



INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

Design Memorandum No. 17-26 Technical Advisory

December 4, 2017

TO: All Design, Operations, and District Personnel, and Consultants

FROM: /s/ Elizabeth W. Phillips
Elizabeth W. Phillips
Manager, Standards and Policy Office
Bridges Division

SUBJECT: Subgrade Treatment

REVISES: *Indiana Design Manual* Sections 17-4.02(01)

SUPERSEDES: Design Memo 14-04

EFFECTIVE: Lettings on or after July 1, 2018

The *Standard Specifications* for subgrade treatment have been revised. Revisions include:

- Added Subgrade Type IVA, Geocell Confining System
- Revised the subgrade descriptions to reference the applicable section of the *Standard Specifications*.

Revisions to SS section 207 are included in RSP 207-R-669. Additional revisions for Geocell Confining System are included in RSP 214-R-670.

The geotechnical engineer will continue to provide the subgrade treatment type recommendation in the geotechnical report.

Questions regarding subgrade treatment and Geocell Confining System should be directed to the Office of Geotechnical Services Manager, Athar Khan at atkhan@indot.in.gov.

The referenced *Indiana Design Manual* section has been updated to incorporate the revisions and to add guidance for use of chemical soil modification.

[P:\Structural Services\Design Memos\SIGNED\2017\17-26ta Subgrade Treatment.docx]

17-4.02(01) Subgrade Treatment Types [Rev. Jan. 2011, Mar. 2014, Dec. 2017]

Where subgrade treatment other than that described below is recommended by the Office of Geotechnical Services, a special provision is required.

The subgrade treatment methods are as follows:

1. Type I. This treatment consists of 24 in. of compacted soil.
2. Type IA. Effective Sept. 2014, Type IA has been deleted from the *Standard Specifications*.
3. Type IB. This treatment consists of 14 in. chemical soil modification. Chemical soil modification should not be used where groundwater is within 5 ft of the proposed subgrade treatment elevation. Due to equipment limitations, chemical soil modification should be limited to subgrade widths equal to or greater than 8 ft.
4. Type IC. This treatment consists of 12 in. of subgrade excavated and replaced with coarse aggregate No. 53.
5. Type II. This treatment consists of 6 in. of the subgrade excavated and replaced with coarse aggregate No. 53.
6. Type IIA. This treatment consists of 8 in. chemical soil modification. Chemical soil modification should not be used where groundwater is within 5 ft of the proposed subgrade treatment elevation. Due to equipment limitations, chemical soil modification should be limited to subgrade widths equal to or greater than 8 ft.
7. Type III. This treatment consists of in-place compaction.
8. Type IIIA. Effective Sept. 2014, Type IIIA has been deleted from the *Standard Specifications*.
9. Type IV. This treatment consists of 12 in. of the subgrade excavated and replaced with coarse aggregate No. 53 on Type IB geogrid.
10. Type IVA. This treatment consists of 12 in. of coarse aggregate with Geocell Confining System.
11. Type V. This treatment consists of 3 in. of subgrade excavated and replaced with 3 in. coarse aggregate No. 53.