PALOMINAS RECHARGE & FLOOD CONTROL PROJECT

The goals of this *pilot project* are to:

1. Provide a flood control function to the area that has been the location of several previous projects and mitigation actions
2. Infiltrate sheetflow and recharge groundwater aquifer near the San Pedro River
3. Monitor performance of facility to estimate recharge volumes
4. Test and compare different recharge enhancements for potential use on future projects

Facility Component Summary

Facility Component Type	Elements	Objective(s)
Detention Basin	Containment Berms Inlet Rock Chute Primary Outlet Structure Secondary Outlet Structure	Collect and meter flows out towards recharge basins
In-Channel Recharge Basins	Depressed Basins	Infiltrate runoff into ground
Weir Walls	Concrete Weir Walls Weep Holes V-Notches	Separate in-channel recharge basins
Single-Cell Drywells	Grate Inlet Concrete Drywell	Direct collected runoff into ground closer to groundwater level
Dual-Cell Drywells	Grate Inlet Primary Chamber Connection Pipe Concrete Drywell	Direct collected runoff into ground closer to groundwater level
Infiltration Trenches	Riprap Cap Excavated Trench Filled with Gravel	Direct collected runoff into ground closer to groundwater level

Facility Design and Construction Summary

- Preliminary Analyses Began December, 2011
- Design Began September, 2012
- Construction Began March, 2014
- Construction Completed July, 2014 (Start of Monitoring Period)
- Construction Cost ~$1.4M

Monitoring Station Summary

Monitoring Station Type	Component(s)	Objective(s)
Instrumented Borehole Level 1	Datalogger Soil Moisture Sensor	Measure and record soil volumetric water content and temperature changes
Instrumented Borehole Level 2	Datalogger Soil Moisture Sensor Advanced Tensiometer	Measure and record soil water potential and energy of water movement, soil volumetric water content, and temperature changes
Stilling Well (also in Dry Wells and Infiltration Trenches)	Datalogging Pressure Transducer	Measure and record absolute pressure (used to estimate water level)
Groundwater Monitoring Well	Datalogging Pressure Transducer	Measure and record absolute pressure (used to estimate water level)
Barometric Pressure Sensor	Datalogging Pressure Transducer	Measure and record barometric pressure for correction of PT data
Precipitation Gauge	Datalogging Tipping Bucket Precipitation Gauge	Measure and record precipitation depths

Summary of Annual Precipitation and Estimated Recharge Volumes

Year	Precipitation (in.) [Classification]	Estimated Annual Recharge Volume (AF)
July 2014-June 2015	24.1 [Wet]	35.8
July 2015-June 2016	18.7 [Average]	15.3
July 2016-June 2017	14.8 [Average]	11.1
2017	10.0 [Dry]	9.7
2018	19.3 [Wet]	10.2

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