



# 2016 Las Vegas Wash Capital Improvements Plan

Southern Nevada Water Authority  
May 19, 2016

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# **Las Vegas Wash Capital Improvements Plan**

**May 19, 2016**



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# **Las Vegas Wash**

## **Capital Improvements Plan**

### **1.0 Introduction**

#### **1.1 Purpose**

The Lower Las Vegas Wash (Wash), in Clark County, Nevada, is the primary urban runoff, wastewater and floodwater outlet from the Las Vegas Valley into Lake Mead and the Colorado River. The Wash is considered a critical component in the many environmental and water resource issues facing Southern Nevada today. This Southern Nevada Water Authority Las Vegas Wash Capital Improvements Plan (Wash CIP) presents a summary of planned capital expense activities necessary to support long-term enhancement and management of the Wash.

#### **1.2 Background**

Since 1975, the Wash has undergone significant erosion and degradation due to increasing flows resulting from expanding upstream urbanization in the Las Vegas Valley. To combat the changes in the Wash, the Las Vegas Wash Coordination Committee (LVWCC), a 29-member interagency group of federal, state, and local agencies, and private interests, was formed and has developed a Comprehensive Adaptive Management Plan (CAMP). The Southern Nevada Water Authority (SNWA) Board of Directors approved the CAMP in April 2000.

Of 44 recommendations, the CAMP identifies erosion control and stream stabilization of the Wash as one of the highest recommended priority efforts. To accomplish this goal, in 2002, a Cooperative Agreement was signed between the local government agencies considered major stakeholders in the Wash. In 2012, the Cooperative Agreement was amended and retitled as the “First Amended Agreement Regarding the Las Vegas Valley Watershed Advisory Committee” (Amended Agreement). As described in the Amended Agreement, the SNWA has been designated by the members of the Las Vegas Valley Watershed Advisory Committee (LVVWAC), as the lead agency to coordinate and manage the enhancement of the Wash. Among many assigned tasks, the SNWA is responsible for maintaining this Wash CIP.

The Amended Agreement establishes the LVVWAC to provide advice and consultation to SNWA on issues regarding this Wash CIP. Local government agency members of the LVVWAC include:

- City of Las Vegas
- City of Henderson
- City of North Las Vegas
- Clark County
- Las Vegas Valley Water District
- Clark County Water Reclamation District
- Clark County Regional Flood Control District
- Southern Nevada Water Authority

## **2.0 Plan Scope**

### **2.1 General Scope**

This Wash CIP covers the geographical area of the Wash from the City of Las Vegas Wastewater Treatment Plant to the western boundary of the Lake Mead National Recreational Area. The Wash CIP is intended to describe all presently identified construction and construction support projects supporting the management and enhancement of the Wash. Project elements included in this Wash CIP include:

- Channel bed and bank stabilization;
- Revegetation; and
- Comprehensive programs.

The purpose of channel bed stabilization is to reduce channel bed erosion by slowing stream flow to less erosive conditions while providing a stable platform for vegetation re-establishment. Gradient control weirs or dams are planned for installation to accomplish the stabilization needs. Channel bank protection installations are planned to be completed as a part of channel bed stabilization projects, and focus on reducing the ability of Wash flows to undercut, erode and collapse channel banks. Capital expenditures for bank protection will include installation of rock or concrete riprap armor and revegetation of stream banks, where appropriate.



Revegetation of the Wash channel bed, banks, disturbed overbank locations and floodplain areas will provide surface erosion protection, aid ecosystem restoration, support water quality goals and meet environmental permitting requirements. Revegetation activities may include wetlands or dry land revegetation, installation of temporary irrigation systems and establishment of vegetation protection measures.

Comprehensive programs include design and support activities serving multiple capital projects or the Wash as a whole. Activities under this element may include acquisition of rock and concrete materials for use as riprap, installation of construction access roads, location of materials storage sites, long term dust control practices, sediment and sediment transport studies, hydraulic studies, topographic mapping, water quality monitoring, stream gauging, and other supporting capital expense activities which are necessary to support construction efforts.

## **2.2 Facility Information**

The following information pertaining to specific facilities is presented in this Wash CIP:

- General description and location of each planned facility;
- Anticipated construction schedules;
- Estimated cost of each proposed facility;
- Proposed funding mechanism(s) for each facility in the Work Plan;
- Total projected Wash CIP cost in current and midpoint dollars;
- Cash flow forecasts by year; and
- A list of SNWA operated and maintained facilities.

## **3.0 Organization**

General information regarding the background, scope, approval process, current revenues, anticipated expenditures, prioritization, and funded Project Work Plan are presented in this Wash CIP report. Specific details defining anticipated projects, project costs, implementation schedules, prioritization analysis, and other information are included as appendices to this Wash CIP.

All identified, individual projects requiring expenditure of capital funds are described in the Appendix A as Candidate Projects to this Wash CIP. A unique project number and

letter designation and a location name describe each project. Channel bank protection and revegetation projects are named and project numbers are assigned with a letter designation which conforms to the name of the next downstream channel bed stabilization facility to which they are associated.

## **4.0 Plan Implementation**

### **4.1 Cooperative Agreement**

In 2002, SNWA entered into a Cooperative Agreement pertaining to the long-term management and enhancement of the Wash with Clark County, City of Las Vegas, City of Henderson, City of North Las Vegas, Clark County Water Reclamation District, and Clark County Regional Flood Control District. The current Amended Agreement establishes roles and responsibilities for the above agencies in managing the Wash. The development, review, and update of this Wash CIP are identified in the Amended Agreement as a responsibility of the SNWA. The Amended Agreement further defines the contents of the Wash CIP as presented herein.

### **4.2 Annual Plan Review**

The SNWA annually reviews, reaffirms, or revises the Wash CIP, as necessary to meet the goals and requirements of the Amended Agreement. In performing the annual review, the SNWA consults with the local agency stakeholders to the Wash through the Operations Study Team of the LVWCC and through the LVVWAC.

SNWA's consultation with local agency stakeholders and revisions to the Wash CIP focus upon current changes in priority, planning, design, cost, funding, and/or capital needs associated with the elements of the Wash CIP. Revisions to the Wash CIP reflect the elimination of capital items previously completed or revisions proposed by a party to the Amended Agreement and agreed to by the LVVWAC.

Upon revision by SNWA and approval by the LVVWAC, the annual Wash CIP update is submitted to the SNWA Board of Directors for review and action.

### 4.3 Funding Approval

As appropriate, SNWA prepares and submits Wash CIP funding agreements to the LVVWAC for review. Funding agreements prepared and submitted by SNWA may also define the process whereby entities other than the parties to the Amended Agreement may either fund or contribute to the Wash CIP.

Subsequent to the LVVWAC's review of funding agreements, SNWA submits the funding agreements to each of the local governmental agencies comprising the LVVWAC for consideration and possible approval by their respective Governing Boards as a part of the individual Party's overall budgeting process.

## 5.0 Funding and Expenditures

### 5.1 Funding-To-Date

**Sales Tax and Grant Funding:** The Wash CIP has been partially funded through receipt of local sales tax revenues. The Wash currently receives four percent (4%) of a ¼ cent sales tax allocated for funding water and wastewater projects in Clark County. The Wash has also received capital grant funding commitments from the Southern Nevada Public Lands Management Act (SNPLMA).

**Other Local Agency Funding:** In addition to local sales tax revenues and SNPLMA grants, the Wash CIP has received funding or funding commitments from other local agencies through in-kind construction activities or direct funding to SNWA.

**Interfund Loans:** Periodically, projected, near-term capital expenses for construction of stabilization facilities in the Wash will exceed available cash on hand generated from sales tax and grant funding. In these cases, the Wash CIP will borrow money from SNWA's New Expansion Debt Service fund accounts, as available.

Funding and funding sources to-date are shown in Table 1 below:

**Table 1**  
**Funding-to-Date**  
**1999 – FY 2015/2016**

<b>Funding Source</b>	<b>Estimated Funding-to-Date</b>	<b>%</b>
Sales Tax & Interest (Includes Actuals through December 2015)	\$ 49,752,629	33.7
US Bureau of Reclamation Grants	\$ 5,979,224	4.1
SNPLMA Funding	\$ 48,052,631	32.6
Miscellaneous State and Federal Grants	\$ 445,500	0.3
Other Local Agency Funding	\$ 14,460,000	9.8
Interfund Borrowings	\$ 28,768,611	19.5
<b>Total:</b>	<b>\$ 147,458,595</b>	<b>100.0</b>

## **5.2 Expenditures**

### **5.2.1 Expenditures-To-Date**

From 1999 through June 2016, Wash CIP total expenditures have been as shown in Table 2 below. These expenditures include contributions by other stakeholder agencies for capital improvements to the Wash.

Other stakeholder agency expenditures have included: Clark County, design and construction of the Pabco Road Weir at approximately \$4,700,000; Lake Las Vegas Resort, design and construction of the Fire Station Weir at approximately \$63,000; SNWA Water CIP, design and construction of the Rainbow Gardens Weir as part of the East Valley Water Lateral crossing of the Wash, at approximately \$7,238,000; and US Bureau of Reclamation construction activities.

Expenditures include repayment with interest, of funds borrowed from the New Expansion Debt Service fund account.

Capital construction expenditures to-date are shown in Table 2 below:

**Table 2**  
**Total Expenditures-to-Date**  
**1999 – FY 2015/2016**

<b>Program</b>	<b>Total Expenditures-to-Date</b>	<b>%</b>
Channel Stabilization	\$ 112,229,442	75.4
Revegetation	\$ 2,150,534	1.4
Comprehensive Programs	\$ 8,427,997	5.7
Interfund Borrowing Repayments	\$ 24,797,512	16.7
Interfund Borrowing Interest Repayments	\$ 1,218,979	0.8
<b>Total:</b>	<b>\$ 139,734,388</b>	<b>100.0</b>

### 5.2.2 Future Expenditures

Current projections of future capital expenditures for the Wash CIP are detailed in the Construction Program Master Plan shown in Appendix C. Projected expenditures are shown in both current dollars and projected expenses, accelerated to future construction mid-point dollar is cost, based upon an estimated current three percent (3%) annual growth. Funding commitments for individual projects will be based upon availability of funds at the time the commitment is made. Estimated capital expenditures are summarized in Table 3 below:

**Table 3**  
**Projected Expenditures**  
**2016/2017-2021/2022 (Present \$)**

<b>Wash CIP Component</b>	<b>Projected Expenditures</b>	<b>%</b>
Channel Stabilization	\$ 22,900,000	82.0
Revegetation Programs	\$ 1,102,255	3.9
Comprehensive Programs	\$ 269,000	1.0
Interest Expense	\$ 3,670,967	13.1
<b>Total Projected Expenditures:</b>	<b>\$ 27,942,222</b>	<b>100.0</b>

## 6.0 Priority Assessment

The Operations Study Team of the LVWCC has developed a methodology for prioritization of each proposed gradient control and bank protection capital expenditure in the Wash. Rating factors utilized in establishing proposed project priorities are described in Appendix E of this plan.

Unless otherwise noted, bank protection capital investments will occur during implementation of the next downstream gradient control facility. Where severe bank erosion is occurring, stabilization may precede downstream gradient control implementation. Revegetation investments normally follow channel bed and bank stabilization, where practical. Unless otherwise noted, revegetation projects are planned for implementation following channel stabilization projects and are not shown in a separate priority evaluation within this Wash CIP.

Over the long-term life of the Wash CIP, priorities may change as need, funding, and other issues arise. Therefore SNWA, acting through the Operations Study Team and the LVVWAC, will annually review the prioritization schedule, evaluation criteria, proposed candidate project list, and available funding to assess current priorities. A summary of the criteria applied to assess prioritization, as developed by the Operations Study Team, and as approved by the LVVWAC are as follows:

- Upstream Stability
- System Relationship
- Water Quality Enhancement
- Recreational Opportunity
- Public Safety
- Regulatory Permitting Requirements
- Access
- Cost Avoidance
- Availability of Other Funding

Detailed descriptions of these criteria are found in Appendix F of this plan.

Annually, the SNWA staff calculates priority values for each proposed project based upon the prioritization criteria outlined herein. These values and proposed project rankings are

then reviewed, discussed, and/or modified by the Operations Study Team of the LVVWAC. Project activity is then scheduled, as much as practical, to follow priority rankings described in Appendix E. Issues such as land ownership, construction conflict, potential cost savings in grouping several projects together under a single construction contract, and similar issues may cause some projects of lower priority to be scheduled for construction in conjunction with higher priority projects.

After SNWA develops a proposed project implementation schedule, the draft priority and project rankings are submitted to the Operations Study Team of the LVWCC for further review and/or modification. SNWA then publishes those findings in annual updates of the Wash CIP and submits the update to the LVVWAC and SNWA Board of Directors for review and action.

## **7.0 2016-17 Project Work Plan**

The Project Work Plan presented in Appendix A, represents a series of projects scheduled for activity during the next two years for which funding sources have been or are expected to be identified. The funding for individual capital projects will come from revenues generated from sales taxes. Funding commitments for individual projects will be based upon availability of funds at the time the commitment is made. The Project Work Plan is a sub-set of the Construction Program Master Plan detailed in Appendix C.

The Project Work Plan budget is based upon current estimates of present cost and projected actual cost, accelerated to anticipated midpoints of design and construction period activities. Project costs may change depending upon final design configuration, modified design criteria, or construction prices at the time of construction bidding. Where construction cost estimates or bids exceed expected revenues at the scheduled time of construction, a project may be delayed to a future time when revenues become available. Where expenditures are found to be less than available funding, with LVVWAC approval, additional candidate projects may be incorporated into the Project Work Plan for implementation.

## **8.0 Ownership**

The planned erosion control facilities lie within the boundaries of the Clark County Wetlands Park. Consistent with the Amended Agreement, SNWA will transfer ownership to Clark County of stabilization facilities, including channel stabilization facilities, revegetated areas, and other facilities when deemed appropriate by the SNWA and Clark County.

## **9.0 Operations and Maintenance**

In accordance with the Amended Agreement, SNWA operates and maintains Wash facilities, including channel stabilization projects and revegetated areas described in this Wash CIP and Project Work Plan until such time that ownership is transferred to Clark County.

The SNWA conducts these activities in conformance with the Operations and Maintenance Plan for the Wash. Currently, SNWA's operations and maintenance activities are financed through assessments levied to individual LVVWAC member agencies, through the utilization of Bureau of Reclamation construction grant funding or through flood control maintenance funds allocated to SNWA by Clark County.



## **Appendix A**

# **2016-17 Work Plan Budget Allocation**

**2016/2017 Las Vegas Wash Capital Improvements Plan**  
**2016-17 WORK PLAN BUDGET ALLOCATION**

Facility ID	Facility	Start Date	Finish Date	Mid-Point Cost					Total Project Cost
				16/17	17/18	18/19	19/20	20/21	
	<u>Design</u>								
	<b>Design, Total:</b>			\$0					\$0
	<u>Construction</u>								
810C	Historic Lateral Weir	6/1/2016	3/30/2018	\$650,000	\$5,000,000	\$2,000,000			\$7,650,000
810W	Sunrise Mountain Weir	6/1/2016	3/30/2018	\$650,000	\$5,000,000	\$2,000,000			\$7,650,000
810S	Tropicana Weir	7/1/2016	1/31/2018	\$4,100,000	\$3,500,000	\$0			\$7,600,000
	<b>Construction, Total:</b>			\$5,400,000	\$13,500,000	\$4,000,000			\$22,900,000
	<u>Revegetation</u>								
880K	Three Kids Weir	9/1/2015	8/30/2017	\$198,366	\$79,347				\$277,713
880U	Silver Bowl Weir	9/1/2015	8/30/2017	\$107,808	\$43,123				\$150,931
880Z	Archery Weir	9/1/2015	8/30/2017	\$107,808	\$43,123				\$150,931
880C	Historic Lateral Weir	6/1/2018	8/31/2019		\$21,389	\$64,167	\$42,778		\$128,334
880W	Sunrise Mountain Weir	6/1/2018	8/31/2019		\$22,079	\$66,237	\$44,158		\$132,474
880S	Tropicana Weir	4/1/2018	8/30/2019		\$43,640	\$130,921	\$87,282		\$261,843
	<b>Revegetation Total:</b>			\$413,982	\$252,701	\$261,325	\$174,218	\$0	\$1,102,226
	<u>Comprehensive Programs</u>								
860P	Emergency Flood Repair Allocation	1/2/2015	1/1/2017	\$25,000					\$25,000
860V	BOR Materials and Equipment	2/10/2015	3/11/2017	\$122,000	\$122,000				\$244,000
	<b>Comprehensive, Total:</b>			\$147,000	\$122,000				\$269,000
	<u>Work Plan Cost Summary</u>								
	<b>Design</b>			\$0					\$0
	<b>Construction</b>			\$5,400,000	\$13,500,000	\$4,000,000			\$22,900,000
	<b>Revegetation</b>			\$413,982	\$252,701	\$261,325	\$174,218	\$0	\$1,102,226
	<b>Comprehensive</b>			\$147,000	\$122,000				\$269,000
	<b>Interest Expense</b>			\$385,267	\$695,260	\$968,764	\$903,505	\$718,171	\$3,670,967
	<b>Total Program:</b>			\$6,346,249	\$14,569,961	\$5,230,089	\$1,077,723	\$718,171	\$27,942,193

## **Appendix B**

# **Project Descriptions**

## Project Descriptions

<b><u>Facility:</u></b>	Historic Lateral Weir		<b><u>Facility ID:</u></b>	810C
			<b><u>Status:</u></b>	Bidding
<b><u>Facility Description:</u></b> <p>The existing Historic Lateral Weir was constructed as SNWA Project 910AR in 2000. This facility is located at the site of the first Las Vegas Valley Water Lateral crossing of the Las Vegas Wash. This 600 foot long, 10 foot high, rock riprap structure provides channel bed stabilization upstream to the Pabco Road Weir. This project will increase hydraulic capacity and provide channel bed stabilization to the downstream C-1 Channel outfall. This Facility will be funded by sales tax revenues.</p>				

<b><u>Facility:</u></b>	Tropicana Weir		<b><u>Facility ID:</u></b>	810S
			<b><u>Status:</u></b>	Bidding
<b><u>Facility Description:</u></b> <p>This facility is planned to be located immediately downstream of the Tropicana Channel and Las Vegas Wash confluence, at the Clark County Nature Preserve. The facility will be 10 feet in height and 320 feet long. This Facility will be funded by sales tax revenues.</p>				

<b><u>Facility:</u></b>	Sunrise Mountain Weir		<b><u>Facility ID:</u></b>	810W
			<b><u>Status:</u></b>	Bidding
<b><u>Facility Description:</u></b> <p>This facility will be located approximately 0.4 mile upstream of the Pabco Road Weir. This 500 foot long facility will stabilize four feet of potential channel headcut erosion. This Facility will be funded by sales tax revenues.</p>				

## Project Descriptions

<b><u>Facility:</u></b>	Flood Repair Allocation		<b><u>Facility ID:</u></b>	860P
			<b><u>Status:</u></b>	Planned
<b><u>Facility Description:</u></b> <p>Large flood events may damage existing stabilization facilities or create damage elsewhere in the Las Vegas Wash. This project will allow for the construction repair of stabilization facilities following major flood events where further damage to SNWA stabilization facilities will limit the ability of the facilities to function as intended. This Facility will be funded by sales tax revenues.</p>				

<b><u>Facility:</u></b>	Historic Lateral Weir		<b><u>Facility ID:</u></b>	880C
	Revegetation		<b><u>Status:</u></b>	Programmed
<b><u>Facility Description:</u></b> <p>This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Facility will be funded by sales tax revenues.</p>				

<b><u>Facility:</u></b>	Three Kids Weir Revegetation		<b><u>Facility ID:</u></b>	880K
			<b><u>Status:</u></b>	Constrction
<b><u>Facility Description:</u></b> <p>This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Facility is being funded by SNPLMA grants and sales tax revenues.</p>				

## Project Descriptions

<b><u>Facility:</u></b> Tropicana Weir Revegetation		<b><u>Facility ID:</u></b> 880S  <b><u>Status:</u></b> Programmed
<b><u>Facility Description:</u></b> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Facility will be funded by sales tax revenue.		

<b><u>Facility:</u></b> Silver Bowl Weir Revegetation		<b><u>Facility ID:</u></b> 880U  <b><u>Status:</u></b> Construction
<b><u>Facility Description:</u></b> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Facility is being funded by SNPLMA grants and sales tax revenues.		

<b><u>Facility:</u></b> Sunrise Mountain Weir Revegetation		<b><u>Facility ID:</u></b> 880W  <b><u>Status:</u></b> Programmed
<b><u>Facility Description:</u></b> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Facility will be funded by sales tax revenues.		

<b><u>Facility:</u></b> Archery Weir Revegetation		<b><u>Facility ID:</u></b> 880Z  <b><u>Status:</u></b> Construction
<b><u>Facility Description:</u></b> This project is intended to replace wetlands and other vegetation removed during weir construction, stabilize the stream banks, provide erosion control and habitat benefits. This Facility will be funded by sales tax revenues.		

**Appendix C**  
**2016/2017 Las Vegas Wash**  
**Construction Program Master Plan**

## Fiscal Year 2016/2017 Las Vegas Wash Construction Program Master Plan

Design	Project Name	Start	Finish	Present Value	Future Value	FY16/17	FY17/18	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	Total
<b>TOTAL</b>				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Construction	Project Name	Start	Finish	Present Value	Future Value	FY16/17	FY17/18	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	Total
810C	Historic Lateral Weir	6/1/2016	3/30/2018	\$ 7,650,000	\$ 7,650,000	\$ 650,000	\$ 5,000,000	\$ 2,000,000	\$ -	\$ -	\$ -	\$ -	\$ 7,650,000
810W	Sunrise Mountain Weir	6/1/2016	3/30/2018	\$ 7,650,000	\$ 7,650,000	\$ 650,000	\$ 5,000,000	\$ 2,000,000	\$ -	\$ -	\$ -	\$ -	\$ 7,650,000
810S	Tropicana Weir	7/1/2016	8/31/2017	\$ 7,600,000	\$ 7,600,000	\$ 4,100,000	\$ 3,500,000	\$ -			\$ -	\$ -	\$ 7,600,000
<b>TOTAL</b>				\$ 22,900,000	\$ 22,900,000	\$ 5,400,000	\$ 13,500,000	\$ 4,000,000	\$ -	\$ -	\$ -	\$ -	\$ 22,900,000

Revegetation	Project Name	Start	Finish	Present Value	Future Value	FY16/17	FY17/18	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	Total
							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
880K	Three Kids Weir	9/1/2015	8/30/2017	\$ 277,713	\$ 277,713	\$ 198,366	\$ 79,347		\$ -	\$ -	\$ -	\$ -	\$ 277,713
880U	Silver Bowl Weir	9/1/2015	8/30/2017	\$ 150,931	\$ 150,931	\$ 107,808	\$ 43,123		\$ -	\$ -	\$ -	\$ -	\$ 150,931
880Z	Archery Weir	9/1/2015	8/30/2017	\$ 150,931	\$ 150,931	\$ 107,808	\$ 43,123		\$ -	\$ -	\$ -	\$ -	\$ 150,931
880C	Historic Lateral Weir	6/1/2018	8/31/2019	\$ 124,000	\$ 128,334	\$ -	\$ 21,389	\$ 64,167	\$ 42,778	\$ -	\$ -	\$ -	\$ 128,334
880W	Sunrise Mountain Weir	6/1/2018	8/31/2019	\$ 128,000	\$ 132,474	\$ -	\$ 22,079	\$ 66,237	\$ 44,158	\$ -	\$ -	\$ -	\$ 132,474
880S	Tropicana Weir	10/1/2018	9/30/2019	\$ 253,000	\$ 261,843	\$ -	\$ 43,640	\$ 130,921	\$ 87,282	\$ -	\$ -	\$ -	\$ 261,843
<b>TOTAL</b>				\$ 1,084,575	\$ 1,102,226	\$ 413,981	\$ 252,701	\$ 261,325	\$ 174,218	\$ -	\$ -	\$ -	\$ 1,102,225

Comprehensive	Project Name	Start	Finish	Present Value	Future Value	FY16/17	FY17/18	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	Total
860P	Flood Repair Allocation	1/2/2015	1/1/2017	\$ 25,000	\$ 25,000	\$ 25,000				\$ -	\$ -	\$ -	\$ 25,000
860V	BOR Materials & Equipment	2/10/2015	3/11/2017	\$ 244,000	\$ 244,000	\$ 122,000	\$ 122,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 244,000
<b>TOTAL</b>				\$ 269,000	\$ 269,000	\$ 147,000	\$ 122,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 269,000

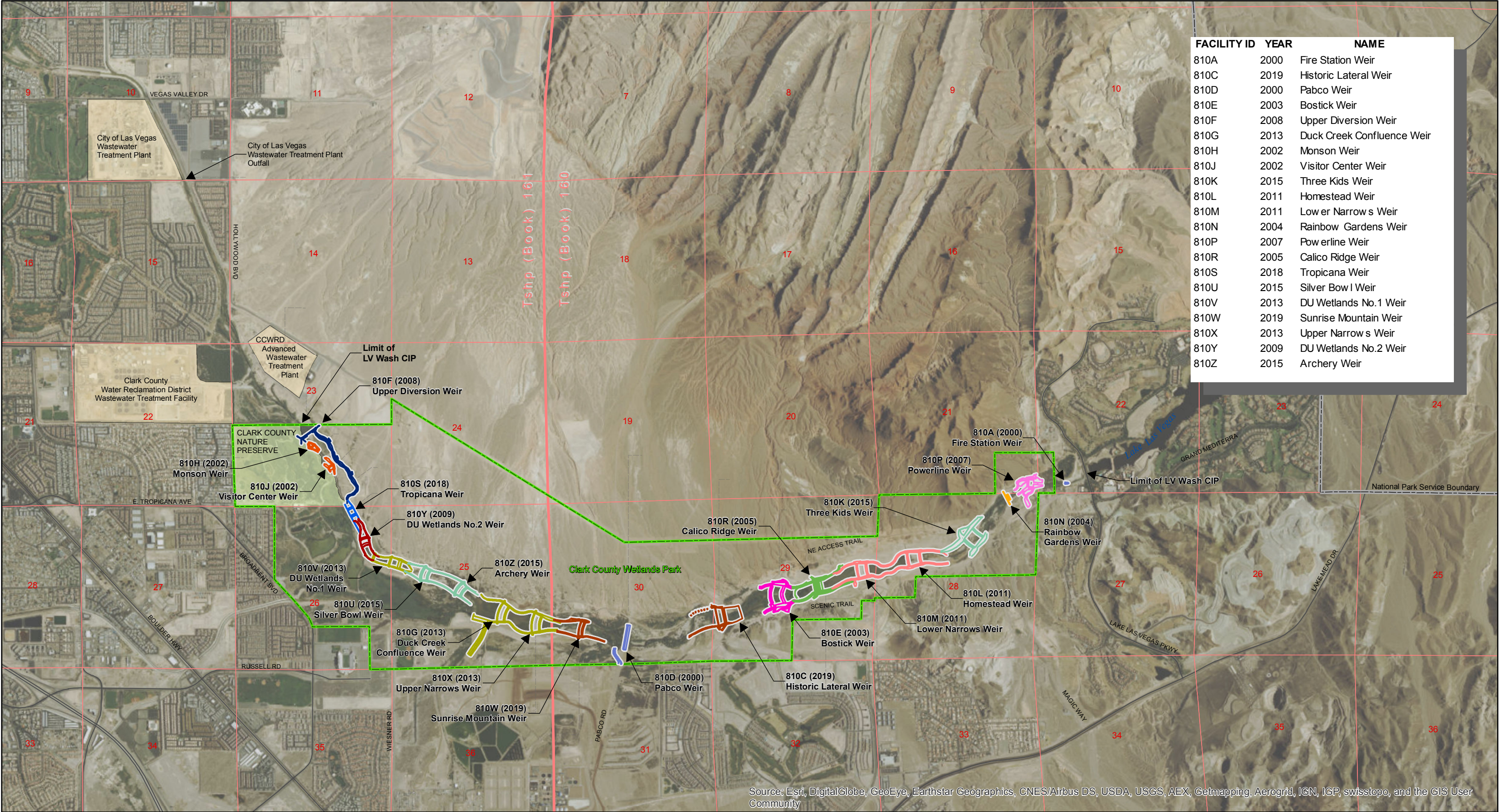
<b>TOTAL FY 16/17 WASH CIP</b>				\$ 24,253,575	\$ 24,271,226	\$ 5,960,981	\$ 13,874,701	\$ 4,261,325	\$ 174,218	\$ -	\$ -	\$ -	\$ 24,271,225
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## **Appendix D**

### **Location Map**





FACILITY ID	YEAR	NAME
810A	2000	Fire Station Weir
810C	2019	Historic Lateral Weir
810D	2000	Pabco Weir
810E	2003	Bostick Weir
810F	2008	Upper Diversion Weir
810G	2013	Duck Creek Confluence Weir
810H	2002	Monson Weir
810J	2002	Visitor Center Weir
810K	2015	Three Kids Weir
810L	2011	Homestead Weir
810M	2011	Lower Narrow s Weir
810N	2004	Rainbow Gardens Weir
810P	2007	Pow erline Weir
810R	2005	Calico Ridge Weir
810S	2018	Tropicana Weir
810U	2015	Silver Bowl Weir
810V	2013	DU Wetlands No.1 Weir
810W	2019	Sunrise Mountain Weir
810X	2013	Upper Narrow s Weir
810Y	2009	DU Wetlands No.2 Weir
810Z	2015	Archery Weir

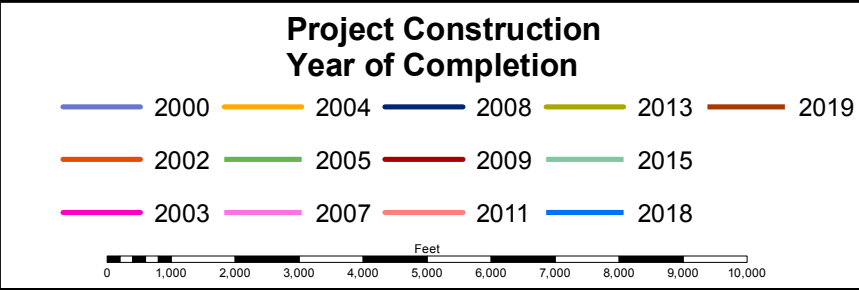
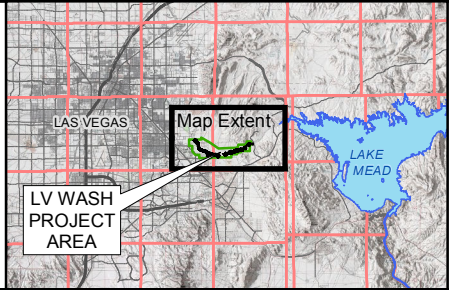


# SNWA LAS VEGAS WASH

## CAPITAL IMPROVEMENTS PLAN


### GRADE CONTROL STRUCTURES

#### 2016



SNWA Wash Facilities Engineering  
Official Capital Improvements Plan map.  
Board approval date: April 21, 2016.

Map produced by SNWA Engineering,  
ETS, Geospatial Solutions Team. (GIS)  
SPC NV-E, NAD83, US Feet.  
Analyst: EN



1 Inch = 3000 Feet, or Scale = 1:36,000  
(Original 11x17 map only, verify scale)

**MAP-ID: WFE-CIP**  
**DATE: 21 APR 2016**

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# **Appendix E**

## **Ranking Criteria Scoring**

### **Channel Bed Stabilization**

**2016 - 17 Capital Improvements Plan**  
**Ranking Criteria Scoring**  
**Channel Bed Stabilization**

Factor	Criteria	Score	Criteria Score																			
			Fire Station Weir	Powerline Weir	Rainbow Gardens Weir	Three Kids Weir	Homestead Weir	Lower Narrows Weir	Calico Ridge Weir	Bostick Weir	Historic Lateral Weir	Pabco Weir	Sunrise Mountain Weir	Upper Narrows Weir	Duck Creek Confluence Weir	Archery Weir	Silverbowl Weir	DU Wetlands 1 Weir	DU Wetlands 2 Weir	Tropicana Weir	Visitor Center Weir	Monson Weir
Upstream Stability	Active headcutting risking upstream channel, structures, or banks	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5				5
	Moderate headcutting in silty or sandy channel bed, some bank stability threat	3	3													3				3	3	
	Slow headcutting in caliche or bedrock, little bank stability threat	1																	1			
System Relationship	Provides important foundation or stability support for other facilities	5	5	5	5	5	5	5	5	5	5	5	5	5		5	5	5	5	5	5	5
	Provides moderate foundation or stability support to other Wash features	3													3		3					
	Provides minor or no foundation or stability support to other facilities	1																				
Cost Avoidance	Will reduce capital cost of other facilities or is a low maintenance facility	5	5	5	5	5	5	5		5	5	5	5	5		5	5	5	5	5	5	5
	Provides minor capital cost savings for other facilities or minor annual maintenance expected	3							3						3						3	3
	Provides no reduction in capital cost for other facilities, high maintenance expected	1																				
Water Quality	Provides large volume for sediment capture or 5 or more acres potential wetlands area	5			5	5	5	5		5	5				5							
	Provides minor volume of sediment capture or 3 or more acres potential wetlands area	3	3	3								3	3	3		3	3	3	3			3
	Provides little or no volume for sediment capture or less than 1 acre of potential wetlands area	1							1										1	1	1	
Ecosystem Enhancement	Provides platform for ecosystem enhancement covering greater than 5 acres	5			5	5	5	5		5	5	5			5			5				
	Provides platform for ecosystem enhancement covering greater than 3 acres	3	3	3									3	3		3	3	3		3		3
	Provides platform for ecosystem enhancement covering 1 acre or more	1						1												1	1	
Recreational Opportunities	Directly reduces threat to recreational features	5		5		5	5	5						5				5		5	5	5
	Provides possible threat reduction to recreational features	3			3					3	3	3		3		3	3	3				
	Provides little or no threat reduction to recreational features	1	1						1				1									
Public Safety	Is strongly beneficial to public safety associated with activities in the Wash	5				5	5	5			5								5	5	5	5
	Provides some improvement to public safety associated with activities in the Wash	3		3	3				3	3	3		3	3	3		3	3				
	Provides little improvement to public safety associated with activities in the Wash	1	1												1	1						
Permitting	Relatively minor permitting issues to be resolved	5	5			5	5		5	5			5	5				5	5		5	
	Wetlands, WQ, Wildlife, or Archeological issues exist and clearance required	3		3	3			3						3	3				3			3
	A sensitive site requiring mitigation or high level of protection	1									1					1						
ROW & Access	Local Government Ownership, relatively easy acquisition	5		5	5		5	5		5	5			5	5	5	5	5	5	5	5	5
	Federal Ownership, requiring federal review and approval	3							3													
	Private Ownership requiring extended negotiations	1	1			1																
Other Funding	other local, state, or federal funding assistance for > 50% of project cost	5	5	5	5	5	5	5		5	5							5		5	5	5
	Identified possibility for additional local, state, federal funding assistance for > 25% of project	3											3	3		3	3					
	No additional funding assistance identified beyond local sales tax revenues or < 25% project	1							1			1			1				1			

= In Construction or Completed

# **Appendix F**

## **2016-17 Project Prioritization**

### **Channel Bed Stabilization**

## 2016 - 17 Project Prioritization Channel Bed Stabilization

Facility	Channel Station	Facility ID	Priority Factor and Weight											Priority Value	Ranking	In Construction or Completed
			Stability	Relationship	Cost Avoidance	WQ Enhancement	Ecosystem Enhancement	Recreational Benefit	Public Safety	Permitting	ROW & Access	Other Funding				
			5	5	5	3.5	3.5	3.5	3.5	2.5	2.5	2.5				
Lower Narrows Weir	9470	810M	525	525	525	517.5	517.5	517.5	517.5	37.5	512.5	512.5	177.5		X	
Homestead Weir	6740	810L	525	525	525	517.5	517.5	517.5	517.5	37.5	512.5	512.5	177.5		X	
Three Kids Weir	5150	810K	525	525	525	517.5	517.5	517.5	517.5	512.5	12.5	512.5	172.5		X	
Historic Lateral Weir	15400	810C	525	525	525	517.5	517.5	310.5	310.5	37.5	512.5	512.5	163.5	1		
Rainbow Gardens Weir	3120	810N	525	525	525	517.5	517.5	310.5	310.5	37.5	512.5	512.5	163.5		X	
Upper Diversion Weir	35650	810F	525	525	525	310.5	310.5	517.5	517.5	37.5	512.5	512.5	163.5		X	
Pabco Weir	20000	810D	525	525	525	310.5	517.5	310.5	517.5	12.5	512.5	512.5	158.5		X	
Bostick Weir	13300	810E	525.0	525.0	525.0	517.5	517.5	310.5	310.5	512.5	512.5	12.5	158.5		X	
Powerline Weir	1950	810P	525	525	525	310.5	310.5	517.5	310.5	37.5	512.5	512.5	156.5		X	
DU Wetlands 1 Weir	29500	810V	525	525	525	310.5	310.5	310.5	310.5	512.5	512.5	512.5	154.5		X	
Duck Creek Confluence Weir	25330	810G	525.0	315.0	525.0	517.5	517.5	517.5	310.5	37.5	512.5	37.5	155.5		X	
Upper Narrows Weir	23500	810X	525	525	315	310.5	310.5	310.5	310.5	512.5	512.5	37.5	139.5		X	
Visitor Center Weir	33850	810J	315	525	315	13.5	13.5	517.5	517.5	512.5	512.5	512.5	134.5		X	
Monson Weir	34950	810H	315	525	315	13.5	13.5	517.5	517.5	512.5	512.5	512.5	134.5		X	
DU Wetlands 2 Weir	31100	810Y	315	315	525	310.5	517.5	517.5	310.5	37.5	37.5	37.5	133.5		X	
Calico Ridge Weir	11400	810R	525	525	525	13.5	13.5	13.5	310.5	512.5	37.5	512.5	128.5		X	
Archery Weir	26500	810Z	525	525	525	310.5	310.5	310.5	13.5	37.5	512.5	12.5	132.5		X	
Silver Bowl Weir	28190	810U	315	525	525	310.5	310.5	310.5	13.5	12.5	512.5	37.5	122.5		X	
Fire Station Weir	690	810A	315	525	525	310.5	310.5	13.5	13.5	512.5	12.5	512.5	120.5		X	
Tropicana Weir	32300	810S	15	525	525	13.5	310.5	310.5	517.5	37.5	512.5	12.5	119.5	2		
Sunrise Mountain Weir	22000	810W	315	315	525	310.5	310.5	13.5	310.5	512.5	37.5	12.5	112.5	3		

= In Construction or Completed

## **Appendix G**

### **Sales Tax Received and Distributed**

## Southern Nevada Water Authority

### Sale Tax Received and Distributed

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Apr-99	07-Jul-99	3,995,539.18	168,120.30	159,821.57		3,667,597.31
May-99	27-Jul-99	4,083,781.36	171,833.27	163,351.25		3,748,596.84
Jun-99	27-Aug-99	4,466,630.55	187,942.41	178,665.22		4,100,022.92
Fiscal Year 1998-1999		12,545,951.09	527,895.98	501,838.04	0.00	11,516,217.07
Jul-99	24-Sep-99	3,876,061.83	163,093.05	155,042.47		3,557,926.31
Aug-99	22-Oct-99	4,056,712.59	170,694.30	162,268.50		3,723,749.79
Sep-99	29-Nov-99	4,389,790.35	184,709.21	175,591.61		4,029,489.53
Oct-99	27-Dec-99	4,081,696.66	171,745.55	163,267.87		3,746,683.24
Nov-99	25-Jan-00	4,210,100.80	177,148.41	168,404.03		3,864,548.36
Dec-99	29-Feb-00	5,077,263.36	213,636.01	203,090.53		4,660,536.82
Jan-00	24-Mar-00	4,011,032.32	168,772.21	160,441.29		3,681,818.82
Feb-00	25-Apr-00	4,056,424.50	170,682.17	162,256.98		3,723,485.35
Mar-00	26-May-00	4,718,343.86	198,533.75	188,733.75		4,331,076.36
Apr-00	28-Jun-00	4,285,441.90	180,318.54	171,417.68		3,933,705.68
May-00	21-Jul-00	4,403,289.00	185,277.19	176,131.56		4,041,880.25
Jun-00	25-Aug-00	4,816,863.21	202,679.15	192,674.53		4,421,509.53
Fiscal Year 1999-2000		51,983,020.38	2,187,289.54	2,079,320.82	0.00	47,716,410.02
Jul-00	22-Sep-00	4,316,704.54	181,633.98	172,668.18		3,962,402.38
Aug-00	20-Oct-00	4,470,849.30	188,119.93	178,833.97		4,103,895.40
Sep-00	29-Nov-00	4,819,576.45	202,793.32	192,783.06		4,424,000.07
Oct-00	22-Dec-00	4,363,936.03	183,621.34	174,557.44		4,005,757.25
Nov-00	22-Jan-01	4,423,626.78	186,132.94	176,945.07		4,060,548.77
Dec-00	26-Feb-01	5,353,219.53	225,247.42	214,128.78		4,913,843.33
Jan-01	23-Mar-01	4,196,777.45	176,587.80	167,871.10		3,852,318.55
Feb-01	20-Apr-01	4,238,833.88	178,357.41	169,553.36		3,890,923.11
Mar-01	25-May-01	5,122,947.79	215,558.27	204,917.91		4,702,471.61
Apr-01	22-Jun-01	4,554,599.51	191,643.88	182,183.98	1,588,693.23	2,592,078.42
May-01	20-Jul-01	4,811,654.02	202,459.97	192,466.16	1,678,356.60	2,738,371.29
Jun-01	24-Aug-01	4,913,175.32	206,731.68	196,527.01	1,713,768.32	2,796,148.31
Fiscal Year 2000-2001		55,585,900.60	2,338,887.94	2,223,436.02	4,980,818.15	46,042,758.49



## Southern Nevada Water Authority

### Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-01	21-Sep-01	4,573,130.34	192,423.61	182,925.21	1,595,156.98	2,602,624.54
Aug-01	19-Oct-01	4,769,280.98	200,677.04	190,771.24	1,663,576.43	2,714,256.27
Sep-01	27-Nov-01	4,281,399.03	180,148.43	171,255.96	1,493,397.96	2,436,596.68
Oct-01	26-Dec-01	4,694,971.17	197,550.30	187,798.85	1,637,656.37	2,671,965.65
Nov-01	29-Jan-02	4,472,344.19	188,182.83	178,893.77	1,560,001.69	2,545,265.90
Dec-01	01-Mar-02	5,232,196.78	220,155.14	209,287.87	1,825,046.43	2,977,707.34
Jan-02	25-Mar-02	4,326,824.60	182,059.80	173,072.98	1,509,242.89	2,462,448.93
Feb-02	22-Apr-02	4,349,265.12	183,004.03	173,970.60	1,517,070.38	2,475,220.11
Mar-02	24-May-02	5,103,195.94	214,727.18	204,127.84	1,780,049.55	2,904,291.37
Apr-02	26-Jun-02	4,750,192.16	199,873.84	190,007.69	1,656,918.04	2,703,392.59
May-02	22-Jul-02	4,821,867.75	202,889.73	192,874.71	1,681,919.26	2,744,184.05
Jun-02	26-Aug-02	4,970,041.83	209,124.45	198,801.67	1,733,603.97	2,828,511.74
Fiscal Year 2001-2002		56,344,709.89	2,370,816.38	2,253,788.40	19,653,639.95	32,066,465.16
Jul-02	27-Sep-02	4,749,454.66	199,842.80	189,978.19	1,656,660.79	2,702,972.88
Aug-02	29-Oct-02	5,022,282.62	211,322.59	200,891.30	1,751,826.12	2,858,242.61
Sep-02	27-Nov-02	4,874,255.97	205,094.07	194,970.24	1,700,192.83	2,773,998.83
Oct-02	30-Dec-02	4,823,951.75	202,977.42	192,958.07	1,682,646.18	2,745,370.08
Nov-02	27-Jan-03	4,774,928.64	200,914.67	190,997.15	1,665,546.39	2,717,470.43
Dec-02	28-Feb-03	5,797,103.44	243,924.72	231,884.14	2,022,091.94	3,299,202.64
Jan-03	28-Mar-03	4,691,518.79	197,405.04	187,660.75	1,636,452.14	2,670,000.86
Feb-03	25-Apr-03	4,578,089.84	192,632.29	183,123.59	1,596,886.90	2,605,447.06
Mar-03	30-May-03	5,436,587.00	228,755.27	217,463.48	1,896,339.93	3,094,028.32
Apr-03	27-Jun-03	5,141,703.75	216,347.47	205,668.15	1,793,481.49	2,926,206.64
May-03	28-Jul-03	5,209,543.33	219,201.95	208,381.73	1,817,144.66	2,964,814.99
Jun-03	29-Aug-03	5,479,729.26	230,570.57	219,189.17	1,911,388.42	3,118,581.10
Fiscal Year 2002-2003		60,579,149.05	2,548,988.86	2,423,165.96	21,130,657.79	34,476,336.44
Jul-03	29-Sep-03	5,289,907.96	222,583.46	211,596.32	1,845,176.71	3,010,551.47
Aug-03	24-Oct-03	5,567,908.70	234,280.89	222,716.35	1,942,146.35	3,168,765.11
Sep-03	26-Nov-03	5,593,448.96	235,355.55	223,737.96	1,976,127.81	3,158,227.64
Oct-03	26-Dec-03	5,504,944.68	166,761.51	220,197.79	1,944,834.45	3,173,150.93
Nov-03	30-Jan-04	5,255,726.03	159,211.92	210,229.04	1,856,788.33	3,029,496.74
Dec-03	27-Feb-04	6,274,645.81	190,078.10	250,985.83	2,216,761.11	3,616,820.77
Jan-04	26-Mar-04	5,611,387.95	169,986.00	224,455.52	1,982,439.64	3,234,506.79
Feb-04	30-Apr-04	5,373,732.98	162,786.71	214,949.32	1,898,478.84	3,097,518.11
Mar-04	28-May-04	6,609,509.31	200,222.13	264,380.37	2,335,064.59	3,809,842.22
Apr-04	25-Jun-04	5,958,389.07	180,497.72	238,335.56	2,105,031.20	3,434,524.59
May-04	30-Jul-04	6,248,802.97	189,295.24	249,952.12	2,207,631.13	3,601,924.48
Jun-04	27-Aug-04	6,435,919.54	194,963.57	257,436.78	2,273,737.29	3,709,781.90
Fiscal Year 2003-2004		69,724,323.96	2,306,022.80	2,788,972.96	24,584,217.45	40,045,110.75

## Southern Nevada Water Authority

### Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-04	24-Sep-04	6,376,347.86	193,158.96	255,053.91	2,252,691.29	3,675,443.70
Aug-04	28-Oct-04	6,277,280.58	190,157.91	251,091.22	2,217,691.95	3,618,339.50
Sep-04	29-Nov-04	6,646,047.72	201,328.99	265,841.91	2,347,973.19	3,830,903.63
Oct-04	23-Dec-04	6,403,723.60	193,988.26	256,148.94	2,262,362.83	3,691,223.57
Nov-04	28-Jan-05	6,306,344.85	191,038.36	252,253.79	2,227,960.03	3,635,092.67
Dec-04	25-Feb-05	7,757,964.11	235,012.32	310,318.56	2,740,800.63	4,471,832.60
Jan-05	28-Mar-05	6,057,704.65	183,506.29	242,308.19	2,140,118.27	3,491,771.90
Feb-05	29-Apr-05	6,093,734.12	184,597.73	243,749.36	2,152,847.07	3,512,539.96
Mar-05	27-May-05	7,596,621.64	230,124.76	303,864.87	2,683,800.16	4,378,831.85
Apr-05	24-Jun-05	6,875,146.03	208,269.07	275,005.84	2,428,911.02	3,962,960.10
May-05	29-Jul-05	7,140,351.88	216,302.97	285,614.08	2,522,605.24	4,115,829.59
Jun-05	26-Aug-05	7,494,218.54	227,022.66	299,768.74	2,647,622.31	4,319,804.83
Fiscal Year 2004-2005		81,025,485.58	2,454,508.28	3,241,019.42	28,625,383.99	46,704,573.89
Jul-05	30-Sep-05	7,024,506.24	212,793.65	280,980.25	2,481,678.29	4,049,054.05
Aug-05	27-Oct-05	7,060,064.09	213,870.80	282,402.56	2,494,240.47	4,069,550.26
Sep-05	29-Nov-05	7,338,500.94	222,305.50	293,540.04	2,592,609.05	4,230,046.35
Oct-05	30-Dec-05	7,016,781.08	212,559.63	280,671.24	2,478,949.08	4,044,601.13
Nov-05	27-Jan-06	6,888,713.57	208,680.08	275,548.54	2,433,704.28	3,970,780.67
Dec-05	01-Mar-06	8,587,151.26	260,130.92	343,486.05	3,033,743.03	4,949,791.26
Jan-06	31-Mar-06	6,743,202.56	204,272.10	269,728.10	2,382,296.89	3,886,905.46
Feb-06	28-Apr-06	6,815,658.80	488,723.20	272,626.35	2,334,259.32	3,720,049.93
Mar-06	01-Jun-06	8,081,356.22	441,313.10	323,254.25	2,780,379.77	4,536,409.10
Apr-06	03-Jul-06	7,394,367.54	233,875.64	295,774.70	2,608,592.54	4,256,124.66
May-06	28-Jul-06	7,484,834.92	236,737.02	299,393.40	2,640,507.71	4,308,196.79
Jun-06	30-Aug-06	7,993,627.56	252,829.57	319,745.10	2,820,000.10	4,601,052.79
Fiscal Year 2005-2006		88,428,764.78	3,188,091.21	3,537,150.58	31,080,960.53	50,622,562.45
Jul-06	02-Oct-06	7,199,839.98	227,722.95	287,993.60	2,539,966.90	4,144,156.53
Aug-06	31-Oct-06	7,323,145.42	231,622.96	292,925.82	2,583,466.72	4,215,129.92
Sep-06	29-Nov-06	7,582,818.24	239,836.12	303,312.73	2,675,074.37	4,364,595.02
Oct-06	29-Dec-06	7,100,582.95	224,583.56	284,023.32	2,504,950.91	4,087,025.16
Nov-06	27-Jan-07	7,046,861.20	222,884.40	281,874.45	2,485,998.89	4,056,103.46
Dec-06	28-Feb-07	8,573,456.58	271,168.92	342,938.26	3,024,552.77	4,934,796.63
Jan-07	30-Mar-07	6,910,452.75	218,569.95	276,418.11	2,437,876.58	3,977,588.11
Feb-07	27-Apr-07	6,986,205.37	220,965.92	279,448.21	2,464,600.67	4,021,190.57
Mar-07	31-May-07	8,161,104.50	258,126.68	326,444.18	2,879,082.78	4,697,450.86
Apr-07	29-Jun-07	7,153,764.65	226,265.63	286,150.59	2,523,712.40	4,117,636.03
May-07	30-Jul-07	7,417,298.89	201,355.32	296,691.96	2,629,315.61	4,289,936.00
Jun-07	31-Aug-07	7,918,593.34	210,795.25	316,743.73	2,808,600.66	4,582,453.70
Fiscal Year 2006-2007		89,374,123.87	2,753,897.66	3,574,964.96	31,557,199.26	51,488,061.99

## Southern Nevada Water Authority

### Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-07	28-Sep-07	7,035,190.85	187,278.82	281,407.63	2,495,271.67	4,071,232.73
Aug-07	31-Oct-07	7,030,119.84	187,143.84	281,204.79	2,493,473.06	4,068,298.15
Sep-07	30-Nov-07	7,371,727.70	196,237.53	294,869.11	2,614,636.00	4,265,985.06
Oct-07	31-Dec-07	7,203,146.50	191,749.85	288,125.86	2,554,842.90	4,168,427.89
Nov-07	30-Jan-08	7,001,344.07	186,377.81	280,053.76	2,483,266.75	4,051,645.75
Dec-07	29-Feb-08	8,565,787.90	241,383.90	342,631.52	3,033,073.54	4,948,698.94
Jan-08	28-Mar-08	6,498,944.03	205,937.90	259,957.76	2,292,558.38	3,740,489.99
Feb-08	30-Apr-08	6,544,565.49	184,425.86	261,782.62	2,317,375.67	3,780,981.34
Mar-08	30-May-08	7,683,502.55	216,521.10	307,340.10	2,720,663.71	4,438,977.64
Apr-08	27-Jun-08	6,927,959.59	195,229.90	277,118.38	2,453,132.30	4,002,479.00
May-08	31-Jul-08	7,171,986.97	202,106.59	286,879.48	2,539,540.34	4,143,460.55
Jun-08	29-Aug-08	7,242,215.02	204,085.62	289,688.60	2,564,407.51	4,184,033.29
Fiscal Year 2007-2008		86,276,490.51	2,398,478.72	3,451,059.61	30,562,241.83	49,864,710.33
Jul-08	29-Sep-08	6,712,162.02	189,148.73	268,486.48	2,376,720.20	3,877,806.61
Aug-08	30-Oct-08	7,180,617.73	205,186.15	287,224.71	2,541,518.62	4,146,688.25
Sep-08	25-Nov-08	6,622,651.28	189,242.26	264,906.05	2,344,031.14	3,824,471.83
Oct-08	28-Dec-08	6,608,538.41	188,838.99	264,341.54	2,339,036.01	3,816,321.87
Nov-08	30-Jan-09	6,058,232.95	173,114.01	242,329.32	2,144,260.07	3,498,529.55
Dec-08	27-Feb-09	6,913,933.90	197,565.66	276,557.36	2,447,128.15	3,992,682.73
Jan-09	30-Mar-09	5,440,196.44	155,453.61	217,607.87	1,925,511.30	3,141,623.66
Feb-09	30-Apr-09	5,320,985.61	152,047.17	212,839.42	1,883,317.64	3,072,781.38
Mar-09	29-May-09	6,589,177.07	188,285.73	263,567.08	2,332,183.23	3,805,141.03
Apr-09	26-Jun-09	5,838,657.59	166,839.64	233,546.30	2,066,543.24	3,371,728.41
May-09	30-Jul-09	5,790,454.59	165,462.25	231,618.18	2,049,482.19	3,343,891.97
Jun-09	28-Aug-09	5,958,459.00	170,262.97	238,338.36	2,108,945.92	3,440,911.75
Fiscal Year 2008-2009		75,034,066.59	2,141,447.17	3,001,362.67	26,558,677.71	43,332,579.04
Jul-09	29-Sep-09	5,411,300.79	167,577.16	216,452.03	1,910,363.22	3,116,908.38
Aug-09	29-Oct-09	5,435,528.13	168,327.44	217,421.13	1,918,916.24	3,130,863.32
Sep-09	30-Nov-09	5,630,829.06	174,375.51	225,233.16	1,987,863.75	3,243,356.64
Oct-09	30-Dec-09	5,467,931.03	169,330.89	218,717.24	1,930,355.50	3,149,527.40
Nov-09	29-Jan-10	5,421,077.48	167,879.93	216,843.10	1,913,814.69	3,122,539.76
Dec-09	26-Feb-10	6,590,956.06	204,108.73	263,638.24	2,326,819.45	3,796,389.64
Jan-10	31-Mar-10	5,108,795.78	158,209.19	204,351.83	1,803,569.21	2,942,665.55
Feb-10	30-Apr-10	5,108,584.48	158,202.64	204,343.38	1,803,494.61	2,942,543.84
Mar-10	28-May-10	6,069,443.99	187,958.54	242,777.76	2,142,708.92	3,495,998.77
Apr-10	30-Jun-10	5,998,217.64	185,752.80	239,928.71	2,117,563.73	3,454,972.40
May-10	2-Aug-10	5,735,351.33	177,612.36	229,414.05	2,024,763.47	3,303,561.45
Jun-10	31-Aug-10	5,928,143.48	183,582.75	237,125.74	2,092,825.30	3,414,609.69
Fiscal Year 2009-2010		67,906,159.25	2,102,917.94	2,716,246.37	23,973,058.09	39,113,936.84

## Southern Nevada Water Authority

### Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-10	30-Sep-10	5,654,889.57	188,890.90	226,195.58	1,991,125.17	3,248,677.92
Aug-10	28-Oct-10	5,803,041.71	193,839.66	232,121.67	2,043,290.54	3,333,789.84
Sep-10	30-Nov-10	5,711,559.73	190,783.86	228,462.39	2,011,079.12	3,281,234.36
Oct-10	30-Dec-10	5,601,460.83	187,106.22	224,058.43	1,972,312.55	3,217,983.63
Nov-10	31-Jan-11	5,584,548.13	186,541.28	223,381.93	1,966,357.46	3,208,267.46
Dec-10	28-Feb-11	6,606,718.98	220,684.96	264,268.76	2,326,270.80	3,795,494.46
Jan-11	31-Mar-11	5,405,921.13	180,574.58	216,236.85	1,903,461.68	3,105,648.02
Feb-11	29-Apr-11	5,353,999.20	178,840.22	214,159.97	1,885,179.63	3,075,819.38
Mar-11	31-May-11	6,697,135.98	223,705.17	267,885.44	2,358,107.24	3,847,438.13
Apr-11	30-Jun-11	6,063,185.70	202,529.26	242,527.43	2,134,889.02	3,483,239.99
May-11	1-Aug-11	6,036,785.75	201,647.42	241,471.43	2,125,593.42	3,468,073.48
Jun-11	31-Aug-11	6,397,099.10	213,683.00	255,883.96	2,252,462.21	3,675,069.93
Fiscal Year 2010-2011		70,916,345.81	2,368,826.53	2,836,653.84	24,970,128.84	40,740,736.60
Jul-11	3-Oct-11	5,879,272.39	196,385.98	235,170.90	2,134,327.71	3,313,387.80
Aug-11	31-Oct-11	5,859,385.06	195,721.68	234,375.40	1,998,933.61	3,430,354.37
Sep-11	29-Nov-11	6,305,007.32	210,606.85	252,200.29	2,220,036.07	3,622,164.11
Oct-11	29-Dec-11	6,129,515.21	204,744.87	245,180.61	2,158,244.10	3,521,345.63
Nov-11	31-Jan-12	6,055,230.26	202,263.52	242,209.21	2,132,087.86	3,478,669.67
Dec-11	29-Feb-12	7,144,138.09	238,636.43	285,765.52	2,515,499.74	4,104,236.40
Jan-12	30-Mar-12	5,658,195.97	189,001.34	226,327.84	1,992,289.38	3,250,577.41
Feb-12	30-Apr-12	5,922,925.06	197,844.12	236,917.00	2,085,502.30	3,402,661.64
Mar-12	31-May-12	6,790,047.64	226,808.71	271,601.91	2,390,822.07	3,900,814.95
Apr-12	29-Jun-12	6,212,889.36	207,529.83	248,515.57	2,187,600.70	3,569,243.26
May-12	30-Jul-12	6,522,231.72	217,862.82	260,889.27	2,296,522.26	3,746,957.37
Jun-12	31-Aug-12	6,742,691.04	225,226.85	269,707.64	2,374,147.49	3,873,609.06
Fiscal Year 2011-2012		75,221,529.12	2,512,633.00	3,008,861.16	26,486,013.29	43,214,021.67
Jul-12	28-Sep-12	6,167,978.96	206,029.68	246,719.16	2,171,787.45	3,543,442.67
Aug-12	31-Oct-12	6,347,611.21	212,029.96	253,904.45	2,235,037.19	3,646,639.61
Sep-12	30-Nov-12	6,574,756.29	219,617.31	262,990.25	2,315,016.52	3,777,132.21
Oct-12	31-Dec-12	6,472,578.79	216,204.25	258,903.15	2,279,039.12	3,718,432.27
Nov-12	31-Jan-13	6,355,186.60	212,283.00	254,207.46	2,237,704.53	3,650,991.61
Dec-12	1-Mar-13	7,550,851.36	252,221.92	302,034.05	2,658,706.25	4,337,889.14
Jan-13	29-Mar-13	6,218,961.23	207,732.65	248,758.45	2,189,738.65	3,572,731.48
Feb-13	30-Apr-13	6,019,983.45	201,086.17	240,799.34	2,119,677.22	3,458,420.72
Mar-13	31-May-13	7,289,671.83	243,497.71	291,586.87	2,566,743.15	4,187,844.10
Apr-13	28-Jun-13	6,577,240.44	219,700.29	263,089.62	2,315,891.20	3,778,559.33
May-13	31-Jul-13	6,958,034.21	232,419.98	278,321.37	2,449,971.79	3,997,321.07
Jun-13	30-Aug-13	6,959,568.24	232,471.22	278,382.73	2,450,511.43	3,998,202.86
Fiscal Year 2012-2013		79,492,422.61	2,655,294.14	3,179,696.90	27,989,824.50	45,667,607.07

## Southern Nevada Water Authority

### Sale Tax Received and Distributed (continued)

Collection Month	Received Date	Receipts	Distributions			
		Gross Amount	Clark Co. Rural Areas	LV Wash	Wastewater Agencies	Other SNWA Capital
Jul-13	30-Sep-13	6,482,577.99	216,538.27	259,303.12	2,282,559.91	3,724,176.69
Aug-13	31-Oct-13	6,620,713.50	221,152.42	264,828.54	2,331,198.36	3,803,534.18
Sep-13	27-Nov-13	7,386,822.58	246,742.85	295,472.90	2,600,950.60	4,243,656.23
Oct-13	30-Dec-13	6,795,438.52	226,988.78	271,817.54	2,392,720.24	3,903,911.96
Nov-13	31-Jan-14	6,824,226.89	227,950.40	272,969.08	2,402,856.82	3,920,450.59
Dec-13	28-Feb-14	7,869,507.13	262,866.01	314,780.29	2,770,907.12	4,520,953.71
Jan-14	31-Mar-14	6,437,276.64	215,025.06	257,491.07	2,266,609.00	3,698,151.51
Feb-14	30-Apr-14	6,539,508.61	218,439.93	261,580.34	2,302,605.57	3,756,882.77
Mar-14	30-May-14	8,009,795.77	267,552.09	320,391.83	2,820,303.70	4,601,548.15
Apr-14	30-Jun-14	7,023,201.48	234,596.77	280,928.06	2,472,917.13	4,034,759.52
May-14	31-Jul-14	7,704,199.42	257,344.22	308,167.98	2,712,701.14	4,425,986.08
Jun-14	29-Aug-14	7,432,478.28	248,267.89	297,299.13	2,617,026.28	4,269,884.98
Fiscal Year 2013-2014		85,125,746.81	2,843,464.69	3,405,029.88	29,973,355.87	48,903,896.37
Jul-14	30-Sep-14	7,125,007.53	237,997.41	285,000.30	2,508,763.73	4,093,246.09
Aug-14	30-Oct-14	7,372,268.69	246,256.70	294,890.75	2,595,826.07	4,235,295.17
Sep-14	26-Nov-14	7,516,961.70	251,089.90	300,678.47	2,646,773.47	4,318,419.87
Oct-14	31-Dec-14	7,346,330.19	245,390.28	293,853.21	2,586,692.95	4,220,393.76
Nov-14	30-Jan-15	7,220,316.79	241,181.04	288,812.67	2,542,322.77	4,148,000.31
Dec-14	27-Feb-15	8,658,395.67	289,217.34	346,335.83	3,048,680.15	4,974,162.35
Jan-15	31-Mar-15	6,942,624.17	231,905.24	277,704.97	2,444,545.31	3,988,468.66
Feb-15	30-Apr-15	7,068,251.36	236,101.58	282,730.05	2,488,779.50	4,060,640.23
Mar-15	29-May-15	8,338,854.93	278,543.69	333,554.20	2,936,167.68	4,790,589.37
Apr-15	30-Jun-15	7,577,749.19	253,120.39	303,109.97	2,668,177.16	4,353,341.68
May-15	31-Jul-15	7,953,792.07	265,681.39	318,151.68	2,800,584.42	4,569,374.58
Jun-15	31-Aug-15	7,903,401.71	263,998.20	316,136.07	2,782,841.63	4,540,425.82
Fiscal Year 2014-2015		91,023,954.00	3,040,483.16	3,640,958.17	32,050,154.84	52,292,357.89
Jul-15	30-Sep-15	7,615,943.95	254,396.21	304,637.76	2,681,625.79	4,375,284.19
Aug-15	29-Oct-15	7,370,221.62	246,188.32	294,808.86	2,595,105.28	4,234,119.15
Sep-15	30-Nov-15	7,791,472.25	260,259.40	311,658.89	2,743,430.50	4,476,123.45
Oct-15	31-Dec-15	7,719,745.98	257,863.52	308,789.84	2,718,175.19	4,434,917.42
Nov-15	30-Jan-16	7,640,067.07	255,202.00	305,602.68	2,690,119.71	4,389,142.68
Dec-15	27-Feb-16	9,090,136.17	303,638.82	363,605.45	3,200,698.92	5,222,192.98
Fiscal Year 2015-2016 through December		47,227,587.04	1,577,548.27	1,889,103.48	16,629,155.39	27,131,779.87
Total through December 2015		1,243,815,730.94	42,317,492.27	49,752,629.24	400,805,487.48	750,940,121.94
Estimate of remainder for fiscal year 2015-2016						
Jan-16	Estimate	7,600,000.00	253,863.63	304,000.00	2,676,011.81	4,366,124.54
Feb-16	Estimate	7,600,000.00	253,863.63	304,000.00	2,676,011.81	4,366,124.54
Mar-16	Estimate	7,600,000.00	253,863.63	304,000.00	2,676,011.81	4,366,124.54
Apr-16	Estimate	7,600,000.00	253,863.63	304,000.00	2,676,011.81	4,366,124.54
May-16	Estimate	7,600,000.00	253,863.63	304,000.00	2,676,011.81	4,366,124.54
Jun-16	Estimate	7,600,000.00	253,863.63	304,000.00	2,676,011.81	4,366,124.54
Total estimate for fiscal year 2015-2016		45,600,000.00	1,523,181.78	1,824,000.00	16,056,070.86	26,196,747.24

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## **Appendix H**

# **Sales Tax Revenue Projection**

**CLARK COUNTY WATER AND WASTEWATER INFRASTRUCTURE (QUARTER CENT) SALES TAX**  
**Sales Tax Received and Distributed**

Original Data in Calendar Year				Data Converted to Fiscal Year													
	Calendar Year	Clark Co. Population <sup>(1)</sup>		Clark Co. Population FY		Fiscal Year	Gross Sales Tax Receipts <sup>(3)</sup>			Clark Co		Wastewater	Other SNWA				
	Year	Count	% Change	Count	% Change	Year	Per Person	Receipts	% Change	Rural Areas	LV Wash	Agencies	Capital				
Actual Sales Tax Received	1999	1,321,319		1,321,319		1998-1999	\$	12,545,951		\$	527,896	\$	501,838	\$	-	\$	11,516,217
	2000	1,428,689	8.1%	1,375,004	8.1%	1999-2000		36.39	51,983,020		2,187,290	2,079,321	-			47,716,410	
	2001	1,498,278	4.9%	1,463,484	6.5%	2000-2001		37.10	55,585,901	6.9%	2,338,888	2,223,436	4,980,818			46,042,758	
	2002	1,578,332	5.3%	1,538,305	5.1%	2001-2002		35.70	56,344,710	1.4%	2,370,816	2,253,788	19,653,640			32,066,465	
	2003	1,641,529	4.0%	1,609,931	4.7%	2002-2003		36.90	60,579,149	7.5%	2,548,989	2,423,166	21,130,658			34,476,336	
	2004	1,747,025	6.4%	1,694,277	5.2%	2003-2004		39.91	69,724,324	15.1%	2,306,023	2,788,973	24,584,217			40,045,111	
	2005	1,815,700	3.9%	1,781,363	5.2%	2004-2005		44.62	81,025,486	16.2%	2,454,508	3,241,019	28,625,384			46,704,574	
	2006	1,912,654	5.3%	1,864,177	4.6%	2005-2006		46.23	88,428,765	9.1%	3,188,091	3,537,151	31,080,961			50,622,562	
	2007	1,996,542	4.4%	1,954,598	4.9%	2006-2007		44.76	89,374,124	1.1%	2,753,898	3,574,965	31,557,199			51,488,062	
	2008	1,986,145	-0.5%	1,991,344	1.9%	2007-2008		43.44	86,276,491	-3.5%	2,398,479	3,451,060	30,562,242			49,864,710	
	2009	2,006,347	1.0%	1,996,246	0.2%	2008-2009		37.40	75,034,067	-13.0%	2,141,447	3,001,363	26,558,678			43,332,579	
	2010	1,951,269	-2.7%	1,978,808	-0.9%	2009-2010		34.80	67,906,159	-9.5%	2,102,918	2,716,246	23,973,058			39,113,937	
	2011	1,966,630	0.8%	1,958,950	-1.0%	2010-2011		36.06	70,916,346	4.4%	2,368,827	2,836,654	24,970,129			40,740,737	
	2012	2,008,654	2.1%	1,987,642	1.5%	2011-2012		37.45	75,221,529	6.1%	2,512,633	3,008,861	26,486,013			43,214,022	
	2013	2,062,253	2.7%	2,035,454	2.4%	2012-2013		38.55	79,492,423	5.7%	2,655,294	3,179,697	27,989,825			45,667,607	
	2014	2,102,238	1.9%	2,082,246	2.3%	2013-2014		40.49	85,125,747	7.1%	2,843,465	3,405,030	29,973,356			48,903,896	
	2015	2,146,000	2.1%	2,124,119	2.0%	2014-2015		42.42	91,023,954	6.9%	3,040,483	3,640,958	32,050,155			52,292,358	
Projected Sales Tax <sup>(2)</sup>	2016	2,191,000	2.1%	2,168,500	2.1%	2015-2016		44.11	95,656,442	5.1%	3,195,223	3,826,258	33,681,285			54,953,676	
	2017	2,225,000	1.6%	2,208,000	1.8%	2016-2017		45.41	100,271,257	4.8%	3,349,372	4,010,851	35,306,193			57,604,841	
	2018	2,262,000	1.7%	2,243,500	1.6%	2017-2018		46.75	104,891,117	4.6%	3,503,690	4,195,645	36,932,877			60,258,905	
	2019	2,299,000	1.6%	2,280,500	1.6%	2018-2019		48.13	109,767,842	4.6%	3,666,588	4,390,714	38,650,005			63,060,535	
	2020	2,335,000	1.6%	2,317,000	1.6%	2019-2020		49.55	114,818,051	4.6%	3,835,281	4,592,722	40,428,218			65,961,830	
	2021	2,371,000	1.5%	2,353,000	1.6%	2020-2021		51.02	120,046,667	4.6%	4,009,933	4,801,867	42,269,249			68,965,618	
	2022	2,407,000	1.5%	2,389,000	1.5%	2021-2022		52.53	125,484,843	4.5%	4,191,585	5,019,394	44,184,068			72,089,796	
	2023	2,441,000	1.4%	2,424,000	1.5%	2022-2023		54.08	131,088,301	4.5%	4,378,758	5,243,532	46,157,084			75,308,927	
	2024	2,475,000	1.4%	2,458,000	1.4%	2023-2024		55.68	136,859,737	4.4%	4,571,542	5,474,389	48,189,246			78,624,560	
	2025	2,507,000	1.3%	2,491,000	1.3%	2024-2025			64,527,599		2,155,423	2,581,104	22,720,607			37,070,465	
							\$ 2,300,000,000			\$ 77,597,339 \$ 92,000,001		\$ 772,695,164		\$ 1,357,707,495			

Totals may be off slightly due to rounding

(1) Source for Clark County Population [http://www.clarkcountynv.gov/comprehensive-planning/demographics/Documents/2015\\_Population\\_Forecasts.pdf](http://www.clarkcountynv.gov/comprehensive-planning/demographics/Documents/2015_Population_Forecasts.pdf)

(2) The projected sales tax receipts are calculated using the most recent fiscal year's actual sales tax received and adding the Clark County's population growth percentage and adding a 3% for inflation.

(3) The 2011 Nevada State Legislature passed legislation (NRS 377B.1(2)) allowing the June 30, 2025 (or \$2.3 billion), sunset of sales tax collection to be lifted subject to Clark County approval. At this writing, Clark County has not approved the sunset lift. If the sunset is lifted, additional construction might be allowed to be funded with the revenue source.



# **Appendix I**

## **Interfund Loan Activity**

**Southern Nevada Water Authority**  
**INTERFUND LOAN ACTIVITY**  
**Historical Through June 30, 2015**  
**Projected From July 1, 2015 - June 2024**

HISTORICAL				SOURCES		
	Beginning		Total			
Fiscal Year	Balance	Borrowings	Payback	From Sales Tax <sup>1/</sup>	From Grants	Total
2005-2006	\$ -	\$ 1,771,721	\$ 3,246	\$ 3,207,620	\$ -	\$ 3,207,620
2006-2007	1,768,475	3,043,206	243,901	3,876,451	255,000	4,131,451
2007-2008	4,567,781	8,128,593	9,997,688	3,487,927	9,322,409	12,810,336
2008-2009	2,698,686	2,145,993	2,775,949	3,107,974	2,553,086	5,661,060
2009-2010	2,068,730	4,884,051	2,194,931	2,719,663	1,063,408	3,783,071
2010-2011	4,757,850	994,459	5,123,444	2,805,838	6,256,818	9,062,656
2011-2012	628,865	2,855,066	1,887,910	2,975,620	5,888,857	8,864,477
2012-2013	1,596,021	51,453	1,647,474	3,153,590	10,831,754	13,985,344
2013-2014	-	4,894,069	144,767	3,356,267	3,593,596	6,949,863
2014-2015	4,749,302	4,939,231	778,204	3,612,138	8,287,704	11,899,841
2015-2016	8,910,329					
		<u>\$ 33,707,841</u>	<u>\$ 24,797,512</u>	<u>\$ 32,303,088</u>	<u>\$ 48,052,632</u>	<u>\$ 80,355,719</u>

PROJECTED						
Fiscal Year	Beginning Balance Interfund Loan	Estimated Construction To be Financed	Construction To be Financed With Sales Tax <sup>2/3/</sup>	Construction To be Paid With Grants	Interest Expense	Sales Tax Receipts
2015-2016	\$ 8,910,329	\$ 1,264,720	\$ 1,264,720	\$ -	\$ 381,478	\$ 3,826,258
2016-2017	6,730,269	5,960,981	5,960,981	-	385,267	4,010,851
2017-2018	9,065,665	13,874,701	13,874,701	-	695,260	4,195,645
2018-2019	19,439,980	4,261,325	4,261,325	-	968,764	4,390,714
2019-2020	20,279,356	174,218	174,218	-	903,505	4,592,722
2020-2021	16,764,357	-	-	-	718,171	4,801,867
2021-2022	12,680,661	-	-	-	508,548	5,019,394
2022-2023	8,169,815	-	-	-	277,402	5,243,532
2023-2024	3,203,686	-	-	-	-	5,474,389
		<u>\$ 25,535,945</u>	<u>\$ 25,535,945</u>	<u>\$ -</u>	<u>\$ 4,838,396</u>	<u>\$ 41,555,372</u>

1/ Sales tax received during the corresponding fiscal year. Sales tax has also been used for pay-as-you-go construction costs.

2/ Estimated construction is based on cash flow projections in the Las Vegas Wash Capital Plan assuming remainder to be paid with additional future grant revenues.

3/ The 2011 Nevada State Legislature passed legislation (NRS 377B.1(2)) allowing the June 30, 2025 (or \$2.3 billion), sunset of sales tax collection to be lifted subject to Clark County approval. At this writing, Clark County has not approved the sunset lift. If the sunset is lifted, additional construction might be allowed to be funded with the revenue source.

## **Appendix J**

# **Completed Las Vegas Wash Weir Projects Summary**

## Completed Projects Summary

Facility ID	Facility	Year Completed	Cost (\$1,000)
810A	Fire Station Weir	2000	\$63
810C	Historic Lateral Weir (preliminary structure installed in year 2000)	2019	\$1,823
810D	Pabco Weir	2000	\$5,700
810H	Monson Weir	2002	\$152
810J	Visitor Center Weir	2002	\$172
810E	Bostick Weir	2003	\$5,020
810N	Rainbow Gardens Weir	2004	\$7,238
810R	Calico Ridge Weir (previously named Landfill Weir)	2005	\$1,868
810P	Powerline Weir	2007	\$5,883
810F	Upper Diversion Weir	2008	\$12,850
810Y	DU Wetlands No. 2 Weir	2009	\$3,470
810M	Lower Narrows Weir	2011	\$3,494
810L	Homestead Weir	2011	\$6,490
810V	DU Wetlands No. 1 Weir	2012	\$4,126
810X	Upper Narrows Weir	2013	\$6,683
810G	Duck Creek Confluence Weir	2013	\$6,683
810U	Silver Bowl Weir	2015	\$5,846
810Z	Archery Weir	2015	\$5,846
810K	Three Kids Weir (prelim. structure aka Temp. Demo. Weir installed yr. 1999)	2015	\$12,115
830C/840C	Bank Protection - Historic Lateral (5,000 lf)	2001	\$428
840J	Bank Protection South - Visitor Center (1,100 lf)	2001	\$88
840B	Bank Protection South - Demonstration (1,200 lf)	2001	\$177
840T	Bank Protection South - D-14 Extension (400 lf)	2001	\$44
830N/840N	Bank Protection - Three Kids Wash (Rainbow Gardens) (2,600 lf)	2002	\$92
830J	Bank Protection North - Visitor Center (400 lf)	2002	\$41
830H/840H	Bank Protection - Monson (400 lf)	2002	\$40
830T	Bank Protection North - D-14 Extension (300 lf)	2002	\$10
840Q	Bank Protection South - Wells (1,100 lf)	2003	\$95
830L	Bank Protection North - Homestead (1,600 lf)	2003	\$146
840V	Bank Protection South - DU Wetlands No. 1 (800 lf)	2003	\$62
830M	Bank Protection North - Lower Narrows (1,500 lf)	2003	\$129
840R	Bank Protection South - Calico Ridge (Landfill) (600 lf)	2003	\$50
840X	Bank Protection South - Upper Narrows (900 lf)	2003	\$78
830N/840N	Bank Protection - Rainbow Gardens (1,585 lf)	2005	\$74
830D	Bank Protection North - Pabco (640 lf)	2005	\$68
830E/840E	Bank Protection - Bostick (2,205 lf)	2005	\$127
830D/840D	Bank Protection - Pabco (1,725 lf)	2006	\$48
830W/840W	Bank Protection - Sunrise Mtn (1,765 lf)	2006	\$74
840S	Bank Protection South - Tropicana (575 lf)	2006	\$21
830C/840C	Bank Protection - Historic Lateral (3,075 lf)	2008	\$321
840D	Bank Protection South - Pabco (520 lf)	2008	\$40
840A	Bank Protection South - Fire Station (630 lf)	2010	\$469
840G	Bank Protection South - Duck Creek Confluence (700 lf)	2010	\$90
840D	Bank Protection South - Pabco (320 lf)	2011	\$122
830C	Bank Protection North - Historic Lateral (400 lf)	2011	\$152
830E	Bank Protection North - Bostick (155 lf)	2011	\$59
830D	Bank Protection North - Pabco (690 lf)	2012	\$65
880B	Revegetation South - Demonstration (4.23 ac)	2000	\$63
870C/880C	Revegetation - Historic Lateral (4.90 ac)	2001	\$74
880D/870D	Revegetation - Pabco (7.40 ac)	2001	\$111

### Completed Projects Summary

Facility ID	Facility	Year Completed	Cost (\$1,000)
870H/880H	Revegetation - Monson (2.78 ac)	2002	\$48
870J/880J	Revegetation - Visitor Center (1.84 ac)	2002	\$32
880E	Revegetation South - Bostick (6.55 ac)	2004	\$115
870R/880R	Revegetation - Calico Ridge (Landfill) (6.80 ac)	2005	\$117
870E	Revegetation North - Bostick (7.85 ac)	2005	\$47
870D	Revegetation North - Pabco (3.40 ac)	2005	\$2
880P	Revegetation South - Powerline (14.91 ac)	2007	\$245
880F	Revegetation South - Upper Diversion (17.58 Ac)	2009	\$145
870Y/880Y	Revegetation - DU Wetlands No. 2 (0.89 Ac)	2010	\$2
870M/880M	Revegetation - Lower Narrows & Homestead (22.64 Ac)	2011	\$3
870M/880M	Revegetation - Lower Narrows & Homestead (5.14 Ac)	2012	\$23
870G/880G	Revegetation - Duck Creek Confluence (23.4 Ac)	2013	\$223
860A	2000 Materials Transportation Program	2000	\$304
860B	2001 Materials Transportation Program	2001	\$753
860C	2002 Materials Transportation Program	2002	\$866
860D	2003 Materials Transportation Program	2003	\$489
860E	2004 Materials Transportation Program	2004	\$806
860F	2005 Materials Transportation Program	2005	\$216
860G	2006 Materials Transportation Program	2006	\$590
860H	2007 Materials Transportation Program	2007	\$513
860J	2008 Materials Transportation Program	2008	\$667
860K	2009 Materials Transportation Program	2009	\$209
860Q	2010 Materials Transportation Program	2010	\$329
890A	2011 Materials Transportation Program	2011	\$178
890A	2012 Materials Transportation Program	2012	\$194
860L	2001 Topographic Mapping	2001	\$80
860M	2005 Topographic Mapping	2005	\$80
860N	2008 Topographic Mapping	2008	\$63
860S	Sediment Study I	2003	\$177
860T	Sediment Study 11	2008	\$236
Total			\$106,732