Instructions for use

Construction Specification 29—Soil Cement

1. Applicability

Construction Specification 29 is applicable to all soil-cement fills.

2. Material specifications

The following material specifications complement Construction Specification 29:

531—Portland Cement
534—Curing Compound (for concrete)

3. Included items

Items to be included in the contract specifications and drawings follow:

a. Complete plans and cross sections of the required soil-cement fills.

b. Borrow areas or other sources of material. Any grading and shaping requirements of borrow areas.

c. Soil-cement soil gradation and Atterberg limits.

d. Cement content of the soil-cement mixture.

e. Cement type and types of admixtures.

f. Required pozzolan content.

g. Allowable range of moisture content of the soil-cement mixture at the time of compaction.

h. Compaction requirement for subgrade and soil-cement.

i. The maximum compacted layer thickness.

j. Pay limits where applicable.

k. The method of curing process required. If a concrete curing compound is designated, specify type and class of curing compound required.

l. Minimum capacity of the mixing plant, if applicable.

m. Any special instructions about the use of soil material that does not have similar gradation and Atterberg limits to those tested.

n. All surfaces that are to be bonding surfaces need to be identified (i.e., soil-cement surfaces that are to receive an overlying layer of soil-cement or concrete that requires bonding of the two materials).

o. The minimum strength of soil-cement determined by the design investigation using available borrow materials and the cement content specified.

p. If required, specify in section 15 the durability or strength requirements to evaluate alternative design mixes as provided in section 2(b).

4. Methods

Methods in Section 5, Design of soil-cement mixture, and Section 6, Mixing, are self-explanatory.

Section 12, Protecting and curing

Method 1—An environmentally sound, economical curing process that provides either a clear or an opaque white moisture barrier.

Method 2—Provides the best environment for curing, but will most likely be the most expensive. It is suggested for small areas or to reduce shrinkage cracking to the least extent.

Method 3—Adaptable for smaller areas and offers the economy to reuse sheeting. Windy conditions may disrupt this curing method.

Section 14, Measurement and payment

Method 1—Use when cement is included in the unit price for soil-cement.

Method 2—Use when the cement is paid for as a separate unit priced item apart from the soil-cement.

Sections 5, 6, 12, and 14

When specifications are prepared using electronic procedures and all methods but one are deleted for use in a contract specification, delete from the last paragraph All Methods. The following provisions apply to all methods of measurement and payment. Left justify the remaining text.

5. Items of work and construction details

Starting at the top of page 29–7, prepare and outline job specific "Items of Work and Construction Details" (IWCD) in accordance with these instructions.