

Leveraging GIS for Yearly System Flushing

Shane Lim GISP

GIS Supervisor

SUEZ

Shane.lim@suez-na.com



SUEZ

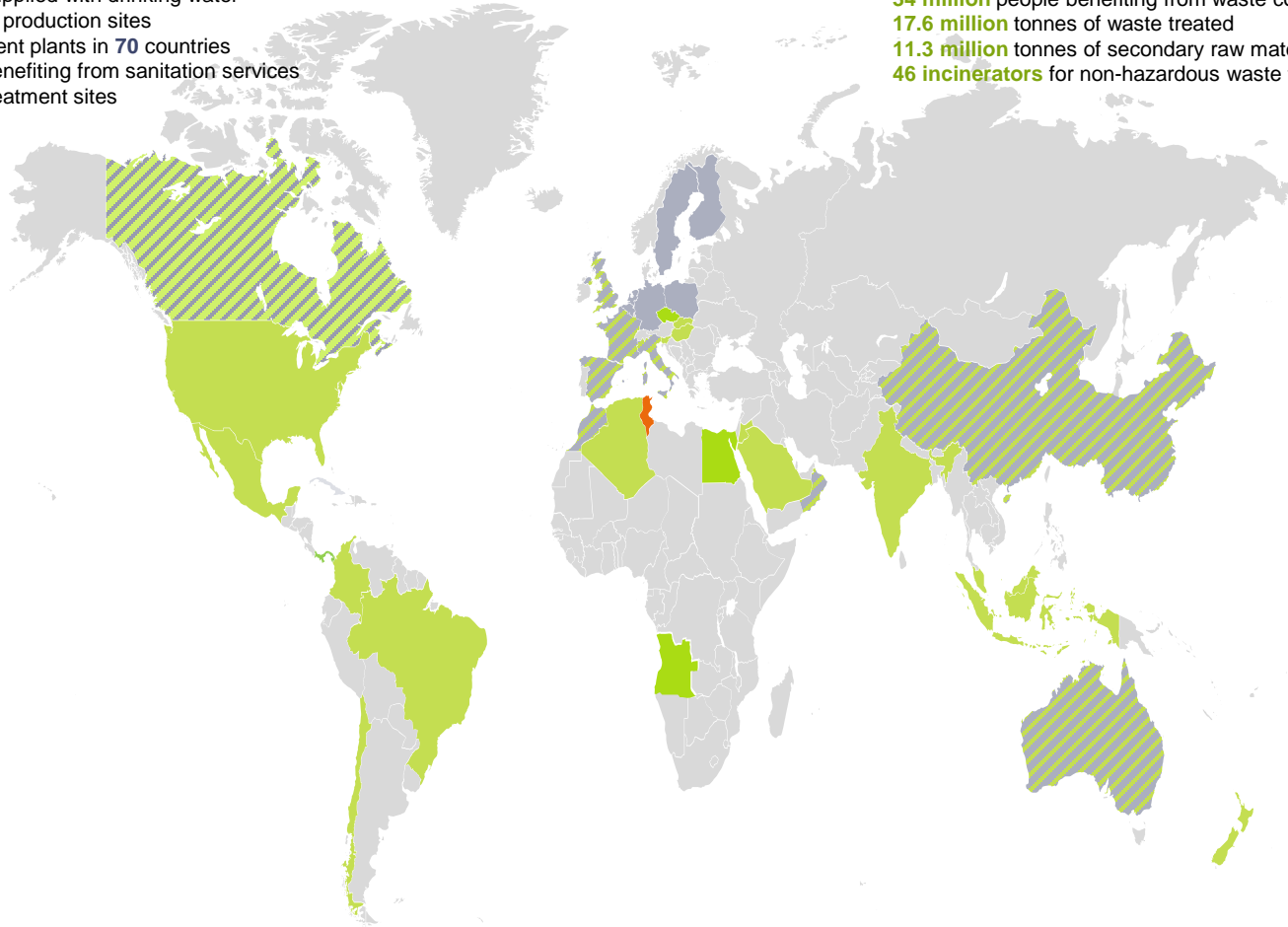
A world leader in sustainable management of resources

WATER

92 million people supplied with drinking water
1,130 drinking water production sites
10,000 water treatment plants in 70 countries
65 million people benefiting from sanitation services
2,310 wastewater treatment sites

WASTE

34 million people benefiting from waste collection services
17.6 million tonnes of waste treated
11.3 million tonnes of secondary raw materials
46 incinerators for non-hazardous waste throughout the world



82,500
employees

€16.2 Billion
revenue in 20145

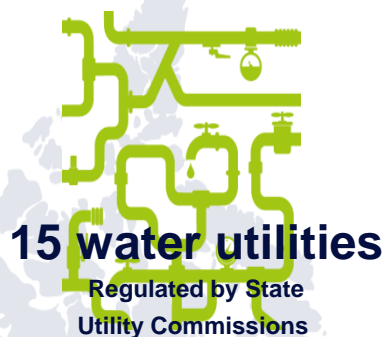
€74 Million
invested in Research

SUEZ – a single brand serving the circular economy

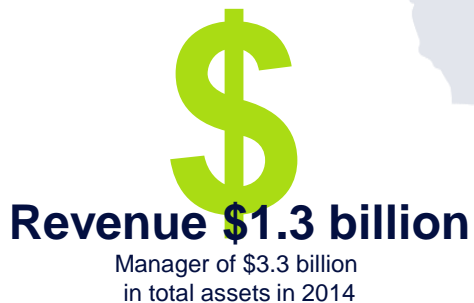


SUEZ in North America

Operating in all 50 States and Canada



Two concession agreements
investing over \$300 million
in infrastructure in partnership
with private equity firm KKR



SUEZ in Boise, Idaho

Serving Over 200,000 Residents in the Greater Boise Area

90,000 Connections

1,200 Miles of Pipe

80 Wells

2 Treatment Plants

99 Employees

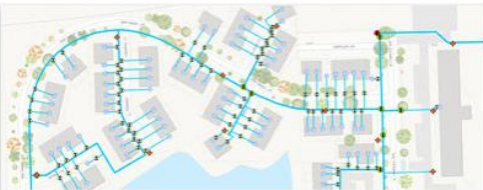
<http://solutions.arcgis.com/#Water>



Water

ArcGIS for Water provides maps and apps to maintain comprehensive water, sewer, and stormwater records; coordinate and plan capital projects; and improve the operations of utility networks that provide clean drinking water and protect public health.

[Documentation](#) | [What's New](#) | [Join Community](#)



Water Delivery

Maintain information about your water network assets, plan capital projects, respond to leaks, reduce water loss, optimize field work, communicate with customers, and more.



Sewer Collection

Gain insight from CCTV data, improve capital project planning, maintain information about sewer network assets, perform field inspections, inform customers about overflows, understand service requests, and more.



Stormwater Conveyance

Inventory stormwater assets, find illicit discharges, maintain information about stormwater networks, share stormwater maps, and more.

Fire Hydrant Inspection Template

Fire Hydrant Inspection

Home

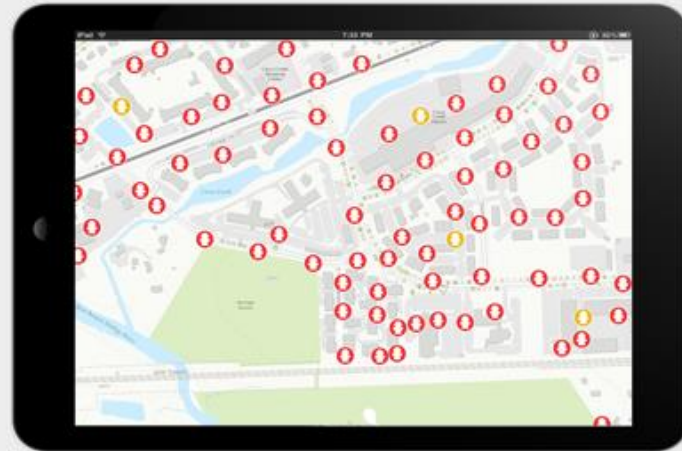
Get Started

Workflows

Overview

Fire Hydrant Inspection is a configuration of ArcGIS Online and the Collector for ArcGIS application that supports the inspection and maintenance of fire hydrants. It helps fire fighters ensure that every hydrant in a district performs properly and reliably when an emergency occurs. It also enables fire fighters to maintain and improve their knowledge of first due areas so they can easily locate hydrants and access or open them when needed.

Fire Hydrant Inspection offers a map-based view of an inspection program that allows fire operations staff to load hydrant information provided by their utility, assign inspections to a station or shift crew, and publish fire hydrant inspection maps that can be used to conduct field inspections. If you don't currently have hydrant information in your GIS or you discover missing hydrants while in the field, you can collect missing hydrants with your location-aware smartphone.



REQUIREMENTS

WHAT YOU GET

WHAT'S NEW

DOWNLOAD

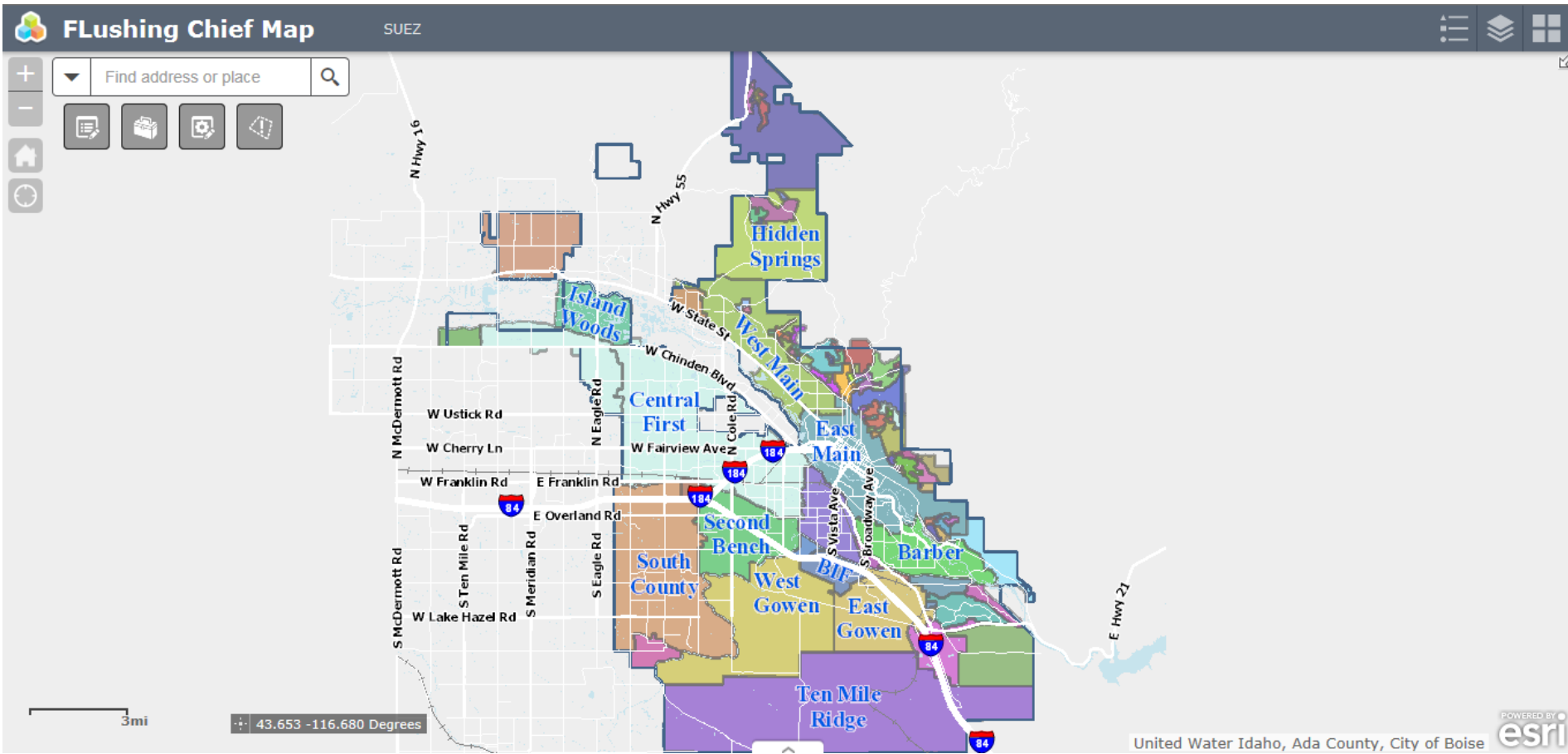
The High Points

- **Downloadable Skeleton**
- **Each Sample contains the pieces you need.**
- **Can use your GIS data**
- **Configuration not Coding**
 - Mostly
- **No Duplication of lists**
- **Simple for Field staff**
- **Staff handle their own data updates**
- **Very little GIS Staff interaction once built**
- **Full history for analyzation**

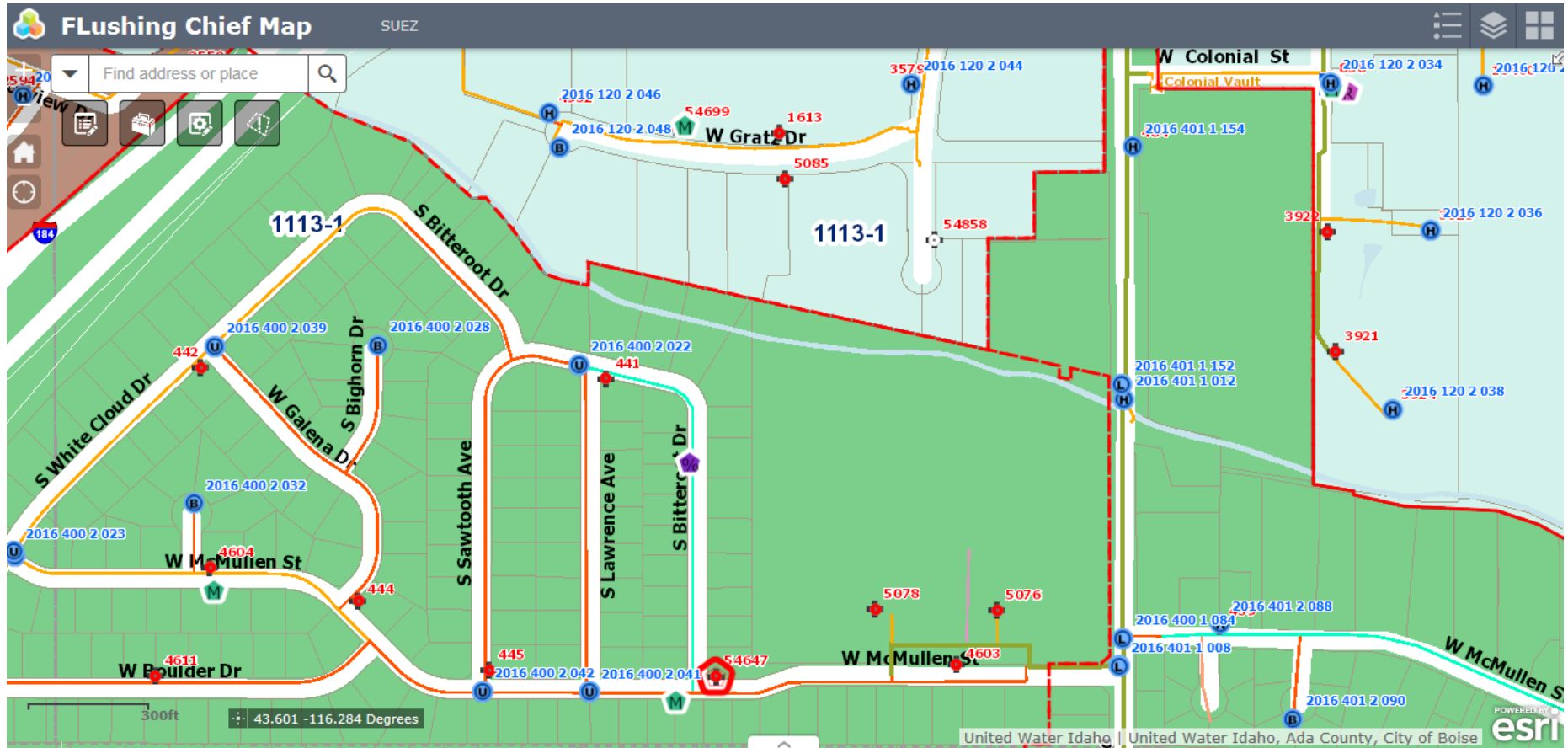
Getting Started

- **Up to date Accurate data**
- **Train staff and adapt system to their feedback.**
 - Within reason
- **Share with everyone.**
- **Don't be afraid to start over.**
 - Don't import bad data start over. Leave the old system up for viewing.
 - Turn off the ability to edit.
- **The templates are adaptable.**

Flushing Chief Web Map



Flushing Chief Web Map



Web Map Tools

The screenshot displays the 'FLushing Chief Map' interface with several tool panels overlaid on a map background. The map shows a street grid with various colored overlays representing flushing events and zones.

Legend Panel: Titled 'Legend', it lists 'Flushing Event' categories with corresponding icons: a blue circle with 'B' for 'BlowOff', a blue circle with 'H' for 'Hydrant', a blue circle with 'L' for 'Line Valves', and a blue circle with 'U' for 'others'.

Layer List Panel: Titled 'Layer List', it shows a list of 'Operational Layers' with checkboxes: 'Flushing Event', 'Workorders In Progress', 'Suez_Drinking_Water_Advisory Water Advisory Polygon', 'Flushing Zone', and 'Assets'. All checkboxes are checked.

Basemap Gallery Panel: Titled 'Basemap Gallery', it offers four basemap options with preview thumbnails: 'Imagery' (satellite view), 'Imagery with Labels' (satellite with text labels), 'Streets' (street map), and 'Asset Basemap' (a stylized map with asset locations).

Flushing Point Editing

The screenshot displays the 'FLushing Chief Map' interface for SUEZ. At the top, there is a search bar labeled 'Find address or place' and a toolbar with icons for map navigation and editing. The main map area shows a street grid with labels for 'S Lawrence Ave' and 'S Bittern Dr'. Several hydrant locations are marked with red crosses and labeled with IDs: 4932, 3579, 5078, and 5076. A blue circle with an 'H' is also visible near hydrant 4932.

An 'Edit' panel is open on the left, titled 'Select a template to create features'. It lists various flushing event templates under the heading 'Flushing Event':

- Hydrant (represented by a blue circle with 'H')
- BlowOff (represented by a blue circle with 'B')
- Line Valves (represented by a blue circle with 'L')
- Boil Water (represented by an orange triangle)
- Unplanned Maintenance (represented by a blue triangle)
- Do Not Drink (represented by a red triangle)
- Hydrant Testing (represented by a blue triangle)
- Planned Maintenance (represented by a green triangle)

A 'Flushing Event' data entry form is open on the right, showing the following fields and values:

Workorder Identifier	2016 120 2 044
Workorder Status	Unassigned
AssetID	1113100007
AssetType	Hydrant
Assigned To	
Supervisor	
Planned Start	5/11/2016
Actual Start	
Actual End	

Bulk Editing for daily planning.

FLushing Chief Map SUEZ

Find address or place

Batch Attribute Editor

Use one of the tools below to create a selected set of features to update. If the row is **highlighted**, the maximum number of records has been exceeded.

<input checked="" type="checkbox"/>	▼	#	Layer Name
<input checked="" type="checkbox"/>	7	Flushing Event	

Clear

Batch Attribute Editor

Workorder Status

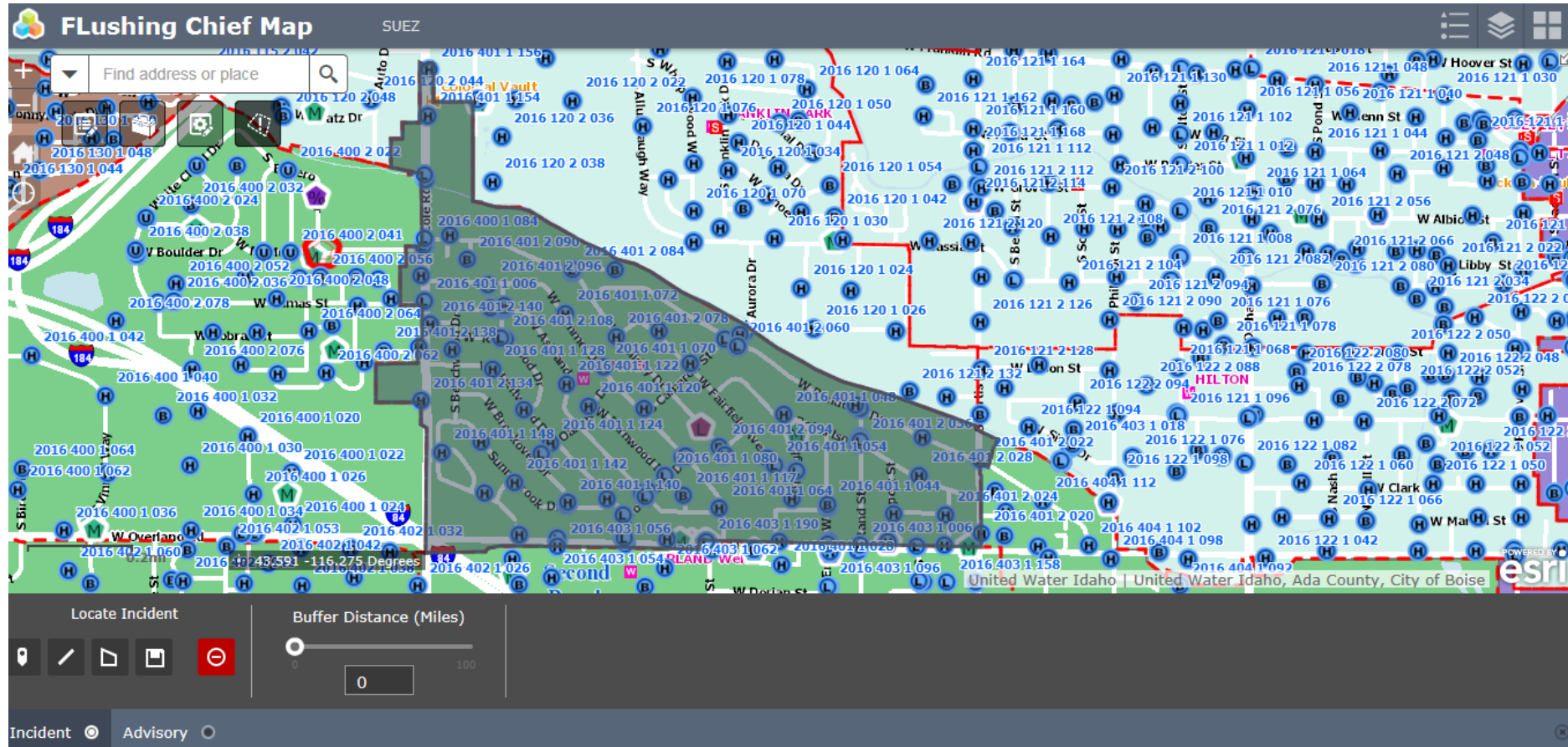
Status

Planned Start

CREW

Save

Public Area Notifications



about my water ^

outages & alerts

water quality reports

water quality faq

my local suez projects

water saving tips v

general maintenance v

for your health v

Outages & Alerts

Use our map to pinpoint important notifications in your area. Sign up to receive emergency email alerts below, by checking the box you can add general maintenance alerts as well.

Sign Up for Alerts

email address *

zip code *

Emergency alerts ?

Maintenance alerts ?

SUBMIT

Outages & Alerts Advisory Map

Enter your location to find out if there are any outages or alerts in your area, or for the wider view choose from the area menu.

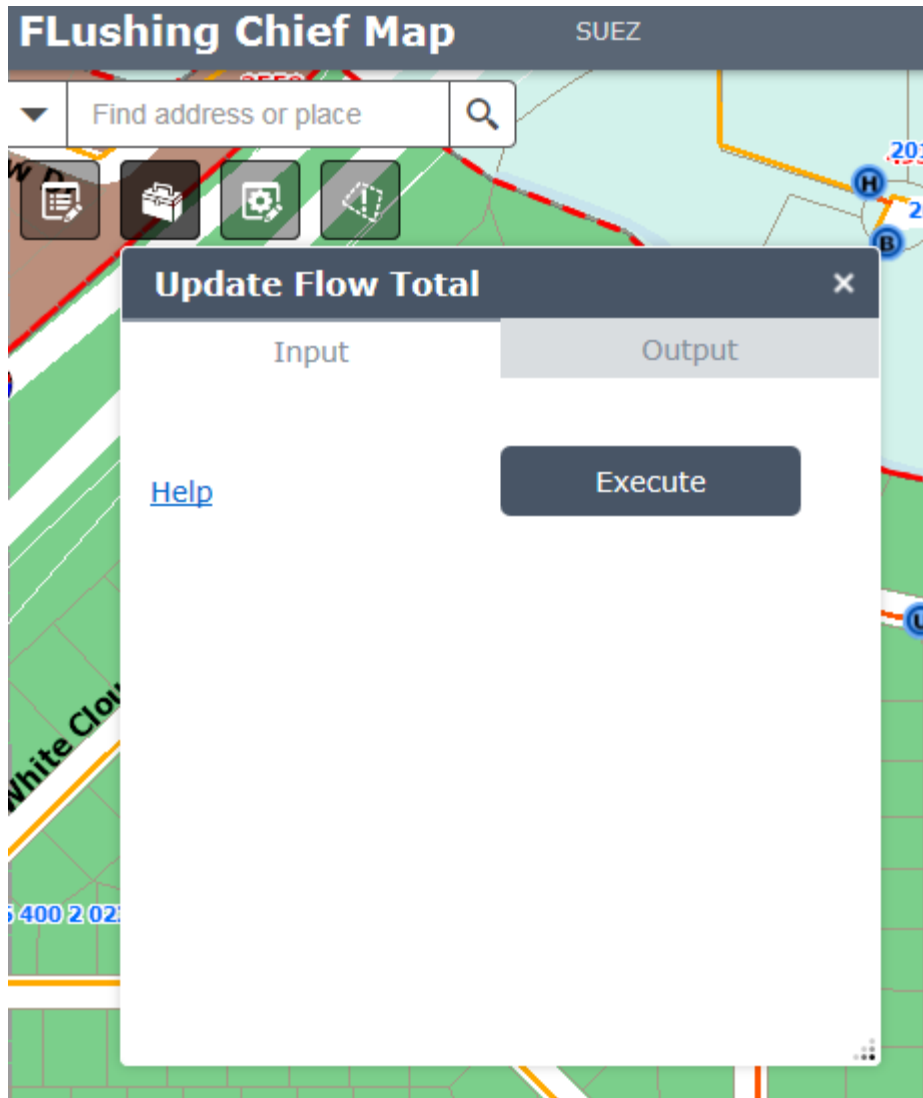
select your area

Idaho v

[full screen view](#)



End of Day Flushing Totals



Mobile Map

Flushing Map

Update Search Created

Get Info Flush GPS

0 Changes that need to be posted

Operations

1:162875

Data Services: Post or get new data changes from your office's server

Active Tool: Information Tool

Update	Search	Update	Search	Update	Search	Update	Search	Created
Get Info	Flush	Get Info	Flush	Get Info	Flush	Get Info	Flush	GPS

Use the map to define the location of the record

Go To Coordinate

Search in Layer:

Flushing Event

Using this field:



Workorder Identifier

For this value:

In this area:

Clear

Find all similar?

Workorders: **Workorders:** Wo

Job Description

Address

Customer

Contact Phone

Workorder Type

Replace

Workorder Status

Unassigned

Flushing Event

Page:1 Page:2 Page:3 Pa

Workorder ID

2016 700 2 020

Job Description

FLUSH

Address

10346 W OVERLAND RD

Location

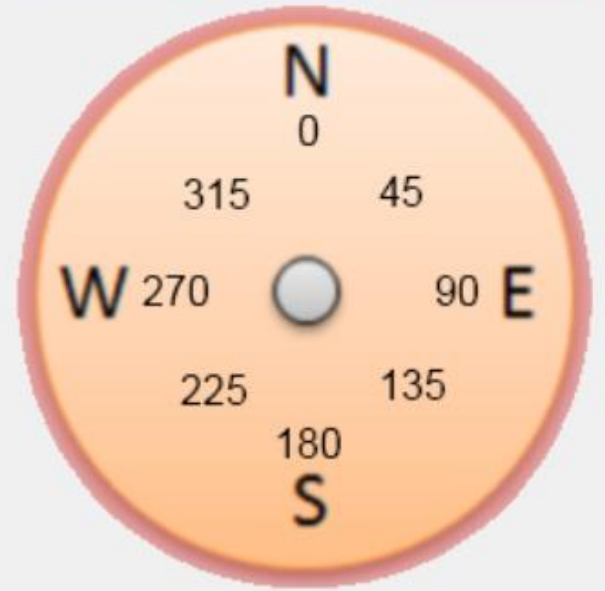
NE CORNER OF BUILDING

CREW

Flushing Crew 2

Asset

Hydrant



GPS Information:

N/A	N/A		
# Sats	Fix Type	Speed	Course
N/A	N/A	N/A	N/A

Destination:

N/A	N/A
-----	-----

Navigation

Distance	Bearing	Arrive in
N/A	N/A	N/A

Flushing Data Logging





The screenshot displays the 'Flushing Map' application interface. On the left side, there is a control panel with buttons for 'Update', 'Search', 'Created', 'Get Info', 'Flush', and 'GPS'. Below these are 'CrewFL2' icons and a list of activities for '2016 700 2 020 - Hydrant - FLUSH'. A summary section shows 'This Week: 187' activities, 'Today all' activities, 'This Week: 187', 'All Open: 1460', and 'Closed: 1453'. The main map area shows a street grid with 'W Bantam St' and 'S Weideman Ave'. Various pipe types and sizes are labeled, such as '1"-10342 COPSET', '2"-10-456 -82 COPSET', and '1"-1417 -82 COPSET'. A specific activity is highlighted in yellow at the bottom center: '2016 700 2 020 - Hydrant - FLUSH'. The map also shows a scale of '1:1013' and a 'Top Most Layer' dropdown menu.

Activity List: Shows a list of assigned activities, opening a activity sets up an inspection

Active Tool: Information Tool





Update	Search	Created	Update	Search	Created	Update	Search	Created
Get Info	Flush	GPS	Get Info	Flush	GPS	Get Info	Flush	GPS

CrewFL2





2016 700 2 020 - Hydrant - FLUSH

CrewFL2

2016 700 2 020 - Hydrant - FLUSH

CrewFL2

2016 700 2 020 - Hydrant - FLUSH

Page:1 Page:2 Page:3 Page:4

Job Description

FLUSH

Address




10346 W OVERLAND RD

Location

NE CORNER OF BUILDING

CREW

Flushing Crew 2

The field DRAINAGE has this error: Field is empty

Flushing Event: Flushing Event:

Actual Start

05/04/2016 09:18 AM

Connection


<Null>

WATERDARK

WATERCLEAR

SAND

Yes No



The field DRAINAGE has this error: Field is empty

Flushing Event: Flushing Event:

DRAINAGE

<Null>


Comments

Workorder Status

Work Completed

Crew Names

glim



Configuration Not Coding

```
<?xml version="1.0"?>
- <MobileConfig xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <MobileMapConfig>
    + <ApplicationSettings>
    + <NavigationOptions>
    + <MeasureOptions>
    + <LayerOptions>
    + <EditControlOptions RequireGPSForSaving="False">
    + <ServicePanel>
    + <SearchPanel>
    + <TOCPanel>
    + <SketchPanel>
    + <IDPanel>
    + <CreateFeaturePanel>
    + <WebPanel>
    + <WorkorderPanel>
      <AutoSyncerSettings/>
    </MobileMapConfig>
  </MobileConfig>
```

Update	Search	Created
Get Info	Flush	GPS

CrewFL2



This Week: 187
2016 700 2 020 - Hydrant - FLUSH
2016 700 2 022 - Hydrant - FLUSH
2016 700 2 024 - Hydrant - FLUSH
2016 700 2 026 - Hydrant - FLUSH
2016 700 2 028 - Hydrant - FLUSH
2016 700 2 030 - Hydrant - FLUSH
2016 700 2 032 - Hydrant - FLUSH

Today all
This Week: 187
All Open: 1460
Closed: 1453

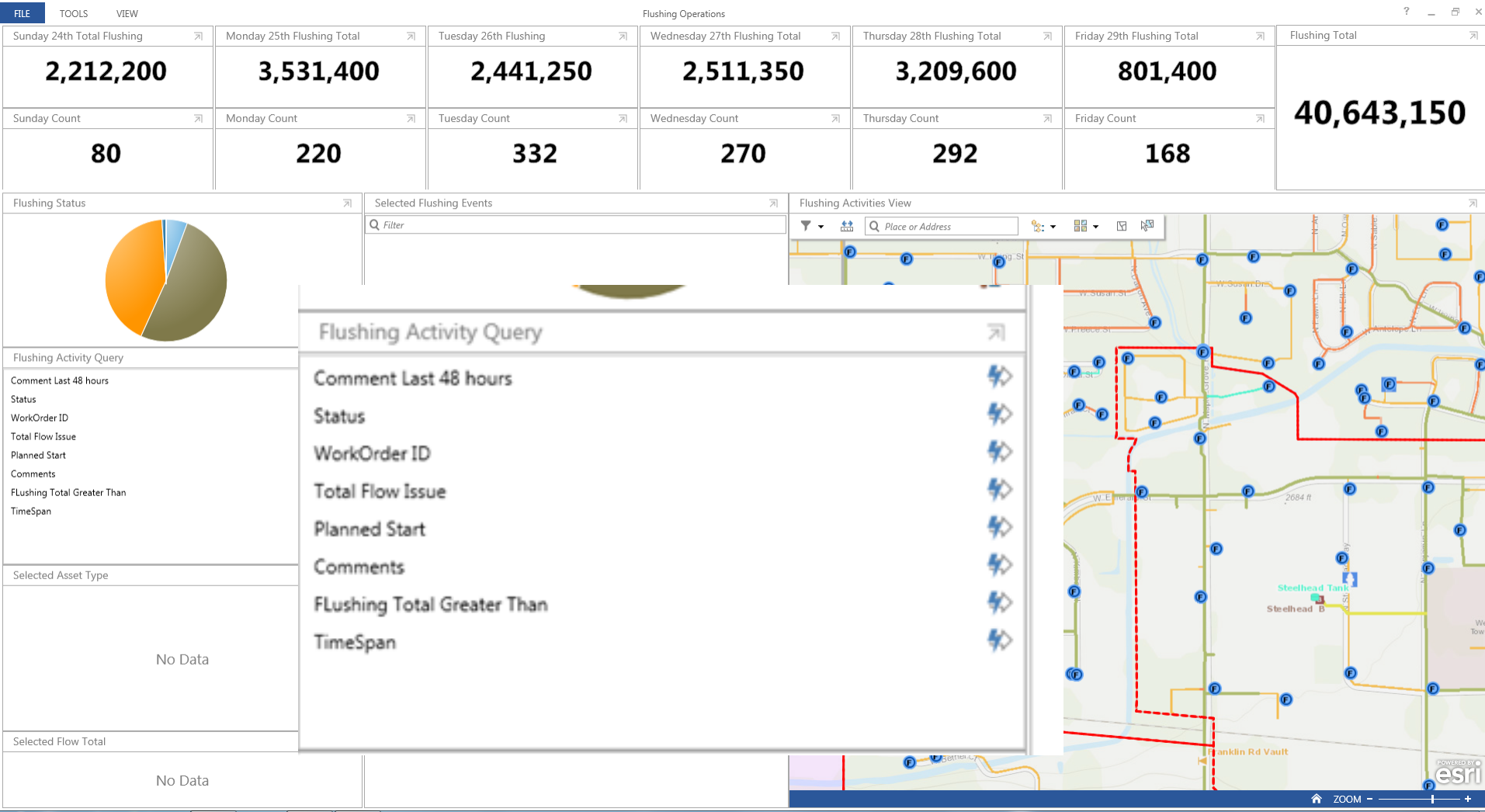
```

- <WorkorderPanel>
  <Visible>True</Visible>
  <DisplayText>Flush</DisplayText>
  <StatusBarMessage>Activity List: Shows a l
  <LayerInfo ZoomOnLoad="True" IDField="WO
- <WorkOrderFilters ButtonFontSize="8" ListFont
  - <WorkOrderFilter Label="Today all" SortFi
    '-6 hour') ) and (WORKSTATUS <> 'In
      - <Fields JoinString=" - ">
        <Field Name="WORKID" Label=""
        <Field Name="WORKTYPE" Label=""
        <Field Name="FCLASS" Label=""/>
        <Field Name="JOBDESCRIPTION
      </Fields>
    </WorkOrderFilter>
  - <WorkOrderFilter Label="This Week" Sort
    datetime('now', '+5 day') ) and (WORK
      - <Fields JoinString=" - ">
        <Field Name="WORKID" Label=""
        <Field Name="WORKTYPE" Label=""
        <Field Name="FCLASS" Label=""/>
        <Field Name="JOBDESCRIPTION
      </Fields>
    </WorkOrderFilter>
  - <WorkOrderFilter Label="All Open" SortFi
    'Completed')" Action="Zoom,Flash">
      - <Fields JoinString=" - ">
        <Field Name="WORKID" Label=""
        <Field Name="WORKTYPE" Label=""
        <Field Name="FCLASS" Label=""/>
        <Field Name="JOBDESCRIPTION
      </Fields>
    </WorkOrderFilter>
  - <WorkOrderFilter Label="Closed" SortField
    Action="Zoom,Flash">
      - <Fields JoinString=" - ">
        <Field Name="WORKID" Label=""
        <Field Name="WORKTYPE" Label=""
        <Field Name="FCLASS" Label=""/>
  
```

```

Action</StatusBarMessage>
Name="Flushing Event"/>
>
IF BETWEEN datetime('now', '-5 day') AND datetime('now',
WORKSTATUS <> 'Completed')" Action="Zoom,Flash">
= ( PLANSTART BETWEEN datetime('now', '-1 day') AND
leted')" Action="Zoom,Flash">
IS <> 'Work Completed' and WORKSTATUS <>
= 'Work Completed' or WORKSTATUS = 'Completed')"
  
```

Operations Dashboard



Questions?