

**Site Description:**

This project concept consists of an offline subsurface infiltration chamber at Holbrook-Palmer Park, owned and operated by the Town of Atherton. This is an ideal site for a regional stormwater capture project because of its proximity to Atherton Creek and the potential to treat a large multi-jurisdictional area. The project would capture flows and associated pollutant loadings from a large portion of the upper Atherton Creek watershed, encompassing sections of the Towns of Atherton and Woodside, City of Menlo Park, and Unincorporated San Mateo County. The project would help to address known flooding issues in the lower reaches of the creek. The project would also contribute to reductions of high-priority pollutants discharged to San Francisco Bay (including TMDLs that require reductions of mercury and PCB loads), augment water supply by recharging the Santa Clara Valley groundwater basin, and provide community enhancement through integration with the recreational facilities of the park. With the incorporation of a hydrodynamic separator for pretreatment of diverted water from the creek, the project also provides the reduction of trash transported through the creek to the San Francisco Bay.

Although not specifically included within this project concept, the project also provides the opportunity for future integration of Low Impact Development (LID) within parking lots of the park to provide further community enhancement and opportunities for public education of LID and other project components.

**DISCLAIMER:** All elements of this conceptual design are planning-level, based on desktop analysis. All assumptions and parameters must be re-evaluated during the detailed design process. Costs estimates are based on available data. Actual costs will vary.

**Drainage Characteristics**

Capture Area (acres)	2,875
Impervious Area (%)	19
Dominant Land Use	Residential
Jurisdictions	Atherton, Menlo Park, Woodside Unincorporated San Mateo County

**Legend**

- Storm Drain
- Open Channel
- Project Capture Area
- Site Parcel

0 0.2 0.4 0.6 0.8 mi

**Site Information**

Land Owner	Town of Atherton
Street Address	150 Watkins Ave, Atherton, CA 94027
Latitude/Longitude	37° 27' 44.9" N / 122° 11' 34.8" W
Watershed	Atherton Creek

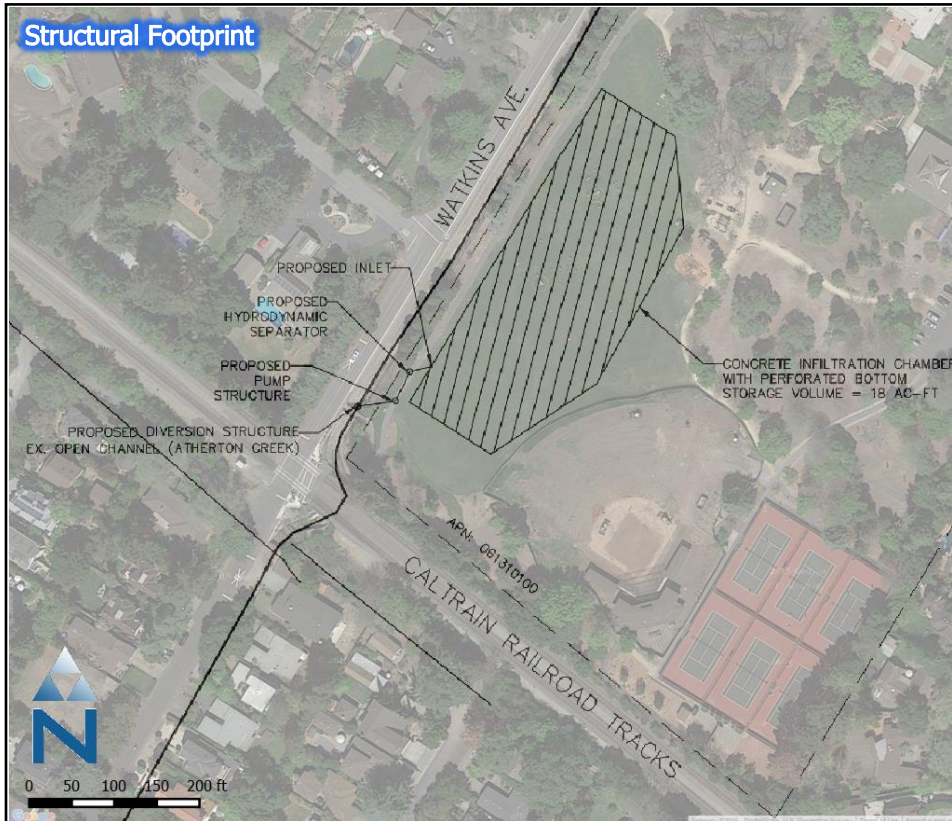


**Concept for a Multi-jurisdictional Regional Stormwater Capture Project**  
**Site: Holbrook-Palmer Park (Town of Atherton)**





## Structural Footprint



Example concrete infiltration chamber



Example Hydrodynamic Separator

### Design Criteria

Precipitation, 85 <sup>th</sup> percentile, 24-hr storm (in)	0.86
Runoff Volume, 85 <sup>th</sup> percentile, 24-hr storm (ac-ft)	65.90
Peak Discharge, 85 <sup>th</sup> percentile, 24-hr storm (cfs)	72
Infiltration Rate (in/hr)	0.5

### Project Characteristics

Stormwater Capture Process	Subsurface Infiltration Chamber
Footprint (acres)	1.5
Design Height (ft)	12
Depth of Excavation (ft)	15
Pumping Requirements	Dependent on Geotechnical Investigation
Design Volume (ac-ft)	18
24-hr Infiltration Volume (ac-ft)	1.5
<b>Total Treatment Volume (ac-ft) <sup>1</sup></b>	<b>19.5</b>
<b>Percent Treated <sup>2</sup></b>	<b>30%</b>

### Cost Estimate

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Excavation/Removal	36,300	CY	\$50.00	\$1,815,000
Rubber Dam System	1	LS	\$80,000.00	\$80,000
Diversion Structure	1	LS	\$150,000.00	\$150,000
Hydrodynamic Separator	1	LS	\$120,000.00	\$120,000
Pump Structure	1	LS	\$1,500,000.00	\$1,500,000
Diversion Pipe (24" RCP)	120	LF	\$200.00	\$24,000
Infiltration Structure	29,040	CY	\$300.00	\$8,712,000
Restoration	65,340	SF	\$2.00	\$131,000
<b>CONSTRUCTION SUBTOTAL</b>				<b>\$12,532,000</b>
Mobilization (10% construction)				\$1,253,000
Contingency (25% construction)				\$3,133,000
Design (10% total)				\$1,692,000
<b>TOTAL COST</b>				<b>\$18,610,000</b>

### Project Description:

A subsurface infiltration chamber will be considered in the sports field of Holbrook-Palmer Park. The project site is in the south-west corner of the park and will be located just outside of the newly-renovated baseball field. Stormwater will be diverted directly from the channelized segment of Atherton Creek that borders the park along Watkins Avenue. Runoff would first be directed to a pretreatment unit (e.g. hydrodynamic separator) before being routed to the chamber. This will assist in removing trash and sediments from the creek while also reducing maintenance requirements of the chamber. The proposed design would allow for the treatment of 30% of the 85<sup>th</sup> percentile, 24-hr runoff volume (19.5 of 65.90 ac-ft) for the Atherton Creek watershed. As these volumes are completely removed via storage and infiltration, this provides an equivalent 30% reduction of pollutant loads for the storm event. While no major enhancements are planned for the sports field in the Holbrook-Palmer Park Master Plan (2015), the Master Plan noted that the field could be regraded to improve the playing surface. This project would provide the opportunity to coordinate with the field regrading effort once the chamber is installed.

<sup>1</sup> – sum of the Design Volume and 24-hr Infiltration Volume

<sup>2</sup> – percentage of the 85<sup>th</sup> percentile, 24-hr storm Runoff Volume that is treated

## Concept for a Multi-jurisdictional Regional Stormwater Capture Project Site: Holbrook-Palmer Park (Town of Atherton)

