

RDI  RESPONSIVE
DRIP
IRRIGATION

GrowStream 

LANDSCAPE TRIAL
POWAY, CALIFORNIA



EXECUTIVE SUMMARY

Responsive Drip Irrigation (RDI) worked with a large commercial landscape contractor to install and compare RDI's GrowStream™ irrigation system versus a control group (CG) using a leading drip irrigation system. Identical plots of landscape plants and sod were planted, and both sides were metered for water use.

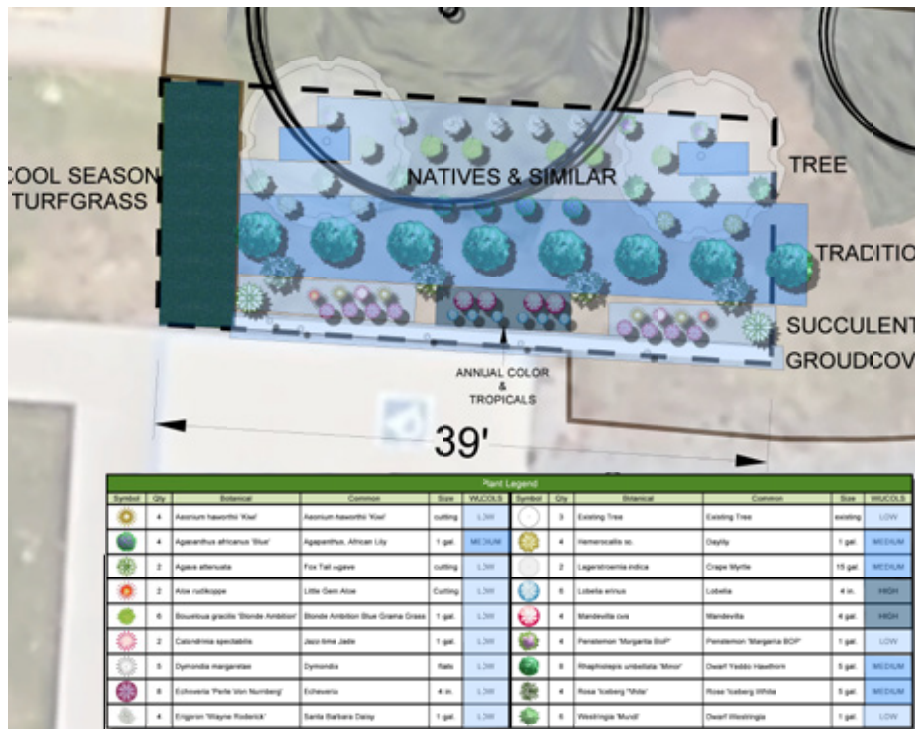
GrowStream™ is a smart microporous tubing installed subsurface, that responds to the naturally occurring signals emitted by plant roots. The smart micropores control the local release of water to each and every plant, all without the use of valves, controllers, sensors, or electronics. Substantial water savings is achieved by virtually eliminating loss from evaporation, leeching, and excess watering.

Superior plant performance from RDI was seen as early as 10 days into the project. At 50 days, plants on the RDI side were thriving and more vibrant than the control side. The high mix of plant water use requirements demonstrates GrowStream's™ simplicity of design and flexibility to meet the variable water demand.

After the initial period of plant establishment, water usage was compared to predict long-term water savings. GrowStream was able to show a **54% water savings** versus the control group drip system.

THE
SMARTEST
MOST
WATER
EFFICIENT
IRRIGATION
SYSTEM
EVER
MADE

LAYOUT AND DESIGN



Landscape design with Water Use Classification of Landscape Species. The sod section was split in half, as was the planting section which is mirrored.



Irrigation design: GrowStream™ vs. leading subsurface drip. GrowStream™ shows simplicity in layout, flexibility in design, and reduced installation labor. Standard drip requires twice as much product to meet the varying plant water requirements.

INSTALLATION PHOTOS



Irrigation install complete. Standard drip installed in foreground, RDI is installed background.



Day 2: Planting of sod and landscape plants complete



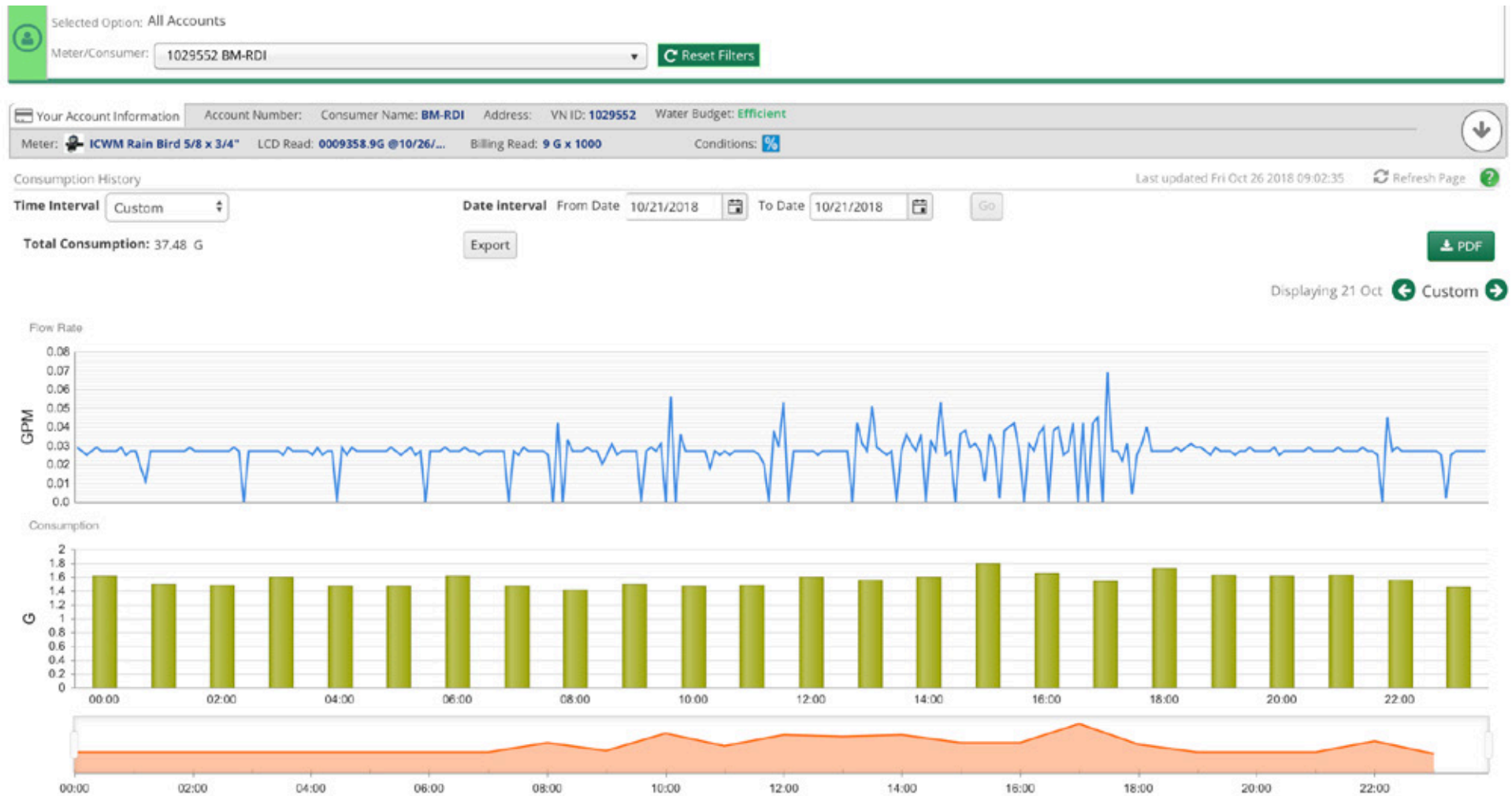
Day 10: Control group turf (right side of turf) shows early stress.



Mix of low to high water use plants

RDI: RESPONSIVE, DAY VIEW

Oct 21, single day view. Note that the meter registers ALL flow, but only records data points every 5 minutes. The fluctuation seen in RDI's water usage throughout the day correlates to rainfall, temperature, time of day, and plant stage. RDI's patented plant responsive irrigation tubing responds "real-time" to each individual plant's needs versus timed-event watering cycles from drip irrigation systems.



PLANT PERFORMANCE



Day 60. CG color plants



Day 60. RDI color plants. Plants appear more vibrant, green, and full



Day 51. CG succulents / cacti. Some appear stressed and wilted



Day 51. RDI succulents / cacti. All appear healthy

LONG-TERM WATER USE

Starting on 10/12, after the plants and sod were sufficiently established, CG reduced irrigation events to one per day, averaging 81.5gal/day. RDI usage fluctuated daily, but averaged 37.7gal/day over the same time period.

This represents RDI's long-term water savings of 54% versus the leading control group drip system.

As seasons and needs change, CG may need to adjust timing and frequency of events- the RDI system will continually adjust based on individual plant demand.

