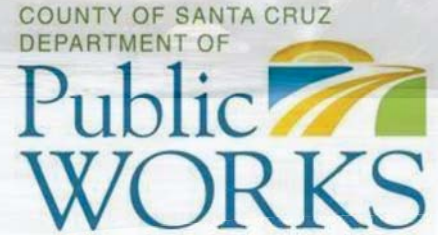


# DPW QUARTERLY NEWSLETTER

*Building communities from the ground up.  
Striving to protect the health, safety and welfare of the  
public by providing essential services for daily life.*



## LANDFILL GREENS ITS FLEET

By: Beau Hawksford

Public Works utilizes heavy equipment capable of handling the incoming refuse and recyclable materials, which is essential to the daily operation of the County's disposal sites. The refuse compactor, dozer and front loader were all well past their normal service life and required frequent repair and parts replacement to maintain in working order. Additionally, the old equipment had engines with lower tier emission systems that will be phased out soon requiring expensive upgrades. The replacement equipment has high-tiered emission systems, including an electric hybrid engine on the dozer that will improve air quality impacts. We purchased a new refuse compactor, dozer and front loader, as well as a refurbished refuse compactor, which will reduce maintenance costs, meet updated air quality requirements, and will allow the disposal operations to maintain other compliance requirements.

This purchase helps us to meet the County's Strategic Plan goals in the following ways:

**4. C (Local Conservation)** - Purchase of this equipment is consistent with the County's Strategic Plan Sustainable Environmental goals by providing support for proper recycling and refuse handling and improving clean air efforts.

**6. D (Continuous Improvement)** - Purchase of this equipment is consistent with the County's Strategic Plan County Operational Excellence goals by ensuring that we have reliable and efficient tools to perform work in a fiscally responsible manner.



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### Execution of Construction Contracts

Mirna Guerrero has been working to identify ways to streamline the execution of our Construction Contracts. Among the first improvements to this process is beginning the execution of the contract immediately after the project is awarded by the Board, which has resulted in an estimated reduction of process time of two weeks, with the potential of more time savings in the future.

### CAMS Engineering Module Training

CAMS Engineering Module training, set up by the MIS team utilizes our pop-up training lab setup in the DPW conference room at 701 Ocean. It allows four users to receive hands on training via laptops while being led by a trainer on the main conference computer.



### QUOTE OF THE MONTH

“It is not the strongest of the species that survive, nor the most intelligent, but the one most responsive to change.”

-Charles Darwin



# HOW DPW LEVERAGES GIS: EMPOWERING STAFF AND INFLUENCING DECISIONS

By: Bryan Kriete

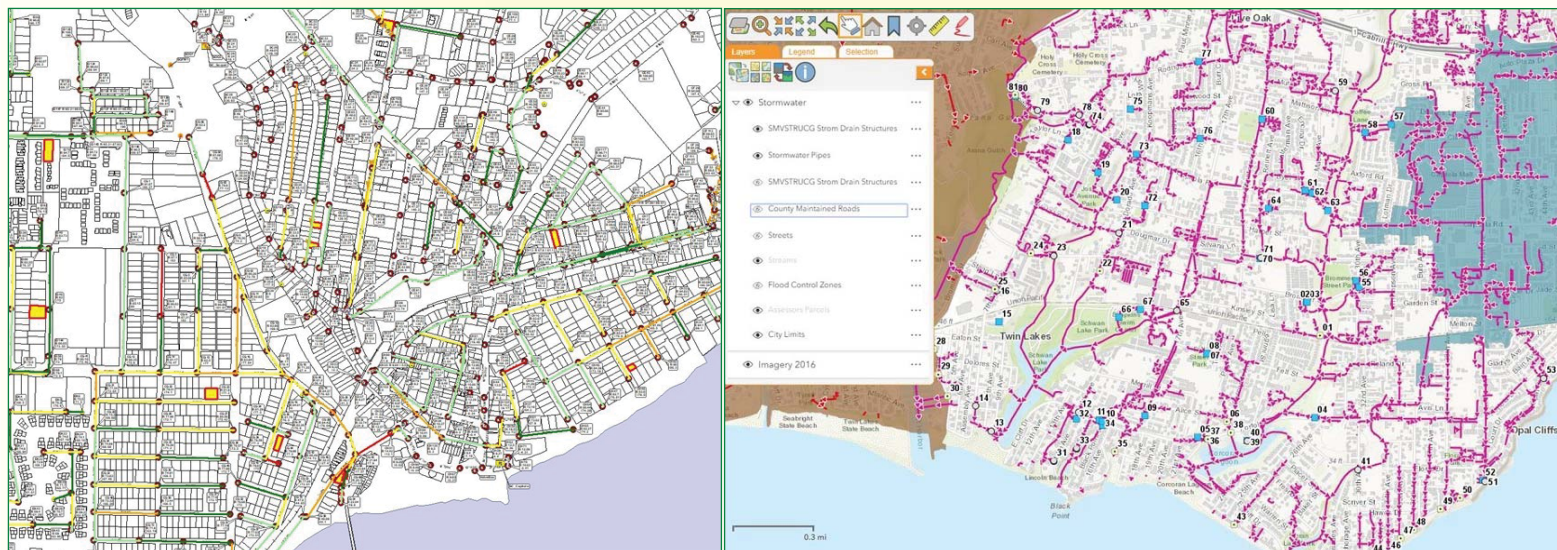
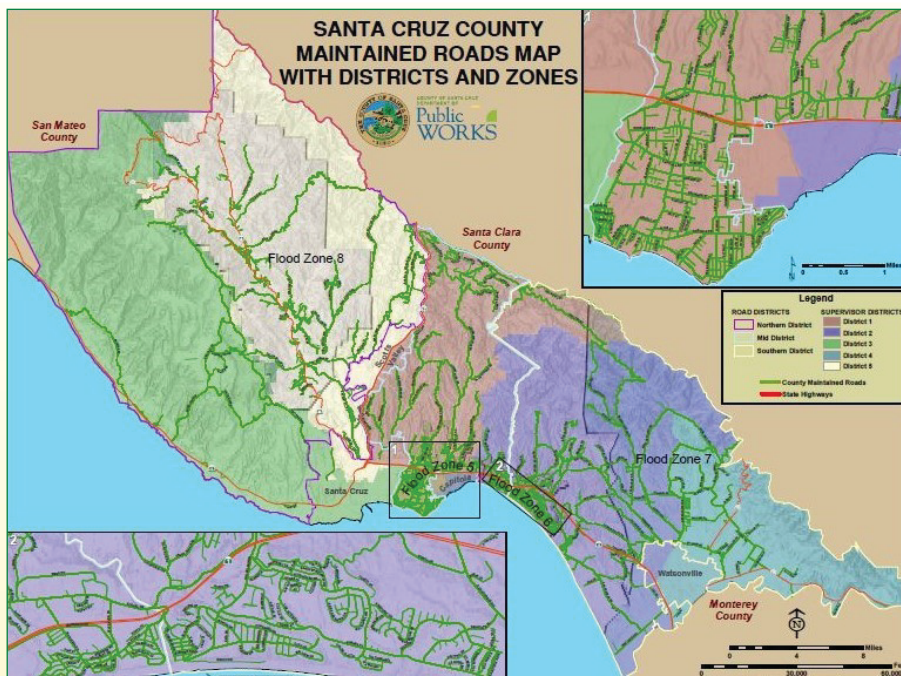
Santa Cruz County DPW has a long history of harnessing the power found in Geographic Information Systems (GIS). Beginning in 2001, when it was suggested by the Planning Department that DPW retain its own GIS analyst, there has been a concerted effort to accurately map DPW's infrastructure and maintain the inherent qualities, or attributes, of its vast inventory of assets. No small feat, this involves the continued collaboration of every section within Public Works to keep their respective data sets accurate and up-to-date. The ability to transform tabular data on a spreadsheet into a spatial map that can be customized, widely shared, and analyzed has been a game changer for Public Works.

Originally, sanitation districts were the main consumers of GIS. After exhaustively mapping their infrastructure, a suite of products, such as map books, flushing sequences, and maintenance routines, were created to assist crews in the field. In the office, a geoprocessing tool was developed to quickly determine whether a proposed development needed to join the district or construct a septic system. The tool buffered gravity mains nearest to the development, 200 feet out from each side of the pipe, providing a clear-cut picture of which path the developer must take – and it is still in use today! Over time other sections of DPW began to map their infrastructure as well - Stormwater, Roads, Real Property, Flood Control, and Live Oak Parking. These sections have all come to rely on GIS for mapping their respective assets and performing analysis against them.

The Roads unit has become the biggest consumer of GIS products since there are so many assets intertwined with roads and they, collectively, have the largest staff. From signs to streetlights, street legends to culverts and guardrails, to the actual roads themselves - the number of assets that can be collected and spatially maintained is exhaustive. DPW's GIS analyst owns and maintains approximately 24 feature datasets, or layers, while Santa Cruz County GIS maintains another 200 or so layers. The cumulative number of rows within these datasets stretches into the hundreds of thousands - if not millions. Because of the vast amount of information housed within the geodatabase, it is paramount that we are all good stewards of our respective datasets.

Another intrinsic component of GIS is its ability to integrate with other platforms - in particular, asset management software such as Lucity and GraniteNet. While GIS can be thought of as the system of record for permanent asset attributes, asset management software tracks changes to the asset over time. Condition, life span, work performed, etcetera. This software enables field crews to receive and complete work orders electronically, supervisors to set up Preventative Maintenance routines (PM's), and management to make informed decisions using dashboards, reports, and maps highlighting the current state of their asset infrastructure.

A recently completed GIS Needs Assessment has set the tone and scope for the next couple of years. Looking into the future we'll see a strengthening of the platform on mobile devices, a steady increase in the number of targeted apps and dashboards for internal consumption, the development of new layers such as Easements, authored story maps for public outreach, and a push to realize some of the elusive, advanced benefits made possible through GIS integrations with other software packages.



# MAINTENANCE: DOING ONE THING WELL

By: Vance Wagner

**M**aintenance crews work every day to keep our County maintained roads safe and passable. This work entails repairing damaged pavement, cleaning and repairing signs, replenishing striping, cleaning drainage channels, mowing and trimming vegetation, clearing roadside ditches, maintaining bridges, as well as responding to public complaints and requests for service. Pavement preservation and maintaining critical elements of our roadways are the main focus of the Road Crew. There are three basic categories of road maintenance:

## Emergency Maintenance

Emergency maintenance is always unplanned, dire, and disruptive. Often it is a simple act of nature that creates the need for an emergency repair and while the work is unplanned the Road Crew is well prepared to handle these emergencies.

## Reactive Maintenance

This involves fixing reported problems. These are items that weren't necessarily on the to-do list, however, cannot go unattended. The most common reactive maintenance activity is patching newly discovered potholes.

## Preventative Maintenance

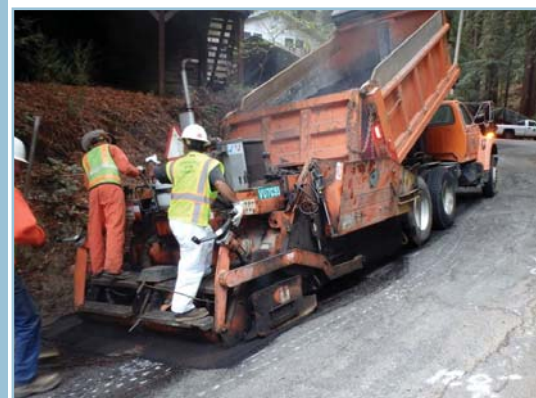
Preventative maintenance is the key to getting ahead of the curve on maintaining and repairing our roads. Preventative maintenance is a must if we want our roads to remain intact and safe for the traveling public.

The Public Works Road Maintenance Division has evaluated past practices for Preventative Maintenance and has recently implemented a change from the traditional geographic Road District approach to organizing the Road Crew. A consolidated and focused maintenance program has been created to better serve the maintenance needs of the County road system. This new program requires road maintenance staff to report to the centrally located Brommer St. Corporation Yard, which allows Road Crew managers to dispatch critical resources out of one yard, gaining the flexibility to move staff and equipment around to keep all operations functional for as much of the maintenance season as possible. Instead of operating as three independent, multi-tasking, geographically based Road Districts, we have divided our staff up into seven countywide activity-focused teams to operate between April and October annually.

### The teams are organized as follows:

1. **Flood Control Crew; (5 Crew Members)** - assigned to maintain the Pajaro River/ Salsipuedes Creek Levees, countywide creeks, rivers, and off-road drainage systems.
2. **Service Request (Liability) Crew; (3-5 Crew members)** - investigates, assesses liability, repairs and/or assigns to schedule for a future project.
3. **Special Crew; (6 Crew Members)** - responsible for sign repairs, stock and inventory, litter removal, street sweeping, guardrail repairs, pavement marking/painting and miscellaneous requests.
4. **Vegetation Management Crew; (6 crew Members)** - assigned to Roadside mowing and overhead trimming.
5. **Ditch Cleaning Crew; (8 Crew Members)** - assigned to roadside ditch and culvert clearing.
6. **Roadbed Maintenance Crew; (9 Crew Members)** - assigned to repair road surfaces of potholes and road surface hazards.
7. **Special Projects Crew; (6 Crew Members)** - assigned to make emergency repairs and scheduled road damage repair projects.

With limited resources and nearly 600 miles of roads to maintain, it is challenging to meet the expectations of the Board of Supervisors and the public. The objective of this new maintenance program is to improve safety, quality and productivity by focusing maintenance teams on specific activities. By doing this, the teams can concentrate more deeply on the task at hand, employ more creative problem solving, and complete work more efficiently. Metrics are being tracked to inform the decision-making process, and management intends to adjust its approach based on the results of the data. Even though the new program has only been in place for a little over two months, Service Request response time has already improved and progress in all basic maintenance categories is improving as well. We appreciate staff's support for implementing new ways of thinking and working, so that we, together, can provide the best service possible to our communities.





# DPW EVENTS



Public Works Week BBQ



STRAWBERRY FIELDS FOREVER



2019 JOB FAIR

## EMPLOYEE PROMOTIONS

**Italo Jimenez**

Department Fiscal Officer

**Alex Sandoval**

Assistant Public Works  
Superintendent – Roads

**Brian Miyakusu**

IT Business Systems Analyst

**Beau Hawksford**

Departmental Admin Analyst

**Jennifer Buckley**

Engineering Technician II

**Forrest Revere**

Engineering Technician II

**Elsa Felix-Estrada**

Junior in Civil Engineering

**Rene Hernandez**

Senior Engineering Associate

## NEW EMPLOYEES

**Edson Perez Sanchez**

Solid Waste Inspector I  
(Extra Help)

**Andrea Gifford**

Board Clerk

**Alejandro Rosas**

Disposal Site Maintenance  
Worker

**Brittany Williams**

Junior in Civil Engineering

## RETIREEES

**Betsey Lynberg**

**Steve Wilson**

**Jose Vargas**

**Margaret Nichols**



BETSEY'S RETIREMENT



BOARD MEETING PROCLAMATION