



MEMORANDUM

DEPARTMENT OF PUBLIC WORKS

DATE: September 9, 2014

FROM: Chris Choo, Senior Watershed Planner

Stinson Beach Flood Protection Special Tax (Parcel Tax) Basis Memo

1. Stinson Beach Flood Protection and Watershed Program

The Stinson Beach Flood Protection and Watershed Program was formed in 2009 to develop a suite of integrated projects that address on-going riverine flooding and sedimentation issues within Easkoot Creek while maintaining and improving habitat for steelhead trout and Coho salmon. Stinson Beach is subject to regular flooding from Easkoot Creek and the Pacific Ocean. A series of technical studies were conducted to evaluate existing creek and floodplain conditions and to develop and analyze alternatives.

The resulting Stinson Beach Watershed Program Flood Study and Alternatives Assessment described ten (10) conceptual-level alternatives and quantified the benefits and cost of each. Based on community input, the evaluation of alternatives focused on flood protection, habitat restoration and emergency access. The study included the development of a computer model that replicates existing ground conditions across the watershed and shows the direction and velocity of the water in and out of the creek during floods. This information was used to determine what happens during a range of storms and to evaluate the change in flood conditions under various alternatives. The modeling indicated that the most effective alternative with respect to flood mitigation appears to be a combined dredge, wetland enhancement, and floodwater bypass (Alternative 9 per the study). The model results showed this alternative eliminating interior flooding for all homes flooded in the December 2005 storm. This conceptual-level project consists of dredging Easkoot Creek from Arenal Avenue to

Calle del Arroyo and bypassing floodwaters at the creek bend downstream of Arenal to a restored wetland in the coastal dunes. The Study was finalized in May 2014.

2. Funding Strategy and Cost Estimate

Once the Flood Study was completed a funding strategy was developed to support implementation of the recommended improvements. Through a series of public meetings and a survey of the residents and property owners in Stinson Beach, it was determined that community support exists for a \$250 per year parcel tax for 20 years to fund improvement consistent with the strategy's purpose and project types:

Stinson Beach Funding Strategy

| | | | |
|---|------------|--|-------------------|
| Purpose: Reduce riverine flooding risk for residents, visitors, and businesses; maintain natural creek functions; reduce sediment entering Bolinas Lagoon; and incorporate habitat enhancements for fish and wildlife. | | | |
| What can flood zone funds be used for? | | | Total cost |
| <ul style="list-style-type: none"> • Dredge Easkoot Creek from Arenal to Calle del Arroyo • Bypass flood flows • Restore wetlands • Maintain channel conveyance through sediment removal at the bridges and sediment basin and continued annual vegetation maintenance. | | | \$5.7 million |
| Zone 5 parcel tax | 65% | \$250/707 improved parcels, \$50/146 unimproved parcels | \$3.68 million |
| Private donations and grants share | 35% | | \$2.02 million |

The basis for the cost estimates described in the Stinson Beach Funding Strategy are provided below:

Program Cost Estimates & Funding Sources

| Project Description | Cost (Est.) |
|---|--------------------|
| Dredge (2X) | \$1,500,000 |
| Floodwater bypass to enhanced habitat | \$1,000,000 |
| Maintenance deficit for Zone 5 | \$242,400 |
| Feasibility studies | \$400,000 |
| CEQA/NEPA compliance | \$750,000 |
| Real estate | \$252,000 |
| Program subtotal | \$4,144,400 |
| *Finance Cost (placeholder that assumes a 20-yr loan at 3.25% interest) | \$1,556,544 |
| Program Cost Total | \$5,700,944 |

| Program Funding Source | Amount |
|--|-------------|
| Total parcel tax revenue (over 20 years) | \$3,681,000 |
| Grants and Donations share | \$2,019,944 |
| | |
| Assumptions | |
| Interest | 3.25% |
| Duration of Tax Collection and Loan in Years | 20 |

3. Fee Methodology

Parcel taxes are typically applied to all non-exempt parcels. This would include both improved and unimproved parcels. In Stinson Beach, a determination was made to apply a tax rate to two land use types: improved and unimproved parcels. The proposed parcel tax for Flood Control Zone No. 5 is authorized by the California Water Code (Appendix 68-5) and does not contain uniformity requirements; therefore a decision was made to charge unimproved parcels less than improved parcels. All improved parcels would be charged \$250 per year for 20 years and unimproved parcels would pay \$50 per year for 20 years. This proposed tax rate would raise 65% of the estimated costs needed to implement projects. The remaining costs would be raised through grants and donations. The final program scope will be scaled to available income.

The rate for unimproved parcels was based on stormwater runoff estimates provided in the 2014 Caltrans Highway Design Manual. Chapter 810 of the manual is focused on hydrology and Table 819.2B (below) provides a variety of runoff coefficients for developed areas. These coefficients were used to determine ratios to compare improved and unimproved parcels in Stinson Beach. Staff used the lower coefficient

for neighborhood areas (0.50) and unimproved areas (0.10) to determine the ratios for the special tax rates applied to improved and unimproved parcels. The neighborhood area rate was applied to all improved parcels and the unimproved rate was applied to unimproved parcels in Stinson Beach.

Table 819.2B
Runoff Coefficients for
Developed Areas

| Type of Drainage Area | Runoff Coefficient |
|---------------------------|--------------------|
| Business: | |
| Downtown areas | 0.70 - 0.95 |
| Neighborhood areas | 0.50 - 0.70 |
| Residential: | |
| Single-family areas | 0.30 - 0.50 |
| Multi-units, detached | 0.40 - 0.60 |
| Multi-units, attached | 0.60 - 0.75 |
| Suburban | 0.25 - 0.40 |
| Apartment dwelling areas | 0.50 - 0.70 |
| Industrial: | |
| Light areas | 0.50 - 0.80 |
| Heavy areas | 0.60 - 0.90 |
| Parks, cemeteries: | 0.10 - 0.25 |
| Playgrounds: | 0.20 - 0.40 |
| Railroad yard areas: | 0.20 - 0.40 |
| Unimproved areas: | 0.10 - 0.30 |
| Lawns: | |
| Sandy soil, flat, 2% | 0.05 - 0.10 |
| Sandy soil, average, 2-7% | 0.10 - 0.15 |
| Sandy soil, steep, 7% | 0.15 - 0.20 |
| Heavy soil, flat, 2% | 0.13 - 0.17 |
| Heavy soil, average, 2-7% | 0.18 - 0.25 |
| Heavy soil, steep, 7% | 0.25 - 0.35 |
| Streets: | |
| Asphaltic | 0.70 - 0.95 |
| Concrete | 0.80 - 0.95 |
| Brick | 0.70 - 0.85 |
| Drives and walks | 0.75 - 0.85 |
| Roofs: | 0.75 - 0.95 |

4. Land Use Type and Proposed Fee Amount

| Description | Land Use Codes | No. of Parcels | Special Tax Rate | Annual Total |
|--------------------------|--------------------|----------------|------------------|--------------|
| Total improved parcels | 11, 21, 51 | 707 | \$250 | \$176,750 |
| Total unimproved parcels | 10, 20, 50 | 146 | \$50 | \$7,300 |
| Exempt parcels | 15, 60, 61, 80, 90 | 69 | \$0 | \$0 |

Please see the Clerk of the Board for the complete owner listing and fee amount.