DATE OF THIS VERSION (new)
February 1, 2014

TITLE OF DOCUMENT (new title if applicable):
Structural Design Manual for Energy Center Projects

DATE OF VERSION BEING SUPERSEDED (old):
September 15, 2009

DESCRIPTION OF DOCUMENT (previous title, number, other identifying data):
Structural Design Manual for Energy Center Projects

SUMMARY OF CHANGES IN THIS VERSION:
1. Reference of ACI 318, AISC, and IBC changed to Latest Edition;
2. Deleted metric units of Design Loads; and
DEPARTMENT OF VETERANS AFFAIRS

DESIGN INSTRUCTIONS TO ARCHITECTS AND ENGINEERS

LOCATION: VAMC

PROJECT TITLE:

PROJECT NO.:

[ ] SCHEMATICS [ ] DESIGN DEVELOPMENT [ ] CONSTRUCTION DOCUMENTS

STRUCTURAL

STRUCTURAL DESIGN MANUAL FOR ENERGY CENTER PROJECTS
(February 1, 2014)

FROM: 

Package Preparer:
Telephone Number:

DATE: 
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1. Criteria Unique to VA
2. General
3. Structural Design Load Requirements
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1. **CRITERIA UNIQUE TO VA:** All new facilities and new additions to existing facilities shall be designed in accordance with VA Handbook H-18-8, "VA Seismic Design Requirements for VA Hospital Facilities".

2. **GENERAL:**

   2.1 Structural design shall comply with the latest editions of the following:


   D. Significant variations from the above in local building codes shall be brought to the attention of the Director, Area Project Office, for approved substitution prior to their use in the structural design.

   2.2 Where applicable, verify the load-bearing capability of the existing structural elements to support the new design loads.

   2.3 Where alterations are made to the structural elements in existing buildings, these elements individually and the buildings as units, must maintain adequate strength to safely resist both gravity and lateral loads. Any resulting deficiencies must be reinforced accordingly.

   2.4 Follow VA Construction Procedures 1 and Fire Protection Design Manual for fireproofing requirements of structural elements.
3. STRUCTURAL DESIGN LOAD REQUIREMENTS:

3.1 Minimum uniform basic design live loads shall conform to the International Building Code (IBC) requirements, except as shown in Table 1.

3.2 Provision shall be made in designing floors for a concentrated load of 2000 lb, placed upon any space 2.5 square, wherever this load upon an otherwise unloaded floor would produce stresses greater than those caused by the uniform load required therefore.

3.3 In order to provide a flexible design allowing certain range of occupancy changes in the future, generalized live load categories should be applied to large areas preferably one category to any one floor.

3.4 Roof live loads shall be based on geographical location and local governing building code requirements; however, they shall not be less than 20 psf.

4. TABLE 1 - MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS*:

<table>
<thead>
<tr>
<th>OCCUPANCY OR USE</th>
<th>LIVE LOADS (psf)</th>
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<tr>
<td>Catwalks/Service Platforms</td>
<td>40</td>
</tr>
<tr>
<td>Machine Room</td>
<td>150**</td>
</tr>
</tbody>
</table>

Footnotes:

* Areas supporting heavy equipment shall be designed for the actual operating weight of such equipment.

** Design Live Loads shall be noted on the drawings in general notes and on plans to indicate specific areas designed for different loads. Column Design Loads shall be noted in column schedule.
5. DESIGN AND CONSTRUCTION PROCEDURES:

Use current topics pertaining to structures, mechanical and electrical Systems.

6. APPLICABLE STRUCTURAL MASTER SPECIFICATIONS INDEX:

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