outingdale Lower Tank Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

Originally constructed in 1993, the tank is 22 years old and has suffered extensive corrosion and deterioration of the rafters and their mounting brackets, reducing structural reliability and confidence for continued service. The total combined storage provided by the Upper and Lower Outingdale tanks is insufficient to meet the total of two hour, 1,000 gpm fire flow plus emergency and equalization volume requirements. Epoxy coated bolted tanks such as utilized at Outingdale and other locations within the District have a history of early failure and are proposed to be replaced with fusion bonded/glass lined tanks which have a proven history of over 60 years of effective service life and minimal coating and maintenance costs. The proposed program at Outingdale WTP includes constructing dedicated storage to satisfy chlorine contact plus storage for domestic and fire service. The project schedule anticipates design completion in 2015 and bidding/construction in 2016.

Basis for Priority:

This existing asset is critical to the operation of the Outingdale Water Treatment Plant and providing chlorine contact time in accordance with drinking water regulations. The existing tank is currently in a failing condition.

Project Financial Summary:			
Funded to Date:	**$ 111,740**	**Expenditures through end of year:**	**$ 70,745**
Spent to Date:	**$ 18,745**	**2016 - 2020 Planned Expenditures:**	**$ 630,000**
Cash flow through end of year:	**$ 52,000**	**Total Project Estimate:**	**$ 700,745**
Project Balance	**$ 40,995**	**Additional Funding Required**	**$ 589,005**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Capitalized Labor	**$ 68,000**					**$ 68,000**
Construction	**$ 562,000**					**$ 562,000**
						$ -
TOTAL	**$ 630,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 630,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$589,005
			$0
			$0
Total	**100%**		**$589,005**

Funding Comments: Project involves storage capacity to meet current regulations only, with no planned increase in potable water delivery capacity, therefore funding is 100% water rates.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: 13043

Project Name: Outingdale WTP Automation Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

This project is for the replacement of all the automation and the addition of local SCADA recording equipment at Outingdale Water Treatment Plant (OWTP). A new control system and the elimination of an illegally transmitting Tesco radio is required to be able to bring OWTP into our SCADA system. This project will combine the current PLCs into one and replace end of service life automation controllers and radio. This project will also move the connectivity of the plant to a hardware network. Additionally, in 2016 we will add an onsite server to ensure data collection compliance during network outages. Outingdale is a small package plant with primitive SCADA controls. These controls have proven to be cumbersome and unreliable to monitor and control remotely putting the District at risk for compliance and service interruptions. The current controls only allow limited SCADA abilities at best. Adding full automation with onsite recording capability will ensure regulatory compliance. Additionally, engineering evaluation of the plant may be conducted to identify other needed improvements to improve the reliability.

Basis for Priority:

The Tesco PLC unit at OWTP is transmitting on an illegal frequency under the FCC's new regulations, as of 2013, and is not capable of being modified to meet narrow banding compliance. EID has been notified by the FCC to modify all of our licensed frequency to meet narrow banding requirements. The Tesco radio system that OWTP utilizes will be removed in a separate project due to FCC compliance issues. After this removal, we will not be able to monitor or control anything at OWTP remotely. This project must be completed before or at the same time as the Tesco PLC replacement CIP.

Project Financial Summary:			
Funded to Date:	**$ 50,000**	**Expenditures through end of year:**	**$ 50,000**
Spent to Date:	**$ 25,817**	**2016 - 2020 Planned Expenditures:**	**$ 150,000**
Cash flow through end of year:	**$ 24,183**	**Total Project Estimate:**	**$ 200,000**
Project Balance	**$ (0)**	**Additional Funding Required**	**$ 150,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Construction	**$ 75,000**	**$ 75,000**				**$ 150,000**
						$ -
						$ -
						$ -
TOTAL	**$ 75,000**	**$ 75,000**	**$ -**	**$ -**	**$ -**	**$ 150,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$75,000
Total	**100%**		**$75,000**

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 14003

Project Name: Res 3 Tank Upgrade

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sullivan **Board Approval:**

Project Description:

The ongoing Tank Recoating Program reviews the status of the District's 36 steel water storage tanks, including their structural and coating conditions. The Reservoir 3 tank has been inspected and identified as having experienced severe paint failure, corrosion, and metal loss; placing it high on the current priority list. Due to limited safe access to the tank interior while it is in service, the rehabilitation cost estimate is based on very limited information as to the true condition of rafter and roof plate steel. The tank is scheduled for complete access in late 2015 which should allow for a detailed analysis and more precise cost estimate which will be carried forward to the final project costs.

Basis for Priority:

Maintain reliability of service for a facility critical for potable water transmission from the Reservoir 1 water treatment plant to Placerville and farther west.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 47,042
Spent to Date:	$ 23,521	2016 - 2020 Planned Expenditures:	$ 1,056,000
Cash flow through end of year:	$ 23,521	Total Project Estimate:	$ 1,103,042
Project Balance	$ 2,958	Additional Funding Required	$ 1,053,042

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction	$ 1,056,000					$ 1,056,000
						$ -
TOTAL	$ 1,056,000	$ -	$ -	$ -	$ -	$ 1,056,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$1,053,042
			$0
			$0
Total	**100%**		**$1,053,042**

Funding Comments: Project involves upgrade of existing facilities and no planned increase in capacity, therefore funding is 100% water rates.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 14015

Project Name: Reservoir 1 WTP Spent Backwash Treatment

Project Category: Regulatory Requirements

Priority: 1 **PM:** Rice **Board Approval:**

Project Description:

In May 2001, EPA released a rule governing the process of recycling water generated by the backwashing of drinking water filters. The Filter Backwash Recycling Rule (FBRR) is required by the Safe Drinking Water Act as one method of reducing the risks posed to consumers by microbial contaminants that may be present in public drinking water supplies.
Reservoir 1 WTP spent backwash does not under go any treatment prior to recycling of the waste stream back into the water treatment plant process. This results in all solids accumulation and pathogen concentration in the sedimentation basin ahead of the filters, which reduces the performance of the plant over the course of the seasonal run. A spent backwash treatment process will separate the accumulated solids from the spent backwash allowing only a clear supernatant to return to the influent of the treatment process. Solids will be sent to existing dry beds for further dewatering and final off-site disposal. This project was identified in the 2013 Integrated Water Resources Master Plan as a needed facility upgrade.

Basis for Priority:

Regulatory compliance with the FBRR, and the recycle of untreated spent backwash to the treatment process has been noted as a sanitary deficiency for the past three CDPH inspections.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 980
Spent to Date:	$ 980	2016 - 2020 Planned Expenditures:	$ 1,636,600
Cash flow through end of year:	$ -	Total Project Estimate:	$ 1,637,580
Project Balance	$ 49,020	Additional Funding Required	$ 1,587,580

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 25,000					$ 25,000
Design	$ 125,000					$ 125,000
Construction		$ 486,600	$ 1,000,000			$ 1,486,600
						$ -
TOTAL	$ 150,000	$ 486,600	$ 1,000,000	$ -	$ -	$ 1,636,600

Funding Sources	Percentage	2016 Amount
Water Rates	100%	$100,980
		$0
		$0
Total	100%	$100,980

Funding Comments: Revised from the Integrated Water Resources Master Plan dated March, 2013. This project involves an upgrade of existing facilities and no planned increase in capacity.

2016 CAPITAL IMPROVEMENT PLAN Program: Water

Project Number: 14019

Project Name: Reservoir A WTP Chemical Feed Containment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

The District's chlorine conversion program was successfully completed in 2013 with the changeover from gaseous chlorine to liquid sodium hypochlorite. This project is for improvements to the remaining two chemical feed systems and includes replacement of a 26 year old polymer storage tank, installation of a new orthophosphate tank to replace one that failed two years ago, construction of secondary containment for compliance with Article 80 of the Uniform Fire Code concerning hazardous materials storage, and installation of replacement chemical feed equipment. The system improvements will eliminate the current practice of manually handling and transferring quantities of orthophosphate chemical and eliminate the liability of a leak event for orthophosphate and coagulant polymer.
This project will bring the remainder of all chemical feed systems at the Reservoir A WTP into compliance with both the drinking water regulations for reliability and the Uniform Fire Code requirements governing storage, dispensing, use and handling of hazardous materials. Proposed funding includes design of the chemical and secondary containment storage, construction, as well as procurement and installation of the new chemical feed systems by District operations and maintenance staff. Construction will occur during the winter/spring period of low plant demands and occur in early 2017.

Basis for Priority:

Replacement of aging chemical storage and feed equipment and compliance with regulatory requirements for safe storage of hazardous chemicals

Project Financial Summary:			
Funded to Date:	$ 114,376	Expenditures through end of year:	$ 106,115
Spent to Date:	$ 86,115	2016 - 2020 Planned Expenditures:	$ 420,000
Cash flow through end of year:	$ 20,000	Total Project Estimate:	$ 526,115
Project Balance	$ 8,261	Additional Funding Required	$ 411,739

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction		$ 420,000				$ 420,000
						$ -
TOTAL	$ -	$ 420,000	$ -	$ -	$ -	$ 420,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments: Project involves upgrade of existing facilities and no planned increase in capacity, therefore funding is 100% water rates.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 14025

Project Name: Waterline Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eden-Bishop **Board Approval:**

Project Description:

This program consists of targeted replacement of leaking waterlines, including formerly private lines within the District. Replacing leaking and substandard waterlines in the distribution system will reduce the potential for contamination of the drinking water supply, increase reliability, reduce maintenance expenditures and decrease losses. Currently, over two miles of pipeline have been identified for replacement in the Pollock Pines area alone. These estimates are subject to change as the projects are better defined.

Basis for Priority:

Continuous line breaks affect water quality and supply reliability to customers and increase maintenance costs. This project is required to protect and preserve the health and safety of customers and the public.

Project Financial Summary:			
Funded to Date:	$ 25,000	Expenditures through end of year:	$ 25,000
Spent to Date:	$ 1,072	2016 - 2020 Planned Expenditures:	$ 1,075,000
Cash flow through end of year:	$ 23,928	Total Project Estimate:	$ 1,100,000
Project Balance	$ 0	Additional Funding Required	$ 1,075,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning		$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 80,000
Design	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 150,000
Construction	$ 45,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 845,000
						$ -
TOTAL	$ 75,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,075,000

Funding Sources	Percentage	2016 Amount
Water Rates	100%	$75,000
		$0
		$0
Total	100%	$75,000

Funding Comments: The project replaces existing facilities, therefore is funded by water rates.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: 14027

Project Name: PLC Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

The project involves replacing 8 antiquated and end of life cycle Tesco PLC control panels / radio units. The current units are controllers and radio units. Replacing these units fixes two issues at once. The new PLCs will have a separate modern radio, greatly stabilizing the network and control system. Additionally this also includes the removal of one Tesco repeater site (Res12) and two master Tesco PLCs (Res1 & Res A). Some of these sites are dependent on each other for proper control and radio communication. This interdependency makes it infeasible to replace these sites one at a time. This must be a coordinated effort requiring labor beyond our current staffing levels.

The following sites need to be replaced: Gold Hill Intertie, Dolomite, Union Mine PS, Pollock Pines, Sportsman's PS, Moose Hall Res, Res 2. (3) of these sites can be replaced with a smaller and less expensive control panel - Pollock Pines, Res A (incorporate into the current CL), Res 2 (remote I/O). The remaining (5) sites will need full control panels. These Tesco units are long past life cycle replacement by about 10 to 15 years.

Basis for Priority:

These units are transmitting on an illegal frequency under the FCC's new regulations, as of 2013, and are not capable of being modified to meet compliance. EID has been notified by the FCC to modify all of our licensed frequency to meet narrow banding requirements. The replacement of these units will bring our radio system into compliance and stabilize a fragile water distribution control system. In addition to the great risk of interrupted service to our customers, EID is needlessly spending a lot of resources (Mechanics, Operators, Electrician, & Control Technicians) in an attempt to keep this system running. New parts have not been available for this technology for years. Technical support is not available and the operating software is not supported.

Project Financial Summary:			
Funded to Date:	**$ 71,562**	**Expenditures through end of year:**	**$ 125,959**
Spent to Date:	**$ 60,959**	**2016 - 2020 Planned Expenditures:**	**$ 160,000**
Cash flow through end of year:	**$ 65,000**	**Total Project Estimate:**	**$ 285,959**
Project Balance	**$ (54,397)**	**Additional Funding Required**	**$ 214,397**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Design & PM						**$ -**
Construction	**$ 80,000**	**$ 80,000**				**$ 160,000**
						$ -
						$ -
TOTAL	**$ 80,000**	**$ 80,000**	**$ -**	**$ -**	**$ -**	**$ 160,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$134,397
			$0
			$0
Total	**100%**		**$134,397**

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 15009

Project Name: Sly Park Intertie Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eden-Bishop **Board Approval:**

Project Description:

The Sly Park Intertie is a key component of supply reliability in times of drought and during emergencies. It provides water delivery flexibility between Sly Park and Forebay supplies. The Intertie includes approximately 3.4 miles of 22"/30" steel waterline built under emergency conditions just after the 1976-77 drought. The unlined pipeline has corroded significantly, resulting in periodic leaks and is currently out of service. The Sly Park Intertie Improvements were identified as a supply reliability project in the 2013 Integrated Water Resources Master Plan. The project includes lining the pipeline which will extend the life of the facility and maintain reliability/flexibility. With some operational changes, in-conuit hydroelectric development may also be possible to partially offset pipeline rehabilitation capital costs. Previous engineering reports from the mid 1990's and in 2006 explored the possibility of rehabilitating the pipeline with a non-structural liner. The 2006 Basis of Design Report (BODR) concluded that even with 13-30% wall thickness loss, the pipeline had adequate strength for a non-structural lining option. After 10 years, a new condition assessment is needed to confirm pipe strength prior to proceeding with the recommendations of the 2006 BODR. In 2015/16 an updated BODR will be prepared that will include: a new condition assessment; analysis of changed operations that could potentially reduce pumping head up to 180 feet by pumping water from Reservoir A to Reservoir 1 during annual Forebay outages; and an in-conduit hydroelectic feasibility determination. The ability to move water between Reservoir 1 and Reservoir A will also allow for a long overdue inspection of the 60 year old Camino Conduit between Sly Park Reservoir and Reservoir A. Estimated expenditures are based on an updated cost estimate from the 2006 BODR and assume the pipeline can be rehabilitated with a non-structural liner. If the pipeline is not fit for service and partial or total replacement is required, the cost could double.

Basis for Priority:

Lining the pipeline will slow corrosion and extend its life, ensuring water supply flexibility/reliability between the two major gravity supply sources that provide two thirds of the District's water supply.

Project Financial Summary:			
Funded to Date:	$ 50,000	**Expenditures through end of year:**	$ 28,039
Spent to Date:	$ 3,039	**2016 - 2020 Planned Expenditures:**	$ 6,590,000
Cash flow through end of year:	$ 25,000	**Total Project Estimate:**	$ 6,618,039
Project Balance	$ 21,961	**Additional Funding Required**	$ 6,568,039

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 100,000					$ 100,000
Design/Environmental	$100,000	$160,000			$ 300,000	$ 560,000
Construction			$390,000	$ 2,000,000	$ 3,500,000	$ 5,890,000
Right of Way		$ 40,000				$ 40,000
TOTAL	$ 200,000	$ 200,000	$ 390,000	$ 2,000,000	$ 3,800,000	$ 6,590,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$178,039
			$0
Total	**100%**		**$178,039**

Funding Comments: The project extends the life of a facility and restores the intended design capacity, therefore is funded by water rates.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 15013

Project Name: Water Tank Recoating Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

The District operates 36 steel storage tanks, ranging in age from 5 to 55 years of age, most of which were constructed in the last 15 years as part of the District line and cover program. The District has utilized new specifications and inspection methods since constructing the Promontory tank in 2009, with extremely good results also on the 5 steel tanks recoated since that time. A review of the District's assets has identified numerous tanks, both welded and bolted construction, in need of immediate rehabilitation or complete replacement. The proposed budget is based on re-coating two tanks each year to establish an 18 year rotation of routine coating maintenance. Multiple tanks have been inspected during the last two years to help prioritize coating repairs and upgrades. The water tanks proposed for rehabilitation or replacement within the next 5 year cycle include Reservoir 3, Reservoir 6, Bridlewood, Sly Park Hills, Village C, Oak Ridge #1, Reservoirs 2A and 2B, and Reservoir 7A. The tanks vary in the extent of steel rehabilitation required and the size of tanks varies from 1.0 to 5.0 million gallons, all resulting in the various annual costs shown.
The Outingdale Lower, Swansboro and Monte Vista bolted tanks are each identified separately for complete replacement due to failing condition, rather than here in the coating rehabilitation program.

Basis for Priority:

Project purpose is to maintain existing assets critical to meeting public health and safety requirements, and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 2,909
Spent to Date:	$ 2,909	2016 - 2020 Planned Expenditures:	$ 2,000,000
Cash flow through end of year:		Total Project Estimate:	$ 2,002,909
Project Balance	$ 47,091	Additional Funding Required	$ 1,952,909

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design				$ 25,000	$ 25,000	$ 50,000
Construction Costs				$ 975,000	$ 975,000	$ 1,950,000
						$ -
TOTAL	$ -	$ -	$ -	$ 1,000,000	$ 1,000,000	$ 2,000,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments: Project involves no planned increase in capacity, therefore funding is 100% water rates.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 15014

Project Name: DOT Construction Projects - Water

Project Category: State/County Road Projects

Priority: 1 **PM:** Rice **Board Approval:**

Project Description:

At Board direction, staff has streamlined contracting procedures with the El Dorado County Department of Transportation (DOT) and City of Placerville for joint projects. EID has many water and sewer lines in roads maintained by the El Dorado County Department of Transportation (DOT). From time to time, DOT initiates a road project where either the EID water, wastewater or recycled waterlines need to be relocated or upgraded, which presents opportunities to join forces with DOT in the project by simultaneously upgrading and/or relocating our facilities. EID and DOT staff have implemented methods to improve mutual cooperation in conducting county road construction projects that impact EID facilities.

Currently identified projects where District staff time will be required to coordinate with DOT and other utilities, as well as relocate or replace existing waterlines, include the following: Western Placerville Interchange - Phase 2, Silva Valley Bike Path, Green Valley Signal interconnect, Blair Road Bridge Replacement, New York Creek Trail, Phase 2, Diamond Springs Parkway Phase 1A and Clear Creek Bridge Replacement at Sly Park Road.

Individual projects identified under this program will be broken out and funded as a separate CIP project as identified to the District by DOT.

Basis for Priority:

Projects are required by law, regulation, contract, agreement or license. This includes projects required to meet requirements imposed by federal, State, or local governments. This also includes relocation of District facilities necessitated by State or County road improvements.

Project Financial Summary:			
Funded to Date:	$ 25,000	Expenditures through end of year:	$ 5,794
Spent to Date:	$ 2,794	2016 - 2020 Planned Expenditures:	$ 125,000
Cash flow through end of year:	$ 3,000	Total Project Estimate:	$ 130,794
Project Balance	$ 19,206	Additional Funding Required	$ 105,794

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design	$25,000	$25,000	$25,000	$25,000	$25,000	$ 125,000
Construction Costs						$ -
						$ -
TOTAL	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$5,794
			$0
			$0
Total	100%		$5,794

Funding Comments: Typically work involves replacement or relocation of existing facilities. However, funding split will be further evaluated for each project.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: 15019

Project Name: Sly Park Reservoir Intake

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

This project is to replace the log boom on Jenkinson Lake that protects the Reservoir A WTP intake from body contact or boating activity. This is a regulatory requirement as part of our exemption from body contact.

Basis for Priority:

Protection of public drinking water supply and regulatory requirement

Project Financial Summary:			
Funded to Date:	$ 25,000	Expenditures through end of year:	$ 25,000
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 175,000
Project Balance	$ 25,000	Additional Funding Required	$ 125,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction	$ 150,000					$ 150,000
						$ -
TOTAL	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000

Funding Sources	Percentage	2016 Amount
Water Rates	100%	$125,000
		$0
		$0
Total	100%	$125,000

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: 15021

Project Name: Pump Station Upgrade Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

The District has numerous small to medium sized pump stations throughout the service area that operate to increase pressures to customers at higher elevations. This is an annual program to upgrade pump stations that have deteriorated or reached the end of their service life. Pump stations at Ridgeview, Crestview, Dolomite, Swansboro, Woodside, Crestview, Oro Loma, Reservoir 8, Rancho del Sol, Monte Vista and Arrow Bee have been identified by Operations and Maintenance staff of being in need of upgrades to ensure reliable supply of the necessary pressure and flow to their respective service areas, and to comply with fire flow requirements and incorporate emergency standby power where needed. Replacement components include pumps, hydropneumatic tanks, pressure switches, valves, yard piping, SCADA equipment and possibly building upgrades to accommodate larger equipment. Proposed funding includes feasibility level study and prioritization of pump stations for replacement only.

The intent of the identified construction funding is to allow engineering and construction staff to work together in the most efficient manner to implement station rehabilitation without requiring the labor and time investments to develop bid documents and publically bid work that can better be performed by qualified District staff. Specific pump stations identified for major improvement, ie funding amounts requiring Board authorization, will be brought to the Board along with detailed design and construction estimates for funding approval.

Basis for Priority:

Potential interruption to service throughout the District in the event of failures and continued use of expiring equipment that may pose a threat to the health and safety of customers, employees, and the public.

Project Financial Summary:			
Funded to Date:	**$ 10,000**	**Expenditures through end of year:**	**$ 8,741**
Spent to Date:	**$ 4,241**	**2016 - 2020 Planned Expenditures:**	**$ 490,000**
Cash flow through end of year:	**$ 4,500**	**Total Project Estimate:**	**$ 498,741**
Project Balance	**$ 1,259**	**Additional Funding Required**	**$ 488,741**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	**$10,000**	**$10,000**	**$10,000**	**$ 10,000**	**$ 10,000**	**$ 50,000**
Design						**$ -**
Construction Costs	**$ 40,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 440,000**
						$ -
TOTAL	**$ 50,000**	**$ 110,000**	**$ 110,000**	**$ 110,000**	**$ 110,000**	**$ 490,000**

Funding Sources	**Percentage**	**2016 Amount**
Water Rates	100%	$48,741
		$0
Total	**100%**	**$48,741**

Funding Comments: Work involves planning the upgrade of existing facilities for reliability of service and does not increase capacity.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 15024

Project Name: El Dorado Hills Raw Water Pump Station Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

The adopted 2013 Integrated Water Resources Master Plan recommends construction of a new raw water pump station and firms the capacity of the EDHWTP to 26 mgd. The existing raw water C-side pump station was designed as a temporary facility only, in anticipation of a new raw water pump station with a temperature control device (TCD). However, the TCD is no longer being contemplated. The A and B side intake pumps are nearing the end of their reliable life cycle and the C-side pumps have experienced numerous failures requiring very costly repairs. The existing raw water pump station needs to be upgraded to provide for reliability and long-term operational needs. This project includes a feasibility study to look at alternatives for construction of a permanent, efficient, and cost effective replacement to meet the 26 MGD firm capacity as well as environmental review and a Basis of Design report to develop a program schedule and cost estimate. It is anticipated the new facility will include new submersible pumps on the inclined slope and a new intermediate equalization tank to provide gravity flow to new booster pumps. This plan would reuse the existing pump sites and electrical gear, and require a new easement for the intermediate tank and piping only.

Basis for Priority:

The critical nature of this pump station, age and poor condition of pumps, number of repeated pump failures, difficulty obtaining and high cost of repair parts for 1958 vintage booster pumps is the basis for Priority 1 ranking. This project is needed to maintain service and meet supply demands for public health and safety.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 4,410,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 4,410,000
Project Balance	$ -	Additional Funding Required	$ 4,410,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$10,000					$ 10,000
Design		$ 200,000				$ 200,000
Construction Costs			$ 200,000	$ 2,000,000	$ 2,000,000	$ 4,200,000
						$ -
TOTAL	$ 10,000	$ 200,000	$ 200,000	$ 2,000,000	$ 2,000,000	$ 4,410,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$10,000
			$0
Total	100%		$10,000

Funding Comments: 100% water rates, for replacement of an existing pump station facility.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: 15025

Project Name: American River Bridge Pipeline

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Brink **Board Approval:**

Project Description:

Caltrans plans to replace the existing Highway 49 bridge over the South Fork of the American River in Coloma/Lotus. The District has an existing waterline on the bridge that will be impacted by the proposed project. The design of the project commenced in the summer of 2015, and is currently being developed. Since the design is just starting, the extent of impacts are unknown. Based on preliminary discussions with Caltrans, up to 3,000 feet of 6-inch and 8-inch waterlines may require relocation at District costs. Once the extent of impacts are known, the District will retain a consultant to design the relocation plans. It is anticipated the relocation work will be performed by a contractor retained by Caltrans. A reimbursement agreement between Caltrans and the District will be brought to the Board for approval once the extent of impacts are known. Caltrans desires to start construction in late 2016 and anticipates construction my take up to two years. Since the design has not been developed, the expenditures listed below are rough estimates.

Basis for Priority:

The District has a waterline in the Caltrans right-of-way that will be impacted by their proposed project. The District must pay associated relocation costs.

Project Financial Summary:			
Funded to Date:	**$ 20,000**	**Expenditures through end of year:**	**$ 20,000**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 675,000**
Cash flow through end of year:	**$ 20,000**	**Total Project Estimate:**	**$ 695,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 675,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design		**$ 175,000**				**$ 175,000**
Construction			**$ 500,000**			**$ 500,000**
						$ -
TOTAL	**$ -**	**$ 175,000**	**$ 500,000**	**$ -**	**$ -**	**$ 675,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$0
			$0
			$0
Total	**100%**		**$0**

Funding Comments: Estimated expenditures are estimates. No design as been completed.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Construction Storage Facility

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Strahan **Board Approval:**

Project Description:

Build construction storage facility in EID upper yard

Basis for Priority:

Improve efficiency

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 180,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 180,000
Project Balance	$ -	Additional Funding Required	$ 180,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design				$ 30,000		$ 30,000
Construction				$ 150,000		$ 150,000
						$ -
TOTAL	$ -	$ -	$ -	$ 180,000	$ -	$ 180,000

Funding Sources	Percentage	2016 Amount
Water Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Diamond Springs Parkway / Hwy 49 Improvements

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Brink **Board Approval:**

Project Description:

As part of the County's planned Diamond Springs Parkway project, the County plans to make improvements to Hwy 49 in Diamond Springs that will impact existing waterlines. The majority of the impacted waterlines are located within existing easements, and therefore the County is required to perform the relocations at their costs. Some waterlines are located within the public right of way and must be relocated at the District's cost. Due to limited hydraulic capacity of some of the existing water lines, the District plans to increase their size (from 8" to 12") as part of the project. The District will be responsible for the incremental cost of the upsizing. It is anticipated a project specific reimbursement agreement between the County and the District will be brought to the Board in early 2016. The County anticipates construction to commence in late 2016 and be completed in 2017. The project is currently in design and the estimated annual expenditures listed below are rough estimates.

Basis for Priority:

Some of the waterlines that require relocation are in the public right of way where we do not have Senior rights. Those make this project a Priority 1. The rest of the impacted waterlines are in easements, and must be relocated at the County's costs. However, based on hydraulic modeling, the District desires to increase the size of these facilities as part of the project and will be responsible for the increased cost. This work would be considered Priority 2.

Project Financial Summary:			
Funded to Date:		**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 275,000
Cash flow through end of year:		**Total Project Estimate:**	$ 275,000
Project Balance	$ -	**Additional Funding Required**	$ 275,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design	$ 25,000					$ 25,000
Construction	$ 50,000	$ 200,000				$ 250,000
						$ -
TOTAL	$ 75,000	$ 200,000	$ -	$ -	$ -	$ 275,000

Funding Sources	Percentage	2016	Amount
Water Rates	50%		$37,500
Water FCC's	50%		$37,500
			$0
Total	**100%**		**$75,000**

Funding Comments: Estimated expenditures are estimates. No design Has been completed.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: EDHWTP Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

This proposed program is an assessment of the complete EDH water treatment facility. Portions of the facility were upgraded in 2010. However to take full advantage of these capacity improvements along with a previous filter rate increase demonstration study, the Department of Drinking Water (DDW) requires a separate and complete review of all unit processes to verify overall compliance. In addition, this assessment will review concerns with the existing backwash solids handling systems, provide recommendations to improve solids concentration performance and gravity discharge from the site, evaluate the condition of structural repairs made to filter cells 1 and 2 about 8 years ago, and review raw water characteristics and treated water quality to verify optimum performance in step with changing regulations. Evaluations are envisioned to be performed by a combination of District engineering and operations staff, and outside specialty consultants as may be required.
This assessment does not include the raw water pump station which is identified in a separate CIP project number.

Basis for Priority:

The project purpose is to maintain and enhance the capacity and reliability of the existing EDH WTP.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 200,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 200,000
Project Balance	$ -	Additional Funding Required	$ 200,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 100,000	$ 100,000				$ 200,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 100,000	$ 100,000	$ -	$ -	$ -	$ 200,000

Funding Sources	Percentage	2016 Amount
Water Rates	100%	$100,000
		$0
		$0
Total	100%	$100,000

Funding Comments: The project will ensure the plant can supply nameplate capacity reliably, but not increase capacity beyond its current maximum.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: PLANNED

Project Name: Green Valley Road Bridge Replacements - Waterline Relocations

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Brink **Board Approval:**

Project Description:

The County plans to replace two existing bridges in Green Valley Road at Indian Creek and Mound Springs. The District has waterlines in the public right of way that may be impacted and have to be relocated at the District's costs. The design of the project has not started, therefore the extent of impacts to District facilities is unknown. The County estimates construction would occur in 2018. Estimated future expenditures should be considered placeholders in the CIP since the extent of impacts is unknown.

Basis for Priority:

Required by agreement since relocation is associated with a County project.

Project Financial Summary:			
Funded to Date:		**Expenditures through end of year:**	**$ -**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 250,000**
Cash flow through end of year:		**Total Project Estimate:**	**$ 250,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 250,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design	**$ 20,000**	**$ 30,000**				**$ 50,000**
Construction			**$ 200,000**			**$ 200,000**
						$ -
TOTAL	**$ 20,000**	**$ 30,000**	**$ 200,000**	**$ -**	**$ -**	**$ 250,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$20,000
			$0
			$0
Total	**100%**		**$20,000**

Funding Comments: Estimated expenditures are estimates. No design as been completed.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: In Conduit Hydro Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sullivan **Board Approval:**

Project Description:

In-conduit Hydroelectric Projects consists of: intake pipeline, a powerhouse containing generating units, discharge pipeline, and appurtenant facilities. This assessment will evaluate potential locations and their feasibility to produce power at a reasonable rate of return. Return on investment will be a key factor to determine viable projects.

Staff will work with qualified consultants to evaluate locations for in-conduit power generation stations as a revenue source. Viable location can be created as a separate project(s) for design and construction.

Basis for Priority:

This project will be used to evaluate the potential for constructing in-conduit power generation stations as a revenue source.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 50,000
Project Balance	$ -	Additional Funding Required	$ 50,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 50,000					$ 50,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Funding Sources	Percentage	2016	Amount
Water Rates	47%		$23,500
Water FCCs	53%		$26,500
			$0
Total	100%		$50,000

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Outingdale Intake Pump Station

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

The District has submitted a grant aplication, in association with the Regional Water Authority (RWA), to assist with funding for a new pump station to improve reliability and reduce ongoing maintenance costs associated with the Outingdale raw water pump station. The existing intake consists of a hose and screen laid on the river bed, which is susceptible to plugging, requires moving regularly to maintain submergence, and looses suction prematurely during drought induced low flows. The existing pumps are located about 12 feet above the river surface and require routine servicing to maintain pump prime and flow to the plant. The proposed station will include a 'Ranney' style horizontal lateral intake system excavated into the river bed to improve submergence conditions, and an in-ground package submersible pump station to improve reliability and power efficiency. The new intake facility will allow continued service during low river flows and reduce the potential need for future trucking of potable water. Construction cost estimates are based on District staff preparing environmental permits and construction plans, as well as performing the construction activities. Outside services may be required for drilling and excavation for the inground pumps. If successful, the Prop 84 grant submitted through RWA will reimburse the District approximately $150,000 of the anticipated total $300,000 project costs.

Basis for Priority:

Replacement of aging equipment with very high maintenance requirements and low reliability with a new design to improve efficiency and reduce staff time and maintenance cost requirements.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 300,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 300,000
Project Balance	$ -	Additional Funding Required	$ 300,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning		$ 25,000				$ 25,000
Capitalized Labor		$ 65,000				$ 65,000
Construction		$ 210,000				$ 210,000
						$ -
TOTAL	$ -	$ 300,000	$ -	$ -	$ -	$ 300,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments: The project improves service reliability for the existing water treatment plant.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: PLANNED

Project Name: Permit 21112 Change in Point of Diversion

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Poulsen **Board Approval:**

Project Description:

In 2013, the District adopted the Integrated Water Resources Master Plan which calls for construction of facilities to divert water at the White Rock Penstock, convey the raw water to a new treatment plant in the Western Region, and transmit the treated water. This project is to prepare feasibility studies required to finalize locations and alignments, refine design criteria and sizing, identify land requirements, and update costs estimates. The water to be diverted will be a combination of 1) supplies obtained by the El Dorado Water and Power Authority and made available under the El Dorado-SMUD Cooperation Agreement, and 2) Permit 21112. To take all or any portion of Permit 21112 water upstream, EID must successfully petition the State Water Resources Control Board (SWRCB) for permit changes to add points of diversion and rediversion. The SWRCB Change Petition process encompasses preparation of the Petition (including preliminary engineering, hydrologic, and biological analyses, mapping, legal review, and preliminary meetings with SWRCB staff, California Department of Fish & Wildlife staff, and other stakeholders); California Environmental Quality Act compliance; prosecution of the Petition; evidentiary hearings before the SWRCB if any protests are unresolved; and potentially administrative appeals and litigation. The planned annual expenditures reflect a timeline of Petition preparation in 2016, CEQA compliance and Petition prosecution in 2016 and 2017, and Petition prosecution and SWRCB hearing in 2018. Any post-hearing proceedings would require additional funding. Following completion of feasibility studies additional engineering will include pre-design, design and environmental studies for construction and construction of the facilities.

Basis for Priority:

This project provides measurable progress toward achieving the District's goals, meeting demands of increased growth within the District's service area, expansion of services made necessary by new development, and increases water supply and reliability. The Change Petition process can take many years, particularly if it requires a hearing before the SWRCB. Although construction of White Rock diversion facilities will not commence for some time, it is prudent to begin this regulatory approval process well in advance of construction.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 400,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 400,000
Project Balance	$ -	**Additional Funding Required**	$ 400,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Petition Prep	$ 50,000					$ 50,000
CEQA/Environmental		$ 150,000				$ 150,000
Petition Prosecution			$ 100,000			$ 100,000
SWRCB Hearing			$ 100,000			$ 100,000
TOTAL	$ 50,000	$ 150,000	$ 200,000	$ -	$ -	$ 400,000

Funding Sources	**Percentage**	**2016**	**Amount**
Water FCCs	100%		$50,000
			$0
			$0
Total	**100%**		**$50,000**

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Prospector Plaza Cross Connection Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Strahan **Board Approval:**

Project Description:

The District has distribution mains that transit through Prospector Plaza (Kmart Shopping center). Since it's construction, the District has made changes in how it operates the water system in the area. The fire suppression system of the shopping center is directly connected to the distribution system without backflow devises required by current regulations. The project will evaluate impacts in 2016, followed by construction in 2017. It is anticipated the improvements would be installed by District crews.

Basis for Priority:

Required by agreement for construction of a county project.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 150,000
Project Balance	$ -	Additional Funding Required	$ 150,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design	$ 25,000					$ 25,000
Construction		$ 125,000				$ 125,000
						$ -
TOTAL	$ 25,000	$ 125,000	$ -	$ -	$ -	$ 150,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$25,000
			$0
			$0
Total	100%		$25,000

Funding Comments: Estimated expenditures are estimates. No design as been completed.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Pressure Reducing Station Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

The District has numerous pressure reducing stations throughout the service area to keep line pressures within acceptable ranges as it travels from Pollock Pines down to El Dorado Hills. This program is to identify specific stations to remove, replace or upgrade to maintain service reliability throughout the District. Many stations have suffered extensive corrosion and will be difficult to maintain in the future. Loss of pressure control or valve failure can result in extensive water line damage or complete failure. Program management expenditures identified include prioritizing and designing each PRS replacement. Actual PRS replacement costs for each individual station will be brought to the Board for specific approval.

Basis for Priority:

Existing stations are incurring increasing maintenance costs and reduced service reliability due to age and degradation.

Project Financial Summary:			
Funded to Date:	$ 104,047	Expenditures through end of year:	$ 69,114
Spent to Date:	$ 69,114	2016 - 2020 Planned Expenditures:	$ 550,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 619,114
Project Balance	$ 34,933	Additional Funding Required	$ 515,067

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$10,000	$10,000	$10,000	$ 10,000	$ 10,000	$ 50,000
Design						$ -
Construction Costs	$100,000	$100,000	$100,000	$100,000	$100,000	$ 500,000
						$ -
TOTAL	$ 110,000	$ 110,000	$ 110,000	$ 110,000	$ 110,000	$ 550,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$75,067
			$0
			$0
Total	100%		$75,067

Funding Comments: Projects involve upgrade of existing facilities and no planned increase in capacity, therefore funding is 100% water rates.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: PLANNED

Project Name: Res 1 WTP Backwash Return Pump Station Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

The existing backwash return pumps have reached an age where sudden shaft or motor failure is becoming a higher probability, based on historical life cycles of existing equipment. Sudden failure of the pumps results in immediate overflows and discharge from the site of 6,000 gpm, resulting in subseqent flooding and costly damge to adjacent residences. Elimination of the consequential damage risk involves installing two new submersible pumps to replace the old ones which are no longer manufactured. Additionally, the existing pump station lid will be retrofitted with sealed doors such that if there is a pump failure, backwash waste water will be contained and there will be no dischage off site. District staff will specify and bid for direct procurement of the two replacment pumps and guide rail systems; and install and wire the equipment. Contracts will be let for structural design and construction retro fit of the station lid with two 'submarine' style doors to eliminate the potential of offsite discharges.
Quotes for complete pump replacement received in 2009 note that the original 135 hp pumps are no longer manaufactured and it is in the District's best interest to install new, more efficent pumps and rail systems. The new 150 hp pumps are currently estimated to cost approximately $60,000 each based on escalation of the 2009 proposals.

Basis for Priority:

Project purpose is to maintain existing assets critical to meeting public health and safety requirements, and eliminate a potential risk with high consequential costs.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 260,000
Cash flow through end of year:		**Total Project Estimate:**	$ 260,000
Project Balance	$ -	**Additional Funding Required**	$ 260,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Design			$ 10,000			$ 10,000
Capitalized Labor		$ -	$ 25,000	$ -	$ -	$ 25,000
Construction Costs		$ -	$225,000	$ -	$ -	$ 225,000
						$ -
TOTAL	$ -	$ -	$ 260,000	$ -	$ -	$ 260,000

Funding Sources	**Percentage**	**2016 Amount**
Water Rates	100%	$0
Total	**100%**	**$0**

Funding Comments: Project involves no planned increase in capacity, therefore funding is 100% water rates.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Spencers Road Waterline Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

This section of waterline has been identified by District construction staff for replacement to reduce ongoing maintenance liabilities and water losses. Portions of the existing AC waterline have insufficient cover and are even exposed in several sections. The proposed project scope includes relocation and burial of 700 lineal feet of 6-inch C-900 waterline to bring it up to District standards and improve reliability.

Basis for Priority:

Continued line breaks that affect the supply and quality of water to our customers and increased maintenance costs to continuously repair these lines. This project is required to maintain service reliability.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 130,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 130,000
Project Balance	$ -	Additional Funding Required	$ 130,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design		$ 10,000				$ 10,000
Construction		$ 120,000				$ 120,000
						$ -
TOTAL	$ -	$ 130,000	$ -	$ -	$ -	$ 130,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments: The project improves service reliability to existing services.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Water**

Project Number: PLANNED

Project Name: Storage Evaluation Report Update

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

The 'Storage Evaluation For Potable Water Systems' report currently being utilized for decisions related to sizing of, and need for, future tanks and the critical nature of their service was last updated in 2002. This report was based on service zone demands and build out estimates in accordance with the EDC General Plan and District Master Plan. A new report will be based on more current projections of land use, growth and demands within each Service Zone, taking into account the current and projected economic climate. This report will be used to guide District staff in modeling and decision making with regard to maintaining, building, reducing, or eliminating storage capacities in the future.

Basis for Priority:

Accurate and current information is required to provide guidance for master planning and decision making with regard to the District's potable water storage assets.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 70,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 70,000
Project Balance	$ -	**Additional Funding Required**	$ 70,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	$ 50,000					$ 50,000
Capitalized labor	$ 20,000					$ 20,000
Construction	$ -					$ -
						$ -
TOTAL	$ 70,000	$ -	$ -	$ -	$ -	$ 70,000

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$70,000
			$0
			$0
Total	**100%**		**$70,000**

Funding Comments: The project purpose is to ensure supply reliability to all service zones.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Swansboro Tank Replacment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Rice **Board Approval:**

Project Description:

During inspections conducted summer of 2015, the Swansboro tank was found to be experiencing severe corrosion of 100% of the rafter mounting brackets, with three of the brackets actually failed and their respective rafters on the tank bottom. Condition of the tank roof caused the current safety order to no longer walk on the tank roof which hinders further roof inspections and vent screen cleaning. The Swansboro tank is the only stoage tank within this service area, otherwise serviced solely by the North Canyon pump station. The District has been conducting evaluations of tank replacement alternatives for smaller sized tanks. The funding identified herein is based on utilization of a 'glass fused to steel' coating system which has a proven 60 year history of successful service. The District does have one glass fused to steel coated tank at Strawberry, which during inspections this summer proved to be in 'like new' condition, has not required any coating maintenance to date, and should not require maintenance other than minor gasket sealing for the next 20 years as well. Further, close inspection of the Strawberry tank aluminum dome identified it also to be in 'like new' condition which is incentive to review domes as a more economical life cycle option for replacement of smaller welded steel tank roofs where they fit into the surronding aesthetics and snow loading criteria.

One advantage of the 'glass fused to steel' coated tanks is they can be assembled during winter months, when temperatures and moisture would other prevent coating of a traditional painted steel tank. The anticipated project schedule is to design the tank replacment the summer of 2016, with bidding and construction during the winter of 2016/2017.

Basis for Priority:

Life cycle replacement of District asset

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 640,000
Cash flow through end of year:		**Total Project Estimate:**	$ 640,000
Project Balance	$ -	**Additional Funding Required**	$ 640,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design	$ 40,000	$ -	$ -	$ -	$ -	$ 40,000
Construction Costs	$0	$ 600,000	$ -	$ -	$ -	$ 600,000
						$ -
TOTAL	$ 40,000	$ 600,000	$ -	$ -	$ -	$ 640,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$40,000
Total	**100%**		**$40,000**

Funding Comments: Project involves no planned increase in capacity, therefore funding is 100% water rates.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: 12028

Project Name: Water Facility Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

This is a program to replace equipment and facilities used in the water system that have failed or reached end of useful life. Funding will be used to replace pumps, valves, structures and other equipment that with replacement, extend the life of the asset.

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	$ 222,614	Expenditures through end of year:	$ 109,147
Spent to Date:	$ 109,147	2016 - 2020 Planned Expenditures:	$ 500,000
Cash flow through end of year:		Total Project Estimate:	$ 609,147
Project Balance	$ 113,467	Additional Funding Required	$ 386,533

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000
						$ -
TOTAL	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water SCADA Network Reliability Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

Maintain the reliability and performance of the current SCADA infrastructure used to manage automated process control through timely upgrades to aging critical infrastructure, including local and wide-area process control networks and security systems.

Priority 2016 actions include:
Upgrade the process control network infrastructure at EDH WTP to replace end-of-life equipment and address reliability, security, alerting, and management risks.

Basis for Priority:

Maintains the reliability and performance of the current SCADA networks used to manage automated operations and perform regulatory reporting functions of the District. Operating SCADA network equipment beyond end of life may represent significant risks to service reliability, operating expenses, and regulatory compliance.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 50,000
Cash flow through end of year:		Total Project Estimate:	$ 50,000
Project Balance	$ -	Additional Funding Required	$ 50,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
EDH WTP Network	$ 50,000					$ 50,000
						$ -
						$ -
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Funding Sources	Percentage	2016	Amount
Water rates	100%		$50,000
			$0
			$0
Total	100%		$50,000

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: PLANNED

Project Name: Water System Management Technology

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Strahan **Board Approval:**

Project Description:

This Program is for the capital purchase of technologies that improve efficiency, reduce cost and/or ensure compliance with Drinking Water regulations and standards. Examples of these technologies are shoftware products that integrate field information for valve exercising to the District's CMMS and GIS solutions. Reporting tools that will automate routine reports for submission to regualtory agencies.

Basis for Priority:

Program is to ensure that the Drinking Water Division conitinues a cost effective and efficient operation

Project Financial Summary:			
Funded to Date:		Expenditures through end of year:	$ -
Spent to Date:		2016 - 2020 Planned Expenditures:	$ 30,000
Cash flow through end of year:		Total Project Estimate:	$ 30,000
Project Balance	$ -	Additional Funding Required	$ 30,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction			$ 30,000			$ 30,000
						$ -
TOTAL	$ -	$ -	$ 30,000	$ -	$ -	$ 30,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$0
Total	100%		$0

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Water

Project Number: SDWL04

Project Name: Reservoir Floating Cover Replacement Program

Project Category: Regulatory Requirements

Priority: 1 **PM:** Strahan **Board Approval:**

Project Description:

This project consists of upgrades to the District's reservoirs currently fitted with floating covers. The District has completed a study that evaluated the condition of the existing floating covers and identified current deficiencies and repairs required to extend their useful life until such time as full replacement or capacity increases are needed. Maintenance of these reservoir covers is required by DDW to ensure public health and safety. Funding includes necessary repairs plus installation of various improvements to the existing floating covers to extend their life until replacement and proceeding with design and environmental work for the overall program. Existing cover maintenance will occur each year and planning for complete new covers.

Basis for Priority:

Maintaining integrity of the floating covers is critical to ensuring water quality and protection of public health and safety.

Project Financial Summary:			
Funded to Date:	$ 400,000	Expenditures through end of year:	$ 292,070
Spent to Date:	$ 292,070	2016 - 2020 Planned Expenditures:	$ 150,000
Cash flow through end of year:		Total Project Estimate:	$ 442,070
Project Balance	$ 107,930	Additional Funding Required	$ 42,070

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction Costs	$30,000	$30,000	$30,000	$30,000	$30,000	$ 150,000
						$ -
TOTAL	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 150,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$0
			$0
Total	100%		$0

Funding Comments: Project involves no planned increase in capacity, therefore funding is 100% water rates.

Wastewater Projects

2016	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 12012

Project Name: Wastewater Generator Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sullivan **Board Approval:**

Project Description:

The District currently has 45 permanently located (stationary) generators within the wastewater collections system. Thirteen are larger than 200 Kw and are emergency standby power at the wastewater and water treatment plants as well as pumping stations. Some of the sewer lift stations also have either diesel or propane generators for emergency power. This program is to replace these aging assets to ensure reliable service and safe operations at our facilities.

Basis for Priority:

Replace failing assets to ensure operation of collection system lift stations.

Project Financial Summary:			
Funded to Date:	$ 390,695	Expenditures through end of year:	$ 390,695
Spent to Date:	$ 252,727	2016 - 2020 Planned Expenditures:	$ 650,000
Cash flow through end of year:	$ 137,968	Total Project Estimate:	$ 1,040,695
Project Balance	$ 0	Additional Funding Required	$ 650,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 50,000
Design	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 100,000
Construction	$100,000	$100,000	$100,000	$100,000	$100,000	$ 500,000
						$ -
TOTAL	$ 130,000	$ 130,000	$ 130,000	$ 130,000	$ 130,000	$ 650,000

Funding Sources	Percentage	2016 Amount
Wastewater Rates	100%	$130,000
		$0
		$0
Total	100%	$130,000

Funding Comments: Project replaces existing assets to ensure reliability in collection system.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: 12015

Project Name: DCWWTP Change of Use Petition

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Wells **Board Approval:**

Project Description:

The State Water Resources Control Board (SWRCB) issued Water Rights Order (WRO-95-9) in 1995 that mandates the District to discharge a minimum of 1.0 million gallons per day (mgd) of treated wastewater from the DCWWTP into Deer Creek. Staff would like to revisit WRO 95-9 and file a change of use petition with the water rights division of the SWRCB. The goal of the project is to reduce or eliminate the minimum discharge requirement to Deer Creek. If the minimum discharge requirement is reduced or eliminated, that effluent can be utilized as recycled water to help meet peak day recycled water demands. Currently, the District has to supplement the recycled water system with potable water during the peak demand months. In the last three years, the District has supplemented the recycled water system with an average of 350 acre-feet of potable water each year. Reducing the minimum discharge requirement will allow the District to reduce or cease potable water supplementation to the recycled water system. Reducing the potable water production during peak summer months will save on potable water treatment and energy costs. Further, it would reduce/eliminate selling the potable water supplemented into the recycled water system at recycled water rates.

In June 2011, staff met with the California Department of Fish and Game (CDFG) to discuss the District's interest in re-visiting WRO 95-9. Discussions at the meeting were encouraging. CDFG staff were receptive to the District's desire to make greater use of recycled water, and reduce its dependence on upper watershed uses for potable water production, yet they were also interested in continuing to protect the riparian and aquatic resource downstream of the DCWWTP. Therefore, staff developed a three-phased approach for this project: Phase 1 consisted of a hydrologic model and gathering of ecological information, Phase 2 will consist of field surveys and development of the environmental document that will accompany the change of use petition, and Phase 3 will consist of filing the change of use petition with the SWRCB and agency correspondence. Board support and public outreach will be a critical element if this effort is to be successful.

Phase I is complete and staff briefed the board on the results and the recommended next steps. The funding in 2016 and 2017 is for the following: to conduct field surveys of the riparian habitat and develop and EIR for the project, coordination with regulatory agencies, filing of the change of use petition and staff time.

Basis for Priority:

Compliance with SWRCB directives; increase operational and financial efficiencies.

Project Financial Summary:			
Funded to Date:	**$ 237,905**	**Expenditures through end of year:**	**$ 189,287**
Spent to Date:	**$ 189,287**	**2016 - 2020 Planned Expenditures:**	**$ 300,000**
Cash flow through end of year:		**Total Project Estimate:**	**$ 489,287**
Project Balance	**$ 48,618**	**Additional Funding Required**	**$ 251,382**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	**$ 250,000**	**$ 50,000**				**$ 300,000**
Design						**$ -**
Construction						**$ -**
TOTAL	**$ 250,000**	**$ 50,000**	**$ -**	**$ -**	**$ -**	**$ 300,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$201,382
Total	**100%**		**$201,382**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: **12021**

Project Name: **Wastewater SCADA System Reliability Program**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **Sullivan** **Board Approval:**

Project Description:

This project will replace (21) PLC/RTUs and add the required monitoring equipment (instrumentation) at the following lift stations: Arlette, Bar J, Bass Lake Village, Browns Ravine 1, Browns Ravine 2, Buckeye, Deer Park, Diamond Industrial, Indian Creek, Marina Hills, Motherlode, North Uplands, Oakridge, Rancho Ponderosa, Starbuck, Summit 2, Summit 5, Summit View 1, Thunderhead, Waterford 8, Waterford 9. This list is subject to change pending lift station(s) that may be upgraded separately under a different CIP.

In 2013 and 2014 staff went through an extensive process to define a standardized PLC system setup for all lift stations. Two PLCs were installed in late 2013 and 2014 by staff to wring out the process for planning future installations. 2015-2016 will see a significant catch up effort to address deferred upgrades of existing out-of-date PLCs used extensively for process control in the collection systems. The existing PLCs are now about 30 years old and 10 years beyond their expected useful life. Additionally, these PLCs only provide 10-20% of the monitoring capabilities compared to current standard PLC's (3 to 5 monitoring points versus 30) meaning these facilities have no ability to report pump failures or incrementally report on wet well levels before reaching the high water limit. Also, they can go up to 24 hours before alerting of a communications or control issue, while current standard PLCs will alert within 5 minutes (a 288% increase in time to detect issues proactively). Locating replacement parts and technical support for the old PLCs is nearly impossible.

This project also includes professional services funding to design the electrical and mechanical elements for installation and integration of the PLCs into the facilities and outside construction to install the new PLC systems.

Basis for Priority:

End of Life cycle replacement for PLCs / radios controlling wastewater collections. These units are 10 years beyond end of life (15 years in some cases) and require above normal maintenance attention. The District struggles with finding parts and keeping these units in service. The SCADA Group highly recommends immediate replacement to significantly reduce the risks of sanitary sewer overflows (SSO).

Project Financial Summary:			
Funded to Date:	**$ 83,717**	**Expenditures through end of year:**	**$ 908,792**
Spent to Date:	**$ 58,792**	**2016 - 2020 Planned Expenditures:**	**$ 1,500,000**
Cash flow through end of year:	**$ 850,000**	**Total Project Estimate:**	**$ 2,408,792**
Project Balance	**$ (825,075)**	**Additional Funding Required**	**$ 2,325,075**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Design						$ -
Installation	$ 700,000	$ 800,000				$ 1,500,000
						$ -
TOTAL	**$ 700,000**	**$ 800,000**	**$ -**	**$ -**	**$ -**	**$ 1,500,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$1,525,075
			$0
			$0
Total	**100%**		**$1,525,075**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: 12030

Project Name: DCWWTP Permit Renewal

Project Category: Regulatory Requirements

Priority: 1 **PM:** Wells **Board Approval:**

Project Description:

This CIP is for a NPDES permit renewal at the DCWWTP and compliance requirements.

NPDES permit renewal

The Regional Water Quality Control Board (RWQCB) issues a new NPDES permit every 5 years. Staff submitted a report of waste discharge (ROWD) to the RWQCB in June of 2013. The RWQCB issued a new permit that went into effect on August 1, 2014. The permit contains effluent limitations for zinc that the DCWWTP currently cannot comply with. The RWQCB issued a time schedule order (TSO) for zinc. The TSO allows the District time (until October 2017) to come into compliance with the zinc effluent limitation in the permit. The funding is for a study to determine site-specific water quality criteria for zinc within Deer Creek.

Basis for Priority:

The District is required to maintain compliance with effluent limitations in our discharge permits, otherwise the District will be subject to permit violations and regulatory fines.

Project Financial Summary:			
Funded to Date:	**$ 220,242**	**Expenditures through end of year:**	**$ 119,857**
Spent to Date:	**$ 119,857**	**2016 - 2020 Planned Expenditures:**	**$ 75,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 194,857**
Project Balance	**$ 100,385**	**Additional Funding Required**	**$ -**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	**$ 75,000**					**$ 75,000**
Design						**$ -**
Construction						**$ -**
						$ -
TOTAL	**$ 75,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 75,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	70%		$0
Wastewater FCCs	30%		$0
			$0
Total	**100%**		**$0**

Funding Comments: Funding split is based on available capacity at the plant

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: 13004

Project Name: Lift Station Elimination Study

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sullivan **Board Approval:**

Project Description:

Several lift stations are in need of rehabilitation which can exceed $1,000,000 per station; however staff has preliminary information that some of the lift stations in need of rehabilitation may be eliminated by diverting flows to a nearby downhill lift station. Staff continue perform preliminary studies to determine the feasibility of eliminating lift stations by analyzing the hydraulics, capacities, easements and constructability of several candidate locations. Eliminating lift stations reduces the cost of operating, maintaining in addition to rehabilitation costs.

If the study conclusions indicate that the elimination of specific lift station(s) can be accomplished, then staff will return to the board for further funding to design and construct the necessary infrastructure to proceed.

In 2013, staff found that three lift stations can be eliminated in the El Dorado collections system. The Ridgeview 7 lift station was eliminated in 2014. The elimination of Mormon Island and Lake Ridge Oak stations have been designed and will be eliminated in 2015. This study will continue in 2016 to follow through with current and future potential locations.

Basis for Priority:

Reliability and cost reduction are District priority goals. Several candidate lift stations which are scheduled for rehabilitation may be eliminated, saving the cost of the rehabilitation, periodic labor to operate and maintain and future subsequent rehabilitation cycles. If investigation of eliminating candidate lift stations is performed early enough, it may avoid costly scheduled rehabilitation.

Project Financial Summary:			
Funded to Date:	**$ 162,000**	**Expenditures through end of year:**	**$ 118,076**
Spent to Date:	**$ 118,076**	**2016 - 2020 Planned Expenditures:**	**$ 150,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 268,076**
Project Balance	**$ 43,924**	**Additional Funding Required**	**$ 106,076**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	**$ 20,000**	**$ 20,000**	**$ 20,000**			**$ 60,000**
Design	**$ 30,000**	**$ 30,000**	**$ 30,000**			**$ 90,000**
Construction						**$ -**
						$ -
TOTAL	**$ 50,000**	**$ 50,000**	**$ 50,000**	**$ -**	**$ -**	**$ 150,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$6,076
			$0
			$0
Total	**100%**		**$6,076**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: 13024

Project Name: El Dorado Lift Station Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sullivan **Board Approval:**

Project Description:

The El Dorado Lift Station (EDLS) is the main pumping facility for the Mother Lode (eastern area) of the District to the DCWWTP via the Mother Lode force main. The EDLS is a critical District facility located in the town of El Dorado and currently serves 2534 EDUs. The facility was constructed in 1975 and is in need of major repairs to the majority of the key components to increase reliability and facilitate operations.

Basis for Priority:

This project provides replacement of failing components at this critical facility; thereby providing safe, reliable collection system assets.

Project Financial Summary:			
Funded to Date:	**$ 345,591**	**Expenditures through end of year:**	**$ 345,591**
Spent to Date:	**$ 309,592**	**2016 - 2020 Planned Expenditures:**	**$ 1,600,000**
Cash flow through end of year:	**$ 35,999**	**Total Project Estimate:**	**$ 1,945,591**
Project Balance	**$ (0)**	**Additional Funding Required**	**$ 1,600,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						$ -
Design/CM/Inspection						$ -
Construction				$ 200,000	$ 1,400,000	$ 1,600,000
						$ -
TOTAL	$ -	$ -	$ -	$ 200,000	$ 1,400,000	$ 1,600,000

Funding Sources	**Percentage**	**2016 Amount**
Wastewater Rates	65%	$0
Wastewater FCC	35%	$0
		$0
Total	**100%**	**$0**

Funding Comments: funding split based on plant capacity

2016	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 13026

Project Name: 2013 Lift Station Upgrades Design

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Brink **Board Approval:** 11/12/13

Project Description:

This project is for the design of replacement projects for the Business Park 2, Waterford 7, South Point and Bridlewood Canyon Lift Station projects as part of the program level design CIP to address issues of safety and reliability within the District's system of sewer lift stations. As part of the approved 2013 Wastewater Facilities Master Plan, consulting engineers and District staff performed condition assessments of existing lift stations. Results of these assessments were used to identify these lift stations for replacement or repairs. In November 2013 the Board approved design contract with HydroScience Engineers. This CIP is for the design only. Construction of the projects will be conducted under individual CIP projects. They have since completed the design of the Business Park 2 replacement lift station (the Carson Creek 1 lift station), which is being built under CIP 14020. Consideration of award of the construction contract for Bridlewood Canyon Lift Station (PN 15015) is expected to be brought to the Board in October 2015. The design of the other two lift stations is expected to be complete in 2016, followed by construction in 2017.

Basis for Priority:

This project provides life-cycle replacement of sewer lift stations thereby providing safe, reliable collection system assets.

Project Financial Summary:			
Funded to Date:	$ 569,966	Expenditures through end of year:	$ 514,663
Spent to Date:	$ 439,663	2016 - 2020 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ 75,000	Total Project Estimate:	$ 664,663
Project Balance	$ 55,303	Additional Funding Required	$ 94,697

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design	$ 150,000					$ 150,000
Construction						$ -
						$ -
TOTAL	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000

Funding Sources	Percentage	2016	Amount
Wastewater Rates	100%		$94,697
			$0
			$0
Total	100%		$94,697

Funding Comments: Replacement of existing assets.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 14020

Project Name: Carson Creek 1 Lift Station

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Brink **Board Approval:** 09/08/14

Project Description:

This CIP was formally known as the Business Park 2 Lift Station Replacement Project. Based on assessments performed by engineering and operations, the Business Park 2 lift station is one of the highest priority sites for replacement. The Business Park 2 Lift Station was constructed in 1985 and has reached the end of its useful life. The site receives gravity flows from within the east end of the El Dorado Hills business park and also receives flows from the Business Park 3 lift station. The pumps are original and have had many repairs. The steel discharge piping within the wet well has been repaired numerous times. The steel wet well and pump rails have severe corrosion. The existing original generator and controls are now obsolete.

Lennar is planning to build homes in the Carson Creek development adjacent to the BP2 site starting in 2014. The new development will require a new lift station. On March 24, 2013, the Board approved a reimbursement agreement with Lennar to build a single new lift station that will serve to replace BP2 and will serve Lennar's Carson Creek Unit 1. Per the agreement, Lennar is responsible for 60.5% of the design and construction costs. Design was performed under the 2013 Lift Station Upgrades Design CIP (PN 13026). On September 8, 2014 the Board awarded the construction contract. Lennar has placed 100% of their estimated portion of the construction cost in an escrow account for the District to draw from. Construction of the lift station commenced in 2015 and is expected to be finished in 2016.

Basis for Priority:

The Board has approved the Reimbursement Agreement with Lennar which commits the District to build the lift station. Construction of the lift station started in 2015 and will

Project Financial Summary:			
Funded to Date:	$ 3,321,500	Expenditures through end of year:	$ 2,611,333
Spent to Date:	$ 2,411,333	2015 - 2019 Planned Expenditures:	$ 700,000
Cash flow through end of year:	$ 200,000	Total Project Estimate:	$ 3,311,333
Project Balance	$ 710,167	Additional Funding Required	$ -

Description of Work	Estimated Annual Expenditures					
	2015	2016	2017	2018	2019	Total
Study/Planning						$ -
Design						$ -
Construction	$ 700,000					$ 700,000
						$ -
TOTAL	$ 700,000	$ -	$ -	$ -	$ -	$ 700,000

Funding Sources	Percentage	2016 Amount
Wastewater Rates	100%	$0
		$0
		$0
Total	100%	$0

Funding Comments: Approximately 60.5% of cost to be reimbursed by Lennar. These costs are included in the estimates listed above.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: 14021

Project Name: DOT Construction Projects - Wastewater

Project Category: State/County Road Projects

Priority: 1 **PM:** Brink **Board Approval:** 08/10/15

Project Description:

The Board has directed staff to streamline contracting procedures with the El Dorado County Department of Transportation (DOT) for the two agencies' joint projects. EID has many water and sewer lines in roads maintained by the DOT. From time to time, DOT initiates a road project where either EID water or wastewater need to be relocated or upgraded, which presents opportunities to join forces with DOT in the project by simultaneously upgrading and/or relocating our facilities. On August 10, 2015 the Board reauthorized the Master Reimbursement Agreement which is utilized for such projects.

This CIP is intended for staff coordination with DOT throughout the year and for minor projects. The larger utility relocation projects will have a specific CIP that identifies all the work associated with that project.

Basis for Priority:

Projects are required by law, regulation, contract, agreement or license. This includes projects required to meet requirements imposed by federal, State, or local governments. This also includes relocation of District facilities necessitated by State or County road improvements.

Project Financial Summary:			
Funded to Date:	**$ 31,561**	**Expenditures through end of year:**	**$ 2,981**
Spent to Date:	**$ 2,981**	**2016 - 2020 Planned Expenditures:**	**$ 125,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 127,981**
Project Balance	**$ 28,580**	**Additional Funding Required**	**$ 96,420**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design/Inspection	**$25,000**	**$25,000**	**$25,000**	**$25,000**	**$25,000**	**$ 125,000**
Construction Costs						**$ -**
						$ -
TOTAL	**$ 25,000**	**$ 25,000**	**$ 25,000**	**$ 25,000**	**$ 25,000**	**$ 125,000**

Funding Sources	**Percentage**	**0**	**Amount**
Wastewater Rates	100%		$0
			$0
			$0
Total	**100%**		**$0**

Funding Comments: Funding is 100% rates. Typically work involves replacement or relocation of existing facilities. However, funding split will be further evaluated for each project.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 14028

Project Name: EDHWWTP Odor Control

Project Category: Regulatory Requirements

Priority: 1 **PM:** Sullivan **Board Approval:**

Project Description:

The District has received odor complaints from near-by residences and businesses that surround the EDHWWTP. The plant has some odor control measures, but lacks odor control sufficient to contain foul odors on the plant site. Containing odors on the plant site is a requirement of the discharge permit and odors emitting offsite are a violation of the permit. The District has received a violation for plant odors.

In order to determine the specific treatment processes that are the source of the odors, a plant-wide odor study was conducted in order to evaluate, document and determine the odor sources that can lead to off-site complaints. Air sampling was performed and odor dispersion modeling was conducted to determine community impacts from the various odor sources. The study recommended removing the biofilter media and replacing it with a new underdrain system and new media, covering the primary clarifiers, plumbing the existing EQ tanks to the biofilter and removing the granular activated carbon (GAC) odor control system that currently scrubs the foul air from the EQ tanks, and some minor modifications to the foul air ducting. The removal of the GAC system will save the District approximately $100,000 per year since the carbon has to be replaced every year or so. This project will only cover removing the biofilter media and replacing it with a new underdrain system and new media. The design drawings and specification shall be revised accordingly. The other elements maybe considered for future construction, pending an investigation of using peroxide rather than GAC in the EQ tanks.

Basis for Priority: regulatory requirement

Odors emitting from the plant site are a violation of the discharge permit, and the District is subject to additional violations and fines.

Project Financial Summary:			
Funded to Date:	$ 160,145	Expenditures through end of year:	$ 161,747
Spent to Date:	$ 161,747	2016 - 2020 Planned Expenditures:	$ 600,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 761,747
Project Balance	$ (1,602)	Additional Funding Required	$ 601,602

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction		$ 600,000				$ 600,000
						$ -
TOTAL	$ -	$ 600,000	$ -	$ -	$ -	$ 600,000

Funding Sources	Percentage	2016	Amount
Wastewater FCCs	35%		$561
Wastewater Rates	65%		$1,041
			$0
Total	100%		$1,602

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: 15015

Project Name: Bridlewood Lift Station Rehabilitation Project

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Brink **Board Approval:**

Project Description:

Based on a condition assessment performed by engineering and operations staff, this lift station, which was constructed in 1989 and serves over 970 EDU's, has reached the end of its useful life. The lift station is one of the highest priority sites scheduled for rehabilitation. The lift station has an arc flash rating of category 3 and should be mitigated to a rating of 1.

New pumps and controls are required, along with associated piping, flow meters and odor control system. The existing fiberglass wet well will be rehabilitated and reused. After a new roof is installed and the building trim replaced, the existing building will be reused to house the electrical controls. The site will be repaved and new fence slates will be installed around the perimeter. This CIP is for construction only. The lift station design is currently underway under the 2013 Lift Station Upgrades CIP (PN 13026) . It is anticipated that the construction contract will be brought to the Board for consideration of award in October 2015.

Basis for Priority:

The lift station will continue to degrade increasing the risk of potential failures in the future which could result in hazards to the public and regulatory fines.

Project Financial Summary:			
Funded to Date:	**$ 30,000**	**Expenditures through end of year:**	**$ 158,021**
Spent to Date:	**$ 8,021**	**2016 - 2020 Planned Expenditures:**	**$ 1,500,000**
Cash flow through end of year:	**$ 150,000**	**Total Project Estimate:**	**$ 1,658,021**
Project Balance	**$ (128,021)**	**Additional Funding Required**	**$ 1,628,021**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design						**$ -**
Construction	**$ 1,500,000**					**$ 1,500,000**
						$ -
TOTAL	**$ 1,500,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,500,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$1,628,021
			$0
			$0
Total	**100%**		**$1,628,021**

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: 15023

Project Name: EDHWWTP Solar Rehab

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sullivan **Board Approval:**

Project Description:

The solar power array was installed at the EDHWWTP in June of 2006 at which time the system power generation was monitored by a 3rd party company as a requirement under the self-generation incentive agreement with PG&E. Unfortunately the 3rd party company is no longer in business and the monitoring equipment was design as a proprietary system that cannot be used by the District. This new project intends to replace the old monitoring system with a new system that can provide monitoring data that will be sent to the District's SCADA system. The data will be used to monitor excess power generated which can be either applied as power credit to another plant meter or sold on the open market as renewable energy credits. With this initial funding a design of the new monitoring system shall be developed for bidding purposes. Also a assessment, design and replacement the failing power invertors shall also be implemented.

Basis for Priority:

Optimize system efficiency, replace obsolete equipment, pursue additional renewable energy sources.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 50,000
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 150,000
Cash flow through end of year:	$ 50,000	Total Project Estimate:	$ 200,000
Project Balance	$ -	Additional Funding Required	$ 150,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction	$ 150,000					$ 150,000
						$ -
TOTAL	$ 150,000	$ -	$ -	$ -	$ -	$ 150,000

Funding Sources	Percentage	2016	Amount
Wastewater Rates	100%		$150,000
			$0
			$0
Total	100%		$150,000

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: **PLANNED**

Project Name: **Business Park 3 Lift Station Improvements**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **Brink** **Board Approval:**

Project Description:

Based on assessments performed by Engineering and Operations, the Business Park 3 lift station is a priority site for replacement. The Business Park 3 Lift Station was constructed in 1983, serves about 140 EDUs, and has reached the end of its useful life. The site receives gravity flows from within the El Dorado Hills business park and pumps into the Business Park 2 lift station. The pumps are original and have had many repairs. The steel discharge piping within the wet well has been repaired numerous times. The steel wet well and pump rails have severe corrosion. The existing original generator and controls are now obsolete. Complete replacement of the site is required.
The second phase of Lennar's planned Carson Creek development will require a new lift station. Based on the planned location of that lift station and local topography, it appears feasible that the Business Park 3 lift station could be abandoned and the associated sewer flows diverted to the new the new Carson Creek Unit 2 lift station. A cost sharing agreement for that new lift station would need to be executed with Lennar, similar to what was done for the Carson Creek 1 Lift Station. The District would share design and construction costs based on capacity. The funding included in this CIP is only for the District estimated portion of the costs. The schedule is dependent on Lennar's schedule to develop Unit 2 in Carson Creek.

Basis for Priority:

The site has reached the end of its useful life. Failure of the lift station could have severe impacts to customers and result in sanitary sewer overflows. If the District enters into agreement with Lennar for joint, the District will be committed to build this new lift station.

Project Financial Summary:			
Funded to Date:		**Expenditures through end of year:**	**$ -**
Spent to Date:		**2016 - 2020 Planned Expenditures:**	**$ 575,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 575,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 575,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design			**$ 75,000**			**$ 75,000**
Construction				**$ 500,000**		**$ 500,000**
						$ -
TOTAL	**$ -**	**$ -**	**$ 75,000**	**$ 500,000**	**$ -**	**$ 575,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$0
			$0
			$0
Total	**100%**		**$0**

Funding Comments: Only includes the District's portion of the joint lift station

2016	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: Collections SCADA Improvements

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Strahan **Board Approval:**

Project Description:

Add remote set point and statistical ability to the legacy automation controller sites. This project involves programming of the automation controllers and the SCADA screens.

Basis for Priority:

Automation would eliminate the need for a site visit for routine operational changes. The current system has the hardware in place, but lacks the programming to make remote set point changes and to provide statistical information. The statistical information is typically used for maintenance and troubleshooting reports. These improvements will reduce SSO risk and allow for better root cause analysis when force main breaks do happen.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 45,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 45,000
Project Balance	$ -	Additional Funding Required	$ 45,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Design						$ -
Construction						$ -
Programming			$ 45,000			$ 45,000
						$ -
TOTAL	$ -	$ -	$ 45,000	$ -	$ -	$ 45,000

Funding Sources	Percentage	2016	Amount
Wastewater Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: Deer Creek Dissolved Oxygen Automation

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Strahan **Board Approval:**

Project Description:

This project would correct faulty automation of the aeration basins at Deer Creek WWTP. This project would be to add instrumentation, valves and programming to create a sustainable automation solution.

Basis for Priority:

Automation would increase efficiency and reduce power consumption by maintaining a target level of dissolved oxygen in the basins. Aeration is one of the higher energy consumers in the treatment process.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 175,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 175,000
Project Balance	$ -	Additional Funding Required	$ 175,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Design	$ 25,000					$ 25,000
Construction	$ 50,000	$ 50,000				$ 100,000
Programming	$ 50,000					$ 50,000
						$ -
TOTAL	$ 125,000	$ 50,000	$ -	$ -	$ -	$ 175,000

Funding Sources	Percentage	2016	Amount
Wastewater Rates	100%		$125,000
			$0
			$0
Total	100%		$125,000

Funding Comments: Funding for the core process control network upgrade was previously in the 2012 SCADA System Reliability Program CIP.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: PLANNED

Project Name: EDHWWTP Food Waste and DC Sludge to Energy

Project Category: Regulatory Requirements

Priority: 2 **PM:** Washko **Board Approval:**

Project Description:

In October 2014, the Organic Waste Recycling Act (AB1826) passed in the CA legislature. AB1826 requires local businesses to recycle their food waste/scraps and requires local governmental jurisdictions to provide programs to facilitate this recycling. This creates a reliable stream of food waste to add to digesters to produce additional digester gas for the generation of electricity or the development of compressed natural gas for use in the District fleet. By January 1, 2016 local governments are required to implement an organics recycling program to divert organics from landfills and by April 1, 2016 businesses that generate 8 cubic yards or more each week must arrange for recycling services. By 2019 business required to participate drops even lower to those with 4 cubic yards. An Organics Grant Program was created by CalRecycle to help implement AB1826. It is designed to lower overall green house gas emissions by expanding existing capacity, or establishing new facilities, or food waste reduction projects in CA to reduce the amount of food being sent to the landfills. Total program funding is $25 million a year with $15 million per year for grants exclusively for organics, and $5 million for loans. The El Dorado Hills Treatment plant has enough digester capacity to process all the Deer Creek sludge and has space for a food waste digester. The purpose of this project is to identify and quantify potential digester gas production amounts by adding Deer Creek sludge and food waste. Once the supply is understood a proprietary Waste-To-Energy Model will be used to help make decisions on whether to pursue cogeneration project. Staff will brief the board on the study findings and recommendations.

Basis for Priority:

Another source of non-rate revenue. EDHWWTP could be exporting energy to the grid or providing fleet with CNG.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ 25,000
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 50,000
Cash flow through end of year:	$ 25,000	Total Project Estimate:	$ 75,000
Project Balance	$ (25,000)	Additional Funding Required	$ 75,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 50,000					$ 50,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Funding Sources	Percentage	2016	Amount
Wastewater Rates	65%		$48,750
Wastewater FCCs	35%		$26,250
			$0
Total	100%		$75,000

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: **PLANNED**

Project Name: **Fall Protection at Lift Stations**

Project Category: **Regulatory Requirements**

Priority: **1** **PM:** **Washko** **Board Approval:**

Project Description:

This program will eliminate fall hazard at lift station wetwells. The suggested system consists of a removable grate, which is held in place by multi-functional corner brackets, all aluminum in construction. Within the corner brackets is provision for portable barricading specifically designed for the application. The primary function of the grate is to offer fall protection when accessing the wetwell, allowing the operator to visually check the well without the risk of falling. The secondary function of the grate is to be completely removable once the barricading is in place, allowing relatively unrestricted access to the pump well and all of its components. The principal behind the barricading is very similar to an everyday scaffold, the posts are specially designed in aluminum to fit into the corner brackets. The rails are telescopic and have quick action claspers to allow their fitting to a wide range of well sizes and ease of use. The system is rated by a structural engineer and is practical alternative to permanent barricading around wells or the use of fall arrest systems. The grate and brackets are totally hidden below the well lid and the barricading is completely removable, allowing for areas where aesthetics are important.

Basis for Priority:

Required for health and safety

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 330,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 330,000
Project Balance	$ -	**Additional Funding Required**	$ 330,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						$ -
Design	$ 15,000	$ 15,000				$ 30,000
Construction	$ 150,000	$ 150,000				$ 300,000
						$ -
TOTAL	$ 165,000	$ 165,000	$ -	$ -	$ -	$ 330,000

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$165,000
			$0
			$0
Total	**100%**		**$165,000**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: **Planned**

Project Name: **Promontory 1 Odor Control**

Project Category: **Reliability & Service Level Improvements**

Priority: **3** **PM:** **Brink** **Board Approval:**

Project Description:

The existing Promontory 1 Lift Station was built in 2000 and serves approximately 600 EDUs. It was located in an open field, with no EID residences near it. The new Promontory 8 residential development, which is currently under construction, will construct houses directly adjacent to the lift station. Due to the proximity to the lift station, it is likely the residences could experience odors from the lift station. As part of the District's approval of the Promontory 8 development, the District required the developer provide $35,000 towards a portion of future odor control at Promontory 1 Lift Station. That money has been received from the developer. It anticipated the odor control will be installed by District crews.

Basis for Priority:

The District did receive monies from the developer for this project and will be required to construct odor control if complaints received. Project will provide community benefit and increase service levels.

Project Financial Summary:			
Funded to Date:	**$ -**	**Expenditures through end of year:**	**$ -**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 75,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 75,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 75,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design		**$ 5,000**				**$ 5,000**
Construction		**$ 70,000**				**$ 70,000**
						$ -
TOTAL	**$ -**	**$ 75,000**	**$ -**	**$ -**	**$ -**	**$ 75,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	50%		$0
Wastewater FCC's	50%		$0
			$0
Total	**100%**		**$0**

Funding Comments: Lift Station primarily serves existing customers, but the need for odor control due to new development.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: Rancho Ponderosa Lift Station Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sullivan **Board Approval:**

Project Description:

Based on a condition assessment performed by engineering and operations this lift station, which was constructed in 1964 and serves over 16 EDUs, has reached the end of its useful life and has succumbed to deterioration. The lift station is a priority site scheduled for rehabilitation.

The condition assessment concluded that both pumps are very old and require replacement. The wet well is concrete and corroded. A brick wall was added at one time, likely due to SSO issues, which extends two feet above ground and has a large hole in it. The lift station site security is nonexistent presenting a liability. The check and isolation valves, piping manifold are worn out. All electrical components are old and not trustworthy. Overall, this is one of the oldest and lowest quality non standard lift stations in the District.

Based on the above assessment this station presents a high liability of potential failures and should have the entire station replaced with a package pump station similar to the Yates Lift Station along with station piping, valves, wet well lid system, portable generator connector, switching gear, new PLC control system, control panel system, new odor control system, and flow meter.

Basis for Priority:

The lift station will continue to degrade increasing the risk of potential failures in the future which could result in hazards to the public and regulatory fines.

Project Financial Summary:			
Funded to Date:	**$ -**	**Expenditures through end of year:**	**$ -**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 750,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 750,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 750,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design/CM/Inspection		**$ 50,000**				**$ 50,000**
Construction			**$ 700,000**			**$ 700,000**
						$ -
TOTAL	**$ -**	**$ 50,000**	**$ 700,000**	**$ -**	**$ -**	**$ 750,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$0
			$0
			$0
Total	**100%**		**$0**

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Wastewater

Project Number: Planned

Project Name: Silva Valley/El Dorado Hills

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eden-Bishop **Board Approval:**

Project Description:

The 2013 Wastewater Facility Master Plan (WWMP) identified 2,100 feet of the 18"/21" sewerline along Silva Valley Road and 4,500 feet of 18" sewerline between Silva Valley Rd and the EDH Wastewater Treatment Plant as needing replacement by 2018. In order to further refine the extent and timing of improvements required, flow monitoring and survey work to determine manhole invert and ground elevations was completed under Project 14001 and 14002 in 2014. Flow monitoring and survey data has been incorporated into the District collection system model to determine remaining pipeline capacity. The current capacity analysis indicates the peak wet weather flow rate in 12,000 feet of pipeline exceeds design capacity and of that 4,700 feet is in a surcharged condition, i.e. water backing up into manholes. Additional wet weather flow data will be collected this winter to calibrate the model further. A Basis of Design report will be prepared in 2016 that will consider the wet weather flow data, which may change the extent and timing of the improvements. Increasing the capacity of these sewerlines will correct existing capacity limitations and provide capacity for new wastewater customers. The capacity increment that provides for new connections is included in the District's FCC.

Basis for Priority:

The collection system model identified these gravity sewerlines as having capacity limitations. If the capacity limitations are not corrected, sanitary sewer overflows could occur and future connections to the collection system will be limited.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 6,168,600
Cash flow through end of year:	$ -	Total Project Estimate:	$ 6,168,600
Project Balance	$ -	Additional Funding Required	$ 6,168,600

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 50,000					$ 50,000
Design/Env/CM		$ 100,000	$ 200,000			$ 300,000
Construction				$ 3,271,600	$ 2,547,000	$ 5,818,600
						$ -
TOTAL	$ 50,000	$ 100,000	$ 200,000	$ 3,271,600	$ 2,547,000	$ 6,168,600

Funding Sources	Percentage	2016	Amount
Wastewater FCCs	66%		$33,000
Wastewater Rates	34%		$17,000
			$0
Total	100%		$50,000

Funding Comments: The project corrects an existing capacity limitation and provides capacity for new wastewater customers, therefore is funded with a combination of wastewater rates and FCCs.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: South Pointe Lift Station Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Brink **Board Approval:**

Project Description:

Based on a condition assessment performed by engineering and operations this lift station, which was constructed in 1990 and serves over 65 EDU's, has reached the end of its useful life. This lift station has experienced a SSO in the recent past. This lift station electrical system is classified as an arc flash Category 3.

New pumps and controls are required, along with associated piping, flow meters and odor controls. Based on condition assessments, it is assumed the existing fiberglass wet well can be rehabilitated and reused. After a new roof is installed and the building trim painted, the existing building will be reused to house the controls. A new fence will be installed around the perimeter. The lift station is located in the public right of way with no formal easement. As part of the project, the District will obtain a formal easement for the lift station from the County. This CIP is for construction only. The design is currently underway with the 2013 Lift Station Upgrades design CIP (PN 13026).

Basis for Priority:

The lift station will continue to degrade increasing the risk of potential failures in the future which could result in hazards to the public and regulatory fines.

Project Financial Summary:			
Funded to Date:		**Expenditures through end of year:**	
Spent to Date:		**2016 - 2020 Planned Expenditures:**	**$ 1,280,000**
Cash flow through end of year:		**Total Project Estimate:**	**$ 1,280,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 1,280,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design/CM/Inspection			**$ 180,000**			**$ 180,000**
Construction			**$ 1,100,000**			**$ 1,100,000**
						$ -
TOTAL	**$ -**	**$ -**	**$ 1,280,000**	**$ -**	**$ -**	**$ 1,280,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$0
			$0
			$0
Total	**100%**		**$0**

Funding Comments: Project replaces an existing lift station for current customers.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: **PLANNED**

Project Name: **Wastewater Collection System Pipeline Replacement**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **Washko** **Board Approval:**

Project Description:

The District has two large collection systems, El Dorado Hills and Deer Creek Collection Systems. These systems are served by a series of lift stations, force mains, and gravity mains that convey wastewater to the El Dorado Hills Wastewater Treatment Plant and the Deer Creek Wastewater Treatment Plant. Together, the plants serve approximately 22,000 connections. The systems are regulated under the State Water Resources Control Board General Waste Discharge Requirements Order No. 2006-003-DWQ adopted in May 2006 and the amendment to the Monitoring and Reporting Program of the SSR WDR, Order No. WQ 2013-0058-EXEC. The District has approximately 1,088,536 linear feet of pipeline (force main 64,040 and gravity sewer 1,024,496). Seventy-one percent of the pipeline is PVC, 12% asbestos cement, 3% is vitreous clay, 1% is ductile iron and 13% has not been delineated. The good news is that the typical life of PVC piping is 100 years! The bad news is that the vitreous clay pipe (31,957 feet) is failing and the asbestos cement pipe is also failing (126,333 linear feet). The Wastewater Facilities Master Plan (2013) recommended that 19,040 linear feet of gravity main be addressed over the next five years for a 2013 installed cost of $4,803,430 and similarly that force main repairs be made to 23,540 linear feet of pipe for an installed cost of $7,006,336. This project begins to meet those needs within the current rate structure.

Basis for Priority:

Maintain credibility with the regulators and public for infrastructure maintenance by having a proactive pipeline replacement program. One significant spill to waters of the state could cost the District $10 per gallon in fines.

Project Financial Summary:			
Funded to Date:	**$ -**	**Expenditures through end of year:**	**$ -**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 1,125,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 1,125,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 1,125,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design	**$ 75,000**					**$ 75,000**
Construction		**$ 300,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 1,050,000**
						$ -
TOTAL	**$ 75,000**	**$ 300,000**	**$ 250,000**	**$ 250,000**	**$ 250,000**	**$ 1,125,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$75,000
			$0
			$0
Total	**100%**		**$75,000**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: Wastewater Equipment Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Washko/Wells **Board Approval:**

Project Description:

This is an annual program to replace equipment and facilities used in the wastewater system that have failed or reached end of useful life. Funding will be used to replace pumps, valves, and other equipment that, with replacement, extend the life of the asset. Below is a list of items in need of repair/replacement for the EDHWWTP, DCWWTP and CHWWTP: pumps and valves

EDHWWTP
Belt Press Rehabilitation
Redundant reclaimed pump and VFD
Corrosion prevention

DCWWTP
Outdoor main switch for upper transformer
Mag Meter Replacement combined filter flow
Polymer units for belt press
MCC replacement for the US Filter
Corrosion prevention

CHWWTP
Tail water return rehabilitation / automation

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 1,350,000
Cash flow through end of year:		Total Project Estimate:	$ 1,350,000
Project Balance	$ -	Additional Funding Required	$ 1,350,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction	$ 350,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,350,000
						$ -
TOTAL	$ 350,000	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 1,350,000

Funding Sources	Percentage	2016	Amount
Wastewater Rates	70%		$245,000
Wastewater FCCs	30%		$105,000
			$0
Total	100%		$350,000

Funding Comments: Funding split based on available plant capacity

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: Wastewater Facilities Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Washko **Board Approval:**

Project Description:

This is a program to replace equipment and facilities in the wastewater system that have failed or reached the end of the useful life. Funding will be used for wastewater systems facilities such as roofs, levees, roads, flooring, bathrooms, kitchens, and facilities internal and external paint. A roofing Master Plan will be developed through this CIP.

Basis for Priority:

Maintain existing assests, including life cycle replacement of pump stations, pipelines, flumes, canals, and other assets

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 625,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 625,000
Project Balance	$ -	Additional Funding Required	$ 625,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design						$ -
Construction	$ 125,000	$ 125,000	$ 125,000	$ 125,000	$ 125,000	$ 625,000
						$ -
TOTAL	$ 125,000	$ 125,000	$ 125,000	$ 125,000	$ 125,000	$ 625,000

Funding Sources	Percentage	2016	Amount
Wastewater Rates	100%		$125,000
			$0
			$0
Total	100%		$125,000

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: Wastewater SCADA Network Reliability Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

Maintain the reliability and performance of the current SCADA infrastructure used to manage automated process control through timely upgrades to aging critical infrastructure, including local and wide-area process control networks and security systems.

Priority 2016 actions include:
Upgrade the process control network infrastructure at EDH WWTP and Deer Creek WWTP to replace end-of-life equipment and address reliability, security, alerting, and management risks.

Basis for Priority:

Maintains the reliability and performance of the current SCADA networks used to manage automated operations and perform regulatory reporting functions of the District. Operating SCADA network equipment beyond end of life may represent significant risks to service reliability, operating expenses, and regulatory compliance.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 125,000
Cash flow through end of year:		**Total Project Estimate:**	$ 125,000
Project Balance	$ -	**Additional Funding Required**	$ 125,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
EDH WWTP	$ 75,000					$ 75,000
Deer Creek WWTP	$ 50,000					$ 50,000
Collections Facilities						$ -
						$ -
TOTAL	$ 125,000	$ -	$ -	$ -	$ -	$ 125,000

Funding Sources	**Percentage**	**2016 Amount**
Wastewater Rates	100%	$125,000
		$0
		$0
Total	**100%**	**$125,000**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: Waterford 7 Lift Station Rehabilitation

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sullivan **Board Approval:**

Project Description:

Based on a condition assessment performed by engineering and operations this lift station, which was constructed in 1988 and serves over 180 EDU's, has reached the end of its useful life. The lift station is a high priority sites scheduled for rehabilitation.

New pumps and controls are required, along with associated piping, flow meters and odor control system. Based on condition assessments, it is assumed the existing fiberglass wet well can be rehabilitated and reused. After a new roof is installed and the building trim painted, the existing building will be reused to house the electrical controls. The site will be repaved and a new fence will be installed around the perimeter. This CIP is for construction only. The design is currently underway with the Lift Station Upgrades design CIP.

Basis for Priority:

The lift station will continue to degrade increasing the risk of potential failures in the future which could result in hazards to the public and regulatory fines. OSHA compliance issues for workplace safety.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 1,200,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 1,200,000
Project Balance	$ -	**Additional Funding Required**	$ 1,200,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						$ -
Design/CM		$ 100,000				$ 100,000
Construction		$ 1,100,000				$ 1,100,000
						$ -
TOTAL	$ -	$ 1,200,000	$ -	$ -	$ -	$ 1,200,000

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$0
			$0
			$0
Total	**100%**		**$0**

Funding Comments: No expansion, just serving existing customers

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Wastewater**

Project Number: PLANNED

Project Name: WWTP Energy, Process, and Solar Array Study

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Sullivan **Board Approval:**

Project Description:

This project includes staff time to investigate the potential for adding an additional net meter solar generation facility. Current staff has performed preliminary investigations to add up to 1 megawatt of solar arrays to each of the wastewater facilities. This project will continue the effort to determine the feasibility of adding these arrays to the facilities. If the project(s) are viable then a design shall be developed and bid for board approval to construct.

Basis for Priority:

Pursue additional revenue source of renewable energy.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 100,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 100,000
Project Balance	$ -	**Additional Funding Required**	$ 100,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	$ 100,000					$ 100,000
Design						$ -
Construction						$ -
						$ -
TOTAL	$ 100,000	$ -	$ -	$ -	$ -	$ 100,000

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$100,000
			$0
			$0
Total	**100%**		**$100,000**

Funding Comments:

Recycled Water Projects

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Recycled Water**

Project Number: PLANNED

Project Name: DC Discharge Management

Project Category: Regulatory Requirements

Priority: 3 **PM:** Washko **Board Approval:**

Project Description:

The State Water Resources Control Board, Division of Water Rights Order approved a Temporary Change Petition filed by the District allowing the reduction of treated wastewater discharges from the Deer Creek Wastewater Treatment Plant into Deer Creek. This water is being used as recycled water, thus reducing the amount of potable water supplementation during the drought. Biological assessments conducted in the summer of 2015 indicate that the fish population has been protected at the lower flow rates, indicating that the water right may be granted during future drought conditions. In addition, per our permit the District is required to maintain minimum discharge rates based on influent flow; if the plant receives greater than 2.5 MGD then 1.0 MGD must be discharged, etc. During the drought, the flow rate has been managed by staff manually, creating ovetime and fatigue. The plant has a storage tank for influent flows, a reservoir for recycled water, and plant water supply pumps. All three of these systems could be managed/modified to allow for the automatic calculation and throttling of discharge based on legal obligations from the Division of Water Rights. Automation of permit requirements helps assure the District meets the stringent requirements for the discharge and assures regulators that the fish are being protected. Automation will also save the District an estimated $36,400/year in labor costs. The estimated expeditures listed are estimates at this time; no design has been completed.

Basis for Priority:

Water Right acquisition requires optimization and automation to dial in discharge flow rates based on fish population needs along Deer Creek.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 140,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 140,000
Project Balance	$ -	**Additional Funding Required**	$ 140,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	$ 10,000					$ 10,000
Design	$ 10,000					$ 10,000
Construction	$ 80,000	$ 40,000				$ 120,000
						$ -
TOTAL	$ 100,000	$ 40,000	$ -	$ -	$ -	$ 140,000

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	100%		$100,000
			$0
			$0
Total	**100%**		**$100,000**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Recycled Water**

Project Number: PLANNED

Project Name: Recycled Water SCADA Remote Control

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Strahan **Board Approval:**

Project Description:

Add remote set point and statistical ability to the Recycled Water SCADA System. This project involves programming of the automation controllers and the SCADA screens.

Basis for Priority:

Automation would eliminate the need for a site visit for routine operational changes. The current system has the hardware in place, but lacks the programming to make remote set point changes and to provide statistical information. The statistical information is typically used for maintenance and troubleshooting reports.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 45,000
Cash flow through end of year:		Total Project Estimate:	$ 45,000
Project Balance	$ -	Additional Funding Required	$ 45,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Design						$ -
Construction						$ -
Programming		$ 45,000				$ 45,000
						$ -
TOTAL	$ -	$ 45,000	$ -	$ -	$ -	$ 45,000

Funding Sources	Percentage	2016	Amount
Wastewater Rates	100%		$0
			$0
			$0
Total	100%		$0

Funding Comments: Funding for the core process control network upgrade was previously in the 2012 SCADA System Reliability Program CIP.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Recycled Water**

Project Number: **PLANNED**

Project Name: **Recycled Water System Improvements**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **Brink** **Board Approval:**

Project Description:

Based on input from Operations, the recycled water pumps at EDHWWTP appear to be at capacity and will be unable to meet future anticipated recycled water demands. This project will evaluate the pumps and the recycled water system as a whole, and make improvements as warranted. It is anticipated a pump will be added at the EDHWWTP to provide redundancy and help meet current peak and future demands. In addition, this CIP will allow for installation of flow meters within the RW distribution system. This project is listed and recommended in the Wastewater Facilities Master Plan.

Basis for Priority:

Improves system reliability and performance.

Project Financial Summary:			
Funded to Date:	**$ -**	**Expenditures through end of year:**	**$ -**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 175,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 175,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 175,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design	**$ 25,000**					**$ 25,000**
Construction	**$ 150,000**					**$ 150,000**
						$ -
TOTAL	**$ 175,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 175,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Recycled Water Rates	75%		$131,250
Recycled Water FCCs	25%		$43,750
			$0
Total	**100%**		**$175,000**

Funding Comments: This project adds capacity and improves reliability of the existing system.

Hydroelectric Projects

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: 03011H

Project Name: Forebay Dam Upgrades

Project Category: Regulatory Requirements

Priority: 1 **PM:** Eymann **Board Approval:**

Project Description:

The reservoir is currently restricted 3 feet below the spillway crest by DSOD and FERC until the safety of the dam is improved. DSOD and FERC require that the dam's stability and freeboard be improved to minimum safety standards. Reservoir sediments under the reservoir negatively impact El Dorado Project operations and have reached concerning levels. The Project significantly defers the cost of sediment removal by instead raising the dam. This not only allows continued water and hydropower production, but it also substantially increases water supply reliability and increases non-rate income to the District via additional hydropower revenue. FERC also requires that the spillway outfall, canal inlet to the reservoir, dam face, the two unused penstocks all be remediated. To mitigate these deficiencies, to optimize power generation and increase emergency water storage, the dam will be buttressed and raised 10 feet.
DSOD has issued their approval of the Project and of the certified EIR completed in 2014. FERC has issued their engineering approval for the Project and will issue their final authorization to construct with the completion of the FERC-required 3-stage License Amendment process. Environmental permitting is ongoing through 2016, and construction is planned to begin in 2016. Project cost estimates will be refined as permit conditions are received and will be updated accordingly.

Basis for Priority:

Public safety is to be maintained and DSOD/FERC have issued a dam safety mandate. The Project is required to achieve the following:
- Safety: Protect life and property below the dam and meet dam safety regulatory mandates of DSOD and FERC
- Reliability: Protect and improve drinking water reliability for the District's customers
- Financial: Protect District ratepayers from the cost of required repairs by optimizing hydroelectric generation and minimizing capital costs

Project Financial Summary:			
Funded to Date:	**$ 4,693,906**	**Expenditures through end of year:**	**$ 4,086,775**
Spent to Date:	**$ 4,086,775**	**2016 - 2020 Planned Expenditures:**	**$ 19,000,000**
Cash flow through end of year:		**Total Project Estimate:**	**$ 23,086,775**
Project Balance	**$ 607,131**	**Additional Funding Required**	**$ 18,392,869**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design						**$ -**
Construction	**$ 1,500,000**	**$ 9,000,000**	**$ 8,500,000**			**$ 19,000,000**
						$ -
TOTAL	**$ 1,500,000**	**$ 9,000,000**	**$ 8,500,000**	**$ -**	**$ -**	**$ 19,000,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water FCCs	53%		$473,221
Water Rates	47%		$419,648
			$0
Total	**100%**		**$892,869**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: 11004

Project Name: Lake Aloha Dam Regulatory Improvements

Project Category: Regulatory Requirements

Priority: 1 **PM:** Eymann **Board Approval:**

Project Description:

Part 12D studies and remediation are required for Lake Aloha Dams: the studies included new hydrologies, stability analysis and outlet tower reinforcement. FERC approved these hydrology and stability studies in 2012. The outlet tower reinforcement design is 90% complete. Maintenance to the masonry joints in the Main and auxiliary dams is also planned. Construction is planned for 2018. DSOD has requested that the District notify DSOD of the defferal of the work to 2018.

This project continues the work of the previously approved and funded PN 04002H.

Basis for Priority:

Non-compliance with FERC dam safety regulations.

Project Financial Summary:			
Funded to Date:	$ 276,583	**Expenditures through end of year:**	$ 30,428
Spent to Date:	$ 30,428	**2016 - 2020 Planned Expenditures:**	$ 400,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 430,428
Project Balance	$ 246,155	**Additional Funding Required**	$ 153,845

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						$ -
Design	$ 15,000	$ 15,000				$ 30,000
Construction			$ 370,000			$ 370,000
						$ -
TOTAL	$ 15,000	$ 15,000	$ 370,000	$ -	$ -	$ 400,000

Funding Sources	**Percentage**	**2016**	**Amount**
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	**100%**		**$0**

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 11005

Project Name: Silver Lake Dam Regulatory Study

Project Category: Regulatory Requirements

Priority: 1 **PM:** Eymann **Board Approval:**

Project Description:

Part 12D studies and remediation work are required and completed for Silver Lake Dam: the studies included performing new flood studies, stability analysis, and structural analysis. The flood study found that the Dam is significantly overtopped and at risk of failure under the extreme hypothetical storm event required by FERC. The results of the flood study are under review by FERC with significant further studies anticipated. The lor
term reliability of the dam came into question in the spring of 2015 when a sink hole was discovered. DSOD restricted the reservoir level, and the District conducted emergency repairs and a corresponding geotechnical investigation program. The likely cause of the sink hole is rotted/rotting interior log cribbing original to the 1876 construction.
The upstream face of Silver Lake Dam is also at the end of its useful life. Four interim repair projects have been employed since the late 1990's to stem leakage through the 50 year old gunite lining to extend its life. The three most recent repairs began in 2006 and were approximately every 2 years thereafter. The gunite continues to thin and crumble making repairs increasingly less durable. The timeline for upstream face work has been extended multiple times. If leakage increases through the dam, DSOD and FERC may require acceleration of the design and construction of the permanent repair.
The District is currently evaluating rehabilitation/replacement alternatives to rectify the three major defects (upstream face, interior fill, spillway capacity). The alternatives analysis is anticipated for completion in December 2015. Design and construction estimates will be refined during the design and permitting process.

This project continues the work of the previously approved and funded PN 06017H.

Basis for Priority:

Compliance with FERC dam safety program requirements.

Project Financial Summary:			
Funded to Date:	$ 554,234	**Expenditures through end of year:**	$ 278,598
Spent to Date:	$ 128,598	**2016 - 2020 Planned Expenditures:**	$ 850,000
Cash flow through end of year:	$ 150,000	**Total Project Estimate:**	$ 1,128,598
Project Balance	$ 275,636	**Additional Funding Required**	$ 574,364

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$50,000					$ 50,000
Design		$50,000	$150,000	$ 300,000	$ 300,000	$ 800,000
Construction						$ -
						$ -
TOTAL	$ 50,000	$ 50,000	$ 150,000	$ 300,000	$ 300,000	$ 850,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	**100%**		**$0**

Funding Comments: Preliminary construction cost estimate will be completed later this year. Construction is assumed to take place beyond 5-years but may be accelerated based on further analysis and regulatory feedback.

2016 CAPITAL IMPROVEMENT PLAN Program: Hydroelectric

Project Number: 11008

Project Name: Flume 39-40 Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Noel **Board Approval:**

Project Description:

This is the third and final phase of the three phase Flume 39-40 Replacement Project. The remaining 200 feet of elevated flume spans a year-round stream that is a tributary to the South Fork of American River. The elevated section will be re-designed to replace the elevated flume with an MSE earth bench with a wood, precast concrete flume sections, or canal and to provide vehicle access reducing construction costs by minimizing helicopter use . Minor improvements will also be required to Camp X Road, canal bench, and R71 for provide construction access for heavy equipment to minimize or eliminate helicopter use. The flume replacement is planned to be replaced along with Flume 38 as a cost savings measure by providing construction access to both projects and reducing mobilization and demobilization costs due to the close proximity of the two flumes.

Basis for Priority:

The flume will continue to deteriorate potentially causing flume failures that would result in significant impacts to environmentaly sensitive areas. Additionally, one third of the District's water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ 838,931	Expenditures through end of year:	$ 656,852
Spent to Date:	$ 656,852	2016 - 2020 Planned Expenditures:	$ 1,595,000
Cash flow through end of year:		Total Project Estimate:	$ 2,251,852
Project Balance	$ 182,079	Additional Funding Required	$ 1,412,921

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$35,000					$ 35,000
Design	$50,000					$ 50,000
Construction Costs	$1,500,000					$ 1,500,000
Warranty/QCIP		$ 10,000				$ 10,000
TOTAL	$ 1,585,000	$ 10,000	$ -	$ -	$ -	$ 1,595,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$743,548
Water Rates	47%		$659,373
			$0
Total	100%		$1,402,921

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: 11023

Project Name: Echo Conduit Replacement

Project Category: Regulatory Requirements

Priority: 2 **PM:** Eymann **Board Approval:**

Project Description:

The Echo conduit is a 36-inch steel pipe that is situated above grade directly above Highway 50 and delivers water from Echo Lake to an open ditch, the tunnel, and ultimately to the South Fork of the American River for diversion into the El Dorado Canal. The conduit is the sole means of bringing 1,890 acre-feet of pre-1914 water rights and direct diversion water to the SFAR for District uses. The water also constitutes substantial annual power generation. In 2005, the tunnel portion of the Echo Lake water conveyance system was slip-lined under an emergency project due to multiple cave-ins. The conduit portion of the conveyance and its supporting timber foundation has reached the end of its useful life. Snow loading has crushed the conduit at several locations and, in conjunction with corrosion, has caused cracking at the joints. One of the conduit sections failed in 2003 and in 2009 new failures were observed requiring the District to decrease the flow in the conduit by 1/3 until the conduit can be replaced. Various conduit replacement alternatives need to be evaluated. In the meantime, before replacement, the conduit will continue to be "band-aided" and operated at a reduced flow rate. If leakage rates or safety concerns increase, the project schedule may require acceleration.

Basis for Priority:

FERC has requested a plan and schedule to replace or repair the conduit. This project will maintain existing assets and provide increased water delivery safety, reliability, and power generation.

Project Financial Summary:			
Funded to Date:	$ 50,000	Expenditures through end of year:	$ 6,990
Spent to Date:	$ 6,990	2016 - 2020 Planned Expenditures:	$ 1,550,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 1,556,990
Project Balance	$ 43,010	Additional Funding Required	$ 1,506,990

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning		$50,000				$ 50,000
Design			$100,000	$400,000		$ 500,000
Construction Costs					$1,000,000	$ 1,000,000
						$ -
TOTAL	$ -	$ 50,000	$ 100,000	$ 400,000	$ 1,000,000	$ 1,550,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments: Partial construction funding shown in 2020. Total construction costs extend beyond 2020.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: PLANNED

Project Name: Canals and Flumes Upgrades

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Gibson **Board Approval:**

Project Description:

Canals and flumes are assessed annually by District staff to assess and prioritize needed improvements that will be implemented during the annual Canal outage. These improvements are needed to extend the service life of the asset and maintain system reliability. Improvements to the degraded canal and flume sections include materials, concrete, shotcrete, helicopter support, equipment, and District crew labor. Canal, flume, and spillway improvements are necessary in order to maintain reliability of the water supply. Annual system improvements will be determined by Hydro Operations each spring for implementation to be achieved during the scheduled Canal outage.

Basis for Priority:

These are projects that provide measurable progress toward achieving the District's goals, but over which the District has a moderate level of control as to when they should be performed.

Project Financial Summary:			
Funded to Date:	**$ 462,973**	**Expenditures through end of year:**	**$ 633,016**
Spent to Date:	**$ 309,019**	**2016 - 2020 Planned Expenditures:**	**$ 2,500,000**
Cash flow through end of year:	**$ 323,997**	**Total Project Estimate:**	**$ 3,133,016**
Project Balance	**$ (170,043)**	**Additional Funding Required**	**$ 2,670,043**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design						**$ -**
Construction Costs	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$ 2,500,000**
TOTAL	**$ 500,000**	**$ 500,000**	**$ 500,000**	**$ 500,000**	**$ 500,000**	**$ 2,500,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water FCCs	53%		$355,123
Water Rates	47%		$314,920
			$0
Total	**100%**		**$670,043**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: 14024

Project Name: Flume 44 Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Noel **Board Approval:**

Project Description:

Flume 44 is 475 feet in length and last replaced in 1948. The flume is of wood construction and consists of one ground level and three elevated flume segments with a maximum height of 34 feet traversing a large existing landslide. The flume has been relined with plywood in 1997 and 2002. Extensive repairs were made to the flume by District crews between 2002 and 2004. In 2014 a comprehensive inspection and physical testing of the asset was conducted showing that the structural members were in degraded condition. As a result, additional repairs were performed on the asset to allow for the continued operations until a complete phased replacement of the flume can be performed.

Basis for Priority:

The flume will continue to deteriorate potentially causing flume failures that would result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	**$ 388,504**	**Expenditures through end of year:**	**$ 347,835**
Spent to Date:	**$ 117,835**	**2016 - 2020 Planned Expenditures:**	**$ 4,640,000**
Cash flow through end of year:	**$ 230,000**	**Total Project Estimate:**	**$ 4,987,835**
Project Balance	**$ 40,669**	**Additional Funding Required**	**$ 4,599,331**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design	**$540,000**					**$ 540,000**
Construction Costs		**$1,600,000**	**$2,500,000**			**$ 4,100,000**
						$ -
TOTAL	**$ 540,000**	**$ 1,600,000**	**$ 2,500,000**	**$ -**	**$ -**	**$ 4,640,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water FCCs	53%		$264,645
Water Rates	47%		$234,686
			$0
Total	**100%**		**$499,331**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: 14029

Project Name: Esmeralda Tunnel Emergency Repair

Project Category: Reliability & Service Level Improvements

Priority: 1 **PM:** Noel **Board Approval:**

Project Description:

The Esmeralda Tunnel partially collapsed on September 21, 2014 and subsequently caused the El Dorado Canal annual shutdown to occur earlier than planned. Excluding unforeseen conditions, the project will require a total of 3 phases to stabilize the tunnel for worker safety and replace the degraded timber lined sections with reinforced shotcrete to provide a permanent repair. Phase 1 was completed on March 7, 2015, phase 2 will occur during this year's scheduled canal outage between October 1 and December 1, 2015, and phase 3 will occur in 2016.

Basis for Priority:

Restore tunnel and canal system to operational status to provide continued water delivery for water supply and hydroelectric power generation

Project Financial Summary:			
Funded to Date:	**$ 4,503,848**	**Expenditures through end of year:**	**$ 1,500,000**
Spent to Date:	**$ 2,211,867**	**2016 - 2020 Planned Expenditures:**	**$ 2,000,000**
Cash flow through end of year:	**$865,182**	**Total Project Estimate:**	**$ 3,500,000**
Project Balance	**$ 1,426,799**	**Additional Funding Required**	**$ -**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Construction	**$ 2,000,000**					**$ 2,000,000**
						$ -
						$ -
TOTAL	**$ 2,000,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,000,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	47%		$269,405
Water FCCs	53%		$303,797
			$0
Total	**100%**		**$573,201**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: 14041

Project Name: Project 184 SCADA System Hardware Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

This project is to replace end of life cycle SCADA Hardware, specifically the Moscad L RTUs and level/flow measurement equipment. Replacement sites are: Alarms 3, 5,12, 14, 18, 20, 22, 23 Spills 10, 20A, 20, 23, 27, 32, 37, 42, 44, 47C, Echo Lake, Silver Lake, Pyramid Creek, Forebay, EDPH, Caples Lake. This system has served the district well and is no longer supported. This CIP would slowly replace the existing system over multiple years.

Basis for Priority:

This equipment is at the end of its life cycle and warrants replacement to retain the reliability of the system. Additionally new replacement parts are not available due to obsolescence. This system cannot be support on a modern computer.

Project Financial Summary:			
Funded to Date:	**$ 27,000**	**Expenditures through end of year:**	**$ 18,428**
Spent to Date:	**$ 18,428**	**2016 - 2020 Planned Expenditures:**	**$ 300,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 318,428**
Project Balance	**$ 8,572**	**Additional Funding Required**	**$ 291,428**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Design						**$ -**
Construction	**$ 100,000**	**$ 100,000**	**$ 100,000**			**$ 300,000**
						$ -
						$ -
TOTAL	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ -**	**$ -**	**$ 300,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$91,428
			$0
			$0
Total	**100%**		**$91,428**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: 15018

Project Name: Penstock Assessment

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eymann **Board Approval:**

Project Description:

Water is provided from Forebay Reservoir to the El Dorado Powerhouse through a 60-inch diameter penstock for power generation. FERC regulations and our standard operating procedures require the penstock to be inspected and assessed at regular intervals. This project is to perform a large scale assessment of the penstock and determine if any upgrades or replacements need to be made for continued reliability. Corrosion and section loss was identified in maintenance activities in 2003 and in earlier penstock assessments. Steel pop outs were identified in the 2012 annual FERC dam safety inspection. The initial plan would be to phase the inspection: 2015 exterior inspection and 2016, interior inspection. The interior inspection will consist of penstock walkdowns, foundation inspections, ultrasonic thickness measurements, coating and coupler inspections. The scope of the interior inspection will be developed based in part upon the findings of the exterior inspection. Inspection costs will be refined during assessment development and the proposal solicitation.

Basis for Priority:

The project is to maintain penstock safety and to monitor the long-term wall thickness thinning which occurs over time in penstocks. The penstock is one of the highest pressure and oldest in the United States. The last detailed analysis was conducted by Pacific Gas and Electric Company approximately 30 years ago.

Project Financial Summary:			
Funded to Date:	**$ 34,000**	**Expenditures through end of year:**	**$ 374,218**
Spent to Date:	**$ 24,218**	**2016 - 2020 Planned Expenditures:**	**$ 470,000**
Cash flow through end of year:	**$ 350,000**	**Total Project Estimate:**	**$ 844,218**
Project Balance	**$ (340,218)**	**Additional Funding Required**	**$ 810,218**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	**$ 370,000**	**$ 80,000**	**$ 20,000**			**$ 470,000**
Design			*			**$ -**
Construction				*		**$ -**
						$ -
TOTAL	**$ 370,000**	**$ 80,000**	**$ 20,000**	**$ -**	**$ -**	**$ 470,000**

Funding Sources	**Percentage**	**2016 Amount**
Water rates	100%	$710,218
		$0
		$0
Total	**100%**	**$710,218**

Funding Comments: The Board approved a contract and funding for this project in 2015.

2016	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Flume 30 Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Noel **Board Approval:**

Project Description:

Flume 30 is approximately 475 feet in length and last replaced by PG&E in the early 1990's. Abutment stability measures were implemented during the outage of 2011 to ensure the continued integrity of the entire flume. In 2015, visual inspections and core samples of the wooden structural timbers were collected and analyzed. The findings of the inspection show that when the flume was replaced in the 1990's undersized structural timber was used. This condition is compounded today by the degradation of the sills over the last 25 years that have resulted in overstressing of the wood flume structure. As an interium measure until the flume is replaced, District crews added additonal posts and sills and installed additional supports to the cantilevered ends of each sill in 2015 to stabilize the flume until complete replacement can occur.

Basis for Priority:

The flume will continue to deteriorate potentially causing flume failures that would result in significant impacts to environmentaly sensitive areas. Additionally, one third of the District's water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 5,510,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 5,510,000
Project Balance	$ -	Additional Funding Required	$ 5,510,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning						$ -
Design		$ 500,000				$ 500,000
Construction			$ 5,000,000			$ 5,000,000
Warranty/QCIP				$ 10,000		$ 10,000
TOTAL	$ -	$ 500,000	$ 5,000,000	$ 10,000	$ -	$ 5,510,000

Funding Sources	Percentage	2016	Amount
Water Rates	47%		$0
Water FCCs	53%		$0
			$0
Total	100%		$0

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: **PLANNED**

Project Name: **Flume 38 Replacement**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **Noel** **Board Approval:**

Project Description:

Flume 38 is of wood construction and approximately 202 feet in length. The flume was last replaced in 1990 but is in poor condition and spans a small landslide that must be stabilized. The elevated flume will be replaced with an MSE bench with either canal or pre-cast flume sections that will also provide vehicle and maintenance access. The siphon crossing, which provides access from the east to Flume 38 via Camp X Road is in severely degraded condition and will be replaced as part of this project. Minor improvements will also be required to Camp X Road, canal bench, and R71 for provide construction access for heavy equipment to minimize or eliminate helicopter use. The flume replacement is planned to be replaced along with Flume 39/40 as a cost savings measure by providing construction access to both projects and reducing mobilization and demobilization costs due to the close proximity of the two flumes.

Basis for Priority:

The flume will continue to deteriorate potentially causing flume failures that would result in significant impacts to environmentaly sensitive areas. Additionally, one third of the District's water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	**$ -**	**Expenditures through end of year:**	**$ -**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 1,270,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 1,270,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 1,270,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	**$ 25,000**					**$ 25,000**
Design	**$ 35,000**					**$ 35,000**
Construction	**$ 1,200,000**					**$ 1,200,000**
Warranty/FERC QCIP		**$ 10,000**				**$ 10,000**
TOTAL	**$ 1,260,000**	**$ 10,000**	**$ -**	**$ -**	**$ -**	**$ 1,270,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	47%		$592,200
Water FCCs	53%		$667,800
			$0
Total	**100%**		**$1,260,000**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: **PLANNED**

Project Name: **Flume 45 Bench and Rock Wall Stabilization**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **Noel** **Board Approval:**

Project Description:

Flume 45 is of wood construction, 1,942 feet in length, and constructed on an un-mortared hand-stacked rock wall. Approximately 792 feet of this wooden flume was replaced in kind by PG&E in 1991. District crews performed in-kind wood flume replacement of the remaining degraded 1,150 feet of wooden flume in 2014. However to meet the FERC's required facotors of safety, full stabilization of the bench is needed and is planned for 2018 utilizing bench stabilization methods developed for the Flume 41 replacement project.

The unmortared handstacked rock flume bench has become unstable in several area along the bench and will continue to destabilize potentially causing flume failures that would result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, water supply would be out of service for an extended period to make emergency repairs resulting in interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	**$ -**	**Expenditures through end of year:**	**$ -**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 4,640,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 4,640,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 4,640,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	**$ 50,000**	**$ 50,000**				**$ 100,000**
Design			**$ 320,000**			**$ 320,000**
Construction				**$ 4,210,000**		**$ 4,210,000**
Warranty/FERC QCIP					**$ 10,000**	**$ 10,000**
TOTAL	**$ 50,000**	**$ 50,000**	**$ 320,000**	**$ 4,210,000**	**$ 10,000**	**$ 4,640,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	47%		$23,500
Water FCCs	53%		$26,500
			$0
Total	**100%**		**$50,000**

Funding Comments:

2016	CAPITAL IMPROVEMENT PLAN	Program:	Hydroelectric

Project Number: PLANNED

Project Name: Flume 48 Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Noel **Board Approval:**

Project Description:

This project will replace the existing wooden flume that was constructed in 1948 and is 448 feet in length.

Basis for Priority:

The flumes will continue to deteriorate potentially causing flume failures that may result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, 1/3 of the District's water supply would be out of service for an extended period to make emergency repairs resulting in possible interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 4,000,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 4,000,000
Project Balance	$ -	Additional Funding Required	$ 4,000,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning				$ 500,000	$ 500,000	$ 1,000,000
Design					$ 1,000,000	$ 1,000,000
Construction					$ 2,000,000	$ 2,000,000
						$ -
TOTAL	$ -	$ -	$ -	$ 500,000	$ 3,500,000	$ 4,000,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$0
Water Rates	47%		$0
			$0
Total	100%		$0

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: PLANNED

Project Name: Flume Assessment Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Noel **Board Approval:**

Project Description:

Of the 33 remaining flumes within Project 184 between the diversion dam on the American River and Forebay in Pollock Pines, 10 have been replaced. A flume assessment is needed to determine the condition of the remaining 23 flumes for replacement and/or maintenance ranking based on condition and potential impacts to the public and property in the event of a failure.

Basis for Priority:

The flumes will continue to deteriorate potentially causing flume failures that may result in significant impacts to the public, Highway 50, and the South Fork of the American River. Additionally, 1/3 of the District's water supply would be out of service for an extended period to make emergency repairs resulting in possible interruption of the reliable delivery of water for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 400,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 400,000
Project Balance	$ -	Additional Funding Required	$ 400,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Study/Planning	$ 150,000	$ 250,000				$ 400,000
Design						$ -
Construction						$ -
Warranty						$ -
TOTAL	$ 150,000	$ 250,000	$ -	$ -	$ -	$ 400,000

Funding Sources	Percentage	2016	Amount
Water FCCs	53%		$79,500
Water Rates	47%		$70,500
			$0
Total	100%		$150,000

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: PLANNED

Project Name: Hydro Facility Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Gibson **Board Approval:**

Project Description:

This is a program to replace equipment and facilities used in the hydro system that have failed or reached end of useful life. Funding will be used for hydro facilities rehabilitation such as road and building improvements that will extend the life of the asset.

Basis for Priority:

Project purpose is to maintain existing assets and prolong their useful service life and reliability.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 500,000
Cash flow through end of year:		**Total Project Estimate:**	$ 500,000
Project Balance	$ -	**Additional Funding Required**	$ 500,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						$ -
Design						$ -
Construction	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000
						$ -
TOTAL	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 500,000

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$100,000
Total	**100%**		**$100,000**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **Hydroelectric**

Project Number: **PLANNED**

Project Name: **Pacific Tunnel**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **Noel** **Board Approval:**

Project Description:

An inspection of the Pacific Tunnel was conducted in October 2014 after the Esmeralda Tunnel partially collapsed and subsequently caused the El Dorado Canal annual shutdown to occur earlier than planned. In 2002, some of the timber sections at the upstream and downstream portals of the Pacific tunnel were replaced/repaired with untreated wood that will require replacement. In addition, the tunnel and invert liners have been removed prior to the acquisition of Project 184 and erosion of the unlined portions of the tunnel walls and tunnel invert has occured. The tunnel portals, walls and invert requires the installation of a permanent steel reinforced shotcrete liner to prevent the eventual collapse of the tunnel if erosion of the unlined portions of the tunnel walls is allowed to continue unabated.

Basis for Priority:

Improve the tunnel to provide continued reliable delivery of 1/3 third of the District's water supply for consumptive use and hydroelectric power generation.

Project Financial Summary:			
Funded to Date:	**$ -**	**Expenditures through end of year:**	**$ -**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 1,210,000**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 1,210,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 1,210,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design				**$ 110,000**		**$ 110,000**
Construction				**$ 1,100,000**		**$ 1,100,000**
Warranty/QCIP						
TOTAL	**$ -**	**$ -**	**$ -**	**$ 1,210,000**	**$ -**	**$ 1,210,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	47%		$0
Water FCCs	53%		$0
			$0
Total	**100%**		**$0**

Funding Comments:

Recreation Projects

No projects planned for 2016-2020 CIP

General District Projects

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: 06004G

Project Name: SMUD / El Dorado Agreement Water Rights

Project Category: Regulatory Requirements

Priority: 1 **PM:** Cumpston **Board Approval:**

Project Description:

The Sacramento Municipal Utility District and El Dorado County interests, including EID, signed an agreement in 2005 that allows for the use of SMUD's UARP reservoirs for county water storage. The agreement did not include water rights. The transfer of City of Sacramento's or related water rights is the most logical source and application has been made to the SWRCB for that change. The SMUD/El Dorado Agreement provides EID with 30,000 acre feet of storage annually up to 2030. Thereafter, 40,000 acre feet of storage annually is provided. Additionally the agreement allows for the banking of up to 15,000 acre feet for drought carryover storage in dry year conditions.

EID is a party to a 2007 cost share agreement with the El Dorado Water and Power Authority (EDWPA) to pursue the water rights for the SMUD/El Dorado Agreement. EID's share under that agreement is approximately 36%, with El Dorado County and El Dorado County contributing approximately 32% each. For its fiscal year 2015-16, EDWPA has budgeted $937,500 in member-agency contributions, putting EID's share through June 2016 at approximately $337,500 including capitalized labor. Any costs associated with one-time acquisition of up to 15,000 acre-feet of drought storage are not included in this request, although efforts to do so are ongoing, because of the uncertain timing and cost of such an acquisition.

Basis for Priority:

The District's 2010 Urban Water Management Plan, its 2013 Water Resources Master Plan, and several Water Supply Assessments completed in 2013 all identify this project as a source of water supply to serve the District's long-term needs. Categorized as Priority 1, required by agreement.

Project Financial Summary:			
Funded to Date:	**$ 2,880,187**	**Expenditures through end of year:**	**$ 2,770,697**
Spent to Date:	**$ 2,770,697**	**2016 - 2020 Planned Expenditures:**	**$ 637,500**
Cash flow through end of year:		**Total Project Estimate:**	**$ 3,408,197**
Project Balance	**$ 109,490**	**Additional Funding Required**	**$ 528,010**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	**$337,500**	**$300,000**				**$ 637,500**
Design						**$ -**
Construction						**$ -**
15,000 af acquisition						**$ -**
TOTAL	**$ 337,500**	**$ 300,000**	**$ -**	**$ -**	**$ -**	**$ 637,500**

Funding Sources	**Percentage**	**2016**	**Amount**
Water FCCs	100%		$228,010
			$0
			$0
Total	**100%**		**$228,010**

Funding Comments:

2016 CAPITAL IMPROVEMENT PLAN Program: General District

Project Number: 14035

Project Name: Enterprise GIS

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Wells / Ranstrom **Board Approval:**

Project Description:

Design and integrate enterprise GIS to existing customer information service database and maintenance management system to improve the data quality and efficiency of multiple current business processes. Project will enhance software applications and databases used daily to perform functions including enterprise asset management, maintenance management, customer information management, employee information management, records management , financial management, and geospatial information management. Scores of departmental databases supplement these core databases and are largely stand-alone at this time, requiring duplicate sets of data to be maintained in multiple places and causing inefficiency to manage and locate the data, plus confusion and potentially poor decisions when attempting to use data where quality is poor or inconsistent.

Basis for Priority:

Improve the speed and accuracy of critical and essential business processes used daily to perform operations, customer service, billing, financial management, regulatory reporting, and other key functions of the district.

Project Financial Summary:			
Funded to Date:	$187,825	Expenditures through end of year:	$ 154,738
Spent to Date:	$154,738	2016 - 2020 Planned Expenditures:	$ 650,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 804,738
Project Balance	$ 33,087	Additional Funding Required	$ 616,913

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Implementation	$ 200,000	$ 200,000	$ 250,000			$ 650,000
						$ -
						$ -
TOTAL	$ 200,000	$ 200,000	$ 250,000	$ -	$ -	$ 650,000

Funding Sources	Percentage	2016 Amount
Water Rates	60%	$100,148
Wastewater Rates	40%	$66,765
		$0
Total	100%	$166,913

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: 14036

Project Name: Security Equipment Reliability Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Kilburg **Board Approval:**

Project Description:

Integrated security systems have been protecting the District's critical infrastructure and key resources since 2006, providing alarm verification through real-time CCTV system viewing of alarm events. Integrated security systems provide timely detection and law enforcement response elements that mitigate theft, vandalism, trespassing, other potentially serious malevolent incidents, and provide an important emergency response capability consistent with the District's Water Vulnerability Assessment, Emergency Operations and Department Emergency Actions Plans as required by the Federal Safe Drinking Water Act, Title IV - Drinking Water Security and Safety.

Basis for Priority:

Maintain integrated security system operational performance, and provide a real-time emergency response assessment tool.

Project Financial Summary:			
Funded to Date:	**$ 78,628**	**Expenditures through end of year:**	**$ 52,876**
Spent to Date:	**$ 52,876**	**2016 - 2020 Planned Expenditures:**	**$ 185,400**
Cash flow through end of year:	**$ -**	**Total Project Estimate:**	**$ 238,276**
Project Balance	**$ 25,752**	**Additional Funding Required**	**$ 159,648**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning						**$ -**
Design						**$ -**
Construction	**$ 33,000**	**$ 13,500**				**$ 46,500**
						$ -
TOTAL	**$ 33,000**	**$ 13,500**	**$ -**	**$ -**	**$ -**	**$ 46,500**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$7,248
			$0
			$0
Total	**100%**		**$7,248**

Funding Comments:

2016 CAPITAL IMPROVEMENT PLAN Program: General District

Project Number: 15001

Project Name: AMR and Small Meter Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Pritchard **Board Approval:**

Project Description:

Implementation - This project replaces old, inaccurate, or broken meters and adds automated meter read capability to new and existing meters. The project is MISSION REQUIRED because it provides for replacement of inaccurate and non-working meters and enables all meters to be read in time for billing. The LIABILITY/RISK to the District if this project is not implemented includes increased likelihood of employee injury, increased labor expenses for manually reading the meters and inputting manual data into the computer system, and loss of customer confidence due to inaccurate and estimated reads. REGULATORY: Continued implementation of meter replacement and AMR technology keeps the District in compliance with the CUWCC's MOU BMP# 4. SAFETY/SECURITY: This project reduces employee exposure to injury . As of August 18, 2015 there are 23,530 meters that are equipped with radio read devices. Project funding for implementation should allow the District to install approximately 300 radio read meters per year.

Outingdale - In addition to information listed above, adding Automated Meter Infrastructure (AMI) would allow us to read all of Outingdale (193 meters) from the office, same as Strawberry. This would allow hourly reads for drought consumption data, allowing the District to better manage drought requirements. Real time customer side leak detection would allow treatment plant to run more efficiently with potential reduction in chemicals and all other treatment process costs. This would eliminate a minimum of 80 work hours annually to read the area and perform change of ownership reads with all associated fuel and other vehicle related costs allowing more effort required to repair and maintain meters throughout the District. Project funding for Outingdale AMI would allow installation of antenna and data collection hardware and the upgrade of 161 meters for a total of 193 radio read meters.

C8R91 - In addition to information listed in implementation, this would alllow us to upgrade 383 meters in Cycle 8 Route 91 located in Cameron Park. With 543 meters total, this is the largest route left in the District that is not read with the vehicle routes. Average time to read with hand held device is 1 minute per read or nine hours. Average time for read with vehicle and laptop is .07 minutes per read or 38 minutes freeing up over 50 work hours per year for other maintenance duties. This area can be upgraded with just a register and meter transciever unit saving approximatley 1/3 of the cost for complete meter replacement. this allow over 10% of Cameron Park meters to be read via vehicle route.

Basis for Priority:

Hiring of additional personnel, collection of inaccurate data, reduced customer satisfaction, increased likelihood of employee injuries, and non-compliance with BMP #4

Project Financial Summary:			
Funded to Date:	$ 100,000	**Expenditures through end of year:**	$ 100,000
Spent to Date:	$ 50,825	**2016 - 2020 Planned Expenditures:**	$ 700,000
Cash flow through end of year:	$ 49,175	**Total Project Estimate:**	$ 800,000
Project Balance	$ (0)	**Additional Funding Required**	$ 700,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Implementation	$100,000	$100,000	$100,000	$100,000	$100,000	$ 500,000
Outingdale AMI	$ 100,000					$ 100,000
C8R91	$ 100,000					$ 100,000
						$ -
TOTAL	$ 300,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 700,000

Funding Sources	Percentage	2016	Amount
Water Rates	100%		$300,000
			$0
Total	**100%**		**$300,000**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: **89069E**

Project Name: **Water Rights for 17,000 Acre Feet**

Project Category: **Reliability & Service Level Improvements**

Priority: **1** **PM:** **Cumpston** **Board Approval:**

Project Description:

The State Water Resources Control Board awarded 17,000-acre feet of new water rights to EID on August 16, 2001 with numerous conditions. The District challenged the Term 91 condition and won a 2006 court decision overturning it. In 2014/2015, EID secured a five-year Warren Act contract with the United States Bureau of Reclamation (USBR) to use Folsom Reservoir as a point of diversion for 8,500 acre-feet of this supply, and obtained a judgment from the El Dorado County Superior Court, validating the contract. EID will continue to seek a long-term Warren Act contract, which is anticipated to require staff time, reimbursement of USBR staff time under an existing cooperative agreement, and some outside consulting expenses for operational and hydrological studies. Most likely, a long-term contract will become possible after USBR completes environmental studies and obtains Endangered Species Act clearance for Central Valley Project-wide operations, in 2017 or 2018.

Basis for Priority:

The District is now perfecting its rights to the additional water supply made available by Permit 21112; replacing the five-year Warren Act contract with a long-term contract will necessitate modest amounts of additional EID/USBR staff work, and consultant work.

Project Financial Summary:			
Funded to Date:	**$ 3,124,414**	**Expenditures through end of year:**	**$ 3,066,099**
Spent to Date:	**$ 3,066,099**	**2016 - 2020 Planned Expenditures:**	**$ 100,000**
Cash flow through end of year:		**Total Project Estimate:**	**$ 3,166,099**
Project Balance	**$ 58,315**	**Additional Funding Required**	**$ 41,685**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Study/Planning	**$25,000**	**$ 50,000**	**$ 25,000**			**$ 100,000**
Design						**$ -**
Construction						**$ -**
						$ -
TOTAL	**$ 25,000**	**$ 50,000**	**$ 25,000**	**$ -**	**$ -**	**$ 100,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water FCCs	100%		$0
			$0
			$0
Total	**100%**		**$0**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: 2016 Vehicle Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Warden **Board Approval:**

Project Description:

The following vehicle replacements are planned for 2016 - 2020:

2016: 1-1998 1 1/2 ton utilty 4X4 with crane, 2-2003 1/2 ton 4X4 pickups , 1-1998 1 ton water valve truck
2017: 1-1 ton 4X4 mobile workshop, 1-1 ton extended cab 4X4 pickup, 1-1 1/2 ton service truck with crane
2018: 1- excavator, 2- 1/2 ton 4X4 pickups, 1-1 ton 4X4 service truck
2019: 1- 1/2 ton 4X4 pickup, 1- 1ton 4X4 service truck
2020: 1- 4X4 SUV, 1 1/2 ton 4X4 pickup, 1- 1 ton 4X4 service truck, 1- 1 1/2 ton 4X4 extended cab service truck

The planned expenditures are listed below.

Enhances District assets through life-cycle replacement of existing vehicles.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 1,274,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 1,274,000
Project Balance	$ -	**Additional Funding Required**	$ 1,274,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Vehicles	$ 425,000	$ 267,000	$ 205,000	$ 91,000	$ 286,000	$ 1,274,000
						$ -
						$ -
						$ -
TOTAL	$ 425,000	$ 267,000	$ 205,000	$ 91,000	$ 286,000	$ 1,274,000

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	100%		$425,000
			$0
			$0
Total	**100%**		**$425,000**

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: Business Application Software Enhancement Program

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Ranstrom **Board Approval:**

Project Description:

Design, implement, and integrate enterprise databases and end user technology applications that improve the data quality and efficiency of current business processes. Over 100 enterprise and departmental software applications and databases are used daily to perform functions including enterprise asset management, maintenance management, customer information management, employee information management, records management , email, financial management, procurement, and geospatial information management. Scores of departmental databases supplement these core databases and are largely stand-alone at this time, requiring duplicate sets of data to be maintained in multiple places and causing inefficiency to manage and locate the data, plus confusion and potentially poor decisions when attempting to use data where quality is poor or inconsistent.

Priority actions for 2016 include:
Replace the current custom contract management solution with commercially-developed software and integrate with Financial Information Systems to improve fiscal responsibility.
Replace the current custom valve management solution with commercially-developed software and integrate with Geospatial Information Systems and Asset Maintenance Systems to improve service reliability.

Basis for Priority:

Improve the speed and accuracy of critical business processes used to perform operations, customer service, billing, financial management, regulatory reporting, and other key functions of the district.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 250,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 250,000
Project Balance	$ -	**Additional Funding Required**	$ 250,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Enterprise DB integrations	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000
Supplemental Modules or DB solutions						$ -
	$ -					$ -
						$ -
TOTAL	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 250,000

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	60%		$30,000
Wastewater Rates	40%		$20,000
			$0
Total	**100%**		**$50,000**

Funding Comments: Funding carried over from prior year in CIP with the same name.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: Cyber Security Improvements

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Eberhard **Board Approval:**

Project Description:

This project will enhance and implement technology, plans, policies, and procedures identified by the 2011 Enterprise Security Assessment Report and required to ensure the ongoing cyber security of District data and IT assets.

Priority 2017 actions include:
Implement network access control to ensure only authorized equipment can access District networks.
Replace end of life intrusion protection system (IPS) that monitors for and actively blocks malicious behavior and actors that have gained access to the District's networks.

Basis for Priority:

If this project is not approved the District may not be able to effectively safeguard information against unauthorized use, disclosure, modification, damage, or loss. These projects address elevating concerns from government agencies to adequately protect utility information technology assets from cyber attack.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 600,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 600,000
Project Balance	$ -	**Additional Funding Required**	$ 600,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Prevention Measures		$480,000				$ 480,000
Detection Measures			$120,000			$ 120,000
Other						$ -
						$ -
TOTAL	$ -	$ 480,000	$ 120,000	$ -	$ -	$ 600,000

Funding Sources	**Percentage**	**2016 Amount**
Water Rates	60%	$0
Wastewater Rates	40%	$0
		$0
Total	**100%**	**$0**

Funding Comments: Funding carried over from prior year in CIP with the same name.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: IT Network and Communications Reliability Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Ranstrom **Board Approval:**

Project Description:

This ongoing project maintains the reliability and performance of the District's networks and shared communications systems required to conduct daily District business by replacing end-of-life or over-utilized equipment and systems, including network switches and routers, phone systems, email systems, and specialized resources enabling communications and collaboration.

Major actions in 2016 include:
- Replace 35 network switches (60% of District's total) which have reached their end of life. These units serve numerous District facilities and collectively provide connectivity for over 400 network devices, including workstations, printers, phones, and security systems.
- Replace 20 network routers which have reached their end of life. These units provide access to information and communications across the wide area network which interconnects all of the District's facilities.
- Consulting to assist with planning and implementation of replacement equipment. Equipment replacement normally includes major version upgrades of operating system software that typically introduce a number of significant changes and enhancements to the software, and are necessary to ensure ongoing reliability, security, and support.

Basis for Priority:

Maintain the reliability and performance of the current business IT network used to perform operations, customer service, billing, financial management, regulatory reporting, security, and other critical and essential functions of the district.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 1,250,000
Cash flow through end of year:		**Total Project Estimate:**	$ 1,250,000
Project Balance	$ -	**Additional Funding Required**	$ 1,250,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Core and wide area networking	$ 55,000	$ 115,000	$ 300,000			$ 470,000
Local area and access networking	$ 225,000	$ 180,000				$ 405,000
Communications and collaboration systems	$ 25,000	$ 50,000	$ 155,000		$ 25,000	$ 255,000
Network support and management systems	$ 70,000	$ 50,000				$ 120,000
TOTAL	$ 375,000	$ 395,000	$ 455,000	$ -	$ 25,000	$ 1,250,000

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	60%		$225,000
Wastewater Rates	40%		$150,000
			$0
Total	**100%**		**$375,000**

Funding Comments: Funding carried over from prior year in CIP, previously part of the Business IT Infrastructure Reliability Program.

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: Radio Telemetry and Network Replacement Program

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

Life cycle replacement of our private radio SCADA network components.

Rolling improvement program

Basis for Priority:

Many of our radios in service are past their service life and are slowly failing. This CIP would allow replacement of older telemetry (generally around 15 years old or more) and any related hardware such as antennas, antenna cable, lighting protectors, etc.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 150,000
Cash flow through end of year:		Total Project Estimate:	$ 150,000
Project Balance	$ -	Additional Funding Required	$ 150,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Hardware	$ 60,000	$ 35,000	$ 35,000	$ 10,000	$ 10,000	$ 150,000
						$ -
						$ -
						$ -
TOTAL	$ 60,000	$ 35,000	$ 35,000	$ 10,000	$ 10,000	$ 150,000

Funding Sources	Percentage	2016 Amount
Water Rates	60%	$36,000
Wastewater Rates	40%	$24,000
		$0
Total	100%	$60,000

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: SCADA Configuration & Alarm Response

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

This project is to replace the current unsupported call out software, SCADAlarm. In addition, this project will be used to correct and replace SCADA graphics and configurations at the HMI level, since they are closely related to the alarm call out software configuration. This will allow the current system to be more user friendly and to more accurately represent the processes they control. The current visualization of the SCADA system is maintenance intensive and is not intuitive to the end user. This can lend itself to operational error and increased operation and reporting time.

Basis for Priority:

The current alarm software, SCADAlarm is obsolete and unsupported. SCADAlarm has known "bugs" that have caused notification service interruptions, and put the District at risk for regulatory violations District-wide. This software is key to providing reliable service to our ratepayers. Additionally, this software regularly requires staff attention and overtime for corrective maintenance.

Project Financial Summary:			
Funded to Date:	$ -	**Expenditures through end of year:**	$ -
Spent to Date:	$ -	**2016 - 2020 Planned Expenditures:**	$ 50,000
Cash flow through end of year:	$ -	**Total Project Estimate:**	$ 50,000
Project Balance	$ -	**Additional Funding Required**	$ 50,000

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Programming	$ 50,000	$ -	$ -			$ 50,000
						$ -
						$ -
						$ -
TOTAL	$ 50,000	$ -	$ -	$ -	$ -	$ 50,000

Funding Sources	**Percentage**	**2016**	**Amount**
Wastewater Rates	50%		$25,000
Water Rates	50%		$25,000
			$0
Total	**100%**		**$50,000**

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: SCADA Hardware Replacement

Project Category: Reliability & Service Level Improvements

Priority: 2 **PM:** Strahan **Board Approval:**

Project Description:

Rolling CIP fund to replace end of life cycle SCADA hardware District-wide. While specific areas of SCADA have been identified, this project is intended to replace failed hardware items identified in the SCADA Master Plan.

Basis for Priority:

Rolling CIP to replace end of life cycle SCADA hardware, ensure service reliability and to reduce problem areas of the SCADA system causing overtime.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 80,000
Cash flow through end of year:	$ -	Total Project Estimate:	$ 80,000
Project Balance	$ -	Additional Funding Required	$ 80,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Replacement Installation & Parts	$ 80,000	$ -	$ -	$ -	$ -	$ 80,000
						$ -
						$ -
						$ -
TOTAL	$ 80,000	$ -	$ -	$ -	$ -	$ 80,000

Funding Sources	Percentage	2016	Amount
Wastewater Rates	50%		$40,000
Water Rates	50%		$40,000
			$0
Total	100%		$80,000

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: PLANNED

Project Name: SCADA Software Efficiency Program

Project Category: Reliability & Service Level Improvements

Priority: 3 **PM:** Strahan **Board Approval:**

Project Description:

Maintain and improve the reliability and performance of the current SCADA infrastructure used to manage automated process control through identifing areas that needlessly consume staff time and workflow.

Rolling improvement program

Basis for Priority:

Continue to develop efficiencies in automatic reports, development templates, operational notification and orginizing software programs.

Project Financial Summary:			
Funded to Date:	$ -	Expenditures through end of year:	$ -
Spent to Date:	$ -	2016 - 2020 Planned Expenditures:	$ 225,000
Cash flow through end of year:		Total Project Estimate:	$ 225,000
Project Balance	$ -	Additional Funding Required	$ 225,000

Description of Work	Estimated Annual Expenditures					
	2016	2017	2018	2019	2020	Total
Consultant Services	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 125,000
Software Purchases	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 100,000
						$ -
						$ -
TOTAL	$ 45,000	$ 45,000	$ 45,000	$ 45,000	$ 45,000	$ 225,000

Funding Sources	Percentage	2016	Amount
Water Rates	60%		$27,000
Wastewater Rates	40%		$18,000
			$0
Total	100%		$45,000

Funding Comments:

2016 **CAPITAL IMPROVEMENT PLAN** **Program:** **General District**

Project Number: **PLANNED**

Project Name: **Shared IT Computing Reliability Program**

Project Category: **Reliability & Service Level Improvements**

Priority: **2** **PM:** **Ranstrom** **Board Approval:**

Project Description:

This ongoing project maintains the reliability and performance of the shared computing environments required to conduct daily District business by replacing end-of-life or over-utilized equipment and systems, including host, data storage and backup systems, and specialized resources to manage the unique requirements of the computing environment.

Major actions in 2016 include:
- Replace end of life server equipment that hosts SCADA software applications at plants and HQ data center.
- Replace end of life DMZ server equipment that hosts select District information and services accessed from the internet.
- Replace end of life high-end engineering PCs with a more reliable and scalable graphics-enhanced virtual desktop solution.
- Implement an event log aggregation and problem alerting solution for the virtual computing environment.
- Consulting to assist with major version upgrades to server virtualization software in conjunction with these needed equipment replacements. Major version upgrades typically introduce a number of significant changes and enhancements to the software, and are necessary to ensure ongoing reliability, security, and support.

Basis for Priority:

Maintain the reliability and performance of the current shared computing environment used to perform operations, customer service, billing, financial management, regulatory reporting, security, and other critical and essential functions of the district.

Project Financial Summary:			
Funded to Date:	**$ -**	**Expenditures through end of year:**	**$ -**
Spent to Date:	**$ -**	**2016 - 2020 Planned Expenditures:**	**$ 2,245,000**
Cash flow through end of year:		**Total Project Estimate:**	**$ 2,245,000**
Project Balance	**$ -**	**Additional Funding Required**	**$ 2,245,000**

Description of Work	**Estimated Annual Expenditures**					
	2016	**2017**	**2018**	**2019**	**2020**	**Total**
Core computing and central data storage	**$ 120,000**	**$ 210,000**	**$ 40,000**	**$ 40,000**	**$ 280,000**	**$ 690,000**
Distributed computing and data storage	**$ 315,000**				**$ 130,000**	**$ 445,000**
Virtual desktop computing	**$ 50,000**	**$ 30,000**	**$ 200,000**	**$ 240,000**		**$ 520,000**
Computing environment and management	**$ 50,000**	**$ 50,000**	**$ 150,000**	**$ 210,000**	**$ 130,000**	**$ 590,000**
TOTAL	**$ 535,000**	**$ 290,000**	**$ 390,000**	**$ 490,000**	**$ 540,000**	**$ 2,245,000**

Funding Sources	**Percentage**	**2016**	**Amount**
Water Rates	60%		$321,000
Wastewater Rates	40%		$214,000
			$0
Total	**100%**		**$535,000**

Funding Comments: Funding carried over from prior year in CIP, previously part of the Business IT Infrastructure Reliability Program.

2016 – 2020 DRAFT CAPITAL IMPROVEMENT PLAN

El Dorado Irrigation District

September 28, 2015

Summary

- Annual budget development – Draft CIP developed and presented in a workshop September/October each year
- Adopted by Board by November prior to operating budget

Completed/Ongoing Projects

Flume 42/43 Replacement

Esmeralda Tunnel

Phase 1

Moose Hall pump station

Camp 2 Bridge

2016-2020 CIP

Prioritization

- Priority 1
  - a) Health/safety; b) regulatory mandates; c) under construction
- Priority 2
  - a) Reliability/replacement; b) increased revenue; c) increased growth
- Priority 3
  - a) Improves efficiency; b) level of service; c) community benefit
- Assign category to identify project purpose
  - a, b, c
- Assign additional level to rank similar projects
  - 1, 2, 3

Overall draft 2016-2020 CIP

- Future bond issuance
  - Forebay dam remediation
  - Flume replacement
  - Main Ditch piping
  - Sly Park Intertie lining
  - Esmeralda tunnel
- Remainder of projects funded “pay-go”
  - Estimated $10M per year average

Overall draft 2016-2020 CIP

- Draft CIP meets financial objectives
  - $119M over 5 years
  - 2016: $22M
- Actual expenditures 70%-80% of plan

CIP Comparison

(in millions)

	2014	2015	2016	2017	2018	2019	2020	Totals
2014-2018 CIP	17.2	21.2	22.2	12.7	10.7			**$84.0**
2015-2019 CIP		16.0	27.5	26.8	16.2	13.3		**$99.8**
2016-2020 CIP (Draft)			22.4	29.4	29.2	19.5	19.0	**$119.4**

2016 - 2020 Planned Expenditures by Priority

	Priority 1	Priority 2	Priority 3	Total
FERC	$ 7,538,057	$ -	$ -	$ 7,538,057
Water	$ 3,428,100	$ 27,281,000	$ 275,000	$ 30,984,100
Wastewater	$ 1,830,000	$ 19,348,600	$ 295,000	$ 21,473,600
Recycled Water	$ -	$ 175,000	$ 185,000	$ 360,000
Hydroelectric	$ 22,250,000	$ 28,585,000	$ -	$ 50,835,000
Recreation	$ -	$ -	$ -	$ -
General District	$ 737,500	$ 6,395,500	$ 1,125,000	$ 8,258,000
Total	**$ 35,783,657**	**$ 81,785,100**	**$ 1,880,000**	**$ 119,448,757**
% by Priority	**30.0%**	**68.5%**	**1.6%**	

FERC projects

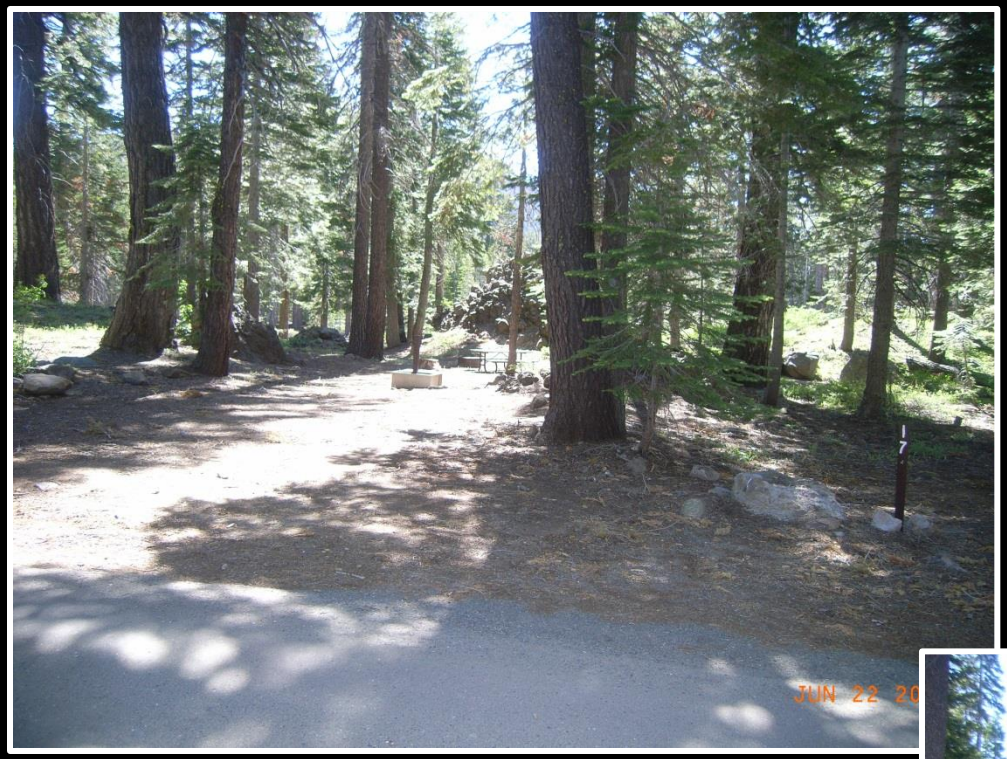
- Required by FERC License and USFS Conditions
  - 30 projects
  - 2016 expenditures $2.0
  - 5-year plan $7.5M

FERC CIP Comparison

(in millions)

	2014	2015	2016	2017	2018	2019	2020	Totals
2014-2018 CIP	0.7	1.1	2.9	1.0	0.4			**$6.1**
2015-2019 CIP		0.8	4.8	1.5	0.4	0.3		**$7.8**
2016-2020 CIP (Draft)			2.0	3.6	0.7	0.9	0.4	**$7.5**

Silver Lake Campground example



Budget estimates

- Silver Lake East campground - $1.9M
- Silver Lake West campground - $0.3M
- Caples Lake campground - $1.2M
- Coordinating with USFS

Water projects

- Replacement and upgrade of raw water and drinking water system
  - 36 projects
  - 2016 expenditures $4M
  - 5-year plan $31.0M

Water CIP Comparison

(in millions)

	2014	2015	2016	2017	2018	2019	2020	Totals
2014-2018 CIP	5.6	4.4	4.5	5.0	3.7			**$23.2**
2015-2019 CIP		5.0	7.4	6.2	6.6	3.4		**$28.6**
2016-2020 CIP (Draft)			4.4	7.2	6.1	5.8	7.4	**$31.0**

Res 3 Tank Upgrade

2016

$1.1M

Main Ditch piping

2016-2018

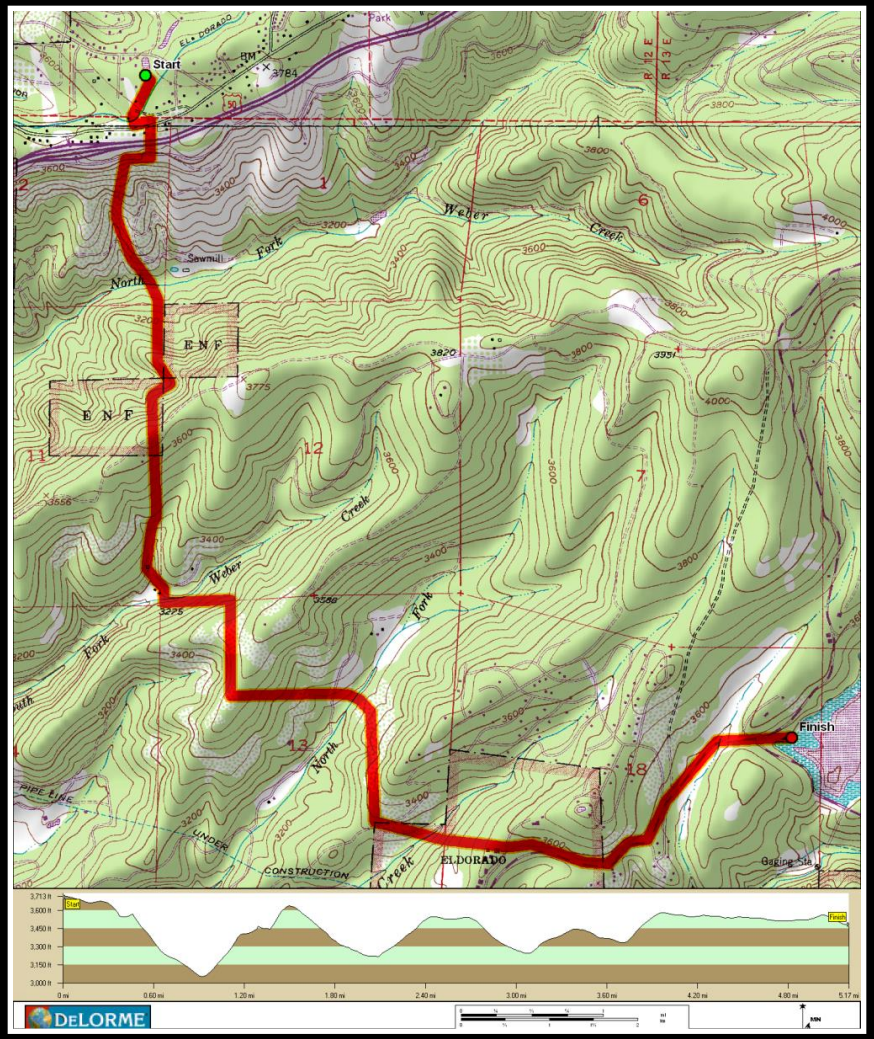
$6.0M

Monte Vista tank replacement

2016-2017

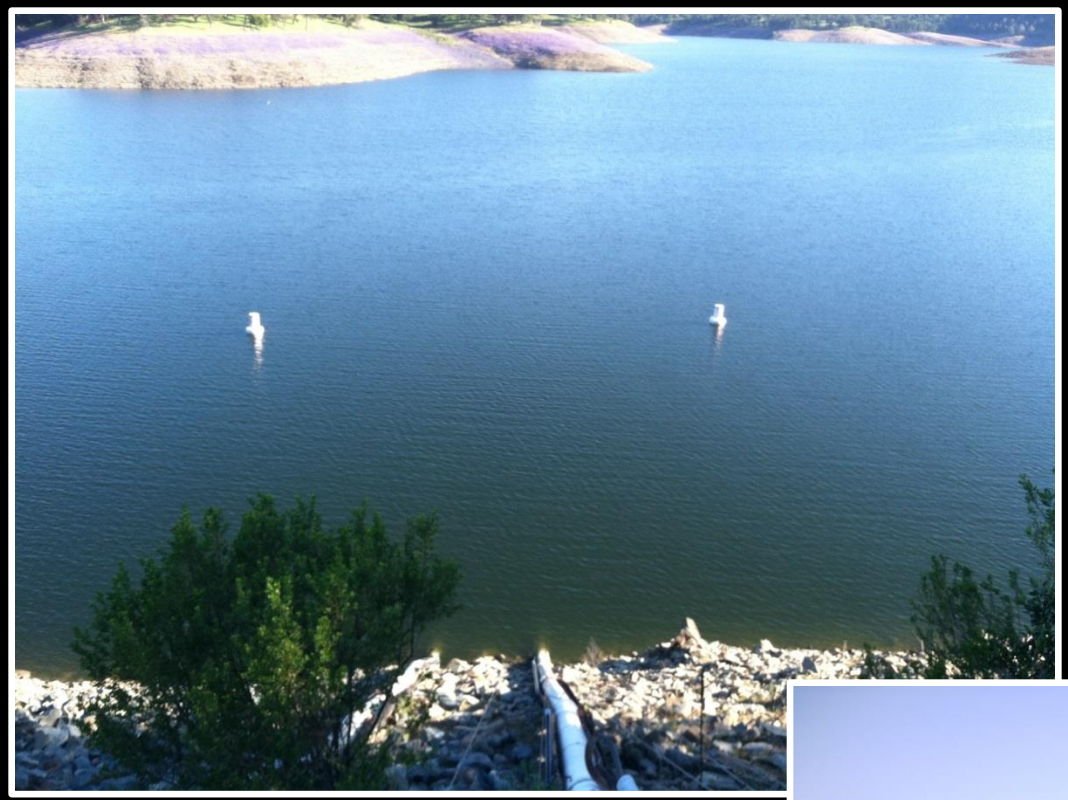
$1.0M

Sly Park Intertie Lining



2016-2020

$6.6M



El Dorado Hills raw water pump station

2016-2020

$4.4M

Reservoir 1 WTP backwash improvements

2016-2018

$1.6M

Wastewater projects

- Replacement and upgrade of wastewater treatment and collection system
- 27 projects
- 2016 expenditures $4.9M
- 5-year plan $21.5M

Wastewater CIP Comparison

(in millions)

	2014	2015	2016	2017	2018	2019	2020	Totals
2014-2018 CIP	3.8	4.2	3.3	3.3	2.4			**$17.0**
2015-2019 CIP		5.8	2.6	3.6	3.6	1.6		**$17.2**
2016-2020 CIP (Draft)			4.9	4.0	3.1	4.8	4.7	**$21.5**

Wastewater projects

- Lift station program
  - 2016-2020: $7.9M ($1.6M per year)
- EDHWWTP odor control: $600,000
- Silva Valley – EDH Sewerline: $6.2M
- DCWWTP change of use permit
  - $300,000
- WWTP Alternative Energy Studies: $150,000

Bridlewood lift station

2016 - $1.5M

South Point lift station

2018 - $1.3M

Waterford 7 lift station

2017 - $1.2M

Carson Creek 1 Lift Station

2016 - $0.7M

Recycled water projects

- Replacement and upgrade of recycled production and distribution system
- 3 projects
- 2016 expenditures $275,000
- 5-year plan $360,000

Recycled water projects

- Recycled water system improvements
  - Upgrade pumps, install flow meters
  - 2016 - $175,000
- DCWWTP Discharge Management
  - 2016 - $100,000

Hydroelectric projects

- Replacement and upgrade of Project 184 assets
  - Echo conduit replacement
  - Penstock assessment
  - SCADA and network reliability projects
- 17 projects
- 2016 expenditures $8.2M
- 5-year plan $51.0M

Hydro CIP Comparison

(in millions)

	2014	2015	2016	2017	2018	2019	2020	Totals
2014-2018 CIP	3.1	9.9	10.4	2.7	3.8			**$29.9**
2015-2019 CIP		2.6	13.9	13.0	6.1	6.7		**$42.3**
2016-2020 CIP (Draft)			8.2	12.3	17.7	7.2	5.4	**$51.0**

Echo Conduit replacement

2016-2020

$1.6M

Penstock Assessment

2016-2020

$470,000

Forebay Dam modification

2016: $1.5M
5-year: $19M

Flume replacements

- 5-year plan addresses 6 high priority flumes
- 2016 – Flumes 38 and 39/40
- 2017 – Flume 44
- 2018 – Flumes 30
- 2019 – Flume 45
- 2020 – Flume 48
  - $22M expenditures over 5-year plan

Flume replacement

General District projects

- Water rights, IT, SCADA, security, vehicle replacement, GIS

- 14 projects
- 2016 expenditures $2.5M
- 5-year plan $8.3M

General District CIP Comparison

(in millions)

	2014	2015	2016	2017	2018	2019	2020	Totals
2014-2018 CIP	3.8	1.3	1.1	0.7	0.4			**$7.3**
2015-2019 CIP		1.7	1.7	1.3	1.3	1.1		**$7.1**
2016-2020 CIP (Draft)			2.5	2.2	1.7	0.8	1.1	**$8.3**

General District projects

- SMUD/El Dorado agreement - $637,000
- Shared IT computing reliability - $2.2M
- IT Network/Communications reliability - $1.3M
- AMR program - $700,000
- Enterprise GIS - $650,000
- Vehicle replacement - $425,000 in 2016

Potential non-rate revenue generating projects

- In-conduit hydro
  - Tank 7
  - Tank 3
  - Sly Park Intertie
- Solar expansion
- Co-generation (wastewater plants)

Long Term Needs

Program	Description	Estimated Cost (2021-2025)
HY	Silver Lake Dam	$10,000,000
HY	Flume Replacement	$20,000,000
HY	Canal liner replacement	$1,000,000
HY	Powerhouse painting	$1,600,000
HY	Diversion dam - fish ladder, air blow down	$1,000,000
HY	Echo Conduit replacement	$5,000,000
HY	P184 inverted syphon assessments	$500,000
WA	Floating Cover replacements	$3,500,000
WA	EDHWTP Improvements	$5,000,000
WA	Res A WTP Improvements	$2,000,000
WA	Water pipeline replacement	$5,000,000
WA	Water pump station replacement	$1,500,000
WA	Water storage tank rehab/replacement	$7,500,000
WW	Lift station upgrades	$15,000,000
WW	EDH Collection system upgrades	$3,000,000
WW	DC Collection system upgrades	$16,000,000
RW	Recycled water system upgrades	$1,000,000
	Total	**$98,600,000**

Schedule

- September/October 2015
  - CIP review and adoption
- October/November 2015
  - Operating budget

Questions