Subject:
Upper Parker Brothers Channel and Fines Pile Design Clarifications

Dear Ms. Wehner:

Submitted with this letter are alternative configurations to the Improvement Plans for the Upper Parker Brothers Arroyo including the Fines Pile cover system. These plans are consistent with drawings previously submitted and approved by the Texas Commission on Environmental Quality (TCEQ) on October 28, 2015 and subsequently permitted (grading and drainage) with the City of El Paso. The alternative configurations maintain the integrity of the approved design to convey surface storm water through the Former ASARCO smelter property and minimize infiltration. Additional permitting with the City will not be needed. The approved alternative configurations to the plans are described in detail below.

**Fines Pile**

The alternative configuration for the Fines Pile is provided in Design Clarification No. 3 (see attached) and described below.

An evapotranspirative (ET) final soil cover will be used on the slopes above the Upper Parker Brothers Arroyo (UPBA), perimeter slopes and top deck. The ET soil cover section will be the same as the approved cover for the sloped area on the plant site. Surface water generated on the Fines Pile top deck will be routed to drain to a HydroTurf lined down drain discharging onto the approved HydroTurf lined UPBA channel. Surface water generated from the the Fines Pile perimeter slopes will be collected in an asphalt lined ditch at the toe of the slopes. The down drain and perimeter ditch are sized to carry the 100-year 24 hour storm to the UPBA channel.
Upper Parker Brothers Channel Inlet

An alternative configuration for UPBA channel inlet (adjacent to I-10) allows construction of a cast in place concrete wall or spraying shotcrete on the south face of the inlet area. Either of these two configurations accomplish the same function as the specified system comprised of a LLDPE liner under gabion baskets to form the channel walls. The concrete or shotcrete will be keyed into the subgrade and sealed using a combination of design details previously approved in the UPBA Fines Pile Cover System and Drainage Improvement Plans.

Ephemeral Pond

The UPBA channel extends from the I-10 property line to the flat area adjacent to the Union Pacific Railroad (UPRR) property line known as the Ephemeral Pond. The channel will be lined as originally approved with HydroTurf and the Ephemeral Pond will be lined with LLDPE overlain by a geotextile cushion fabric and riprap, which is the same system approved and used in the Lower Parker Brothers Arroyo Drainage Improvements. The outlet area of the Ephemeral Pond will be lined with asphalt over the Kinder Morgan gas line easement to the UPRR property line. We are coordinating with UPRR to assure the drainage channel termination at the TCT property line is consistent with drainage improvements planned on UPRR property.

Closure

The alternative configurations convey design flows through the Parker Brothers Arroyo and minimize infiltration to the subsurface consistent with the original design. We request TCEQ’s acknowledgement that these alternative configurations are accepted for construction.

If you have any questions regarding the information submitted, please call me at 602-438-0883.

Sincerely,

Arcadis U.S.. Inc.

Project Manager

Attachments
1   Design Clarification No. 3

Copies:

Roberto Puga, Arcadis Project Team
INSTRUCTIONS
Whenever any corrective change is made in field construction which is at variance with the specifications and drawings as originally issued, a complete detailed design clarification shall be filed, listing the following items, so that the designer can review and approve the clarification.

1. Identify the area in question: Indicate why originally specified construction was not used or modified.
2. The Solution: Describe, in detail, the recommended change or changes that were made, as applicable.
3. Indicate whether this is an isolated case or a general condition which could be improved by changing future specifications or drawings.
4. Submit sketches as necessary.

REFERENCE DATA

<table>
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<th>SPECIFICATION SECTION</th>
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<tbody>
<tr>
<td>Fines Pile Site Plan, Upper Reach Channel Plan and Profile, Upper Reach Channel Details; Civil Details 3</td>
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<td>C-3; C-4; C-8, C-15</td>
<td>1, 2, 3 attached</td>
<td>05/16/2016</td>
<td>Upper Parker Brothers Arroyo and Fines Pile VE Exhibit, Upper Reach Channel Details, Fines Pile Perimeter Swale Details</td>
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DESCRIPTION: Revisions to Railroad channel design

1. DETAILED IDENTIFICATION OF THE AREA IN QUESTION
   Alternative configurations for the Fines Pile and Upper Reach.

2. DETAILED SOLUTION PROPOSED OR ACCOMPLISHED
   - Fines Piles capping method revised from ClosureTurf to ET Cover.
   - Ephemeral Pond area liner revised from HydroTurf to Riprap over LLDPE.
   - Fines Pile Perimeter Ditch revised from HydroTurf with Riprap to an asphalt liner.
   - Upper Reach inlet gabion baskets revised to allow concrete walls or Shotcrete lining (South bank only).