APPENDIX F.4

SEISMIC IMPACT ZONE

Project Name = Veolia E.S. Zion Landfill - Site 2 East Expansion

Conterminous 48 States
2002 Data
Hazard Curve for PGA
Latitude = 42.4800
Longitude = -87.8700
Data are based on a 0.05 deg grid spacing
Frequency of Exceedance values less than
1E-4 should be used with caution.

Ground Motion (g)	Frequency of Exceedance (per year)
0.005	1.0322E-02
0.007	7.3669E-03
0.010	5.1723E-03
0.014	3.5229E-03
0.019	2.2891E-03
0.027	1.4286E-03
0.038	8.7317E-04
0.053	5.2699E-04
0.074	3.1821E-04
0.103	1.9326E-04
0.145	1.1613E-04
0.203	7.014E-05
0.284	4.1792E-05
0.397	2.4294E-05
0.556	1.3564E-05
0.778	7.193E-06
1.090	3.5169E-06
1.520	1.5237E-06
2.130	4.856E-07

Ground Motion (g)	Freq. of Exceed. (per year)	Return Pd. (years)	P.E. %	Exp. Time (years)
0.0612	4.2141E-04	2373.0	10.00	250.0

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Earthquake Hazards Program

Seismic Design Values for Buildings

New Earthquake Ground Motion Parameter Java Application

Hazard curves, uniform hazard response spectra, and design parameters are available for sites in the 50 states of the United States, Puerto Rico and the U.S. Virgin Islands. Additionally, design parameters are available for Guam and American Samoa.

We strongly recommend the use of this new application when calculating Ground Motion Parameters. The Java Application includes new data sets, allows searching by zip code or latitude and longitude, and displays graphs of the calculated information. Any information calculated in this application can also be saved or printed for later use.

To use this application, you must have Java Installed. We recommend you choose Open or Run instead of saving to your computer so you will automatically receive any updates. If you save this application, please check this page for the latest updates regularly.
Java Ground Motion Parameter Calculator - Version 5.0.6 (2.8 MB)

Any comments or questions about this application should be sent to Nicolas Luco (nluco@usgs.gov).

Any questions regarding installation or other technical issues should be sent to Eric Martinez (emartinez@usgs.gov).

Ground motion parameters available in the new application:

1. USGS Probabilistic Hazard Curves (1996 and 2002 for the 48 conterminous states, 1998 Alaska, 1998 Hawaii, 2003 for Puerto Rico and the Virgin Islands)
2. USGS Uniform Hazard response Spectra Curves (1996 and 2002 for the 48 conterminous states, 1998 Alaska, 1998 Hawaii, 2003 for Puerto Rico and the Virgin Islands)
3. NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures (1997, 2000, and 2003 editions)
4. ASCE 7 Standard, Minimum Design Loads for Buildings and Other Structures (1998, 2002, and 2005 editions)
5. International Building Code (2000, 2003, and 2006 editions)
6. International Residential Code (2000, 2003, 2004 supplement, and 2006 editions)
7. NFPA 5000 Building Construction and Safety Code (2003 and 2006 editions)

Ground motion maps are now available in PDF format.

Note: This page links to a Java(TM) Application, which requires the Java(TM) Runtime Environment to be installed on your machine in order to run. This application also requires an active internet connection to trieve data from our servers.

Steps to install java:

The Java(TM) 2 Runtime Environment is freely available from SUN at the URL
http://java.sun.com/j2se/1.5.0/download.jsp

1. Follow the URL above
2. Click the link titled *Download JRE 5.0 Update* ... in the middle of the page
3. Read and Accept the License Agreement
4. Choose the correct platform, download, and install the Java(TM) 2 Runtime Environment, Standard Edition
5. As with all software, if you are unsure contact your System Administrator with questions

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Web based Seismic Design Value Calculator

The web based Seismic Design Value Calculator has been available on this site for some time. It is not as up to date as the Java Application described above. The latest editions of the various documents are not included, search by zip code and graphs is also not available.

Use the old Web based Seismic Design Value Calculator

Ground motion parameters available in the old application:

1. USGS Probabilistic Hazard Curves (1996 and 2002 for the 48 conterminous states, 1998 Alaska, and 1998 Hawaii)
2. USGS Uniform Hazard response Spectra Curves (1996 and 2002 for the 48 conterminous states, 1998 Alaska, and 1998 Hawaii)
3. NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures (1997 and 2000 editions)
4. ASCE 7 Standard, Minimum Design Loads for Buildings and Other Structures (1998 and 2002 editions)
5. International Building Code (2000 and 2003 editions)
6. International Residential Code (2000 and 2003 editions)
7. NFPA 5000 Building Construction and Safety Code (2003 edition)

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Custom Mapping Analysis Tools

Seismic Design Values for Buildings

Earthquake Hazards 101

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