FINAL DESIGN PLANS
FOR
SANTA ANA WATERSHED
PROJECT AUTHORITY

Santa Ana Sucker Habitat Protection
and
Beneficial Use Enhancement Project

Riverside, CA

May 2018

Conservation Team
Special Construction Notes

1) By accepting award of the contract, the contractor acknowledges and agrees to the risks to materials, equipment and personnel associated with working in an active river and flood plain.

2) The contractor will be solely responsible for all contractor materials, equipment and personnel at the jobsite for the duration of the project.

3) The contractor will be responsible for the design, construction and maintenance of any and all temporary berms, dewatering and other flow management techniques. The samples provided in this drawing set are for illustrative purposes only. Techniques, material and equipment used to control flow will be subject to approval by the owner. However, owner review and approval does in no way transfer liability, cost or risk to the owner.

4) Flows in the Santa Ana River will fluctuate during construction.

5) Rock materials imported for the project will be supplied by San Bernardino Valley Municipal Water District. The rock material is located at Source Material Site 1 (34°4’52.70”N and 117°7’53.22”W) and the boulders at Source Material Site 2 (34°6’4.52”N and 117°7’9.77”W) and all costs to sort, load and transport the material to the jobsite will be the responsibility of the contractor.

6) The project will result in a zero net volume increase at the project site. Each cubic yard of material imported will be offset by exporting the equivalent volume of material off site. The contractor will assume responsibility for all costs associated with the zero net volume increase. The location and type of material exported from the site will be approved by the owner.

7) Any and all areas disturbed by the contractor will be left in as-good or better condition at the end of the project. The contractor will provide pre-construction videos and photographs of the site prior to starting any work. The contractor will also provide post-construction video and photos prior to final demobilization. All topography and grades will be restored to the pre-project condition unless otherwise approved by the owner.

8) Work hours will be Monday through Friday between the hours of 7:00 am to 5:00 pm. No work will be allowed on weekends or SAWPA observed holidays.

9) The contractor will be required to move personnel, equipment and materials out of the river channel and river bank areas prior to a storm event or when flows are expected to exceed controls put in place by the contractor.

Coordination Requirements

1) Biological monitoring will be provided by the owner. The contractor will provide a minimum of 5 working days written notice to the owner for the biological monitor.

2) All work areas must be inspected and cleared EACH DAY by the biological monitor prior to starting any work.

3) The contractor will be responsible for coordinating with the City of Jurupa Valley (and or Riverside) and will be responsible for all costs associated with abiding by all City of Jurupa Valley (and or Riverside) requirements.
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**Gradation Specifications**

1. **Gradation 1**

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Finer by Weight</th>
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<tbody>
<tr>
<td>6 in</td>
<td>100</td>
</tr>
<tr>
<td>3 in</td>
<td>40 to 55</td>
</tr>
<tr>
<td>1/4 in</td>
<td>10 to 20</td>
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<td>No. 200</td>
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2. **Gradation 2**

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<td>6 in</td>
<td>100</td>
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<td>10 to 20</td>
</tr>
<tr>
<td>No. 200</td>
<td>0 to 5</td>
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3. **Gradation 3**

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<tr>
<td>1-foot</td>
<td>40 to 55</td>
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<tr>
<td>6-in</td>
<td>5 to 10</td>
</tr>
<tr>
<td>No. 200</td>
<td>0 to 3</td>
</tr>
</tbody>
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**Contact Index**

SAWPA: (951) 354 - 4233  
Schuevel Engineering: (714) 470 - 9045  
Biological Monitor: (951) 757 - 0782  
Dig Alert: 811
Locked access gate. Contractor to bring a lock with a thick shackle to the pre-construction conference so it can be added to the gate.

Fill Area

Access Road

Borrow Area

Staging Area

In-Channel Work Area

Fill, Water & Wheel Roll Compact Grade Transition So That Driving Surface Slope is Less Than 10% or So That Contractors Trucks Can Safely Navigate The Slope. Fill Material Will Be Taken from Access Road Surface or Borrow Area. Contractor to Provide 50 CY of Crushed Aggregate Base (CAB) to Improve the Access Road Surface As Needed.

Trim, Clear and Grub 25' Corridor for Access Road, Re-grade Surface. Dust Control: Keep Watered & Compacted During Project to Prevent Fugitive Dust, Water As Needed To Control Dust

Riparian Habitat Removal (0.30 acres) To Be Staked/Flagged In Field By Owner

Tracing - Final Location to be Selected and Staked by the Owner Prior to Construction

Boulder or Boulder Cluster

Partially Submerged Grain

Clearing & Grubbing Note #2:
5 Select Branches Will Be Trimmed and Saved For Use In The Habitat Feature. The Contractor Will Perform This Work Under The Direction of the Owner. All Other Vegetation Will Be Removed and Disposed of By The Contractor

Clearing & Grubbing Note #1:
Vegetation growth will occur, and biomass export volume will increase, between bid time and construction. Contractor will assume that the removal and export volume of the biomass will be double (2X) of that observed during bid phase and include pricing /costs in their bid for the increased clearing, grubbing and export.

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Subgrade Rip Rap May Be Placed In Partially Wet Condition (Standing Water)

Groin Subgrade Base
2' Thick (Rip Rap or Gradation 3)

Boulder Cluster Subgrade Base
2' Thick (Rip Rap or Gradation 3)

De-Watering Pump As Needed

Bottom of Subgrade Excavation 3' Below Existing River Bed Invert

Existing River Bed Invert

Temporary Berm
2' High Min

Top of Slope To Be Staked By Scheevel Engineering
After Clearing & Grubbing

Final Berm Design By Contractor

Approx. Top of Slope Line

Scheevel Engineering Will Layout Structures and Provide Reference
Staking 2 Times During Project

Sub-Grade Views

May 9, 2018

SAWPA
Santa Ana Sucker Habitat Protection and Beneficial Use Enhancement Project
Vegetation pictured here to be planted by owner after construction is complete. Contractor to clear and grub existing vegetation to provide clear working area.

Flowing Water Will Be Present, Not Shown Here For Clarity

- Tapered Apron - Gradation 2
- Structure - Gradation 3
- Main Apron - Gradation 1
- Toe of Slope - Gradation 3

Vegetation pictured here to be planted by owner after construction is complete. Contractor to clear and grub existing vegetation to provide clear working area.

Flowing Water Will Be Present, Not Shown Here For Clarity

- 7' Dia Boulder
- 5'6" Dia Boulder
- 4' Dia Boulder
Up To 5 Branches Placed As Directed
Each Branch 4" to 10" in Diameter and up To 10' Long

Existing Santa Ana River Invert

Flowing Water Will Be Present, Not Shown Here For Clarity

Grading 1

Grading 2

Grading 3

4' Dia Boulder

Flow Direction

Top of Slope
Note: All elevations based on temporary field benchmark with reference elevation in feet (not a true elevation) set at 100.00'. Scheevl Engineering to provide benchmark in field at time of construction.
All Plantings Supplied & Installed By Owner

Re-Grade & Smooth Access Road As Very Last Action (By Contractor)

Re-Plant Riparian Vegetation (By Owner)

Re-Grade Borrow Area To Match Existing Grade (By Contractor)

Re-Grade Staging Area To Match Existing Grade (By Contractor)

Re-Grade Disturbed Slopes (By Contractor)

Re-Plant Riparian Vegetation (By Owner)

Re-Grade Invert To Flush With Top of Habitat Aprons (By Contractor)