

**Hermosa Strand Infiltration Trench Phase I
Hermosa Beach, California
Annual Summary 2008**



Hermosa Pier storm drain outfall buried in sand

All of the Santa Monica Bay beaches including the beaches adjacent to the City of Hermosa Beach are listed as impaired for human body contact recreation, also known as REC-1 beneficial use, and are included on California's 303(d) list due to excessive amounts of coliform bacteria which are used as indicators for the presence of pathogens. Discharge of dry weather and wet weather flows from storm drains have been associated with increased frequency of exceedances of REC-1 indicator bacteria standards. Wave action during dry weather frequently plugs storm drain outfalls with sand and reduces the incidence of REC-1 exceedances, presumably because the sand plug provides attenuation and filtration of the dry weather discharges. However, standing water in storm drains caused by sand plugs results in malodor, vector problems and re-growth of bacteria in the storm drain which may contribute to increased concentrations of indicator bacteria during first flush storm events. Additionally, if storm drain outfalls are not cleared of sand before a rainfall event, stormwater can back up in the system causing flooding of local streets, residences and businesses.

The Hermosa Strand Infiltration Trench (project) will divert urban runoff from storm drains into a system of engineered infiltration trenches along a 1.5 mile stretch of beach from Herondo Street to 26th Street in Hermosa Beach. Each storm drain will be equipped with a structural diversion to direct dry weather flows from the drains through a

pretreatment unit and then into the infiltration trench. The trench system will be constructed of prefabricated modular units with a high percentage of void space and installed below-grade against the ocean side of the cutoff wall that supports the Strand walkway approximately 300 feet from the shoreline. The modular trench units will exclude sand and provide storage of runoff. Three to four feet of unsaturated native sand below the trench will provide filtration and treatment of the urban runoff as it percolates down into the saline water table below.

Phase I of the Project will divert year-round dry-weather flows from the Pier Avenue storm drain to an infiltration trench constructed of prefabricated modular cells of design dimensions to be determined based on percolation testing of the native sand. Since the invert elevation of the drain is 2.00 feet above mean sea level at the outlet and 2.60 above mean sea level at the diversion structure, it is subject to tidal influence. A Diversion Manhole with a berm and removable tide gate will direct low flows through a 12-inch line and into a pump well equipped with a trash basket and absorbent boom for removal of oil and grease. The elevation of the top of the tide gate will be 6.10 feet above mean sea level to prevent seawater from entering the system during operation. The pump will discharge into the adjoining infiltration trench.

During Phase II of the Project, similar systems will be constructed for the remaining storm drains. Some will allow for gravity flow diversions, while drains such as Pier Avenue and Herondo which are tidally influenced will require pump stations with tide gates. Additional sections of the trench system will be designed and constructed based on pre-design percolation testing as well as performance of the Phase I system.

A preliminary funding commitment was signed by Division of Financial Assistance on October 23, 2007 final grant agreement was executed on April 4, 2008. During the period leading up to grant agreement execution, project activities focused on CEQA/NEPA documentation, PAEP development and approval, Coastal Development Permit application and approval, Monitoring Plan development and review, and design.

Pre-construction monitoring has now been completed and bid documents are being prepared. Phase I project construction is expected to occur during the fall/winter of 2008. Post construction monitoring will proceed for a period of 12 months following construction. The following lists Work Items completed to date:

Work Item	% Of Work Complete	Date Completed
Project Assessment and Evaluation Plan (PAEP)	100%	06/20/2007
Monitoring Plan (MP)	100%	01/18/2008
Quality Assurance Project Plan	100%	07/21/2008
CEQA Negative Declaration	100%	09/26/2007
Coastal Development Permit	100%	Feb 2008
Plans and Specifications	100%	April 2008
Pre-construction Project Monitoring	100%	September 2008