Quarterly Update to BPU Waste Water Systems (WC & WT)

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BPU Meeting – April 17, 2019

WR WWTP

FY18 New Pumps - Trickling Filter Recirculation Pump Area

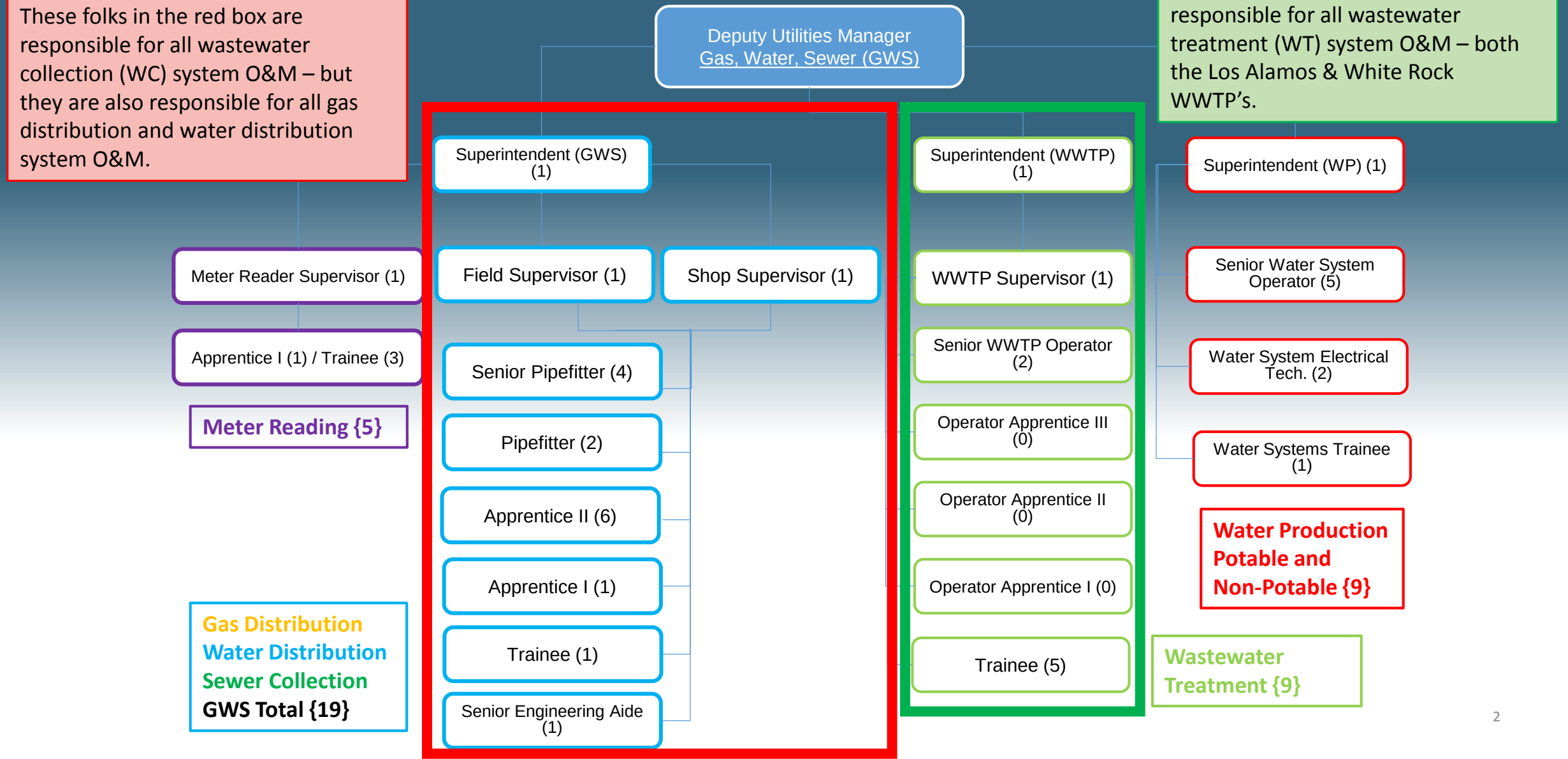
WR WWTP

Original Trickling Filter Recirculation Pump Area

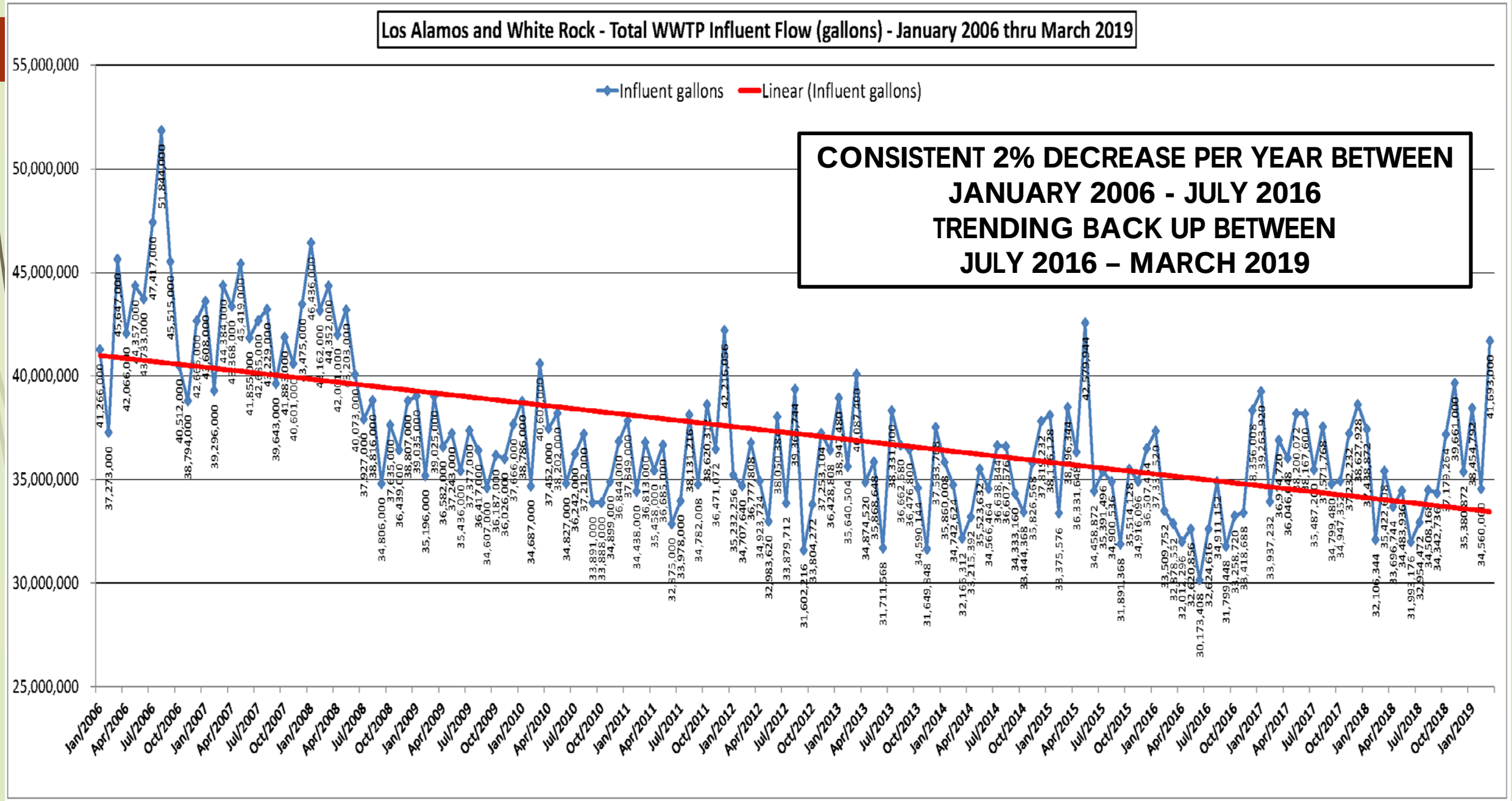
GWS ORGANIZATIONAL STRUCTURE

These folks in the red box are responsible for all wastewater collection (WC) system O&M – but they are also responsible for all gas distribution and water distribution system O&M.

These folks in the green box are responsible for all wastewater treatment (WT) system O&M – both the Los Alamos & White Rock WWTP's.



Total Wastewater System Flows or "Sales" (Gallons per Month)



Wastewater Collection System 2005 Condition Assessment Discussion Points

TOWNSITE & WHITE ROCK WASTEWATER COLLECTION SYSTEMS DISCUSSION POINTS

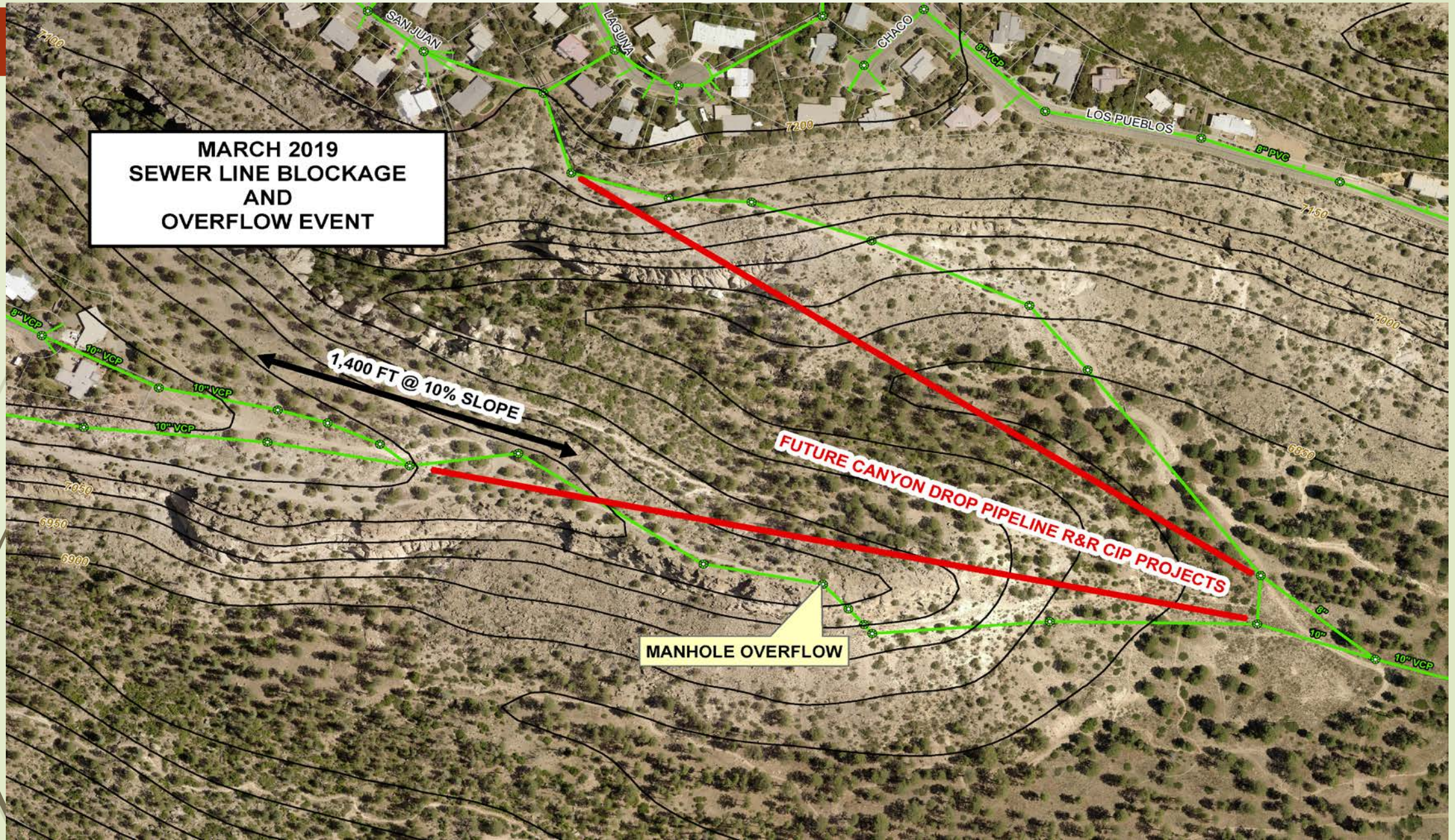
	Townsite			White Rock		
Pipeline Type	*Lineal Feet*	*Miles*	*% of Total*	*Lineal Feet*	*Miles*	*% of Total*
Gravity Main	423,850	80.27	94.42%	159,594	30.23	94.67%
Force Main	25,050	4.74	5.58%	8,985	1.70	5.33%
SubTotal	448,900	85.02	100.00%	168,579	31.93	100.00%
Pipeline Material						
Clay (VCP)	196,163	37.15	43.70%	152,435	28.87	90.42%
Poly Vinyl Chloride (PVC)	137,037	25.95	30.53%	5,717	1.08	3.39%
Concrete	15,498	2.94	3.45%	0	0.00	0.00%
PE Inserted (in other pipe type)	45,971	8.71	10.24%	1,689	0.32	1.00%
Transite (ACP)	154	0.03	0.03%	0	0.00	0.00%
Polyethylene (PE stand alone)	29,543	5.60	6.58%	0	0.00	0.00%
Steel / Cast Iron / Ductile Iron	21,049	3.99	4.69%	8,738	1.65	5.18%
Unknown	3,485	0.66	0.78%	0	0.00	0.00%
SubTotal	448,900	85.02	100.00%	168,579	31.93	100.00%
Pipeline Age						
Older than 1960 (58+ Years Old)	264,851	50.16	59.00%	0	0.00	0.00%
Between 1960 and 1979 (48+ Years Old)	49,379	9.35	11.00%	160,338	30.37	95.11%
Newer than 1979 (39- Years Old)	134,670	25.51	30.00%	8,241	1.56	4.89%
SubTotal	448,900	85.02	100.00%	168,579	31.93	100.00%

Canyon Drop Wastewater Collection Pipeline Overflow Event

Canyon Drop Wastewater Collection Pipeline Overflow Event

- 6 PERSON TEAM – LATE AFTERNOON INTO NIGHT TIME WORK
- SEWER FLUSHING EQUIPMENT TRAILER (TO BREAK UP BLOCKAGE) (7 TONS)
- TRAILER WATER TANK HOLDS 500 GALLONS OF WATER (2 TONS)
- DUALLY 1-TON PICKUP (TO HAUL TRAILER)
- VACTOR TRUCK (HAUL ADDITIONAL WATER SUPPLY FOR TRAILER EQUIPMENT)
- BACKHOE (TO HELP HAUL EQUIPMENT TRAILER OFF THE CANYON LEDGE)
- ACCESS ROAD ENTRY TO CANYON LEDGE
- WINTER ACCESSIBILITY ONLY BY PARKER CONSTRUCTION BULLDOZER HAULING EQUIPMENT

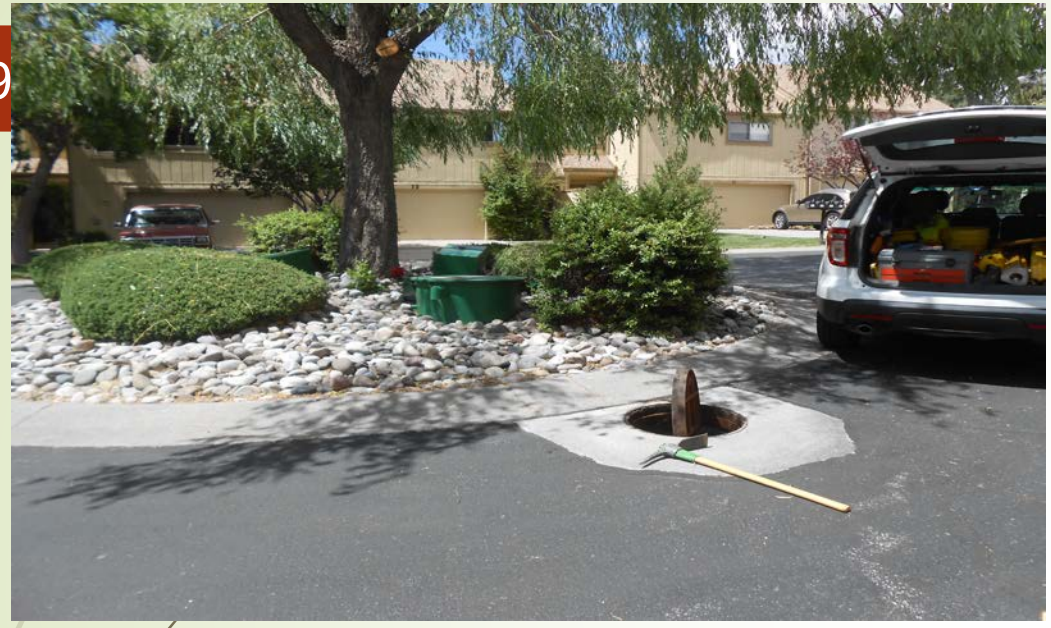
Canyon Drop Wastewater Collection Pipeline Overflow Event



Examples of Operation & Maintenance Program Efficiency

- **Eliminated One FTE in Overall Gas/Water/Sewer Crew Size (FY17)**
  - One regular employee FTE was not replaced after retirement in FY 2017
    - Reduced the number of FTE's in the entire GWS from 21 to 20 (which affects WC as well as DW & GA)
    - Loss of FTE is coincident with a realignment in DPU lessening emphasis on CIP full replacement projects and increasing emphasis on O&M type specific detailed R&R type projects
- **Enhanced Sewer Lift Station O&M in Wastewater Collection (FY18 thru FY20)**
  - Sewer Lift Station field inspection forms are being upgraded so that asset management condition assessment information will be collected annually and placed into a digital file related to the GIS
  - GWS staff have recommended multiple approaches to the renewed emphasis on O&M, in lieu of full CIP replacement. Suggestions that have been or will be implemented:
    - Inspection of pump vibration, power usage, electric control functions, etc. added to the routine inspection program.
    - Replace corroded fasteners with new SS fasteners. Add full coverage wet well & piping coating to routine R&R efforts. This effort should minimize the number of SLS's that require full replacement and minimize the SLS portion of the CIP plan.
    - Replace old control panels with new panels – utilizing existing structures, pumps, piping, valves, conduit, etc.
- **Incorporating GIS More as an O&M Tool in Addition to Being the Standard Mapping Tool (FY18 through FY20)**
  - Will provide for easier and quicker access to wastewater system documentation by adding field form data to the GIS data sets either by attaching scanned images of the field forms or inputting the field form data into a GIS data set
  - Will provide for easy access to records during preparation for AMT meetings and other information requests
  - Enhanced field forms for all infrastructure (not just SLS's) matched to upgraded GIS data sets are being developed, tested and implemented

Typical Sewer Lift Station Replacement Project – Before Photos



Typical Sewer Lift Station Replacement Project – After Photos

Wastewater System CIP Planning Considerations : 1 of 2

- **Renewed Emphasis on O&M Type R&R Rather Than Large Scale CIP Replacement Projects (WC & WT)**
- Critical Infrastructure receives a higher risk factor and a higher probability of large scale replacement
  - Risk Factors and Existing Condition Assessments are being developed with the enhanced GIS Condition Assessment System
  - Enhanced GIS Condition Assessment System will assist the DPU in developing and justifying future CIP plans and/or O&M R&R projects
  - Enhanced GIS Condition Assessment System will also assist the DPU in analyzing and reporting system values: Installed Cost; Present Worth (depreciated net book value); Full Replacement Cost. This will enable better coordination and tracking of system value with the Office of Management & Budget.
- Legacy small diameter sewer lines serving more than a single structure (FY19 – FY21)
  - These legacy small diameter wastewater collection pipelines, that serve more than a single structure, are in technical violation of the current DPU Rules & Regulations (Rule S-2)
  - These legacy small diameter wastewater collection pipelines, while not comprising a large number of WC collection pipelines, are responsible for a disproportionately large volume of sewer service backup emergency calls
  - **R&R of these legacy small diameter pipelines through an O&M program (not CIP) will ultimately improve the performance measures for O&M Expenditures per 100 Miles of Main Pipeline & Sewer Overflow Events per 100 Miles of Main Pipeline.**

Proposed Risk Assessment Matrix

RISK MATRIX			Hazard Effect / Consequence				
Risk Type			Insignificant	Minor	Moderate	Major	Catastrophic
			1	2	3	4	5
Harm To People (Safety - Health)			No injury or health risk	First aid case - exposure to minor health risk	Medical treatment case - exposure to major health risk	Serious injuries requiring medical treatment - reversible impact on health	Fatality or loss of quality of life - irriversible impact on health
Environmental Impact			No environmental harm	Minimal environmental harm - easily remediable	Material environmental harm - remediable short term	Serious environmental harm - remediable with major effort and expense	Major environmental harm - remediable for restoration not possible - only mitigation
Business Impact - Material or Financial Loss			No business disruption - no material or financial loss	Brief business disruption - minor material or financial loss	Partial shutdown - moderate material or financial loss	Partial loss of operation - major material or financial loss	Substantial or total loss of operation - significant material or financial loss
Legal & Regulatory			None to low level legal issue	Minor legal issue or breach of law - non-compliance	Serious breach of law - investigation & report to authorities - prosecution and/or moderate penalty possible	Major breach of law - considerable prosecution and penalties	Very considerable penalties and prosecutions - multiple law suits and jail terms possible
Impact on Reputation - Social - Community			Slight impact - public awareness may exist but no public concern	Limited impact - local public concern	Considerable impact - regional public concern	National impact - national public concern	International impact - international public concern
Likelihood		Examples / Events	Risk Factor				
Almost Certain	5	Frequent occurrence - one or more times per year - likely to reoccur within 1 year - almost certain - (1 in 10)	2	3	4	5	5
Likely	4	Infrequent occurrence - less than once per year - likely to reoccur within 5 years - likely - (1 in 100)	2	2	3	5	5
Possible	3	At least one occurrence has happened at some time - could reoccur within 10 years - possible - (1 in 1,000)	1	2	3	4	5
Unlikely	2	At least one occurrence has happened at some time - could happen within 20 years - unlikely - (1 in 10,000)	1	1	2	3	4
Rare	1	Occurrence has never been known to occur - highly unlikely it will occur within 20 years - rare - (1 in 100,000)	1	1	2	2	3

Risk Factor	Risk Level	Guidelines for Risk Matrix
5	Extreme	Eliminate, avoid, implement specific action plans & procedures to manage & monitor. Immediate action required.
4	High	Proactively manage. Prioritised action required.
3	Medium	Actively manage. Planned action required.
2	Low	Monitor and manage as appropriate. Actioned by routine procedures.
1	Virtually None	Routine monitoring. No action required.

Wastewater System CIP Planning Considerations : 2 of 2

- **Renewed Emphasis on Sustainable Cash Flows and Cash Balances Meeting Financial Policy Goals (WC & WT)**
- Financial Policy Goals have been established.
  - Financial Policy Goals will continue to help drive the rate setting discussions into the future.
  - The overarching goal is to reliably provide safe wastewater collection, treatment and disposal with excellent customer service. One of the main goals is also to establish and maintain adequate cash balance reserves in each of the Wastewater Fund sub-funds: Wastewater Collection & Wastewater Treatment independently respective to each sub-fund.
- **Enhanced Sewer Lift Station (SLS) O&M Program (WC)**
- Original CIP project was to replace virtually all sewer lift stations. Many stations exhibit advanced corrosion of fasteners, valves & piping – as well as antiquated motor controls.
  - Cost of CIP projects was reduced from an original estimate of full replacement of 15 SLS's to a current estimate to refurbish, through an R&R O&M project, 9 SLS's over 20 years. Saving at least 50% of the full replacement cost ($180,000 FY19 dollars) for each SLS refurbished instead of replaced.
  - Success of the proposed SLS O&M program may allow for additional savings on SLS replacements.
  - The new O&M routine program: developed in FY18; material acquisition and field initiation in FY19; completion in FY20.
- **Deferral of Two Major Sewer Lift Station Elimination Projects from the 10-Year CIP Plan to the 20-Year Plan (WC)**
- Original CIP plan, developed for the 10-year planning period, included the elimination of both major sewer lift stations planned to be replaced with gravity sewer pipelines. These stations are all have feasible gravity pipeline alternatives.
  - In order to lower the average annual projected CIP costs for the wastewater collection system, these projects have been deferred to beyond the existing 10-year planning period and have been incorporated into the 20-year planning period. The financial analyses used for this presentation include these projects within the 20-year planning period. Elimination of these SLS's should help the performance measure for Energy Cost per 100 Miles of Main Pipeline improve.

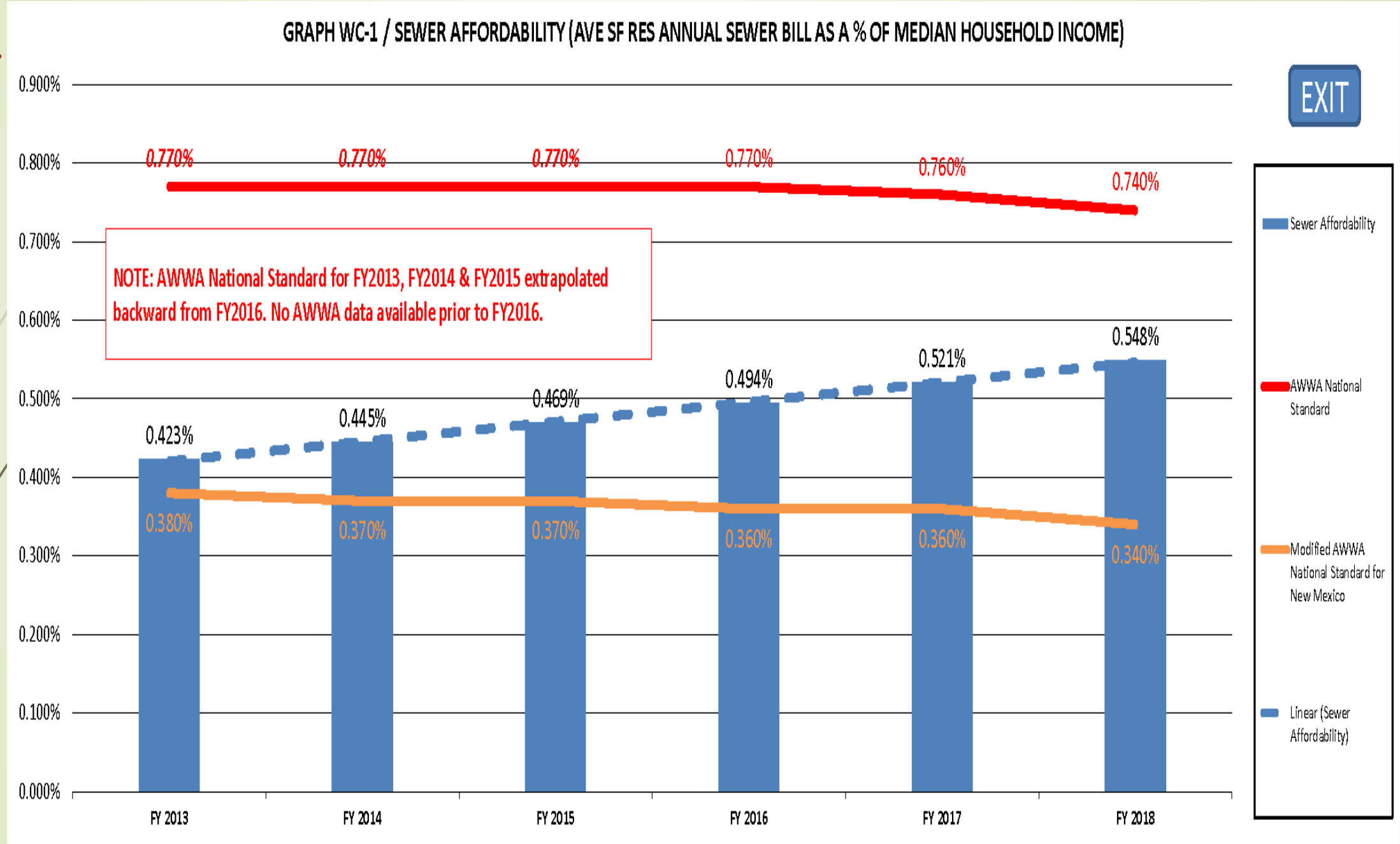
Measures/Targets/Benchmarks for Tracking Wastewater Collection System O&M

- **PRIMARY KEY ORGANIZATIONAL PERFORMANCE MEASURES (all)**
  - Sewer Service Affordability – Based on Ave Res Monthly Bill per Median Household Income (%)
  - O&M Expenditures per 100 Miles of Main Pipeline ($/100 miles)
  - Sewer Overflow Events per 100 Miles of Pipeline (#/100 miles)
- **SECONDARY KEY ORGANIZATIONAL PERFORMANCE MEASURES (all)**
  - Monthly Video Inspection Footage (feet/mon.)
  - Monthly Sewer Main Cleaning Footage (feet/mon.)
  - O%M Expenditures per All Accounts ($/all acc.) (Conveyance)
  - Total System Revenue per All Accounts ($/all acc.)
  - Energy Consumption – Conveyance per Million Gallons (kWhr/MG)
  - Planned Maintenance as a Percent of Total Maintenance (planned maint. hours/planned + corrective maint. hours) (%)
  - System Renewal and Replacement (CIP Expenditures for R&R/Total Present Worth of WC System) (%)
- **PERFORMANCE MEASURES WITH TARGETS OR BENCHMARKS**
  - Performance Measures with known national standards for system comparison are in GREEN (Typically AWWA standards)
  - Performance Measures with a DPU Strategic Plan or Conservation Plan Goal are in Magenta
  - Performance Measures with both a DPU Strategic Plan or Conservation Plan Goal and a national standard comparable goal are in Cyan
  - **Measures are collected and reviewed monthly via a 12 month moving average graph. Annual FY performance measures data is transferred from the annual data sets to a multi-year data set for year over year / multi-year comparison. Full implementation scheduled for late FY 2018**

WC – DASHBOARD ANALYSES – 1 of 3

- Abbreviated summary of dashboard data for Wastewater Collection.
  - WC-1: Primary/Long term trend upward – not optimum. Due to recent annual rate increases. Still good compared to national standard. Not a good trend compared to New Mexico standard (assumed 1.25% [here]vs 2.50% [budget] growth NM MHI).
  - WC-2: Primary/Not a good 6-year trend upward – needs to be researched. Difficult (but still valid) comparison to national standard – because DPU system is expensive due to terrain compared to other WC utilities across the country. Example: DPU has 28 sewer lift stations and pipelines in canyons and on canyon rims that are expensive to safely reach for maintenance.
  - WC-3: Primary/Excellent 6-year trend downward and toward national standard. Emphasis on annual video inspection and sewer cleaning of known trouble pipelines is paying dividends. Future increased O&M expenditures for small scale delivery pipeline R&R should continue this excellent trend.

Wastewater Collection – Primary Key Organizational Performance Measure



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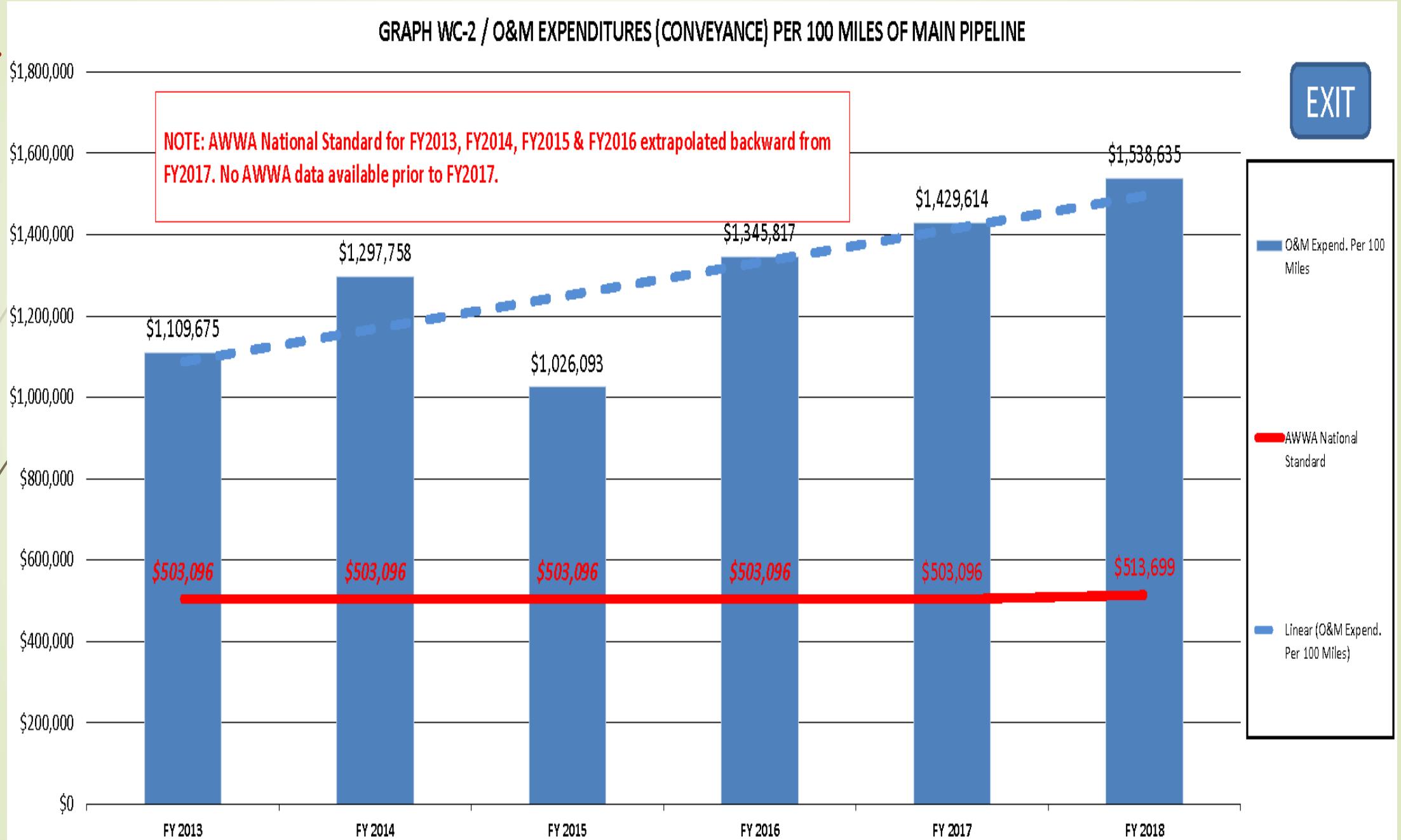

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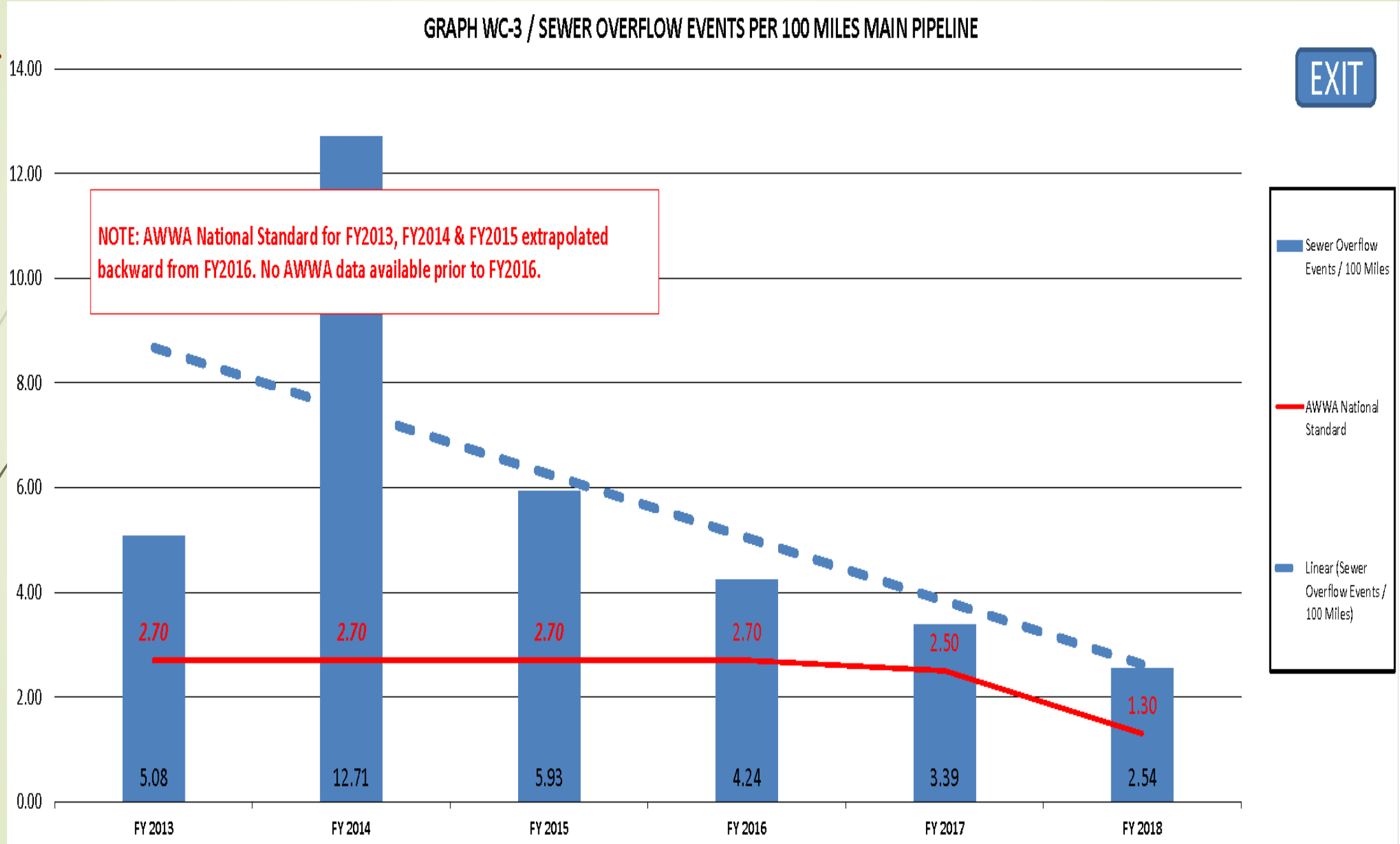
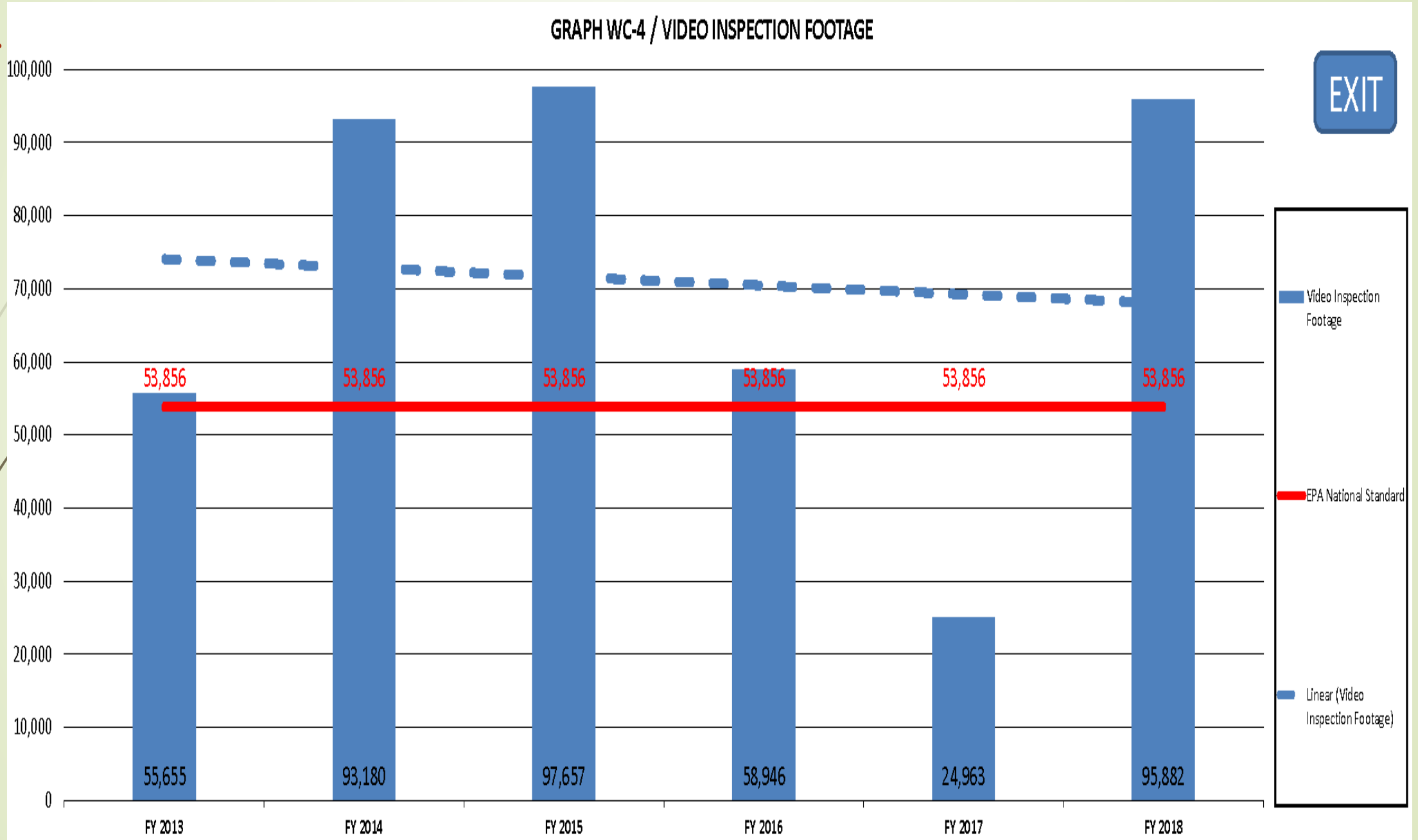


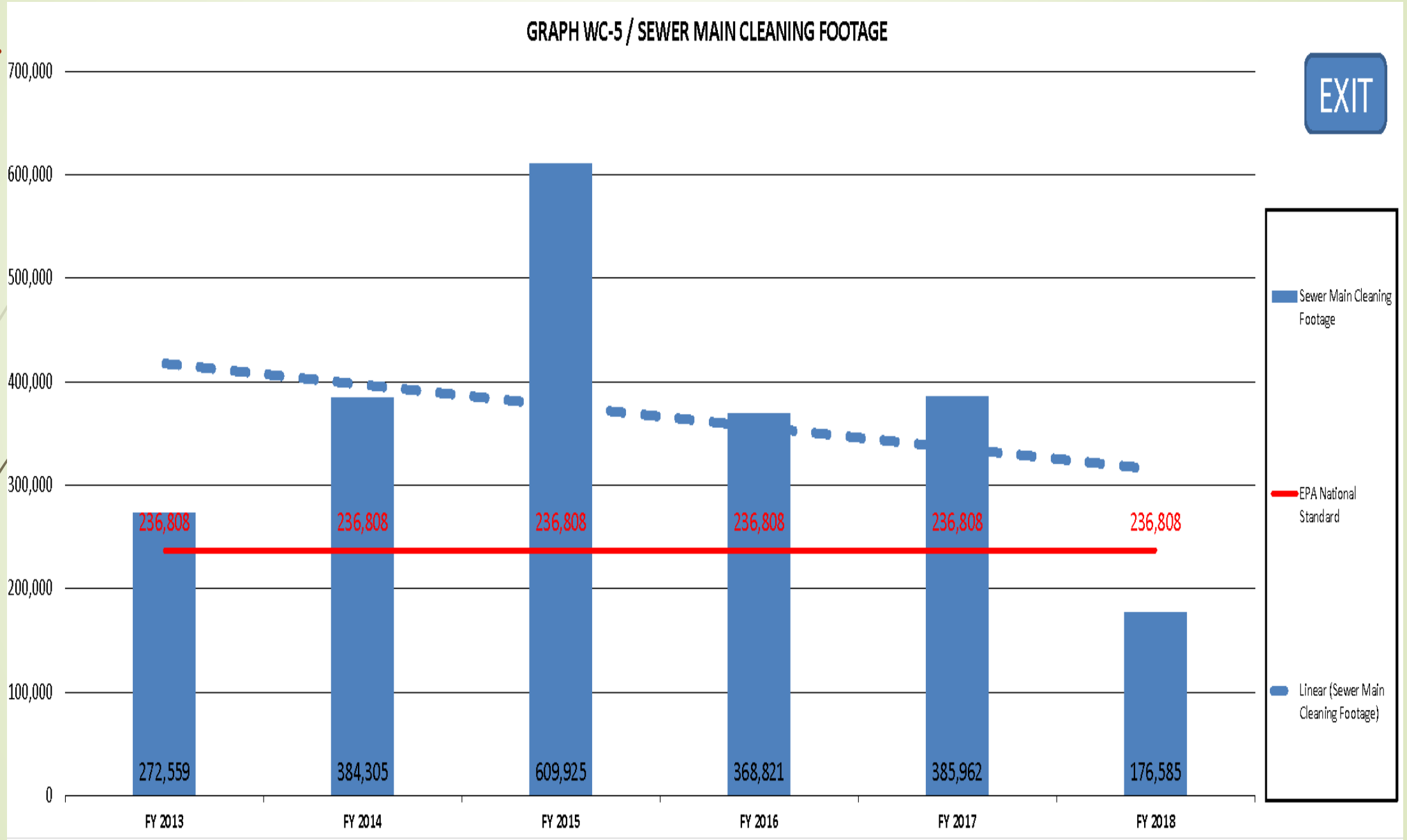
WC – DASHBOARD ANALYSES – 2 of 3

- Abbreviated summary of dashboard data for Wastewater Collection.
  - WC-4: Secondary/6-year trend downward is okay because it is heading toward matching our national standard. FY17 value was excessively low due to equipment failure/replacement down time.
  - WC-5: Secondary/6-year trend downward is okay because it is heading toward matching our national standard.
  - WC-6: Secondary/Even though DPU is averaging above the national standard the difference is not great. 20-year CIP projects should enable this performance measure to continue to trend toward the national standard.
  - WC-7: Secondary/Upward trend is not good. One reason is improved electric metering & reading. 20-year CIP projects to eliminate major lift stations with gravity flow will help reverse this trend.

Wastewater Collection – Secondary Key Organizational Performance Measure



Wastewater Collection – Secondary Key Organizational Performance Measure



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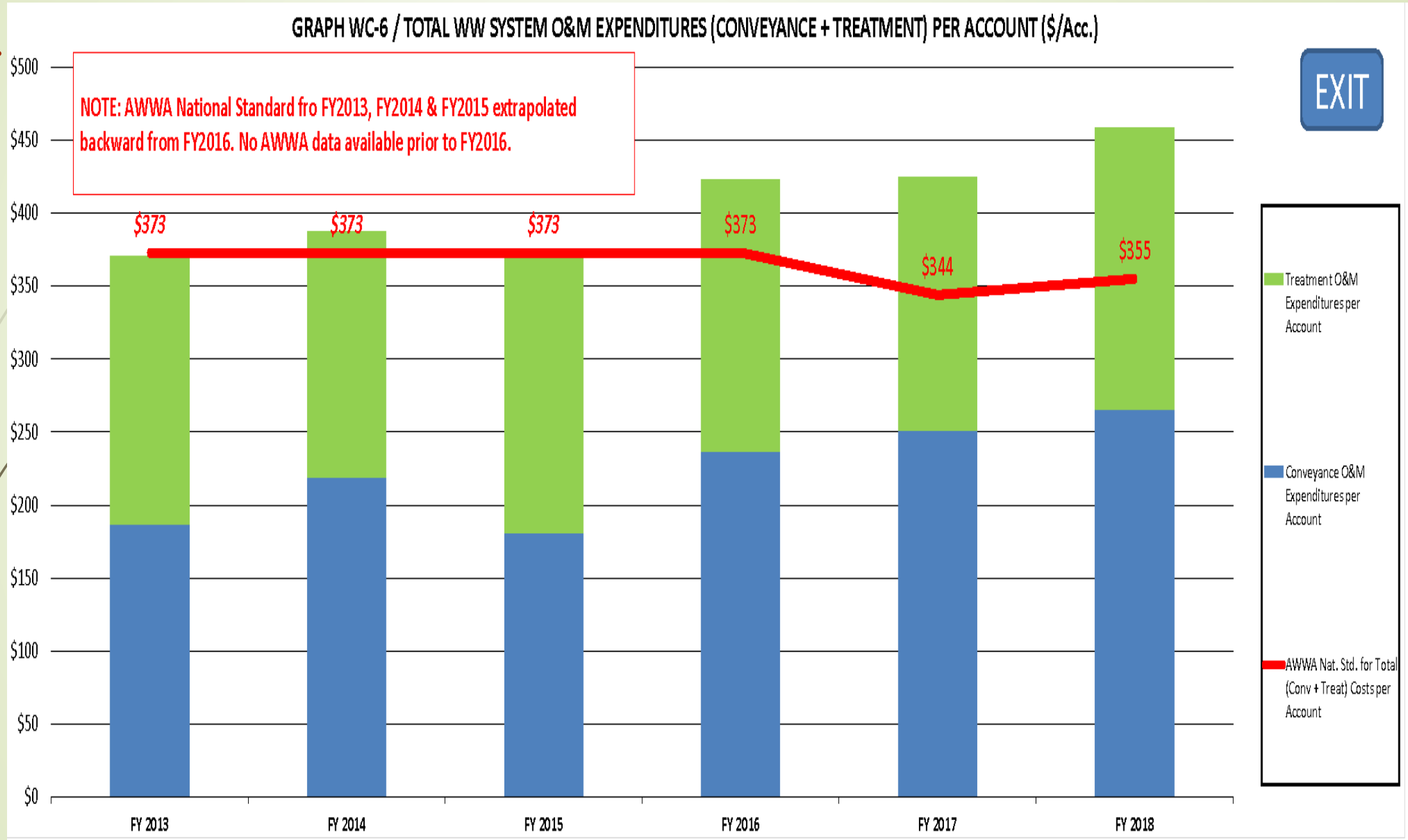

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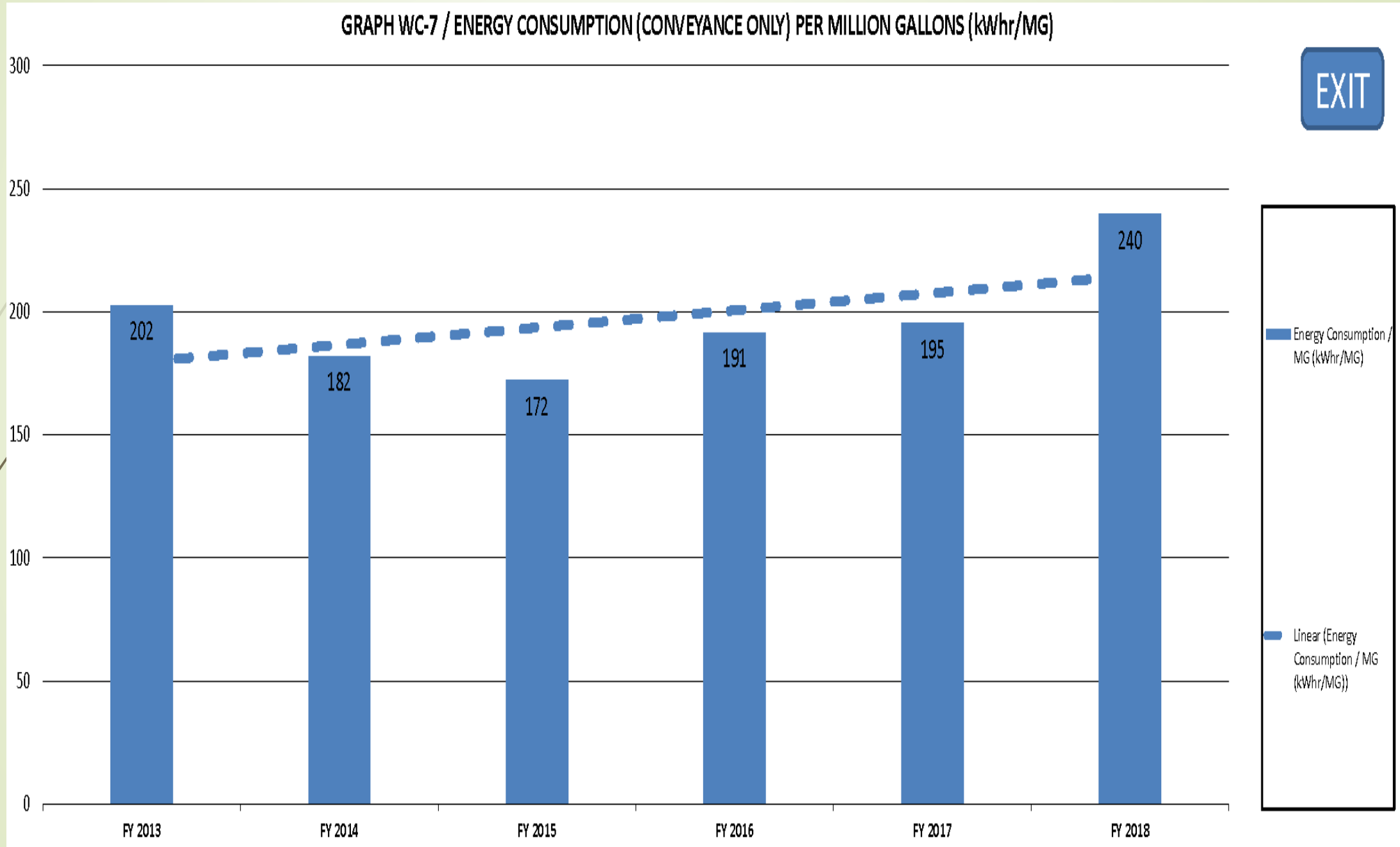
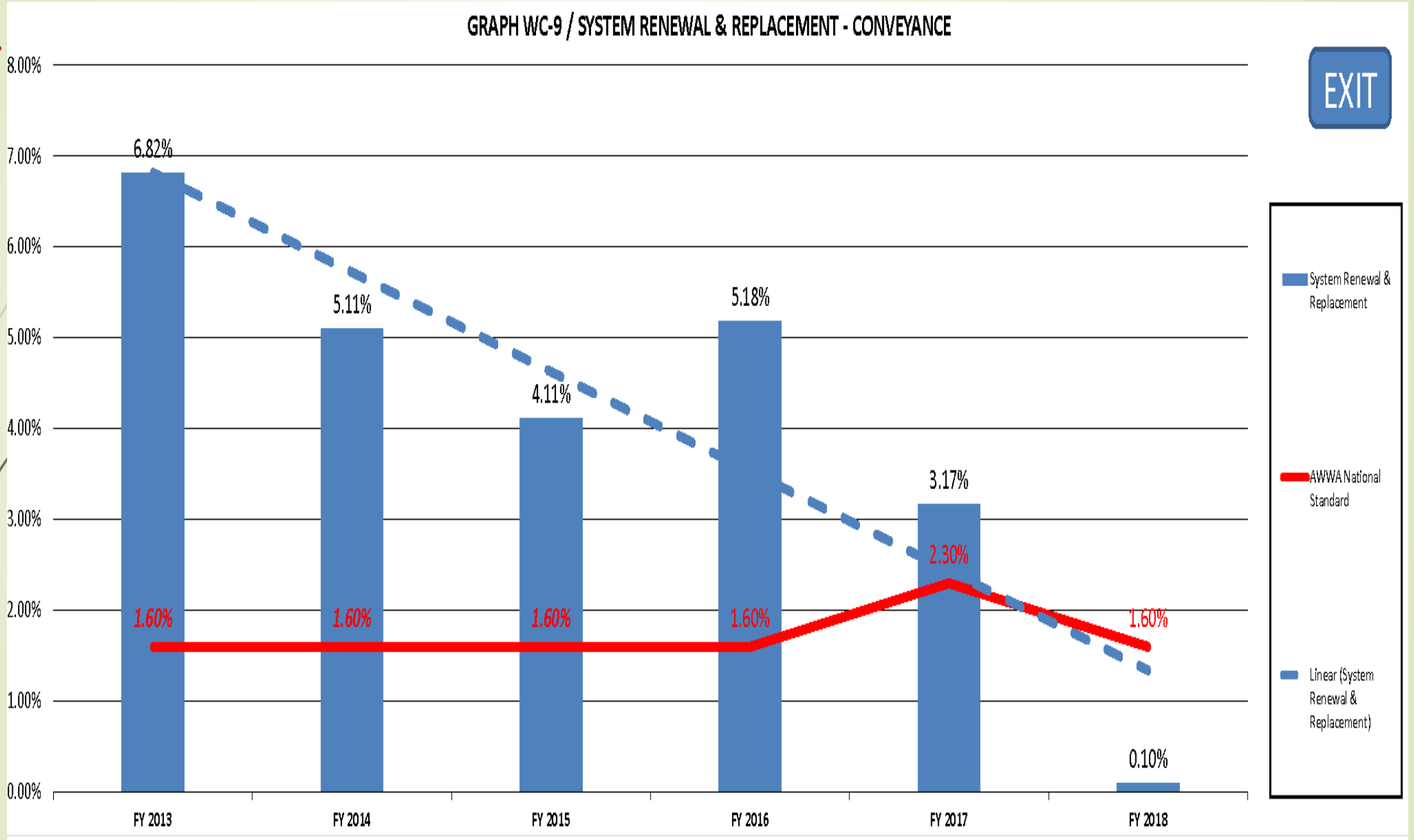


WC – DASHBOARD ANALYSES – 3 of 3

- Abbreviated summary of dashboard data for Wastewater Collection.
  - WC-9: Secondary/6-year trend is drastically downward because, due to budget constraints, WC CIP projects have been decreasing in annual value – especially the FY18 value when we deferred all WC CIP projects. This trend will continue downward because we deferred all major WC CIP projects again for FY20 through FY22 due to the expenditure hit to the wastewater fund budget of the White Rock WWTP replacement project. The 20-year plan proposes that after the White Rock WWTP project is over and the WC CIP projects are again planned on an annual basis (starting FY23) the long term goal of WC R&R expenditures versus the national standard should effectively trend with the national standard at a slightly higher value than the selected median value national standard over the next 20 years – until the wastewater collection system is considered to meet acceptable modern standards. (see slide following Graph WC-9)

Wastewater Collection – Secondary Key Organizational Performance Measure



AWWA / Wastewater System R & R

System Renewal & Replacement AWWA National Standard Percentages							
	System Repair & Replacement				Annual Repair & Replacement National		
Asset Class	Bottom Quartile	Median	Top Quartile	Present Worth Value of the GWS Group System	Bottom Quartile	Median	Top Quartile
Water Supply	0.8%	1.5%	3.7%				
Water Treatment Facilities	0.7%	1.9%	5.0%				
Water Pump Station	0.6%	2.6%	5.5%				
Water Transmission and Distribution	1.0%	2.4%	4.5%				
Wastewater Collection	1.3%	2.5%	5.2%				
Wastewater Pump Stations	0.7%	2.1%	5.9%				
Wastewater Treatment	1.1%	2.2%	4.4%	**FUTURE CIP COSTS FOR WC & WT**			
Water Production	0.775%	2.1%	4.675%	$39,939,696	$309,533	$838,734	$1,867,181
Water Distribution	1.0%	2.4%	4.5%	$17,117,013	$171,170	$410,808	$770,266
				$559,000 - Proposed Annual CIP for WC			
Wastewater Collection	1.0%	2.3%	5.55%	$19,989,785	$199,898	$459,765	$1,109,433
	$66,450 (w/out) & $1,293,700 (with wwtp projects) - Propoased Annual CIP for WT						
Wastewater Treatment	1.10%	2.20%	4.40%	$13,326,524	$146,592	$293,184	$586,367

Measures/Targets/Benchmarks for Tracking Wastewater Treatment System O&M

- ❖ **PRIMARY KEY ORGANIZATIONAL PERFORMANCE MEASURES (all)**
- ► **Permit Events in Compliance as a Percent of All Permit Events (%) (Combined LA & WR WWTP's)**
- ► **O&M Expenditures per Million Gallons ($/MG)**
- ► **Energy Consumption per Million Gallons Treated (kWhr/MG) (Combined LA & WR WWTP's)**
- ► **Million Gallons of Sewage Conveyed & Treated (MG)**
- ❖ **SECONDARY KEY ORGANIZATIONAL PERFORMANCE MEASURES (all)**
- ► **Permit Events in Compliance as a Percent of All Permit Events (%) (Separate LA & WR WWTP's)**
- ► **Energy Consumption per Million Gallons Treated (kWhr/MG) (Separate LA & WR WWTP's)**
- ► **Planned Maintenance as a Percent of Total Maintenance (Planned Maint. Hours/Planned + Corrective Maint. Hours) (%)**
- ► **System Renewal and Replacement (CIP Expenditures for R&R/Total Present Worth of Gas System) (%)**
- ❖ **PERFORMANCE MEASURES WITH TARGETS OR BENCHMARKS**
- ► **Performance Measures with known national standards for system comparison are in GREEN (Typically AWWA standards)**
- ► **Performance Measures with a DPU Strategic Plan or Conservation Plan Goal are in Magenta**
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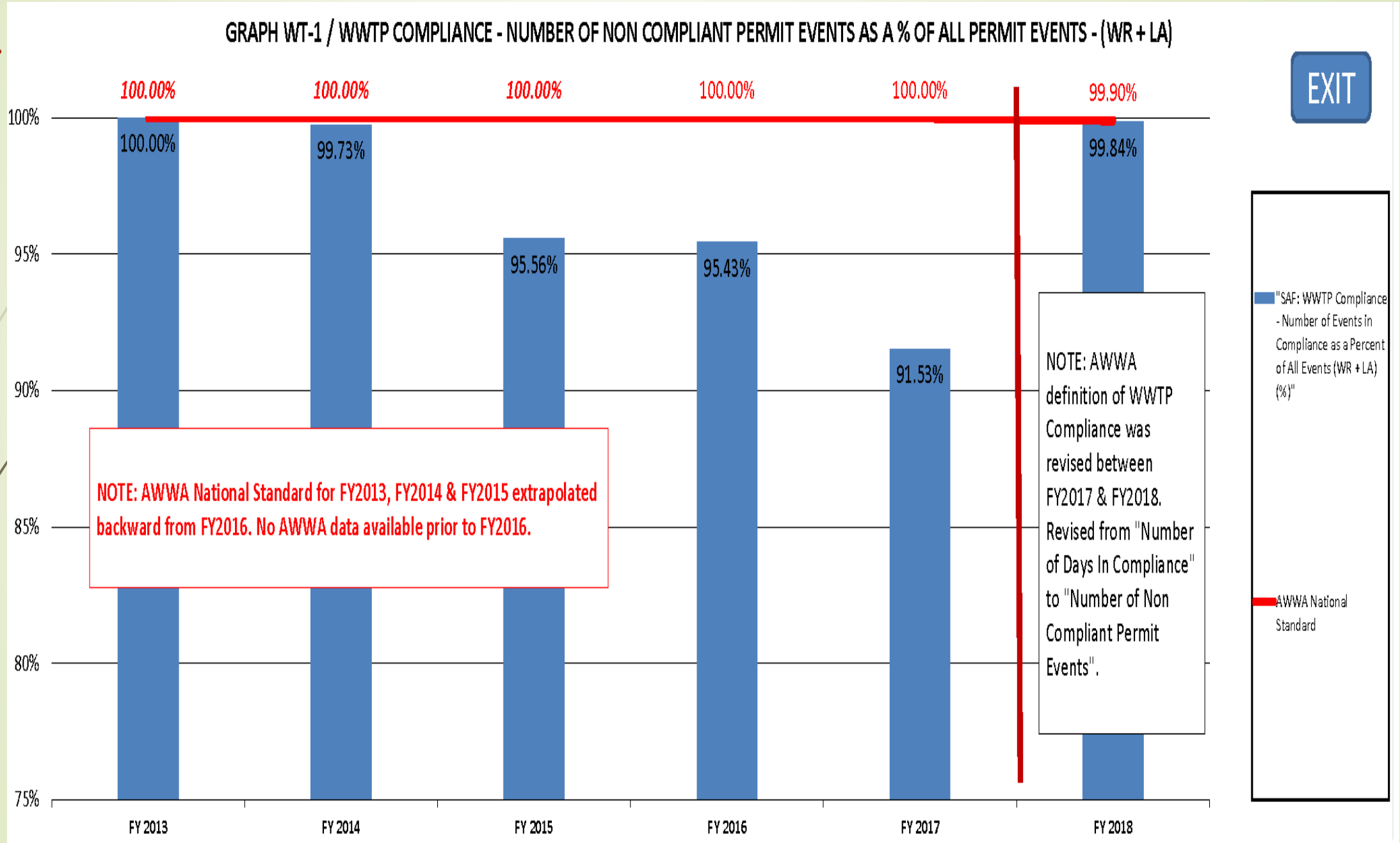
WT – DASHBOARD ANALYSES – 1 of 2

- Abbreviated summary of dashboard data for Wastewater Treatment.
  - WT-1: Primary/6-year trend upward is not good but due to increased permit non-compliance events at the White Rock WWTP. Refer to WT-5 to compare individual LA & WR WWTP's. AWWA revised the national standard definition between FY17 & FY18.
  - WT-2: Primary/Consistently level 6-year trend is good. Difficult comparison to the national standard because DPU has two WWTP's serving a small population (small flow) relative to other utilities across the country – but still a valid performance measure to track. AWWA revised the national standard definition between FY16 & FY17.
  - WT-3: Primary/Considering that DPU has two WWTP's serving a relatively small population (small flow) this comparison to the national standard is considered very good. The consistently level trend may trend upward soon because the new WR WWTP will have an increased consumption of energy – but this may be offset with improved efficiencies at the LA WWTP after the second new blower is installed in FY20.
  - WT-4: Primary/The comparison of actual flow data to the budget estimates indicates that the revision of the budgeted estimated flow volumes between FY16 & FY17 now more accurately reflect the actual expected values.

Wastewater Treatment – Primary Key Organizational Performance Measure



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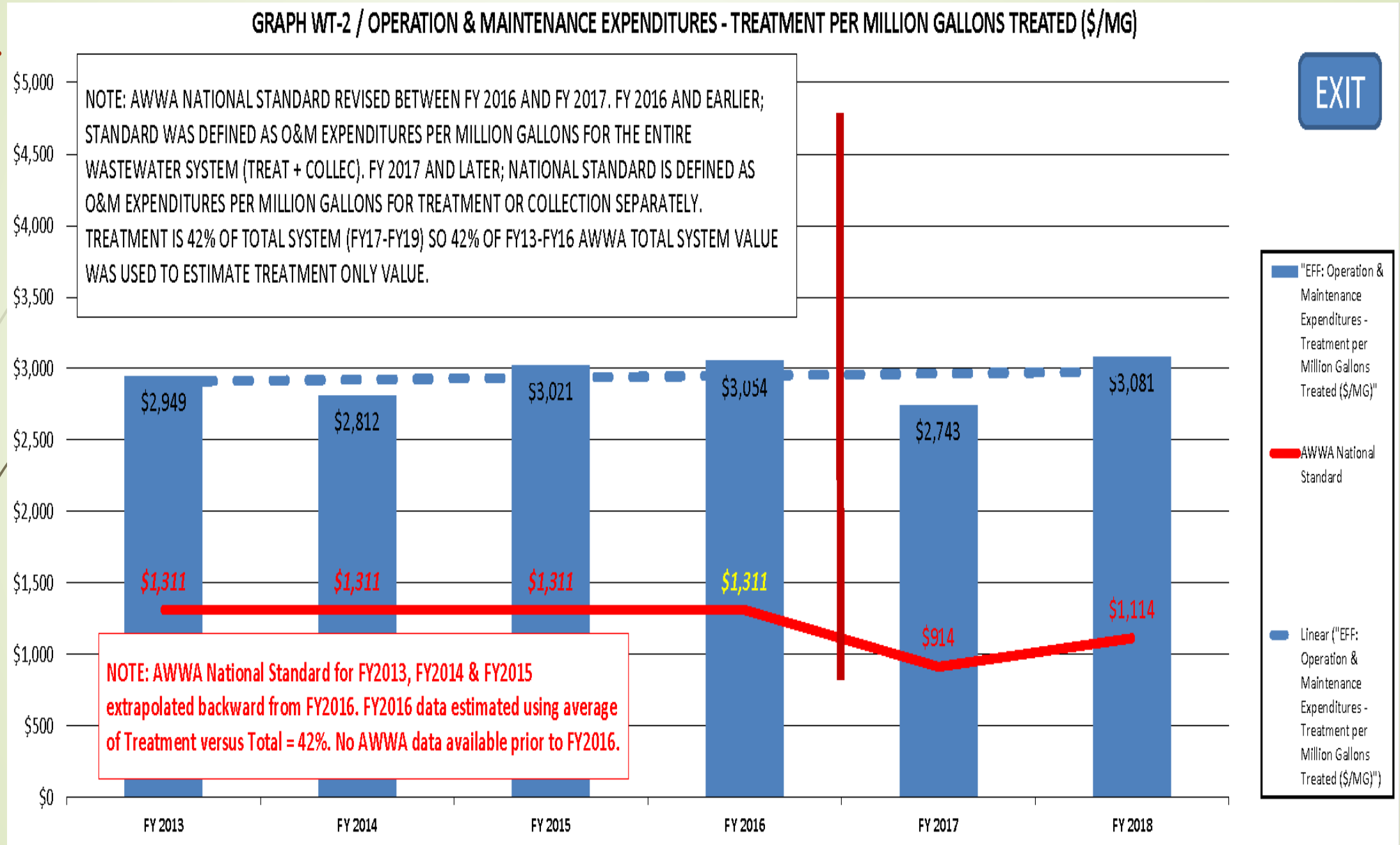

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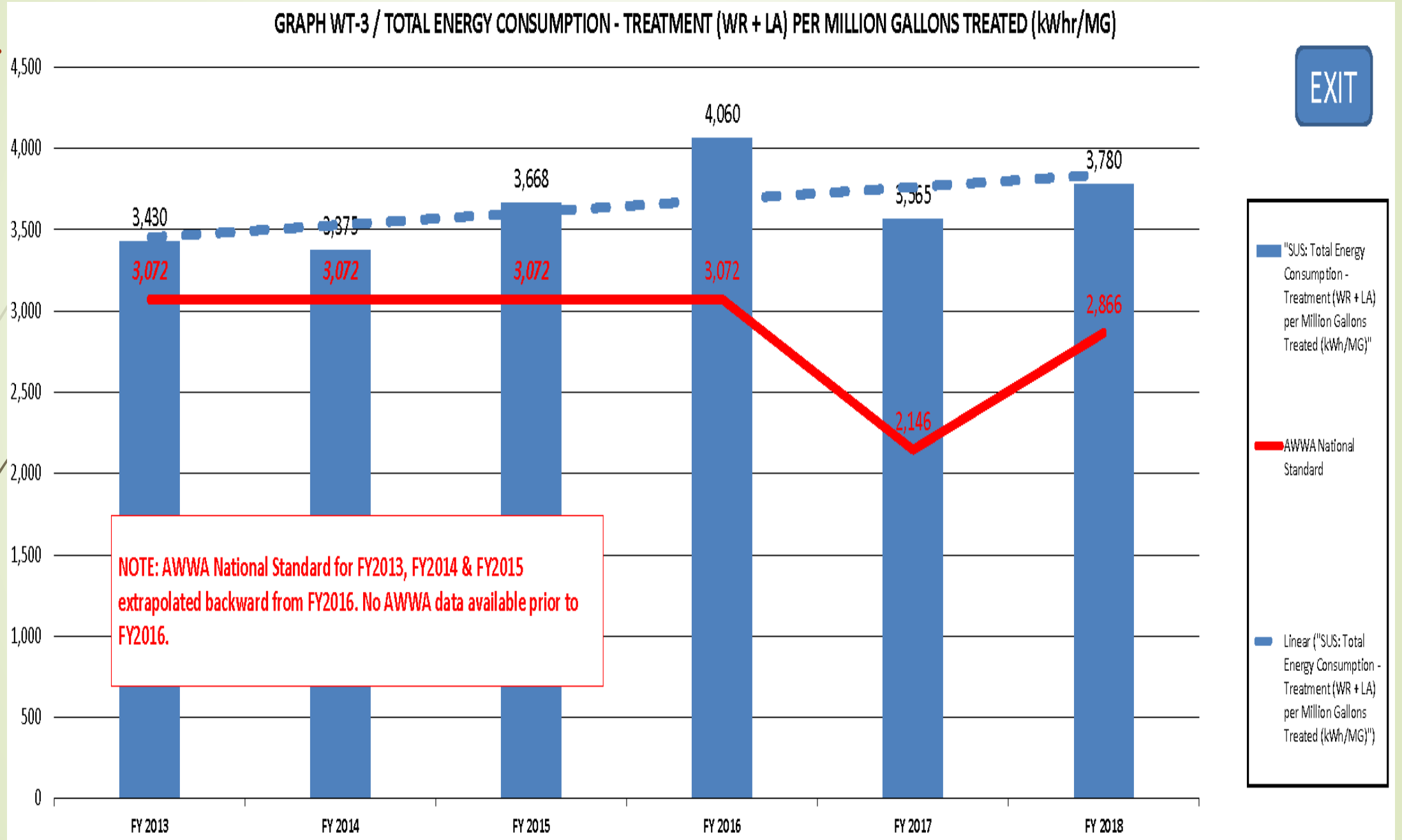
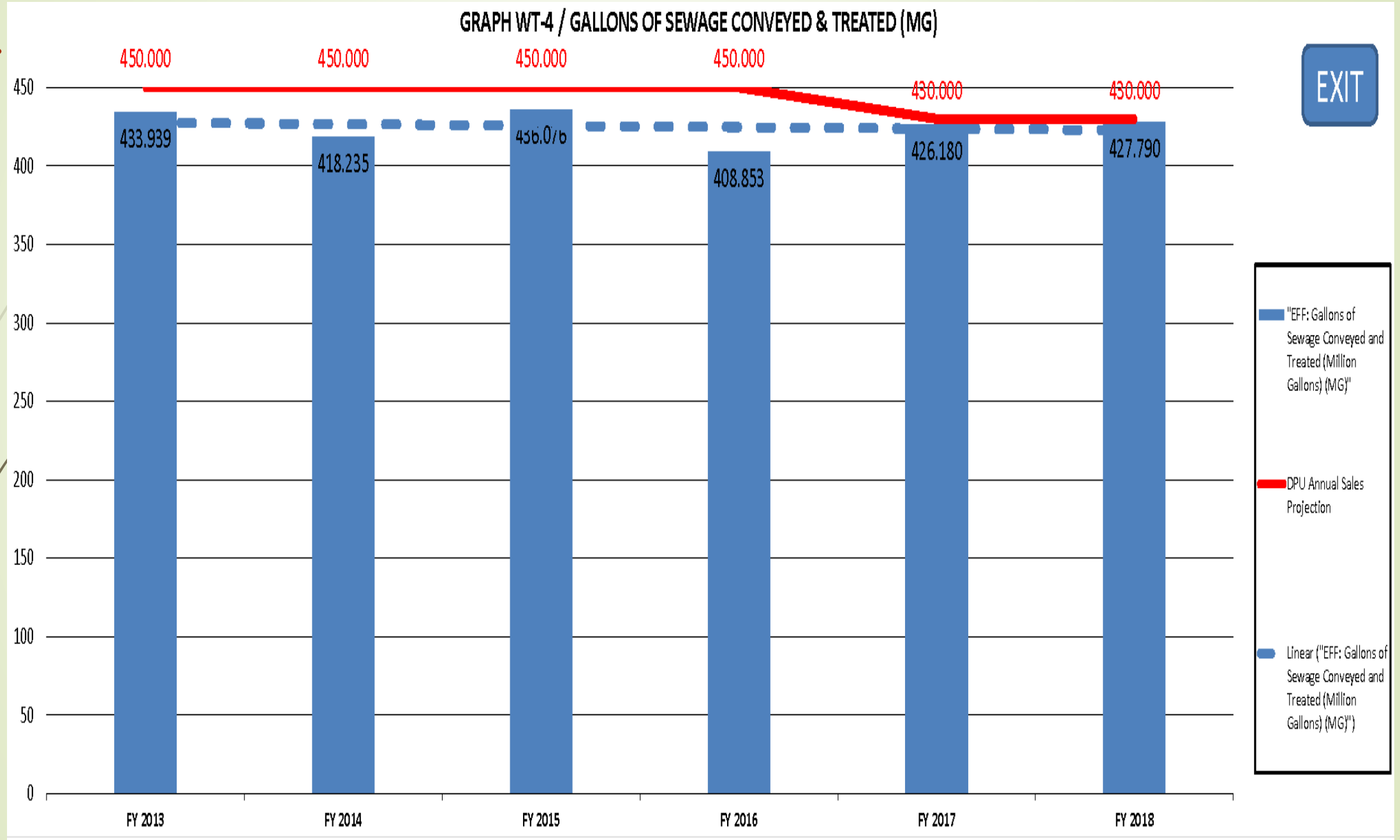


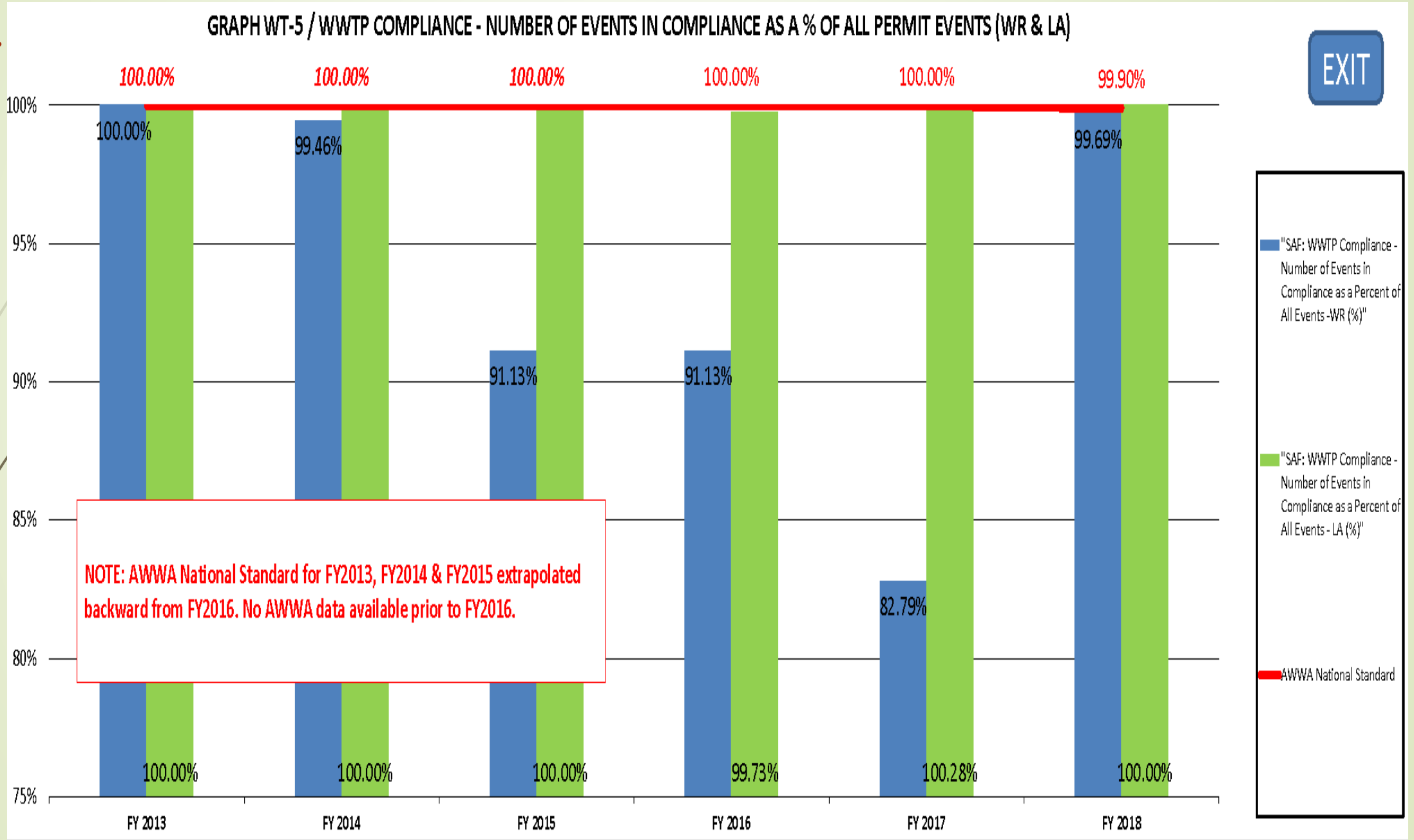
Wastewater Treatment – Primary Key Organizational Performance Measure



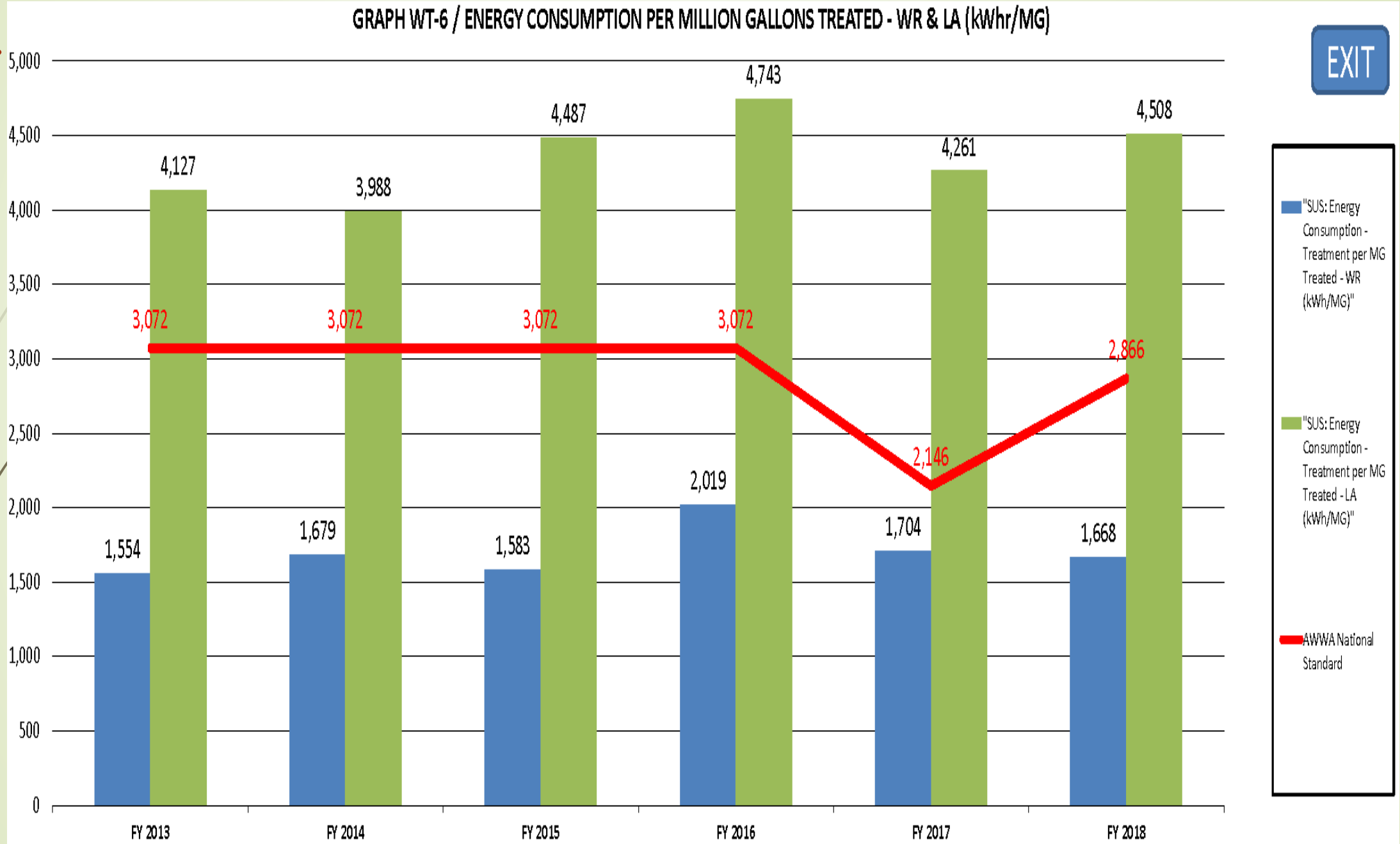
WT – DASHBOARD ANALYSES – 2 of 2

- Abbreviated summary of dashboard data for Wastewater Treatment.
  - WT-5: The new definition by AWWA for this national standard makes the WR WWTP look a lot better in terms of environmental compliance. That is because, even though the White Rock WWTP does have problems meeting all of the permit requirements all of the time, the actual low number of test result exceedances versus the high number of parameters tested for means the White Rock WWTP still does not meet the national standard but the percentage difference is visually less drastic.
  - WT-6: Secondary/This performance measure showing the individual WWTP's values is a more realistic comparison to the national standard. The LA WWTP value is expected to fall after a few planned energy efficiency O&M projects are completed. The WR WWTP value is expected to increase after the new WWTP is in place.
  - WT-8: Secondary/The value of WT system R&R is expected to increase to a more realistic level due to the restructuring of the approach to WWTP R&R initiated in FY18 from a major project every 5 to 10 years to a more gradual smaller annual project to replace or repair major equipment/facilities at either WWTP.

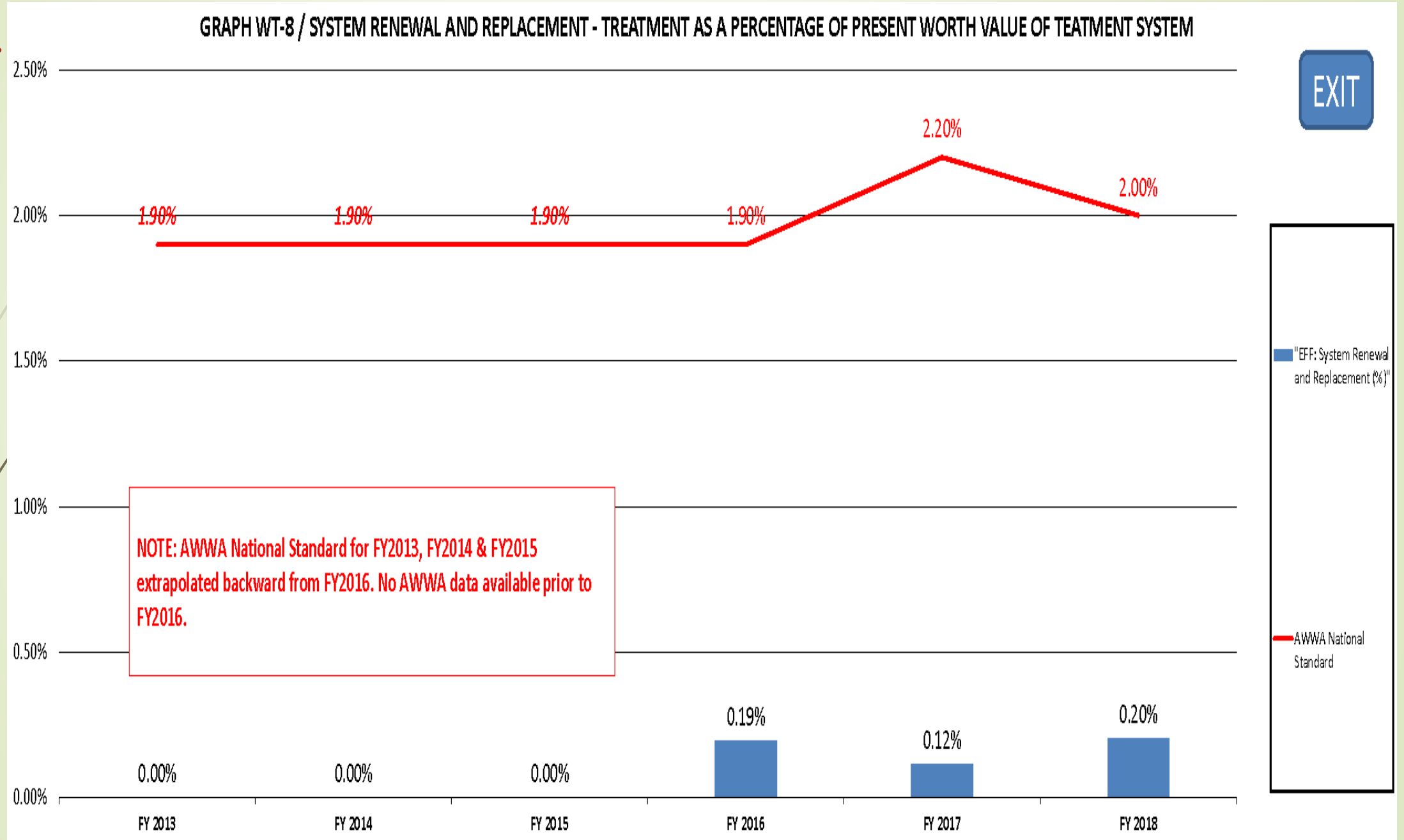
Wastewater Treatment – Secondary Key Organizational Performance Measure



Wastewater Treatment – Secondary Key Organizational Performance Measure



Wastewater Treatment – Secondary Key Organizational Performance Measure

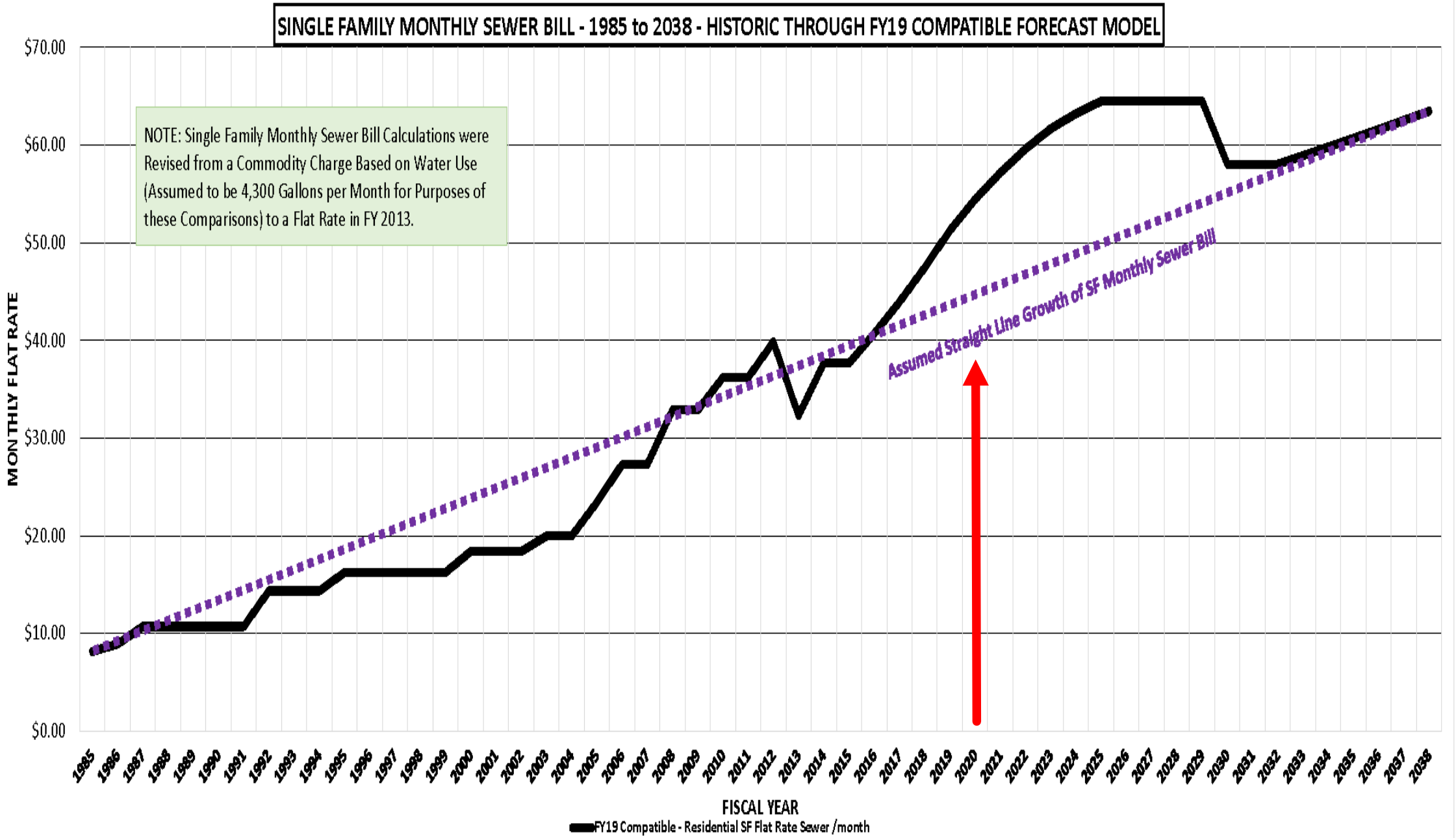


DPU Financial Policy for Cash Reserves

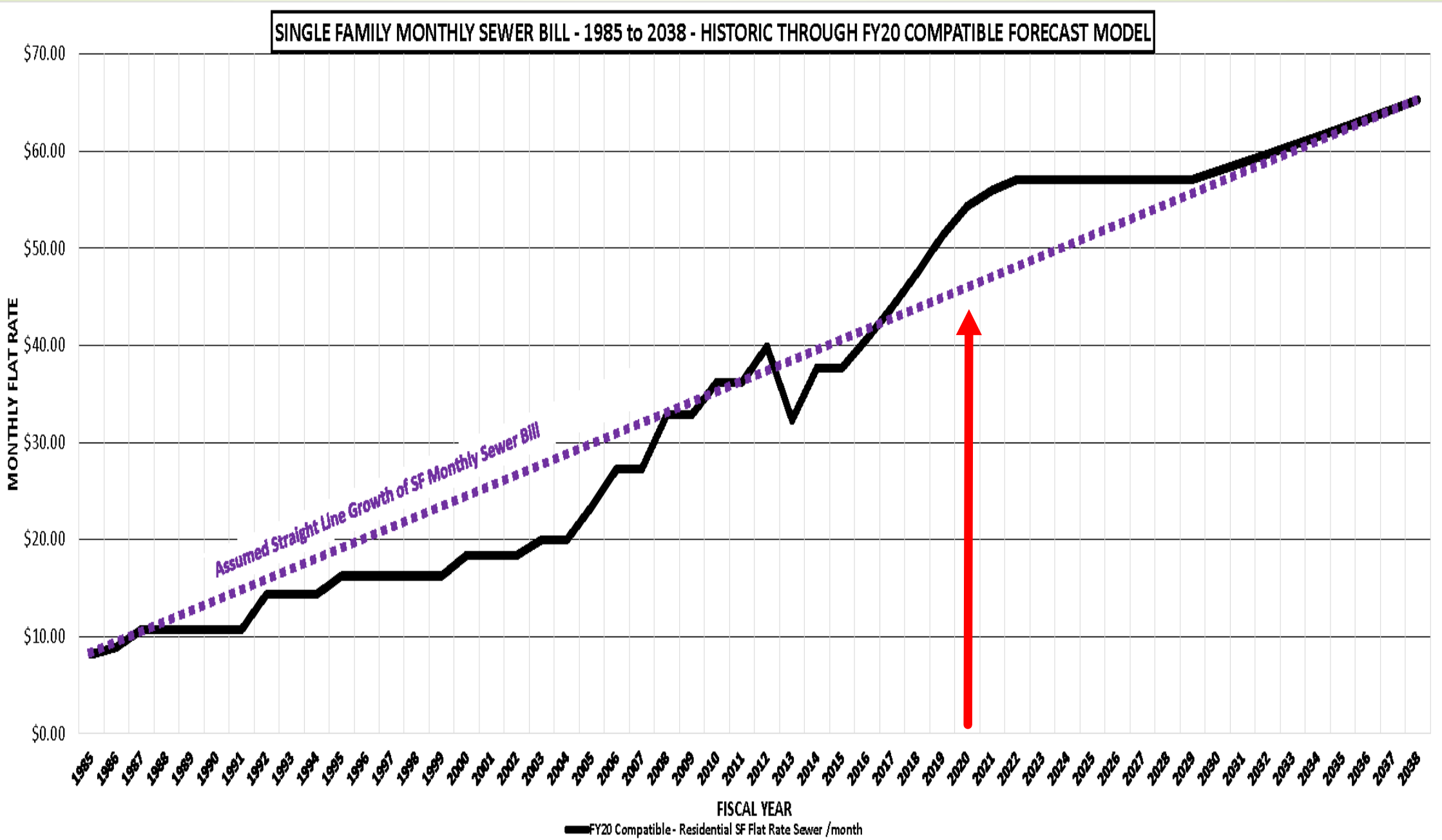
In Each Utilities Sub Fund:

- **180-Days of Budgeted O&M Expenditures Recommended – or – 90-Days Minimum Floor**
- **Debt Service Reserve (Sufficient to Fund All Debt Service for the Following Year)**
- **Contingency Reserve (Only One Occurrence in any Single Year in Either WC or WT)**
  - **WC = $750,000 Replace a Washed Out Section of Wastewater Collection Interceptor Pipeline**
  - **WT = $250,000 Replace a Treatment System Component (Clarifier, Disinfection System, etc)**
- **Retirement/Reclamation Reserve (Only One Occurrence in any Single Year in Either WC or WT)**
  - **WC = $150,000 Abandon a Sewer Lift Station**
  - **WT = $150,000 Abandon a Treatment System Basin & Equipment (Disinfection, Digester, etc.)**
- **Cash Balance and Cost / Risk Sharing Between Wastewater Sub-Systems**
  - **WC and WT Group's Budget for Contingency and Retirement/Reclamation Reserves are in reality a single Wastewater Fund amount = $750,000 + $150,000 = $900,000 Total WW Fund**
- **Actual (or Annuitized) CIP Program Expenditures for the Following Year – or – The System's Annual Depreciation Plus 2.5% (whichever is greater)**
  - **WC = $11,198,000 (FY19 – FY38) = $559,900 / Year. Compared to $18,109,223 (FY01-FY16) = $1,131,826 / Year Historic CIP**
  - **WT = $25,874,000 over 20 Years = $1,293,700 per Year / Compared to $17,213,189 (FY01-FY16) = $1,075,824 / Year Historic CIP**

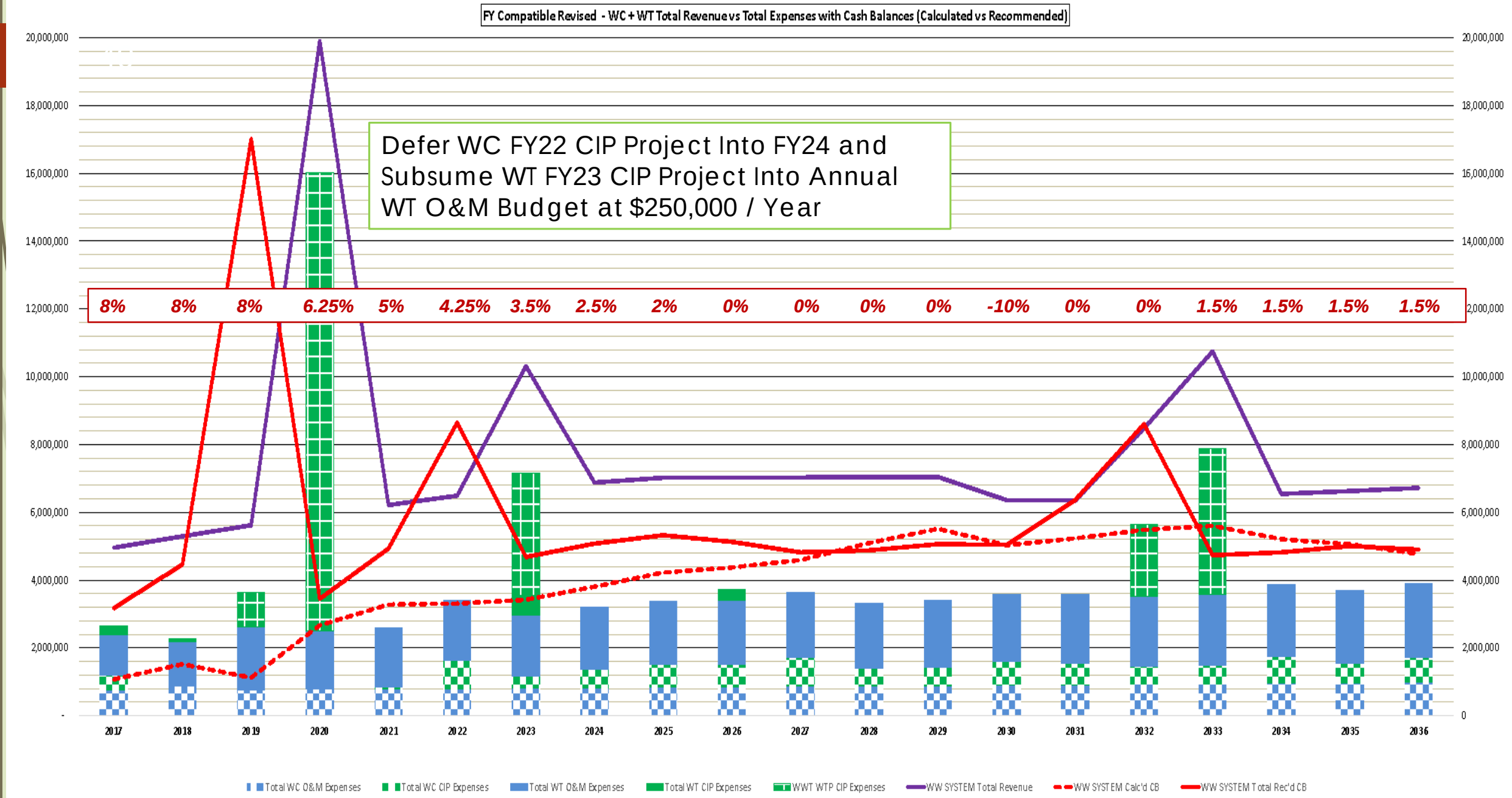
FY19 - Wastewater System – SF Monthly Sewer Bill - 1985 thru 2038 Historic thru Forecast



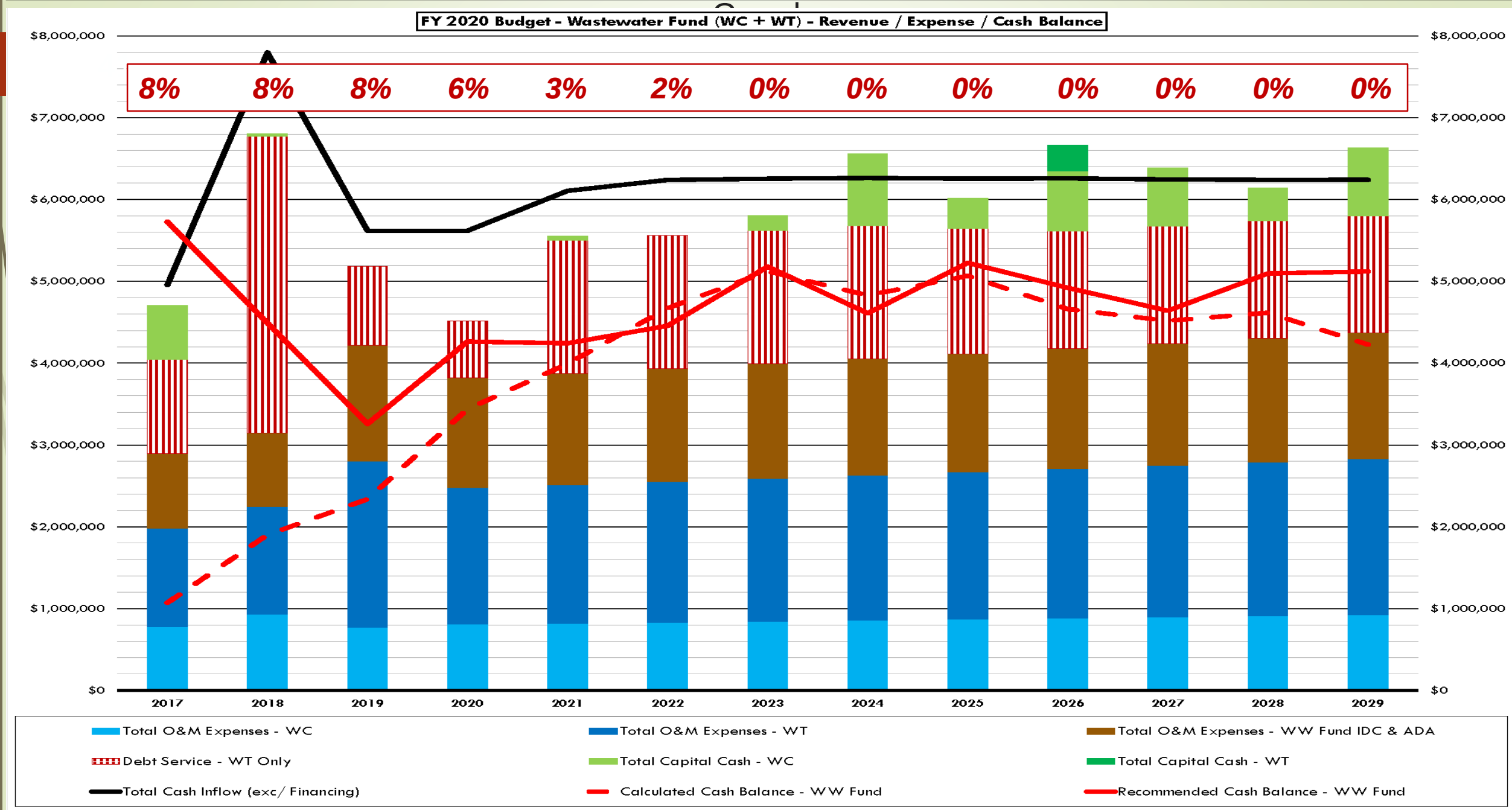
FY20 Wastewater System – SF Monthly Sewer Bill - 1985 thru 2038 Historic thru Forecast



Wastewater System / FY19 Compatible / 20-Year Revenue – Expenditure - Cash Balance Graph



Wastewater Fund / FY20 Budget 10-Year Forecast / Revenue – Expenditure - Cash Balance



WC Sub-System Summary – April 2019 - Physical Condition Assessment 1 of 2

- The current physical condition of the Wastewater Collection sub-system overall is fair to good; with significant known pipeline portions in poor condition (same as last year).
- The known poor condition portions are typically clay material pipelines that have been in the ground for 60 + years, are difficult to access, and are often small diameter. It is known, through visual inspection, that much of this known deficient older pipe has significant root intrusion that requires constant attention on routine schedules.
- The highest risk critical infrastructure in the WC sub-system remain the sewer lift stations and the exposed canyon drop pipelines. The 2005 Condition Assessment recognized this and DPU has completed some CIP projects and initiated some O&M R&R programs in response. One canyon drop full replacement and five (three last year) major emergency repairs have been completed in the recent past.
- The enhanced O&M emphasis in WC was initiated by prioritizing these facilities; while maintaining the efforts required on the other known deficient pipelines.
- There are both short range (10-Year) and long range (20-Year) CIP plans that balance the correction of these deficiencies. Over the 20-Year planning horizon the following projects are proposed: 14 Pipeline Projects; 18 Sewer Lift Station Projects (6 Full Replacement / 9 R&R / 2 Eliminations); 7 Canyon Drop Pipeline Replacement Projects.

WC Sub-System Summary – April 2019 - Physical Condition Assessment 2 of 2

- After full completion of the long range CIP plan, the Wastewater Collection sub-system should be considered to meet acceptable modern standards for material safety and capacity conditions such that future CIP projects could be considered to be typical R&R or O&M program efficiency enhancement projects.
- In FY19 the first phase of the GIS upgrade project has been completed. In FY20 the second phase will complete reporting on the data incorporated in phase one. Sewer inspection videos are now linked to pipeline segments inside the DPU GIS system and available for viewing.
- The Sewer Lift Station (SLS) upgrade program first phase (planning & materials acquisition) of the project was completed in FY19. In FY20 the second phase (field implementation / construction) is scheduled.

WT Sub-System Summary – April 2019 - Physical Condition Assessment

- The current physical condition of the Wastewater Treatment system overall is fair to good – because of the condition of the White Rock WWTP (same as last year).
- The White Rock WWTP, and its age and current condition, are well documented. The DPU was successful in delaying the replacement of this WWTP for over 12 years without significant violations of the WWTP's discharge permits but further delay is not possible without a significant risk of major failure and permit violation. The proposed full replacement project, design in FY20/construction in FY21/start up in FY22, will allow for the WT system physical condition assessment to improve from fair/good to good/excellent.
- The Los Alamos WWTP is now 14 years old but is still in good condition. Some significant items are reaching the end of their useful lives. Planned consistent R&R of these items through the annual O&M budget is now occurring. The addition of filtration equipment, currently scheduled for FY23, is required in order to continue the expansion of the NP system to meet County sustainability goals.
- The short range (10-Year) CIP plan (both WWTPs) no longer includes any major plant CIP projects. One major anniversary (23-year for LA & 10-year for WR) CIP project is planned in the long range (20-year) CIP plan - both funded through outside financing – if necessary.
- The increased emphasis on annual O&M R&R activities – as opposed to lump sum major CIP project completion – has been implemented. It is expected that this approach will help to flatten out the System R&R performance measure to match the national standard.

Full Wastewater Fund Summary – April 2019 - Financial Condition Assessment

- The current overall financial condition of the Wastewater Fund (WC + WT) is good and continuing to improve (last year fair but improving).
- The financial condition assessment of good is because the cash balance fund has increased and is on an increasing trend relative to the cash balance reserve amount recommended in the DPU financial policy. The RECB graphs visually show this positive trend.
- This positive long term trend occurs even with the proposed FY19 thru FY21 CIP project for full replacement of the White Rock WWTP.
- Increased rates per the approved multi-year rate increase schedule, the gas fund transfer/buy down of LA WWTP debt and remaining debt re-financing, excellent WR WWTP financing costs & rates and temporary deferral of WC sub-system CIP projects for FY18 through FY22 are the main reasons for this positive trend. CIP planning for annual WC sub-system projects starts up again in FY23 and continues throughout the remainder of the planning period on a regular annual basis.
- Consistency with the rate adjustments recommended in the 10 & 20-year forecast models will keep the Wastewater Fund on an increasingly stable financial foundation while simultaneously providing the cash reserves necessary to implement the proposed CIP Plan that is required to bring the overall Wastewater Fund System to acceptable modern standards for capacity and reliability.