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# CORPORATE HEADQUARTERS

Great Lakes Region, U.S.A.

TECHNICAL REPORT 2

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26 SEPTEMBER 2014

# Table of Contents

**Executive Summary** ..... **3**

**Site Plan and Location** ..... **4**

**Abstract** ..... **5**

**Documents Used to Create Report** ..... **6**

**Gravity Load Calculations** ..... **7**

Typical Roof Bay ..... 8

Typical Floor Bay ..... 9

Non-Typical Loading ..... 10

Typical Exterior Wall ..... 11

Snow Loads ..... 12

**Wind Load Calculations** ..... **13**

Hand Calculations ..... 14

Load Summary ..... 17

Excel Spreadsheet ..... 19

**Seismic Load Calculations** ..... **20**

Hand Calculations ..... 21

Load Summary ..... 23

# Executive Summary

The Corporate Headquarters, located in the Great Lakes Region of the United States, is a new 5 story office and retail space designed to serve as new home base for an established and successful US based company. The building's architecture was designed to mirror its surrounding buildings, namely, the newer retail area situated directly to the north of the building. It aims to mirror those buildings through its façade, which changes materials in order to break up the large building. In keeping with that architectural style, the Corporate Headquarters features a façade of glass and face brick, construction crews broke ground on the roughly 660,000 SF building in August 2014 with a projected completion date of Spring 2016.

A challenge in the design of the Corporate Headquarters is the poor existing soil conditions on part of the site. To remedy this problem, aggregate piers will be pushed down below foundation level to support the column spread footings and piers. Grade beams are also utilized in the foundation system.

The floor system in floors 2-5 is a composite floor framing consisting of metal deck on top of steel wide flange members. Average bays are rectangular with typical sizes around 38’-0” x 40’-0”. The primary lateral system of the building is HSS braced frames near the building’s core.

The primary loading conditions considered in the design of this structure were live loads, dead loads, snow loads, wind loads, seismic loads, and soil loads. To consider these loading conditions, the 2011 Ohio Building Code was set as primary design criteria. 2011 Ohio Building Code adopts IBC 2009, which references ASCE 7-05.

Due to security reasons, detailed location maps are not permitted for this report.

# Site Plan and Location

**Building Location:** Great Lakes Region, U.S.A.

-exact location map not permitted

**Site Map**

# Documents Used to Create Report

The following documents were used during the creation of Technical Report 2.

- **Ohio Building Code 2011**

  -incorporates IBC 2009

- **American Society of Civil Engineers**

  -ASCE 7-05: Minimum Design Loads for Buildings

- **Corporate Headquarters**

  -Construction Documents

  -Technical Specifications

- **Vulcraft Deck Catalog**

  -product manual

- **Boise- Cascade**

  -Weight of Building Materials Technical Note

# Gravity Load Calculations

# Wind Load Calculations

# Seismic Load Calculations