



# DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

**Board of Directors**  
*Audit Committee*  
*Thursday, July 23, 2020*  
*9:30 a.m.*

**Join Microsoft Teams Meeting**  
**+1 202-753-6714**  
**Conference ID: 959 494 366#**

1. **Call to Order**..... Mr. Floyd Holt, Committee Chairperson
2. **Roll Call**..... Linda Manley, Secretary to the Board
3. **External Audit Selection Update**..... Matthew Brown, EVP Finance & Procurement
4. **Internal Audit Update**..... Dan Whelan, RSM, Auditor General
  - A. FY 2020 Internal Audit Plan Status Update
  - B. Status Update on Prior Audit Findings
  - C. **Work Order Planning Assessment**
  - D. **Facilities Management Audit**
  - E. **Benefits and Compensation Audit**
  - F. Hotline Update
5. **Executive Session\*** ..... Mr. Floyd Holt, Committee Chairperson
6. **Adjournment**..... Mr. Floyd Holt, Committee Chairperson

\* The DC Water Board of Directors may go into executive session at this meeting pursuant to the District of Columbia Open Meetings Act of 2010, if such action is approved by a majority vote of the Board members who constitute a quorum to discuss: matters prohibited from public disclosure pursuant to a court order or law under D.C. Official Code § 2-575(b)(1); contract negotiations under D.C. Official Code § 2-575(b)(1); legal, confidential or privileged matters under D.C. Official Code § 2-575(b)(4); collective bargaining negotiations under D.C. Official Code § 2-575(b)(5); facility security under D.C. Official Code § 2-575(b)(8); disciplinary matters under D.C. Official Code § 2-575(b)(9); personnel matters under D.C. Official Code § 2-575(b)(10); proprietary matters under D.C. Official Code § 2-575(b)(11); decision in an adjudication action under D.C. Official Code § 2-575(b)(13); civil or criminal matters where disclosure to the public may harm the investigation under D.C. Official Code § 2-575(b)(14), and other matters provided in the Act.

**DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
BOARD OF DIRECTORS CONTRACTOR FACT SHEET**

**ACTION REQUESTED**

**GOODS AND SERVICES CONTRACT AWARD  
EXTERNAL AUDIT SERVICES  
(Joint Use - Indirect)**

Request to execute a contract for External Audit Services for the total contract value of \$1,861,445.00 including \$1,077,645.00 for the 3-year base period and \$783,800.00 for two 1-year option periods.

<b>PRIME:</b> KPMG, LLP 1801 K Street, NW, Suite 1200 Washington, DC 20006	<b>SUBS:</b> Bert Smith & Company 1090 Vermont Avenue, NW Washington, DC 20005	<b>PARTICIPATION:</b> 9.5%
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**DESCRIPTION AND PURPOSE**

Base Period Contract Value:	\$1,077,645.00
Base Contract Period:	3 Years
Option Period Contract Value:	\$783,800.00
No. of Option Years:	2
Anticipated Base Period Start Date:	10-01-2020
Anticipated Base Period Completion Date:	09-30-2023
Proposal Closing Date:	03-03-2020
Proposals Received:	7
Proposal Price Range:	\$970,653.00 - \$1,861,445.00
Preference Points or Discount Received:	1

**Purpose of the Contract:**

Provide external audit services to DC Water.

**Contract Scope:**

- Audit DC Water’s financial statements in accordance with generally accepted auditing standards. The Auditor will then express an opinion of the fair presentation of the financial statements in conformity with generally accepted accounting principles.
- The Auditor will be required to prepare a management letter identifying deficiencies in internal control considered to be reportable conditions as defined by the American Institute of Certified Public Accountants (AICPA) any other deficiencies.
- The Auditor will perform audit of federal awards for the year in accordance with Audit Requirements for Federal Awards (Uniform Guidance).

**Supplier Selection:**

Procurement advertised and issued a Request for Proposal for the services. Seven firms responded to the solicitation. Five firms were shortlisted based upon the technical score and interviewed. The award recommendation is based on the firm with the highest overall score to DC Water.

Firm	Firm
BDO	McConnell & Jones LLP
Cherry Bekaert LLP	SB & Company, LLC
CliftonLarsonAllen	Watson Rice
KPMG LLC	



# DC WATER

## Audit Committee Update



July 23, 2020



## Agenda

- FY 2020 Internal Audit Plan Status Update
- Status Update on Prior Audit Findings
- Report on Completed Audits
  - Work Order Planning Assessment (issued in April)
  - Facilities Management Audit (issued in April)
  - Benefits and Compensation Audit (issued in April)
- Hotline Update
- Executive Session
  - Physical Security Penetration Testing Phase 2 (issued in April)

# AUDIT PLAN STATUS UPDATE

# Internal Audit Plan Status Update

Audit	Status
<b>FY 2020</b>	
Work Order Planning Assessment	<b>Report Complete</b>
Phase 2: Physical Security Penetration Testing	<b>Report Complete</b>
Facilities Management Audit	<b>Report Complete</b>
Benefits and Compensation Audit	<b>Report Complete</b>
<i>Cybersecurity Incident Response Tabletop Exercise</i>	<i>Deferred</i>
<i>Oracle Embedded Risk Assurance</i>	<i>Deferred</i>
<i>Procurement Pre-Award &amp; Selection Audit</i>	<i>Deferred</i>
Engineering Change Order Assessment	Reporting in progress
Industrial Control System (ICS) Review	Fieldwork in progress
<i>Recruiting Alignment Assessment</i>	<i>Deferred</i>
Customer Collections Audit	Planning in progress
Remediation Follow Up Procedures	On-going
Hotline Management	On-going

# Internal Audit Plan FY 2020 Timeline

	Nov - 19	Dec - 19	Jan - 20	Feb - 20	Mar - 20	Apr - 20	May - 20	Jun - 20	Jul - 20	Aug - 20	Sep - 20	Oct - 20
▶ Work Order Planning Assessment	▶											
▶ Phase 2: Physical Security Penetration Testing			▶									
▶ Facilities Management Audit			▶									
▶ Benefits and Compensation Audit			▶									
▶ Engineering Change Order Assessment						▶						
▶ Customer Collections								▶				
▶ Industrial Control System (ICS) Review								▶				
▶ FY 2021 Risk Assessment									▶			
▶ Ongoing Follow-up Procedures	▶											
▶ Ongoing Hotline Monitoring	▶											



## Projects deferred from FY20 audit plan

In connection with the FY20 internal audit plan, below are the audits that have been deferred in an effort to assist the Authority in their cost reduction measures in light of anticipated revenue declines as a result of COVID-19:

- **Recruiting alignment assessment:**

- Audit purpose: to assess the alignment of DC Water's recruiting function and their ability to successfully fill vacancies timely with competitive candidates.
- Although a well-aligned recruiting team will remain critical for DC Water given the aging workforce, this risk has not increased as a result of COVID-19.

- **Oracle embedded assurance:**

- Audit purpose: to embed the audit function throughout the implementation of DC Water's new ERP system, addressing control implications real time.
- The timeline of the ERP implementation has shifted; as a result Internal Audit still plans to play an assurance role in the implementation in FY21.

- **Incident response tabletop review:**

- Audit purpose: to perform a scenario-based review of the Authority's emergency response to the occurrence of a cybersecurity incident.
- DC Water has been exercising emergency response communications continuously (although not cybersecurity-specific) while responding to the impact of COVID-19. Preventive cybersecurity controls will be reviewed as part of the ICS review in FY20.

- **Procurement pre-award & selection audit:**

- Audit purpose: to review controls surrounding the solicitation, evaluation, selection, and execution of vendor contracts at the Authority for goods & services and engineering.
- The procurement team's workload has increased as a result of cost reduction measures in light of anticipated revenue declines due to COVID-19. Additionally, the procurement team is currently heavily involved in ERP implementation preparation. The team does not have the bandwidth to support audit document requests in FY20. However, procurement remains a high risk area, and the project will be executed in FY21.

- **Note: a Customer Collections Audit was added to the FY20 plan in place of the deferred projects above, given the increased collections risk as a result of customer financial stress during COVID-19.**

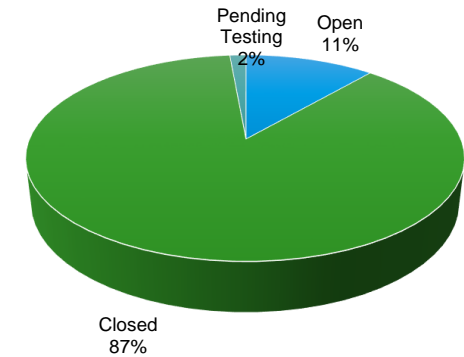


# PRIOR AUDIT FINDINGS – FOLLOW UP STATUS

# Status Update on Prior Audit Findings

Audit Report/Subject	Report Issue Date	Corrective Actions			
		Total	Open	Closed	Pending Testing <sup>1</sup>
<b>Prior to FY19 Audit Findings</b>					
Training, Licensing & Certification	7/28/2016	7	1	6	0
Business Development Plan	2/14/2017	10	0	10	0
Annual Budgeting and Planning	4/27/2017	1	1	0	0
DMS Work Order Management (Blue Plains)	4/27/2017	4	0	4	0
HR/Employee Privacy Review	4/27/2017	7	3	4	0
Entity Level Assessment	10/26/2017	7	2	4	1
Materials Management Operations and Inventory	10/26/2017	4	0	3	1
Fleet – Accident and Incident Reporting	1/25/2018	3	0	3	0
Contract Monitoring & Compliance	7/26/2018	3	0	3	0
Payroll & Timekeeping	10/25/2018	4	1	3	0
Accounts Payable	10/25/2018	5	1	4	0
Integrated Work Order Management	1/24/2019	10	7	3	0
<b>Total</b>		<b>65</b>	<b>16</b>	<b>47</b>	<b>2</b>

**FY16 – FY18 Prior Audit Findings Status**



<sup>1</sup>“Pending Testing” indicates that Management represents that the Action Plan is Completed, but Internal Audit has not yet performed testing to validate the status.

Note that the audit findings reported above only represent findings prior to FY19 with the status of “Pending Testing” or “Open”. Audits conducted prior to FY19 for which all findings have been closed are not represented in this table. However, the pie chart to the right includes status of all audit findings FY16 - FY18.

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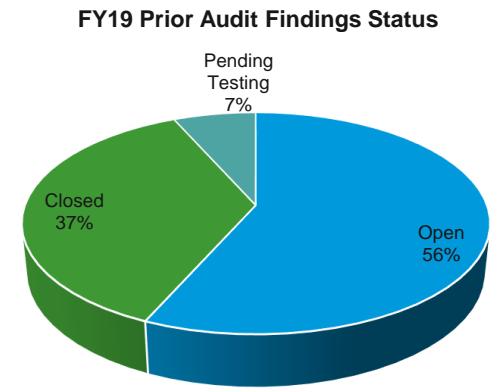
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Color Key	
	At least 1 original remediation target date has been extended



# Status Update on Prior Audit Findings

Audit Report/Subject	Report Issue Date	Corrective Actions			
		Total	Open	Closed	Pending Testing <sup>1</sup>
<b>FY19 Audit Findings</b>					
Fleet Management	4/25/2019	3	1	2	0
Legal Operations	4/25/2019	4	3	0	1
Occupational Safety and Health	4/25/2019	4	3	1	0
Active Directory Assessment	10/24/2019	5	2	3	0
Purchasing Card Internal Audit	7/25/2019	3	1	1	1
Wifi Security Testing	10/24/2019	1	0	1	0
CIS Application Security SOD Review	10/24/2019	4	4	0	0
Asset Management Assessment	1/23/2020	2	2	0	0
Physical Security and Social Engineering	7/25/2019	4	1	3	0
<b>Total</b>		<b>30</b>	<b>17</b>	<b>11</b>	<b>2</b>

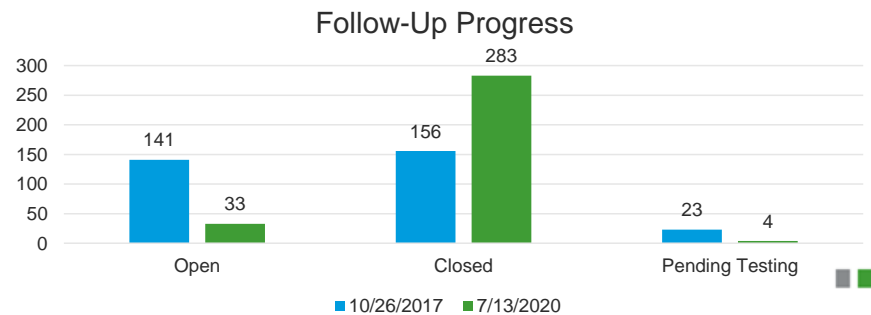
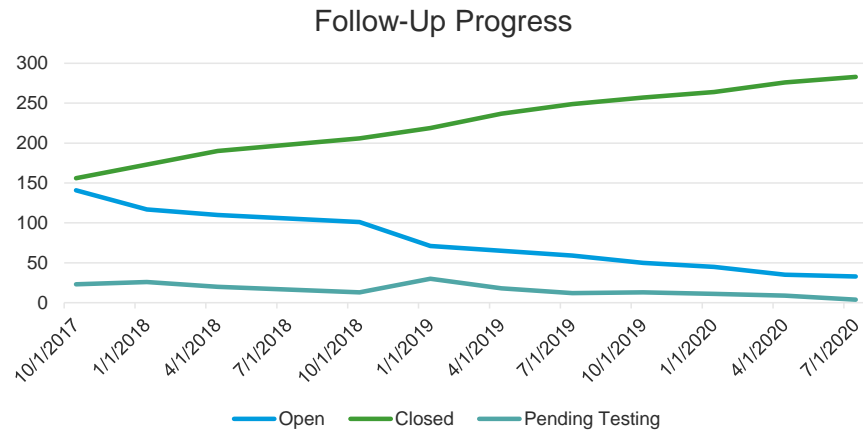


<sup>1</sup> "Pending Testing" indicates that Management represents that the Action Plan is Completed, but Internal Audit has not yet performed testing to validate the status.

Color Key	
<span style="background-color: #0070C0; width: 15px; height: 15px; display: inline-block;"></span>	At least 1 original remediation target date has been extended

# Follow-up Semi-Annual Summary

- For FY14 – FY19 prior audit findings:
  - At the start of FY20 (October), there were:
    - 50 open audit items
    - 257 closed audit items
    - 13 pending testing
  - As of July 2020, there are:
    - 33 open audit items
    - 283 closed audit items
    - 4 pending testing
- In total, 88% of all prior audit findings from FY14 – FY19 are closed
  - 26 audit items have been closed in FY20 to date.
  - Management is targeting 90% prior audit findings closure going forward



## Action Deferred Update

The following items are considered “action deferred” items that are contingent on other action occurring and not included in the Prior Audit Findings Update slides above:

1. Intellectual Property Personnel Policy: Under review by management.

*The Authority has also been reviewing overarching policy management procedures, which is an open finding from the FY16 Entity-Level Assessment.*

# WORK ORDER PLANNING

# Work Order Planning Assessment

## Purpose

The purpose of this review was to obtain an understanding of how the Authority leverages a planning function across the Department of Maintenance Services, Department of Pumping Operations, and Wastewater Treatment Process Engineering.

## Scope

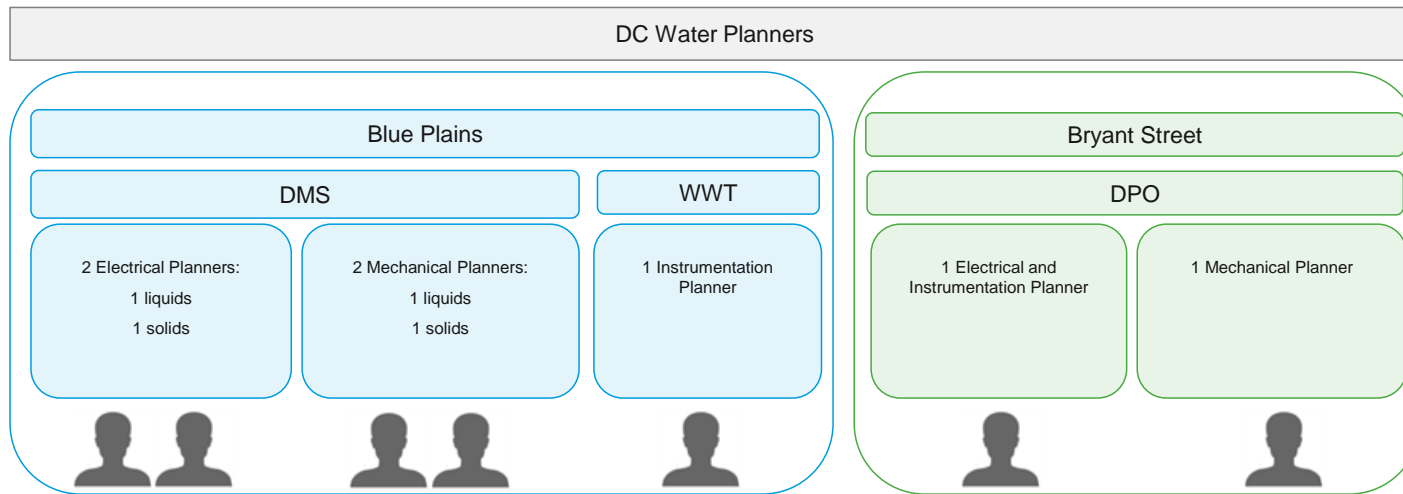
Our testing period covered all of fiscal year 2019. Based upon assessment scope and identified objectives, the following procedures were performed:

- Conducted walkthroughs with Planners to understand actual roles and responsibilities related to work order planning and compared to position job descriptions.
- Selected a sample of 35 non-emergency corrective maintenance (CM) work orders from FY19 and reviewed for the following:
  - Determined completeness and accuracy of work order plans, including the use of a third-party subject matter expert, where applicable.
  - Reviewed work orders from Maximo and interviewed Foremen to compare work order plan to work execution, considering steps performed, required labor hours and materials and other requirements as needed.
  - Identified, where possible, root-cause for discrepancies between planning and execution.
- Identified potential opportunities for process improvement or control gaps and underlying root causes.
- Worked with management to validate discrepancies and develop action plans to remediate identified control gaps.



# Work Order Planning Assessment

DC Water personnel perform preventive, corrective, and predictive maintenance services for all treatment process area equipment to improve reliability, reduce down time, and maximize asset life. The Planner position was created in 2011 to support DC Water personnel to execute such activities.



# Work Order Planning Assessment

Observations	Risk Rating
<p><b>1. Inconsistent and poorly defined roles and responsibilities for the planning function</b></p> <p><b>Management Action Plan:</b></p> <ul style="list-style-type: none"> <li>• Revisit the Planning SOP and update as needed along with the respective training material.</li> <li>• Revisit the Job Descriptions to assess if and how they need to be updated to reflect the revised SOP.</li> <li>• Communicate and train Planners on the revisions.</li> <li>• The excessive warehouse interactions will be reviewed in conjunction with the Material Management (Procurement) Department, and necessary improvements will be identified, and an implementation plan with schedule developed.</li> <li>• Planners’ role related to budgeting process will be defined and implemented.</li> </ul> <p><b>Target Date:</b> Six months after return to normal staffing following COVID-19 crisis. Expected date is December 2020.</p> <p><b>Responsible Parties:</b> Maintenance Management Team – Blue Plains and Pumping Operations</p>	<p>High</p>

# Work Order Planning Assessment

Observations	Risk Rating
<b>2. Missing and inconsistent job planning for equipment maintenance</b>	High
<p><b>Management Action Plan:</b></p> <ul style="list-style-type: none"> <li>The existing SOP with its three levels of Job Plans will be revisited and revised to include templates for each level of Job Plan. The review will leverage the authority’s policies. Changes will be communicated, and training will be provided. Management will develop an implementation plan with a schedule</li> </ul> <p><b>Target Date:</b> Six months after return to normal staffing following COVID-19 crisis. Expected date is December 2020.</p> <p><b>Responsible Parties:</b> Maintenance Management Team – Blue Plains and Pumping Operations</p>	

*One moderate risk and one low risk finding are also included in the full report.*

# FACILITIES MANAGEMENT



# Facilities Management Audit

## Purpose

The purpose of this review was to obtain an understanding of Facilities Management operations and processes, including the policies and procedures, and controls in place, to assess whether the system of internal controls are adequate and appropriate, at the department and Authority-level.

## Scope

Based on our audit objectives, the following procedures were performed:

- Reviewed documented policies and procedures, organizational charts, and any other key process information available to further our understanding of the function;
- Conducted interviews with key personnel to obtain a detailed understanding of Facilities Management policies and procedures, operating functions, and key performance indicators;
- Performed testing on a sample of work orders to validate compliance with relevant policies and procedures;
- Reviewed the Health and Hygiene program's alignment with the existing work order process, including understanding applicable best practices/industry guidelines for identifying preventive and corrective maintenance opportunities through the program initiatives;
- Inquired of the process for how / where Facilities is integrated into the closeout / turnover process of construction projects
- Analyzed Facilities purchasing data to identify opportunities for improvement, including but not limited to, commoditized agreements for frequently purchased items; and,
- Identified process improvement opportunities and recommend internal control enhancements to improve the overall process.

Fieldwork was performed January 2020 – March 2020.

# Facilities Management Audit

The Facilities Management department administers programs for construction, operation, maintenance and continuous improvement of the Authority's physical infrastructure and building services. Their mission is to support the operation of the Authority through routine maintenance, custodial services, repair and improvement of its facilities, buildings, grounds and roadways. There are three working groups that make up Facilities Management: Office Services, Operations, and Mechanical Services. The responsibilities of each group is detailed in the table below.

Additionally, Facilities Management partners with the Department of Safety & Health (DOSH) to promote a safe working environment for all DC Water employees. Starting in November 2019, consistent with the Blueprint Strategic Plan, an environmental health and hygiene program began for all facilities and operations.

Group	Responsibilities
<b>Office Services</b>	<ul style="list-style-type: none"> <li>• Mail, courier and freight services</li> <li>• Motor pool services</li> <li>• Managing DC Water's recycling program (paper, cans, bottles)</li> <li>• Coordinating work order requests and surveys for facilities</li> <li>• Managing DC Water's copy services</li> </ul>
<b>Operations</b>	<ul style="list-style-type: none"> <li>• Building operations/maintenance</li> <li>• Procuring and assigning furniture</li> <li>• Repairing fences and rollup doors</li> <li>• Coordinating workspace assignments and moves</li> <li>• Janitorial services, landscaping, trash removal, and pest control</li> <li>• Providing adequate ground direction and building signage</li> <li>• Managing cafeteria operations</li> </ul>
<b>Mechanical Services</b>	<ul style="list-style-type: none"> <li>• Providing predictive/preventive maintenance</li> <li>• Maintaining adequate indoor air quality</li> <li>• Engaging in project management of major construction and renovation projects</li> <li>• Providing elevator and HVAC systems maintenance</li> <li>• Plumbing services</li> </ul>



# Facilities Management Audit

Observations	Risk Rating
<b>1. Utilization of Maximo – Inconsistent Entry of Materials &amp; Labor Costs</b>	<b>High</b>
<p><b>Management Action Plan:</b></p> <ul style="list-style-type: none"> <li>Facilities has been working the Maximo Team to include in the workflow process the requirement that all labor hours and materials are entered onto a work order prior to a work order being closed.</li> <li>Labor and materials are not currently mandatory fields in the current workflow. The new future workflow process would implement the labor hours and material management requirement.</li> <li>All team members who will be affected by the new system have been given the dev system to practice on while waiting for the new system to go live.</li> <li>Once the new system is in place, Facilities Management will be able to ensure that no work orders are closed out without the completed information.</li> <li>Facilities Operations will provide the Foreman and Crews with a refresher training on the current Material Management Work Order process which will include the requirement of adding in the labor hours and materials used. Training will include the requirement differences of MM process versus acquiring materials from other means. Staff will be also transition to the new system where this requirement will be mandatory.</li> </ul> <p><b>Target Date:</b> Refresher Training - May 15, 2020 New System Rollout – June 15, 2020</p> <p><b>Responsible Parties:</b> RoDonna Brewster, Supervisor Facilities Coordination</p>	

# Facilities Management Audit

Observations	Risk Rating
<b>2. Work Order Monitoring – Lack of Supervisor Review &amp; KPIs</b>	High
<p><b>Management Action Plan:</b></p> <ul style="list-style-type: none"> <li>Facilities has been working the Maximo Team to improve the workflow process. In the future system, the expectation will be the Crews will complete the work orders in the field and then they route to the Foreman to QA/QC the work before closing out the work order. If the Foreman determines the work is not complete, it will route back to the Crews. A necessary component of this process is issuing the crew a mobile device that would allow the Crews to complete their work in the fields.</li> <li>For the time being, Facilities Management has provided desktop computers in the shops. It will be the Foreman responsibility to review the work order for accuracy then close out the work order.</li> <li>Facilities will update the Work Order SOP to reflect the future changes and disseminate the standard during the refresher training.</li> <li>Facilities Operations will provide the Foreman and Crews with a refresher training on the current and future Work Order process which will include the requirement of adding in the labor hours and materials used. Staff will be also transition to the new system where this requirement will be mandatory for each step in the work order process.</li> </ul> <p><b>Target Date:</b> Refresher Training - May 15, 2020 New System Rollout – June 15, 2020</p> <p><b>Responsible Parties:</b> RoDonna Brewster, Supervisor Facilities Coordination</p>	

*One moderate risk finding is also included in the full report.*



# BENEFITS AND COMPENSATION

# Benefits and Compensation Audit

## Purpose

The purpose of this review was to obtain an understanding of how the Authority executes and monitors the benefits and compensation processes.

## Scope

Our testing period covered all of calendar year 2019. The audit scope was based on the following objectives:

- Reviewed the applicable Authority policies and procedures;
- Conducted walkthroughs with responsible personnel within People & Talent to assess the design of the compensation and benefits control environment;
- Assisted in the development of flowcharts for the compensation and recruitment processes for the as-is ERP documentation requirements;
- Performed detailed testing over the following processes for proper justification, approval, and documentation, to assess the effectiveness of the compensation and benefits control environment:
  - Compensation: New hire compensation, non-union annual merit increases, union step increases, annual bonuses, off-cycle pay adjustments (i.e. pay equity adjustment, promotion, acting assignment, job reclassification)
  - Benefits: Annual enrollment, new hire enrollment, off-cycle changes / payroll adjustments, monthly provider billing, reconciliations / monitoring of deductions;
- Reviewed segregation of duties and system permissions in Dayforce to determine whether access to compensation and benefits data is properly restricted in order to maintain integrity and confidentiality of the data, where applicable;
- Identified strong practices and areas of excellence, as well as potential opportunities for process improvement or control gaps and underlying root causes; and
- Worked with management to develop action plans to remediate identified control gaps.

***No high risk findings to report. One moderate risk and four low risk findings are included in the full report.***

# HOTLINE UPDATE



# Hotline Update

As of 7/13/2020:

FY 20 Hotline Call Summary	
FY 20 Calls Received	7
FY 20 Cases Closed	5
FY 20 Calls Open	2
FY 20 Open Call Breakdown	
Open Fraud Claims:	
<i>Conflicts of Interest</i>	2

FY 19 Hotline Calls	
FY19 Calls Received	28
FY19 Calls Closed	25
FY19 Calls Open	3
FY 19 Open Call Breakdown	
Open Fraud Claims:	
<i>Conflicts of Interest</i>	3

Total calls by Fiscal Year:

Year	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY19	FY20
# of calls	10	20	16	36	31	21	28	7
Action Taken	0	2	7	7	2	0	1	0



# QUESTIONS AND ANSWERS

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# DC WATER

## Work Order Planning Assessment



February 2020

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**B Risk Rating Definition**



# EXECUTIVE SUMMARY, BACKGROUND AND APPROACH



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# Executive Summary and Objectives

## Objective and Scope

The purpose of this review was to obtain an understanding of how the Authority leverages a planning function across the Department of Maintenance Services, Department of Pumping Operations, and Wastewater Treatment Process Engineering. Our testing period covered all of fiscal year 2019. The assessment scope was based upon the following objectives:

- Conducted walkthroughs with Planners to understand actual roles and responsibilities related to work order planning and compared to position job descriptions.
- Selected a sample of 35 non-emergency corrective maintenance (CM) work orders from FY19 and reviewed for the following:
  - Determined completeness and accuracy of work order plans, including the use of a third-party subject matter expert, where applicable.
  - Reviewed work orders from Maximo and interviewed Foremen to compare work order plan to work execution, considering steps performed, required labor hours and materials and other requirements as needed.
  - Identified, where possible, root-cause for discrepancies between planning and execution.
- Identified potential opportunities for process improvement or control gaps and underlying root causes.
- Worked with management to validate discrepancies and develop action plans to remediate identified control gaps.

Fieldwork was performed November 2019 – January 2020.

## Overall Summary and Highlights

The four observations identified during our assessment are outlined on pages 8 - 24:

1. Inconsistent and poorly defined roles and responsibilities for the planning function
2. Missing and inconsistent job planning
3. Blue Plains asset and parts data is not well organized for the maintenance function
4. Bryant Street inventory discrepancies between Lawson and inventory on hand

These observations are described in the detailed observation section of the report. We assigned relative risk or value factors to each observation. Risk ratings are the evaluation of the projected severity of the concern and the potential impact on the operations of each item. Observations will require management action plans with estimated completion dates that will be included in the routine follow up of internal audit observations.

### Summary of Observation Ratings

(See Appendix for risk rating definitions)

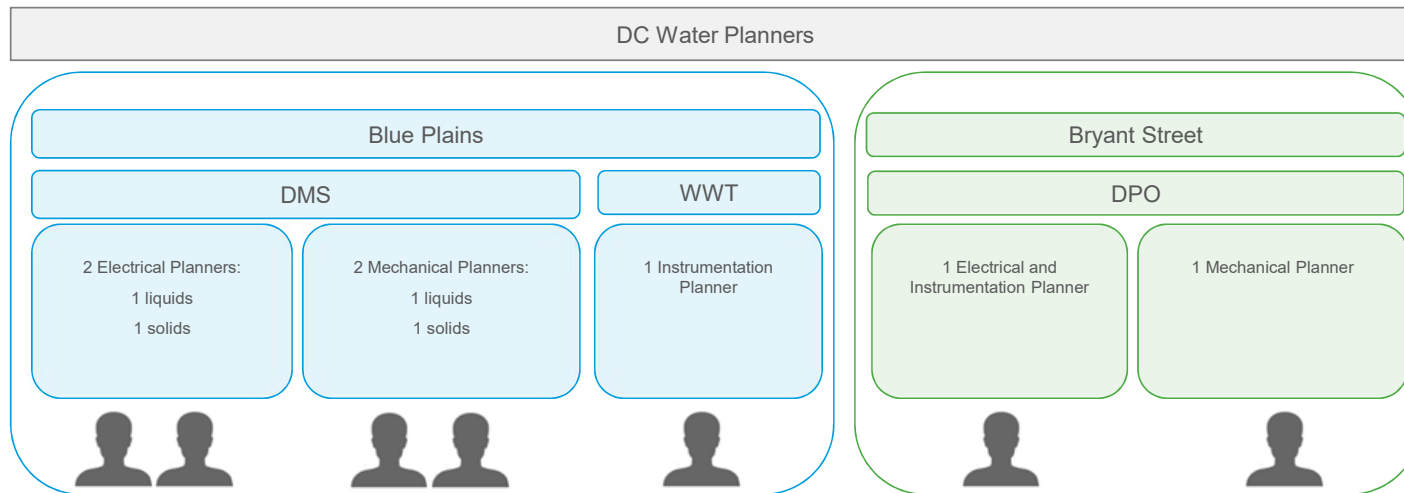
Number of Observations by Risk Rating		
High	Moderate	Low
2	1	1

We thank all DC Water team members who assisted us throughout this review.

## Background

DC Water departments support large critical infrastructure at the Blue Plains Advanced Wastewater Treatment Plant and across the District. DC Water's aging infrastructure requires constant maintenance and condition monitoring to seamlessly continue standard operations. DC Water personnel perform preventive, corrective, and predictive maintenance services for all treatment process area equipment to improve reliability, reduce down time, and maximize asset life. **The Planner position was created in 2011 to support DC Water personnel to execute such activities.**

DC Water has seven planners across the Department of Maintenance Services (DMS), Department of Pumping Operations (DPO), and Wastewater Treatment Process Engineering (WWT). Planners specialize in electrical maintenance, mechanical maintenance, and instrumentation. Planners support the execution of maintenance for non-emergency work orders from the time a work order is created to the time the work order is scheduled for execution. Due to the urgency of the work, Planners are not required to be involved in emergency work orders.



## Background (continued)

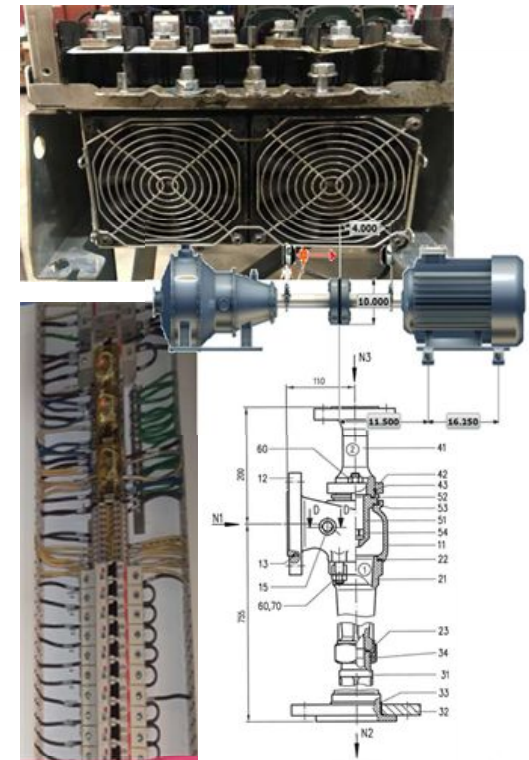
Specific responsibilities of each Planner include:

- **Investigation:** Coordinate with Foremen or assign crews to visit and investigate job site to determine the nature of the problem noted on the work order
- **Planning:** Create job plans consisting of tasks, appropriate parts, estimated labor hours, lock-out tag-out (LOTO) procedures, drawings, schematics, and other relevant documentation that will assist in the execution of the work order request
- **Parts procurement:** Order appropriate parts, as needed, to execute work order
- **Kitting:** Pick up parts from the warehouse and organize kits by work order for the crews
- **Scheduling:** Coordinate with Foremen, Operations, and relevant departments to prioritize and schedule open work orders to crews

*Note: Not all responsibilities are consistent across Planners and trades. Please reference Observation #1 for additional detail.*

DC Water Planners utilize various systems to facilitate day to day activities:

System	Location	Function
<b>Acquire</b>	Blue Plains only	Software used to schedule crews to open work orders.
<b>Lawson</b>	All Locations	DC Water's enterprise resource planning software (ERP), which Bryant Street Planners reference to determine inventory on hand in the warehouse.
<b>LiveLink</b>	All Locations	A document repository maintained by engineering to house all asset-related documentation. Planners use LiveLink to search for documentation related to the assets for which maintenance will be performed.
<b>Maximo</b>	All Locations	DC Water's work order management system. All work orders are assigned and routed to Planners within the system.
<b>Shared Drive</b>	Bryant Street only	Bryant Street Planners store equipment manuals on a shared drive, organized by asset, for quick reference when planning.



## Approach

### **PLANNER RESPONSIBILITIES**

- Conducted interviews with all seven DC Water Planners to gain an understanding of their roles and responsibilities related to work order planning
- Compared Planners' actual roles and responsibilities to position job descriptions

### **JOB PLAN EXECUTION**

- Selected a representative sample of 35 priority 3 corrective maintenance (CM) work orders to perform targeted testing over the development and completeness of work order plans to work execution
- Conducted interviews with the eight Foreman associated with the work order sample selection to gain an understanding of work order plans compared to actual work execution
- Determined root-cause for discrepancies between planning and execution

### **SUBJECT MATTER EXPERT**

- Validated observations through on-site visits to determine the completeness and accuracy of Internal Audit's work order plan samples based on industry best practices
- Assisted in developing effective management action plans

*Reporting:* At the conclusion of this audit, we summarized our observations related to the work order planning function. We have reviewed the results of our testing with management.



# OBSERVATIONS AND RECOMMENDED ACTION

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## Observation 1: Roles and Responsibilities

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**Risk Rating: High**

### **Observation:**

Roles and responsibilities of the Planners at DC Water are not consistent across departments or well-defined. Aside from job descriptions maintained by People & Talent, there is no standard operating procedure or formal expectations documented for the Planners. Planners perform day-to-day responsibilities based off of ad hoc maintenance needs and the expectations of the Supervisors / Foremen.

There are a number of responsibilities within the Planner job descriptions that are not consistently performed or are partially performed. These include:

- Conducting or assisting in investigation of Work Order (WO) issue: This is performed inconsistently between Planners and jobs. Some Blue Plains Planners go on-site to investigate with technicians, while others wait for crews to report back on what they find. Bryant Street Planners go on-site to investigate with technicians.
- Creating job plans for WOs, including applicable safety rules and regulations: This is performed inconsistently between Blue Plains Planners and jobs (reference Observation #2).
- Participating in budgetary preparation, tracking and analysis, and providing data to support annual budget and staffing requirements: This is not currently performed by Planners, or is informal.

Although not included in the job description, Planners participate in weekly scheduling meetings with Supervisors/Foremen and Operations. Bryant Street Planners then schedule crews for the following week based on work discussed during weekly meetings in excel. Planners at Blue Plains previously owned the scheduling of jobs, but that responsibility has since been transitioned to Supervisors/Foremen, who use the Acquire system.

## Observation 1: Roles and Responsibilities (continued)

### Observation (continued):

#### *Root Cause Analysis:*

The root cause of inconsistencies between Planner current responsibilities and Planner job descriptions results from a lack of formally defined requirements (i.e. a Planning SOP), coupled with varying expectations and level of effort Planners must put into individual work orders.

Examples include the following:

- **Blue Plains:** Researching and procuring parts (reference Observations #3). Note that although Planners coordinate parts procurement in both locations as necessary, the researching and procuring of parts requires a higher level of effort at Blue Plains. Generally, this is because they are managing the parts for a treatment process that is being upgraded in phases, where new capital equipment is installed as obsolete capital equipment is retired, and Planners have to identify next generation replacements. Although both Blue Plains and Bryant Street have aging infrastructure, the volume of parts and level of obsolete equipment are greater at Blue Plains. There are approximately:
  - Blue Plains:
    - ~21,800 active items in the Blue Plains item master
    - ~7,600 active items on hand in Blue Plains warehouse
    - ~6,500 active items have been used since 10/1/17
  - Bryant Street:
    - ~5,200 active items in the Bryant Street item master
    - ~2,500 active items on hand in Bryant Street warehouse
    - ~1,500 active items have been used since 10/1/17
- **Bryant Street:** Inaccuracies in Lawson parts recorded (reference Observation #4).
- **Both Locations:** Additional responsibilities related to warehousing that are not listed on the job descriptions, including picking up parts from warehouse and kitting, as well as organizing kits by WO and schedule for crews to use. As a best practice, the physical coordination of parts is typically a warehousing / materials management responsibility.



## Observation 1: Roles and Responsibilities (continued)

---

### **Observation (continued):**

#### *Root Cause Analysis (continued):*

Additionally, workload varies across Planners and trades. For example, mechanical planners at Blue Plains receive three times more WOs per week per Planner than Bryant Street. The lower volume of WOs and parts for Bryant Street likely contributes to the level of consistency at which Bryant Street Planners are able to perform investigations and job plan creation.

#### *Impact Analysis:*

The risks associated with inconsistent and poorly defined roles and responsibilities include, but are not limited to, the following:

- WO planning may be performed inefficiently or inaccurately (e.g., too generic or too high level),
- Activities may be performed by Planners that should be owned by other functions, and
- Planners do not have the time or guidance to create plans and document safety requirements adequately.

## Observation 1: Roles and Responsibilities (continued)

### Recommendation:

We recommend management evaluate and document roles and responsibilities related to the planning function, including Planners, Supervisors / Foremen, Operations, Safety, and Materials Management; to include consideration of the following tasks:

1. Required level of Planner involvement in on-site inspection / investigations based on WO type and trade
  - a. Which WOs require on-site inspection / investigation by the Planner? Can a more robust risk-based criteria for non-emergency work orders be established?
2. Required level of detail of job planning (including lock-out tag-out) based on WO type and trade
  - a. Which WOs require detailed plans, including pictures and step-by-step instructions? Are there corrective maintenance priority 1 through 3 WOs that should not require planning, based on location, asset, or maintenance type?
3. Required level of participation (if any) in annual budgeting process
4. Role for scheduling ownership
  - a. Is scheduling most appropriately performed by Planners or Supervisors / Foremen?
5. Level of involvement in warehouse logistical responsibilities and differentiation in role from warehouse personnel
  - a. Consider a business case for Materials Management to take on delivery of parts and kitting (may require additional resource(s) for Materials Management)
6. Baseline level of safety requirements incorporated into job plans versus when to involve the Safety department

After determining the appropriate distribution of responsibilities for the planning function, management should update job descriptions of any functions impacted (i.e. Planners, Supervisors / Foremen, Warehousing personnel, etc.) and consider an SOP or process flow for each activity.

## Observation 1: Roles and Responsibilities (continued)

---

### **Management Action Plan:**

#### **Background:**

There is agreement with the Audit finding that the current roles and responsibilities of Planners at DC Water are not consistent across departments and trades and not consistent with the Job Description. There is also an agreement with the finding that planners are dealing with warehouse and kitting parts that is typically a warehousing function. The audit has also identified inconsistency in workloads between planners. The comments relating to absence of an SOP of guidance however is disputed. There is detailed SOP for Planning that was developed, distributed and trained on. This SOP identifies the three different levels of job plans as well required interaction with foremen to increase accuracy of job plans. Over time, the planning effort has strayed from the SOP leading to the finding of inconsistency between planners. This is an important finding that will be corrected as documented in the Action Plan.

Safety of staff is very important to management. Management is accountable for safety while the responsibility for execution is assigned by the entity best suited to address it. The role of planners in safety is to accurately assess, document, and execute wrap around processes related to work orders. These include identifying locations as confined spaces, ordering the appropriately sized scaffolding for the job, determining the accurate equipment weight and reach to order the correct crane for high lift work, as examples. The detailed execution level safety of the crew such as setting up air monitors, ventilators, and tripods for confined space and lock out-tag out are crew foremen responsibility since conditions change frequently and an assessment is needed just prior to execution of task.

## Observation 1: Roles and Responsibilities (continued)

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### Management Action Plan:

#### Response:

1. Maintenance Management will revisit the Planning SOP and update as needed along with the respective training material to ensure roles and responsibilities are complete and clearly defined. Management in conjunction with People and Talent will also revisit the Job Descriptions to assess if and how they need to be updated to reflect the revised SOP. All Changes will be communicated to the Planners followed by targeted training related to the revisions. Management will develop an implementation plan with a schedule.
2. The excessive warehouse interactions identified by the Audit will be reviewed in conjunction with the Material Management (Procurement) Department, and necessary improvements will be identified, and an implementation plan with schedule developed.
3. Planner's role related to budgeting process relates to analyzing parts and supplies usage rates across the entire department and establish min max stocking levels and share this information with the warehouse. Also identify long lead items and work in conjunction with the warehouse to develop a purchasing plan. This role will be distributed equally across all the planners and implemented by the target date.

**Responsible Party:** Maintenance Management Team – Blue Plains and Pumping Operations

**Target Date:** Six months after return to normal staffing following COVID-19 crisis. Expected date is December 2020.

## Observation 2: Missing and Inconsistent Job Planning

---

**Risk Rating: High**

### **Observation:**

Internal Audit tested a sample of 35 Priority 3 corrective maintenance WOs from Maximo (25 Blue Plains; 10 Bryant Street). Internal Audit noted 18 of 25 Blue Plains work orders reviewed did not have sufficient associated job plans. Many included general information related to the tasks and/or other relevant attachments such as manuals, schematics, drawings, parts listings, standard lock-out tag-out (LOTO) language, etc. However, the majority did not include a formal, step-by-step job plan with visuals. This may not be necessary for all WOs, but a criteria for which WOs require detailed plans has not been established.

### *Root Cause Analysis:*

Blue Plains Planners spend a lot of time researching, procuring, and kitting parts for work order requests, limiting time available to build out comprehensive job plans for every WO (reference Observation #1 for detailed Planner job responsibilities). Often, the crew's experience is leveraged to carry out work order requests, rather than job tasks provided by Planners. We noted this is not an issue at Bryant Street, and may be due to the number of work orders addressed each week per Planner (see Observation #1 for workload by location).

### *Impact Analysis:*

Without step-by-step instructions, there is inconsistency and inefficiency in how crews perform scheduled maintenance. When Planners do not have the time or guidance to create detailed plans, there is greater risk of an incident occurring, as the crews are not adequately prepared with proper procedures to avoid safety hazards associated with the equipment. Additionally, inadequate plans may increase DC Water's liability in the event of an incident occurring during planned maintenance. While safety and liability are possible impacts, they are partially mitigated by the experience of the Foremen and the crews performing the work.

## Observation 2: Missing and Inconsistent Job Planning (continued)

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### **Recommendation:**

1. We recommend that management evaluate when detailed plans are required for a WO, or a category of WO, and document the planning protocol. To determine when job plans are necessary, DC Water has already engaged a planning subject matter expert to perform a detailed review of executed WOs and assist in determining a protocol for planning.
2. When a plan is required, we recommend that the Planners at Blue Plains work closely with their respective Foremen and Technicians to obtain all information necessary for the development of a tailored plan to guide the crew through execution. In an effort to create more substantive and sustainable job plans, we recommend that plans contain step-by-step procedures and visuals / pictures of the asset, unless the WO is determined not to require a job plan. This is already in place at Bryant Street.
3. In a number of samples, detailed LOTO instructions with pictures were attached to the WOs. We recommend that these LOTO detailed attachments are created for all assets, and maintained in a shared library, to be leveraged as needed with job plans. Management should consider the level of involvement required of Operations and Safety in these LOTO instructions.

### **Management Action Plan:**

#### **Background:**

There are inconsistencies on how planners develop and documents job plans, including criteria on what type of a job plan should be for different activities. As discussed in response to Observation 1 above, the Planning SOP details the three levels of Job Plans based on complexity of the work order. This SOP will be reinforced with Templates for each level of Job Plans to standardize requirements across Planners.

## Observation 2: Missing and Inconsistent Job Planning (continued)

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**Response:**

1. The existing SOP with its three levels of Job Plans will be revisited and revised to include templates for each level of Job Plan. The review will leverage the authority's policies. Changes will be communicated, and training will be provided. Management will develop an implementation plan with a schedule

**Responsible Party:** Maintenance Management Team – Blue Plains and Pumping Operations

**Target Date:** Six months after return to normal staffing following COVID-19 crisis. Expected date is December 2020.

## Observation 3: Blue Plains Parts Data

---

**Risk Rating:** Moderate

### **Observation:**

Blue Plains asset and parts data is not well organized for the maintenance function. Parts detail can be found within LiveLink, which is a document repository maintained by engineering to house all asset-related documentation (procurement documents, manufacturer guides, etc.). Once parts detail is found within LiveLink, Planners can add a link to the file location within Maximo, however, not all of the links within Maximo currently reference the correct file locations.

Planners sort through LiveLink for relevant asset information, and if insufficient detail exists, Planners coordinate parts procurement through internet searches, manufacturers, vendors, etc. until they find the appropriate part to order for the repair. There are instances in which Blue Plains Planners have determined that a part is unsupported by the manufacturer or obsolete while coordinating parts procurement for corrective maintenance WOs. When such issues are identified, Planners initiate a management of change process to begin identifying a replacement. Reference Observation #1 for detailed Blue Plains parts data.

### *Root Cause Analysis:*

Because LiveLink is an engineering document repository, it is organized by process and contract, rather than by asset. This makes it time-consuming for Planners to search for detailed parts information within LiveLink, because the correct contract must be identified in order to find the manual or manufacturer guide that includes parts detail.

### *Impact Analysis:*

The time-consuming efforts of researching parts has an impact on equipment downtime, less time spent on the development of detailed job plans (reference Observation #2), inability to stock spare parts in the warehouse, and inadequate ability to repair equipment.



## Observation 3: Blue Plains Parts Data (continued)

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### **Recommendation:**

We recommend that DC Water enhance the current LiveLink functionality, or create a DMS-specific database, with the purpose of organizing parts required for equipment maintenance:

- Allow the database to be searchable by asset rather than contract
- Include all parts associated with the asset (including manufacturer information, item detail, etc.) whenever new equipment is procured
- Include any relevant manufacturer and vendor information and cost data within the database during parts procurement for future reference

### **Management Action Plan:**

#### **Background:**

Over 80% of the plant facilities were rebuilt after the year 2000 except for Electrical distribution. The Maximo to Live Link integration is based on matching data attributes between the two systems (meta data). These attributes are: Contract Number, Manufacturer, Model Number, Asset Class and, if applicable, Asset Subclass – the integration matches as many attributes as possible and then displays the resulting documents in LiveLink. The data for manufacturer and contract number are QA/QC'd annually to enhance the search feature. Obviously, the more attributes that match the more relevant the resulting list of documents will be. As well, the integration uses the contract # either by itself if no other matching data attributes exist or in conjunction with the other attributes mentioned above to refine the search criteria and find associated documents.

Since we have so many assets and so many of the same asset class/make/model #, the advantage of this integration approach is that if the assets are modified, replaced or if additional info is obtained, the information changes need to be updated in only one place. If the integration was based on an Asset-to-Asset match, someone would have to make the changes or upload the changed documentation for each applicable asset - this introduces risks for documentation to become outdated, incorrect and/or out of sync from one asset to another when the assets are the same.

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## Observation 3: Blue Plains Parts Data (continued)

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DCWater did evaluate the option of hiring a firm to develop MRO for the plant separate from the Live Link data repository. The cost for this effort was in excess of \$1Million and only guaranteed accuracy at the time it was delivered and relied on extensive efforts to maintain it.

Additionally, in the past, there was an attempt to add all parts related to an asset to the item master. The requirement that these parts be accompanied with a quote to purchase in future made this effort unmanageable. In conjunction with the planners and Warehouse, a decision was made to identify frequently replaced parts for every asset class and only these are now uploaded to the item master. In the off chance that a part not loaded in item master is required, the Service Manual is still available.

Electrical distribution parts however are frequently discontinued and Service Manual data can become outdated. These represent a special case for parts procurement.

### **Response:**

1. The current LiveLink based Service Manual data storage with meta data approach will remain. Opportunities to identify critical gaps in documentation will continue to be explored by identifying missing legacy documentation as a gap. The effectiveness of search is dependent on quality and completeness of the meta data that is added to the system. Clean-up of these data attributes between Maximo and LiveLink will continue to allow for more refined search results when the interface is used.
2. As well, there's an opportunity here to establish a project to identify critical gaps in asset BOMs (Bill of Materials) and then enhance/clean-up the item info in Maximo and/or LiveLink as applicable. Processes for this purpose should be established and be executed.
3. DC Water is on track to adopt Project Cortex later in 2020 (may be delayed due to COVID-19) wherein AI will be used to relate documents. This will be an effort done in parallel and will enhance searchability.

## Observation 3: Blue Plains Parts Data (continued)

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**Responsible Party:** Maintenance Management Team – Blue Plains and Pumping Operations

**Target Date:** Six months after return to normal staffing following COVID-19 crisis. Expected date is December 2020 for Item 1 and 2 in the Management Action Plan. Item 3 in the Plan is a multiyear task. Progress will be reported on its progress every six months starting with December 2020 for the first report.

## Observation 4: Bryant Street Inventory

---

Risk Rating: **Low**

### Observation:

Per inquiry with Bryant Street Planners, Lawson inventory data is not always consistent with the warehouse inventory on-hand. Planners heavily rely on Lawson data for the fulfillment of critical parts, most of which have minimum and maximum warehouse inventory requirements. When the inventory data for critical parts are not accurately accounted for in Lawson, Materials Management cannot properly meet those fulfillment requirements.

### Root Cause Analysis:

At Bryant Street, operating personnel have the ability to sign out materials from the warehouse without routing a WO to Materials Management for coordination. When personnel do not properly sign out materials, or when there is a significant lag between materials sign out and updating Maximo with sign out information, the Lawson data becomes inaccurate. These discrepancies prove difficult to identify and control, as Materials Management does not have sole ownership of the parts sign-out process. However, after-hours access to the warehouse allows operations to continue servicing critical maintenance needs for customers.

### Impact Analysis:

While the inventory balances could be considered financially immaterial, the inaccuracy of inventory data impacts equipment downtime and the ability to repair equipment on scheduled WOs.

## Observation 4: Bryant Street Inventory (continued)

### Recommendation:

We recommend that Materials Management implement a process to track warehouse traffic, which will allow the team to reconcile personnel accessing the warehouse to parts movement. One tracking option is to leverage the existing badge system and track badge scans into the warehouse. Materials Management can review the badge system logs regularly, and if anyone has swiped in without signing out a part, Materials Management must follow up to confirm that no parts were removed from the warehouse. This will allow Materials Management to correct inventory overstatements without performing a full physical inventory.

### Management Action Plan:

#### Response:

- The assistant Materials Manager requested a list of security of all individuals with access to BS4 warehouse on 13-Feb-20. The original list provided contained 347 individuals. The assistant Materials Manager and the Program Manager, Electronic Security Systems updated the access list to include only MM personnel, procurement personnel, security staff, and service contractors. The revised list contains 133 individuals as of 13-Feb-20. Going forward any additions to the access list will require approval by either the Materials Manager or the Assistant Materials Manager. The list will also be reviewed on a quarterly basis in the first week of the last month each quarter, starting in May 20.
- The assistant Materials Manager and the Materials Manager will pre-approve all inventory adjustments required at the BS4 warehouse. Implemented 13-Feb -20 and on-going.
- The assistant Materials Manager implemented a new policy with the BS4 warehouse personnel that any non-MM personnel need to be escorted by MM personnel when in the BS4 warehouse. Implemented 21-Feb-20.
- The assistant Materials Manager requested of the Director, Security to get a doorbell/push entry system for the BS4 warehouse like the BP1 entry system so non-MM personnel would have to ring the doorbell to enter BS4 warehouse area. Requested on 28-Feb-20. Estimated completion: TBD due to Covid-19

## Observation 4: Bryant Street Inventory (continued)

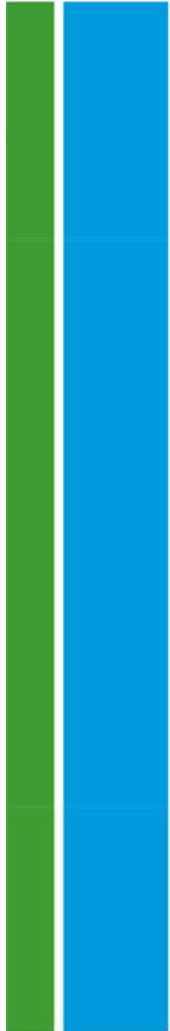
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- Relocation of high value/important Covid-19 response items from the BS4 warehouse to the BP1 warehouse to ensure stricter control and access to those items. The items have been located to bin locations at the BP1 warehouse that will require access to specialized lift equipment to retrieve. At present, only MM personnel have training on the lift equipment and access to the key for the equipment. Completed 11-Mar-20
- All Covid-19 response items for DC Water to be fulfilled from BP1 warehouse. This will ensure stricter controls of those items as well as streamline the auditing the material transactions. Completed 16-Mar-20
- Continue identifying and disposal of non-moving, obsolete, unusable material in conjunction with DC Water Procedure Number 100, Disposal of Scrap and Excess Property. This will reduce the amount of material in BS4 warehouse and allow better control of materials by reducing the amount of material to be controlled: Date: on-going

**Responsible Party:** Scott A. Perry, Materials Manager

**Target Date:** See above

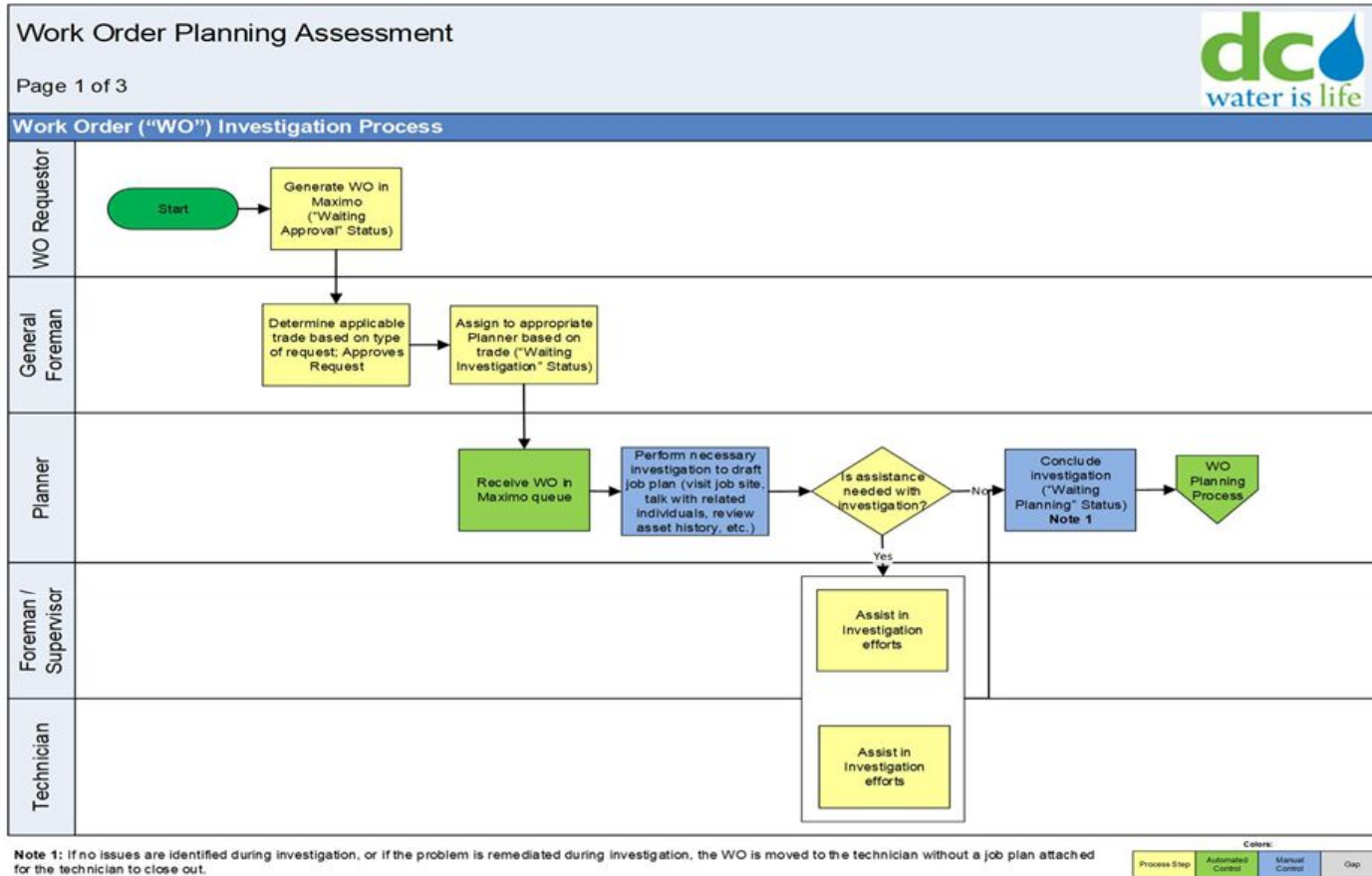
# APPENDICES



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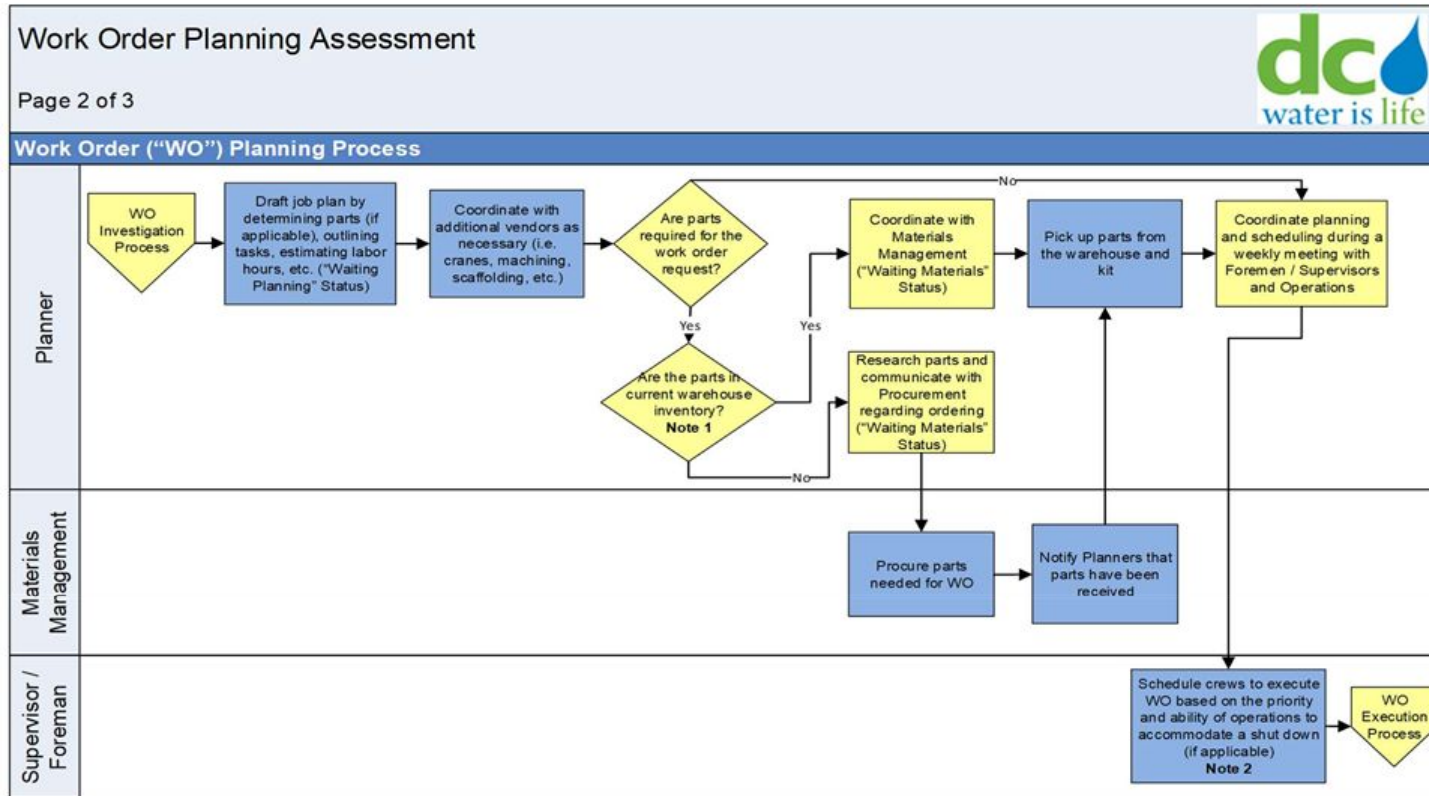


# Appendix A – Process Flowchart





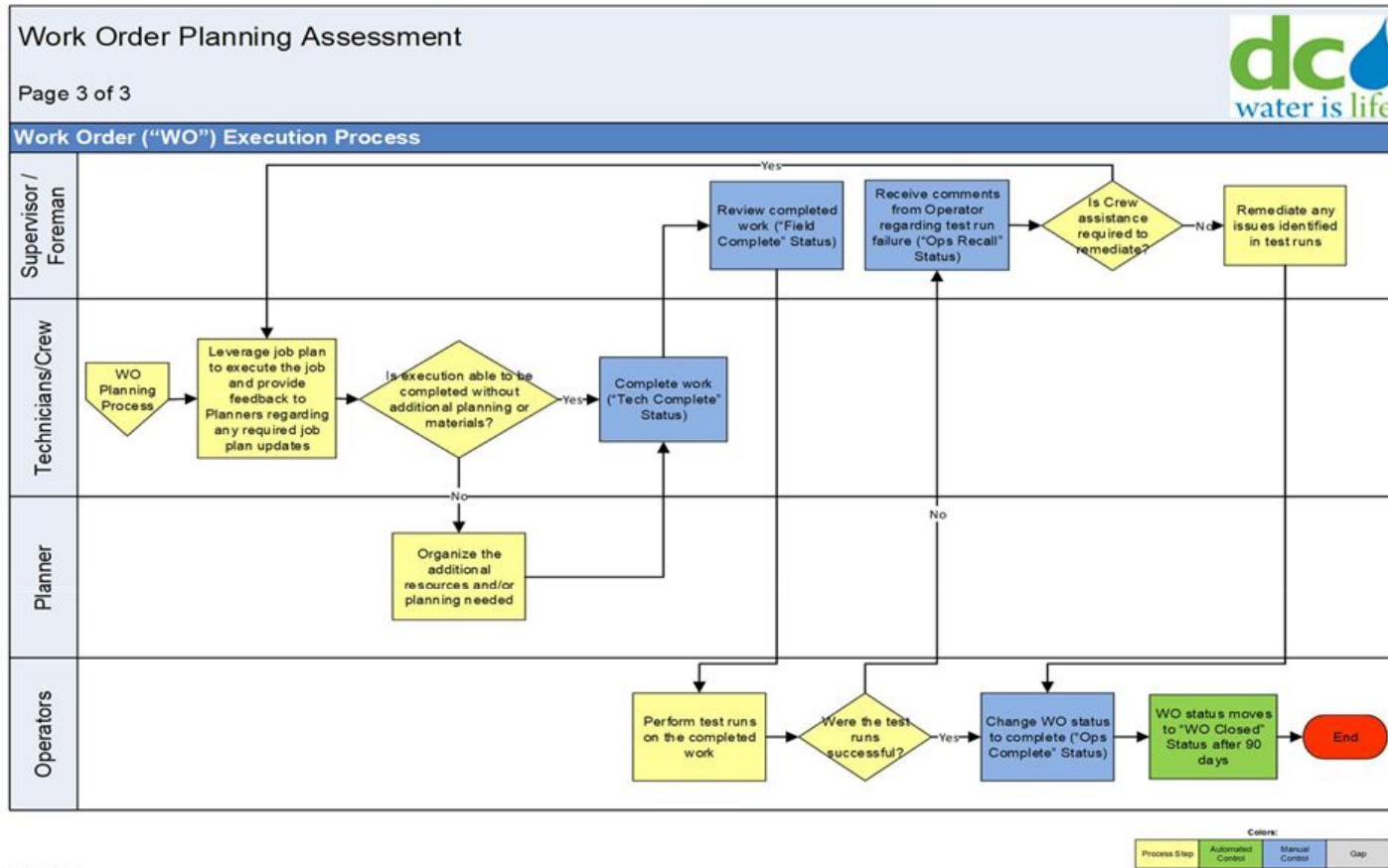
# Appendix A – Process Flowchart (continued)



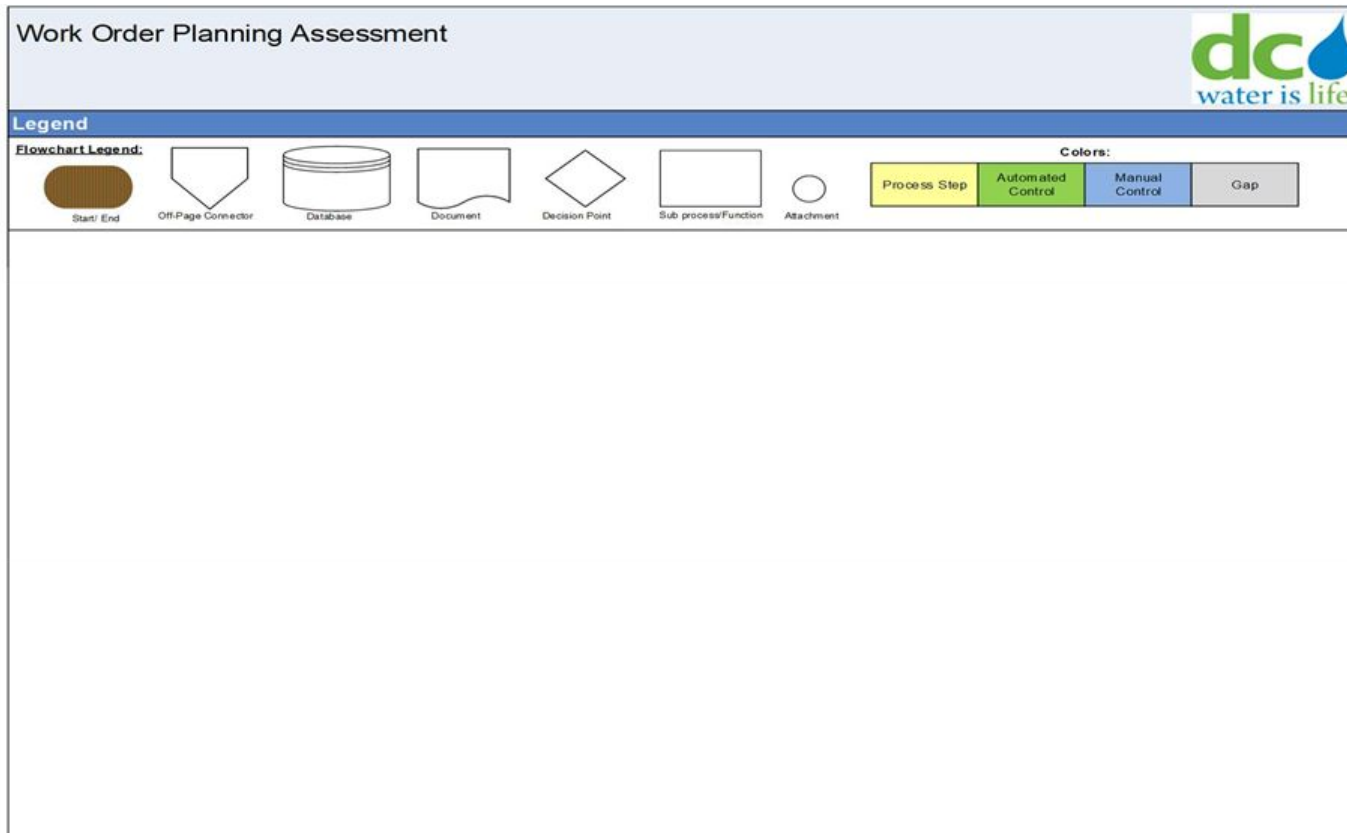
**Note 1:** Bryant Street Planners noted common discrepancies between inventory represented in Lawson and actual parts on-hand in the warehouse during this process  
**Note 2:** Supervisors/Foremen use the Acquire system for scheduling at Blue Plains, while Planners use Excel for scheduling at Bryant Street.



# Appendix A – Process Flowchart (continued)



## Appendix A – Process Flowchart (continued)



## Appendix B – Rating Definitions

RSM defined observations based on the following risk rating definitions:

Observation Risk Rating Definitions	
Rating	Definition
Low	Observation presents a low risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of low importance to business success/achievement of goals. Action should be taken within <b>12 months</b> (if related to external financial reporting, must mitigate financial risk within two months unless otherwise agreed upon).
Moderate	Observation presents a moderate risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of moderate importance to business success/achievement of goals. Action should be taken within <b>nine months</b> (if related to external financial reporting, must mitigate financial risk within two months).
High	Observation presents a high risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of high importance to business success/achievement of goals. Action should be taken immediately, but in no case should implementation exceed <b>six months</b> (if related to external financial reporting, must mitigate financial risk within two months).

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# DC WATER

## Facilities Management Internal Audit Report



April 2020

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  - C Maximo Mobility Project Timeline
  - D Risk Rating Definitions

# EXECUTIVE SUMMARY, BACKGROUND AND APPROACH



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# Executive Summary

## Objective and Scope

The purpose of this review was to obtain an understanding of Facilities Management operations and processes, including the policies and procedures, and controls in place, to assess whether the system of internal controls are adequate and appropriate, at the department and Authority-level. The audit scope was based on the following objectives:

- Reviewed documented policies and procedures, organizational charts, and any other key process information available to further our understanding of the function.
- Conducted interviews with key personnel to obtain a detailed understanding of Facilities Management policies and procedures, operating functions, and key performance indicators
- Performed testing on a sample of work orders to validate compliance with relevant policies and procedures
- Reviewed the Health and Hygiene program’s alignment with the existing work order process, including understanding applicable best practices/industry guidelines for identifying preventive and corrective maintenance opportunities through the program initiatives
- Inquired of the process for how / where Facilities is integrated into the closeout / turnover process of construction projects
- Analyzed Facilities purchasing data to identify opportunities for improvement, including but not limited to, commoditized agreements for frequently purchased items
- Identified process improvement opportunities and recommend internal control enhancements to improve the overall process.

Fieldwork was performed January 2020 – March 2020.

## Overall Summary and Highlights

The three observations identified during our assessment are outlined on pages 9 - 20:

1. Utilization of Maximo – Materials & Labor Costs
2. Work Order Monitoring – Supervisor Review & KPIs
3. Health & Hygiene Program

These observations are described in the detailed observation section of the report. We assigned relative risk or value factors to each observation. Risk ratings are the evaluation of the projected severity of the concern and the potential impact on the operations of each item. Observations will require management action plans with estimated completion dates that will be included in the routine follow up of internal audit observations.

It should be noted that beginning in January 2018 to address increase mobile capabilities for work order processing and this project is intended to address the issues identified within in this report.

### Summary of Observation Ratings

(See Appendix for risk rating definitions)

Number of Observations by Risk Rating		
High	Moderate	Low
2	1	0

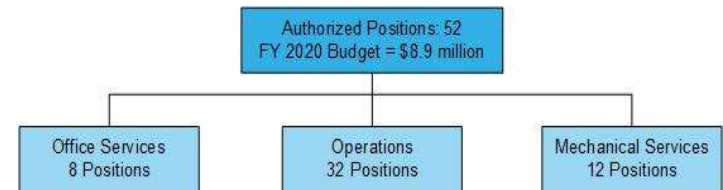
We thank all DC Water team members who assisted us throughout this review.

## Background

The Facilities Management department administers programs for construction, operation, maintenance and continuous improvement of the Authority's physical infrastructure and building services. Their mission is to support the operation of the Authority through routine maintenance, custodial services, repair and improvement of its facilities, buildings, grounds and roadways. There are three working groups that make up Facilities Management: Office Services, Operations, and Mechanical Services. The responsibilities of each group is detailed in the table below.

Additionally, Facilities Management partners with the Department of Safety & Health (DOSH) to promote a safe working environment for all DC Water employees. Starting in November 2019, consistent with the Blueprint Strategic Plan, an environmental health and hygiene program began for all facilities and operations.

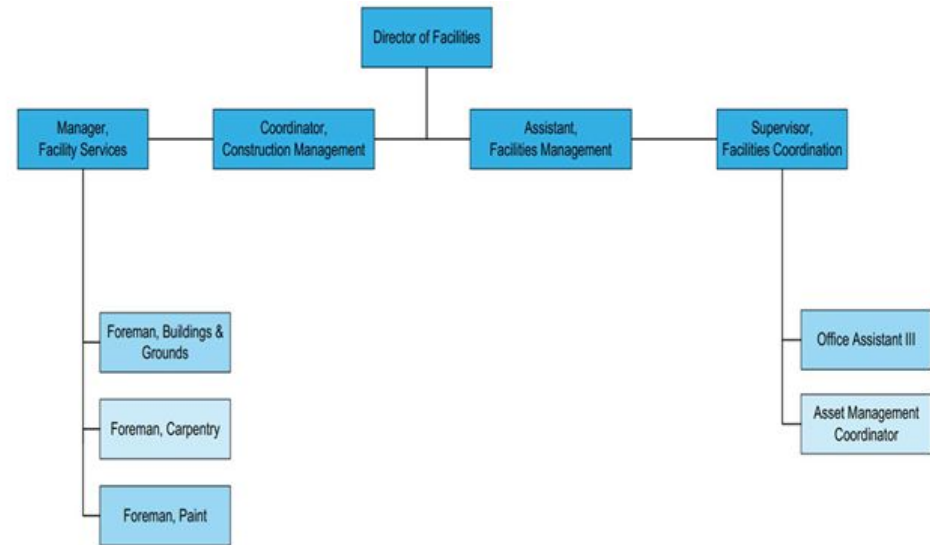
Group	Responsibilities
<b>Office Services</b>	<ul style="list-style-type: none"> <li>• Mail, courier and freight services</li> <li>• Motor pool services</li> <li>• Managing DC Water's recycling program (paper, cans, bottles)</li> <li>• Coordinating work order requests and surveys for facilities</li> <li>• Managing DC Water's copy services</li> </ul>
<b>Operations</b>	<ul style="list-style-type: none"> <li>• Building operations/maintenance</li> <li>• Procuring and assigning furniture</li> <li>• Repairing fences and rollup doors</li> <li>• Coordinating workspace assignments and moves</li> <li>• Janitorial services, landscaping, trash removal, and pest control</li> <li>• Providing adequate ground direction and building signage</li> <li>• Managing cafeteria operations</li> </ul>
<b>Mechanical Services</b>	<ul style="list-style-type: none"> <li>• Providing predictive/preventive maintenance</li> <li>• Maintaining adequate indoor air quality</li> <li>• Engaging in project management of major construction and renovation projects</li> <li>• Providing elevator and HVAC systems maintenance</li> <li>• Plumbing services</li> </ul>



# Background

The three working groups outline in the previous page are executed by the four service areas below:

- **Facility Services**
  - **Buildings & Grounds:** responsible for furniture, appliances, room setup, grounds maintenance and landscaping, pest control, snow removal, moving requests, janitorial services, and warehouse maintenance and management.
  - **Carpentry:** responsible for erecting wooden and metal framework, building room partitions, installing doors, and general carpentry repairs.
  - **Paint:** responsible for applying and maintaining coats of industrial paint on interior and exterior facilities, structures and equipment, water tanks, pipes, and valves.
- **Mechanical Services**
  - **HVAC:** responsible for maintaining the heating, venting and air-conditioning systems across Authority facilities.
  - **Plumbing:** responsible for performing periodic maintenance of, and responding to service requests related to domestic plumbing across Authority facilities.
- **Construction Management:**
  - Coordinates DC Water construction projects and promotes productivity, develops methods to evaluate effectiveness and provide advice to management as it relates to construction contracts, building plans and assessment, and occupancy space analysis.
- **Facilities Coordination:**
  - Responsible for mail operations, Print Shop, reprographic program oversight, floor copiers, cafeteria, purchase orders and contracts, budget development, analysis and oversight, managerial support and guidance, program assessment, analysis and effectiveness.



## Background (continued)

Most work performed by the Facilities Management team is via service requests submitted through Pipeline by a Maximo Service Request Representative. Upon submission of a service request, a subsequent work order is generated to complete the work and capture all applicable costs. Requests can be submitted for the following services, among others:

- Housekeeping/Custodial
- External Trash
- Recycling
- Furniture, Housewares and Appliances
- Conference Room Setup
- Boardroom Reservations
- Moving Requests
- Fence Installation and Repair
- Grounds Maintenance
- Landscaping
- Pest Control
- Snow Removal
- HVAC

Facilities Service Request Form

Page 1 of 2

**Facilities Service Request Form**

Requester Information

Name:

Email:

Contact Phone:

Request Details

Building:

Location Details:

Description:

Attachments: Upload file (Maximum Size: 20MB)

Work Type:

Safety Hazard:

[Create Service Request](#)

http://maximoforms.dcnwater.com/ 3/4/2019

Facilities Service Request Form



Service Request

User Information

Requested By: Duke Ruck

Phone: 2026

E-mail: duke.ruck@dcwater.com

Service Request Details

Request Description: Working Space Cleanance

Location: L1000

Location Details: DISTRICT OF COLUMBIA WATER & SEWER AUTHORITY

Dates

Requested Date: 2/22/19 12:00 PM

Affected Date:

Date of Occurrence:

Maximo Service Request



Work Order

Job Order: 20100000

Description: (All in condition and located inside the cabinet room in any city and need to be cleaned or replaced)

Location: L1000

Asset: MAXIMO 001 Admin Center User to DCWater User to Create

Requested By: MAXIMO00000000

Requested Date: 2/22/19 12:00 PM

Failure Code:

Job Details

Job Plan:

Job Plan Revision #:

Safety Plan:

Inspector Name:

Maximo Work Order

# Approach

## FACILITIES DEPARTMENT RESPONSIBILITIES

- Reviewed policies and procedures, organizational charts, and any other key process information available to further our understanding of the function.
- Conducted interviews with key personnel to obtain a detailed understanding of Facilities Management policies and procedures, operating functions, and key performance indicators.

## WORK ORDER MANAGEMENT

- Selected a representative sample of 50 work orders to perform testing related to:
  - Work order initiation and screening
  - Work planning and scheduling
  - Work execution and data entry
  - Work order closeout
  - Reporting and monitoring
- Identified process improvement opportunities and recommended internal control enhancements to improve the overall process.

## HEALTH & HYGIENE PROGRAM

- Reviewed the Health and Hygiene program's alignment with the existing work order process, including understanding applicable best practices/industry guidelines for identifying preventive and corrective maintenance opportunities through the program initiatives.
- Selected a representative sample of 10 health and hygiene inspections to validate compliance with program guidelines.

Additional objectives and procedures included:

- Inquired about the process for how / where Facilities is integrated into the closeout / turnover process of construction projects; and,
- Analyzed Facilities purchasing data to identify opportunities for improvement, including but not limited to, commoditized agreements for frequently purchased items.

Two vertical bars, one green and one blue, are positioned on the left side of the slide.

# OBSERVATIONS AND RECOMMENDED ACTION

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## Observation 1: Utilization of Maximo – Inconsistent Entry of Materials & Labor Costs

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**Risk Rating: High**

### **Observation:**

All available cost data is not captured within Maximo. Expected costs such as labor hours and inventory ordered / maintained through Materials Management are inconsistently captured on individual work orders. Internal Audit identified the following inconsistencies in data entry during work order testing:

- 16 out of 50 sampled work orders contained zero labor hours when work order details indicate that labor should have been captured.
- 21 out of 50 sampled work orders contained zero material costs when work order details indicate that materials should have been captured.

Additionally, we noted the following:

- Contractor labor hours and materials used for work order execution are not captured on work orders.
- At times, materials are purchased in bulk on an open PO or administrative work order rather than applying materials to individual work orders. This practice more appropriately captures the costs of materials to specific assets or facility locations.

**Root Cause Analysis:** The root cause of inconsistent Maximo utilization is the current configuration of the Maximo work flow. In the current state, a work order can be closed out without entering labor hours or a supervisory review being performed.

## Observation 1: Utilization of Maximo – Inconsistent Entry of Materials & Labor Costs (continued)

---

### **Impact Analysis:**

The risks associated with not capturing all costs or inconsistently capturing labor and material costs are that FM is unable to capture the true total costs of performing work orders, and therefore unable to assess the actual total cost of maintaining each asset. This limits management's ability to successfully execute an Asset Management function in which the Authority can monitor trends, assess performance, and identify areas of concern for further investigation.

Also, due to the lack of an adequate review, the available information can not be assumed as accurate for the purposes of generating key performance indicator reports.

### **Recommendation:**

We recommend Facilities Management provide training to all personnel involved in work order data entry in regards to current policies and procedures pertaining to the work order lifecycle and data entry into Maximo. Management should consider expanding the usage of Maximo to capture all practicable costs including contractor labor hours and materials usage. This is not unique to Facilities, and FM should work with Senior Leadership to ensure that the intent for the usage and performance of Maximo is applied across departments in a uniform way, in support of the strategic objectives of the Authority, but that is tailored to the unique needs of the department(s) as applicable.

Additionally, we recommend establishing a criteria for when the Materials Management process may be circumvented and attach supporting documentation for those items to the work order to indirectly capture costs.



## Observation 1: Utilization of Maximo – Inconsistent Entry of Materials & Labor Costs (continued)

**Management Action Plan:** Facilities has been working the Maximo Team to include in the workflow process the requirement that all labor hours and materials are entered onto a work order prior to a work order being closed. Also, in the future process, if one section of the department works on one part of the work order, a notice populates requesting materials & labor to be added to the work order before the work order can be routed to another section or department.

Effective May 16, 2018, after receiving Maximo training, Facilities Management implemented the standard that all Foreman would enter in their own labor hours and materials on their work orders before closing out. However, since the requirement is not a mandatory field in the current workflow and the new future workflow process would implement the labor hours and material management requirement, Facilities Management would be able to manage the process in the new work order system.

Due to delays, Facilities Management is still working with the Maximo Team on the roll out of the new work order process that would automate that process. All team members who will be affected by the new system have been given the dev system to practice on while waiting for the new system to go live.

The Maximo Team has asked Facilities Management to give them 30 more days before the new system will be able to roll out to staff. Once the new system is in place, Facilities Management will be able to ensure that no work orders are closed out without the completed information.

Facilities Operations will provide the Foreman and Crews with a refresher training on the current Material Management Work Order process which will include the requirement of adding in the labor hours and materials used. Staff will be reminded on how to capture materials that were used but not acquired through the Material Management process i.e. stock items, purchase order items, credit purchases. Training will include the requirement differences of MM process versus acquiring materials from other means. Staff will be also transition to the new system where this requirement will be mandatory.

**Responsible Party:** RoDonna Brewster, Supervisor Facilities Coordination

**Target Date:**

- Refresher Training - May 15, 2020
- New System Rollout – June 15, 2020

## Observation 2: Work Order Monitoring – Lack of Supervisor Review & KPIs

---

**Risk Rating: High**

### **Observation:**

While Facilities Management promotes the expectation and requirement that Trade Foremen (supervisors) to review work orders within Maximo, the current Maximo work flow does not require a review take place. This review should be performed to confirm completeness and accuracy of the data, as well as the status and the relevance of the corrective action(s) taken. As a result, the reviews are not consistently performed.

During our testing, we reviewed the work order status history of 50 completed Facilities work orders. We identified 15 of the 50 sampled work orders did not contain evidence of Trade Foreman (supervisor) work documentation review and approval within Maximo.

Additionally, we noted that currently there is not a consistent, timely, and documented process for the recurring monitoring of high-level key performance metrics. While management noted that limited and informal information is routinely monitored (such as outstanding work orders), additional monitoring of key metrics related to departmental work order management does not occur.

### **Root Cause Analysis:**

The root cause of limited review and monitoring of work order processes is the current configuration of the Maximo work flow. In the current state, a work order can be closed out without a supervisory review being performed.

## Observation 2: Work Order Monitoring – Lack of Supervisor Review & KPIs (continued)

### Impact Analysis:

The risks associated with inadequate work flow requirements include work orders being closed without capturing proper / accurate documentation or relevant data, and work orders being closed without completing all required work.

Also, due to the lack of an adequate review, the available information can not be assumed as accurate for the purposes of generating key performance indicator reports. This was noted across all work order testing, not limited to Facilities' use of Maximo.

### Recommendation:

We recommend Facilities work with Maximo to update existing workflows within the software to require supervisory review and approval for all completed work orders. The ability to perform this approval should be restricted to only the Trade Foreman and Management, and should not include Technicians/Mechanics or other personnel below the Foreman level. This is in process for other departments as well, and is being tracked through Internal Audit follow up of the Work Order Management Audit.

In conjunction with updating the policies and procedures to reflect current practice, we recommend Facilities provide training to all supervisors and technicians regarding current policies and procedures related to review requirements in the work order life cycle.

Additionally, upon updating the work flow requirements, Facilities should implement various key performance indicators to monitor on an appropriate basis. These reports should include, but are not limited to:

- Work order scheduled date vs. actual complete date
- Work order planned labor hours vs. actual hours to completion
- Labor / staffing utilization
- Work order backlog, overall and by branch / work type
- Zero labor hour reports

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## Observation 2: Work Order Monitoring – Lack of Supervisor Review & KPIs (continued)

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**Management Action Plan:** Facilities has been working the Maximo Team to improve the workflow process. In the future system, the expectation will be the Crews will complete the work orders in the field and then they route to the Foreman to QA/QC the work before closing out the work order. If the Foreman determines the work is not complete, it will route back to the Crews. A necessary component of this process is issuing the crew a mobile device that would allow the Crews to complete their work in the fields.

Until the mobile devices are available, Facilities Management has provided desktop computers in the shops and will require the crews to update their work orders at the end of the day. It will be the Foreman responsibility to review the work order for accuracy then close out the work order.

Facilities will update the Work Order SOP to reflect the future changes and disseminate the standard during the refresher training.

Facilities Operations will provide the Foreman and Crews with a refresher training on the current and future Work Order process which will include the requirement of adding in the labor hours and materials used. Staff will be reminded on how to capture materials that were used but not acquired through the Material Management process i.e. stock items, purchase order items, credit purchases. Staff will be also transition to the new system where this requirement will be mandatory for each step in the work order process.

**Responsible Party:** RoDonna Brewster, Supervisor Facilities Coordination

**Target Date:**

- Refresher Training/Implementation - May 15, 2020
- New System Rollout – June 15, 2020

## Observation 3: Health & Hygiene Program – Charter, Documentation & QA/QC

**Risk Rating: Moderate**

**Observation:** Facilities Management (“FM”) has not developed the following for the Health & Hygiene program:

1. A charter document outlining key elements such as the program’s purpose, roles and responsibilities, specific procedures for performing inspections, references to authoritative standards, and relevant documentation such as inspection checklist and assessment tracker.
2. An inspection checklist that provides adequate context for inspections. The current checklist was inherited by Facilities and is missing key attributes such as references to authoritative standards, a sign-off for inspectors, and fields for service request numbers and subsequent work orders for deficiencies identified during inspection.
3. QA/QC process for validating completeness and accuracy of inspections. After inspections are completed, results are recorded on the checklist, and submitted for corrective actions. Supervisors/Managers are not re-performing and/or reviewing completed inspections to determine the validity and accuracy of results. Moreover, Supervisors/Managers are not validating if appropriate corrective action steps are taken towards identified deficiencies. There are current deficiencies noted in the Health & Hygiene inspection tracker for which the FM office administrator has not received notice to create service requests and subsequent work orders.

Internal Audit tested a sample of Health & Hygiene completed inspections resulting in deficiencies. We reviewed the corrective action steps taken for each identified deficiency to validate that the action was completed and appropriately documented. For 5 out of 10 samples, Internal Audit noted that a subsequent service request and work order was not created for the deficiencies noted. The creation of a service request is how corrective action is initiated. If a service request and work order were not created, we were unable to validate the corrective action was completed. Additionally, we determined that there was no unique identifier to tie subsequent service requests and work orders to corresponding corrective action for Health & Hygiene deficiencies.

## Observation 3: Health & Hygiene Program – Charter, Documentation & QA/QC (continued)

---

**Root Cause Analysis:** The root cause of these missing elements is the lack of an overall Health & Hygiene program framework. The program was developed as a result of findings from the CEO Road Show, which demonstrated that some facilities were in need of corrective action. Action was taken immediately to address those concerns revealed during the road show, but the overall state of facilities needed to be assessed under the new Director to ensure DC Water staff were in appropriate work environments. The intent of this program is to become preventative; however it is still in its early stages, and therefore the programmatic elements are still being designed in accordance with the Strategic Plan deadlines – which are not due for completion until later this year.

**Impact Analysis:** The Health and Hygiene program was designed to ensure that DC Water is meeting/exceeding all necessary standards. Without a formalized framework, DC Water may be unable to validate the effectiveness of the program. Specifically, inspections may be inconsistently performed, appropriate corrective actions may not be captured, or management may be unable to check the progression of deficiencies.

**Recommendation:** We recommend that Management develop a Health & Hygiene framework to outline the key elements of the program's mission and objectives. The framework should be based upon a widely-accepted framework and tailored to the Authority to identify the purpose, roles and responsibilities, relevant documentation, procedures for conducting inspections, related reviews, and include a revamped inspection checklist. The checklist should include all necessary fields and reference to authoritative guidance utilized to develop the checklist. Also, to provide further context to the inspections performed, inspectors should include pictures of identified deficiencies to be attached to the subsequent service requests.

In addition to developing a Health & Hygiene program framework, we recommend the implementation of a QA/QC process. The QA/QC process would consist of Facilities Management randomly reviewing a sample of previously completed inspections to validate completeness, accuracy, and that appropriate corrective action was taken.

To support the QA/QC process, we recommend adding a field within Maximo for a unique identifier related to Health & Hygiene inspections. The ability to easily locate any work orders created due to deficiencies identified from Health & Hygiene inspections will streamline the QA/QC process.

## Observation 3: Health & Hygiene Program – Charter, Documentation & QA/QC (continued)

### Management Action Plan:

1. Facilities will produce a charter document outlining key elements such as the Health & Hygiene Program's purpose, roles and responsibilities, specific procedures for performing inspections, and references to authoritative standards. The framework for the charter will be developed in coordination of stakeholder/supporting departments and tailored to the Authority to identify the purpose, roles and responsibilities, relevant documentation, procedures for conducting inspections, related reviews, and include a revamped inspection checklist.
2. Facilities will update the existing inspection checklists to provide adequate context for inspections. The current checklists will be updated with key attributes such as references to authoritative standards, a sign-off for inspectors and prompting for pictures to provide clarity/background, as needed for follow-up action.
  - a. Facilities will work with IT to develop a translation system that reliably and logically links the information recorded in the spreadsheet-based checklists to Maximo based service request/work order numbers. This translation system will provide the link between the deficiencies identified during inspection and subsequent work orders to activate corrective action and tracking issues to completion.
  - b. Facilities will work with IT to identify a field within service requests/work orders to tag these orders to the Health & Hygiene program.
3. Facilities will develop a QA/QC process for validating completeness and accuracy of program field action. This process will outline Supervisor/Manager review of completed inspections to determine the validity and accuracy of results as well as validation that appropriate corrective action steps are taken towards identified deficiencies.

**Responsible Party:** Brent Christ, Director Facilities

**Target Date:** July 31, 2020

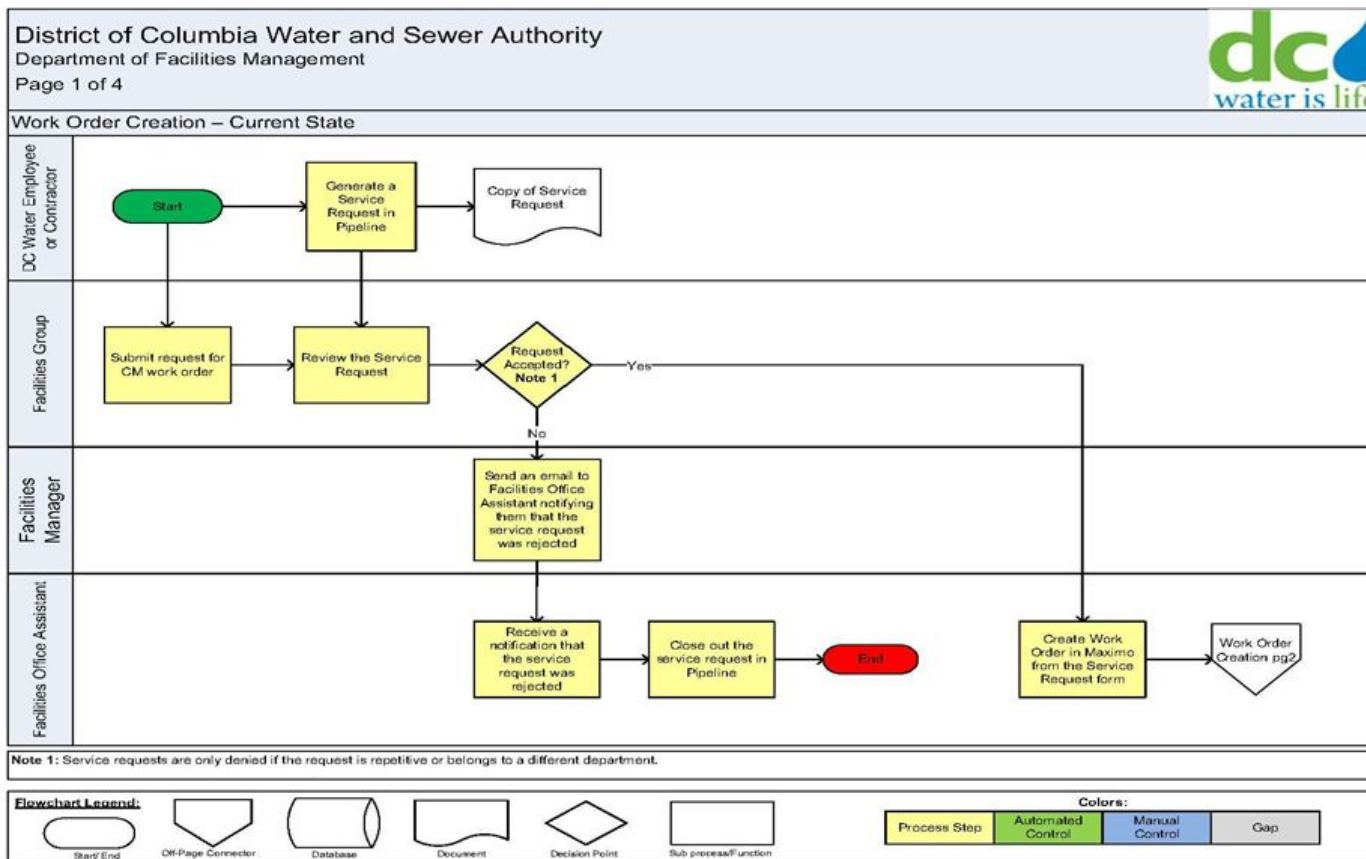
# APPENDICES

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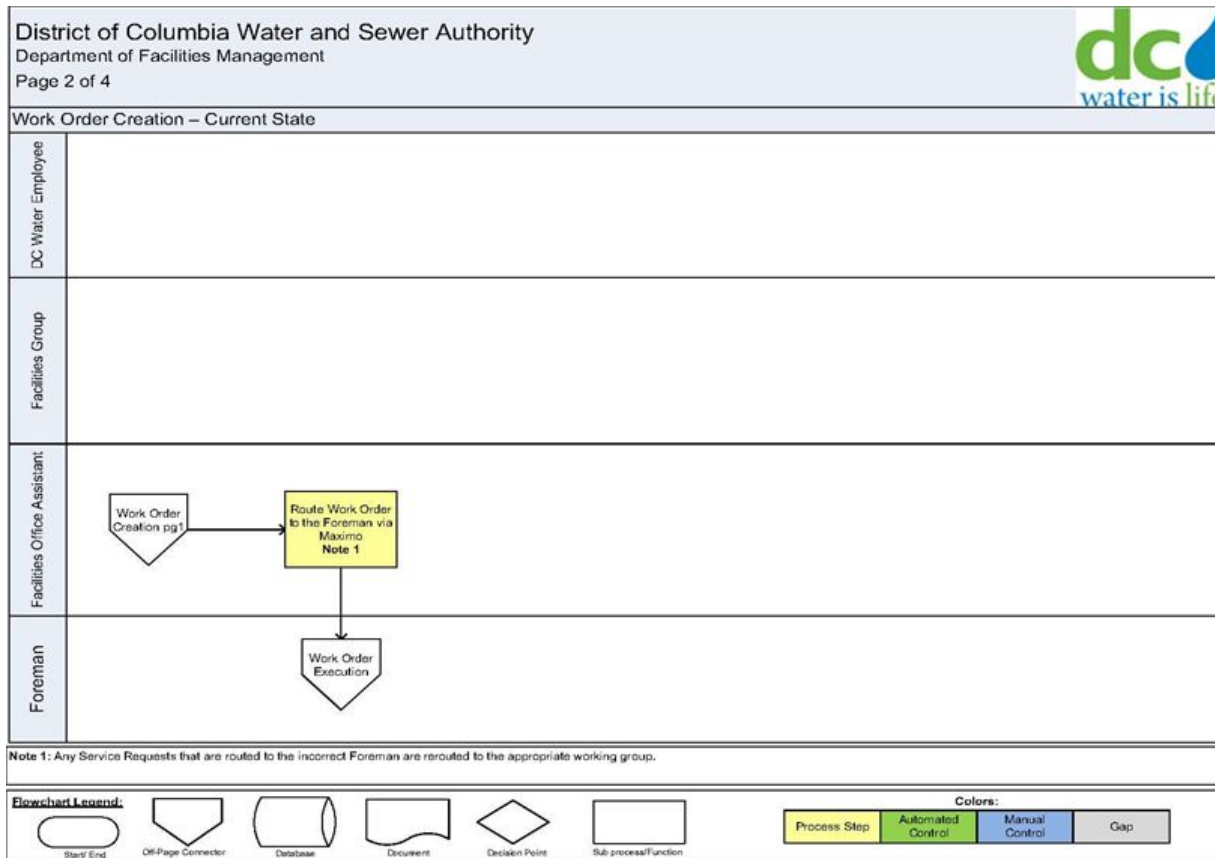




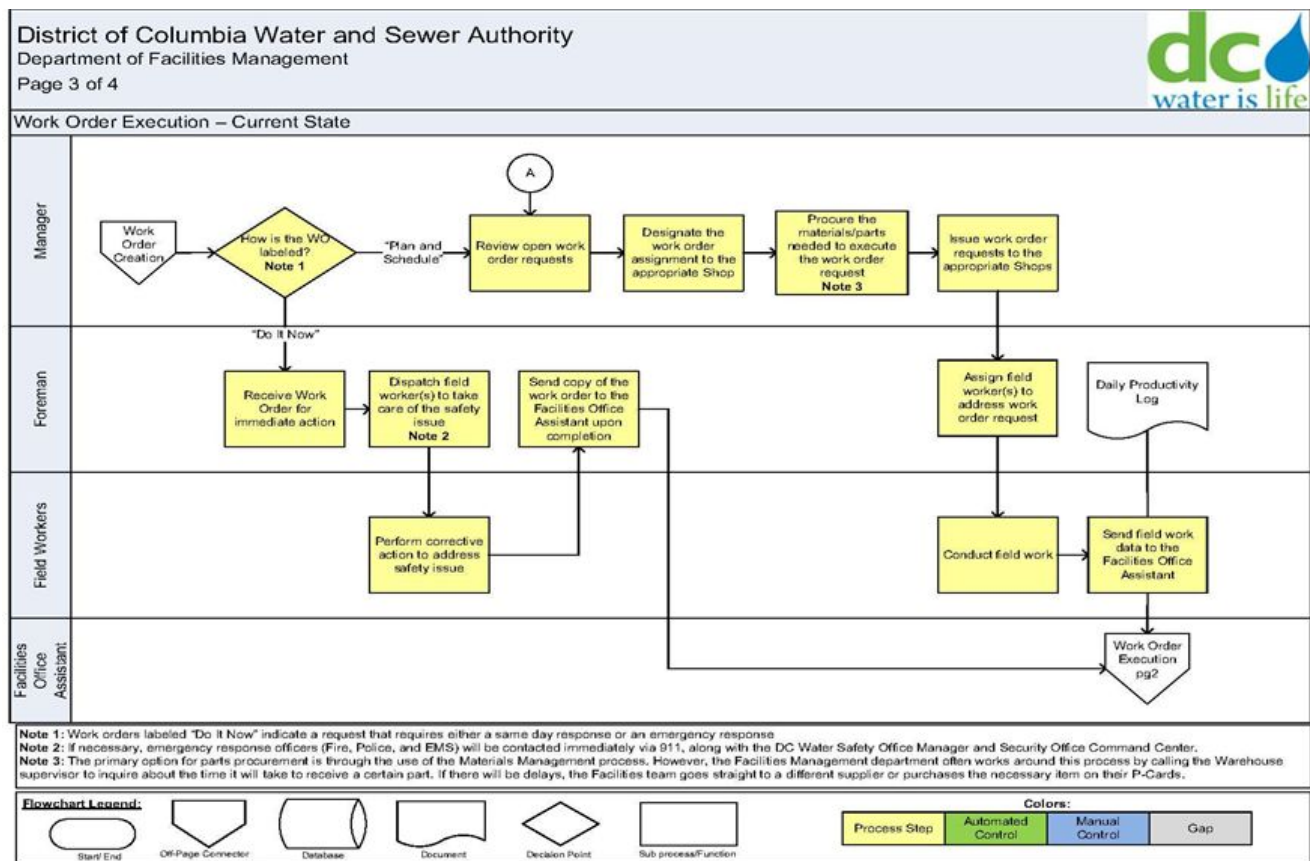
## Appendix A – Current State Work Order Process Flowchart



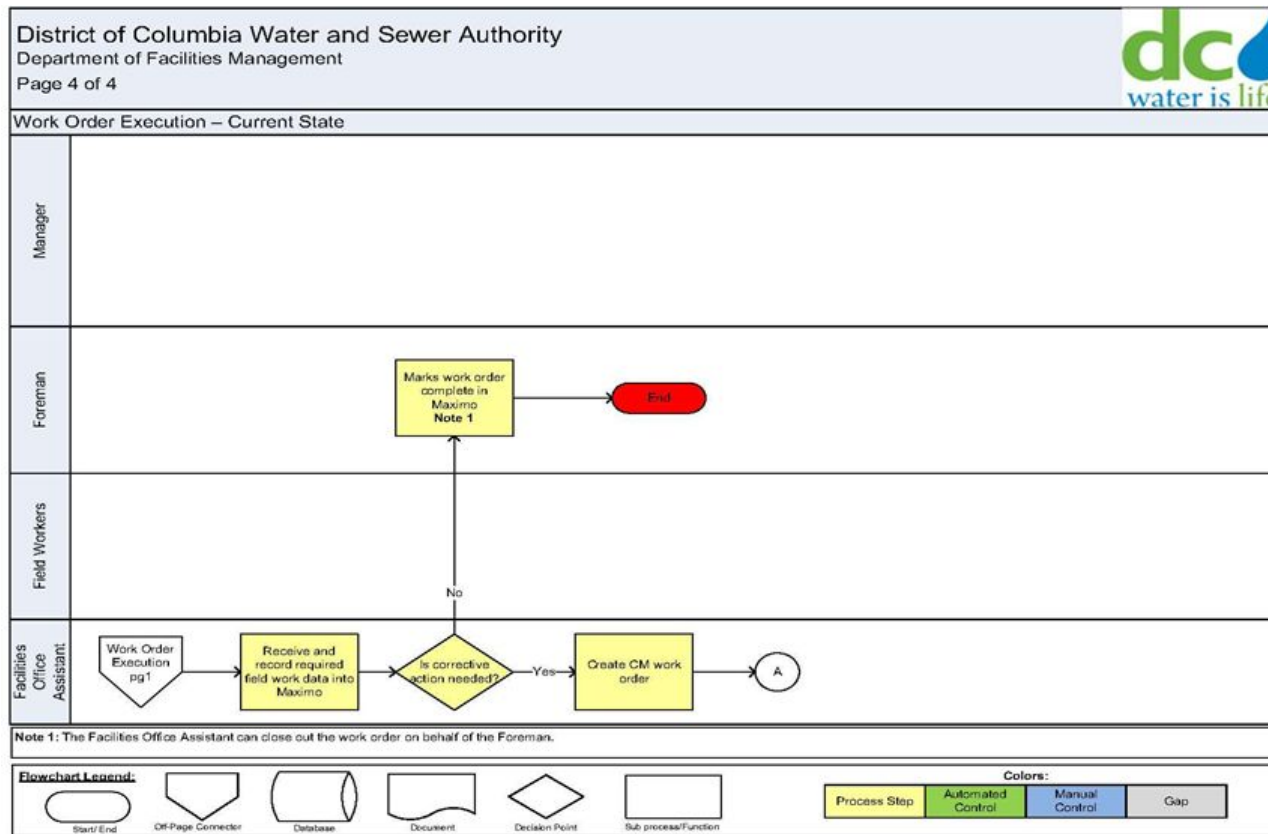
## Appendix A – Current State Work Order Process Flowchart



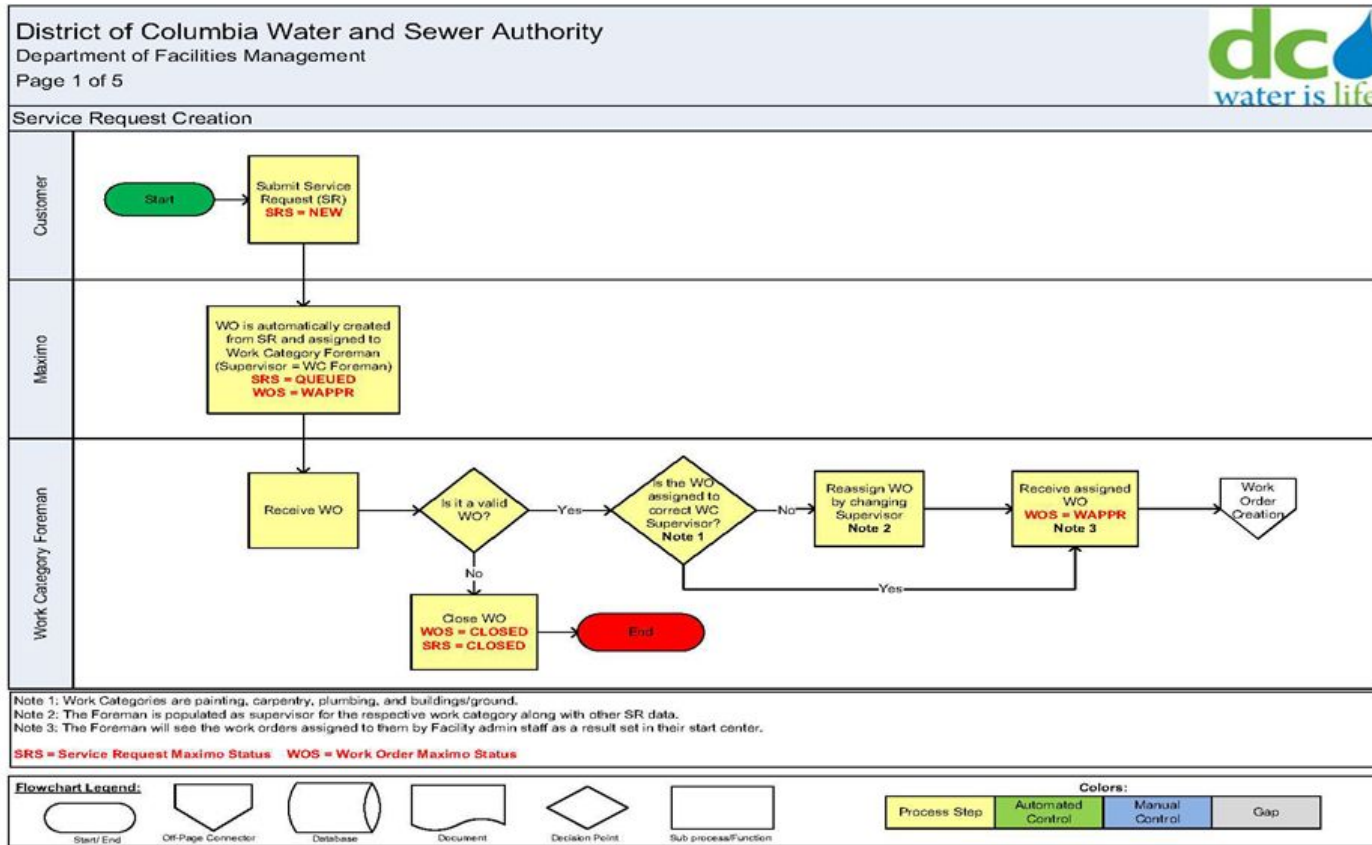
## Appendix A – Current State Work Order Process Flowchart



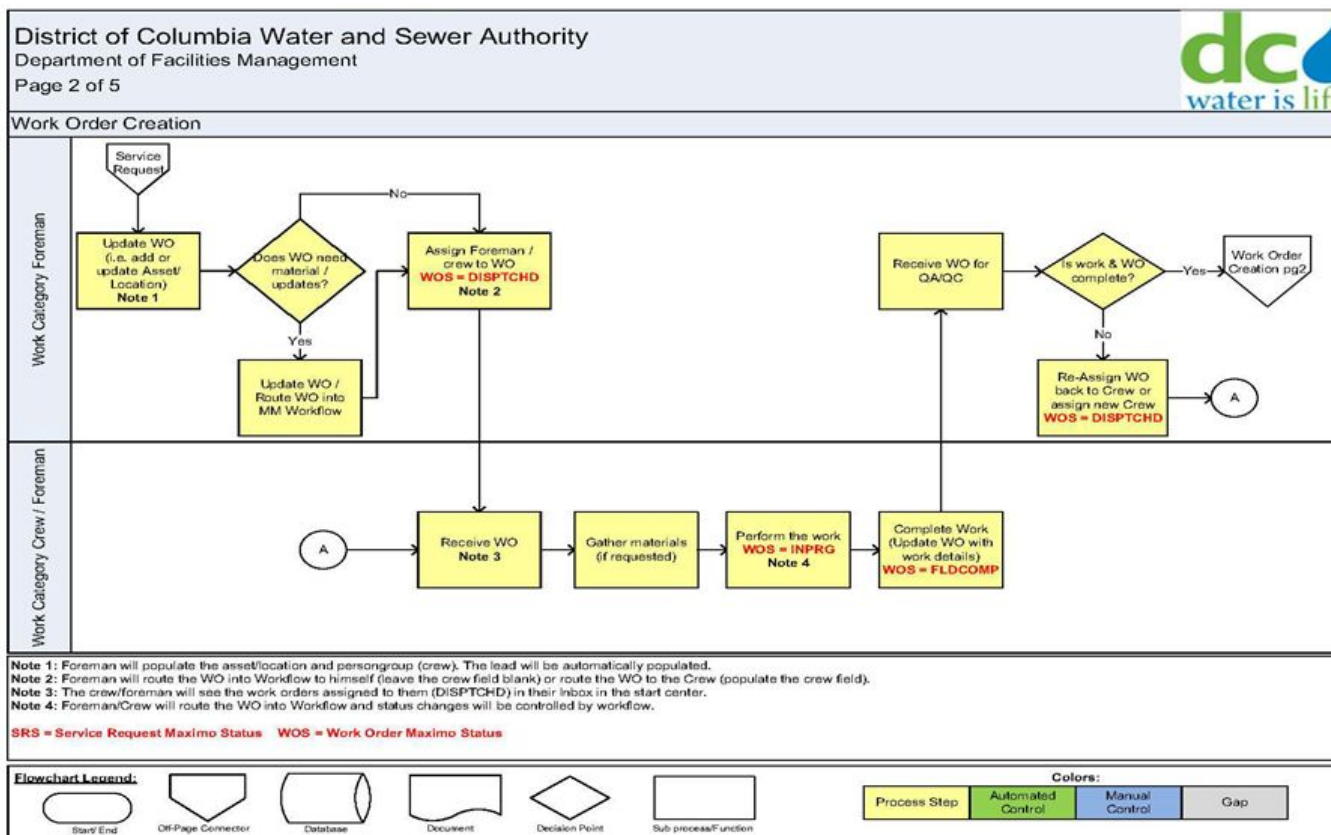
## Appendix A – Current State Work Order Process Flowchart



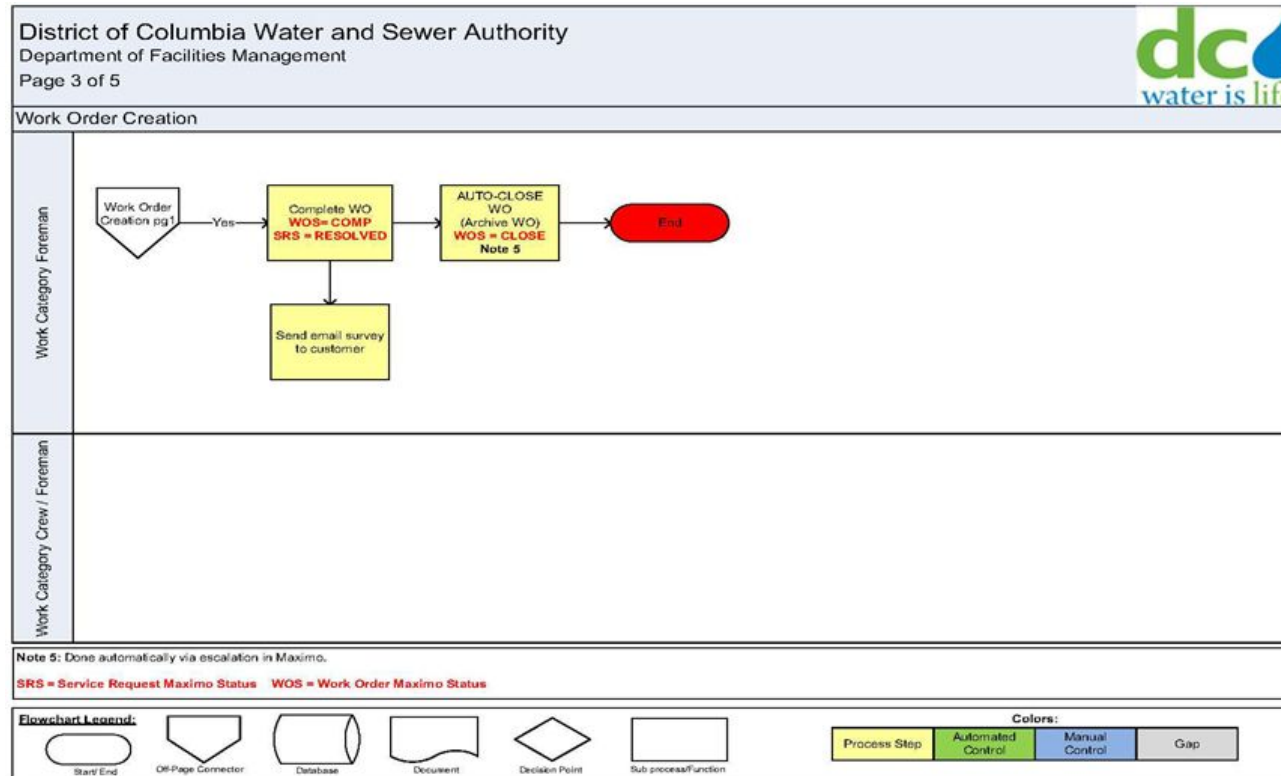
## Appendix A – Future State Work Order Process Flowchart



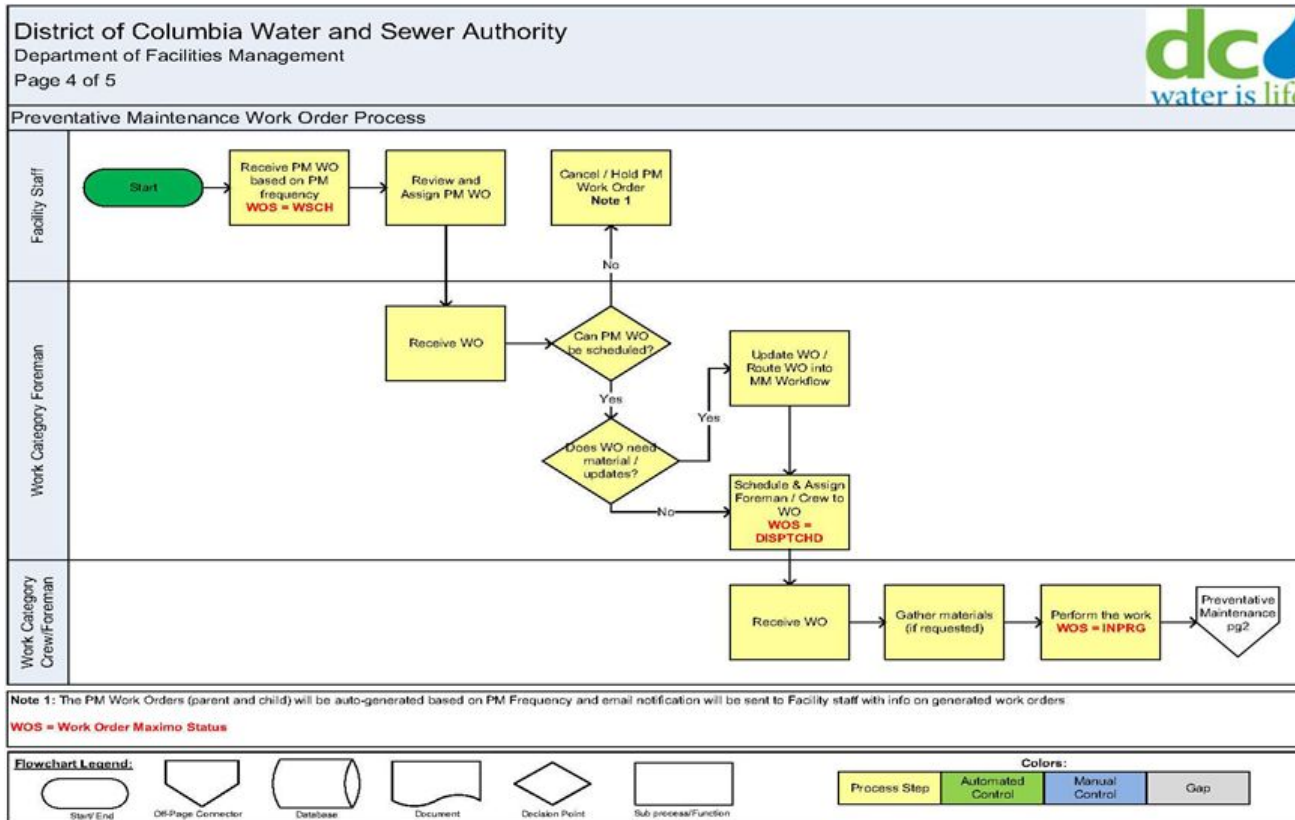
## Appendix A – Future State Work Order Process Flowchart



## Appendix A – Future State Work Order Process Flowchart

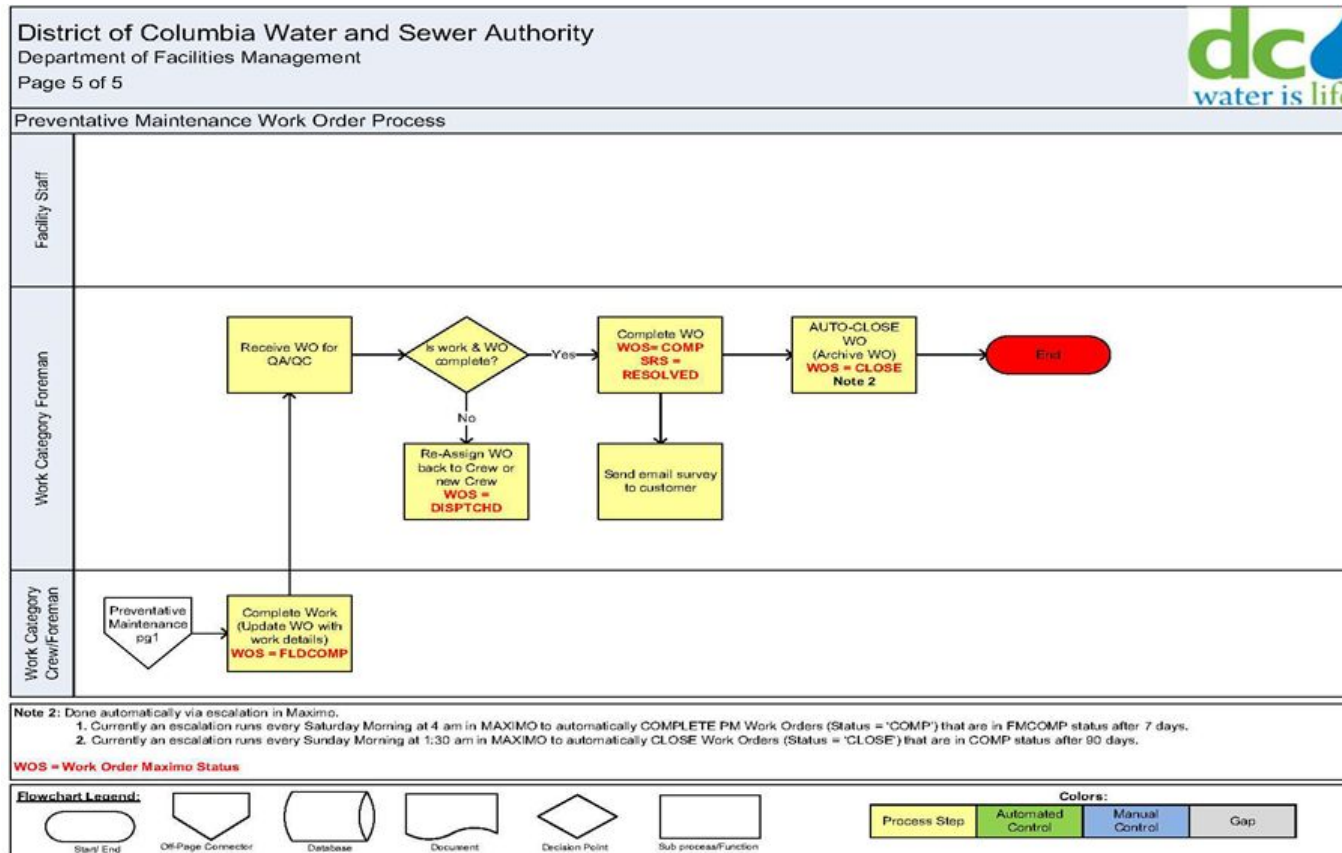


## Appendix A – Future State Work Order Process Flowchart

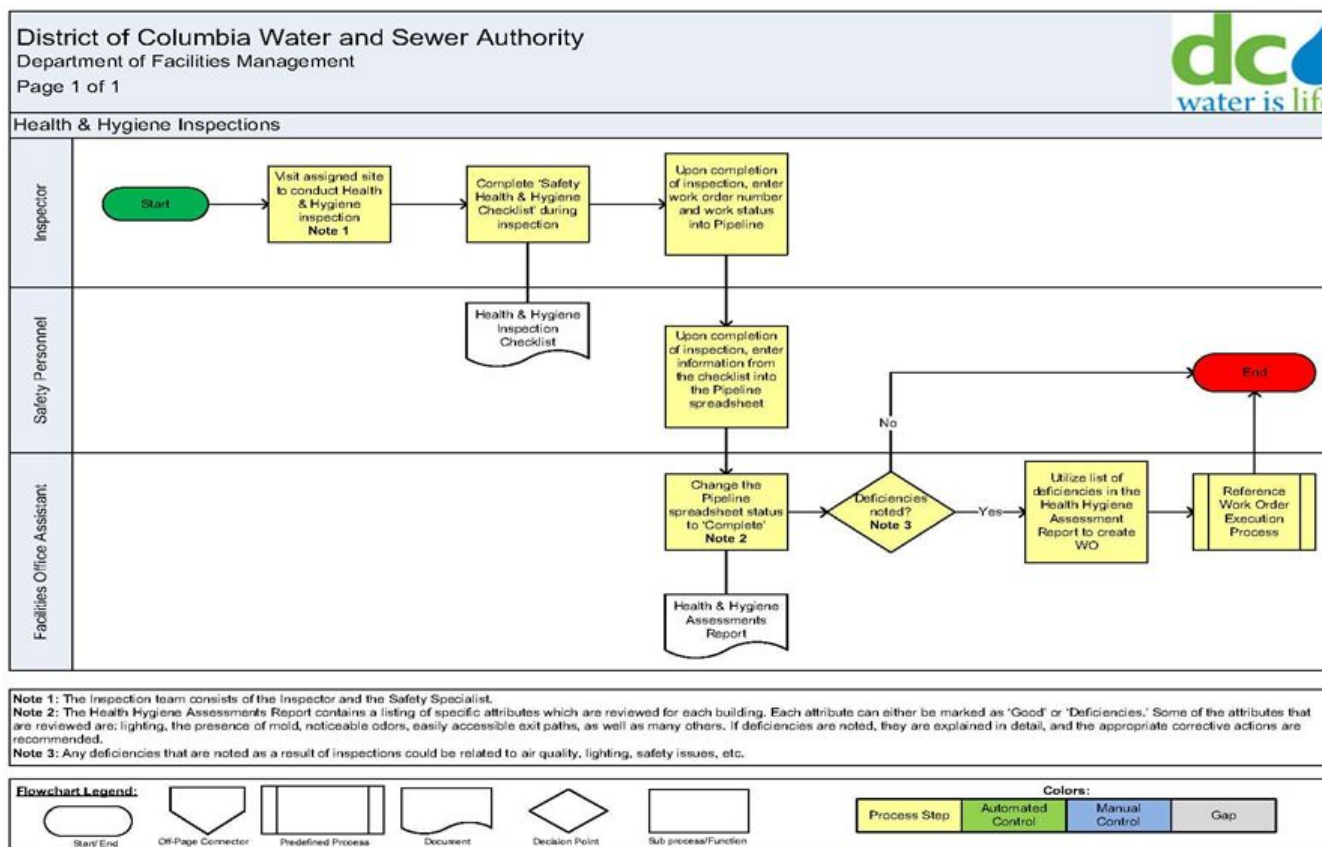




## Appendix A – Future State Work Order Process Flowchart



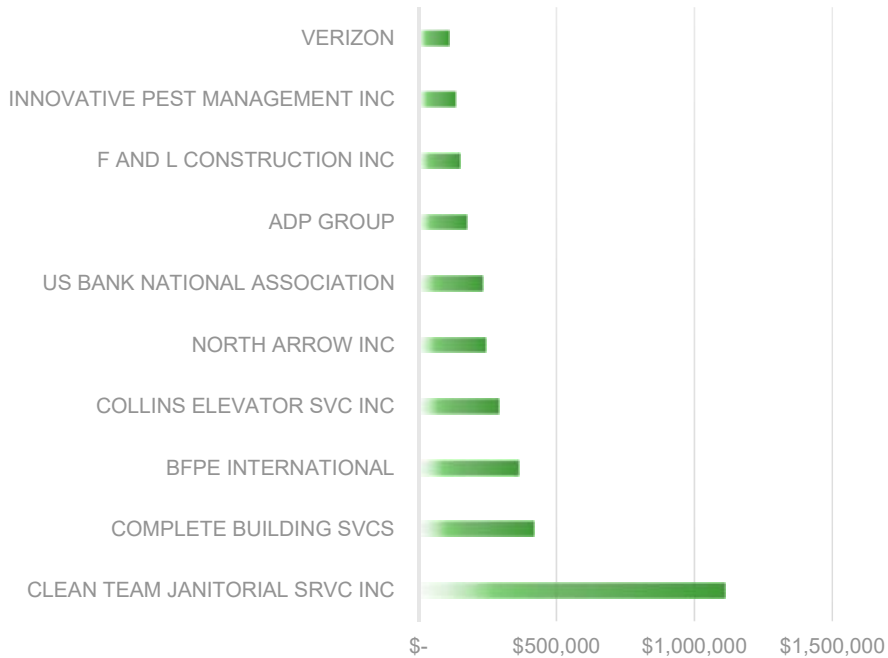
## Appendix A – Health & Hygiene Program Process Flowchart



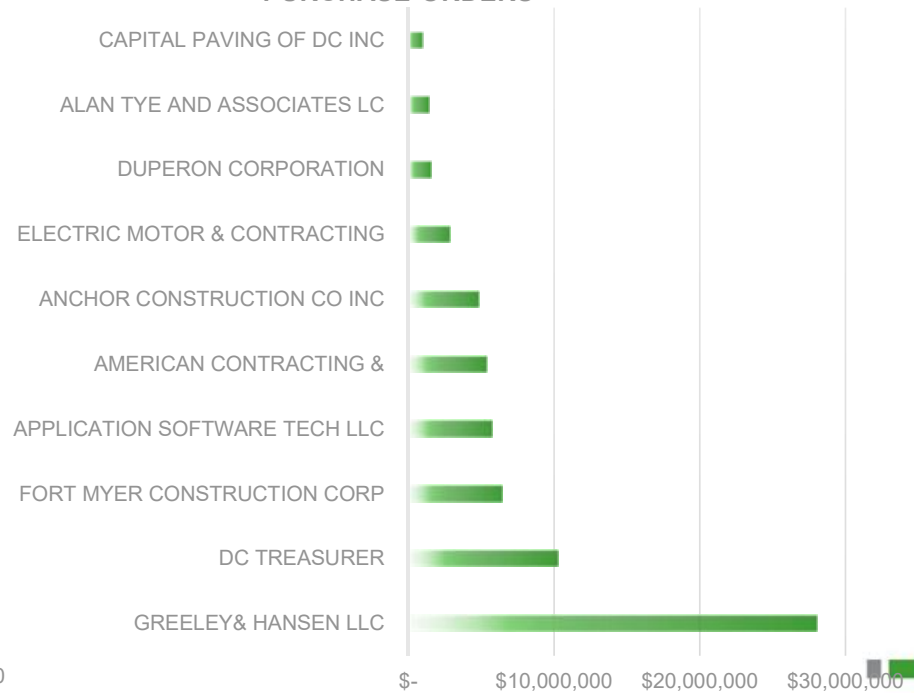
## Appendix B – Purchasing Data Analysis (Top 10 Operating and Capital Vendors)

The following charts were derived directly from operating and capital expense purchase order data, and summarizes the top 10 vendors in POs issued between the October 2018 to January 2020 timeframe.

**TOP 10 VENDORS (OPERATING) – ISSUED PURCHASE ORDERS**



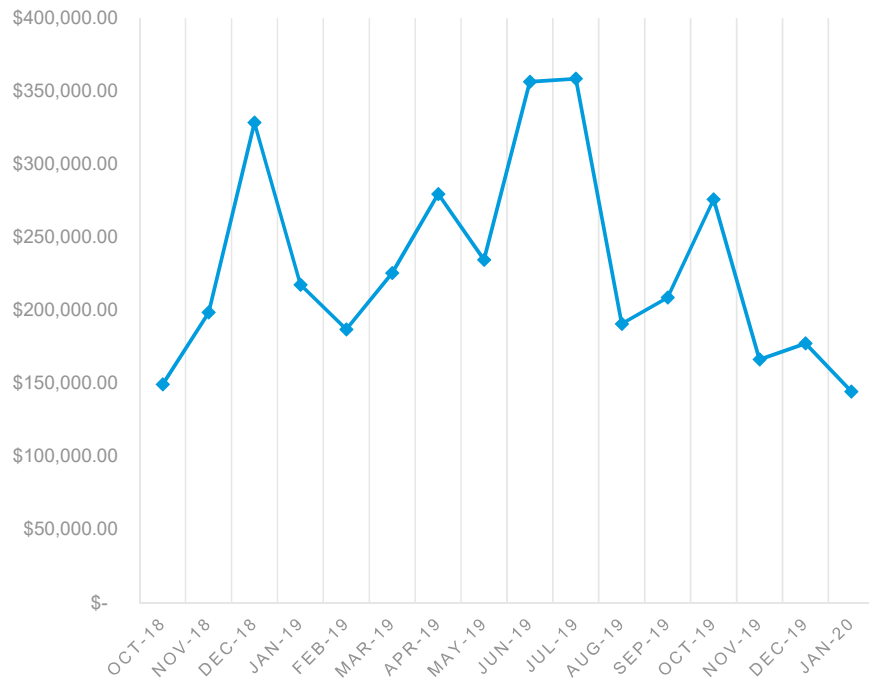
**TOP 10 VENDORS (CAPITAL) – ISSUED PURCHASE ORDERS**



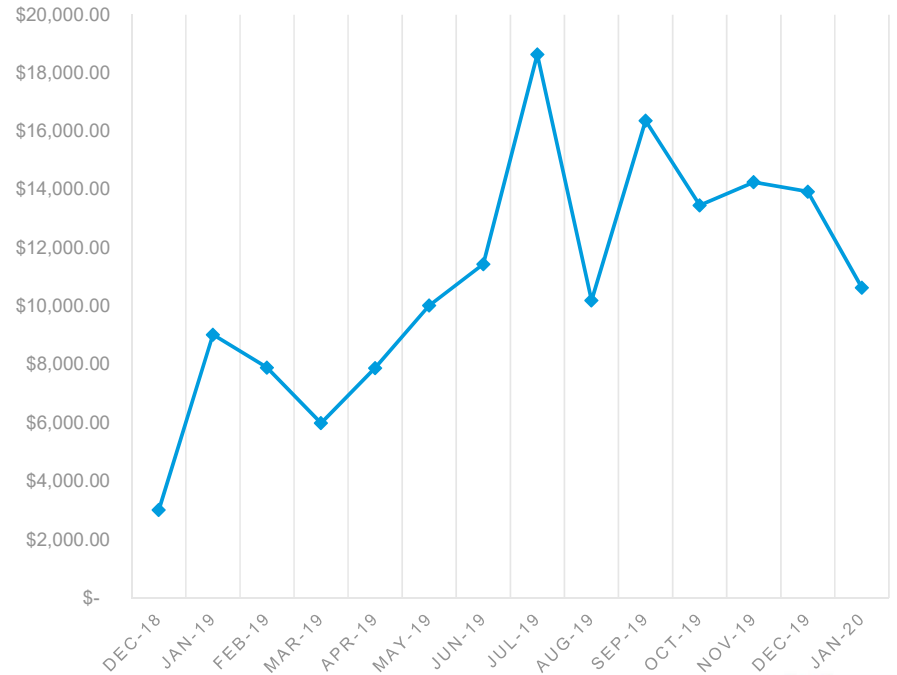
## Appendix B – Purchasing Data Analysis (Spend Activity: Purchase Order & P-Card)

The following graphs was derived directly from operating PO and p-card data by management, and summarizes the monthly spend activity.

**MONTHLY PO ACTIVITY\***



**MONTHLY P-CARD ACTIVITY**



31 \* Based upon operating PO data invoice payments.



## Appendix C – Maximo Mobility Project Timeline

In January of 2018, Facilities Management, Wastewater Treatment, Asset Management, and Information Technology initiated a project to provide mobile capabilities to Maximo and work order processing. This future state of work order processing would provide field workers with easier entry of materials and labor hours, foreman with the ability to review work orders for completeness and accuracy, and stronger data for reporting and tracking of key performance indicators. As indicated in the Observations 1 and 2, this future state will address the control gaps currently present in the work order process. A summary of email and in-person communication between Facilities Management, Information Technology, and Asset Management is detailed to the right.

Date	Event
1/23/2018	Project initiation meeting
3/8/2018	Project plan shared with Facilities, including requirements and due dates
8/17/2018	IT follow up regarding user access configuration
9/6/2018	Facilities provides final iteration of required users
1/28/2019	Project team meeting to discuss finalization of work order types, system settings, notifications, etc.
2/25/2019	Facilities signs off on Step 1-6 of project plan
5/24/2019	Facilities receives demonstration of possible software to be utilized
5/25/2019	Facilities receives additional demonstrations of possible software to be utilized
7/2/2019	Facilities receives notice that IT met with additional provider (Interloc)
7/2/2019	IT notifies Facilities that Interloc would be utilized as software provider
7/2/2019	CIO notifies Facilities Director that implementation should be complete by Fall 2019
8/27/2019	Facilities follow up regarding pricing and next steps
8/29/2019	IT follows up regarding work flow configuration
2/11/2020	Facilities follow up regarding project status and next steps
2/11/2020	Asset management team notifies Facilities a meeting will be held the following week to discuss further development

## Appendix D – Rating Definitions

RSM defined observations based on the following risk rating definitions:

Observation Risk Rating Definitions	
Rating	Definition
Low	Observation presents a low risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of low importance to business success/achievement of goals. Action should be taken within <b>12 months</b> (if related to external financial reporting, must mitigate financial risk within two months unless otherwise agreed upon).
Moderate	Observation presents a moderate risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of moderate importance to business success/achievement of goals. Action should be taken within <b>nine months</b> (if related to external financial reporting, must mitigate financial risk within two months).
High	Observation presents a high risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of high importance to business success/achievement of goals. Action should be taken immediately, but in no case should implementation exceed <b>six months</b> (if related to external financial reporting, must mitigate financial risk within two months).

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# DC WATER

## Benefits and Compensation Internal Audit



April 2020



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**Background**

**Approach**

**Observations and Recommended Action**

**Process Improvement Opportunities**

**Appendix – Risk Rating Definition**

# EXECUTIVE SUMMARY, BACKGROUND AND APPROACH



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# Executive Summary and Objectives

## Objective and Scope

The purpose of this review was to obtain an understanding of how the Authority executes and monitors the benefits and compensation processes. Our testing period covered all of calendar year 2019. The audit scope was based on the following objectives:

- Reviewed the applicable Authority policies and procedures;
- Conducted walkthroughs with responsible personnel within People & Talent to assess the design of the compensation and benefits control environment;
- Assisted in the development of flowcharts for the compensation and recruitment processes for the as-is ERP documentation requirements;
- Performed detailed testing over the following processes for proper justification, approval, and documentation, to assess the effectiveness of the compensation and benefits control environment:
  - Compensation: New hire compensation, non-union annual merit increases, union step increases, annual bonuses, off-cycle pay adjustments (i.e. pay equity adjustment, promotion, acting assignment, job reclassification)
  - Benefits: Annual enrollment, new hire enrollment, off-cycle changes / payroll adjustments, monthly provider billing, reconciliations / monitoring of deductions;
- Reviewed segregation of duties and system permissions in Dayforce to determine whether access to compensation and benefits data is properly restricted in order to maintain integrity and confidentiality of the data, where applicable;
- Identified strong practices and areas of excellence, as well as potential opportunities for process improvement or control gaps and underlying root causes; and
- Worked with management to develop action plans to remediate identified control gaps.

Fieldwork was performed February through March 2020.

## Overall Summary and Highlights

There are no high risk observations to report. The five observations identified during our assessment are outlined on pages 8-18:

1. Outdated Compensation Policy
2. Benefits Trial Payroll Review
3. Benefits Monthly Provider Billing
4. Benefits Document Retention
5. Dayforce User Access Review

These observations are described in the detailed observations section of the report. We assigned relative risk or value factors to each observation. Risk ratings are the evaluation of the projected severity of the concern and the potential impact on the operations of each item. Two process improvement opportunities have also been included in the report for management's consideration. Only observations will require management action plans with estimated completion dates that will be included in the routine follow up of internal audit observations.

### Summary of Observation Ratings (See Appendix for risk rating definitions)

Number of Observations by Risk Rating		
High	Moderate	Low
0	1	4

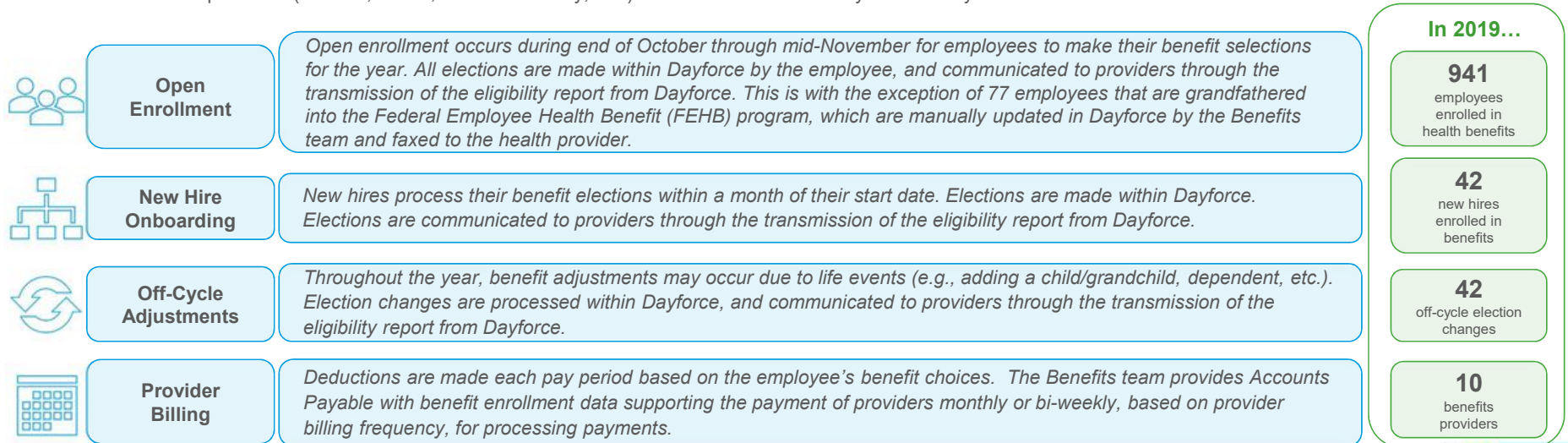
We thank all DC Water team members who assisted us throughout this review.

# Background

The Benefits and Compensation teams report to the VP of Employee Experience within the People & Talent department at DC Water. Team responsibilities are outlined in the following pages. The Authority leverages Dayforce as the human capital management software to manage the benefits, compensation, and payroll processes.

## Benefits:

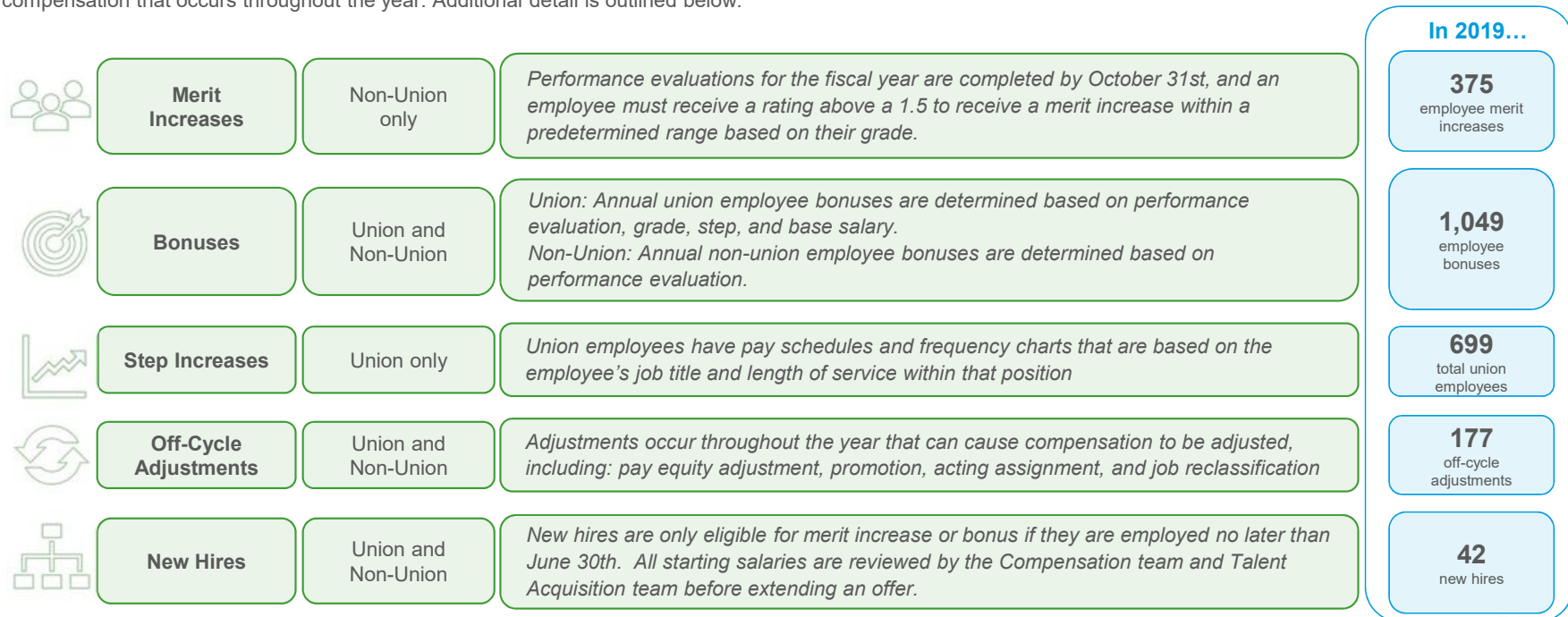
The Benefits team ensures that all employees, new and current, are enrolled in one, multiple, or no benefit plans, as elected. Benefits can be initiated during new hire onboarding, the annual open enrollment period between the end of October and mid-November, or on an as-needed basis through current employee life events. Elections are communicated to providers through eligibility reports from Dayforce, which are automatically transmitted on a weekly basis throughout the year for continuous confirmation of enrollment details. The Benefits team is also responsible for providing Accounts Payable with benefit enrollment data supporting the payment of benefit providers. Currently there are 10 benefit providers (medical, dental, life and disability, etc.) that bill DC Water monthly or bi-weekly. Additional detail is outlined below:



## Background (continued)

### Compensation:

The Compensation team coordinates compensation increases and bonuses for both union and non-union employees. The team also processes off-cycle adjustments and new hire compensation that occurs throughout the year. Additional detail is outlined below:



## Approach

### BENEFITS:

1. Conducted walkthrough interviews with the Benefit team to gain an understanding of controls in place for benefits processing throughout the year;
2. Evaluated the design of the benefits control environment for gaps;
3. Selected a representative sample of employees across process areas:
  - Annual open enrollment
  - New hires
  - Off-cycle changes;
4. Selected a representative sample of monthly provider billings;
5. Reviewed sample documentation to evaluate the operating effectiveness of the controls identified during walkthroughs.

### COMPENSATION:

1. Conducted walkthrough interviews with the Compensation team to gain an understanding of controls in place for compensation processing throughout the year;
2. Evaluated the design of the compensation control environment for gaps;
3. Selected a representative sample of employees across process areas:
  - Merit increases
  - Bonuses
  - Union step increases
  - New hires
  - Off-cycle pay adjustments;
4. Reviewed sample documentation to evaluate the operating effectiveness of the controls identified during walkthroughs.

Reporting: At the conclusion of this audit, we summarized our observations and have reviewed the results of our testing with management.



# OBSERVATIONS AND RECOMMENDED ACTION

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## Observation 1: Outdated Compensation Policy

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**Risk Rating:** Moderate

**Observation:**

DC Water's Compensation and Job Evaluation Policy was last updated in 2000. The policy does not reflect current compensation practices. People & Talent documented current processes this year to prepare for the implementation of a new ERP system, but the policy has not yet been revisited.

*Root Cause Analysis:*

The Authority lacks centralized policy management practices, and therefore policies are not reviewed and updated on a timely basis.

*Impact Analysis:*

An outdated policy can lead to difficulty enforcing current process, a lack of accountability by process owners, and difficulty transitioning poorly documented duties in the event of turnover within People & Talent.

**Recommendation:**

We recommend that People & Talent update the Compensation Policy to reflect current practices, and post an updated, approved policy to Pipeline. People & Talent should conduct a periodic review (i.e., annually) of the policy to confirm its accordance with current practices.

Note that there is a broader need for Authority-wide policy management ownership, which is an outstanding audit observation from a previous Entity-Level report that Internal Audit is monitoring for remediation.



## Observation 1: Outdated Compensation Policy (continued)

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**Management Action Plan:**

**Response:**

The Manager of Compensation will review and update the Compensation Policy to reflect current practices, and post an updated, approved policy to Pipeline with a statement that the policy will be reviewed annually to confirm its accordance with current practices.

**Responsible Party:** Keith Lindsey (Vice President of Employee Experience) and Chad Carter (Manager, Compensation)

**Target Date:** June 30, 2020

## Observation 2: Benefits Trial Payroll Reviews

---

**Risk Rating: Low**

### **Observation:**

Following open enrollment, new hire onboarding, and off-cycle adjustments, DC Water's Benefits team reviews the trial payroll prior to the first paycheck that reflects the enrollment changes to confirm that deductions are accurately reflected. However, there is no process in place for Benefits to document and archive the review, so we were unable to validate that the review happened consistently for each enrollment change. Internal Audit reperformed the review of the trial payroll for 42 employees that underwent open enrollment, new hire onboarding, and off-cycle adjustments during 2019, and all enrollment deductions were accurately reflected.

### *Root Cause Analysis:*

Historically, there has been not requirement for the Benefits team to document and archive trial payroll review.

### *Impact Analysis:*

If the trial payroll review happens inconsistently, or issues noted during the review are not properly corrected, there may be inaccurate deductions from employee paychecks.

### **Recommendation:**

We recommend that the Benefits team continue to review trial payroll following enrollment adjustments and evidence their review via sign-off. In the event that any issues are noted during review, the Benefits team should validate that the issues are corrected in Dayforce prior to payroll processing. The Benefits team should archive trial payroll reviews.

## Observation 2: Benefits Trial Payroll Reviews (continued)

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### **Management Action Plan:**

#### **Response:**

The Benefits team will continue to validate changes during the trial payroll processing period prior to payroll commitment. The Benefits Manager will assure that documentation of such review is complete. The Benefits Manager sends an email to the Payroll department at the end of each trial payroll period after the Benefits team has completed their review of all benefit changes. This email will be saved to the shared drive in a folder corresponding to the pay period. This email will serve as evidence that changes were reviewed individually, and trial payroll was reviewed collectively by the Benefits team. A copy of the payroll register will also be saved to this folder for future reference of all pay and deductions for the pay period.

**Responsible Party:** Ronald Lewis (Benefits Manager)

**Target Date:** April 15th 2020 (PP-08)

## Observation 3: Benefits Provider Billing

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**Risk Rating:** Low

**Observation:**

DC Water has ten (10) benefit providers that bill on a bi-weekly or monthly basis, to be reviewed by the Benefits team. For 3 of 16 provider billing samples tested, there was no evidence that the Benefits team reviewed the invoices prior to payment to the provider.

*Root Cause Analysis:*

For 6 of 10 benefit providers, DC Water proactively sends monthly payment to providers based on employee enrollment for the period without receipt of an invoice. If providers have questions regarding the payment amount, they follow up with DC Water to resolve. For the remaining 4 providers, DC Water processes payments after the receipt of an invoice. In 2019, when an invoice was received, the Benefits team reviewed and physically provided the Dayforce detailed support that reconciles with the invoice in person to Accounts Payable for processing. Given the hand-off occurred in person, no evidence of Benefits review exists. Additionally, DC Water's provider of federal benefits consulting services sends their invoice directly to Accounts Payable for processing each month, so the current workflow does not incorporate review and approval from the Benefits team.

*Impact Analysis:*

If the Benefits team is not involved in the review of invoices before Accounts Payable processes payments to providers, DC Water is at risk of paying inaccurate amounts for the benefits and services received. Note that beginning in 2020, invoices are now emailed to Accounts Payable, rather than delivered in person.

## Observation 3: Benefits Provider Billing (continued)

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### **Recommendation:**

For all providers from which DC Water receives an invoice, we recommend that the Benefits team evidence review and approval of the invoice prior to payment processing by Accounts Payable. Evidence of approval should be retained along with the supporting documentation for the invoice.

### **Management Action Plan:**

#### **Response:**

A member of the Benefits team will review and reconcile the invoices that are submitted to Accounts Payable. To streamline the payment cycle, two (2) vendors send invoices directly to Accounts Payable. These vendors have been identified as Economic Systems Incorporated (ESI) and WageWorks Flexible Spending Accounts (FSA). ESI provides Federal Benefit consulting services and process federal retirements. The activity report for ESI which list hours worked by the federal benefits contractor will be compared to the invoice. The Benefits manager will sign off on the ESI invoices certifying that it matches work performed. WageWorks FSA invoices for administrative fees will be compared to our employment headcount. ESI, and WageWorks FSA invoices and support will be saved to the DC Water's share drive. All other invoices will continue to be reviewed, reconciled and a copy of the invoice and support will be submitted to Accounts Payable via email. This email will serve as evidence that a Benefits member has reviewed the invoice.

**Responsible Party:** Ronald Lewis (Benefits Manager)

**Target Date:** April 2020 Billing

## Observation 4: Benefits Document Retention

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**Risk Rating: Low**

**Observation:**

Seventy-seven of 941 employees enrolled in health benefits (8%) at DC Water are grandfathered into the Federal Employee Health Benefit (FEHB) program. The employees completed Federal Health Benefit election form, Standard Form 2809 (SF-2809), to elect enrollment options, and the Benefits team updates Dayforce with the elections selected on the form. A SF-2809 form must be submitted manually by employees to the Benefits team for any federal health benefits changes subsequently, which Benefits faxes over to the health carrier. For one of five grandfathered federal employees sampled during the audit, the Benefits team was unable to locate a SF-2809 form originally submitted by the employee for enrollment. However, the employee was enrolled in benefits within Dayforce for the 2019 calendar year.

*Root Cause Analysis:*

The federal enrollment process for health and life insurance benefits is manual, and employees submit SF-2809 forms to the Benefits team outside of the automated Dayforce process used for all other benefits. Original or subsequent change request forms may not have been submitted in a number of years if enrollment selections have not changed. As such, documentation may not be easily located.

*Impact Analysis:*

The Benefits team cannot validate that enrollment elections were accurately recorded or deductions were accurately calculated in Dayforce against the original employee elections.

## Observation 4: Benefits Document Retention (continued)

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### **Recommendation:**

We recommend that the Benefits team locate all 2809 forms for the 77 employees grandfathered into federal health benefits, and store all forms in a central repository accessible to the Benefits team. For any forms that they are unable to locate, the Benefits team should reach out to the employee(s) to confirm that elections as recorded in Dayforce are still accurate. If so, the Benefits team can draft a memo to file in the 2809 form repository noting the latest enrollment preferences. If the elections recorded in Dayforce are inaccurate, the employee must submit a new 2809 form to submit to the federal health provider. When an employee changes elections and submits a new 2809 form, the Benefits team should update the 2809 form repository with the latest form submitted.

### **Management Action Plan:**

#### **Response:**

The Standard Form 2809 will continue to be completed for all employees who make changes under the Federal Employee Health Benefit program. We will have federal employees complete a new SF-2809 corresponding to their original election. SF-2809 forms are scanned and saved to each employee's electronic folder on "Livelink." These folders will be reviewed, and we will verify that there is an SF-2809 election form for each employee covered under FEHB.

**Responsible Party:** Ronald Lewis (Benefits Manager)

**Target Date:** 08/31/2020

## Observation 5: Dayforce User Access Review

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**Risk Rating: Low**

**Observation:**

User access (limited to roles and responsibilities) to Dayforce is assigned when an employee is hired, and all access terminates when employment ends. System user access to Dayforce HCM Benefits and HCM Compensation roles are reviewed on an ad hoc basis when roles are updated (i.e. expanded or reduced responsibilities for a domain) in order to validate that proper employees may perform appropriate functions in Dayforce. However, the review does not occur at a regular frequency and is not formally documented.

*Root Cause Analysis:*

There are a small number of Benefits and Compensation Dayforce users, and historically, there has been no requirement to review and document a user access review.

*Impact Analysis:*

If inappropriate access to HCM Benefits and HCM Compensation modules go undetected (i.e. incorrect access mistakenly granted upon hiring of an employee outside of the department), a user may have inappropriate access to sensitive employee data, and/or have the ability to make unauthorized changes to benefits or compensation data within Dayforce.

**Recommendation:**

We recommend that a member of People & Talent that does not have access to the HCM Benefits or HCM Compensation roles, with adequate knowledge to determine appropriateness of users, performs and documents a regular review (i.e. quarterly or annually) of users.



## Observation 5: Dayforce User Access Review (continued)

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### **Management Action Plan:**

#### **Response:**

The Manager of HCM Systems will review all Dayforce HCM Admin Roles with the Vice President of Employee Experience on a quarterly basis. Both role assignment and permissions will be reviewed and signed off by the Vice President of Employee Experience. This additional level of control will provide an opportunity to confirm the appropriate Administrative access for People and Talent staff.

**Responsible Party:** Keith Lindsey (Vice President of Employee Experience) and Nicholas Capolarello (Manager of HCM Systems)

**Target Date:** June 10, 2020

# PROCESS IMPROVEMENT OPPORTUNITIES



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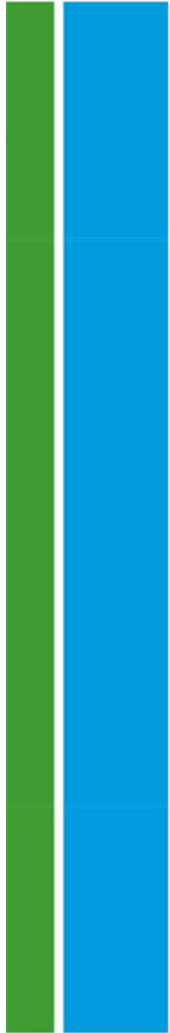
## Process Improvement Opportunities

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We noted two opportunities to automate compensation and benefits processes during our review. We recommend that People & Talent explore the option to build the following into **ERP implementation requirements**, as the Authority is in the process of implementing Oracle (including an HCM module to replace Dayforce):

1. To record union employee step increases, the Compensation team runs a canned Dayforce report every two weeks for a listing of union employees with upcoming step increases. The Compensation team submits a Position Action Request (PAR) form on Pipeline with the step increase details for any employees appearing on the Dayforce report. The Systems team then manually enters the data from the PAR into the employee's Dayforce file. Given that step increases occur according to a predetermined schedule, there is an opportunity to configure scheduled increases within Oracle, eliminating opportunity for manual entry error.
2. There is no report within Dayforce that shows changes in benefits deductions period over period. Incorporating such a report into Oracle's HCM module would allow the Benefits team to review a comprehensive list of changes each period and confirm that all were expected based upon the approved enrollment changes processed.

# APPENDIX



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## Appendix – Rating Definitions

RSM defined observations based on the following risk rating definitions:

Observation Risk Rating Definitions	
Rating	Definition
Low	Observation presents a low risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of low importance to business success/achievement of goals. Action should be taken within <b>12 months</b> (if related to external financial reporting, must mitigate financial risk within two months unless otherwise agreed upon).
Moderate	Observation presents a moderate risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of moderate importance to business success/achievement of goals. Action should be taken within <b>nine months</b> (if related to external financial reporting, must mitigate financial risk within two months).
High	Observation presents a high risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of high importance to business success/achievement of goals. Action should be taken immediately, but in no case should implementation exceed <b>six months</b> (if related to external financial reporting, must mitigate financial risk within two months).

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