

BARBADOS AUDIT OFFICE



**Special Audit Report
on the Acquisition and Construction
of Steel-framed Housing Units by the
Ministry of Housing, Lands and Maintenance**

26th March 2024

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FOREWORD

In the 2022 Annual Auditor General's Report, I indicated that a Special Report on the Acquisition and Assembly of Steel Houses was omitted from that report. This report is now being submitted and entails a review of a Project which comprised the provision of one hundred and fifty (150) prefabricated steel-framed housing units for persons whose houses had been significantly damaged by Hurricane Elsa in 2021. The Project is being overseen by the Ministry of Housing, Lands and Maintenance (the Ministry of Housing). This omission was due to a request from the Ministry of Finance, Economic Affairs and Investment for additional time to prepare a response to the draft report dated 14th July 2023. It should be noted that the response was submitted to my Office by the Ministry of Housing. It was received by my Office on 10th November 2023, four (4) months after the provision of the draft report. Subsequently, I also received a number of status reports from the Ministry of Housing with information relevant to the audit which required examination by my Office.

The response from the Ministry of Housing, with names of companies and individuals redacted, has been included at **Appendix 2**. In addition, where necessary, excerpts from the Ministry of Housing's response have been inserted into the report at specific sections for ease of reference.

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CHAPTER 1 Introduction

Background

On the 2nd July, 2021 Barbados was impacted by Hurricane Elsa which resulted in considerable damage to a number of houses across the Island. Due to the impact of the hurricane, the Government of Barbados sought to provide housing solutions for those families affected within a short time-span.

- 1.2** In a paper prepared by the Ministry of Housing dated 13th July 2021, it was initially reported that over twenty-three hundred (2,300) houses were damaged, with one hundred and forty-five (145) in need of a complete rebuild. A Chinese-owned firm (hereinafter referred to as the Entity), which was incorporated in Barbados in June 2021, was given a contract to supply, deliver and install one hundred and fifty (150) prefabricated steel-framed housing units.
- 1.3** Subsequently, based on further information received, the number of houses to be rebuilt increased to seven hundred and fifty (750). Agencies such as the Rural and Urban Development Commissions and the National Housing Corporation were given responsibility to repair damaged houses and reconstruct destroyed ones. Status reports from these three (3) entities indicated that they had rebuilt three hundred and seventy-one (371) houses as at November 2023.

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- 1.4 The use of prefabricated steel-framed housing units was initially proposed to the National Housing Corporation (NHC) by a Chinese firm (the overseas affiliate to the Entity) in response to NHC's request for Expressions of Interest advertised on 21st June 2021, just prior to the passage of Hurricane Elsa (refer to **Appendix 1**). The objective of the Expressions of Interest was to source "suitably qualified persons to enter into a joint venture agreement for the construction of one, two or three-bedroom, hurricane resilient, affordable and attractive houses".
- 1.5 In an effort to address the emergency situation and hasten the process of procurement, the Cabinet of Barbados (Cabinet), on the request of the Ministry of Housing, invoked Rule 239 of the Financial Management and Audit (Financial) Rules, 2011 to engage the Entity. This Rule allows the Cabinet to authorize supplies and services to be procured other than by invitation to tender, where it is of the view that the required supplies and services are necessitated as a matter of urgency. It also allows for direct negotiations in accordance with the arrangements that Cabinet establishes. It was therefore agreed by Cabinet on 13th July 2021 that the Ministry of Housing would hire the services of the Entity and enter into negotiations for the supply of one hundred and fifty (150) housing units. The Ministry of Housing subsequently entered into an arrangement with this Entity to supply one hundred and fifty (150) prefabricated steel-framed housing units, ranging in size between seven hundred (700) and one thousand and twenty-five (1,025) square feet. These were slated for persons whose houses needed to be rebuilt as a result of damage caused by Hurricane Elsa.
- 1.6 An agreement was signed between representatives of the Government and the Entity on 11th August 2021, which stipulated that the one hundred and fifty (150) housing units would be supplied, delivered and installed

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on or before 31st December 2021. This agreement was to be executed within a timespan of four and a half (4½) months, for a contract price of \$22.59 million. In addition to the contract price, the contract required Government to pay \$1.96 million for the provision of one hundred and twenty (120) used forty-foot containers and \$1.96 million in “additional shipping charges caused by the delay of not placing the order for the housing units in July 2021 at a time when the shipping cost was less”.

- 1.7** The signed contract also specified that the Government of Barbados was responsible for the erection of foundations at several locations throughout the island, which were to be determined by the Government. In addition, Government was also to provide wells and septic tanks, plumbing connections to the wells and septic tanks, temporary electricity, water, and construction workshops at the installation sites of the housing units. The obligations of both Government and the Entity constitute the Project.

Reason for the Audit

- 1.8** The Barbados Audit Office made the decision to review this Project as part of its audit of the Ministry of Housing, Lands and Maintenance. Special emphasis was placed on whether value for money was achieved given the significant costs associated with the Project.

Audit Objectives and Scope

- 1.9** The audit objectives were to determine whether the Project was being executed in a cost effective and efficient manner, and the reasons which caused time delays.

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- 1.10** Initially, the audit examined relevant files and documentation of the Project over the period July 2021 to April 2023. Subsequently, additional information was received and further audit work was conducted.

Methodology

- 1.11** Interviews were conducted with personnel from the Ministry of Housing, Lands and Maintenance, relevant files were reviewed and site visits were made by the Auditors to some of the construction sites.

Audit Mandate

- 1.12** The mandate of the Office of the Auditor General is set out under Section 113 of the Constitution of Barbados. Sub-section 2A states that “the Auditor General may on his own initiative carry out examinations into the financial management of Ministries, departments, statutory authorities and government-controlled entities, including the manner in which” those entities “use their resources in discharging their functions as regards to the efficiency and effectiveness of the use of those resources”.

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CHAPTER 2 Audit Findings

Summary of Findings

The audit revealed a number of issues which have prevented the successful completion of the Project. These are outlined below: -

- i. The Ministry of Housing did not make all of the necessary building sites available in a timely manner that would have allowed for the prompt erection of the housing units. As at 8th February 2024, when a site visit was made by the Auditors, only forty-two (42) of the required one hundred and three (103) foundations were completed and this has significantly impacted the completion of the Project.
- ii. It was projected that the Project would have resulted in one hundred and fifty (150) families/persons, affected by Hurricane Elsa, receiving housing solutions as a result of the execution of the Project by 31st December 2021. Over the course of the Project, the number of families/persons to receive housing units has decreased, and at October 2023, only twenty-three (23) of these housing units were slated to be assigned to those whose houses were destroyed.
- iii. The cost of the Project has risen significantly. This was due in part to an underestimation of the installation cost of the units and rising

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prices as stated by the Entity and, according to the Ministry of Housing, inflation on construction materials required for the foundation and sites. The original estimated cost for the overall Project was \$29.08 million. However, based on the review of information received from the Ministry of Housing, the Audit Office projected that the total cost for the Project is now approximately \$52.72 million, which is an increase of \$23.64 million.

- a. At July 2023, the amount to be paid to the Entity for supply, delivery and installation of the prefabricated steel-framed housing units was projected to increase to \$32.40 million from \$22.59 million, which is approximately \$216,000 per housing unit, up from the original average cost of \$150,600. The Ministry of Housing indicated that this was due to increases in installation costs. It should be noted that these unit costs do not include foundations.
- b. At November 2023, the estimated amount required for the Ministry of Housing to complete its component was projected at \$20.32 million, up from the original \$6.49 million. The Ministry of Housing indicated that this was mainly due to the impact of inflation on the cost of construction material.

2.2 The Project has not met its overall objective which was to provide one hundred and fifty (150) housing units in a four-and-a-half (4½) month period ended 31st December 2021. At the 8th February 2024, more than two (2) years later, less than half the housing units have been finished, the installation process has not yet begun for eighty-nine (89) housing units and some sites were still being prepared for the erection of foundations.

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- 2.3 The detailed audit findings are outlined below.

Detailed Findings

Project Evaluation

Assessments Conducted Prior to Project Commencement

- 2.4 Arising out of the impact of Hurricane Elsa, which struck Barbados on the 2nd July 2021, was an urgent need to assist hundreds of persons whose homes were damaged or destroyed. Government moved quickly to obtain the services of contractors to build houses for those persons. In this regard, on 13th July 2021, the Cabinet approved a recommendation from the Ministry of Housing to hire the Entity to provide one hundred and fifty (150) housing solutions. This Entity was affiliated with a Chinese firm which had submitted a proposal in response to an Expressions of Interest advertised by NHC for a joint venture program. This Expressions of Interest had a closing date of 5th July 2021.
- 2.5 There was no evidence provided that technical and financial assessments of the proposed Project were done by the Ministry of Housing. A technical assessment of the proposed plans would allow knowledgeable engineers to examine the suitability of the proposed structures, the timeframe it would take to complete the contract and how this proposal would compare with alternative options. The financial assessment would in turn examine the price of the solution offered against alternatives and establish the overall cost of the Project, of which

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the supply of the prefabricated steel-framed housing units was only one component. These assessments were key to effective decision-making.

Ministry of Housing's Response

The Ministry did not consider it unusual for the Permanent Secretary to accept the assessment report of the Technical Department of the NHC which is staffed with qualified professional engineers who are members of the Barbados Association of Professional Engineers and who undertake the necessary assessment of all proposals submitted before submitting recommendations. It is therefore the view of the Ministry that it was within the capacity of the Permanent Secretary MHLM to accept the Technical and Price Assessment which was conducted by the NHC as part of its tendering process and was submitted to the Auditor General's Office on 28th June 2023.

It is worth highlighting that the NHC has since sought to fine tune this particular process by establishing an evaluating committee with the first meeting being held on 13th March 2023, to undertake due diligence as part of future tendering processes.

The financial analysis that is undertaken by the NHC generally relates to the capacity of [the Entity] to undertake the financial risk associated with the project.

Auditor General's Comments

The Ministry of Housing made the decision to utilize the assessment carried out by NHC to justify its recommendation of the Entity to meet the

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emergency housing requirements caused by the hurricane. However, it should be noted that the Expressions of Interest was not designed to meet the emergency housing requirements, but rather the needs of NHC for a joint venture agreement. Therefore, the requirements of these two (2) Projects differed significantly. These differences included the labour intensiveness and financial demands to construct one hundred and fifty (150) houses in a short time frame, which would have significantly impacted resource requirements. Also, the Ministry of Housing indicated that it would be responsible for providing the foundations, which is a significant cost. It is not clear to the Auditors, from the information provided, if the cost of the foundations was included in the original offer by the Chinese affiliate of the Entity. These additional costs could have influenced the final decision.

The Entity had been ranked number one by NHC based on its competitive cost, the short construction time of this building method and the added value of a photovoltaic system. However, at February 2024, none of these factors which influenced the selection of the Entity have been realized.

Cost of the Project

- 2.6** The total Project cost was originally estimated at \$29.08 million. However, based on information submitted by the Ministry of Housing, as at 30th April 2023, the total amount expended on the Project was \$29.90 million. However, a substantial amount of work was still outstanding inclusive of building foundations, completion of the thirty-six (36) houses under construction, and the commencement of construction for the remaining one hundred (100) houses. Based on a review of the Ministry

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of Housing's status report dated 26th October 2023 and its response dated 8th November 2023, the projected total cost of the Project would be approximately \$52.72 million. This is a significant increase in the Project costs.

Ministry of Housing's Response

The project costs were estimated at the outset of the project as were applicable to the circumstances at that time. However, the unpredictable and changing circumstances, chief of which was the inability to source labour and the increase in construction materials for the foundations and the sites and services, resulted in increased costs against which the Ministry has done its best to stymie as it worked to protect the public purse.

The inflation faced by the project with respect to construction materials has been a major challenge to the successful execution of the Government obligations re: foundations, development services and sewage.

Auditor General's Comments

One of the initial advantages of selecting this Entity was the cost-effectiveness of the proposed housing solutions. However, this has not been realised as costs have increased significantly especially as it relates to installation, construction of foundations, development services and sewage. These appeared to have been substantially underestimated.

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Due Diligence

- 2.7** In order to ensure the success of this endeavor, especially given the limited time-frame within which its execution was slated to occur, it would have been necessary to carry out due diligence on the supplier. Due diligence entails evaluation of a supplier with the aim of obtaining assurance that it is reputable, reliable and has the ability to deliver the goods or services agreed upon within the given timeframe.
- 2.8** No evidence was provided which indicated that a process of due diligence was conducted by the Ministry of Housing prior to the Entity being recommended to the Cabinet, the subsequent decision to hire the Entity and the commencement of negotiations. This was supported in correspondence from the Ministry of Housing dated 28th July 2021 which indicated that the “Ministry has not yet conducted due diligence on the Barbadian company”. At the time of this correspondence, the decision to engage with the Entity had already been made by the Government, and negotiations between representatives of the Government and the Entity were already underway. Due diligence was critical since the Entity had no track record locally. In addition, the high value of the contract warranted a stringent examination of the Entity.

Ministry of Housing’s Response

The Ministry accepts that due diligence is conducted on the preferred contractor prior to commencing negotiations. To the extent that the Permanent Secretary, Ministry of Housing relied on, and accepted the Technical and Price Assessment of the Expressions of Interest conducted and provided by the skilled and

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qualified professionals at the NHC, it was reasonable to conclude that the obligation of due diligence was applied.

Auditor General's Comments

There is no indication in the technical and price assessment conducted by NHC that the reputation, technical capabilities and reliability of the Entity were assessed. The assessment of these factors would have assisted the Ministry of Housing in determining the Entity's ability to adequately execute and complete the Project within the required timelines.

Prerequisites for Installation of Housing Units

- 2.9** There were a number of prerequisites which the Ministry of Housing needed to put in place in order for the Entity to install the one hundred and fifty (150) prefabricated steel-framed housing units and fulfill its obligations under the contract. A key prerequisite was the construction of one hundred and three (103) foundations which were required to accommodate seventy-four (74) single housing units, twenty (20) duplexes representing forty (40) housing units and nine (9) quadruplexes representing thirty-six (36) housing units. Issues relating to meeting these prerequisites were observed and are outlined below: -

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Site Availability

- 2.10** All of the necessary sites to construct the one hundred and fifty (150) prefabricated steel-framed housing units were not available in order to meet the initial target completion date of 31st December 2021. This was substantiated by the fact that after 31st December 2021, a contractor was hired to provide major infrastructural work at Bullens, St. James to prepare the site. This location had been earmarked for twenty-eight (28) single units and two (2) quadruplexes. It is therefore evident that this important prerequisite was not sufficiently provided for in the execution of this Project.

Ministry of Housing's Response

Government-owned lands for the siting of some of the units were identified before the units arrived on the island as possible locations. However, some of these did not have the relevant planning permissions as the necessity to use them only arose as a result of Hurricane Elsa. This also contributed to the delay. For instance, at the Bullens location, Planning Permission was granted at the end of October 2022 which is when the contract for the roadworks was executed.

Auditor General's Comments

The Ministry of Housing's response confirms that site availability was not sufficiently provided for in the execution of this Project. The response also indicated that some of the sites did not have the relevant planning permission. For the housing units to have been completed by 31st

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December 2021, the necessary planning permission would have had to be received in a timely manner or be in place before the contract was signed. Therefore, this risk to the Project not achieving its objective in the expected timeline was evident in its early stages. The challenges of having to provide infrastructural work at certain sites should have resulted in the establishment of a more realistic timeframe for the execution of the Project. It would also have allowed Government to adequately fulfill its obligations under the contract.

Construction of Foundations

2.11 The one hundred and three (103) foundations which the Ministry of Housing was contractually obligated to build, in order to facilitate the installation of the one hundred and fifty (150) housing units, were not completed in time to meet the initial deadline of 31st December 2021. This process needed to be conducted in an efficient manner and it was anticipated that it would have commenced in September 2021, in order for the Entity to fulfil its obligations. As at 8th February 2024, fifty-seven (57) foundations had not yet started and four (4) were in progress.

2.12 There were a number of issues encountered in relation to obtaining the contractors to construct the foundations and their completion, which would have impacted on the timeliness of the Project. These were as follows: -

i. Procurement of Contractors

The Ministry of Housing encountered issues in engaging contractors to erect the foundations. The Ministry of Housing issued letters of invitation dated 6th and 7th October 2021 to seven

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(7) companies for them to submit quotations for the construction of foundations for the duplexes and quadruplexes required under the contract. However, these efforts resulted in the engagement of only one (1) contractor.

In addition, two (2) contractors, who were part of a group selected on 18th November 2021 to build foundations for single units and duplexes, opted to withdraw from the Project. One (1) contractor did not build any of the foundations assigned and the other “was only able to mobilise for four (4) out of the ten (10) foundations assigned to them”.

The inability of the Ministry of Housing to procure an adequate number of contractors contributed to its failure to meet its contractual obligations.

ii. Lengthy Time to Award a Contract

There was an instance where it took approximately five and a half (5½) months to award a contract for the building of foundations for four (4) duplexes to a contractor. The decision was taken to award the contract on 18th November 2021 but this was only communicated to the contractor in May 2022.

iii. Unsuitable Foundations

There were ten (10) foundations, in advanced stages of construction, which were deemed to be “unsuitable to host” the

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steel-framed housing units for varying reasons. Hence, these foundations were earmarked for other housing solutions.

The issues highlighted above demonstrate that the inability of the Ministry of Housing to meet its obligations in a timely manner negatively impacted the completion of the Project within the required deadlines.

Ministry of Housing's Response

The shortage of available tradesmen was also a challenge given that there was the mission of completing the rebuild and/or repairs of approximately twenty-three hundred (2300) houses.

...

Compounding the situation of many contractors already being utilized in other housing projects was the lack of timely access to the specific type and volume of concrete that was required to construct the foundations for the light gauge steel-framed houses.

Auditor General's Comments

It would have been prudent for the Ministry of Housing to determine the availability of firms/individuals to construct the foundations prior to or early in the contract period. The Ministry of Housing, in its response, acknowledges that it was a time of heightened construction activity in the country; hence it would have been necessary for it to have moved quickly to secure these services, given the high demand for construction workers.

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The issuance of the invitations in early October 2021 would have significantly shortened the time frame for Government to complete its obligations as contractors had to be selected and mobilized. This difficult situation was compounded when two (2) of the contractors, not hired through the letters of invitation, subsequently withdrew or declined to be further involved in the Project.

Installation of the Housing Units

- 2.13** There were a number of observations made in relation to the installation of the housing units which are outlined below: -

Availability of Trained Workers

- 2.14** The contract agreement, signed on the 11th August 2021 between Government and the Entity, stipulated that the latter “shall provide and pay for all labour” which was required for the installation of the housing units. However, the Entity indicated that it encountered issues with respect to labour to install the housing units. In correspondence dated 20th April 2022, a representative of the Entity indicated that two (2) of the issues related to labour were: -

- Trained workers were unavailable to install the housing units; and
- Engineers and managers from China were denied permission to leave China in order to execute the Project.

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The correspondence also indicated that the Ministry of Housing was providing some labour, but that those persons were unskilled and as such could not advance the installation process.

- 2.15** At the time the Project was conceptualised, travel to and from China was limited. Therefore, the risk that the workers could not leave China and the impact this would have on the Project should have been considered by the Entity as a risk to the Project's timely completion. It was therefore the Entity's responsibility to ensure that it could supply the requisite trained workers to fulfill its obligations.

Ministry of Housing's Response

The original estimate for the installation of the units was based on the predominant use of Chinese labour for installation of the houses and training of Barbadian labour. [The Entity] had proposed to utilize fifty (50) Chinese labourers who were familiar with its product to install the houses. We have been informed that the Chinese labour rates were significantly lower than that of local labour rates. As stated, it was anticipated that the Chinese workers would also provide on-site training to Barbadian Workers which would assure local expertise for future projects. ... The Ministry whilst under no contractual obligation to assist [the Entity] in this process, tried, in the interest of the public purse and to get Barbadians resettled in the shortest possible time, to provide assistance to [the Entity] through the Ministry of Foreign Affairs by exploring transit through other routes including via the United Arab Emirates. The MHLM also suggested that [the Entity] should seek to charter a plane to bring the workers as the Government of Barbados had to resort to this to

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bring the Ghanaian nurses, who equally were unable to receive the transit visas via the U.K., U.S.A or Europe. Chartering a plane to travel via Ghana was attempted, but without success. In part this was due to the well published zero tolerance COVID-19 responses that effectively shut down international travel in and out of China until December 2022. There was also the periodic restrictions of movement in Barbados during the COVID Pandemic which significantly impacted the pace of training of the local workers in 2021 and 2022.

Auditor General's Comments

The response of the Ministry of Housing does not negate the fact that the risk associated with the inability of the Entity to procure labour from China during Covid-19 was not considered. It should however be noted that under the terms of the contract, the Entity had sole responsibility for the supply of labour.

Storage of Housing Units

- 2.16** The audit identified issues with respect to the storage and security of the materials for construction of the housing units. The Ministry of Housing provided storage at the BIDC Industrial Park in Six Roads, St. Phillip for the containers which housed the prefabricated steel-framed housing units. The Auditors initially visited this site on the 5th April 2023 and observed that while security officers were situated at two (2) areas of the site, there was no boundary fence. It was also observed that some components for the housing units were outside of the containers on the ground and even in a grassy area away from the containers.

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Ministry of Housing's Response

It is acknowledged that sufficient storage and assembly space was not provided for the one hundred and twenty-six, forty (40) foot containers. This was due to the fact that there are very few assembly spaces in the country that meet the required space and height requirement to properly store and assemble the housing units. The Ministry acknowledges that storage challenges could have been minimized had the containers been packed with one housing unit per container. This would have avoided having to empty multiple containers simultaneously to assemble and install one unit. Equally true is the fact that packing one housing unit per container may have resulted in further delays and increased cost as more containers would have to be sourced and shipped so that might have also necessitated a delay.

The reality is that the contents of several containers have to be removed at any one time to gather the necessary components for any one house. The MHLM acknowledges that more storage space is required and this is being addressed. It is also accepted that an appropriate inventory management system should be developed and implemented. Efforts have commenced in this regard.

- 2.17** The absence of a boundary fence and inappropriate storage of materials increased the opportunity for unauthorised removal of materials. This risk has already materialized at this location, based on a report that materials in the sum of approximately \$248,000 were stolen. Based on information reviewed, as at February 2023, the decision of whether or not the Entity or Ministry of Housing will accept the cost associated with the missing

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materials had not been determined. Observations made during the site visit indicated that there is a need for improved security arrangements.

Ministry of Housing's Response

The Ministry employed a private security company on the site and installed security lighting. The job of the security company has been to prevent burglary and unauthorised access to the site. [The Entity's] team however were authorised by the MHLM to enter the site and into the containers, as necessary, to remove all the parts that make up a house. They in turn used sub-contractors to collect those parts and transport them to the various construction sites. It was the responsibility of [the Entity] to know whether parts had gone missing since it was that entity which was issued with keys to the containers.

The MHLM has written to the Barbados Police Service requesting a report on the investigation and is still awaiting a report.... The issue of liability cannot be resolved until the Ministry receives this report to establish whether the incident was theft or burglary and thereafter, liability can be determined. However, it must be noted that notwithstanding the lack of a fence, the placement of the containers initially left no gaps around the perimeter of the area....

The Ministry accepts that the security arrangements could be enhanced and has been taking steps to improve in this regard, namely:

- The installation of cameras;
- The erection of a fence; and

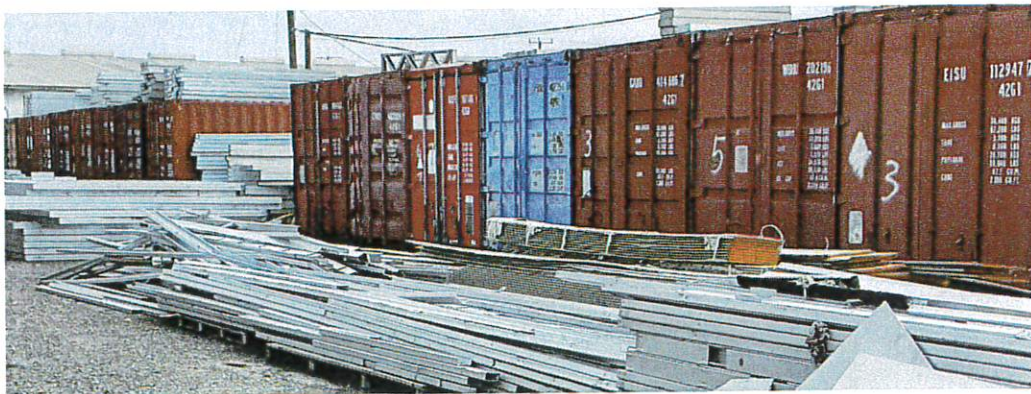
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- The introduction of an enhanced Inventory Management System.

Auditor General's Comments

The Ministry of Housing's response referenced the installation of cameras and the erection of a fence. However, a visit by the Auditors to the container storage site on 13th February 2024 revealed that security cameras and the fence were not installed (refer to pictures below of the container storage site). Hence, the area has still not been fully secured and there is still a risk of unauthorised removal of materials. It should be noted that \$601,780 was paid to the Entity for the replacement of materials stolen - \$200,000 was paid in February 2023 and \$401,780 in March 2024.

Images 1 & 2: Storage of Materials at Six Roads, St. Phillip



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Photographs taken by the Barbados Audit Office

Arrangements between Government and the Entity

Change in Contract Price

- 2.18** The contract price for the supply, delivery and installation of the prefabricated steel-framed housing units by the Entity increased from the original cost of \$22.59 million in August 2021 to \$24.84 million in June 2022. The Entity indicated that the price increase was due to the fact that the cost of the installation it had offered in the contract had been understated. The Government and the Entity subsequently agreed to absorb this increase equally. It should be noted that based on information obtained from the Ministry of Housing dated in July 2023, the contract price was projected to increase to \$32.40 million.

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Ministry of Housing's Response

The first request for an increase in the installation cost was justified and based solely on the differential of Chinese labour rates and local labour rates. This increase, after discussions, was agreed to be shared 50-50 between the Government and [the Entity] given that both sides accepted responsibility for the delay. [The Entity] could not get the workers out of China to install and train and there were delays by MHLM in identifying enough persons to be trained.

When a second and then third request for a review of the rates was submitted by [the Entity], the MHLM procured the services of [a Quantity Surveyor] to review the rates requested by [the Entity]. [The Quantity Surveyor] concluded that the increased rates being claimed by [the Entity] were reasonable and in keeping with local labour rates [...]. On that basis, the MHLM accepted the request by [the Entity] for increased payments for the installation of the houses.

Auditor General's Comments

The Ministry indicated that the first increase was justified because of the differential between the Chinese and local labor rates and was split evenly because both parties were responsible for the delays. This increase was from \$24,000 to \$39,000 per unit. With regard to the delays caused by Government, the Ministry of Housing indicated that it had not provided enough local workers to be trained. However, the Contract clearly stated that the Entity had sole responsibility for the supply of labor and there was no reference made to Government providing any labor to

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be trained. Hence, Government could not be held responsible for this increase in this instance.

Documentation reviewed indicated that in early July 2023, the contracting parties agreed to further increase the installation cost to \$90,800 for each of the one hundred and twenty-six (126) housing units for which the installation process had not commenced. Based on a status report prepared by the Ministry of Housing dated 26th October 2023, the installation costs for the twenty-four (24) housing units, which were either completed or in progress, was \$82,000 each. These revised installation costs would represent an overall increase of \$9.81 million on the contract price, which also represents a two hundred and seventy-two percent (272%) increase in installation cost (originally \$3.60 million). It should be noted that the original contract did not specify the installation cost as a separate item.

Absence of Surety

- 2.19** There was no surety in place in accordance with Rule 223 of the Financial Management and Audit (Financial) Rules, 2011, which requires that a surety be provided by companies entering into contracts with Government. The purpose of a surety is to provide a safeguard in cases where there is poor quality of work or for non-performance by a supplier of goods or service. A surety is also vital when fees are advanced, as in the case with this contract which allowed for fifty percent (50%) of the contract price to be paid within five (5) days after the agreement was signed. In addition, the Entity received \$840,780 when the Bill of Lading¹ was submitted to the Ministry of Housing, and received a further \$4.48

¹ Customs documents which detail the type, quantity and destination of a shipment.

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million when the housing units arrived in Barbados. Therefore, in effect the Government took a disproportionate part of the risk in this Project by disbursing over sixty percent (60%) of the contract sum prior to any housing units being erected. Thus, the Government would have been in an adverse position, if subsequently the Entity could not fulfill its obligations.

Ministry of Housing Response

The contract provided for [the Entity] to receive half of the contract price within five days of signing of the agreement. Of this sum seven point five percent (7.5%) was held by the Accountant General in an escrow account until [the Entity] submitted the Bill of Laden to the PS MHLM, and the further two point five percent (2.5%) was held by the Accountant General pending satisfactory completion of the housing units.

As it relates to the provision of a surety, there was no breach of the Financial Management and Audit (Financial) Rules 2011. Section 234 (5) states that:

“Where a surety is required in accordance to rule 223, the accounting officer of a department, or the officer that the accounting officer authorizes shall, where applicable, state in the notice inviting tenders or in the letter inviting tenders that the department shall require a surety by way of

(a) A deposit of a sum of money with the Treasury;”

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Given that the MHLM was purchasing the housing units upfront, the financial capacity of [the Entity] was considerably less critical given the arrangement to supply the houses. It is the view of the Ministry, that by allowing the Accountant General to withhold ten percent (10%) of the agreed price, as is provided for in section 234 of the Financial Rules, that [the Entity] therefore bore the cost of obtaining the surety.

It should be noted that the units were insured enroute to Barbados and have been insured by ICBL since landing at the Port in Barbados. It is therefore not the view of the Ministry that the Government took a disproportionate part of the risk. Rather, it should be observed that the Government took the necessary steps to secure its investment.

Auditor General's Comment

The Audit Office is not in agreement with the Ministry of Housing's interpretation of Rule 234 (5). This rule requires a surety by way of the following: -

- a) A deposit of a sum of money with the Treasury;*
- b) Approved securities to the value of not less than 10 per cent of the contract price;*
- c) A bank or an accredited insurance company whose liability is not less than 10 per cent of the contract price.*

There was no evidence of any of these requirements being met. The surety would have allowed the Ministry of Housing to have recourse to

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recover a percentage of the contract price at any phase of the Project in case of non-performance by the Entity. Furthermore, the Ministry of Housing has been making advance payments which exposes it to increased risk.

Notwithstanding that the Ministry of Housing indicating that the materials for the housing units were insured, the Audit Office is still of the view that the Ministry of Housing took a disproportionate part of the risk in this Project. Having insured the materials did not mitigate the risk of the housing units not being erected by the Entity.

Status of Construction of Housing Units

- 2.20** It was agreed that the one hundred and fifty (150) housing units would have been installed by 31st December 2021. However, at 30th April 2023, sixteen (16) months after the anticipated completion date, only fourteen (14) housing units had been completed and thirty-six (36) housing units were under construction. As at 8th February 2024, fifty-seven (57) foundations and eight-nine (89) housing units had not started. There is therefore a high risk that the new completion date of September 2024, set by the Ministry of Housing, will not be met.
- 2.21** A representative acting on behalf of the Entity stated in a letter dated 20th April 2022 that the Entity “has engaged a sub-contractor” to install the housing units. The representative also stated that “this sub-contractor can only install 3-4 houses per one month at its maximum output”. Using the higher rate of output of four (4) houses per month, the Audit Office

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estimated that it would take twenty-five (25) months more to complete the one hundred (100) houses not started.

Ministry of Housing's Response

The MHLM considers this statement inflammatory, misleading, and out of context as this information was taken from a letter where [the Entity] uses information of an example of what it would cost one contractor to install a house. [The Entity] has in fact engaged 15 contractors complemented by twenty (20) of their own skilled workers. It is projected that at the end of the current financial year one hundred and fifteen (115) of the one hundred and fifty (150) units will be completed, and the remainder should be completed during the 2024/25 financial year.

...

The Ministry is however pleased to note that Barbados has on average between 80 and 90 individuals now skilled in assembling and installing the houses. They have been retained by [the Entity] and a number of small sub-contractors whose workers now have the skills to install this type of housing solution.

Auditor General's Comments

The Ministry of Housing indicated in their response that at the end of the current financial year (31st March 2024), one hundred and fifteen (115) housing units will be completed. This amount of one hundred and fifteen (115) housing units included a total of fifty-two (52) housing units at three (3) locations, namely Bullens, St. James; River Crescent, St. Philip; and Sargeant's Village, Christ church. However, based on site visits

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conducted by the Audit Office on the 8th and 13th February 2024, there is a high probability that this objective cannot be met since the required foundations have not been erected. At Bullens, where twenty-eight (28) housing units are to be built, only six (6) of the ten (10) foundations under construction appeared to be in a completed state. The other eighteen (18) foundations had not yet started. The picture below shows some of the ten (10) foundations under construction at Bullens, St James. There was no evidence that foundations for the three (3) duplexes (six (6) housing units) to be constructed at River Crescent, St. Philip were started. No foundations were being constructed at Sergeants Village, Christ Church for the nine (9) duplexes (eighteen (18) housing units).

Image 3: Bullens, St. James



Photograph taken by Barbados Audit Office

The Ministry indicated, in its response dated 8th November 2023, that the Entity had subsequently engaged fifteen (15) contractors complemented by twenty (20) of their own skilled workers. Furthermore, the availability of additional Chinese workers should no longer be a concern given the fact that travel restrictions in relation to China have been eased.

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According to the status report dated 26th October 2023, four (4) single units were to be constructed at the Lower Burney, St. Michael site. This site was not included in the projection of housing units to be completed in the Ministry of Housing's response. The Auditors also visited the Lower Burney site on the 13th February 2024 and observed that the site had not been prepared and no construction had started.

The table below shows the amount of completed houses and foundations erected at selected dates during the Project based on Ministry of Housing's documentation.

Table 1: Status of Houses and Foundations

Date	Foundations erected	Housing units completed	Comments
31 st December 2021		0	No status report was provided for this period.
15 th July 2022	31	1	Some of the foundations included required remedial work
5 th January 2023	39	1	Some of the foundations included required remedial work
26 th June 2023	36	12	The number of foundations excludes twelve (12) completed foundations that were no longer being used to install housing units under this project.
26 th October 2023	36	22	The number of foundations excludes twelve (12) completed foundations that were no longer being used to install housing units under this project.

Prepared by: Barbados Audit Office

Conclusion

2.22

The overarching objectives set for the Project were not achieved. As at February 2024, the timeline for completion of the Project was significantly exceeded. In addition, based on the information provided by the Ministry of Housing dated 26th October 2023, only twenty-two (22) houses were completed. However, at November 2023, it was anticipated that on completion, the Project would have incurred major cost overruns with the

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estimated budget increasing by \$23.64 million to approximately \$52.72 million.

- 2.23** The factors which negatively impacted the project, such as the unavailability of suitable labour and the challenges with providing the requisite sites and foundations, could have been mitigated through more efficient planning. Necessary processes such as due diligence and financial and technical assessment should have been carried out. Also, a more achievable deadline should have been set given the necessary prerequisites.

Recommendations

- 2.24** The following are recommended:

- i. Projects should be thoroughly planned before commencement to facilitate successful implementation.
- ii. The Ministry of Housing should conduct due diligence on contractors prior to their selection to reduce risk to Government.
- iii. A surety should be provided in accordance with the Financial Rules 223 and 234.
- iv. The Ministry of Housing should ensure that obligations specified in contracts can be realistically met prior to establishing timelines.
- v. Adequate security measures should be in place to safeguard any supplies or materials for which the Ministry of Housing is responsible.

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- vi. Given that many of the basic tenets of the contract have changed, there is a need to renegotiate this contract in order to ensure that Government is protected against undue risk. This would also provide the opportunity to evaluate the current state of the Project and allow for price certainty.

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Appendices

Appendix 1

Expression of Interest advertised on 21st June 2021 in the Nation Newspaper

NOTICE

EXPRESSIONS OF INTEREST CONSTRUCTION OPPORTUNITIES FOR AN AFFORDABLE HOUSING PROGRAMME

1. The National Housing Corporation (NHC) invites Expressions of Interest from suitably qualified persons to enter into a joint venture agreement for the construction of one, two or three-bedroom hurricane resilient, affordable and attractive houses.
2. NHC will provide the land, complete the infrastructure and services for the various housing developments across the Island.
3. Proposals providing financing for the construction of the houses are an asset and applicants will be required to submit proof of their financial and technical capability.
4. Qualifying applicants must produce their own creative designs for the houses.
5. Expressions of Interest should be submitted to the Chairman, Tenders Committee, National Housing Corporation in a sealed envelope with the words "Joint Venture for The Construction of Affordable Housing" by 4:30pm on Monday, July 5, 2021 and addressed to:

The Chairman
Tenders Committee
National Housing Corporation
Country Road
St. Michael

OR

Submit an electronic copy of the Expressions of Interest clearly marked "Joint Venture for The Construction of Affordable Housing" to the following email address no later than **4:30pm on Monday, July 5, 2021**

Email: kaye.hinds@nhc.gov.bb

6. NHC reserves the right to accept or reject any application received.

Appendix 2

Response to Special Audit Report on the Acquisition and Assembly of Housing Units

Background

On July 2nd, 2021 Barbados was impacted by Hurricane Elsa which exacerbated the damage to the island's housing stock which was already compromised by a cascade of crises including a 'Freak Storm' which occurred on June 17th 2021 and the eruption of the *La Soufriere* volcano on the neighbouring island of St. Vincent on April 9th 2021 which resulted in heavy ashfall across Barbados.

It is within the context of this unprecedented damage to the country's housing stock since becoming an independent nation, that the Government of Barbados sought to bring urgent relief to its citizens in the shortest possible time. Persons whose homes were destroyed or significantly damaged were completely displaced and faced life on the streets. This led to the urgent search for temporary communal housing and other types of accommodation at scale. This relief effort was further complicated as the families would not have the facilities or capacities to cook for themselves and would therefore have to have their food catered. An urgent whole of Government response was required.

The Government of Barbados mobilized all of its housing agencies (namely the National Housing Corporation, the Urban Development Commission and the Rural Development Commission) to repair and replace the damaged houses. However, given that these agencies and all relevant departments were already inundated with housing repairs before hurricane Elsa it was recognized that an alternative approach to replenishing the housing stock had to be pursued.

A wide search for solutions that were fast and resilient to future environmental disruptions resulted in a decision to utilise light gauge steel frame houses as these houses had the benefit of being hurricane resistant to category 3 hurricane force winds, earthquake compatible and termite, and fire resistant. In addition, the solution was made more attractive given the fact that they could be constructed in a six to eight-week time frame with the relevant skilled labour from China to construct and train Barbadian labour.

To address the urgency of the circumstances the Government invoked rule 239 of the Financial Management and Audit (Financial Rules 2011, which makes provision for the Cabinet to enter into direct negotiations for supplies and services. Rule 239 of the Financial Management and Audit (Financial) Rules 2011 reads as follows:

“Notwithstanding anything contained in this Part, the Cabinet may authorise services or supplies to be procured in a manner other than by an invitation to tender where it is of the view that the required services or supplies are”

- (a) of a specialised nature;
- (b) not normally available in Barbados;
- (c) required as a matter of urgency.

The need for the Government of Barbados to provide urgent housing solutions to persons whose houses had been lost or substantially damaged met all three requirements outlined in Rule 239. Pre-fabricated housing solutions (that met the conditions of being resistant to high winds, earthquake and fire in particular formed an ideal part of the national response.

Initially there were two thousand, three hundred (2,300) houses reported as damaged to the Department of Emergency Management, including one hundred and forty-five (145) that had to be completely replaced. Subsequent assessment and verification revealed that one thousand seven hundred and twenty (1,720) to be valid incident reports with seven hundred and fifty (750) houses that needed to be rebuilt and nine hundred and eighty (980) that would require repairs.

It should be noted that prior to the passage of Hurricane Elsa, and ironically four days after the Freak Storm, the Board of the NHC, as part of the NHC’s regular programming for joint ventures, advertised requests for expressions of interest for the construction of affordable lower middle and middle income housing.

On July 5th, 2021, twelve (12) expressions of interest were received by the Board of Directors of the NHC as follows: [The names of the companies were removed.]

The expression submitted by [the Chinese-based firm] which had incorporated [...the Entity] on June 28th, 2021, was erroneously records in the name of [erroneous name has been removed. ...] the chairman of [the Chinese-based firm] is also the Director of [the Entity]. It should be noted that the Group elected to form a local company rather than register [the Chinese-based firm] as an external company traded in Barbados under the Companies Act CAP 308. In the Letter of Interest and Seal from [the Chinese-based firm] which was signed by the Principal, [the chairman of the Chinese-based firm], it is indicated that the Group would finance and execute the Affordable Housing Project under the aforementioned initial tender for Expressions of Interest from NHC.

Based on the Minutes of the Board of the NHC on July 7th, 2021, the following criteria were used to evaluate and determine a ranking of the tenders [...]:

- a. Submission of creative designs
- b. Proof of financial and technical capability
- c. Submissions that fit into the Barbadian context

The NHC Board convened a virtual emergency meeting on July 7th, 2021, for the purpose of opening the expressions of interest from suitably qualified persons to establish a joint venture agreement for the construction of one-bedroom, two-bedroom or three-bedroom hurricane resilient attractive houses. The Board at this meeting approved and short listed the following four (4) companies for assessment and analysis by the Technical Department [...]. [The names of the contractors have been removed.]

It is critical to indicate that even though the technology proposed by [the Entity] appeared to be the fastest available, the award of the contract to [the Entity] was capped at Barbados one hundred and fifty (150) new houses rather than the full complement of new houses that was needed. This decision took into account and was largely influenced by the concern that the time that would be needed to train Barbadian workers on the new construction technology to execute the required scale of new construction would be significantly longer. Within the context of time constraints it was considered more effective and efficient to engage larger numbers of imported labour to construct the houses where provision could be made for on the job training for Barbadian labour for future similar construction activity.

Contract

On July 13th, 2021, the Cabinet took the decision to award the contract to [erroneous name has been removed]. On August 12th, 2021 the Cabinet rescinded the July 13th, 2021 decision and awarded the contract to [the Entity]. This was done to correct the error in the name of the company which was supplied by the Ministry of Housing.

The agreement with [the Entity] stipulated that the housing units would be supplied, delivered and installed on or before December 31, 2021. This agreement for the supply and installation of one hundred and fifty units (150) within a four-month time span was finalized for a contract price of \$22,586,880. In addition to the contract price it was agreed upon that the Government would pay \$1,958,400 for the provision of one hundred and twenty used metal containers to be sourced by [the Entity] and \$1,958,400 for additional shipping charges.

It should be noted that upon transfer of funds, all of the pre-fabricated houses were owned by the Government of Barbados. Effectively the Government purchased the pre-fabricated houses up front and [the Entity] were contracted to supply deliver and install the housing units. The one hundred and fifty units (150) have been supplied and delivered and appropriately paid for. There was no overpayment of the contract.

The contract provided for [the Entity] to receive half of the contract price within five days of signing of the agreement. Of this sum seven point five percent (7.5%) was held by the Accountant General in an escrow account until [the Entity] submitted the Bill of Laden to the PS MHLM, and the further two point five percent (2.5%) was held by the Accountant General pending satisfactory completion of the housing units.

As it relates to the provision of a surety, there was no breach of the Financial Management and Audit (Financial) Rules 2011. Section 234 (5) states that:

“Where a surety is required in accordance to rule 223, the accounting officer of a department, or the officer that the accounting officer authorizes shall, where applicable, state in the notice inviting tenders or in the letter inviting tenders that the department shall require a surety by way of

(a) A deposit of a sum of money with the Treasury;”

Given that the MHLM was purchasing the housing units upfront, the financial capacity of [the Entity] was considerably less critical given the arrangement to supply the houses. It is the view of the Ministry, that by allowing the Accountant General to withhold ten percent (10%) of the agreed price, as is provided for in section 234 of the Financial Rules, that [the Entity] therefore bore the cost of obtaining the surety.

It should be noted that the units were insured enroute to Barbados and have been insured by ICBL since landing at the Port in Barbados. It is therefore not the view of the Ministry that the Government took a disproportionate part of the risk. Rather, it should be observed that the Government took the necessary steps to secure its investment.

It should be noted further that the uninstalled units continue to be insured and that the recipients under the Hurricane Elsa Relief Project are contracted to insure the houses. Houses that are to be sold are still insured by the Government until completion of construction. In fact, that insurance will remain in place until the keys are handed over to new home owners.

The Auditor General’s paragraph 2.23

“The [representative] acting on behalf of [the Entity] stated in the letter dated April 20, 2022 that [the Entity] had engaged a subcontractor to install the housing units. However, it was also stated that the subcontractor can only install three to four houses per month at its maximum output. Using the higher rate of output of four houses per month, it would take twenty-five (25) months to complete the one hundred (100) houses not started.”

The MHLM considers this statement inflammatory, misleading, and out of context as this information was taken from a letter where [the Entity] uses information of an example of what it would cost one contractor to install a house. [The Entity] has in fact engaged 15 contractors complemented by twenty (20) of their own skilled workers. It is projected that at the end of the current financial year one hundred and fifteen (115) of the one hundred and fifty (150) units will be completed, and the remainder should be completed during the 2024/25 financial year.

Due Diligence – Technical and Financial Assessment

The Ministry accepts that due diligence is conducted on the preferred contractor prior to commencing negotiations. To the extent that the Permanent Secretary, Ministry of Housing relied on, and accepted the Technical and Price Assessment of the Expressions of Interest conducted and provided by the skilled and qualified professionals at the NHC [...], it was reasonable to conclude that the obligation of due diligence was applied.

The Public Finance Management Act, 2019 defines the role of the Permanent Secretary and Accounting Officer at paragraphs 14 and 18 respectively. The Accounting Officer from the Ministry accepted the assessment of the Expressions of Interest submitted by the National Housing Corporation, the statutory organization under the purview of the Ministry. The Ministry did not consider it unusual for the Permanent Secretary to accept the assessment report of the Technical Department of the NHC which is staffed with qualified professional engineers who are members of the Barbados Association of Professional Engineers and who undertake the necessary assessment of all proposals submitted before submitting recommendations. It is therefore the view of the Ministry that it was within the capacity of the Permanent Secretary MHLM to accept the Technical and Price Assessment which was conducted by the NHC as part of its tendering process and was submitted to the Auditor General's Office on 28th June 2023 [...].

It is worth highlighting that the NHC has since sought to fine tune this particular process by establishing an evaluating committee with the first meeting being held on 13th March 2023, to undertake due diligence as part of future tendering processes.

The financial analysis that is undertaken by the NHC generally relates to the capacity of the company to undertake the financial risk associated with the project.

Supply, Delivery and Installation

[The Entity] fulfilled its obligation to supply the 150 housing units that were ordered by the Government of Barbados on August 11th, 2021. The Auditor General asserts that the lack of Financial Analysis by the MHLM resulted in an increase in the installation cost because the original estimate was understated. However, there were delays that were associated with the supply

and installation. The delays were predominantly related to installation. Many of the delays were outside of the control of the Government of Barbados and the Company.

The delays which correlated price increases to the project related to the following:

- i. Well documented worldwide, were supply chain and logistics disruption as a result of the global pandemic which among other things, impacted the availability and dramatic cost increase of containers for global shipping. As a result, the project was affected by a four times increase in price of shipping containers from \$5,000 to \$20,000 per container.

The original estimate for the installation of the units was based on the predominant use of Chinese labour for installation of the houses and training of Barbadian labour. [The Entity] had proposed to utilize fifty (50) Chinese labourers who were familiar with its product to install the houses. We have been informed that the Chinese labour rates were significantly lower than that of local labour rates. As stated, it was anticipated that the Chinese workers would also provide on-site training to Barbadian Workers which would assure local expertise for future projects. However, the company was unable to secure transit visas for travel via the traditional routes of the United Kingdom (October/November 2021), Germany and the United States of America where Barbados' airlift is linked. The Ministry whilst under no contractual obligation to assist [the Entity] in this process, tried, in the interest of the public purse and to get Barbadians resettled in the shortest possible time, to provide assistance to [the Entity] through the Ministry of Foreign Affairs by exploring transit through other routes including via the United Arab Emirates. The MHLM also suggested that [the Entity] should seek to charter a plane to bring the workers as the Government of Barbados had to resort to this to bring the Ghanaian nurses, who equally were unable to receive the transit visas via the U.K., U.S.A or Europe. Chartering a plane to travel via Ghana was attempted, but without success. In part this was due to the well published zero tolerance COVID-19 responses that effectively shut down international travel in and out of China until December 2022. There was also the periodic restrictions of movement in Barbados

during the COVID Pandemic which significantly impacted the pace of training of the local workers in 2021 and 2022.

Consequently, despite the best efforts of both [the Entity] and the Government of Barbados, there were significant increases in the costs and time for installation of the houses as a result of having to use local labour to complete this task.

The learning curve was even steeper because of the language issues associated with many of the materials and drawings being labelled in Mandarin.

The shortage of available tradesmen was also a challenge given that there was the mission of completing the rebuild and/or repairs of approximately twenty-three hundred (2300) houses.

The Ministry is however pleased to note that Barbados has on average between 80 and 90 individuals now skilled in assembling and installing the houses. They have been retained by [the Entity] and a number of small sub-contractors whose workers now have the skills to install this type of housing solution.

- a) The first request for an increase in the installation cost was justified and based solely on the differential of Chinese labour rates and local labour rates. This increase, after discussions, was agreed to be shared 50-50 between the Government and [the Entity] given that both sides accepted responsibility for the delay. [The Entity] could not get the workers out of China to install and train and there were delays by MHLM in identifying enough persons to be trained.
- b) When a second and then third request for a review of the rates was submitted by the company, the MHLM procured the services of [a Quantity Surveyor] to review the rates requested by [the Entity]. [The Quantity Surveyor] concluded that the increased rates being claimed by [the Entity] were reasonable and in keeping with local labour rates [...]. On that basis, the MHLM accepted the request by the company for increased payments for the installation of the houses.

- ii. Government-owned lands for the siting of some of the units were identified before the units arrived on the island as possible locations. However, some of these did not have the relevant planning permissions as the necessity to use them only arose as a result of Hurricane Elsa. This also contributed to the delay. For instance, at the Bullens location, Planning Permission was granted at the end of October 2022 which is when the contract for the roadworks was executed. The mobilisation was paid when an invoice was submitted by the contractor who commenced work before requesting the mobilization payment.
- iii. Settling the correct codes for the plumbing and electrical works as being the American Codes not Chinese.
- iv. Weather was also a factor. Considerable delays in the construction of foundations also resulted on account of rain, particularly during the excavation phase of works. It should be noted that time is lost not only on the day it rains but also after heavy rains so that sites are allowed to dry sufficiently for machinery to operate safely.
- v. Compounding the situation of many contractors already being utilized in other housing projects was the lack of timely access to the specific type and volume of concrete that was required to construct the foundations for the light gauge steel-framed houses.
- vi. Inflation faced by the project with respect to the price of construction materials when available.
- vii. Legal issues surrounding the rights to the lands occupied by a significant number of Hurricane Elsa clients also resulted in considerable delays or the abandonment of some projects.
- viii. Remedial work was required as drawing errors resulted in some deviation to the size of the foundations. [The Entity] also cited concerns with the quality of the finish. These issues had to be resolved before the foundations could be accepted.

Impact on Project Costs

The cost of completing the project is provided [...]. The projected completion date for the individual houses being constructed for Hurricane Elsa victims has been revised to the end of November 2023.

The project costs were estimated at the outset of the project as were applicable to the circumstances at that time. However, the unpredictable and changing circumstances, chief of which was the inability to source labour and the increase in construction materials for the foundations and the sites and services, resulted in increased costs against which the Ministry has done its best to stymie as it worked to protect the public purse.

The inflation faced by the project with respect to construction materials has been a major challenge to the successful execution of the Government obligations re: foundations, development services and sewage.

Container Storage

It is acknowledged that sufficient storage and assembly space was not provided for the one hundred and twenty-six, forty (40) foot containers. This was due to the fact that there are very few assembly spaces in the country that meet the required space and height requirement to properly store and assemble the housing units. The Ministry acknowledges that storage challenges could have been minimized had the containers been packed with one housing unit per container. This would have avoided having to empty multiple containers simultaneously to assemble and install one unit. Equally true is the fact that packing one housing unit per container may have resulted in further delays and increased cost as more containers would have to be sourced and shipped so that might have also necessitated a delay.

The reality is that the contents of several containers have to be removed at any one time to gather the necessary components for any one house. The MHLM acknowledges that more storage space is required and this is being addressed. It is also accepted that an appropriate inventory management system should be developed and implemented. Efforts have commenced in this regard.

Security

The Ministry employed a private security company on the site and installed security lighting. The job of the security company has been to prevent burglary and unauthorised access to the site. The [Entity's] team however were authorised by the MHLM to enter the site and into the containers, as necessary, to remove all the parts that make up a house. They in turn used sub-contractors to collect those parts and transport them to the various construction sites. It was the responsibility of the Company to know whether parts had gone missing since it was that entity which was issued with keys to the containers.

There was an incident on July 18th, 2022, where a verbal report was made to the MHLM by a former sub-contractor of [the Entity] that someone had removed items from the container park utilising his name to obtain access. On that same date, a verbal report was followed up with a written report submitted by the security company advising that it was informed by [the Entity] that building materials were found to be missing [...]. The PS MHLM upon receipt of these two reports immediately reported the matter via telephone to the Barbados Police Service. The relevant parties from the MHLM, the security company and [the Entity] have been interviewed by the Barbados Police Service and [the Entity] has submitted an inventory of the items taken [...]. It should be noted that the items taken were not materials for the installation of the house itself, but accessories like toilets and mirrors.

The MHLM has written to the Barbados Police Service requesting a report on the investigation and is still awaiting a report. The Permanent Secretary of MHLM communicated with ICBL to ascertain whether a claim could be made on the insurance cover to recoup the cost of the stolen Items. In correspondence received via email on August 23rd, 2022, the ICBL indicated that no claim could be made because the policy covered burglary only and not theft.

This is why the receipt of the Barbados Police Service's report that has been delayed is critical.

The issue of liability cannot be resolved until the Ministry receives this report to establish whether the incident was theft or burglary and thereafter, liability can be determined. However, it must be noted that notwithstanding the lack of a fence, the placement of the containers initially left no gaps around the

perimeter of the area. In fact, the containers can only be accessed and opened within the view of the private security agents that were hired by the MHLM. Further, from the outset, the MHLM also installed security lighting in the area and insured the contents of the container against burglary. On reflection, it should also be verified if the insurance coverage included theft of materials on site and in the containers.

The Ministry accepts that the security arrangements could be enhanced and has been taking steps to improve in this regard, namely:

- The installation of cameras;
- The erection of a fence; and
- The introduction of an enhanced Inventory Management System.

Cabinet Decision regarding the construction of foundations

The initial decision made by the Cabinet on October 28th, 2021 (Note MHLM 71) was for [Company A] to be awarded five foundations for the Quads and for [Company B] to be awarded four. The Ministry had difficulty in obtaining contractors to participate in the Project given the excessive demand for contractors and tradesmen at the time. [Company B] was amongst the contractors who declined its allocated foundations after being awarded the tender. The Cabinet, at its meeting of November 18, 2021 (Note MHLM 79) inter alia, agreed that “the large contractors mentioned herein may take over and complete any of the 23 foundations which the Ministry of Housing, Lands and Maintenance may not be able to complete”. It should be noted that [Company A] was one of those large contractors. The additional two (2) foundations awarded to [Company A] was on the sole basis that [Company B] withdrew [...].

Conclusion

The Ministry is of the view that the Auditor General's Special Audit Report while presents a timeline of events and tables of expenditures related to the project, has not given due consideration to a number of realities that demanded an urgent response within the context of the circumstances. These included:

- Hurricane Elsa (July 2nd, 2021) exacerbating and compounding the disruption caused by the Covid-19 Pandemic;

- The hundreds of Barbadians who were already displaced from their homes as a result of the Ash Fall (April 9th, 2021) and the "Freak Storm" (June 17th, 2021).
- The inflationary environment caused by the COVID 19 Pandemic with respect to the cost of containers given their scarcity and also for construction materials, especially for the foundations and the completion of sites and services.
- The lack of availability of labour from China as was anticipated in the contract for the installation of the houses and then thereafter labour from UAE given the inability to access transit visas for eleven (11) months for their travel to Barbados.

More than two (2) years after the fact, hindsight may afford an audit the benefit to reflect more carefully and undertake a hypercritical analysis of each process in a manner that highlights the inadequacy of aspects of the Ministry of Housing's response. In hindsight as well, the Ministry of Housing has had to acknowledge that some of its projections were off and that some pitfalls may have been avoided. It is now known that the 4-month timeline for the supply, shipping and the installation of housing units was unrealistic, especially given the deteriorating supply and other conditions that were brought about by the COVID-19 virus, which led to "shut downs" and restricted movement across countries. A fair assessment must therefore avoid the subjective tendency to Project that it was easy or even possible to predict everything that is now known more than two years later with the multiple crises that the country and the world was facing.

The Ministry of Housing submits that notwithstanding all of the unforeseen challenges associated with operating during a very difficult time which led to longer Project timelines and increased costs, (outlined in detail below), the average to construct [the Entity's] Units still range from BDS \$240 to \$304 per square foot. Under the Hurricane Elsa Relief Programme, the various agencies engaged are constructing wooden units at an average cost of \$170 per square foot for units that are smaller in size.

Given the considerable difficulty of getting permission for houses to be rebuilt on some sites and given the increase in the prices of the houses due to

significant increased labour costs, a decision was taken by the Ministry to limit the numbers that would be used for emergency housing in the Hurricane Elsa Relief programme. This has meant that more of the housing units will be sold to recoup the actual costs incurred in the supply and installation of the same. The funds for the Hurricane Elsa programme will be received from the Catastrophe Fund since these are for persons who lost their houses.

While it would have been desirable to have completed all of the houses by now, it is to be noted that since it was a supply and installation contract, the majority of the value (70%) of the initial contract signed was in the possession of the MHLM, and by extension Government of Barbados since December 2021. Further, the Accountant General is still in receipt of a remaining 2.5% of 50% of the overall contract value which shall not be completely paid until there is satisfactory completion of the housing units, inclusive of Photovoltaic panels, mounting measures and inverters. In addition, there is no payment of all of the remaining funds until specific stages are reached in the installation of the units.

These are as follows:-

- i. 12.5% of the agreed contract price on completion of the installation of the 150 housing units to roof stage;
- ii. 12.5% of the agreed contract price on satisfactory completion of the installation of the 150 housing units, inclusive of Photovoltaic panels, mounting measures and inverters; and
- iii. 5% of the agreed contract price 6 months after the date of completion of the installation of the 150 housing units inclusive of the Photovoltaic panels.

The Ministry has been advised that the 150 houses will be finished in accordance with the following timetable at the following sites: -

Number of Units	Type of Housing Unit	Location	Date of Completion
12	Quads	Haggatt Hall	November 30 th 2023
16	Quads	White Park Road	November 30 th 2023
28	Single	Bullens	March 31 st 2024
6	Duplex	River Crescent	March 31 st 2024
2	Single	Coconut Hall	Completed
8	Duplex	Coconut Hall	November 15 th 2023
18	Duplex	Sergeants Village	March 31 st 2024
8	Quad	*Paragon Base BDF	September 30 th 2024
8	Duplex	*Paragon Base BDF	September 30 th 2024
13	Single	Concordia Gardens	June 30 th 2024
4	Single	River Crescent	May 31 st 2024

*Note: Pending planning approval

