June 13, 2023

Colma Creek Citizens Advisory Committee Meeting

AGENDA

I. Roll Call

II. Public Comment

III. Action to set the Agenda and approve the Consent Agenda
   a. Approve minutes of the December 13, 2022 and March 14, 2023 meetings

IV. Update on Colma Creek Flood Zone Projects and Maintenance Activities, including the draft Fiscal Year 2023-24 Budget

V. City of South San Francisco Presentation on their Lindenville Specific Plan

VI. Adjournment
Maintenance Activities 1b, 1c, and 2 include the following tasks, which are performed throughout the creek channel in collaboration with the City of South San Francisco and Town of Colma under Maintenance Agreements with the District:

- Quarterly inspections, including monitoring of illegal dumping and homeless encampment activities
- Bank vegetation management
- Graffiti abatement
- Minor facility repairs

Project 1. Regional Stormwater Capture Project at Orange Memorial Park

Activity 1c. Illegal Encampments

Activity 1d. Sediment Dredging

Activity 2. Mitigation Site Maintenance

Project 2. Channel Discharge Pipe Repair/Replacement Project
April 15 Student Volunteer Event at Maintenance Site 3
April 22, 2023, Earth Day Creek Clean Up Event with SSF

OneShoreline
Building Solutions for a Changing Climate
<table>
<thead>
<tr>
<th>Revenue</th>
<th>Total of Prior 5 Years (FY16-17 through 20-21)*</th>
<th>2022-23 (Budget)</th>
<th>2022-23 (Actual YTD)</th>
<th>2023-24 (Draft Budget)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxes (Secured Property)</td>
<td>$4,167,095</td>
<td>$6,021,481</td>
<td>$5,075,663</td>
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<tr>
<td>Rent and Interest Income</td>
<td>$25,131</td>
<td>$266,346</td>
<td>$196,550</td>
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<tr>
<td>Inter-governmental Revenue</td>
<td>$95,307</td>
<td>$13,538</td>
<td>$97,375</td>
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<tr>
<td>Total Revenue</td>
<td>$23,909,281</td>
<td>$4,287,533</td>
<td>$3,334,366</td>
<td>$5,369,578</td>
</tr>
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</table>

| General Administration of Flood Zone         |                                               |                  |                      |
|----------------------------------------------|                                               |                  |                      |

| Project Expenditures                         |                                               |                  |                      |
|----------------------------------------------|                                               |                  |                      |
| **Project Number**                           | **Project Name**                              | **2022-23**      | **2022-23**          | **2023-24**           |
| 1                                            | Planning & Coordination with City of SSF General Plan |                  |                      |                       |
| Preliminary Study                            | $88,448                                       | $50,000          | -                    | $50,000               |
| 2                                            | Channel Discharge Pipe Repair/ Replacement Project |                  |                      |                       |
| Design & Permitting                          | $75,527                                       | -                | $8,863               | $15,000               |
| Construction                                 | $828,761                                      | $307,287         | $546,874            |
| Project Administration                       | $91,567                                       | $207,190         | $32,132              | $213,540             |
| Total Project Expenditures/Estimates         | $1,053,881                                    | $1,085,951       | $348,281             | $625,414              |

| Maintenance Activities Expenditures          |                                               |                  |                      |
|----------------------------------------------|                                               |                  |                      |
| **Activity Number**                          | **Activity Name**                             | **2022-23**      | **2022-23**          | **2023-24**           |
| 1                                            | Colma Creek Operations & Maintenance          |                  |                      |                       |
| Maintenance Tools and Equipment              | $2,000                                        | -                | -                    |                       |
| Maintenance and Minor Repairs                | $1,128,865                                    | $430,000         | $24,623              | $800,000              |
| Project Administration                       | $224,222                                      | $107,500         | $116,363             | $200,000              |
| 2                                            | Mitigation Site Maintenance                   |                  |                      |                       |
| Annual Maintenance Activities                | $454,017                                      | $90,000          | $4,922               | $25,000               |
| 3                                            | Maintenance Agreements                         |                  |                      |                       |
| With City of South San Francisco             | $20,720                                       | $45,000          | -                    | $45,000               |
| With Town of Colma                           | $53,256                                       | $35,000          | -                    | $35,000               |
| Total Maintenance Activities/Estimates       | $1,881,080                                    | $709,500         | $145,908             | $1,105,000            |
| Total Expenditures/Estimates                 | $2,934,961                                    | $3,503,860       | $494,189             | $1,930,414            |

| Estimated Fund Balance at End of Fiscal Year |                                               |                  |                      |
|----------------------------------------------|                                               |                  |                      |

*Expenditures before FY20-21 do not include staff time.
Agenda Item 5

City of South San Francisco Presentation on their Lindenville Specific Plan
The Purpose of Today’s Meeting is...

- Provide a brief overview of the Lindenville Specific Plan process
- Review draft policy direction for business retention, retail, arts and makers and housing
- Discuss and receive feedback on the draft policy direction
What is a Specific Plan?

What it is?
• A comprehensive planning and zoning tool for a small area
• Refines the vision and guiding principles
• Defines policy and development standards
• Strong focus on implementation

What’s Required?
• Distribution, location, and extent of the uses of land, including open space
• Proposed distribution, location, and extent and intensity of major components of transportation and infrastructure
• Development standards
• A program of implementation measures
• A statement of the relationship of the specific plan to the general plan
When will the Specific Plan be Done?

- **Existing Conditions**
  - Summer 2022

- **Preferred Plan**
  - Winter 2023

- **Specific Plan**
  - Winter – Summer 2023

- **Alternatives**
  - Fall 2022

- **Technical Analysis**
  - Winter 2023

- **Adoption**
  - Sept. 2023

We are here!
Tentative Meeting Schedule

• Planning Commission (7/6)
• Youth Commission (7/10)
• Racial and Social Equity Commission (7/17)
• Parks and Recreation Commission (7/18)
• Cultural Arts Commission (7/19)
• City Council (7/26)

In person and virtual community meetings to be scheduled
Stormwater Modeling
Lindenville Specific Plan
Colma Creek H&H Modeling

- Evaluated 100-year storm events, including future climate change and sea level rise

- Characteristics of existing climate flooding:
  - Originates from Navigable Slough
  - Flood depths <2’ north of Navigable Slough; deepest flooding at Terminal Ct
  - Flood depths <4’ south of Navigable Slough; deepest flooding along Shaw Rd

- Under the future climate change scenario, additional flooding observed upstream of Caltrain
Existing Climate 100-year Storm
Future Climate 100-year Storm + 3’ SLR
Modeling Analysis

- Investigating causes of flooding and potential flood protection options

- **Colma Creek**
  A. Widen Channel
  B. Provide Detention Capacity (Floodable Multi-use Parks)
  C. Raise Floodwall(s)
  D. Reduce Inflow (upstream GI)

- **Navigable Slough**
  F. Increase Capacity at 101
  G. Install Tide Gates
  H. Raise Development Sites
  I. Provide Detention Capacity
  J. Raise Floodwall(s)
  K. Reduce Inflow (upstream GI)
Colma Creek Flooding

- Future Climate 100-year Storm + 3’ SLR
Modeling Analysis

- Investigating causes of flooding and potential flood protection options

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Modeling Analysis

• Investigating causes of flooding and potential flood protection options

• Colma Creek
  A. Widen Channel
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  C. **Raise Floodwall(s)**
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  F. Increase Capacity at 101
  G. Install Tide Gates
  H. Raise Development Sites
  I. Provide Detention Capacity
  J. Raise Floodwall(s)
  K. Reduce Inflow (upstream GI)
Colma Creek – Raised Floodwalls

Future 100-year Storm + 3ft SLR (9.8' NAVD88 Tide)
Modeling Analysis

- Investigating causes of flooding and potential flood protection options

- Colma Creek
  A. Widen Channel
  B. Provide Detention Capacity (Floodable Multi-use Parks)
  C. Raise Floodwall(s)
  **D. Reduce Inflow (upstream GI)**

- Navigable Slough
  F. Increase Capacity at 101
  G. Install Tide Gates
  H. Raise Development Sites
  I. Provide Detention Capacity
  J. Raise Floodwall(s)
  K. Reduce Inflow (upstream GI)
Modeled Inflow Locations

Table 3-6. Relation of hydrograph inputs locations to subwatershed boundaries and major junctions.

<table>
<thead>
<tr>
<th>HEC-RAS Cross Section</th>
<th>Junction description</th>
<th>Subwatersheds</th>
</tr>
</thead>
<tbody>
<tr>
<td>29961</td>
<td>Start of Colma Creek flood channel at A St in Colma, CA</td>
<td>1015, 1017</td>
</tr>
<tr>
<td>20402</td>
<td>Downstream confluence of Old Colma Creek</td>
<td>1014, 1015, 1019, 1018</td>
</tr>
<tr>
<td>19191</td>
<td>Stormwater pipe entering beneath BART Station</td>
<td>1020, 1021</td>
</tr>
<tr>
<td>16043</td>
<td>Stormwater pipe</td>
<td>1011, 1012, 1013</td>
</tr>
<tr>
<td>14180</td>
<td>Confluence of 12 Mile Creek</td>
<td>1010, 1022</td>
</tr>
<tr>
<td>12531</td>
<td>Stormwater pipe below Orange Avenue Bridge</td>
<td>1009</td>
</tr>
<tr>
<td>11323</td>
<td>Stormwater pipe</td>
<td>1008</td>
</tr>
<tr>
<td>10368</td>
<td>Stormwater pipe entering above Spruce Avenue Bridge</td>
<td>1007, 1023</td>
</tr>
<tr>
<td>10186</td>
<td>Stormwater pipe entering below Spruce Avenue Bridge</td>
<td>1006</td>
</tr>
<tr>
<td>8445</td>
<td>Stormwater pipe entering below Linden Avenue Bridge</td>
<td>1005</td>
</tr>
<tr>
<td>6236</td>
<td>Double pipes entering below South Airport Boulevard Bridge</td>
<td>1003, 1004, 1024</td>
</tr>
<tr>
<td>NS Upstream</td>
<td>Navigable Slough culvert below Spruce Avenue</td>
<td>1001, 1002, 1025</td>
</tr>
<tr>
<td>155</td>
<td>Confluence of Colma Creek and San Francisco Bay</td>
<td>Tidal condition</td>
</tr>
</tbody>
</table>
Inflow Removed
Inflow Reduced 15%
Inflow Reduced 25%
NS Upstream
Inflow Reduced 25%
Future 100-year Storm + 3ft SLR (9.8' NAVD88 Tide)
Colma Creek Flooding (Future 100-year Storm + 3ft SLR)

Flood Control Combinations

Raise Floodwalls (1-ft)

- Most improvements had minor flood benefit, other raising floodwalls.
- Even a 1’ increase in height can make a difference in flood extents.

Raise Floodwalls (1-ft) + Widen Creek (south side only)

- Combining raised floodwalls (1’) and channel widening (i.e., both scenarios that increase capacity) results in additional flood benefit.
Colma Creek Flooding (Future 100-year Storm + 3ft SLR)

Flood Control Combinations

**Raise Floodwalls + Widen Creek + Reduced Inflow**

- Reducing upstream flow into the channel, along with the capacity upgrades, produces more noticeable benefit.

**Raise Floodwalls + Widen Creek + Floodable Park (north side)**

- A detention facility can more meaningfully manage excess flow with the capacity increases.
Colma Creek Flooding (Future 100-year Storm + 3ft SLR)
Flood Control Combinations

Raise Floodwalls + Widen Creek + Reduced Inflow + Floodable Park

Combining all scenarios together results in the most significant reduction in flooding along both sides of the creek.
Combination of channel capacity improvements (raising floodwalls 1’ and widening the creek to the south) result in the creek meeting intended level of service (i.e., convey 50-year storm with 2’ freeboard) under the future climate + SLR conditions.
Navigable Slough Flooding

- Existing Climate 100-year Storm
Modeling Analysis

• Investigating causes of flooding and potential flood protection options

• Colma Creek
  A. Widen Channel
  B. Provide Detention Capacity (Floodable Multi-use Parks)
  C. Raise Floodwall(s)
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• Navigable Slough
  F. Increase Capacity at 101
  G. Install Tide Gates
  H. Raise Development Sites
  I. Provide Detention Capacity
  J. Raise Floodwall(s)
  K. Reduce Inflow (upstream GI)
Increased Capacity and Tide Gates

- Increased capacity under 101

Existing:
10’ x 10’ & 5’ x 10’

Modeled:
40’ x 10’ & 10’ x 10’ with flap gates

Existing 100-year Storm (6.8’ NAVD88 MHHW Tide)
Modeling Analysis

- Investigating causes of flooding and potential flood protection options

- **Colma Creek**
  - A. Widen Channel
  - B. Provide Detention Capacity (Floodable Multi-use Parks)
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- **Navigable Slough**
  - F. Increase Capacity at 101
  - G. Install Tide Gates
  - H. **Raise Development Sites**
    - I. Provide Detention Capacity
    - J. Raise Floodwall(s)
    - K. Reduce Inflow (upstream GI)
Flood Depths: Existing Conditions
Existing 100-year Storm (6.8’ NAVD88 MHHW Tide)

Flood Depths: Future Development Sites Raised
Existing 100-year Storm (6.8’ NAVD88 MHHW Tide)
Modeling Analysis

• Investigating causes of flooding and potential flood protection options

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Navigable Slough Flooding
Detention Volumes

Flood volume (i.e., theoretical detention needed) on either side of Slough.

<table>
<thead>
<tr>
<th>Year</th>
<th>North</th>
<th>South</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-yr</td>
<td>0.2 MG</td>
<td>0.1 MG</td>
</tr>
<tr>
<td>25-yr</td>
<td>0.7 MG</td>
<td>2.1 MG</td>
</tr>
<tr>
<td>50-yr</td>
<td>1.4 MG</td>
<td>6.7 MG</td>
</tr>
<tr>
<td>100-yr</td>
<td>1.9 MG</td>
<td>12.6 MG</td>
</tr>
</tbody>
</table>
Floodwalls raised west of Highway 101 reduce flooding in Lindenville - but increase flooding extents downstream.

Upstream of Hwy 101:
• Existing bank elevations 9 - 12 ft
• 100-year WSE 11.5 - 12 ft
• Required floodwall height 2-4 ft (including freeboard)
Navigable Slough Flooding
Detention & Floodwall Options

**Option A**
Detention Facilities
- More impactful in north.
- Impact limited on larger storms (>25-yr) in south)

**Option B**
Floodwalls
- Can address flooding within Lindenville.
- Exacerbates flooding conditions downstream.

**Option C**
Detention + Southern Floodwall
- May be preferred solution to mitigate flooding in Lindenville with no downstream impacts.
Modeling Analysis

• Investigating causes of flooding and potential flood protection options

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Existing 100-year Storm (6.8' NAVD88 MHHW Tide)
Discussion

• What are your reactions to the strategies?
• Do you have ideas for additional strategies to explore?
Next scheduled Committee Meeting
Tuesday, September 12, 2023
3:00 p.m.