



Illinois Department of Transportation

Memorandum

To: ALL GEOTECHNICAL MANUAL USERS 11.1
From: D. Carl Puzey *D. Carl Puzey*
Subject: Light Tower, Traffic Signal, Sign Structure Foundation Design
Date: August 18, 2011

An All Geotechnical Manual Users (AGMU) Design Guide 11.1 has been developed to document the Department's recommended procedures for determining the depth requirements of a single drilled shaft foundation typically used to support traffic signals, sign structures and light towers according to Article 13.6 of the Fifth Edition of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals with the 2009 Interim Revisions. This design guide which can be found at <http://www.dot.il.gov/bridges/geotechdesignguides.html> outlines the Department's current recommended procedure for analyzing the short drilled shaft foundations where overturning or torsion (not axial) controls the depth of the foundation.

The procedures presented in the Design Guide are applicable to drilled shaft foundations for all sign structures when soil parameters do not meet the minimum requirements specified on the foundation standards included with the IDOT Sign Structures Manual. For traffic signals, light pole or light tower foundations, the procedures presented in the Design Guide are applicable to all foundations that do not meet the minimum requirements specified in Highway Standards 878001, 836001 and 837001.

A revised Excel spreadsheet entitled "Brom's Overturning & Torsion Shaft Analysis" is also available on the IDOT website <http://www.dot.il.gov/bridges/dcspreadsheets.html> to assist designer's with the overturning and torsion analysis of single drilled shaft foundations.

AGMU Memo 11.1, the Design Guide and the Excel spreadsheet are immediately applicable and shall be incorporated into all projects. If you have any questions, please contact William Kramer of the Foundations & Geotechnical Unit at (217) 782-7773 or William.kramer@illinois.gov for further assistance.

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