**Alternatives A-C**

**Projects 3 & 4 (Options a-c):** NEW LIFT STATION TO DIVERT TIJUANA RIVER FLOWS TO SOUTH BAY INTERNATIONAL WASTEWATER TREATMENT PLANT (SBIWTP) AND NEW STORMWATER TREATMENT FACILITY AT SBIWTP

---

**DESCRIPTION**

Diversions of up to 163 mgd wet weather flows from the Tijuana River mainstem to a new Stormwater Treatment Facility at SBIWTP for Advanced Primary Treatment and discharge to deep ocean outfall through the South Bay Ocean Outfall (SBOO). Wet weather flows would go to the new treatment plant while the dry weather flows would continue to be routed to the existing treatment plant.

**POTENTIAL BENEFITS**

- Reduces the number of unaddressed average annual transboundary flow days from 138 to: Option a - 56 (61% reduction); Option b - 20 (84% reduction); or Option c - 12 (91% reduction)

**EST. ONE-TIME COST**

<table>
<thead>
<tr>
<th></th>
<th>Construction</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option a</td>
<td>$66M</td>
<td>$8M</td>
</tr>
<tr>
<td>Option b</td>
<td>$146M</td>
<td>$17M</td>
</tr>
<tr>
<td>Option c</td>
<td>$205M</td>
<td>$21M</td>
</tr>
</tbody>
</table>

**Env/Permitting**

Options a-c: $4M

**EST. ONGOING COST**

<table>
<thead>
<tr>
<th></th>
<th>Annual O&amp;M Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option a</td>
<td>$1.9M</td>
</tr>
<tr>
<td>Option b</td>
<td>$2.9M</td>
</tr>
<tr>
<td>Option c</td>
<td>$4.5M</td>
</tr>
</tbody>
</table>

**Annual Environmental Monitoring for 10 Years**

Options a-c: $10M

---

**IMPLEMENTATION AND O&M**

- **Pros (+)**
  - Captures flows and spills not captured upstream in Mexico
  - Reduces impacts to downstream river, estuary, and beaches
  - Provides new treatment facility for additional captured storm flows
  - Provides advanced primary treatment of flows from small rain events (up to 163 MGD)
  - Utilizes existing available space at IBWC SBIWTP
  - Minimizes environmental impacts as the site is located within the current treatment facility boundary and utilizes the existing SBOO

- **Cons (-)**
  - Provides limited capacity to divert flows during rainy season (less than 1-year rain event)
  - Requires ongoing maintenance to be effective
  - Requires significant environmental analysis and permitting
  - Requires construction of new treatment plant
  - Requires significant annual maintenance
  - Complex operation would require additional staff at SBIWTP to operate facility

---

**ENVIRONMENTAL**

- **Impact to Habitat**
  - (River Valley)
  - (Ocean)

- **Environmental Justice**

- **Ancillary Community Benefits**

- **Limited Community Disruption**

- **Public Support**

---

**COMMUNITY / SOCIAAL**

- **Positive Impact**
  - Moderate Impact
  - Negative Impact

---

**ADDITIONAL INFORMATION**

- NADB Diversion Study has evaluated the construction of a new diversion facility to primarily address flows that occur during dry weather (maximum diversion of 35 MGD)
- NADB Diversion Study proposes expanding the existing SBIWTP capacity to 35 MGD for additional dry and/or wet treatment capacity (primary treatment only)
- Max additional treatment is driven by the available peak capacity in the South Bay Ocean Outfall of 233 mgd and the permitted discharge of 40 mgd granted to SBWRP (233 - 40 = 193 mgd)
- Max treatment is further reduced by 30 mgd (163 mgd max) to allow for existing SBIWTP capacity
- Building a new treatment facility can be accommodated on federally owned land adjacent to the existing SBIWTP
- A separate treatment plant is preferred that does not combine stormwater flows with influent to the existing treatment plant to maintain integrity of the existing treatment process
- Would require modification of the SBIWTP NPDES Discharge Permit
Alternative D
Projects 3c & 4d: NEW LIFT STATION TO DIVERT TIJUANA RIVER FLOWS TO SOUTH BAY INTERNATIONAL WASTEWATER TREATMENT PLANT (SBIWTP) AND NEW STORMWATER TREATMENT FACILITY AT SBIWTP

DESCRIPTION

Diversion of up to 163 mgd wet weather flows from the Tijuana River mainstem to a new Stormwater Treatment Facility at SBIWTP for Advanced Primary Treatment and discharge deep into the ocean through the South Bay Ocean Outfall (SBOO), plus additional storage at a new San Ysidro basin north of the river, east of Dairy Mart Road. Wet weather flows would go to the new treatment plant while the dry weather flows would continue to be routed to the existing treatment plant.

POTENTIAL BENEFITS

Reduces the number of unaddressed average annual transboundary flow days from 138 to 12 (91% reduction)

EST. ONE-TIME COST

<table>
<thead>
<tr>
<th></th>
<th>Construction</th>
<th>Design</th>
<th>Env./Permitting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$361M</td>
<td>$43M</td>
<td>$4M</td>
</tr>
</tbody>
</table>

EST. ONGOING COST

| Annual O&M Per Year | $4.8M |
| Annual Environmental Monitoring for 10 Years | $10M |

EVALUATION MATRIX

PROS (+)

- Captures dry-weather flows and spills not captured upstream in Mexico
- Reduces impacts to downstream river, estuary, and beaches
- Provides new treatment facility for additional captured storm flows
- Provides advanced primary treatment of flows from small wet weather events (up to 163 MGD)
- Utilizes existing available space at IBWC SBIWTP
- Minimizes environmental impacts as the site is located within the current treatment facility boundary and utilizes the existing SBOO
- Additional storage at storage basin north of the river would increase stormwater capture and allow more efficient treatment of variable storm flows

CONS (-)

- Provides limited capacity to divert flows during rainy season (less than 1-year rain event)
- Requires ongoing maintenance to be effective
- Ponding water within storage basin could impact USCBP security activities during and immediately following significant storm events
- Requires significant environmental analysis and permitting
- Requires significant annual maintenance
- Complex operation would require additional staff at SBIWTP to operate facility

ADDITIONAL INFORMATION

- NADB Diversion Study has evaluated the construction of a new diversion facility to primarily address flows that occur during dry weather (maximum diversion of 35 MGD)
- NADB Diversion Study proposes expanding the existing SBIWTP capacity to 35 MGD for additional dry and/or wet treatment capacity (primary treatment only)
- Max additional treatment is driven by the available peak capacity in the South Bay Ocean Outfall of 233 mgd and the permitted discharge of 40 mgd granted to SBWRP (233-40 = 193 mgd)
- Max treatment is further reduced by 30 mgd (163 mgd max) to allow for existing SBIWTP capacity
- Building a new treatment facility can be accommodated on federally owned land adjacent to the existing SBIWTP
- A separate treatment plant is preferred that does not combine stormwater flows with influent to the existing treatment plant to maintain integrity of the existing treatment process
- Storage pond would be designed to drain within 48-72 hours of a storm event
- Would require modification of the SBIWTP NPDES Discharge Permit

IMPLEMENTATION AND O&M

- Technical Feasibility
- Operating Complexity
- Sustainability (i.e., energy usage)

ENVIRONMENTAL

- Impact to Habitat (River Valley)
- Impact to Habitat (Ocean)

COMMUNITY / SOCIOLOGICAL

- Environmental Justice
- Ancillary Community Benefits
- Limited Community Disruption
- Public Support

EVALUATION MATRIX KEY:

- Positive Impact
- Moderate Impact
- Negative Impact
### Alternative K
**PROJECTS 1 & 2: TIJUANA RIVER TRASH BOOMS AND SEDIMENTATION BASIN**

**DESCRIPTION**
Install trash capture devices (booms) across the span of the Tijuana River just upstream of the transition from a concrete to earthen channel (within IBWC’s flood control channel). The booms would catch trash as it enters the United States side of the Tijuana River, and would require frequent maintenance. Construct sedimentation basins either within or adjacent to the Tijuana River, upstream of Dairy Mart Rd. The basins would capture flows and allow sediment to settle into the basins to reduce sewage and sediment inflow into the downstream portions of the Tijuana River. This project would result in the retention of polluted runoff for a period of time. The basins could also incorporate green technology to remove contaminants from the water. These facilities would require frequent maintenance. This project is currently being analyzed by IBWC through a feasibility study (60% Feasibility Report, Stantec, June 18, 2019).

### POTENTIAL BENEFITS
- Removal of 20,500 tons of trash and sediment (5-year storm event per 60% Feasibility Report).

### EVALUATION MATRIX

<table>
<thead>
<tr>
<th><strong>IMPLEMENTATION AND O&amp;M</strong></th>
<th><strong>ENVIRONMENTAL</strong></th>
<th><strong>COMMUNITY / SOCIETAL</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Feasibility</td>
<td>Impact to Habitat (River Valley)</td>
<td>Environmental Justice</td>
</tr>
<tr>
<td>Operating Complexity</td>
<td>Impact to Habitat (Ocean)</td>
<td>Ancillary Community Benefits</td>
</tr>
<tr>
<td>Sustainability (i.e., energy usage)</td>
<td></td>
<td>Limited Community Disruption</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public Support</td>
</tr>
</tbody>
</table>

### PROS (+)
- Provides similar benefits as existing Goat Canyon trash boom and sediment basins, which have demonstrated success.
- Can be incorporated into other projects.
- Reduces impacts to natural areas downstream of Monument Road.
- Reduces excess sediment reaching the Tijuana River Valley.
- Provides benefits to natural hydrology.
- Reduces the need for dredging downstream of Monument Road.
- Reduces flooding at Monument Road.

### CONS (-)
- Challenging to size infrastructure due to the unpredictability in type and volume of trash.
- Too much flow can wash out the trash capture infrastructure.
- Requires active maintenance to maximize trash and sediment capture.
- Potential to become a vector or odor nuisance if not properly maintained.
- Maintenance access can be complicated during rainy season.
- Requires significant environmental analysis and permitting.

### ADDITIONAL INFORMATION
- Amount of trash captured would depend on the peak, velocity, and duration of storm flows.
- Existing river channel upstream of Dairy Mart Road currently acts as a type of natural basin trapping sediment from moving downstream.

### EST. ONE-TIME COST

<table>
<thead>
<tr>
<th>Construction</th>
<th>Design</th>
<th>Env./Permitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>$12M*</td>
<td>$2M</td>
<td>TBD</td>
</tr>
</tbody>
</table>

*Earthwork costs only per 60% Feasibility Report

### EST. ONGOING COST

<table>
<thead>
<tr>
<th>Annual O&amp;M Per Year</th>
<th>Annual Environmental Monitoring for 10 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBD</td>
<td>$10M</td>
</tr>
</tbody>
</table>

### POTENTIAL BENEFITS
- **ENVIRONMENTAL**
  - **Impact to Habitat (River Valley):**
    - Trash capture not effective during high-flow events.
    - Trash boom placement across channel limits impacts to valley habitat.
    - Sediment basins have limited effectiveness on suspended (fine) sediment and during high-flow events.
    - Sediment basin placement would have a local impact to valley habitat (i.e., basin site).
  - **Impact to Habitat (Ocean):**
    - No new impacts created that may affect low- to moderate-income neighborhoods.
    - Most visible trash would be in one location instead of scattered throughout Tijuana River Valley.
    - Collection and removal of sediment would likely reduce flooding, as well as improve water quality.
- **COMMUNITY / SOCIETAL**
  - **Environmental Justice:**
    - Trash would need to be routinely collected with machinery and trucks and hauled away.
  - **Ancillary Community Benefits:**
    - Sediment would need to be routinely collected with machinery and trucks and hauled away.
  - **Limited Community Disruption:**
    - Low overall impact on public.
  - **Public Support:**
    - General community support.

### EVALUATION MATRIX KEY:
- **Positive Impact**
- **Moderate Impact**
- **Negative Impact**
Installation and management of trash devices (booms) and sediment basin(s) within Smuggler’s Gulch, downstream of existing collector structure. Alter Terra has funding for a pilot project to install a trash boom in coordination with the County. Options for in-line and off-line sediment basin(s) are considered. The basin(s) would capture flows and allow sediment to settle into the basin(s) to reduce sediment inflow into Smuggler’s Gulch. Project also includes replacement of existing culvert under Monument Road. This project would reduce flooding and the need for ongoing dredging of the channel downstream of Monument Road.

**Pros (+):**
- Provides similar benefits as existing Goat Canyon trash boom and sediment basins, which have demonstrated success
- Can be incorporated into other projects
- Reduces impacts to natural areas downstream of Monument Road
- Reduces excess sediment reaching the Tijuana River Valley
- Provides benefits to natural hydrology
- Reduces the need for dredging downstream of Monument Road
- Reduces flooding at Monument Road

**Cons (-):**
- Challenging to size infrastructure due to the unpredictability in type and volume of trash
- Too much flow can wash out the trash capture infrastructure
- Requires active maintenance to maximize trash and sediment capture
- Potential to become a vector or odor nuisance if not properly maintained
- Maintenance access can be complicated during rainy season
- Requires significant environmental analysis and permitting

**Additional Information:**
- Pilot project in progress for trash boom (Alter Terra)
- Currently the City of San Diego and County of San Diego have ongoing sediment removal programs to reduce flooding
- Current programs have limitations due to resources, permitting, and weather conditions

**Evaluation Matrix Key:**
- Positive Impact
- Moderate Impact
- Negative Impact