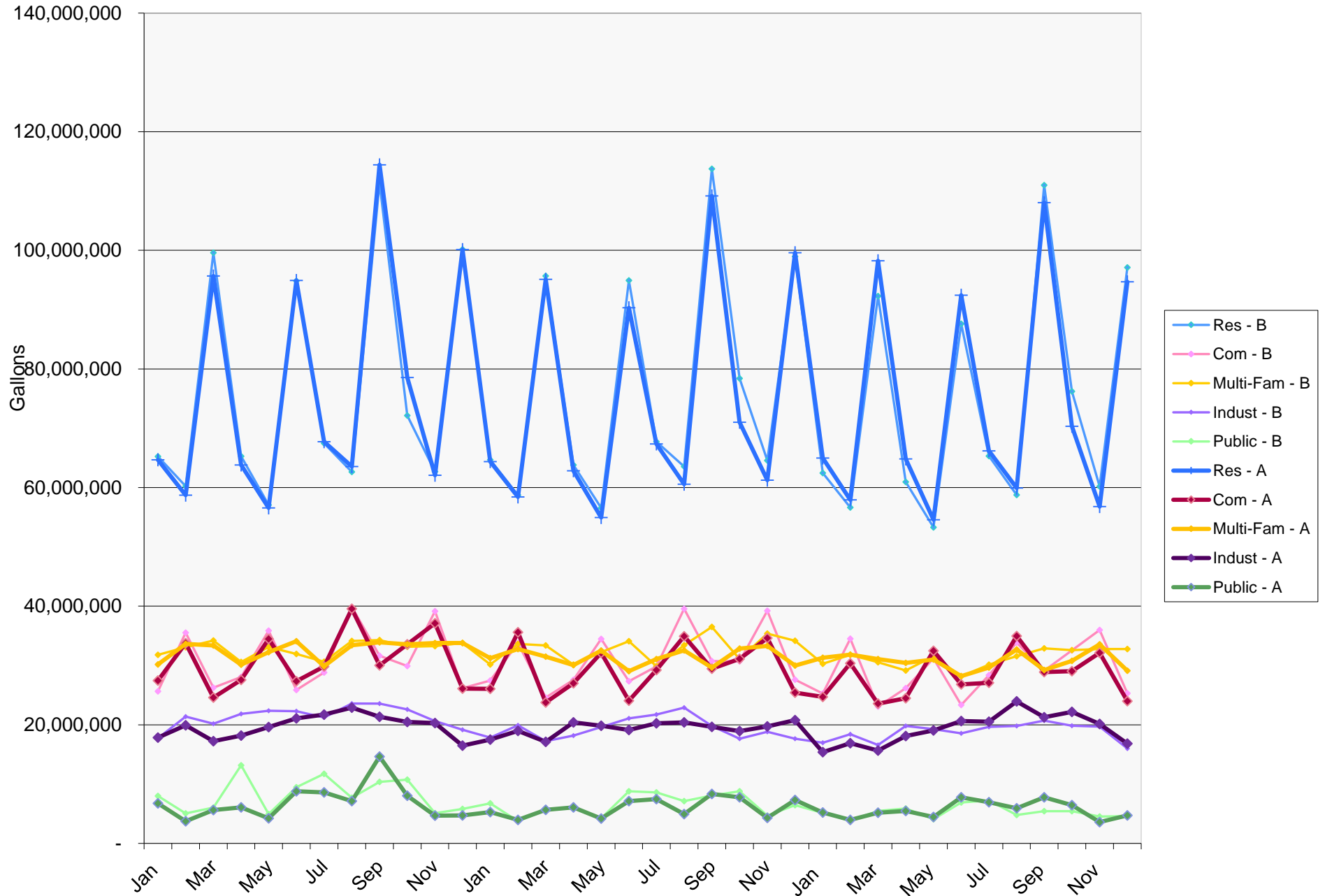


WWU  
Billed Gallons  
Actual v Budget  
2016 - 2018



**WAUKESHA WATER UTILITY  
STATEMENT OF SOURCES AND USES OF CASH  
PERIOD ENDING DECEMBER 31, 2018**

**Cash Balance - November 30, 2018**

**\$28,159,239**

**SOURCES:**

**Operations:**

Customers - water sales	\$782,177
Waste Water Utility - joint metering billing	56,007
Rent of utility property - cellular leases	47,778
Receipts on sewer bills	1,014,524
Receipts from return flow	87,282
Reimbursement from City for return flow expenses	715,892
Reimbursement from City for sewer construction costs	450,605
Other - miscellaneous	114,344
<b>Total Cash From Operating Activities</b>	<b>\$3,268,608</b>

**Capital and Related Financing Activities:**

Grants	
Contributions	
Issuance of long-term debt	2,370,500
Sale of short-term debt	
Interest income	58,105
<b>Total Cash From Capital/ Investing Activities</b>	<b>\$2,428,605</b>

**Total Cash Receipts**

**\$5,697,213**

**USES:**

Salaries, wages, payroll taxes and benefits	\$256,656
Subcontracted and outside services	89,886
Disbursement to city for sewer transfer	1,269,092
Disbursement to city for return flow transfer	93,889
Pumping power	61,318
Purchase of materials and supplies	427,748
Tax equivalent - PILOT	
Acquisition of capital assets	1,802,881
Debt service - principal	
Debt service - interest	

**Total Cash Used**

**\$4,001,469**

**Net Change in Cash**

**\$1,695,744**

**Cash Balance - December 31, 2018**

**\$29,854,983**



## **Exhibit 5 – Earned Value Analysis**



## Earned Value Analysis

The Earned Value (EV) technique is being used to monitor the Program scope, schedule and cost, and to assess overall Program performance. The components of EV are the work breakdown structure, the schedule and the estimated costs. By connecting these components, future Program performance can be predicted and proactive actions can be taken to stay on track.

The work breakdown structure is a grouping of Program elements that define and organize the scope of the Program. For this Program, the work breakdown structure is defined by the Task and subtask activities, deliverables, meetings and workshops. An estimated cost, or Planned Value (PV), duration and interdependencies are assigned to the Task and subtask activities, deliverables, meetings and workshop. A PV cumulative cost curve is used to identify the value at any point in time of the work that is planned to be done.

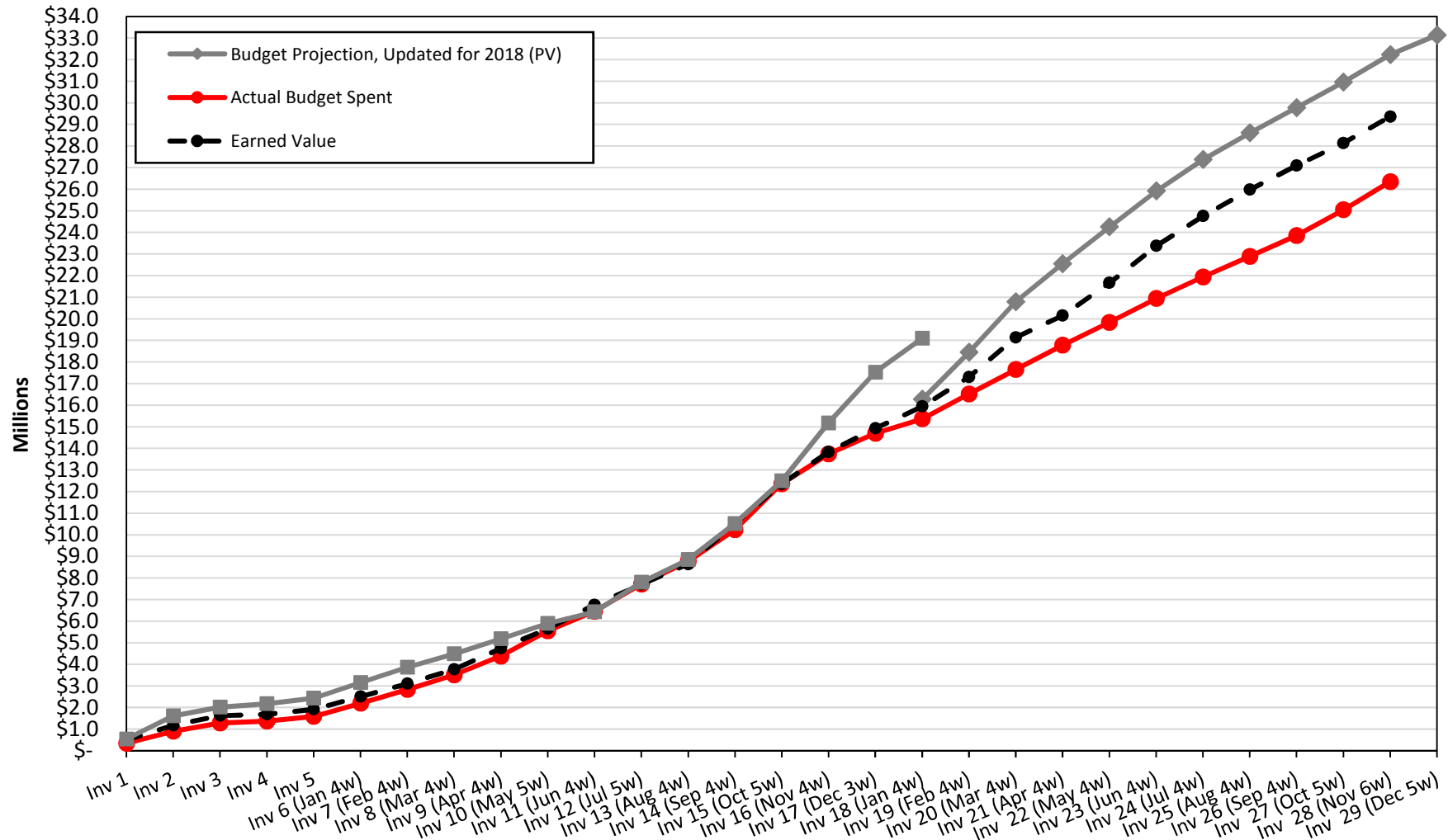
On a monthly basis, the value of the work completed as a percentage of the PV is determined by the Program Manager and defines the EV which is shown on the cumulative cost curve. The monthly Program invoices define the Actual Costs (AC) which are also shown on the cumulative cost curve. Using the cumulative cost curves developed for the overall Program and each Task, the Schedule Performance Index (SPI) and the Cost Performance Index (CPI) are calculated. SPI is calculated by dividing EV by PV. The CPI is calculated by dividing EV by AC.

At the December 2017 Commission Meeting, the WWU Commission approved the 2018 Milwaukee Route Study for \$1,345,565 and the Phase 2 2018 budget of \$13,999,908. The remaining budget for Task 3-300 and 5-200 water quality scope in the amount of \$691,441 has been removed from the Program Approved Total amount of \$34,242,960.

The 2018 budgets approved by the Commission in December 2017 have been added to the Earned Value charts in this Exhibit. The Earned Value charts have been updated to reflect the planned expenditure of the 2018 budgets for each Task through December 2018.

The work progress and challenges for each Task are noted on the following graphs.

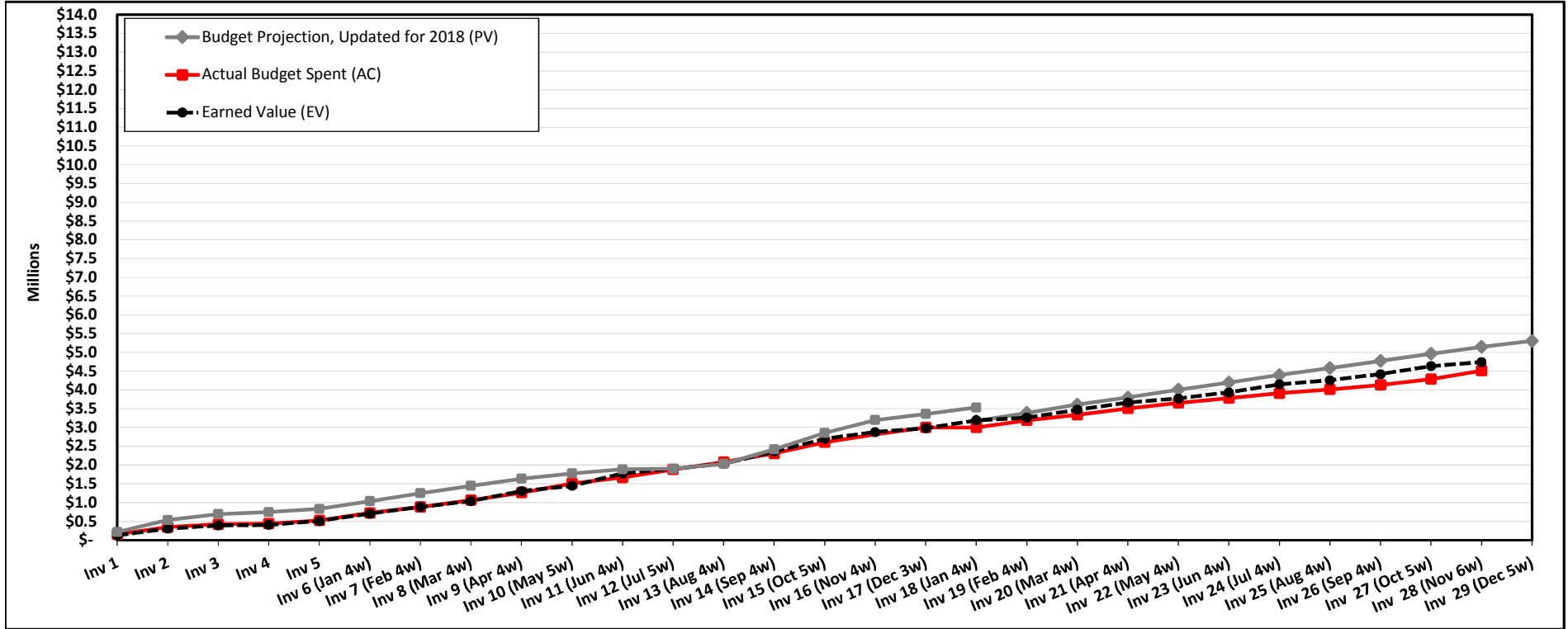
Great Lakes Water Supply Program PM/CM  
Program  
Earned Value Chart  
Phase 1 and 2 (Invoice No. 28)  
(Excluding Allowances and Contingencies)



% Spent 79.1%  
Actual Budget Spent \$26,353,127

Schedule Performance Index (SPI) 0.91  
Cost Performance Index (CPI) 1.11

Note: Budget associated with Task 3-300, 5-200 and 5-300 water quality scope has been removed.

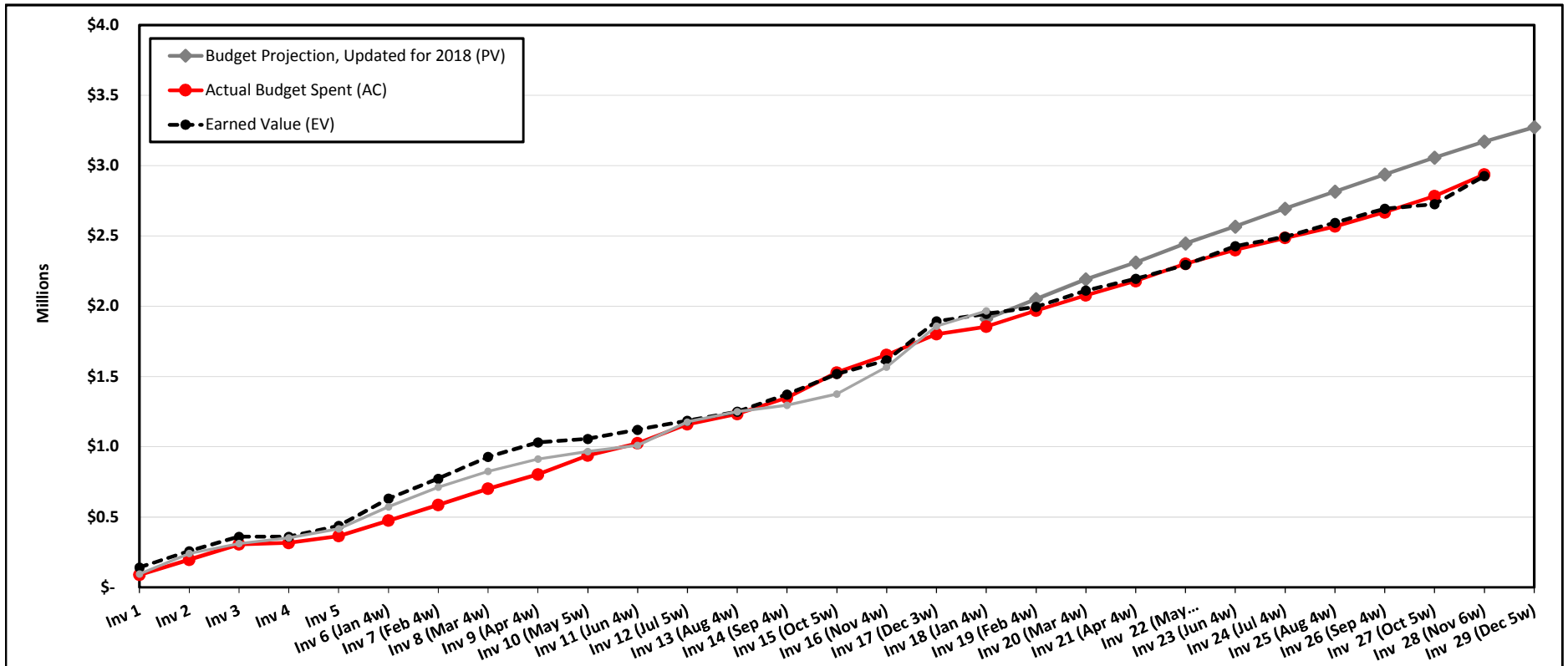


Earned Value Calculations	
Budget at Completion <sup>(BAC)(1)</sup> (BAC)	\$ 5,390,965
Estimate to Complete <sup>(ETC1)</sup> (ETC1=EAC1-AC)	\$ 615,705
Cost Variance <sup>(CV)</sup> (CV=EV-AC)	\$ 228,876
Schedule Variance <sup>(SV)</sup> (SV=EV-PV)	\$ (403,707)
Cost Performance Index <sup>(CPI)</sup> (CPI=EV/AC)	1.05
Schedule Performance Index <sup>(SPI)</sup> (SPI=EV/PV)	0.92
Cost /Schedule Index <sup>(CSI)</sup> (CSI=CPI x SPI)	0.97
Estimate at Completion <sup>(EAC1)</sup> (EAC1=BAC/CPI)	\$ 5,130,878.12
Variance at Completion <sup>(VAC1)</sup> (VAC1=BAC-EAC1)	\$ 260,086.88

Task 1	Program Management Plan/Progress
	<ul style="list-style-type: none"> <li>Prepared and submitted Invoice No. 27; updated the Financial Management Dashboard and Report for Invoice No. 27.</li> <li>Held twenty one (21) Program Team Task 1 meetings.</li> <li>Draft PSC Type 2 Application for Certificate of Authority (1-800 D1) was reviewed by QM.</li> <li>Draft Wetland and Waterways Impact Permit Application (3-110 D1) was reviewed by QM.</li> <li>Submitted Practicable Alternatives Analysis and the Project Narrative of the WDNR Chapter 30 Wetlands and Waterways Permit Application (3-110 D1) to QM review</li> </ul>

Task 1	Program Management Challenges
	<ul style="list-style-type: none"> <li>The WisDOT Interstate 43 Hardship Application requesting an easement within the WisDOT Interstate 43 right-of-way has been prepared and submitted to WisDOT. Delay of WisDOT's determination will result in delay of the review of the Application for CA and the Ch. 30 and Section 404 Wetlands and Waterways application, which will result in a negative impact the Program schedule for bidding and construction, startup and testing and final completion.</li> <li>The condemnation process has begun for the preferred location for the Water Supply Pumping Station (WSPS) in Milwaukee. The Water Supply Pipeline design will proceed based on this preferred location</li> </ul>





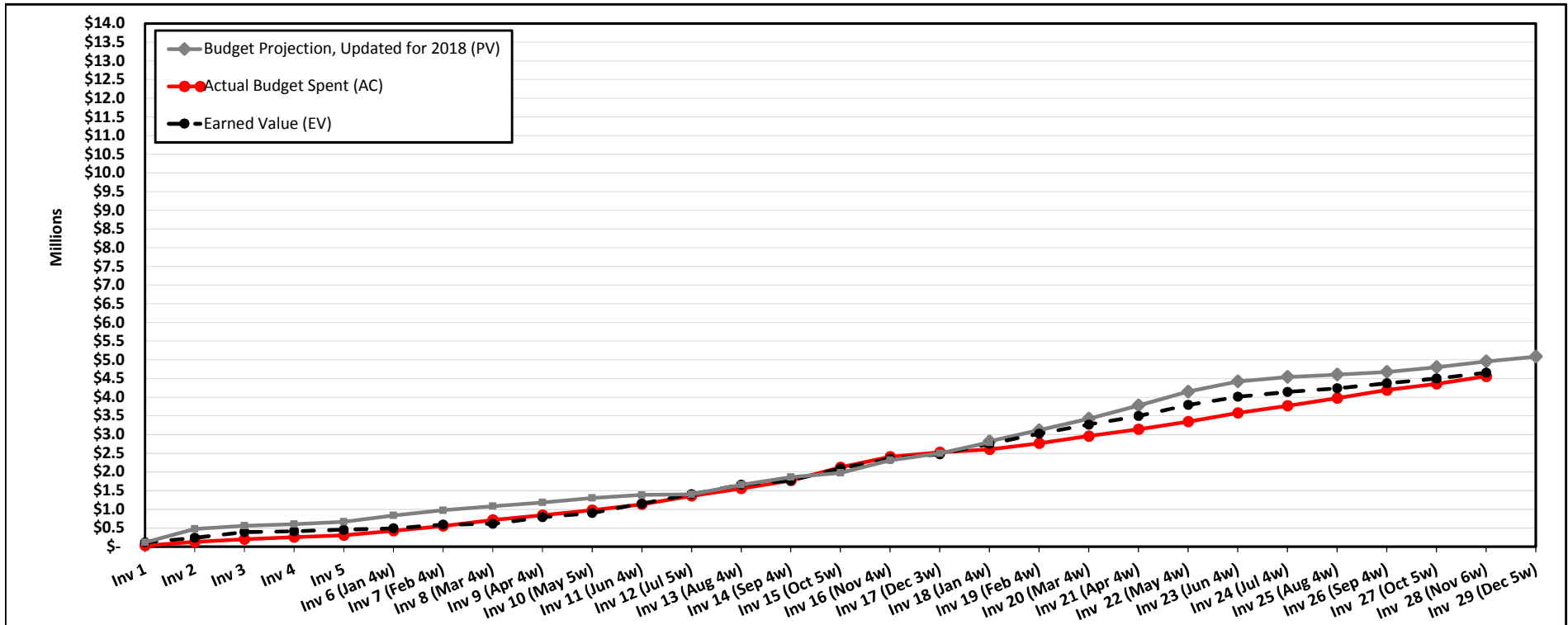
Earned Value Calculations	
Budget at completion <sup>(BAC)</sup> (BAC)	\$ 3,325,716
Estimate to Complete <sup>(ETC1)</sup> (ETC1=EAC1-AC)	\$ 400,579
Cost Variance <sup>(CV)</sup> (CV=EV-AC)	\$ (10,947)
Schedule Variance <sup>(SV)</sup> (SV=EV-PV)	\$ (245,642)
Cost Performance Index <sup>(CPI)</sup> (CPI=EV/AC)	1.00
Schedule Performance Index <sup>(SPI)</sup> (SPI=EV/PV)	0.92
Cost /Schedule Index <sup>(CSI)</sup> (CSI=CPI x SPI)	0.92
Estimate at Completion <sup>(EAC1)</sup> (EAC1=BAC/CPI)	\$ 3,338,155.77
Variance at Completion <sup>(VAC1)</sup> (VAC1=BAC-EAC1)	\$ (12,439.77)

#### Task 2 Programmatic Support Services Plan/Progress

- Discussed WDNR and PSC permit timetables with WWU, including the potential impacts of WDNR transitions following the election of a new Wisconsin governor.
- Drafted a press release announcing federal approval of low interest loans under the Water Infrastructure Finance and Infrastructure Act (WIFIA). Revised draft thank you letters to supporters of the WIFIA application.

#### Task 2 Programmatic Support Services Challenges

- WWU legal counsel will be discussing the Draft 2018 Program Information Plan with Wisconsin PSC. The results of the discussion may impact the Program strategic communication plan.

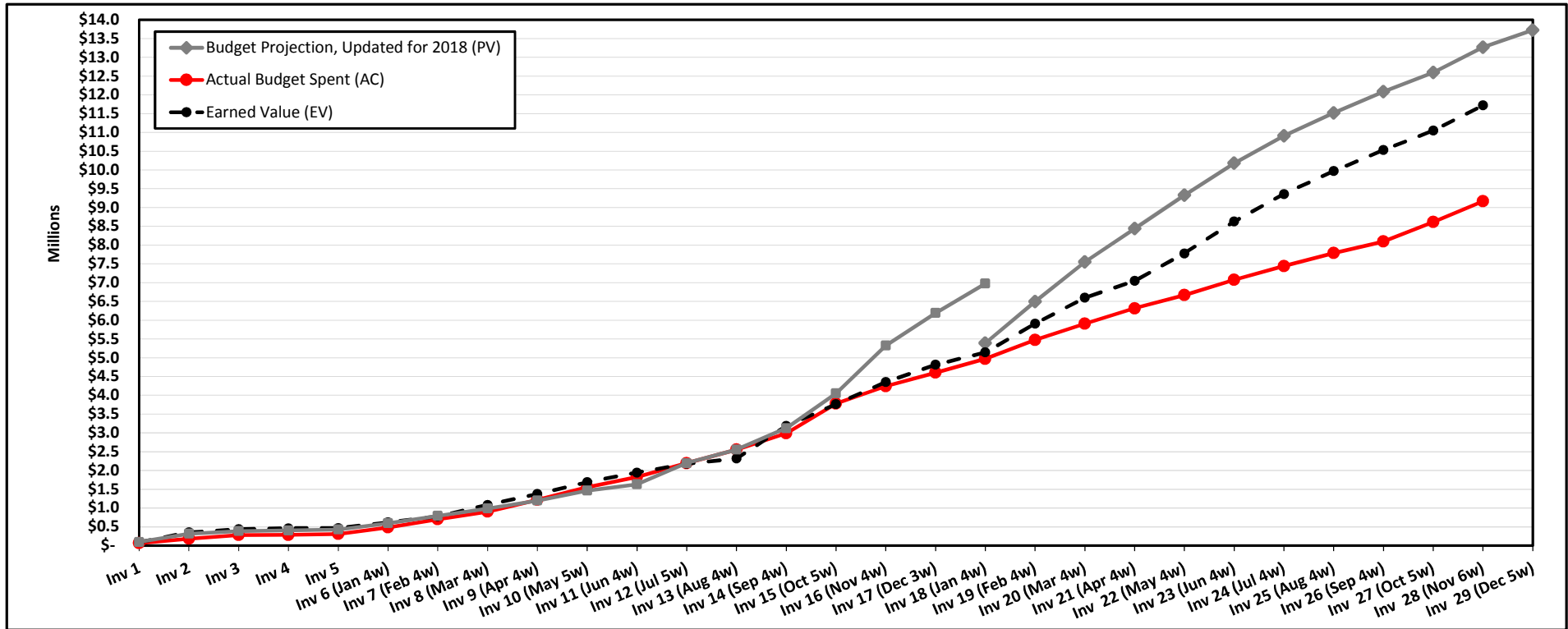


Note: The Task 3 amount for Invoice 5 was reported incorrectly in the previous version of this Report. The correct cumulative amount is \$263.96 lower.  
The Task 3 Budget at completion amount was revised to reflect Task Authorizations and contract amendments

Earned Value Calculations	
Budget at completion <sup>(BAC)(1)</sup> (BAC)	\$ 5,083,873
Estimate to Complete <sup>(ETC1)</sup> (ETC1=EAC1-AC)	\$ 421,526
Cost Variance <sup>(CV)</sup> (CV=EV-AC)	\$ 94,972
Schedule Variance <sup>(SV)</sup> (SV=EV-PV)	\$ (303,271)
Cost Performance Index <sup>(CPI)</sup> (CPI=EV/AC)	1.02
Schedule Performance Index <sup>(SPI)</sup> (SPI=EV/PV)	0.94
Cost /Schedule Index <sup>(CSI)</sup> (CSI=CPI x SPI)	0.96
Estimate at Completion <sup>(EAC1)</sup> (EAC1=BAC/CPI)	\$ 4,980,118.61
Variance at Completion <sup>(VAC1)</sup> (VAC1=BAC-EAC1)	\$ 103,754.39

Task 3	Permitting Plan/Progress	Task 3	Permitting Challenges
	<ul style="list-style-type: none"> <li>Held five (5) Program Task 3 meetings.</li> <li>Finalized Cultural Resources Review for inclusion in the Wetlands and Waterways Permit Application.</li> <li>Finalized and submitted the Agriculture Impact Notice (3-150 D1) to DATCP.</li> <li>Began development of the NEPA Categorical Exclusion Checklist to supplement the I-43 Hardship Application</li> <li>Continued preparation of WDNR Chapter 30 Wetlands and Waterways permitting support documentation as part of the Chapter 30 Wetlands and Waterways permit application (3-110 D1).</li> </ul>		<ul style="list-style-type: none"> <li>The delay on selecting the preferred Water Supply Pump Station location has caused additional delay on the PSC CA application and the WDNR/USACE wetlands and waterways application sections related to the supply route.</li> <li>Additional detail on the Return Flow Pipeline outfall is needed to determine the total permanent wetland impacts of the Program.</li> </ul>





Note: The Task 4 Budget at completion amount was revised to reflect Task Authorizations and contract amendments

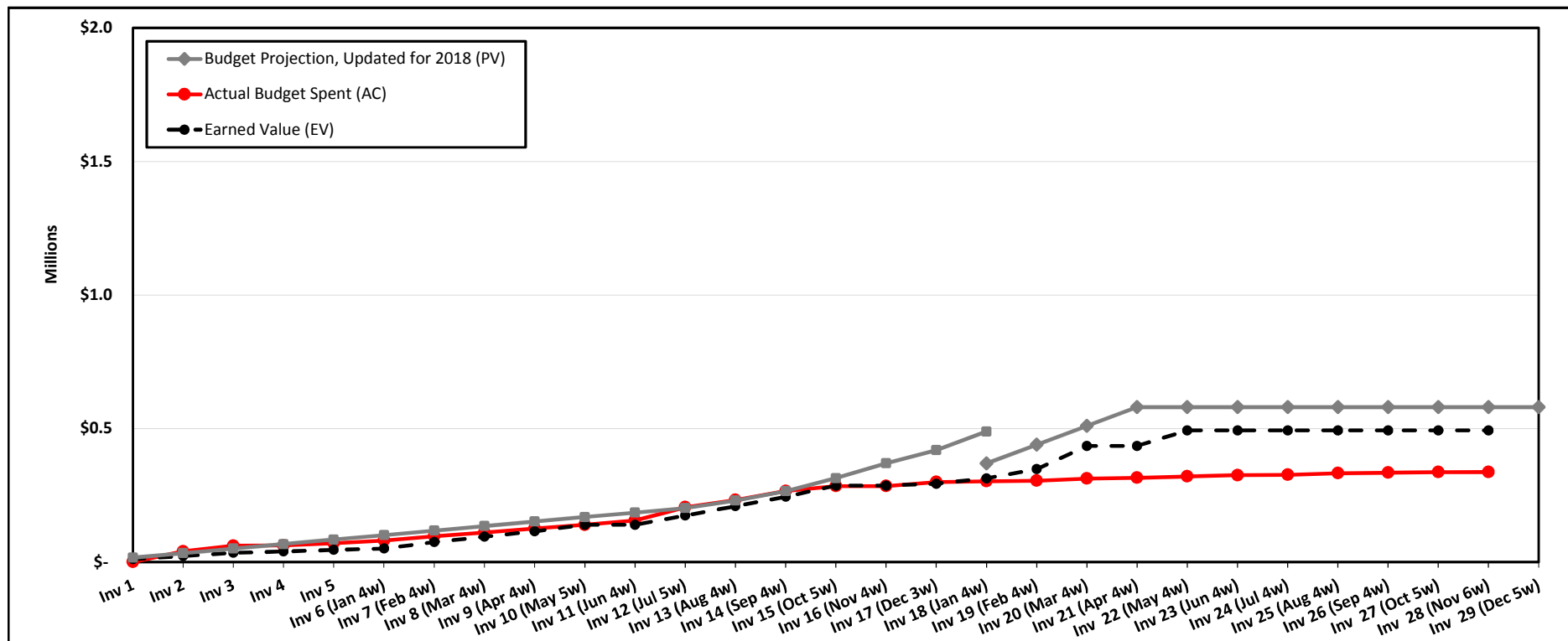
Earned Value Calculations	
Budget at completion <sup>(BAC)</sup> (BAC)	\$ 13,744,049
Estimate to Complete <sup>(ETC1)</sup> (ETC1=EAC1-AC)	\$ 1,583,885
Cost Variance <sup>(CV)</sup> (CV=EV-AC)	\$ 2,549,132
Schedule Variance <sup>(SV)</sup> (SV=EV-PV)	\$ (1,550,053)
Cost Performance Index <sup>(CPI)</sup> (CPI=EV/AC)	1.28
Schedule Performance Index <sup>(SPI)</sup> (SPI=EV/PV)	0.88
Cost /Schedule Index <sup>(CSI)</sup> (CSI=CPI x SPI)	1.13
Estimate at Completion <sup>(EAC1)</sup> (EAC1=BAC/CPI)	\$ 10,754,656.03
Variance at Completion <sup>(VAC1)</sup> (VAC1=BAC-EAC1)	\$ 2,989,393.26

#### Task 4 Route Study and Pipeline Plan/Progress

- The third draft of the WisDOT Interstate 43 Hardship Application (4-110 D1) was submitted to WisDOT and FHWA based on the Waukesha Water Utility I-43 Hardship Application Meeting with FHWA, WisDOT, PSC, WDNR, and the Program team.
- Wetland and Waterway Delineation Report (4-240 D2), Threatened and Endangered Species Habitat Report (4-240 D2), and Phase I Archaeological Survey Report (4-250 D1) are being developed for the Water Supply and Return Flow Pipelines. Field investigations are complete.
- Contract Packages 5 and 6 WWU comments on the 60% Contract Documents were received and 90% Contract Documents were further developed.

#### Task 4 Route Study and Pipeline Challenges

- Changes to the selected WSPS location and connection to the MWW distribution system could negatively impact the schedule for submission of the PSC Construction Authorization, which is a critical path item for the design, bidding and construction of the Program.
- The Program Schedule will be impacted if WisDOT / FHWA changes their inclination to approve locating the Return Flow Pipeline in the Interstate 43 corridor.
- Soil borings along Interstate 43 are on hold for the Return Flow Pipeline until an agreement has been reached with WisDOT. The remainder of the soil borings and analysis are complete.



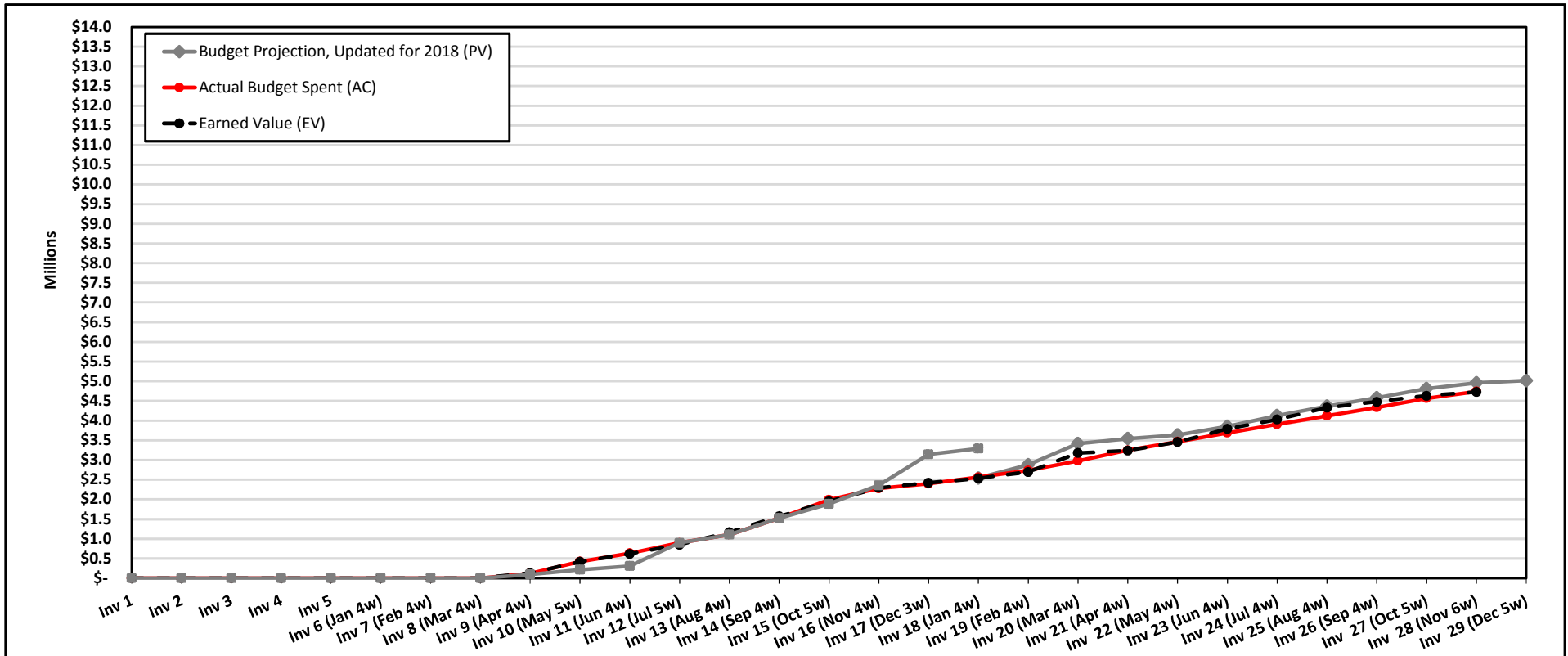
Earned Value Calculations	
Budget at completion <sup>(BAC)(1)</sup> (BAC)	\$ 579,901
Estimate to Complete <sup>(ETC1)</sup> (ETC1=EAC1-AC)	\$ 59,490
Cost Variance <sup>(CV)</sup> (CV=EV-AC)	\$ 155,807
Schedule Variance <sup>(SV)</sup> (SV=EV-PV)	\$ (87,130)
Cost Performance Index <sup>(CPI)</sup> (CPI=EV/AC)	1.46
Schedule Performance Index <sup>(SPI)</sup> (SPI=EV/PV)	0.85
Cost /Schedule Index <sup>(CSI)</sup> (CSI=CPI x SPI)	1.24
Estimate at Completion <sup>(EAC1)</sup> (EAC1=BAC/CPI)	\$ 396,598.13
Variance at Completion <sup>(VAC1)</sup> (VAC1=BAC-EAC1)	\$ 183,302.94

#### Task 5 Distribution System Plan/Progress

- No Activity

#### Task 5 Distribution System Challenges

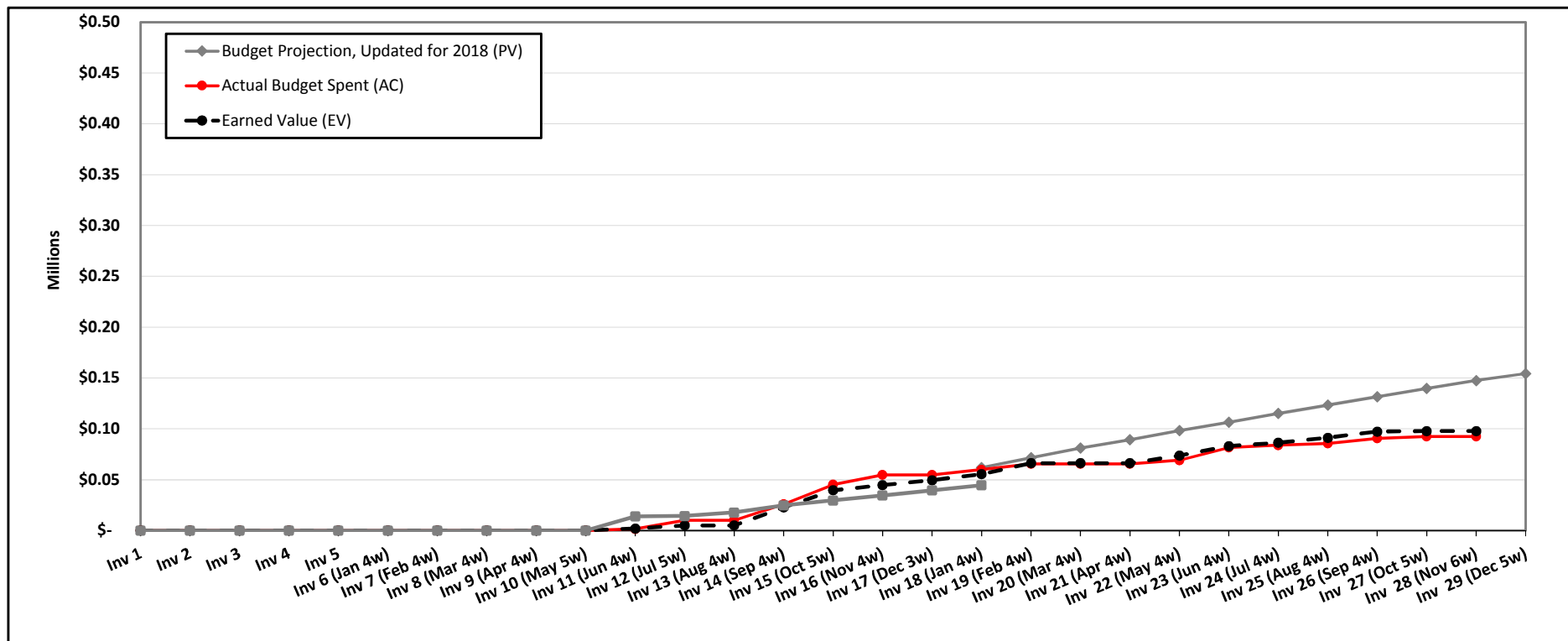
- Scope and budget associated with Tasks 5-200 and 5-300 water quality has been removed.



Earned Value Calculations	
Budget at completion <sup>(BAC)(1)</sup> (BAC)	\$ 5,018,415
Estimate to Complete <sup>(ETC1)</sup> (ETC1=EAC1-AC)	\$ 291,837
Cost Variance <sup>(CV)</sup> (CV=EV-AC)	\$ (13,933)
Schedule Variance <sup>(SV)</sup> (SV=EV-PV)	\$ (234,582)
Cost Performance Index <sup>(CPI)</sup> (CPI=EV/AC)	1.00
Schedule Performance Index <sup>(SPI)</sup> (SPI=EV/PV)	0.95
Cost /Schedule Index <sup>(CSI)</sup> (CSI=CPI x SPI)	0.95
Estimate at Completion <sup>(EAC1)</sup> (EAC1=BAC/CPI)	\$ 5,033,205.59
Variance at Completion <sup>(VAC1)</sup> (VAC1=BAC-EAC1)	\$ (14,790.49)

Task 6 Pump Stations, Storage and Chemical Treatment Plan/Progress
<ul style="list-style-type: none"> <li>Continued to coordinate with the Waukesha County Department of Parks and Land Use (DPLU) on land transfer of BPS site.</li> <li>Held Contract Package 3 60% Constructability Workshop (6-300, W-02) with WWU.</li> <li>Continued preparation of the 90% Contract Drawings and Specifications (6-310 D1) for Contract Package 3, BPS and WSCB.</li> </ul>

Task 6 Pump Stations, Storage and Chemical Treatment Challenges
<ul style="list-style-type: none"> <li>Land Acquisition prior to beginning zoning process with New Berlin which could impact building materials and site improvements.</li> </ul>



Earned Value Calculations	
Budget at completion <sup>(BAC)</sup> (BAC)	\$ 154,378
Estimate to Complete <sup>(ETC1)</sup> (ETC1=EAC1-AC)	\$ 53,493
Cost Variance <sup>(CV)</sup> (CV=EV-AC)	\$ 5,290
Schedule Variance (SV) (SV=EV-PV)	\$ (49,682)
Cost Performance Index <sup>(CPI)</sup> (CPI=EV/AC)	1.06
Schedule Performance Index <sup>(SPI)</sup> (SPI=EV/PV)	0.66
Cost /Schedule Index <sup>(CSI)</sup> (CSI=CPI x SPI)	0.70
Estimate at Completion <sup>(EAC1)</sup> (EAC1=BAC/CPI)	\$ 146,029.84
Variance at Completion <sup>(VAC1)</sup> (VAC1=BAC-EAC1)	\$ 8,348.16

#### Task 7 Construction and Construction Management Plan/Progress

- No Activity.

#### Task 7 Construction and Construction Management Challenges

- Impending Federal funding and financing opportunities may impact the contracting strategy for the Program.