The Application of GIS and ECM to Create an Interactive and Automated CSR Tracking and Mapping System for a Public Utility

Presented By:
Steve Beck
JMT Technology Group
The Problem:

- Inefficient Process for Responding to Storm Water Complaints
- Lack of Management Controls
- Poor Management of Information and Content
- Lack of Coordination and Communication
- Delays
- Too Much Paper
- Too Many Emails (and attachments)
- Inability to “See the Big Picture”
The Solution:

- Redesign the Process
- Apply Existing Technology Solutions
- Implement Management Controls
- Create Centralized Content Repository
- Minimize Paper and Emails
- Enable “the Big Picture”
- Improve Customer Service
Proposed Workflow for Stormwater Engineering Complaint/CSR Tracking Application Using OnBase and ArcGIS Server

Version: 2.0
Date: February 18, 2009

GIS Integration Process Under Development – To Be Demonstrated at March 3rd Meeting
12225 Slatewood Road
Reisterstown, MD 21136

December 9, 2009

Bureau of Water and Waste Water
Attn: Ms. Kashia Powell
Superintendent of Water Department
200 N. Holliday Street
Baltimore, MD 21202

Re: SR 163998

Dear Ms. Powell,

I purchased the property at 1401 W. Ostend Street, Baltimore, MD 21223 on March 6, 2007. This is an investment property for me. Before purchasing the property, I inspected it and placed a contract approximately 1 month prior. Today I reported a water problem which has existed for at least 2 months since my initial inspection. The basement of the property was flooded with water during my initial inspection, back in February, and has repeatedly flooded since being purchased.

I am currently in the process of renovating the property. To do my part in resolving the flooding problem in the basement, I had a waterproofing system installed the week ending April 6, 2007, including a sump pump. The sump pump is operating properly by pumping water out of the basement once it reaches a certain level below the surface. However, once the water is expelled out of the house, it flows to the storm drain outside the property and immediately comes back into the property. I strongly believe the storm drain at the corner of W. Ostend Street and James Street is the source of the problem.

This morning I reported the problem via the 311 Call Center, SR 163998 was assigned to track my call. This letter serves as an alternate method to bring the problem to the attention of the Bureau of Water and Waste Water. I hope that you will investigate and take the necessary actions to immediately resolve this extremely serious problem.

If you wish to contact me by phone, I can be reached at 410-908-6632 (cell phone). My home number is 410-520-5707. My home address is provided at the top of this letter.

Thank You,

[Signature]

[Name]
President
Chester Real Estate Development, LLC
December 9, 2009

Bureau of Water and Waste Water
Attn: Ms. Kisha Powell
Superintendent of Water Department
200 N. Holliday Street
Baltimore, MD 21202

Re: SR 163998

Dear Ms. Powell,

I purchased the property at 1431 W. Ocosta Street, Baltimore, MD 21223 on March 6, 2007. Before purchasing the property, I inspected it and placed a contract approximately 1 month prior. Today I reported a water problem which has existed for at least 2 months since my initial inspection. The basement of the property was flooded with water during my initial inspection, back in February, and has repeatedly flooded since being purchased.

I am currently in the process of renovating the property. To do my part in resolving the flooding problem in the basement, I had a waterproofing system installed the week ending April 6, 2007, including a sump pump. The sump pump is operating properly by pumping water out of the basement once it reaches a certain level below the surface. However, once the water is expelled out of the house, it flows to the storm drain outside the property and immediately comes back into the property. I strongly believe the storm drain at the corner of W. Ocosta Street and James Street is the source of the problem.

This morning I reported the problem via the 311 Call Center, SR 163998 was assigned to track my call. This letter serves as an alternate method to bring the attention of the Bureau of Water and Waste Water. I hope that you will investigate and take the necessary actions to immediately resolve this extremely serious problem.

If you wish to contact me by phone, I can be reached at 410-908-6632 (cell phone). My home number is 410-526-9707. My home address is provided at the top of this letter.

Thank You,

Larry A. Chester
President
Chester Real Estate Development, LLC
<table>
<thead>
<tr>
<th>Document Number:</th>
<th>19</th>
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</thead>
<tbody>
<tr>
<td>CSR Number:</td>
<td>163998</td>
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<tr>
<td>Assigned To:</td>
<td>STORMWATER ENGINEERING</td>
</tr>
<tr>
<td>Correspondence Date:</td>
<td>12/9/09</td>
</tr>
<tr>
<td>Sender's Name:</td>
<td>Leroy A. Chester</td>
</tr>
<tr>
<td>Sender's Street Address:</td>
<td>12225 Statewood Road</td>
</tr>
<tr>
<td>Sender's City, State, ZIP:</td>
<td>Reisterstown, MD 21136</td>
</tr>
<tr>
<td>Sender's Phone Number:</td>
<td>410-998-6032</td>
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<tr>
<td>Location Street Address:</td>
<td>1401 W. Ostend Street</td>
</tr>
</tbody>
</table>

**Initial Problem Description:**
Flooded in basement

**Action Requested:**
Investigate and prepare a response for Director's signature

**Date Completed:**

---

December 9, 2009

12225 Statewood Road
Reisterstown, MD 21136

Dear Ms. Powell,

I purchased the property at 1401 W. Ostend Street, MD 21223 on March 6, 2007. This is an investment property for me. Before purchasing the property, I inspected it and placed a contract approximately 1 month prior. Today I reported a water problem which has existed for at least 2 months since my initial inspection. The basement of the property was flooded with water during my initial inspection, back in February, and has repeatedly flooded since then.

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If you wish to contact me by phone, I can be reached at 410-908-6032 (cell phone). My home number is 410-526-5707. My home address is provided at the top of this letter.

Thank You,

[Signature]
Leroy A. Chester
President
Chester Real Estate Development, LLC
Correspondence Received Requiring Action

From: sb.workflow@baltoemcity.gov
To: Beck, Steve
Cc: 
Subject: Correspondence Received Requiring Action

Correspondence pertaining to property located at 1401 W. OSTEND STREET has been received by the Bureau Head’s Office. Please initiate investigation immediately. Response to original letter is due by . The Case Initiation Form can be found in workflow queue “Case Initiation”.

http://DFW-CB02-SRV/AppNet/docpop/docpop.aspx?WTZ31_0_0=20&clienttype=active&doctypeid=541

Department of Public Works
200 N. Holliday Street, Baltimore, MD 21202
Document Management System

Document Number: 20
CSR Number: 163998
Assigned To: STORMWATER ENGINEERING
Correspondence Date: 12/09/2009
Sender's Name: LEROY A. CHESTER
Sender's Street Address: 12225 STATEWOOD ROAD
Sender’s City, State, ZIP: REISTERSTOWN MD 21136
Sender’s Phone Number: 410.908-0632
Location Street Address: 1401 W. OSTEND STREET
Initial Problem Description:
Action Requested: PLEASE INVESTIGATE AND PREPARE A RESPONSE FOR DIRECTOR'S SIGNATURE
Date Completed:
**Department of Public Works**
200 N. Holliday Street, Baltimore, MD 21202

**Document Management System**

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<thead>
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<td>Correspondence Date:</td>
<td>12/09/2009</td>
</tr>
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<td>Sender's Name:</td>
<td>LEROY A. CHESTER</td>
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<tr>
<td>Sender's Street Address:</td>
<td>12225 STATEWOOD ROAD</td>
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<td>REISTERTOWN, MD 21136</td>
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<tr>
<td>Location Street Address:</td>
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</tbody>
</table>

**Initial Problem Description:**
flooding in basement

**Action Requested:**
PLEASE INVESTIGATE AND PREPARE A RESPONSE FOR DIRECTOR'S SIGNATURE

**Date Completed:**

**Submit**
12225 Statewood Road
Reisterstown, MD 21136

December 9, 2009

Bureau of Water and Waste Water
Attn: Ms. Kishia Powell
Superintendent of Water Department
200 N. Holliday Street
Baltimore, MD 21202

Re: SR 163998

Dear Ms. Powell,

I purchased the property at 1401 W. Ostend Street, Baltimore, MD 21223 on March 6, 2007. This is an investment property for me. Before purchasing the property, I inspected it and placed a contract approximately 1 month prior. Today I reported a water problem which has existed for at least 2 months since my initial inspection. The basement of the property was flooded with water during my initial inspection, back in February, and has repeatedly flooded since being purchased.
Department of Public Works
200 N. Holliday Street, Baltimore, MD 21202

Document Management System

Document Number: 20
CSR Number: 163998
Assigned To: STORMWATER ENGINEERING

Correspondence

Sender's Name: [Redacted]
Sender's Street Address: [Redacted]
Sender's City, State: [Redacted]
Sender's Phone Number: [Redacted]
Location Street Address: [Redacted]

Initial Problem Description:

Action Requested: PLEASE INVESTIGATE AND PREPARE A RESPONSE FOR DIRECTOR'S SIGNATURE

Date Completed: [Redacted]
December 9, 2009

Larry A. Chester
12225 Statewood Road
Rancho Cucamonga, CA 91730

RE: Customer Service Request 163968
Department of Public Works Document Tracking Number 20

Dear Larry A. Chester

The Department of Public Works has received your correspondence dated 12/8/2009 regarding flooding in basement at 401 W. Otsego Street. Please be advised that this issue has been assigned to the Stormwater Engineering office for investigation and review. You will be notified of the results of our investigation by no later than 12/22/2009.

Sincerely,

David Scott, P.E.
Director
Department of Public Works
<table>
<thead>
<tr>
<th>External Reference</th>
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</tr>
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<td>12/22/2009</td>
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<td>SW Initiation Date</td>
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<tr>
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<tr>
<td>Address</td>
<td>1401 W. OSTEND STREET</td>
</tr>
<tr>
<td>Intersection</td>
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<td>Coordinates</td>
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<tr>
<td>(System Generated)</td>
<td></td>
</tr>
<tr>
<td>Contact Person</td>
<td>LEROY A. CHESTER</td>
</tr>
</tbody>
</table>
From: sb.workflow@baltimorecity.gov
To: Beck, Steve
Subject: New Stormwater Complaint/CSR Case Number SWE-2009013 Has Been Opened

Please add a point feature to the Stormwater CSR Features for Case SWE-2009013 at 1401 W. OSTEND STREET
## Stormwater Complaint/CSR Initiation Form

**External Reference**
- **CSR#**: 163998
- **External Reference DN#**: 20
- **External Reference DN# Date**: 12/22/2009

**SW Initiation Date (System Generated)**: 12/08/2009

**SW Deadline (System Generated)**: 12/15/2009

**Address**: 1401 W. OSTEND STREET

**Intersection**: 

**Coordinates (Lat,Long)**: 

**Coordinates (Easting,Northing)**: 

**Source**: 

**Case Year**: 

**Case Number (System Generated)**: 

**Contact Person**: LEROY A. CHESTER
# Stormwater Complaint/CSR Initiation Form

**External Reference**
- **CSR#:** 163998
- **External Reference DN#:** 20
- **External Reference DN# Date:** 12/22/2009
- **SW Initiation Date (System Generated):** 12/08/2009
- **SW Deadline (System Generated):** 12/15/2009

**Address:** 1401 W. OSTEND STREET

**Intersection:**

**Coordinates (Lat,Long):**

**Coordinates (Easting, Northing):**

**Source:**

**Case Year:**

**Case Number (System Generated):**

**Contact Person:** LEROY A. CHESTER

---

**Department of Public Works**

**Bureau of Water and Wastewater**

**Engineering Section - Stormwater Engineering Office**

**305 Abel Wolman Building**

**200 N. Holliday Street, Baltimore, MD 21202**

**Tel:** 410.396.4760

**Fax:** 410.396.8216
Department of Public Works
Bureau of Water and Wastewater

Engineering Section - Stormwater Engineering Office
305 Abel Wolman Building
200 N. Holliday Street,
Baltimore, MD 21202

Stormwater Complaint/CSR Initiation Form

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<td>2009</td>
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<tr>
<td>Case Number</td>
<td>SWE-2009013</td>
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<tr>
<td>Contact Person</td>
<td>LEROY A. CHESTER</td>
</tr>
</tbody>
</table>
Please add a point feature to the Stormwater CSR Features for Case SWE-2009013 at 1401 W. OSTEND STREET
### Case Investigation Form

**Case Number:** SWE-2009013  
**Address:** 1401 W. OSTEND STREET  
**Intersection:**  
**Coordinates (Lat,Long):**  
**Coordinates (Easting,Northing):**  
**Weather Conditions:**  
**Personnel at Site and Affiliation:**  

**Initial Problem Description:** Flooding in basement  
**Date and Time:**  
**Purpose of Visit:**  
**Prepared By:** Select A Name  
**Observation:**

---

**Image:**
- Image 1: A view of a basement area with visible water accumulation.
- Image 2: A closer view of the same area, showing the water more clearly.

---

**Source:** Bureau of Water and Wastewater  
**Location:** 305 Abel Wolman Building, 200 N. Holliday Street, Baltimore, MD 21202  
**Contact:** Tel. 410.396.4700, Fax. 410.396.5210
## Case Investigation Form

**Case Number:** SWE-2009013  
**Address:** 1401 W. OSTEND STREET  
**Intersection:**  
**Coordinates (Lat,Long):**  
**Coordinates (Easting, Northing):**  
**Weather Conditions:** WET  
**Personnel at Site and Affiliation:** Crew No. 4  
**Initial Problem Description:** Flooding in basement  
**Date and Time:** 12/10/09 11:30 AM  
**Purpose of Visit:** Investigate flooding in basement  
**Prepared By:** DONN WADDY  
**Observation:** Observed and documented serious drainage problems on property
From: ob.workflow@baltimorecity.gov
To: Beck, Steve
Cc:
Subject: SWE Complaint/CSR Case Number SWE-2009013 Investigation is Complete

Please note the initial investigation into SWE Complaint/CSR Case Number SWE-2009013 is complete and is ready for engineering review. Please upload any digital photos or CCTV video that may exist for this case.
CITY OF BALTIMORE

DEPARTMENT OF PUBLIC WORKS
WATER FACILITIES - ASHBURTON LABORATORY

DISTRIBUTION SYSTEMS COMPLAINTS

Complaint Identification Number _______ Work Order # _______

Nature of complaint WIC

Address 1401

Pertinent field information:

Sample taken. 05/07/01
Department of Public Works
Bureau of Water and Wastewater
Engineering Section - Stormwater Engineering Office
305 Abel Wolman Building
200 N. Holliday Street, Baltimore, MD 21202
Tel: 410.396.4700
Fax: 410.396.5210

Case Resolution Form

Date and Time: 
To: 
ATTN: 
Address: 1401 W. OSTEND STREET
Intersection: 
Coordinates (Lat,Long): 
Coordinates (Easting, Northing): 
Case Number: SWE-2009013
SWE Office Contact: DONN WADDY

Initial Problem Description
Flooding in basement

Final Problem Description
Observed and documented multiple drainage problems on property
To: Section Chief
ATTN: Azzam Ahmad
Address: 1401 W. OSTEND STREET
Intersection:
Coordinates (Lat,Long):
Coordinates (Easting, Northing):
Case Number: SWE-2009013
SWE Office Contact: DONN WADDY

Initial Problem Description:
Flooding in basement

Final Problem Description:
Observed and documented multiple drainage problems on property

Proposed Action/Recommendation Description:
Problems is unrelated to public storm water system. Inadequate drainage exists on private property

Case Resolution: NO ACTION
Submit
December 23, 2008

RE: Customer Service Request Number 163988
Department of Public Works Document Tracking Number 20

Dear:

The Department of Public Works has completed its investigation into the flooding in basement reported for the property located at 1401 W. Ormond Street. This investigation has resulted in the following finding:

Problems are unrelated to public storm water system. Inadequate drainage exists on private property.

Therefore, no further action will be taken by the Department at this time.

David Scott, P.E.
Director
Department of Public Works
Contact Information:

Steve Beck, PMP, GISP
JMT Technology Group
www.jmttg.com

Email: sbeck@jmttg.com
Office: 410-316-2337
Mobile: 410-371-6079