



# US DEPARTMENT OF VETERANS AFFAIRS OFFICE OF INSPECTOR GENERAL

Office of Audits and Evaluations

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## DEPARTMENT OF VETERANS AFFAIRS

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# VA Needs to Conduct Seismic Evaluations on Critical and Essential Buildings to Effectively Prioritize Program Funds

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## Executive Summary

On February 9, 1971, an earthquake in San Fernando, California, caused substantial damage to 26 buildings on the VA campus. Four of these buildings collapsed and 38 people were killed. This tragedy prompted VA in 1975 to establish seismic safety standards for its new buildings and for retrofitting existing buildings in areas at risk for seismic activity. In the ensuing decade, VA completed evaluations on 628 buildings and determined 57 buildings were at risk.

In a 2015 audit, the VA Office of Inspector General (OIG) concluded that VA did not have a complete and accurate inventory of buildings with identified seismic deficiencies.<sup>1</sup> VA concurred with the OIG's recommendation to establish a policy requiring that seismic evaluations be conducted on all critical or essential buildings located in high and very high seismic zones that have not already undergone previous evaluations.<sup>2</sup> In addition, Executive Order 13717 was released in 2016, necessitating additional changes to VA Directive 7512 to adopt the updated *Standards of Seismic Safety for Existing Federally Owned and Leased Buildings*.

In 2019, VA created the Seismic Program Office under the Office of Construction and Facilities Management. The program office focuses on ensuring new construction projects are built in compliance with VA seismic design requirements and on identifying and mitigating risks.<sup>3</sup> Beginning in fiscal year (FY) 2019, VA began requesting funding within its Major Construction budget to address an estimated \$7 billion in repairs needed for medical facility buildings with previously identified seismic deficiencies. From FY 2019 through FY 2021, Congress appropriated approximately \$1.4 billion in annual and supplementary funding for the program office to address this need. The OIG conducted this audit to determine if seismic funds were being used to address high-risk buildings with seismic deficiencies, in accordance with program requirements.<sup>4</sup>

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<sup>1</sup> Seismic deficiencies are identified through seismic evaluations and are based on not meeting the performance criteria found in ACSE/SEI 41-17, *Seismic Evaluation and Retrofit of Existing Buildings*, 2017.

<sup>2</sup> VA OIG, [Audit of the Seismic Safety of VA's Facilities](#), Report No. 14-04756-32, November 12, 2015; VA Handbook 18-8, *Seismic Design Requirements*, May 1, 2020. Critical facilities include hospitals, inpatient facilities, and fire and police stations, which need to remain operational after an earthquake. Essential facilities are those intended to maintain essential functions with minor repairs after an earthquake, such as community living centers, imaging centers, and facilities that house domiciliary services. "High" and "very high" are ratings based on the anticipated earthquake shaking at a given site. Appendix A lists VA's critical and essential facilities.

<sup>3</sup> VA Directive 7512, *Seismic Safety of VA Buildings*, August 3, 2017.

<sup>4</sup> VA Directive 7512 defines "exceptionally high-risk" buildings as critical or essential facilities located in high or very high seismic areas with an area greater than 10,000 square feet that were designed before the adoption of the 1975 seismic standards and have not been retrofitted. "High-risk" buildings are critical or essential facilities that meet three of these four criteria.

## What the Audit Found

The OIG reviewed 92 buildings that had been approved and funded by the Seismic Program Office from FY 2019 through FY 2021. The audit team evaluated the buildings and determined that 42 of the buildings (46 percent) were considered ancillary buildings, as opposed to critical or essential buildings that must remain operational during a seismic event. The cost estimate to address the seismic deficiencies in these 42 ancillary buildings was \$616 million.<sup>5</sup>

According to data provided by the Seismic Program Office, seismic evaluations had not been performed on 135 buildings considered to be critical or essential (of which 92 buildings were in areas of high or very high seismicity) as of February 23, 2023. Buildings that have not received seismic evaluations are not eligible to receive program funding because it can only be used to address buildings with identified seismic deficiencies. Because the Seismic Program Office approved project funding for ancillary buildings without first completing all required seismic evaluations in critical and essential buildings, VA lacks assurance that program funding is being prioritized appropriately.

The OIG found that the seismic evaluations were not completed because the Seismic Program Office placed a low priority on these evaluations and did not assign a deadline for their completion, despite the 2015 OIG audit recommending this issue be addressed.<sup>6</sup>

Furthermore, VA lacked an effective process for identifying and tracking buildings needing evaluations, and seismic data in VA's Capital Asset Inventory—the authoritative record of VA's real property inventory—was incomplete, outdated, and not accessible to most VA engineering officials.

VA cannot effectively prioritize seismic program funds without evaluating the seismic risk of its critical and essential buildings. Consequently, VA's misplaced priorities increase the risks to veteran and employee safety and impede the ability to continue to provide lifesaving care during or following an earthquake.

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<sup>5</sup> The total cost estimate to repair all 92 buildings was \$3.4 billion; \$1.4 billion of seismic program funding was approved to repair or replace these buildings from FY 2019 through FY 2021. Seismic Program officials expect to use program funding beyond FY 2021 to fully fund these projects.

<sup>6</sup> The Office of Acquisition, Logistics, and Construction concurred and implemented this recommendation by updating VA Directive 7512. The directive update required seismic evaluations for all VA-owned critical and essential buildings in high and very high seismic zones that have not been evaluated and are not already on the exceptionally high-risk or high-risk lists. However, the directive did not establish a timeframe for completing the evaluations, and the director of the Seismic Program Office acknowledged that conducting the seismic evaluations took a lower priority than continuing work on buildings that had already been evaluated. Appendix B lists the buildings needing seismic evaluations and VA's timeline for completing them. Appendix C explains the audit's scope and methodology.

## What the OIG Recommended

The OIG recommended the executive director of VA’s Office of Construction and Facilities Management ensure seismic evaluations are done for all critical and essential buildings, and work with the Veterans Health Administration’s (VHA) Office of Capital Asset Management to correct Capital Asset Inventory data inaccuracies. The executive director should also request that seismic designation information be available to facility officials who perform annual certifications of Capital Asset Inventory data. Additionally, the OIG recommended the executive director of VA’s Office of Asset and Enterprise Management instruct Veterans Integrated Service Network and medical facility officials to review critical or essential designations as part of their annual certifications of the Capital Asset Inventory.

## VA Management Comments and OIG Response

The principal executive director, and chief acquisition officer, for VA’s Office of Acquisition, Logistics, and Construction, and the executive director for VA’s Office of Asset Enterprise Management concurred with the report’s recommendations and submitted responsive action plans for each. Overall, the OIG considers the proposed corrective measures in the respective action plans to be responsive to the recommendations. The OIG will monitor execution of planned actions and will close the recommendations when VHA provides sufficient evidence demonstrating progress addressing the issues identified. The Office of Construction and Facilities Management also provided six technical comments. Five of the technical comments were incorporated into the report. In their sixth comment, the Office of Construction and Facilities Management stated, “If the intent of the OIG is to ensure that seismic funding addresses the greatest risk to life and safety this will require updates to Directive 7512.” The OIG does not see a need to update VA Directive 7512 since VA is already required to ensure all of its buildings meet life-safety seismic standards. The full text of VA’s comments appears in appendixes D and E.



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## Abbreviations

FY	fiscal year
NIST	National Institute of Standards and Technology
OIG	Office of Inspector General
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network



## Introduction

On February 9, 1971, an earthquake in the San Fernando Valley in California caused substantial damage to 26 buildings on the VA campus. Four of these buildings collapsed and 38 people were killed. This tragedy prompted VA in 1975 to establish seismic safety standards for its new buildings and for retrofitting existing buildings in areas of seismic risk.<sup>7</sup> In the ensuing decade, VA completed evaluations on 628 buildings and determined 57 buildings in high and very high seismic areas were found to be at risk.<sup>8</sup>

In December 1994, President Clinton mandated that federal agencies conduct an inventory of their owned or leased buildings for seismic risk.<sup>9</sup> From 1998 through 2006, VA continued to update the seismic inventory and identified 150 buildings as high risk, including 85 buildings as “exceptionally” high risk.<sup>10</sup>

In a 2015 audit, the VA Office of Inspector General (OIG) found that VA did not have a complete and accurate inventory of buildings with seismic deficiencies. According to the audit, VA did not effectively identify seismic risk levels for 15 of 97 critical and essential buildings located at 23 Veterans Health Administration (VHA) facilities in areas that have a high or very high probability of experiencing a damaging earthquake. VA concurred with the OIG’s recommendation to establish a policy requiring medical facilities to conduct detailed seismic evaluations for all critical or essential buildings located in high and very high seismic zones that have not already undergone detailed seismic evaluations.<sup>11</sup>

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<sup>7</sup> According to VA Handbook 18-8, the 1971 earthquake initiated the creation of an advisory committee, which formally approved VA Handbook 08-8, *Earthquake Resistant Design Requirements for VA Facilities*, 1975.

<sup>8</sup> “High” and “very high” are ratings based on the anticipated earthquake shaking at a given site—a parameter called spectral response acceleration, which is measured in  $g$  (the acceleration due to earth’s gravity).  $S_s$  is the spectral response acceleration parameter at short periods corresponding to the mapped maximum considered earthquake.  $S_1$  is the spectral response parameter at a period of one second corresponding to the mapped maximum considered earthquake. A high seismic zone is a region where  $S_s$  is equal to or greater than 0.750g or less than 1.250g and  $S_1$  is equal to or greater than 0.300g or less than 0.500. A very high seismic zone is a region where  $S_s$  is equal to or greater than 1.250g and  $S_1$  is equal to or greater than 0.500g. *VA Seismic Risk Definitions*, October 1, 2020, and VA Handbook 18-8, *Seismic Design Requirements*, May 1, 2020.

<sup>9</sup> Exec. Order No. 12941, 59 Fed. Reg. 62545 (December 5, 1994).

<sup>10</sup> VA Seismic Inventory, phase 6, vol. I, Summary Report, prepared by Degenkolb Engineers (May 1, 2006). Exceptionally high-risk buildings are critical or essential facilities located in high or very high seismic areas, are at least 10,000 square feet, were designed before the adoption of the 1975 seismic standards and have not been retrofitted. At the time of the 1998 through 2006 inventory updates, high-risk buildings were defined as critical or essential facilities that meet criteria just below the threshold of exceptionally high risk. VHA Directive 2005-019, *Seismic Safety of VHA Buildings*, May 19, 2005.

<sup>11</sup> VA OIG, *Audit of the Seismic Safety of VA’s Facilities*, Report No. 14-04756-32, November 12, 2015. In the context of this report, critical facilities include hospitals and medical research facilities that need to remain operational after an earthquake. Essential facilities are those intended to maintain essential functions with minor repairs after an earthquake, such as community living centers, imaging centers, and facilities that house domiciliary services. VA Handbook 18-8, *Seismic Design Requirements*, May 1, 2020.

In addition to the OIG’s 2015 audit recommendation, Executive Order 13717 was released in 2016, which requires agencies that own existing federal buildings to adopt the *Standards of Seismic Safety for Existing Federally Owned and Leased Buildings*. As a result, VA updated Directive 7512 to address both the audit recommendation and the executive order.<sup>12</sup> As part of the updated directive, VA committed to providing “life-safety protection” to veterans, employees, and other building occupants in all its facilities and ensuring that all critical and essential facilities remain operational after a seismic event.<sup>13</sup> The OIG conducted this audit to determine if seismic funds were being used to address high-risk buildings with seismic deficiencies, in accordance with these program requirements.

## Seismic Program Office

Created in 2019 under the Office of Construction and Facilities Management, the Seismic Program Office focuses on identifying and mitigating seismic risks in existing facilities. The seismic safety coordinator works alongside the Seismic Program Office to evaluate existing VA buildings to determine whether the building is at risk of major damage or collapse during a seismic event. The Seismic Program Office also reviews and approves fund requests consistent with seismic funding requirements and VA’s five-year development plan.<sup>14</sup>

## VA Seismic Evaluation Criteria

The *Standards of Seismic Safety for Existing Federally Owned and Leased Buildings* identifies situations that would trigger a requirement to conduct an evaluation, such as a change in the building’s function that would increase the building’s seismic risk category.<sup>15</sup> In accordance with the OIG’s 2015 recommendation, VA policy also requires that seismic evaluations be conducted on all existing VA-owned critical or essential buildings in high and very high seismic zones that

- have not been previously evaluated,

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<sup>12</sup> Significant changes in the August 3, 2017, version of VA Directive 7512 included the requirement to adopt minimum seismic safety requirements described in Exec. Order No. 13717 and the requirement for the executive director, VA’s Office of Construction and Facilities Management, to conduct seismic evaluations on all existing VA-owned critical and essential buildings in high and very high seismic zones.

<sup>13</sup> National Institute of Standards and Technology (NIST), *Standards of Seismic Safety for Existing Federally Owned and Leased Buildings*, Recommended Practice 8, December 2011; VA Directive 7512, *Seismic Safety of VA Buildings*, August 3, 2017. “Life-safety protection” is a quantified standard performance level of a building, in which post-earthquake damage results in damaged building components but the building retains a margin against collapse. American Society of Civil Engineers, Structural Engineering Institute, Standard ASCE/SEI 41-17, 2017.

<sup>14</sup> According to the seismic safety coordinator, prior to the creation of the Seismic Program Office in 2019, much of the management of the seismic program was done by the Office of Facilities Planning under the Office of Construction and Facilities Management. The seismic safety coordinator has resided in this office since the function was mandated by Exec. Order No. 13717. The five-year development plan is VA’s funding plan for major construction projects for the next five years.

<sup>15</sup> NIST, *Standards of Seismic Safety for Existing Federally Owned and Leased Buildings*.

- have not already been identified as an exceptionally high-risk or high-risk facility, and
- were designed or retrofitted before VA Handbook 18-8, *Seismic Design Requirements*, was initially adopted in December 1995.<sup>16</sup>

## Facility Occupancy Categories

VA defines critical facilities as those that need to remain operational to continue providing services after an earthquake or other natural disaster. Examples of critical facilities include hospitals, inpatient facilities, and fire and police stations.<sup>17</sup>

Essential facilities are those intended to maintain essential functions with minor repairs after an earthquake or other natural disaster. Examples of essential facilities include community living centers, imaging centers, and facilities that house domiciliary services.

All other buildings and structures are considered ancillary facilities, which are nonessential facilities designed to provide life-safety protection of VA patients, staff, and visitors in case of an emergency, but are not required to remain operational during and following a natural or manmade extreme event or a national emergency. Examples of ancillary facilities include parking garages, maintenance buildings, and administrative office buildings.

Appendix A details the facility occupancy categories as defined by VA Handbook 18-8.

## Seismic Program Funding

By fiscal year (FY) 2019, VA had identified a need of more than \$7 billion to address seismic deficiencies at its facilities. Before then, VA could address seismic deficiencies through various construction programs, such as the Minor Construction program or the Non-Recurring Maintenance program. However, in FY 2019, funding was specifically appropriated for seismic improvement projects and program management activities under the Major Construction appropriation. Program funding from FY 2019 through FY 2021 totaled about \$1.4 billion.<sup>18</sup>

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<sup>16</sup> VA Directive 7512.

<sup>17</sup> Mission-critical buildings must have a basic performance objective to allow immediate occupancy following a natural or manmade extreme event or a national emergency, in addition to providing life-safety protection to occupants. VA Handbook 18-8; VA Manual, *Physical Security & Resiliency Design Manual*, October 1, 2020, revised July 1, 2022.

<sup>18</sup> Seismic funding was appropriated through the following legislation: Energy and Water, Legislative Branch, and Military Construction and Veterans Affairs Appropriations Act, 2019, Pub. L. No. 115-244, 132 Stat. 2962 and Stat. 2973 (2018); Further Consolidated Appropriations Act 2020, Pub. L. No. 116-94, 133 Stat. 2794 (2019); Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, 134 Stat. 1671 (2020).

## Seismic Correction Process

The OIG was unable to locate a specific policy describing the funding and approval process specific to the seismic program. Therefore, the OIG relied on the director of the seismic program and seismic safety coordinator to explain the seismic correction process described below. As shown in figure 1, many offices across VA are involved in the process for completing seismic projects.



**Figure 1.** Seismic program funding and approval process.

Source: OIG analysis of information provided by the Seismic Program Office.

Medical center directors ensure facilities comply with seismic safety standards as prescribed by building codes.<sup>19</sup> Directors also have a responsibility for creating risk mitigation plans for their facilities, including seismic risk.

VA's Office of Construction and Facilities Management provides direction, guidance, and policy for the seismic program through the Seismic Program Office. The Construction and Facilities Management executive director ensures seismic evaluations are done on all existing VA-owned critical or essential buildings required to remain operational after an earthquake or other natural disaster in areas of high or very high seismic risk, as defined in VA policy.<sup>20</sup> Seismic evaluations

<sup>19</sup> NIST, *Implementation Guidelines for Executive Order 13717: Establishing a Federal Earthquake Risk Management Standard*, Interagency Committee on Seismic Safety in Construction, Recommended Practice 9, January 2017. Building codes are sets of regulations governing the design, evaluation, construction, and maintenance of buildings. They specify minimum requirements necessary to adequately safeguard the health, safety, and welfare of building occupants. A code-compliant building is intended to achieve the goal of preventing the loss of life or life-threatening injury to its occupants for a code-specified level of ground shaking.

<sup>20</sup> VA Handbook 18-8.

are one of the ways the program office can determine if a building has a seismic deficiency. A documented seismic deficiency is required to receive funding from the program.

Construction and Facilities Management maintains the list of buildings in areas of high or very high seismic risk. However, VHA determines which buildings are critical or essential and enters that data into the Capital Asset Inventory, which is the authoritative record of VA's real property inventory. VA's Office of Asset Enterprise Management controls the Capital Asset Inventory and requires VA medical centers to continuously update their database records throughout the year to maintain accuracy. Each year, the Office of Asset Enterprise Management issues a "call memo" for medical centers and Veterans Integrated Service Networks (VISNs) to certify the accuracy of their respective data in the Capital Asset Inventory.

VA medical facilities and VISN capital asset managers develop business cases for buildings with seismic risk in conjunction with VISN leaders.<sup>21</sup> These business cases are then prioritized through the annual Strategic Capital Investment Planning process.<sup>22</sup> VHA's Office of Healthcare Environment and Facilities Programs then formally makes a request for projects to be included in the seismic program. The request includes information on the proposed project, such as whether there is a documented seismic deficiency, whether the renovated or reconstructed building will stay within 10 percent of its original square footage, and whether the renovated or reconstructed building will retain similar functions upon completion.

Upon approval of a project, the Seismic Program Office determines the organization that will manage the project. Generally, VA's Office of Construction and Facilities Management develops, designs, and executes construction activities for major construction projects under \$100 million. By statute, projects exceeding \$100 million are managed by a designated construction agent, such as the United States Army Corps of Engineers.<sup>23</sup> VA medical facilities typically develop, design, and execute construction activities for minor construction and nonrecurring maintenance projects. The project manager requests Seismic Program Office funding for each phase of an approved project: planning, design, and construction. The Seismic Program Office allocates funds after each request is evaluated and approved. VA considers seismic evaluations to be planning activities that qualify for seismic funding as described in VA policy.<sup>24</sup>

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<sup>21</sup> VHA is organized into 18 regional networks called VISNs. Each VISN is led by a director who is responsible for the coordination and oversight of administrative and clinical activities at medical facilities within the specified geographic network.

<sup>22</sup> The Strategic Capital Investment Planning process identifies capital projects over a 10-year planning horizon required to address performance gaps in a variety of areas: safety, security, utilization, access, seismic risk, facility condition, space, parking, and energy. One of the end products of the Strategic Capital Investment Planning process is a prioritized list of potential planned budget year projects, as well as potential future year projects to correct the identified performance gaps. VA, *FY 2019 Budget Submission*, vol. IV, February 2018.

<sup>23</sup> National Defense Authorization Act for Fiscal Year 2016, Pub. L. No. 114-92, § 1096(a), 129 Stat. 1020 (2015).

<sup>24</sup> VA Directive 7512, secs. 3(a)(4-5).

## Results and Recommendations

### **Finding: VA Did Not Effectively Prioritize Seismic Program Funds Due to Deficiencies in Identifying Seismic Risk in Critical and Essential Buildings**

The OIG found that 46 percent of the buildings approved for repair or reconstruction with seismic program funds from FY 2019 through FY 2021 were ancillary structures that are not required to be immediately operational after a seismic event. The total estimated cost for these ancillary building projects was \$616 million.

This prioritization of funds to ancillary buildings was due in part to necessary seismic evaluations not being conducted. According to data provided by the Seismic Program Office, evaluations had not been performed on 135 buildings considered critical or essential as of February 23, 2023. The OIG found that the Seismic Program Office did not place a high priority on, or mandate a deadline for, completing the evaluations despite VA concurring with a 2015 OIG audit recommendation that this issue be addressed.<sup>25</sup> Additionally, VA lacked an effective process for identifying buildings that needed to be evaluated; specifically, data in VA's Capital Asset Inventory was outdated, incomplete, and not visible to most users of the system.

VA cannot effectively prioritize seismic funding without accurately identifying the seismic risk of its critical and essential buildings. VA's ineffective prioritization increases the risks to veteran and employee safety and impedes the ability to continue to provide lifesaving care during or following an earthquake.

The following elements support this finding:

- VA approved seismic projects to address deficiencies on lower-priority ancillary buildings with estimated costs of \$616 million.
- VA had not performed seismic evaluations on 135 critical and essential buildings.
- The Seismic Program Office did not consider completing seismic evaluations to be of highest importance.

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<sup>25</sup> The Office of Acquisition, Logistics, and Construction concurred and implemented this recommendation by updating VA Directive 7512. The directive update required seismic evaluations for all VA-owned critical and essential buildings in high and very high seismic zones that have not been evaluated and are not already on the exceptionally high risk or high-risk lists. However, the directive did not establish a timeframe for completing the evaluations, and the director of the Seismic Program Office acknowledged that conducting the seismic evaluations took a lower priority than continuing work on buildings that had already been evaluated.

- The Seismic Program Office struggled to maintain an accurate inventory of buildings needing evaluations.

## What the OIG Did

To determine whether seismic funds were being used to address buildings with high-risk seismic deficiencies, the OIG reviewed 92 projects that had been approved and funded by the Seismic Program Office from FY 2019 through FY 2021. The OIG also assessed whether VA had conducted seismic evaluations on all critical and essential buildings in high and very high seismic zones as required by VA Directive 7512. The Seismic Program Office provided the OIG with a list of 135 critical or essential buildings still awaiting seismic evaluations to identify any design-related deficiencies.<sup>26</sup> The list of buildings and VA's timeline for completing the evaluations can be found in appendix B. See appendix C for further information about scope and methodology.

## VA Approved Seismic Projects to Address Deficiencies on Lower-Priority, Ancillary Buildings with Estimated Costs of \$616 Million

VA approved the use of seismic program funding to address seismic deficiencies in 92 buildings with estimated costs of \$3.4 billion.<sup>27</sup> Of the 92 buildings, 42 (46 percent) were ancillary buildings that are not required to be immediately operational after a seismic event.<sup>28</sup> The estimated cost to correct the 42 ancillary buildings was \$616 million. According to the Office of Construction and Facilities Management, \$36 million had been approved for these buildings as of September 22, 2023.

VA lacks assurance that seismic program funding was allocated effectively because it does not know the condition of 135 critical and essential buildings that have yet to receive seismic evaluations as of February 23, 2023. Seismic program funding cannot be allocated to buildings without identified seismic deficiencies; therefore, the unevaluated buildings cannot be funded for repairs or replacement until the studies have been completed. By approving these projects without completing all required seismic evaluations, the Seismic Program Office allowed seismic funds to be used to address lower-priority ancillary buildings before addressing the needs of

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<sup>26</sup> VA Directive 7512 requires seismic evaluations on critical and essential buildings in high and very high seismic zones. The list of 135 buildings needing seismic evaluations provided by the Seismic Program Office included 43 buildings in medium-high seismic zones and, therefore, not mandated for evaluation by VA Directive 7512.

<sup>27</sup> The Seismic Program allocated \$1.4 billion in funding to these projects between FY 2019 to FY 2021. Seismic Program officials expect to fully fund these projects through appropriations beyond FY21.

<sup>28</sup> While the use of program funding was allowable under criteria articulated in VA's budgetary requests, the funding decisions did not prioritize the correction of seismic deficiencies in critical and essential buildings, as expected by VA policy or previous executive orders.

higher-priority critical or essential buildings. Following are examples of funding approved to address lower-risk seismic needs.

### **Example 1**

*At the Raymond G. Murphy Department of Veterans Affairs Medical Center in Albuquerque, New Mexico, Building 2 was approved for a \$16 million seismic retrofit. This ancillary building is a three-floor, 18,300 square-foot facility that was originally constructed as a recreational building in 1932. As of June 2023, the building was used in part for assembly purposes, but has been expanded to include food service functions.*

### **Example 2**

*At the San Juan VA Medical Center in San Juan, Puerto Rico, a \$5.2 million renovation was approved for Building 18. This building is a two-story, 2,050 square-foot ancillary building built in 1990. It is an administrative building housing conference rooms, offices, staff support areas, toilets, and utilities.*

### **Example 3**

*In White City, Oregon, VA approved a project that combined 11 ancillary buildings with one building they had identified as essential to create a single, new building. The new building is designed to contain mostly ancillary functions, and only one department with a critical function. This \$107 million project will demolish 12 buildings and construct a new building (Building 300), and will total 47,713 square feet, of which 9,625 square feet will house the critical function of the office of information and technology. According to the seismic program director, the consolidated design was justified because it was considered the most cost-effective way to address the multiple buildings with seismic deficiencies on the campus. Table 1 highlights the buildings consolidated using seismic program funding.*

**Table 1. Summary of Buildings for Project 692-400  
(White City, Oregon, Building 300)**

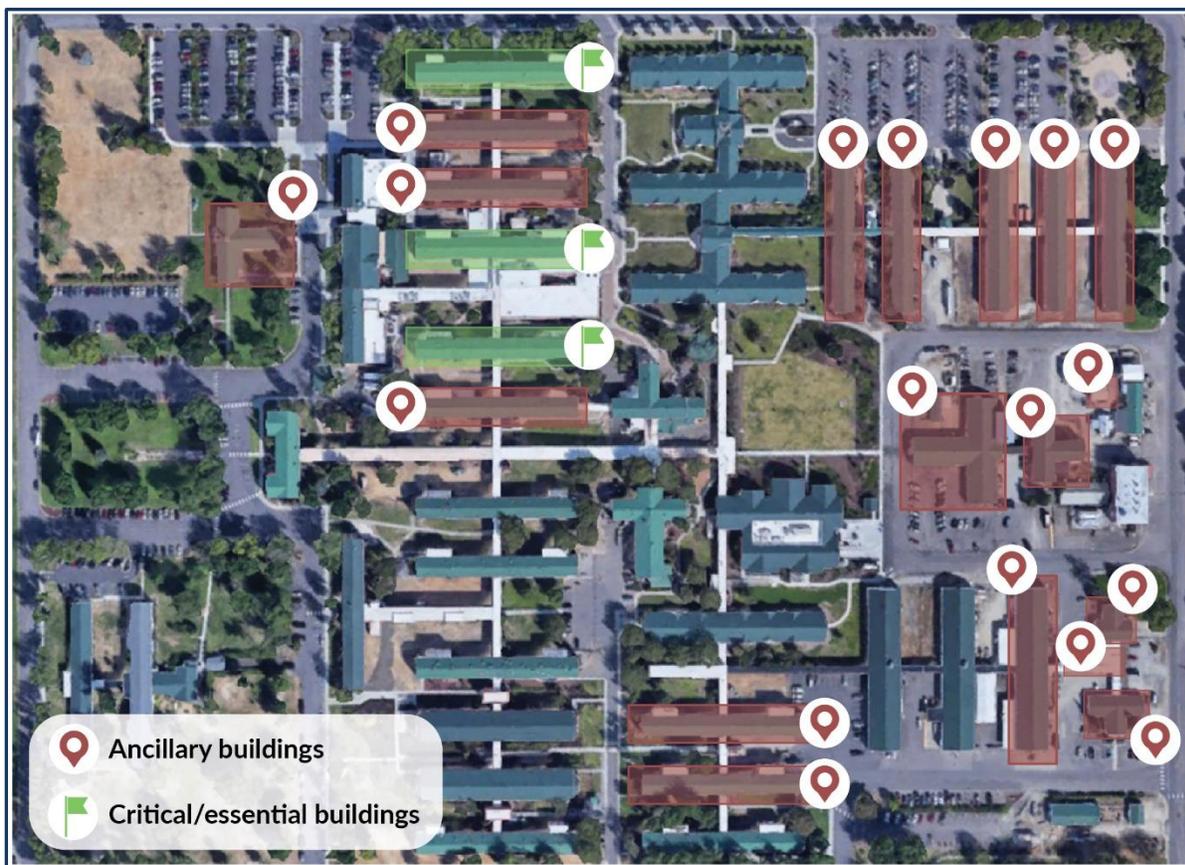
Building number	Building function	Building designation
210	Library/Information Resource Management	Essential
222	Swing Space, Storage	Ancillary
223	Shop, Swing Space, Recreation	Ancillary
227	Carpenter Shops, Grounds Maintenance	Ancillary
228	Facilities Management	Ancillary
229	Facilities Management Offices	Ancillary
234	Plumbing Shop	Ancillary
235	Paint Shop, Heating Ventilation Air Conditioning Shop	Ancillary
241	Environmental Management, Supplies, Baggage	Ancillary
242	Storage	Ancillary
262	Facilities Management	Ancillary
270	Storage	Ancillary

*Source: Analysis of project with seismic funding provided by the Seismic Program Office.*

In addition to this \$107 million project, seismic program officials approved two similar projects in White City with estimated costs of \$158 million and \$51 million, respectively.<sup>29</sup> These three projects primarily addressed buildings with ancillary functions. The total estimated cost of these three projects was \$315 million.<sup>30</sup>

<sup>29</sup> Project 692-401 was a \$158 million building to consolidate five buildings into a single 71,502 square-foot building, of which 11,055 square feet were for critical or essential functions. Project 692-402 was a \$51 million building to consolidate four buildings into a single 30,194 square-foot building, of which 1,820 square feet were for critical or essential functions.

<sup>30</sup> The total of project 692-400 (\$107 million), project 692-401 (\$158 million), and project 692-402 (\$51 million) is estimated to be \$315 million. The total estimated cost for these three projects is not \$316 million due to rounding.



**Figure 2.** VA Southern Oregon Rehabilitation Center and Clinics campus photo.

Source: Aerial photograph provided by VA Southern Oregon Rehabilitation Center and Clinics staff on July 26, 2022. Edited by VA OIG to identify ancillary buildings.

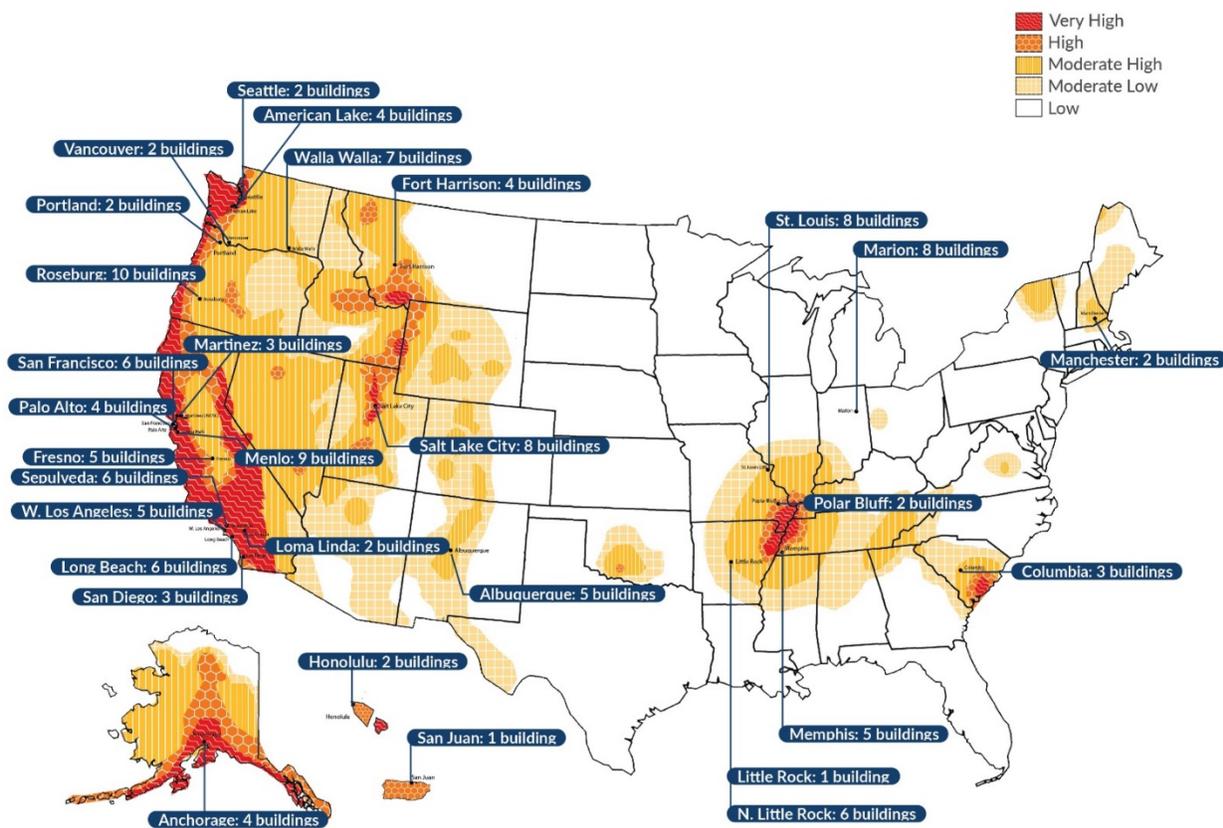
Figure 2 is a photo of the VA Southern Oregon Rehabilitation Center and Clinics in White City, with the ancillary buildings highlighted in red and critical or essential buildings outlined in green.

## VA Had Not Completed Seismic Evaluations for 135 Critical or Essential Buildings

The executive director of VA’s Office of Construction and Facilities Management is required to conduct seismic evaluations on VA’s critical and essential buildings in high and very high seismic zones.<sup>31</sup> This requirement was implemented into VA policy in August 2017 in response to the recommendation made by the OIG in the 2015 audit report. However, as of February 23, 2023, the Seismic Program Office had identified 135 critical and essential buildings awaiting evaluations, of which 92 buildings were located in high and very high seismic zones.

<sup>31</sup> VA Directive 7512.

VA’s seismic safety coordinator estimated in July 2023 that it would cost about \$12.5 million to perform these 135 evaluations (about 0.9 percent of the \$1.4 billion appropriated for seismic work). Figure 3 shows the locations of buildings awaiting evaluations in areas of seismic risk.



**Figure 3.** Map of seismic risk zones and locations of buildings needing seismic evaluations.  
 Source: Map from United States Geological Survey, data provided by VA’s Seismic Program Office.

Examples 4 and 5 describe two of the critical buildings that were identified in the 2015 OIG report—and appeared again in the list of 135 that the program office provided for this audit—as needing seismic evaluations not yet received.

### Example 4

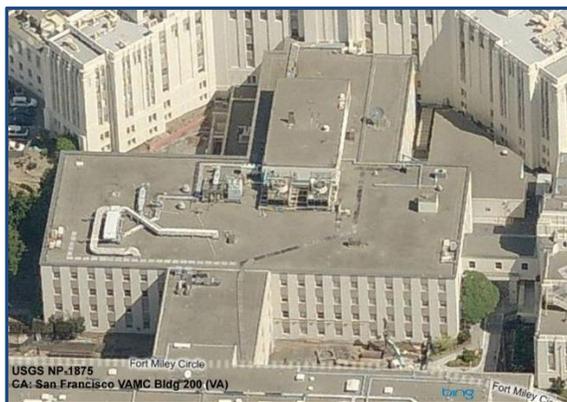
*In Long Beach, California, a 12-floor, 342,000 square-foot main hospital building is still awaiting a seismic evaluation. The facility, built in 1967, houses an intensive care unit and medical ward beds. The Seismic Program Office did not plan to award a contract to evaluate it until 2024. Figure 4 shows the building.*



**Figure 4.** Long Beach VA Medical Center Main Hospital Building 126.  
Source: Tibor Rubin VA Medical Center website.

### Example 5

*The San Francisco, California, Ambulatory Care/Clinical Support building is a six-floor, 152,000 square-foot facility built in 1965. It houses functions such as surgery and urgent care. The Seismic Program Office did not plan to award a contract to conduct a seismic evaluation until 2026. Figure 5 shows the building.*



**Figure 5.** San Francisco VA Medical Center Ambulatory Care/Clinical Support Building 200.  
Source: Center for Engineering Strong Motion Data.

Without performing the necessary seismic evaluations on critical or essential buildings, VA cannot be sure program funding is being directed to buildings with structural issues that pose the greatest risk to life, safety, and mission-critical operations in the event of an earthquake. If a seismic event were to occur at these locations without proper mitigation of seismic design-related deficiencies, it could compromise the lives and safety of VA employees and veterans.

## **The Seismic Program Office Did Not Consider Completing Seismic Evaluations to Be of the Highest Importance**

The Seismic Program Office had not planned to begin seismic evaluations on the 135 buildings until 2023. Furthermore, the executive director of VA’s Construction and Facilities Management stated that when he started his position in 2019, he was not advised that evaluations had not been performed, or that there was an urgent need to conduct them.<sup>32</sup>

The audit team asked the seismic program director why buildings still needed to be evaluated for seismic risk following the OIG’s 2015 recommendation. The director responded that the requirement to conduct seismic evaluations was considered “an unfunded mandate” by construction and facilities leaders prior to the FY 2019 seismic appropriation. Unfunded mandates are provisions in legislation, statute, or regulation that would impose an enforceable duty upon state and local governments or the private sector.<sup>33</sup>

The reality is, however, that there was funding. When asked about funding, the executive director for Construction and Facilities Management confirmed that seismic program funds could be used to pay for seismic evaluations. Furthermore, according to the seismic program director, after 2006 and before 2019 when the Seismic Program Office was created, detailed seismic studies were conducted by the Office of Construction and Facilities Management as part of various major construction projects during the pre-design planning phase. When pressed as to why the evaluations were not immediately conducted once program funding was first appropriated, the program director acknowledged that in hindsight they should have been a higher priority, but that active seismic projects were prioritized over conducting the seismic evaluations. This approach does not account for the fact that seismic evaluations need to be completed before informed decisions can be made on the priority of active seismic projects.

## **The Seismic Program Office Struggled to Maintain an Accurate Inventory of Buildings Needing Evaluations**

The OIG found that the seismic data of VA’s buildings—including critical and essential designations and whether a seismic evaluation is still needed—is not integrated in its Capital Asset Inventory and is not included in the Office of Asset Enterprise Management’s annual “call memo” process of updating the inventory. VA cannot effectively prioritize seismic funding without identifying seismic risk in all critical and essential buildings. Seismic program officials told the OIG that, because they know the seismic data in the Capital Asset Inventory is inaccurate and incomplete, they obtain the necessary building information directly from VISN

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<sup>32</sup> VA’s executive director of Construction and Facilities Management is a member of the Committee for Structural Safety. The Committee for Structural Safety was created by 38 U.S.C § 8105 to advise the VA Secretary on all matters of structural safety in the construction and remodeling of VA facilities.

<sup>33</sup> Congressional Research Service, *Unfunded Mandates Reform Act: History, Impact, and Issues*, July 17, 2020.

and facility staff to confirm seismic designations. The seismic safety coordinator then maintains the program's list of buildings needing seismic evaluations outside of the Capital Asset Inventory.

However, the OIG found that the program office's workaround process of identifying buildings needing evaluations was also unreliable. In May 2022, the seismic program director provided the audit team with an initial list of 142 critical and essential buildings needing seismic evaluations in the next five years. The audit team attempted to verify whether the listed buildings were also designated as critical or essential in the Capital Asset Inventory but found discrepancies, such as an ambulatory care building in Roseburg, Oregon (building 1AC) identified as critical by the Seismic Program Office but recorded as an ancillary building in the Capital Asset Inventory.

In response to the OIG's September 2022 inquiry regarding these discrepancies, the seismic safety coordinator provided a second list with significant changes, including the addition of a building that was previously planned under another individual project study. This second list also included the removal of 34 buildings—three were removed due to planned replacement under other major project funding, one was removed because the structural data were not accurately reflected in the Capital Asset Inventory, and 30 were removed as not critical or essential. The list was therefore reduced from 142 buildings to 109 buildings still needing seismic evaluation.

In September 2022, the seismic safety coordinator stated he “has been working with VHA on identifying new Critical/Essential buildings that are eligible to be studied under this task to replace the Ancillary buildings [removed from the original list].” This review process resulted in additional adjustments to the list, identifying 135 buildings planned for evaluation as of February 23, 2023. The OIG verified the buildings on this final list of 135 buildings were properly categorized as critical or essential. The OIG then checked this revised list against the Capital Asset Inventory and again found discrepancies. Of the 135 buildings included in the list, the critical and essential designations for 67 buildings (about 50 percent) were incorrectly identified in the Capital Asset Inventory.<sup>34</sup>

The director of the Seismic Program Office and VA's seismic safety coordinator agreed that the seismic data in the Capital Asset Inventory were most likely populated in 2006, when a nationwide inventory of buildings was conducted. The data became outdated as buildings changed functions over the ensuing years, and the annual “call memo” does not require seismic data to be updated. To identify an accurate inventory of buildings needing seismic evaluations, the data fields related to the seismic program in the Capital Asset Inventory need to be

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<sup>34</sup> The Capital Asset Inventory produces a report called “Seismic Information at Building Level.” The OIG evaluated the critical and essential designations on the construction and facilities management nationwide five-year seismic evaluation plan, independently maintained outside of the Capital Asset Inventory, to the “Essential Building Code” data field contained in the Capital Asset Inventory “Seismic Information at Building Level” report. The “Essential Building Code” data field in the Capital Asset Inventory identifies if a building is designated as critical or essential.

consistently used and reliably updated by both VHA and the Seismic Program Office. In addition, the Office of Asset Enterprise Management should ensure the annual certification process includes special attention when reviewing critical and essential designations.

Finally, the OIG also determined through a review of the Capital Asset Inventory and interviews with seismic program officials that medical facility engineering staff and VISN capital asset managers had the ability to view a building's risk status (i.e., high risk or exceptionally high risk) but did not have the ability to make updates to the data. Furthermore, these same officials did not have access to critical or essential designations in the Capital Asset Inventory—one of the first steps in determining the risk status. Without access to this information, VA medical facility engineers and VISN capital asset managers have no way to verify the accuracy of seismic data in the Capital Asset Inventory. The director of VA's Office of Asset Enterprise Management told the audit team it was possible to modify the Capital Asset Inventory to make all data related to the seismic program visible to engineers across VA.

## **Conclusion**

VA does not have assurance that the Seismic Program Office allocated nearly \$1.4 billion of seismic funding to the most urgent needs. Critical and essential buildings need to be evaluated to ensure occupants are protected and operations continue after a significant seismic event. Furthermore, VA must improve its ability to capture the information necessary to identify buildings that need evaluations and create a process to ensure those evaluations are done. By implementing the recommendations below, VA will have the best information available to identify and fund projects that have the most urgent needs.

## **Recommendations 1–4**

The OIG recommended the following:

1. The executive director of VA's Office of Construction and Facilities Management should confirm seismic evaluations are done for all critical and essential buildings in high and very high seismic zones immediately to ensure they meet life, safety, and occupancy performance standards.
2. The executive director of the Office of Construction and Facilities Management should review the Capital Asset Inventory and work with Veterans Health Administration Office of Capital Asset Management, Veterans Integrated Service Network capital asset managers, and VA medical facility engineers to update and correct inaccurate seismic data in the Capital Asset Inventory.
3. The executive director of the Office of Construction and Facilities Management should submit change requests to the Capital Asset Inventory so that critical and essential

designations are visible to medical center engineers and Veterans Integrated Service Network capital asset managers.

4. The executive director of the Office of Asset Enterprise Management should ensure facilities and Veterans Integrated Service Networks review critical and essential designations as part of their annual certifications of the Capital Asset Inventory.

## **VA Management Comments**

The principal executive director for VA's Office of Acquisition, Logistics, and Construction and Chief Acquisition Officer concurred with the report's recommendations and submitted an action plan for each. In response to recommendation 1, VA's Office of Construction and Facilities Management is soliciting contractors and expects to evaluate the buildings within 36 months of contract award. These actions are expected to be completed by December 2027. In response to recommendations 2, 3, and 4, VA's Office of Construction and Facilities Management will update seismic data in the Capital Asset Inventory and submit change requests to ensure critical and essential designations are visible to medical center and VISN staff. The action plan further states that as of August 2023, the Office of Construction and Facilities Management, the Office of Asset Enterprise Management, and Veteran's Health Administration Seismic Office have begun working on requirements for enhancing the Capital Asset Inventory. Actions for recommendations 2, 3, and 4 are expected to be completed by September 2024.

The executive director for VA's Office of Asset Enterprise Management concurred with recommendation 4 and submitted an action plan. In response to this recommendation, the Office of Asset Enterprise Management will incorporate instructions to review critical or essential seismic-related designations as part of the annual certification of the Capital Asset Inventory. Further, the office will assist in developing requirements for changes to the Capital Asset Inventory and provide technical training to Capital Asset Inventory users to better support seismic data quality.

As part of its response, the Office of Construction and Facilities Management provided six technical comments to improve the language of this report. The full comments are included in appendixes D and E.

## **OIG Response**

The department's comments and planned corrective actions are responsive to the intent of the recommendations. The OIG considers the December 2027 completion date to be reasonable for the actions planned in response to recommendation 1. The OIG will monitor execution of planned actions and will close the recommendations when the department provides sufficient evidence demonstrating progress addressing the issues identified.

The Office of Construction and Facilities Management provided six technical comments to improve the language of this report. Those technical comments have been reflected by edits made to this final report, with one exception.

In its technical comments, VA's Office of Construction and Facilities Management stated the following:

As required by Directive 7512, seismic funding is directed to buildings that pose the greatest risk to operations. If seismic funding were to be directed to buildings with the greatest risk to life and safety, then all buildings (including ancillary buildings) would need to be evaluated and prioritized. Noting this, the Seismic [Program Office] has recommended that additional priority be given to evaluating life safety risk in ancillary buildings. If the intent of the OIG is to ensure that seismic funding addresses the greatest risk to life and safety this will require updates to Directive 7512.

This statement was in reference to the following paragraph on page 13 in this report:

Without performing the necessary seismic evaluations on critical or essential buildings, VA cannot be sure program funding is being directed to buildings with structural issues that pose the greatest risk to life, safety, and mission-critical operations in the event of an earthquake. If a seismic event were to occur at these locations without proper mitigation of seismic design-related deficiencies, it could compromise the lives and safety of VA employees and veterans.

The OIG does not see a need to update VA Directive 7512 since VA is already required to ensure all of its buildings meet life-safety seismic standards. VA Directive 7512's purpose statement says "VA is committed to providing life-safety protection to Veterans, employees, and other building occupants in all facilities. In addition, facilities identified as critical and essential must meet additional requirements to remain operational after a seismic event." Therefore, the OIG stands behind its original conclusion that until seismic evaluations are completed on critical and essential buildings, VA cannot be sure program funding is being directed to buildings with structural issues that pose the greatest risk to life, safety, and mission-critical operations in the event of an earthquake.

## Appendix A: Facility Occupancy Codes

**Table A.1. Critical Facilities**

Occupancy sub-name
Acute care—inpatient medical/surgical beds
Acute care—outpatient
Drug/alcohol rehabilitation—inpatient
Emergency command center
Fire station, police station
Hazardous material storage
Hospital
Imaging center—inpatient
Medical records—standalone central storage
Mental health/psychiatric care—inpatient
National Continuity of Operations Center
Office of Information and Technology—Core Data Center
Polytrauma—inpatient
Research—animal facility
Research facility with wet labs
Security and law enforcement

*Source: VA Handbook 18-8, Seismic Design Requirements, May 1, 2020, Table 4.*

**Table A.2. Essential Facilities**

Occupancy sub-name
Community living center
Dietetics (serving inpatient/food production)
Domiciliary
Imaging center—outpatient

*Source: VA Handbook 18-8, Seismic Design Requirements, May 1, 2020, Table 5.*

**Table A.3. Ancillary Facilities**

Occupancy sub-name
Accessory non-building structure
Canteen/retail store
Chapel (standalone building)
Child care
Connecting corridor-concourse and bridge
Credit union
Drug/alcohol rehabilitation—outpatient
Greenhouse (freestanding)
Library/museum
Maintenance facility (shops)
Maintenance storage (non-biomedical equipment)
Mental health/psychiatric care—outpatient
Office (e.g., clinical administrative, general administrative, etc.)
Office of Information and Technology—National Call Center
Office of Information and Technology—Network Support Center
Parking garage
Outbuilding (general use)
Polytrauma—outpatient
Post office
Quarters (residential)
Recreational
Rehabilitation medicine—outpatient
Research facility with dry labs only
Spinal cord injury/disorders center—outpatient
Student housing
Temporary building
Toilets (outhouse)
Training, education
Veterans services
Waste management (incinerator and recycle)
Waste storage (non-hazardous)

*Source: VA Handbook 18-8, Seismic Design Requirements, May 1, 2020, Table 6.*

**Table A.4. Facilities with Varying Facility Occupancy Codes**

Facility	Critical	Essential	Ancillary	Notes
Ambulatory surgery center	x	x	x	Default is critical. Request to lower the facility occupancy code can be submitted for review/approval when there is identified alternate VA site of care.
Auditorium		x	x	Default is ancillary. Follow facility occupancy code of the primary facility that it supports up to essential. When the auditorium, with public assembly as primary occupancy and with an occupant load greater than 300, upgrade to essential.
Biomedical engineering (equipment and wheelchair repair)		x	x	Default is ancillary. Follow facility occupancy code of the facility that it supports, up to essential.
Canteen—cafeteria		x	x	Default is ancillary. Follow facility occupancy code of the facility that it supports, up to essential.
Central energy/utility plan (including chiller and boiler plants)	x	x	x	To be designed to the same level as the highest buildings the plant serves.
Consolidated mail—outpatient pharmacy	x	x		Default is essential. Can be upgraded to critical when the need arises. There are a limited number of Consolidated Mail-Out Pharmacies that cannot be duplicated for handling of controlled substances.
Emergency generator	x	x	x	To be designed to the same level as the highest buildings the generator serves.
Laundry		x	x	Default is ancillary. Consider upgrading to essential based on factors such as regional workload, likelihood of natural disasters/hazards, and community availability of laundry services. Such upgrade can be determined at the VA medical center and Veterans Integrated Service Networks level without additional approval.
Medical equipment storage	x	x	x	To be designed to the same level as the highest buildings the medical equipment storage serves.

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Facility	Critical	Essential	Ancillary	Notes
Medical gas storage	x	x	x	To be designed to the same level as the highest buildings the medical gas storage serves.
Medical records storage	x	x	x	Medical records storage areas that are not standalone central storage facilities shall match the building category of the most critical function of the building they are within.
Office of Information and Technology—Campus Support Center	x	x		Follow the functional occupancy code of the highest level of a supported entity on the campus.
Office of Information and Technology—Mission Support Center	x	x		Default is essential. To be elevated to critical when supporting mission-critical production environment that directly supports patient care.
Outpatient care (including ambulatory care, outpatient clinics, community based outpatient clinic, multi-specialty, primary care, etc.)	x	x	x	Default is ancillary. Refer to the list of strategic planning categories in Table A.5 for determination of the functional occupancy code. If the functional occupancy code is raised due to services provided, request to lower the functional occupancy code can be submitted for review/approval when there is identified alternate VA site of care.
Rehabilitation medicine— inpatient	x	x		To be designed to the same level as the highest building the facility serves (e.g., hospital, community living center, etc.).
Spinal cord injury/disorders center— inpatient	x	x		To be designed to critical level for acute and essential level for long-term. To be designed to the same level as the highest building the facility serves (e.g., acute, community living center, etc.).
Sterile processing service	x	x	x	To be designed to the same level as the highest buildings the sterile processing service serves.
Warehouse		x	x	Default designation is ancillary. Consider upgrading to essential based on factors such as the facility that it supports, contents, and importance to mission. Such upgrade can be determined at the VA medical center and Veterans Integrated Service Networks level without additional approval.

Facility	Critical	Essential	Ancillary	Notes
Water tower, utility supply storage structure or structures supporting utilities	x	x	x	To be designed to the same level as the highest buildings the structure serves.

Source: VA Handbook 18-8, Seismic Design Requirements, May 1, 2020, Table 7.

**Table A.5. Veterans Health Administration (VHA) Strategic Planning Categories**

VHA strategic planning category	Critical	Essential	Ancillary
Ambulatory medical: audiology and speech			x
Ambulatory medical: cardiology			x
Ambulatory medical: dialysis	x		
Ambulatory medical: digestive/GI/endoscopy—office visit			x
Ambulatory medical: digestive/GI/endoscopy—procedure		x	
Ambulatory medical: EEG/neurology			x
Ambulatory medical: endocrine/metabolic and diabetes			x
Ambulatory medical: nonsurg: all other			x
Ambulatory medical: nonsurg: allergy & immunology			x
Ambulatory medical: nonsurg: dermatology			x
Ambulatory medical: nonsurg: infectious diseases			x
Ambulatory medical: nonsurg: nephrology			x
Ambulatory medical: nonsurg: rheumatology			x
Ambulatory medical: oncology—office visit			x
Ambulatory medical: oncology—infusion/procedure		x	
Ambulatory medical: pulmonary/resp care			x
Ambulatory medical: rehab medicine			x
Ambulatory mental health: homeless			x
Ambulatory mental health: intensive community mental health recovery services			x
Ambulatory mental health: mental health clinic—all others			x
Ambulatory mental health: mental health clinic—psychotherapy			x
Ambulatory mental health: MH RRTP outpatient			x
Ambulatory mental health: MH RRTP residential stay		x	
Ambulatory mental health: psychology clinic—all others			x
Ambulatory mental health: psychology clinic—psychotherapy			x
Ambulatory mental health: substance abuse clinic			x

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VHA strategic planning category	Critical	Essential	Ancillary
Ambulatory mental health: work therapy			x
Ambulatory surgery: cardiovascular and thoracic surgery	x		
Ambulatory surgery: colon rectal surgery	x		
Ambulatory surgery: ear, nose, and throat	x		
Ambulatory surgery: general and all other surgery	x		
Ambulatory surgery: neurological surgery	x		
Ambulatory surgery: obstetrics and gynecology	x		
Ambulatory surgery: plastic surgery	x		
Ambulatory surgery: urology	x		
Ambulatory surgery: eye clinic	x		
Ambulatory surgery: orthopedics	x		
Ambulatory surgery: podiatry	x		
Ambulatory: dental - basic			x
Ambulatory: dental - major	x		
Ambulatory: dental - minor			x
Ambulatory: geriatrics			x
Ambulatory: laboratory and pathology		x	
Ambulatory: nuclear medicine		x	
Ambulatory: primary care			x
Ambulatory: radiation therapy			x
Ambulatory: radiology*			x
Ambulatory: recreational therapy			x
Ambulatory: urgent care	x		
Blind rehab - inpatient		x	
Blind rehab - outpatient			x
Community living center—long		x	
Community living center—short		x	
Home hospice care (administrative program)			x
Home respite care (administrative program)			x
Home telehealth			x
Home-based primary care			x
Homemaker/home health aide programs			x
Inpatient mental health: general compensated work therapy/transitional residence		x	

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VHA strategic planning category	Critical	Essential	Ancillary
Inpatient mental health: mental health residential rehabilitation treatment program, psychosocial rehabilitation treatment program, substance abuse residential recovery treatment program, domiciliary		x	
Inpatient mental health: sustained treatment and rehab	x		
Inpatient: maternity deliveries	x		
Inpatient: maternity non-deliveries	x		
Inpatient: medical	x		
Inpatient: observation beds (47 hour)	x		
Inpatient: psychiatric	x		
Inpatient: substance abuse	x		
Inpatient: surgical	x		
Psychosocial rehabilitation and recovery center			x
Purchased skilled home care			x
Spinal cord injury/disorders home care			x
Spinal cord injury—outpatient			x
Spinal cord injury centers—inpatient	x		
VA adult day health care			x

*Source: VA Handbook 18-8, Seismic Design Requirements, May 1, 2020, Table 8.*

*\*Default designation is ancillary. Designation can be upgraded to match the designation of the supported facility(s)/function(s).*

## Appendix B: Buildings Needing Seismic Evaluations

Medical center name	Building	Critical or essential?	Function	Planned contract award year
Anchorage, Alaska	709	E	Residential rehabilitation program (domiciliary)	2023
Anchorage, Alaska	932	E	Residential rehabilitation program (domiciliary)	2023
Anchorage, Alaska	944	E	Residential rehabilitation program (domiciliary)	2023
Anchorage, Alaska	3001	E	Domiciliary	2023
Loma Linda, California	1	C	Main hospital	2023
Loma Linda, California	2	C	Cooling tower, shop storage	2023
Martinez, California	19	C	Outpatient clinic	2023
Martinez, California	20	E	Center for Rehabilitation and Extended Care, Community Living Center	2023
Martinez, California	MRI	C	Diagnostic imaging	2023
Portland, Oregon	103	C	Research, parking structure	2023
Portland, Oregon	104	C	Research, clinical	2023
Roseburg, Oregon	1AC	C	Ambulatory care	2023
Roseburg, Oregon	57	C	Police, security	2023
Roseburg, Oregon	60	C	Main electrical transfer switch	2023
Roseburg, Oregon	61	C	Generator building	2023
Roseburg, Oregon	62	C	Main switchgear	2023
Roseburg, Oregon	63	C	Pesticide storage	2023
Roseburg, Oregon	64	C	Main chiller plant	2023
Roseburg, Oregon	65	C	Main generator	2023
Roseburg, Oregon	71	E	Nutrition and food service	2023
Roseburg, Oregon	81	E	Community living center	2023
Salt Lake City, Utah	1	C	Main hospital	2023
Salt Lake City, Utah	3	C	Main hospital	2023
Salt Lake City, Utah	14	C	Main hospital	2023
Salt Lake City, Utah	2	C	Main hospital	2023
Salt Lake City, Utah	5	E	Nutrition and food service	2023
Salt Lake City, Utah	6	C	Engineering, boiler plant, shops	2023

VA Needs to Conduct Seismic Evaluations on Critical and Essential Buildings to Effectively Prioritize  
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Medical center name	Building	Critical or essential?	Function	Planned contract award year
Salt Lake City, Utah	27	C	Chiller plant	2023
Salt Lake City, Utah	7	C	Research, laundry, warehouse	2023
San Juan, Puerto Rico	12	C	Pump house	2023
Vancouver, Washington	1	E	Nursing home care units	2023
Vancouver, Washington	12	E	Domiciliary	2023
American Lake, Washington	4	E	Domiciliary	2024
American Lake, Washington	23	C	Boiler plant	2024
American Lake, Washington	89	C	Electronic server equipment building	2024
American Lake, Washington	131	C	Generator building	2024
Long Beach, California	5	C	Engineering admin, shops	2024
Long Beach, California	5A	C	Central chiller plant	2024
Long Beach, California	126	C	Wards, clinics, admin	2024
Long Beach, California	150	C	Spinal cord injury unit	2024
Long Beach, California	160	C	Diagnostic imaging	2024
Long Beach, California	161	C	Radiation therapy	2024
Menlo Park, California	331	E	Nursing home care unit (community living center)	2024
Menlo Park, California	334	E	Imaging, laboratory	2024
Menlo Park, California	338	C	Transformer building	2024
Menlo Park, California	347	E	Domiciliary	2024
Menlo Park, California	348	C/E	Police station and future inpatient hospice	2024
Menlo Park, California	350	E	Residential rehabilitation program (domiciliary)	2024
Menlo Park, California	351	E	Residential rehabilitation program (domiciliary)	2024
Menlo Park, California	352	E	Residential rehabilitation program (domiciliary)	2024
Menlo Park, California	353	C	Emergency generator	2024
Palo Alto, California	100	C	Medical, surgical, neurological	2024

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Medical center name	Building	Critical or essential?	Function	Planned contract award year
Palo Alto, California	102	C	Diagnostic radiology center	2024
Palo Alto, California	103	C	Emergency generator	2024
Palo Alto, California	MBE	C	Mechanical building	2024
San Diego, California	2	C	Power plant	2024
San Diego, California	14	C	Diagnostic imaging	2024
San Diego, California	16	C	Radioactive waste	2024
Seattle, Washington	33	E	Radiation therapy	2024
Seattle, Washington	28	C	Telephone switch room	2024
Albuquerque, New Mexico	41	C	Clinical, administrative	2025
Albuquerque, New Mexico	45	C	Spinal cord injury inpatient	2025
Albuquerque, New Mexico	43	C	Engineering energy plant	2025
Albuquerque, New Mexico	42	C	Engineering emergency generator	2025
Albuquerque, New Mexico	49	C	Magnetic resonance imaging	2025
Fort Harrison, Montana	16	C	Fire station	2025
Fort Harrison, Montana	155	C	Emergency generator	2025
Fort Harrison, Montana	158	C	Emergency generator	2025
Fort Harrison, Montana	166	C	Hazardous material storage	2025
Memphis, Tennessee	1A	C	Bed tower	2025
Memphis, Tennessee	1	C	Main hospital	2025
Memphis, Tennessee	6	C	Telephone building	2025
Memphis, Tennessee	7	C	Inpatient spinal cord injury	2025
Memphis, Tennessee	9	C	Diagnostic imaging	2025
Walla Walla, Washington	76	E	Boiler plant	2025
Walla Walla, Washington	86	E	Outpatient clinical functions	2025

VA Needs to Conduct Seismic Evaluations on Critical and Essential Buildings to Effectively Prioritize  
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Medical center name	Building	Critical or essential?	Function	Planned contract award year
Walla Walla, Washington	105	C	Hazardous waste storage	2025
Walla Walla, Washington	109	C	Switchgear enclosure vault	2025
Walla Walla, Washington	110	C	Transformer building	2025
Walla Walla, Washington	112	C	Transformer building	2025
Walla Walla, Washington	113	C	Transformer building	2025
Columbia, South Carolina	100	C	Main hospital	2026
Columbia, South Carolina	103	E	Nursing home care unit	2026
Columbia, South Carolina	114	C	Diagnostic imaging	2026
Los Angeles, California	217	E	Domiciliary	2026
Los Angeles, California	215	E	Community living center	2026
Los Angeles, California	214	E	Domiciliary	2026
Los Angeles, California	213	C	Nursing home care unit, dialysis	2026
Los Angeles, California	304	C	Specialty care and research	2026
Manchester, New Hampshire	7A	C	Hazardous material storage	2026
Manchester, New Hampshire	15	E	Nursing home	2026
Marion, Illinois	1	C	Main hospital	2026
Marion, Illinois	2	E	Canteen service	2026
Marion, Illinois	37	C	Biomed, Office of Information & Technology	2026
Marion, Illinois	38	C	Medical, dental	2026
Marion, Illinois	43	C	Nursing home care unit	2026
Marion, Illinois	42	C	Outpatient clinic	2026
Marion, Illinois	47	C	Generator	2026

VA Needs to Conduct Seismic Evaluations on Critical and Essential Buildings to Effectively Prioritize  
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Medical center name	Building	Critical or essential?	Function	Planned contract award year
Marion, Illinois	49	C	Chiller plant	2026
San Francisco, California	2	C	Research, administrative	2026
San Francisco, California	4	C	Research, human resources	2026
San Francisco, California	26	C	Hazardous chemicals storage	2026
San Francisco, California	200	C	Ambulatory care, clinical support	2026
San Francisco, California	207	C	Office of Information & Technology	2026
San Francisco, California	208	E	Nursing home care	2026
Sepulveda, California	7	C	Engineering, EMS, research	2026
Sepulveda, California	20	C	Canteen, credit union, nutrition and food	2026
Sepulveda, California	40	C	Boiler/chiller plant	2026
Sepulveda, California	200	C	Outpatient building	2026
Sepulveda, California	201	C	Information resource management	2026
Sepulveda, California	202	C	Boiler plant	2026
Fresno, California	2	C	Boiler plant	2027
Fresno, California	5	C	Pump house	2027
Fresno, California	31	E	Community living center	2027
Fresno, California	OPC	C	Outpatient addition	2027
Fresno, California	OPC2	C	Outpatient clinics—eye, audio, dental, minor procedures	2027
Honolulu, Hawaii	110	C	Community living center	2027
Honolulu, Hawaii	110A	E	Community living center generator	2027
Little Rock, Arkansas	1	C	Main hospital	2027
North Little Rock, Arkansas	35	C	Telephone switchboard	2027
North Little Rock, Arkansas	170	C	Patient building	2027
North Little Rock, Arkansas	1512	E	Clinical and transitional research program—outpatient mental health	2027

VA Needs to Conduct Seismic Evaluations on Critical and Essential Buildings to Effectively Prioritize  
Program Funds

Medical center name	Building	Critical or essential?	Function	Planned contract award year
North Little Rock, Arkansas	1516	E	Clinical and transitional research program—outpatient mental health	2027
North Little Rock, Arkansas	1520	E	Clinical and transitional research program—outpatient mental health	2027
North Little Rock, Arkansas	1154	C	Water pumping plant	2027
Poplar Bluff, Missouri	7	C	Boiler plant	2027
Poplar Bluff, Missouri	20	C	Switchgear building	2027
St Louis, Jefferson Barracks, Missouri	1	C	Clinical, administrative, diagnostics, research	2027
St Louis, Jefferson Barracks, Missouri	3	E	Domiciliary	2027
St Louis, Missouri	8B	C	Emergency generator	2027
St Louis, Jefferson Barracks, Missouri	51	C	Nursing home care unit	2027
St Louis, Jefferson Barracks, Missouri	52	C	Spinal cord injury, domiciliary	2027
St Louis, Jefferson Barracks, Missouri	53	E	Medical, geriatrics	2027
St Louis, Jefferson Barracks, Missouri	60	E	Main kitchen (dietetics)	2027
St Louis, Jefferson Barracks, Missouri	93	C	Hazardous waste storage	2027

*Source: Construction and Facilities Management five-year plan for seismic evaluations, February 23, 2023.*

*Note: VA's Office of Construction and Facilities Management acknowledged the order of sites may shift to a different year, depending on task load, to balance the scope per year.*

## Appendix C: Scope and Methodology

### Scope

The team performed its audit work from January 2022 to July 2023. The team reviewed seismic projects that were approved beginning in fiscal year (FY) 2019, when the seismic program started, to FY 2021.

### Methodology

To accomplish the objective of the audit, the team performed the following steps:

- examined applicable laws, regulations, policies, procedures, and guidance governing the seismic program;
- interviewed Veterans Integrated Service Network (VISN) capital asset managers, facility engineers, project managers and officials from VA’s Office of Construction and Facilities Management, VA’s Office of Asset Enterprise Management, and VA’s Seismic Program Office to understand how VA buildings are evaluated and prioritized for seismic corrections;
- reviewed VA’s annual seismic allocations for FY 2019 to FY 2021;
- reviewed projects VA approved for seismic funding from FY 2019 to FY 2021;
- reviewed the inventory of buildings needing seismic evaluations; and
- conducted site visits to three facilities to verify the functions and designation of buildings as critical, essential, or ancillary.

### Internal Controls

The audit team assessed the internal controls that were significant to the audit objective. This included an assessment of the five internal control components to include control environment, risk assessment, control activities, information and communication, and monitoring.<sup>35</sup> In addition, the team reviewed the principles of internal controls as associated with the objective. The team identified the following three components and four principles as significant to the objective. The team identified internal control weaknesses during this audit and proposed recommendations to address the following control deficiencies:

- Component 1: Control Environment
  - Principle 2: Exercise Oversight Responsibility

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<sup>35</sup> GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G, September 2014.

- Principle 3: Establish Structure, Responsibility, and Authority
- Component 3: Control Activities
  - Principal 11: Design Activities for the Information System
- Component 4: Information and Communication
  - Principal 13: Use Quality Information

## **Fraud Assessment**

The audit team assessed the risk that fraud and noncompliance with provisions of laws, regulations, contracts, and grant agreements, significant within the context of the audit objectives, could occur during this audit. The team exercised due diligence in staying alert to any fraud indicators by reviewing project books, applicable seismic evaluations, and funding request forms to identify whether VA lacked documentation to support whether seismic needs were identified and evaluated for risk.

The audit team did not identify any instances of fraud or potential fraud during this audit.

## **Data Reliability**

The team performed the following steps to assess data reliability and the accuracy of the universe:

- The team tested the facility occupancy category of each building in the funded list by comparing the designation in Capital Asset Inventory with guidance in VA Handbook 18- 8. The team also verified the categories for 36 buildings at three site visits.
- To determine if each of the buildings in the universe is in a seismic zone that has a seismicity of very high, high, or moderately high, the team reconciled the data obtained from the American Society of Civil Engineers 7-16 Seismic Map, American Society of Civil Engineers 7-16 Report Data, and the VA seismic risk definitions to ensure that all buildings were in at least moderately high seismic zones.
- To test the accuracy of the expenditure data, the team obtained obligation data in the Financial Management System to verify the expenditures.

Based on these tests, the team concluded that the data were sufficiently reliable to meet the audit's objective and support the conclusions in this report.

## **Government Standards**

The Office of Inspector General (OIG) conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that the OIG plan

and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the findings and conclusions based on audit objectives. The OIG believes the evidence obtained provides a reasonable basis for the findings and conclusions based on the audit objectives.

## Appendix D: VA Management Comments, Office of Acquisition, Logistics, and Construction

### Department of Veterans Affairs Memorandum

Date: September 22, 2023

From: Principal Executive Director, Office of Acquisition, Logistics, and Construction and Chief  
Acquisition Officer (003)

Subj: Draft Report: OIG Audit of Seismic Construction Fund, (project number 2022-00410-AE-0023)  
(VIEWS #10647219)

To: Assistant Inspector General for Audits and Evaluations (52)

1. The Office of Acquisition, Logistics, and Construction (OALC) responds to OIG's request to provide comments on the subject Draft Report. OALC concurred with all findings and recommendations and will take the actions referenced in the attach action plan.

*The OIG removed point of contact information prior to publication.*

Michael Parrish

Attachment

**Office of Facilities and Construction Management (CFM)**

**Action Plan**

**OIG Draft Report: VA Needs to Conduct Seismic Evaluations on Critical and Essential Buildings to Effectively Prioritize Program Funding**

**(2022-00410-AE-0023)**

**August 2023**

**Recommendation 1.** The Executive Director of VA's Office of Construction and Facilities Management (CFM) should ensure seismic evaluations are done for all critical and essential buildings in high and very high seismic zones immediately to ensure they meet life, safety, and occupancy performance standards.

**VA Comments:** Concur.

CFM is soliciting for review of the 135 essential or critical buildings as recommended by OIG. CFM will perform this action in an expeditious manner and accomplish the evaluations within 36 months of contract award (fiscal year 2024). The previous evaluation contract was performed from 1998-2006.

Status: In Progress      Target Completion Date: December 2027

**Recommendation 2.** The Executive Director of the Office of Construction and Facilities Management should review the Capital Asset Inventory (CAI) and work with VHA Office of Capital Asset Management, VISN capital asset managers, and VA medical facility engineers to correct inaccurate seismic data in the Capital Asset Inventory.

**VA Comments:** Concur.

The CAI will be overhauled by evaluating seismicity at the building level. Obsolete information will be discarded. Facility criticality will be included. CFM will coordinate with VHA staff for training as required.

Status: In Progress      Target Completion Date: September 2024

**Recommendation 3.** The Executive Director of the Office of Construction and Facilities Management should submit change requests to the Capital Asset Inventory so that critical and essential designations are visible to medical center engineers and VISN capital asset managers.

**VA Comments:** Concur.

CFM and VHA staff will work to assist OAEM in changing the CAI data from Station Level to Building Level. The data will be visible to VAMC and VISN staff.

Status: In Progress      Target Completion Date: September 2024

**Recommendation 4.** The Executive Director of the Office of Asset Enterprise Management should ensure facilities and VISNs review critical and essential designations as part of their annual certifications of the Capital Asset Inventory.

**VA Comments:** Concur

**OAEM Implementation Plan (OAEM submitted to OIG on August 24, 2023):**

VA Office of Asset Enterprise Management will incorporate instructions for data owners/end users to review critical or essential seismic-related designations as part of the portfolio review annual certification of the Capital Asset Inventory (CAI).

As of August 2023, OAEM, the Office of Construction and Facilities Management (CFM), and the Veterans Health Administration (VHA) Seismic office have created and agreed upon a requirements document for a Seismic-related data enhancement in the Capital Asset Inventory database to improve the Seismic data quality and accuracy as well as data field visibility.

Once implementation of the system enhancement takes place, OAEM will provide technical training and support to field users on the improvements to better support seismic data quality. OAEM anticipates including the specific requirement to review and verify seismic data in the formal CAI Call Memo expected to be sent to the VISN and VA medical center officials in Summer 2024.

CFM will assist OAEM as necessary to implement this recommendation.

Status: In Progress      Target Completion Date: September 2024

**CFM also provided the following technical comments:**

**Page 7:** VA approved approximately \$36m for lower priority buildings. The balance of those project's \$616m estimated costs did not have approved funding. The seismic program approves project funding in stages, approval of one stage does not ensure funding for a subsequent stage.

**Page 7:** VA Directive 7512 required 92 additional evaluations.

**Page 7:** The responsibility for developing and maintaining this database lies with the VA Office of Asset Enterprise Management. The database itself is not maintained by CFM's Seismic Program Office however CFM's Seismic Program Office is responsible for the data itself and the business rules supporting the seismic data therein.

**Page 8:** VA approved approximately \$36 million in funding for non EHR/HR building projects. The balance of the funding was not approved.

**Page 10:** Projects at White City have not been approved for \$315 million of funding.

**Page 13:** As required by Directive 7512, seismic funding is directed to buildings that pose the greatest risk to operations. If seismic funding were to be directed to buildings with the greatest risk to life and safety, then all buildings (including ancillary buildings) would need to be evaluated and prioritized. Noting this, the Seismic PMO has recommended that additional priority be given to evaluating life safety risk in ancillary buildings. If the intent of the OIG is to ensure that seismic funding addresses the greatest risk to life and safety this will require updates to Directive 7512.

*For accessibility, the original format of this appendix has been modified to comply with Section 508 of the Rehabilitation Act of 1973, as amended.*

## Appendix E: VA Management Comments, Office of Asset Enterprise Management

### Department of Veterans Affairs Memorandum

Date: August 24, 2023

From: Executive Director, Office of Asset Enterprise Management

Subj: Response to Office of Inspector General Draft Report, Audit of Seismic Construction Fund,  
(Project number 2022-00410-AE-0023)

To: Assistant Inspector General for Audits and Evaluations (52)

1. In response to the audit of Seismic Construction Fund, the Office of Asset Enterprise Management (OAEM) is providing the response and comments toward implementation of OIG's Recommendation #4.

*The OIG removed point of contact information prior to publication.*

C. Brett Sims

Executive Director

Attachment

**VA Office of Asset Enterprise Management Executive Director Response**

**Recommendation 4: OAEM Concur**

The executive director of the Office of Asset Enterprise Management should ensure facilities and VISNs review critical and essential designations as part of their annual certifications of the Capital Asset Inventory.

**OAEM Implementation Plan:**

VA Office of Asset Enterprise Management will incorporate instructions for data owners/end users to review critical or essential seismic-related designations as part of the portfolio review annual certification of the Capital Asset Inventory (CAI).

As of August 2023, OAEM, the Office of Construction and Facilities Management (CFM), and the Veterans Health Administration (VHA) Seismic office have created and agreed upon a requirements document for a Seismic-related data enhancement in the Capital Asset Inventory database to improve the Seismic data quality and accuracy as well as data field visibility.

Once implementation of the system enhancement takes place, OAEM will provide technical training and support to field users on the improvements to better support seismic data quality. OAEM anticipates including the specific requirement to review and verify seismic data in the formal CAI Call Memo expected to be sent to the VISN and VA medical center officials in summer 2024.

**Target date for completion:** Summer 2024

*For accessibility, the original format of this appendix has been modified to comply with Section 508 of the Rehabilitation Act of 1973, as amended.*

## OIG Contact and Staff Acknowledgments

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<b>Contact</b>	For more information about this report, please contact the Office of Inspector General at (202) 461-4720.
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