



# Department of Homeland Security Office of Inspector General

## Funding Plan for the United States Coast Guard Museum





# Homeland Security

August 3, 2010

## Preface

The Department of Homeland Security (DHS) Office of Inspector General (OIG) was established by the *Homeland Security Act of 2002* (Public Law 107-296) by amendment to the *Inspector General Act of 1978*. This is one of a series of audit, inspection, and special reports prepared as part of our oversight responsibilities to promote economy, efficiency, and effectiveness within the department.

This report addresses the actions needed to ensure a continued realistic capital budget and operating forecast for the Coast Guard Museum. It is based on interviews with employees and officials of relevant agencies and institutions, direct observations, and a review of applicable documents.

The recommendations herein have been developed to the best knowledge available to our office, and have been discussed in draft with those responsible for implementation. We trust this report will result in more effective, efficient, and economical operations. We express our appreciation to all of those who contributed to the preparation of this report.

A handwritten signature in cursive script, appearing to read "Anne L. Richards".

Anne L. Richards

Assistant Inspector General for Audits

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## Abbreviations

DHS	Department of Homeland Security
OIG	Office of Inspector General

# OIG

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*Department of Homeland Security  
Office of Inspector General*

## **Executive Summary**

As required by the *Coast Guard and Maritime Transportation Act of 2004* (Public Law 108-293), we reviewed the Coast Guard's *Funding Plan for Coast Guard Museum*. The objective of our review was to determine whether the cost estimates associated with the plan to construct and operate the Coast Guard Museum are reasonable and realistic. We obtained an independent cost estimate and consulted the Smithsonian Institution as part of our assessment of the funding plan's estimated \$65.2 million capital budget. We also compared the funding plan's estimated \$4.0 million annual operating budget with actual funding and costs reported by other museums throughout the Nation.

The capital and operating costs presented in the funding plan appear both reasonable and realistic. However, due to the expected 2-year delay in the project initiation, the Coast Guard needs to increase its funding plan budget by approximately \$2.6 million to ensure continued realistic capital cost budgeting. Our conclusion that the costs presented in the funding plan are reasonable and realistic relies on several assumptions regarding land, parking, and fundraising levels, which, if changed, may invalidate our overall opinion.

We are making two recommendations to the Coast Guard, which are designed to ensure a continued realistic capital budget and operating forecast for the Coast Guard Museum.

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## Background

Enacted on August 9, 2004, the *Coast Guard and Maritime Transportation Act of 2004* (Public Law 108-293), authorized the establishment of a Coast Guard Museum in New London, Connecticut. This act requires that, prior to the establishment of the museum, the Coast Guard submit a funding plan for the construction, operation, and maintenance of the museum. Further, this act specifies that the funding plan include the following:

- (1) The estimated planning, engineering, design, construction, operation, and maintenance costs for the museum
- (2) The extent to which appropriated, nonappropriated, and nonfederal funds will be used for such purposes, including the extent to which there is any shortfall in funding for engineering, design, or construction
- (3) A certification by the Department of Homeland Security, Inspector General that the estimates provided pursuant to paragraphs (1) and (2) are reasonable and realistic

We reviewed the Coast Guard's *Funding Plan for Coast Guard Museum* (Funding Plan). The information and costs presented in the Funding Plan are based on the *Strategic Master Plan: The National Coast Guard Museum, New London, Connecticut, September 30, 2008* (Master Plan). A museum planning and consulting firm, under contract to the Coast Guard, prepared the Master Plan. The Master Plan quantified the projected construction and operating costs for the museum. The Funding Plan incorporated the capital budget, project schedule, operating forecast, and staffing plan from the Master Plan.

The Funding Plan details a proposed 61,838-square-foot museum. Under the plan, the National Coast Guard Museum Association, a separate charitable organization, will raise the funds for the planning, engineering, design, and construction of the museum. Once constructed, the National Coast Guard Museum Association will donate the museum to the Coast Guard, assist the Coast Guard in jointly operating the museum, and provide ongoing private and corporate fundraising support. The Coast Guard will fund and manage the museum's general administration and maintenance.

The planning and development of the museum will follow a 5-year sequence of site planning and preparation, master planning,

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program design, architectural drawings, and construction. Fundraising will occur throughout the process. The museum is expected to reach a stable operating year<sup>1</sup> 4 years after opening. The museum was originally planned to open in 2013, but the Coast Guard has stated that fundraising difficulties associated with the current economic climate will delay the project by at least 2 years, or until 2015.

## **Results of Review**

The capital and operating costs presented in the Funding Plan appear reasonable and realistic. However, due to the expected 2-year delay in the project, the Coast Guard needs to increase its Funding Plan budget by approximately \$2.6 million to ensure continued realistic capital cost budgeting. Our conclusion that the capital and operating costs presented in the Funding Plan are reasonable and realistic relies on several assumptions regarding land, parking, and fundraising levels, which, if changed, may invalidate our overall opinion.

### **Funding Plan Assumptions**

The Funding Plan assumes the following:

- (1) The city of New London or its agent will donate a fully prepared and remediated site for the museum.
- (2) The city of New London or its agent will donate or otherwise provide parking amenities for the museum.
- (3) The National Coast Guard Museum Association will contribute the full \$65.2 million in funding for the total cost of the museum project.

Should these assumptions or economic conditions change materially, the estimated cost of the museum may increase significantly. Further, if funds cannot be raised to meet such increases, the scale or quality of the museum may need to be adjusted to fit within any reduced budget.

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<sup>1</sup> A stable operating year is defined as one in which attendance trends are normalized after the initial surge associated with the opening of a new facility.

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## Capital Cost Estimate

The Funding Plan provides for total capital costs of approximately \$55.5 million<sup>2</sup> for the museum's planning, design, engineering, and construction, including equipment and exhibits. Additional nonconstruction costs of \$9.7 million<sup>3</sup> will bring the total project cost to approximately \$65.2 million. Of the \$65.2 million total project cost, we did not analyze \$4.4 million related to preopening operating support and fundraising, as these costs were not included in the scope of our review.

We contracted with a professional engineering firm to prepare an independent cost estimate for the design, engineering, and construction of the museum to serve as our basis for determining whether the Funding Plan is both reasonable and realistic. Further, the Smithsonian Institution, Cost Engineering Division, reviewed both the independent cost estimate prepared by our contractor and the capital costs presented in the Funding Plan and made suggestions to ensure realistic and reasonable estimates.

Our analysis of the independent cost estimate and the Funding Plan revealed minimal differences totaling approximately \$202,000 in overall capital costs, as illustrated in Table 1:

**Table 1: Comparison of Independent Estimate to Funding Plan**

Capital Budget Line	Funding Plan	Independent Cost Estimate	Difference Between Funding Plan and Independent Cost Estimate
Building Construction	\$30,782,130	\$32,170,452	(\$1,388,322)
Architectural, Engineering, & Associated Costs	\$8,525,122	\$8,086,842	\$438,280
Museum Equipment	\$1,513,000	\$1,524,830	(\$11,830)
Program Costs (Exhibit & Gallery-related Costs)	\$14,640,065	\$13,880,630	\$759,435
<b>Total</b>	<b>\$55,460,317</b>	<b>\$55,662,754</b>	<b>(\$202,437)</b>

The Smithsonian Institution, Cost Engineering Division, noted that the approach and methodology used in developing the independent cost estimate were sound, consistent with industry standards, and in good practice. According to the Smithsonian Institution, differences between the Funding Plan and the independent estimate are minor and do not seriously impact probable construction costs

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<sup>2</sup> Unless otherwise stated, all dollar figures are 2008 dollar values.

<sup>3</sup> Nonconstruction costs include preopening support and fundraising; initial cash and endowment funds; and cost growth for equipment, exhibits, and other items not related to building construction.

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for the museum. Further, the Smithsonian Institution noted that the construction costs in the Funding Plan appeared both reasonable and realistic.

However, the Smithsonian Institution noted that the current construction estimate includes escalation to June 2012, and that, based on current projections, any project delays beyond that date would add approximately 3.5% in additional costs per year. The Smithsonian Institution recommended that the Coast Guard update the capital budgets to reflect the cost of any delays.

Our review of the Funding Plan's construction escalation<sup>4</sup> allowance showed that the Coast Guard did not provide for cost growth for general conditions, the general contractor's payment and performance bond, and the general contractor's fee in its construction escalation allowance.

We recalculated the Funding Plan's construction escalation allowance to provide for cost growth for the 2-year project delay and for general conditions, the general contractor's payment and performance bond, and the general contractor's fee. We determined that these factors would add approximately \$2.6 million to the Funding Plan's total project cost.

Although the estimated capital costs appear both reasonable and realistic, the Funding Plan does not include approximately \$2.6 million in expected construction cost growth. Our conclusion relies on the assumption that a fully prepared and remediated site, as well as parking amenities, will be donated for the museum. Nothing came to our attention during the course of our audit to suggest that these assumptions are invalid.

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<sup>4</sup> Escalation is defined as the percentage or dollar amount associated with inflation.



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## Operating Forecast

The Funding Plan estimates that operating and maintaining the museum will cost approximately \$4.0 million annually.<sup>5</sup> We analyzed these estimated costs against other museums' reported operating costs and determined that the Funding Plan's projected operating expenses are both reasonable and realistic. For example:

- The museum's personnel costs represent 56.3% of the total operating expenses. Similarly, museums in the same geographic region report 55.9%.
- The museum's building operation and maintenance costs represent 12.0% of the total operating expenses. Similarly, museums in the same geographic region report 12.6%.
- The museum's collection care costs represent 7.2% of the total operating expenses. Similarly, museums throughout the Nation report a median of 8.0%.

The Coast Guard will fund approximately \$2.72 million (64%) of the \$4.0 million from annual appropriations. This \$2.72 million includes funding for 22.4 full-time equivalent employees and will fund and manage the museum's general administration and finance facility and exhibit maintenance, collection care and maintenance, information systems, and nonrevenue-generating visitor services.

Revenues from a theater, simulator, food service, gift shop, function rentals, and memberships are projected to contribute approximately \$863,000 (20%) annually toward operating expenses. The remaining annual operating shortfall of approximately \$420,000 will be addressed as follows:

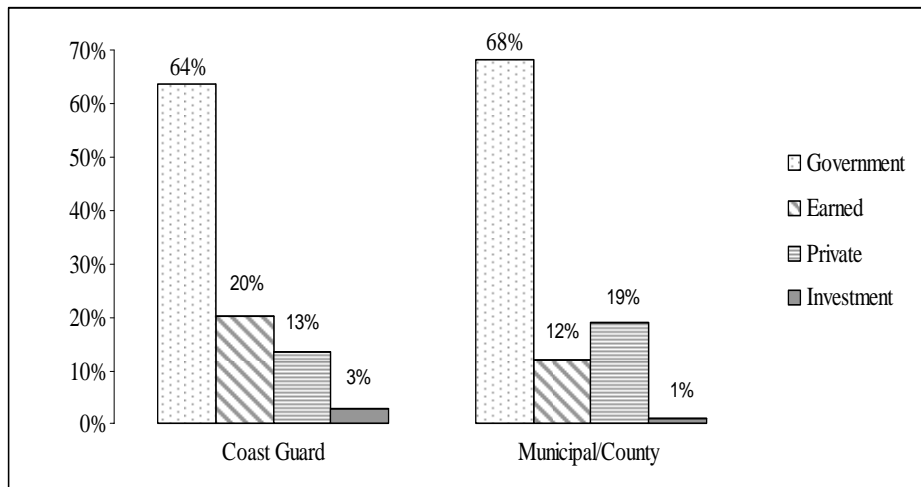
- An initial endowment of \$3 million with an estimated 4% annual return will contribute \$120,000 annually.
- An additional \$575,000 is to be raised from a variety of sources, including individual donations, corporate sponsorships, and special event fundraising.

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<sup>5</sup> Unless otherwise stated, operating revenues and expense amounts are for the stable operating year presented as year 2016 in the Funding Plan.

These funding ratios are consistent with those of comparable museums. According to our analysis of operating data published by the American Association of Museums, the Funding Plan’s projected ratios closely mirror those of municipal or county-governed museums. Museums operating under municipal or county governance structures are more likely to have a federal, state, or other government agency parent. Chart 1 compares funding sources for the museum against those reported by municipal or county-governed museums:

**Chart 1. Percentage of Operating Revenue by Funding Source**



Source: Developed from data in the American Association of Museums’ 2009 *Museum Financial Information* and the Funding Plan.

As reflected in Chart 1, the museum is projected to generate a higher percentage of its operating costs than other museums likely to have a government agency parent. This is a reasonable projection given the museum’s planned revenue-generating theater, food service, and gift shop components.

Although we determined that the estimated operating costs appear both reasonable and realistic, our conclusion relies on the presumption that the National Coast Guard Museum Association will raise sufficient funds to construct a facility capable of achieving the museum’s operational objectives. If the National Coast Guard Museum Association fails to raise sufficient funds, the museum may not achieve its budgeted revenues and federal funding requirements may increase.

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## Recommendations

We recommend that the Commandant of the Coast Guard:

**Recommendation #1:** Review escalation and project assumptions related to land, parking, and fundraising for validity and update the Funding Plan to reflect changes to budgeted costs and federal funding requirements at each project milestone.

**Recommendation #2:** Adjust the Funding Plan's construction escalation allowance to recognize increases in total project cost associated with the anticipated 2-year project delay. The Coast Guard should also include cost growth for general conditions, the general contractor's payment and performance bond, and the general contractor's fee in making this adjustment.

## Management Comments and OIG Analysis

The Coast Guard acknowledged that the start date is unknown for the project and there are many variables affecting cost—some of which are out of the Coast Guard's control—which complicate the estimation of final capital costs and introduce a degree of risk into the project.

The Coast Guard concurred with all of the findings and has implemented the recommendations in the report.

### Management Comments to Recommendation 1:

The Coast Guard concurred with our recommendation to review escalation and project assumptions related to land, parking, and fundraising for validity at each project milestone. The Coast Guard will work directly with the National Coast Guard Museum Association at each milestone to thoroughly monitor market influences that affect escalation rates and fundraising feasibility. The Coast Guard will also monitor political developments that might challenge assumptions in the report regarding status of land donation, parking, utilities, zoning, etc., and negatively affect the final capital cost of the projects.

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### **OIG Analysis**

We consider this recommendation resolved and open. This recommendation will remain open until the Coast Guard provides us with documentation of its first re-evaluation of project assumptions and any related cost updates to the Funding Plan.

### **Management Comments to Recommendation 2:**

The Coast Guard concurred with our recommendation to adjust the Funding Plan's capital budget escalation allowance to recognize increases in total project cost associated with the expected two-year project delay. The Coast Guard provided a table (See Appendix B), which reflects the change in cost of two years of additional escalation at 3.5% per year; including escalation in the costs for general conditions, the general contractor's payment and performance bond, the general contractor's fee, and the cascading costs from the increased construction total.

### **OIG Analysis**

We consider this recommendation resolved and closed.

## Appendix A

### Purpose, Scope, and Methodology

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The objective of our review was to determine whether cost estimates in the Coast Guard's *Funding Plan for the Coast Guard Museum* to construct and operate the National Coast Guard Museum are reasonable and realistic. To accomplish our objective, we contracted with a professional engineering firm to prepare an independent estimate of costs for the engineering, design, and construction of the museum. We also engaged the Smithsonian Institution, Cost Engineering Division, to review both the independent cost estimate prepared by our contractor and the capital costs in the Funding Plan. The Smithsonian Institution also identified adjustments needed to ensure that the budgeted capital costs of the project are reasonable and realistic.

We reviewed the Funding Plan's capital costs and operating forecast, and we analyzed a 2008 financial survey of 5,510 member and nonmember museums conducted by the American Association of Museums. The results of this survey were published in its *2009 Museum Financial Information*. We also analyzed the Association of Science-Technology Center's 2008 annual survey of its 445 members.

We interviewed officials from the Coast Guard, Office of Governmental and Public Affairs, the Office of Environmental Law, and the Office of External Coordination, as well as staff from the Smithsonian Institution, Cost Engineering Division.

As part of our review, we evaluated the system of internal controls to the extent necessary to accomplish our objective. Specifically, we contracted for an independent cost estimate to confirm that the data used in the Funding Plan capital budget were valid and reliable. We also verified the Funding Plan calculations and confirmed that the estimates did not contain significant or material mathematical errors.

We conducted our review between October 20, 2009, and April 2010 under the authority of the *Inspector General Act of 1978*, as amended, and according to generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based upon our audit objectives.

**Appendix A**  
**Purpose, Scope, and Methodology**

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We would like to thank the Coast Guard, the Smithsonian Institution, and Martinez-Couch & Associates for their cooperation and courtesies extended to our staff during this review.

Appendix B  
Management Comments to the Draft Report

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U.S. Department of  
Homeland Security

United States  
Coast Guard



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United States Coast Guard

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**MEMORANDUM**

**JUL - 7 2010**

From:  T.A. SOKALZUK, CAPT  
COMDT (CG-82)

Reply to: Audit Manager,  
Attn of: Mark Kulwicki  
(202) 372-3533

To: Anne L Richards  
Assistant Inspector General for Audits

Subj: RESPONSE TO DHS OIG DRAFT REPORT, "FUNDING PLAN FOR COAST  
GUARD MUSEUM"

Ref: (a) DHS Inspector General (DHS OIG) Draft Report of June 2, 2010

1. This letter transmits the Coast Guard's response to the Department of Homeland Security Inspector General (DHS OIG) draft findings and recommendations in reference (a).
2. The Coast Guard generally concurs with the overall findings and recommendations in the report. The unknown start date for the project and the many variables affecting cost – some of which are out of the Coast Guard's control - complicate the estimation of final capital costs and introduce a degree of risk into the project.
3. If you have any questions, my point of contact is Mr. Mark Kulwicki at (202) 372-3533. Alternately, our Chief of External Coordination in the Office of Budget & Programs, Mr. Robert Mason can be reached at (202) 372-3539.

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Enclosure: (1) USCG Comments

**UNITED STATES COAST GUARD (USCG) RESPONSE  
TO THE DEPARTMENT OF HOMELAND SECURITY  
INSPECTOR GENERAL DRAFT REPORT**

**TITLE: “Funding Plan for Coast Guard Museum”**

**COAST GUARD’S GENERAL COMMENTS ON DHS OIG FINDINGS**

The Coast Guard generally concurs with the overall findings and recommendations in the report. The unknown start date for the project and the many variables affecting cost—some of which are out of the Coast Guard’s control—complicate the estimation of final capital costs and introduce a degree of risk into the project.

**RECOMMENDATION(s):**

**OIG Recommendation # 1:** Review escalation and project assumptions related to land, parking, and fundraising for validity at each project milestone. The cost estimates should be updated to reflect any changes in escalation or project assumptions to ensure that the Funding Plan’s costs and federal funding requirements remain reasonable and realistic.

**USCG Response: Concur.** The Coast Guard will work closely with the National Coast Guard Museum Association to closely monitor at each milestone market influences that affect escalation rates and fundraising feasibility, as well as political developments that might challenge assumptions in the report about status of land donation, parking, utilities, zoning, etc, and negatively affect the final capital cost of the projects.

**OIG Recommendation # 2:** Adjust the Funding Plan’s capital budget escalation allowance to recognize increases in total project cost associated with the expected two-year project delay. The Coast Guard should also include allowances for general conditions, the general contractor’s payment and performance bond, and the general contractor’s fee in making this adjustment.

**USCG Response: Concur.** The following table reflects the change in cost of two years of additional escalation at 3.5% per year and includes escalation in the costs for general conditions, the general contractor’s payment and performance bond, and the general contractor’s fee as well as the cascading costs from the increased construction total.



**Appendix B**  
**Management Comments to the Draft Report**

Construction Costs in Report		Totals
1	Construction Costs in 2008 \$	\$23,733,331.00
2	Escalation to 2012 @ 12.0%	\$2,847,999.72
3	General Conditions @ 6.5%	\$1,542,667.00
4	GC's P&P Bond @ 1.0%	\$237,333.00
5	GC's Fee @ 3.0%	\$712,000.00
6	Building Contingency for Non-Discre	\$901,867.00
7	Building Contingency for Owner Discre	\$806,933.00
		\$30,782,130.72

Construction Costs Including escalation of items 3,4,5		
1	Construction Costs in 2008 \$	\$23,733,331.00
2	Escalation to 2012 @ 12.0%	\$2,847,999.72
3	General Conditions w/esc	\$1,727,786.50
4	GC's P&P Bond w/esc	\$265,813.31
5	GC's Fee w/esc	\$797,439.92
6	Building Contingency for Non-Discre	\$901,867.00
7	Building Contingency for Owner Discre	\$806,933.00
		\$26,581,330.72
		\$31,081,170.45

Construction Costs Including addl 7% escalation (2014)		
1	Construction Costs in 2008 \$	\$23,733,331.00
2	Escalation to 2014 @ 19.0%	\$4,509,332.89
3	General Conditions w/esc	\$1,835,773.15
4	GC's P&P Bond w/esc	\$282,426.64
5	GC's Fee w/esc	\$847,279.92
6	Building Contingency for Non-Discre	\$901,867.00
7	Building Contingency for Owner Discre	\$806,933.00
		\$28,242,663.89
		\$32,916,943.60

Cascaded Cost Increases	fy 2012	fy 2014
Adjusted Construction Costs	\$31,081,170.72	\$32,916,943.60
Architecture & Engineering	\$3,885,146.34	\$4,114,617.950
A&E Reimbursable Exps	\$388,514.63	\$411,461.795
A&E Consultants/Special Services	\$777,029.27	\$822,923.590
Building Project Mgmt	\$1,243,246.83	\$1,316,677.74
Museum Program Interface Specs	\$310,811.71	\$329,169.44
<b>Total Construction Costs</b>	<b>\$37,685,919.50</b>	<b>\$39,911,794.12</b>
Original Capital Budget Estimate	\$65,184,851.00	\$65,184,851.00
Minus Original Const Costs	\$34,402,721.00	\$34,402,721.00
Minus Cascading Costs	\$27,861,519.00	\$27,861,519.00
<b>Total with escalated Const &amp; Cascading Costs</b>	<b>\$65,547,438.50</b>	<b>\$67,773,313.12</b>

**Appendix C**  
**Major Contributors to This Report**

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Brooke Bebow, Director  
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**Appendix D**  
**Report Distribution**

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**Department of Homeland Security**

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- Write to us at:  
DHS Office of Inspector General/MAIL STOP 2600,  
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245 Murray Drive, SW, Building 410,  
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