Report No. DODIG-2025-017

~~CUI~~

INSPECTOR GENERAL

U.S. Department of Defense

NOVEMBER 5, 2024

(U) Audit of Cost Increases and Schedule Delays of Military Construction Projects Managed by Naval Facilities Engineering Systems Command

~~Controlled by: DoD OIG~~
~~Controlled by: Audit~~
~~CUI Category: PHYS~~
~~Distribution/Dissemination Control: FEDCON~~
~~POC: Assistant Inspector General, Acquisition, Contracting and Sustainment,~~ [redacted]

INDEPENDENCE ★ INTEGRITY ★ EXCELLENCE ★ TRANSPARENCY

~~CUI~~


INSPECTOR GENERAL
INTEGRITY
EFFICIENCY
DEPARTMENT OF DEFENSE

(U) Results in Brief

(U) Audit of Cost Increases and Schedule Delays of Military Construction Projects Managed by Naval Facilities Engineering Systems Command

November 5, 2024

(U) Objective

(U) The objective of this audit was to determine why the U.S. Naval Facilities Engineering Systems Command (NAVFAC) had cost increases or schedule delays for Navy and Marine Corps military construction (MILCON) projects and what actions NAVFAC took to mitigate future cost increases and schedule delays.

(U) Background

(U) NAVFAC is a global organization comprising 15 Component Commands with an annual volume of business in excess of $11 billion. As a major Navy Systems Command, NAVFAC delivers facilities engineering solutions worldwide including MILCON support.

(U) Finding

(U) NAVFAC officials faced challenges on several MILCON projects. We reviewed a non-statistical sample of five MILCON projects originally valued at a total of $327.5 million from four Component Commands. Specifically, NAVFAC officials experienced—and continue to experience—cost increases and schedule delays because of:

- (U) inaccurate information for the solicitation and design specifications and unforeseen cost growth for the Electronics Science and Technology Laboratory;
- (U) changing state policies for control of Per- and Poly fluoroalkyl Substance (PFAS)-impacted soil and water and challenges in developing a construction security plan for the Aircraft Maintenance Hangar and Flight Line Utility Modernization projects;
- (U) the unplanned installation of a pure water pipeline at the Submarine Refit Maintenance Support Facility; and
- (U) flawed designs and poor soil around the project site at the Ammunition Supply Upgrade Phase II.

(U) Finding (cont'd)

(U) NAVFAC officials, in some instances, attempted to mitigate additional cost increases and delays by implementing corrective actions during the execution of the MILCON projects. However, NAVFAC officials did not always share lessons learned across Component Commands.

(U) As a result of the issues encountered, NAVFAC officials had a total of $63.3 million (19.3 percent) in cost increases over award amounts, and schedule delays ranging from 383 days to 1,563 days (more than 4 years) for the five projects we reviewed. Delays in MILCON projects, such as the construction of research laboratories, maintenance hangars, utility networks, support facilities, and ammunition supply points hinder readiness and DoD officials' ability to meet certain National Defense Strategy goals.

(U) Recommendations

(U) Among other recommendations, we recommend that the Commander, NAVFAC, issue guidance to contracting personnel to improve the MILCON process and share information across NAVFAC. We also recommend that the Commander take additional steps to review and update guidance as needed. Furthermore, we recommend the Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience, in coordination with the Deputy Assistant Secretary of Defense for Environmental Management and Restoration, issue guidance emphasizing the importance of identifying situations where PFAS may be encountered during MILCON projects, and including all reasonable costs to manage PFAS-impacted soil and water.

(U) Results in Brief

(U) Audit of Cost Increases and Schedule Delays of Military Construction Projects Managed by Naval Facilities Engineering Systems Command

(U) Management Comments and Our Response

(U) The NAVFAC Commander and the Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience agreed or partially agreed with the recommendations and provided planned actions to address five of the eight recommendations related to conducting after-action reviews; issuing and updating guidance for Land Use Control plans, building commissioning, and PFAS-impacted soil; and coordinating with stakeholders; therefore, the recommendations are resolved but remain open. We will close the recommendations once we verify that management has implemented the agreed-upon actions.

(U) The NAVFAC Commander did not fully address the remaining three recommendations related to identification and notification of hazardous materials; therefore, they are unresolved. We request that the NAVFAC Commander provide additional comments within 30 days in response to the final report for those three recommendations. Please see the Recommendations Table on the next page for the status of recommendations.

(U) Recommendations Table

(U) Management	Recommendations Unresolved	Recommendations Resolved	Recommendations Closed
Commander, Naval Facilities Engineering Systems Command	1.a, 1.b, 1.c	1.d, 1.e, 1.f, 1.g	None
Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience	None	2	None **(U)**

(U) Please provide Management Comments by December 5, 2024.

(U) Note: The following categories are used to describe agency management's comments to individual recommendations.

- **(U) Unresolved** – Management has not agreed to implement the recommendation or has not proposed actions that will address the recommendation.
- **(U) Resolved** – Management agreed to implement the recommendation or has proposed actions that will address the underlying finding that generated the recommendation.
- **(U) Closed** – The DoD OIG verified that the agreed upon corrective actions were implemented.


INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
INTEGRITY
EFFICIENCY

OFFICE OF INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

November 5, 2024

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND SUSTAINMENT
AUDITOR GENERAL, DEPARTMENT OF THE NAVY

SUBJECT: (U) Audit of Cost Increases and Schedule Delays of Military Construction Projects Managed by Naval Facilities Engineering Systems Command (Report No. DODIG-2025-017)

(U) This final report provides the results of the DoD Office of Inspector General's audit. We previously provided copies of the draft report and requested written comments on the recommendations. We considered management's comments on the draft report when preparing the final report. These comments are included in the report.

(U) This report contains three recommendations that are considered unresolved because the Commander, Naval Facilities Engineering Systems Command, did not fully address the recommendations presented in the report. Therefore, the recommendations remain open. We will track these recommendations until management has agreed to take actions that we determine to be sufficient to meet the intent of the recommendations and management officials submit adequate documentation showing that all agreed-upon actions are completed.

(U) DoD Instruction 7650.03 requires that recommendations be resolved promptly. Therefore, within 30 days please provide us your response concerning specific actions in process or alternative corrective actions proposed on the recommendations. Send your response to either followup@dodig.mil if unclassified or rfunet@dodig.smil.mil if classified SECRET.

(U) The Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience and the Commander, Naval Facilities Engineering Systems Command agreed to address five recommendations presented in the report; therefore, we consider the recommendations resolved and open. We will close the recommendations when you provide us documentation showing that all agreed-upon actions to implement the recommendations are completed. Therefore, within 90 days please provide us your response concerning specific actions in process or completed on the recommendations. Send your response to either followup@dodig.mil if unclassified or rfunet@dodig.smil.mil if classified SECRET.

(U) If you have any questions, please contact me at [redacted]

FOR THE INSPECTOR GENERAL:

Carmen J. Malone
Assistant Inspector General for Audit
Acquisition, Contracting, and Sustainment

(U) Contents

(U) Introduction

(U) Objective

(U) The objective of this audit was to determine why the U.S. Naval Facilities Engineering Systems Command (NAVFAC) had cost increases or schedule delays for Navy and Marine Corps military construction (MILCON) projects and what actions NAVFAC took to mitigate future cost increases and schedule delays. See Appendix for scope and methodology, and prior coverage.[1]

(U) Background

(U) NAVFAC is a global organization with an annual volume of business in excess of $11 billion. As a major Navy Systems Command, NAVFAC delivers facilities engineering solutions worldwide. As the echelon 1 commander, the Chief of Naval Operations exercises administrative control over NAVFAC.[2] The NAVFAC Component Commands are in charge of planning, design, and construction of facilities in their respective assigned areas of responsibility.

(U) MILCON includes any construction, development, conversion, or extension carried out with respect to a military installation, whether to meet requirements, acquire land, or construct a defense access road.[3] Generally, MILCON includes:

- (U) the erection, installation, or assembly of a new facility;
- (U) the addition, expansion, extension, alteration, relocation, or replacement of an existing facility;
- (U) site preparation, excavation, filling, landscaping, improving land, utility connections, and installed equipment; and
- (U) related real property requirements, such as land acquisitions.

(U) According to DoD Financial Management Regulation Volume 2B, Chapter 6, "Military Construction/Family Housing Appropriations," construction projects should normally be justified and funded through the planning, programming, and budgeting process. The DoD uses DD Form 1391, "FY ____ Military Construction Project Data," to submit requirements and justification to Congress to support authorization and funding requests for construction projects that must be funded by MILCON appropriations. The Navy and Marine Corps are required to prepare

[1] (U) This report contains information that has been redacted because it was identified by the Department of Defense as Controlled Unclassified Information (CUI) that is not releasable to the public. CUI is Government-created or owned unclassified information that allows for, or requires, safeguarding and dissemination controls in accordance with laws, regulations, or Government-wide policies.

[2] (U) An echelon is a rank or level of authority in an organization. Echelon 1 is at a headquarters level.

[3] (U) According to section 2801, title 10, United States Code (10 U.S.C. § 2801), military installations include a base, camp, post, stations, yard, center, or other activity under the jurisdiction of the Secretary of a Military Department.

(U) a DD Form 1391 for each proposed construction project, which includes the project's cost estimate; description of proposed construction; project requirements; current facility or site conditions; the impact on operations if Congress does not approve the project; and supplemental data. Public works personnel at the military installation where the construction will occur draft the DD Form 1391 for the installation commander to review and prioritize with other potential MILCON projects, and then the installation commander forwards the request through the chain of command. Once approved by the commands, the DD Form 1391 is forwarded to the Office of the Secretary of Defense, which reviews and consolidates MILCON projects across the DoD for inclusion in the defense portion of the President's Budget. The Office of Management and Budget and the President make final revisions to the President's Budget and submit it to Congress, which reviews the Budget and authorizes projects and appropriates funds.

(U) Key DoD Organizations Involved with MILCON

(U) The key DoD organizations involved in the planning, design, and construction of the MILCON projects we reviewed included the Office of the Assistant Secretary of Defense for Energy, Installations, and Environment and NAVFAC (including NAVFAC Atlantic and NAVFAC Pacific).

(U) Office of Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience

(U) As a component of the office of the Assistant Secretary of Defense for Energy, Installations, and Environment, the office of Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience is responsible for the stewardship of DoD real property on behalf of the Secretary of Defense.[4]

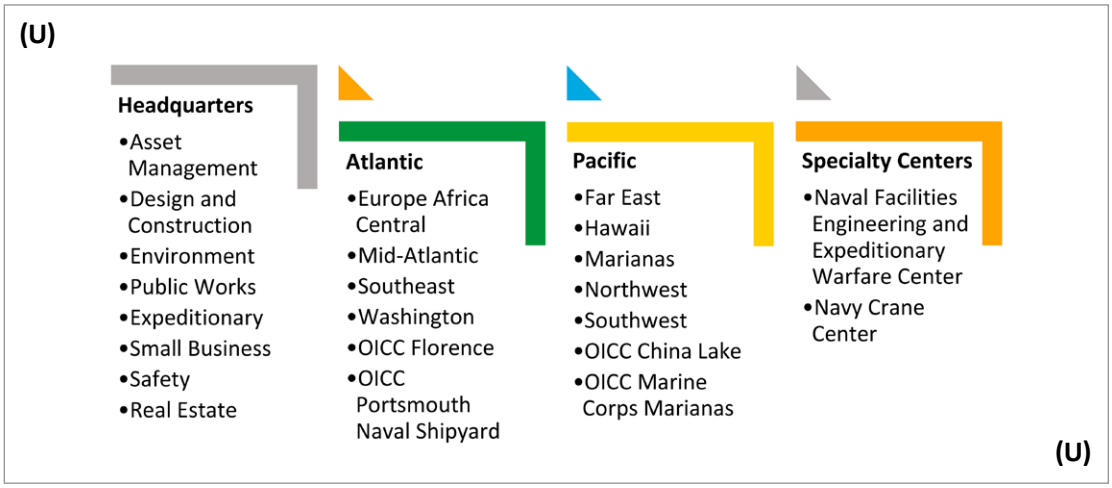
(U) The office of the Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience's real property portfolio includes over 555,000 facilities worldwide, including buildings and linear and vertical structures located at over 5,000 sites covering more than 28 million acres. The Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience supports the DoD's global security mission by ensuring that facility assets and services are made available whenever and wherever needed; using all necessary capabilities and capacities; through methods that are cost-effective, safe, and environmentally responsible.

[4] (U) The office of the Assistant Secretary of Defense for Energy, Installations, and Environment was renamed the office of the Deputy Assistant Secretary of Defense (Infrastructure Modernization and Resilience) during the audit.

(U) NAVFAC

(U) NAVFAC has 15 Component Commands that comprise 9 Facilities Engineering Commands; 4 Officer in Charge of Construction (OICC) units that report to NAVFAC Atlantic in Norfolk, Virginia, and NAVFAC Pacific in Pearl Harbor, Hawaii; and 2 Specialty Centers. See Figure 1 for the NAVFAC organizational structure.

(U) Figure 1. NAVFAC Organizational Chart



(U) Source: The DoD OIG.

(U) NAVFAC Atlantic and Pacific Component Commands

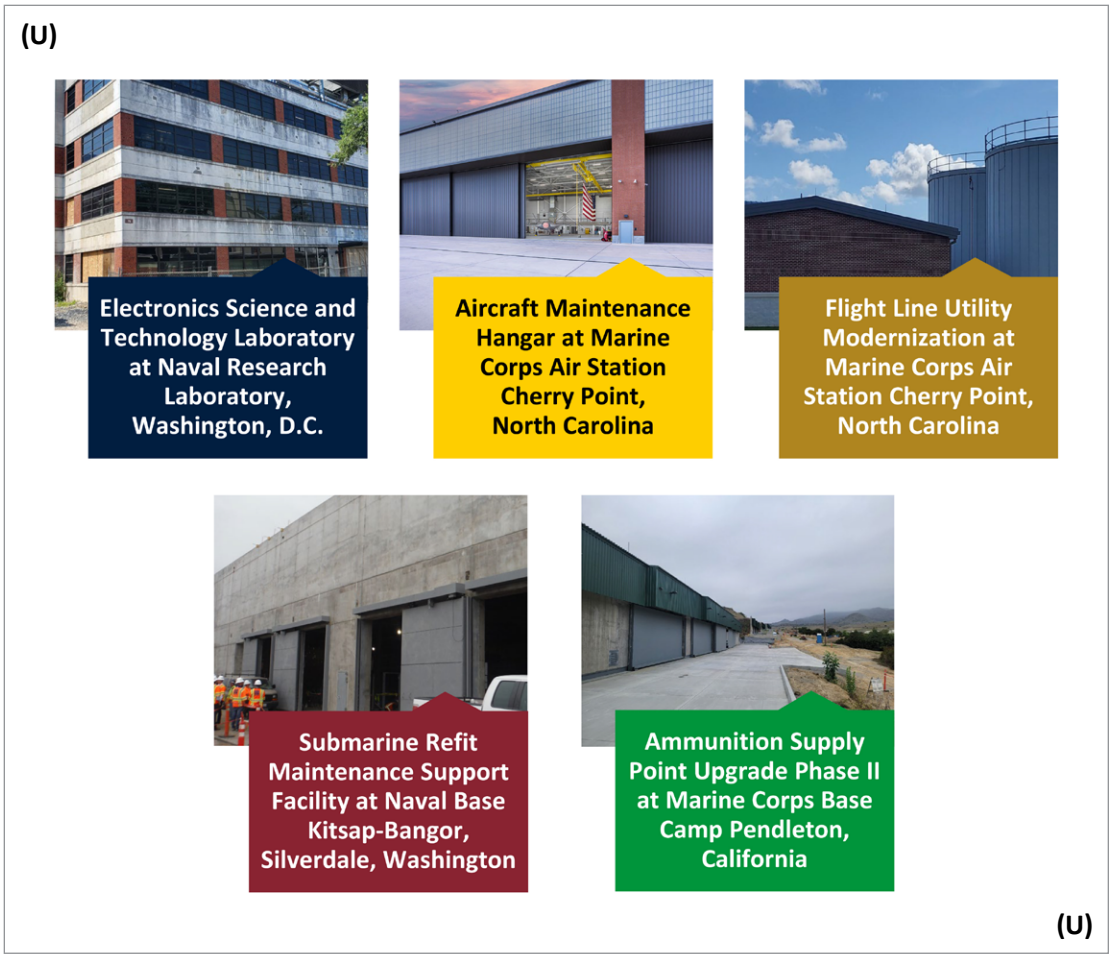
(U) The NAVFAC Atlantic and Pacific Component Commands missions are to deliver best value facilities engineering and acquisition solutions for the U.S. Navy and Marine Corps worldwide. We reviewed three NAVFAC Atlantic MILCON projects with NAVFAC Mid-Atlantic Component Command (two projects transferred to OICC Florence) and NAVFAC Component Command Washington; and two NAVFAC Pacific MILCON projects with NAVFAC Component Command Northwest and NAVFAC Component Command Southwest.

(U) NAVFAC MILCON Projects Reviewed

(U) To determine our audit universe, we reviewed the Secretary of Defense's monthly MILCON report from March 2023 for MILCON projects.[5] The report contained 247 projects that met our criteria. We selected Navy and Marine Corps major MILCON projects located within the United States and sought projects in different Component Commands. From the 247 projects, we nonstatistically sampled five MILCON projects from four NAVFAC Component Commands. Figure 2 shows the five MILCON projects we selected to review.

[5] (U) As provided under 10 U.S.C. §2851, the Office of the Secretary of Defense generates a monthly online report detailing the status of the DoD's MILCON projects worldwide.

(U) Figure 2. NAVFAC MILCON Projects Selected for Review



(U) Source: The DoD OIG.

(U) See Appendix for the universe and sample information.

(U) DoD OIG Audit of U.S. Army Corps of Engineers MILCON Projects

(U) In conjunction with this project, the DoD OIG also performed an audit of the U.S. Army Corps of Engineers management of MILCON projects (Project No. D2023-D000AV-0018.000). The DoD OIG reviewed four U.S. Army Corps of Engineers-managed Army MILCON projects at four different U.S. Army Corps of Engineers Districts.

(U) Finding

(U) NAVFAC Officials Experienced Cost Increases and Schedule Delays While Executing Navy and Marine Corps MILCON Projects

(U) NAVFAC officials faced challenges in planning and managing the five MILCON projects we reviewed that were originally valued at a total of $327.5 million from four Component Commands. Specifically, NAVFAC officials experienced—and continue to experience—cost increases and schedule delays because of:

- (U) inaccurate hazardous material (HAZMAT) information for the solicitation, inaccurate historical drawings and data for the design specifications, differing site conditions, and requests for equitable adjustments for Government-caused delays for the Electronics Science and Technology Laboratory;
- (U) changing state policies for control of Per- and Poly fluoroalkyl Substance (PFAS)-impacted soil and water, commissioning challenges, challenges in developing a construction security plan, and utility conflicts for the Aircraft Maintenance Hangar and Flight Line Utility Modernization projects;
- (U) unplanned installation of a pure water pipeline, installation of a utilidor into the project site, electrical revisions, and modifications to the building underdrain at the Submarine Refit Maintenance Support Facility; and
- (U) structural issues from a flawed design, poor soil around the project site, unforeseen circumstances stemming from a related project delay, and asbestos present at the existing structures on site for the Ammunition Supply Upgrade Phase II.[6]

[6] (U) Building commissioning is a systematic process for delivering a project by verifying and documenting that all of the systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the project requirements. The purpose of commissioning is to reduce the cost and performance risks associated with delivering facilities projects and to increase value to owners, occupants, and users.

(U) Pure water is water with few impurities that Navy personnel use to prevent decreased functionality caused by scale formation. Scale formation is the deposit of mineral solids on the interior surfaces of water lines and containers. Navy personnel also use pure water in experiments and cleaning processes so that impurities do not affect the experiments or cleaning agents.

(U) A utilidor is an above- or below-ground conduit used for general utility service, especially in Arctic climates.

(U) An under-slab drainage system is a series of below-grade water collector and conveyance elements that are below the interior space.

(U) NAVFAC officials, in some instances, attempted to mitigate additional cost increases and schedule delays by implementing corrective actions during the execution of the MILCON projects. However, NAVFAC officials did not always share lessons learned across Component Commands.

(U) As a result of the issues described, as of December 31, 2023, NAVFAC officials had a total of $63.3 million (19.3 percent) in cost increases over award amounts, and schedule delays ranging from 383 days to 1,563 days (more than 4 years) for the five projects we reviewed.[7] Delays in MILCON projects, such as the construction of research laboratories, maintenance hangars, utility networks, support facilities, and ammunition supply points, hinder readiness, and DoD officials' ability to meet certain National Defense Strategy goals.

(U) NAVFAC Officials Faced Challenges in Planning and Managing MILCON Projects

(U) At the four Component Commands we reviewed, NAVFAC officials faced challenges in planning and managing five MILCON projects originally valued at a total of $327.5 million. As of December 31, 2023, NAVFAC had a total of $63.3 million in cost increases over award amounts, and schedule delays ranging from 383 days to 1,563 days for the five projects we reviewed. See Table 1 for the total cost increases and schedule delays for each project as of December 31, 2023.

(U) As of December 31, 2023, NAVFAC had a total of $63.3 million in cost increases over award amounts, and schedule delays ranging from 383 days to 1,563 days for the five projects we reviewed.

[7] (U) Our finding includes modifications that added cost increases or schedule delays for the MILCON projects reviewed. Some modifications increased both cost and schedule delays.

(U) Table 1. MILCON Project Cost Increases and Schedule Delays as of December 31, 2023

(U) Project Title	Project Award Value (In Millions)[1]	Cost Increase (In Millions)[1]	Project Value (In Millions)[1]	Initial Contract Planned Days	Additional Days Delayed	Total Days
Electronics Science and Technology Laboratory	$63.3	$27.0	$90.3	730	1,563	2,293
Aircraft Maintenance Hangar	105.5	14.7	120.2	934	383	1,317[2]
Flight Line Utility Modernization	89.6	7.9	97.5	934	442	1,376[2]
Submarine Refit Maintenance Support Facility	34.7	2.4	37.1	1,005	441	1,446
Ammunition Supply Upgrade Phase II	34.4	11.3	45.7	745	1,216	1,961
Total	**$327.5**	**$63.3**	**$390.8**	**4,348**	**4,045**	**8,393[2] (U)**

[1] (U) The costs and cost increases exclude all exercised options and planned modifications so that the increase represents only unplanned cost increases.

[2] (U) The Aircraft Maintenance Hangar project and Flight Line Utility Modernization project are both on the same contract; however, NAVFAC Mid-Atlantic contracting officials established separate completion dates for each project. Therefore, the report uses the contract line item number (CLIN) completion date for each project, instead of the contract completion date (CCD) for the contract.

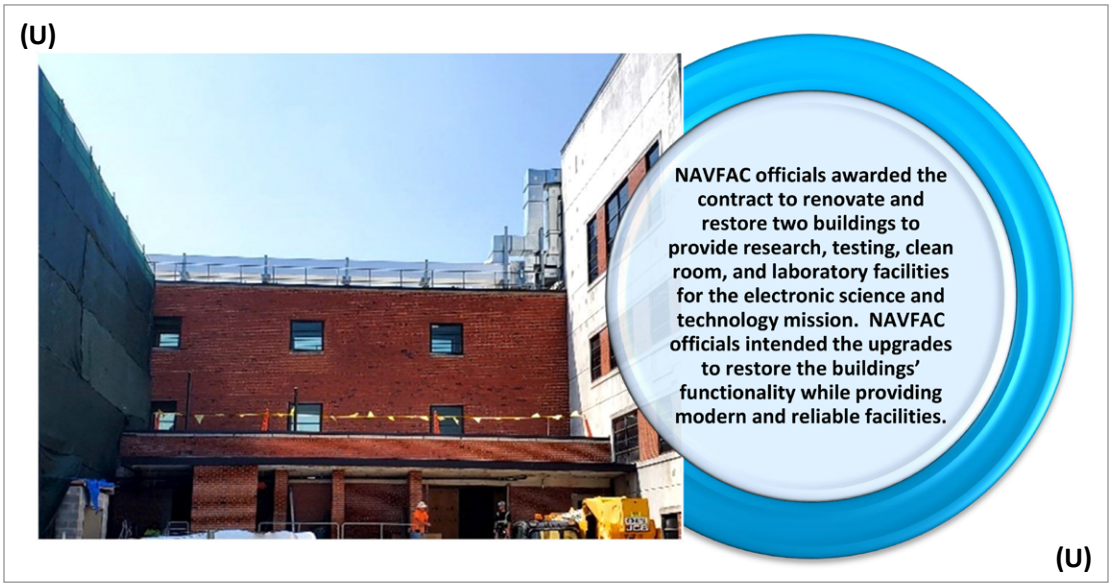
(U) Source: The DoD OIG.

(U) NAVFAC Washington Officials Experienced Cost Increases and Schedule Delays for the Electronics Science and Technology Laboratory

(U) NAVFAC Washington officials awarded the Electronics Science and Technology Laboratory as a 2-year project on November 2, 2017, for $63.3 million with a contract completion date (CCD) of November 15, 2019. The contract renovates and restores two buildings, and includes abatement of HAZMAT and replacement of structural, architectural, mechanical, and electrical systems. As of December 31, 2023, NAVFAC Washington officials increased the contract amount by $27 million (or 42.7 percent) and extended the CCD to February 28, 2024, a

(U) delay of 1,563 days (or 214.1 percent). Figure 3 shows the construction of the Electronics Science and Technology Laboratory at the Naval Research Laboratory and a description of the project.[8]

(U) Figure 3. Building 65 (left), Connecting Space (middle), and Building 75 (right)

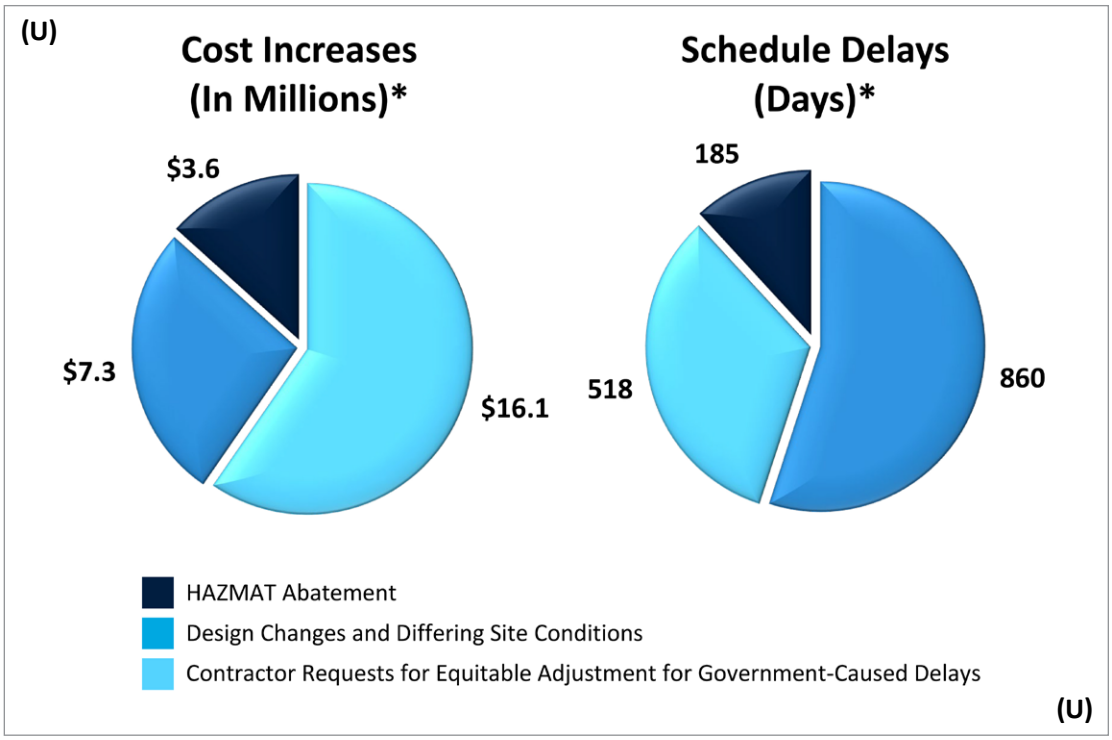


(U) Source: The DoD OIG.

(U) During the design and execution of the renovation, NAVFAC Washington officials did not foresee the additional requirements for HAZMAT remediation, design changes, and contractor requests for equitable adjustments for Government-caused delays, because NAVFAC Washington officials relied on inaccurate data for the solicitation and design specifications. Figure 4 shows cost increases and schedule delays for HAZMAT abatement, design changes and differing site conditions, and contractor requests for equitable adjustments for Government-caused delays.

[8] (U) As of February 28, 2024, the project is still ongoing. All dates and dollar figures are current as of December 31, 2023.

(U) Figure 4. Electronics Science and Technology Laboratory Project Cost Increase and Schedule Delay Totals as of December 31, 2023



* (U) The cost increases exclude all exercised options and planned modifications so that the increase represents only unplanned cost increases. The schedule delays exclude an extension for Federal holidays.

(U) Source: The DoD OIG.

(U) NAVFAC Washington Officials Increased Contract Costs and Schedule to Address Additional HAZMAT Requirements

(U) NAVFAC Washington officials increased the contract cost by $3.6 million and extended the CCD by 185 days to address abatement of additional HAZMAT that NAVFAC Washington officials did not include in the solicitation. Specifically, NAVFAC Washington contracting officials relied on an inaccurate 2012 HAZMAT report from an architectural and engineering firm that did not perform destructive sampling or observations behind solid walls, ceilings, or in pipe chases to verify the presence of HAZMAT. The original 2012 HAZMAT report stated that the architectural and engineering firm relied on observations of conditions readily visible at the site and information provided by others. In addition, NAVFAC Washington officials were aware that the two buildings, which the Navy built in 1945 and 1953, had a long history of contamination. Facilities Criteria 1-300-09N requires NAVFAC contracting officials to verify the presence of HAZMAT for projects that include significant demolition, renovation, or repair, or sites with

(U) significant known environmental contamination issues.[9] The NAVFAC Commander should determine if NAVFAC Washington officials not fully considering the extent of HAZMAT at the Electronics Science and Technology Laboratory at the Naval Research Laboratory was an isolated incident and whether NAVFAC Washington held its officials accountable for not following Naval Facilities Criteria 1-300-09N; and subsequently take the appropriate corrective actions to ensure officials across NAVFAC follow the guidance.

(U) Before awarding the contract, NAVFAC Washington officials received a 2017 HAZMAT report, identifying higher levels of contamination.[10] NAVFAC's 2016 Project Management Manual required contracting officials to include completed HAZMAT survey reports, drawings, specifications, and cost estimates in the solicitation and contract documents prior to construction contract award. However, NAVFAC Washington officials did not notify the contract bidders of the increased scope of work before the November 2, 2017 contract award.

(U) Three months after contract award, NAVFAC Washington officials notified the contractor of the results of the 2017 HAZMAT report through a request for proposal to the construction contractor for the additional costs to abate the increased amount of HAZMAT. Nearly 11 months after contract award, NAVFAC Washington officials issued a contract modification on September 26, 2018, that added $3.6 million and 185 days to the contract. To avoid similar HAZMAT-related cost increases and schedule delays on future MILCON projects, the NAVFAC Commander should determine why NAVFAC Washington officials did not notify contract bidders of the increased scope as required by the NAVFAC guidance and take appropriate corrective actions to ensure contracting officials across NAVFAC provide bidders with the up-to-date information. Furthermore, the NAVFAC Commander should establish guidance for increased site surveys and investigations to better identify and understand existing site conditions including HAZMAT, utilities, topography and terrain, and soil conditions during the design phase of MILCON projects.

(U) NAVFAC Washington Officials Increased Contract Costs and Schedule to Address Design Changes and Differing Site Conditions

(U) NAVFAC Washington officials increased the contract cost by $7.3 million and extended the CCD by 860 days because the architectural and engineering firm hired by NAVFAC Washington to develop the design plan and specifications

[9] (U) Facilities Criteria 1-300-09N, "Navy and Marine Corps Design Procedures," May 2014.

[10] (U) The 2017 HAZMAT report identified mercury, radioactivity, polychlorinated biphenyls, and asbestos.

(U) for the Electronics Science and Technology Laboratory relied on inaccurate historical information. Facilities Criteria 1-300-09N required the designer of record to investigate existing site conditions, utilities, and facilities as necessary to properly integrate the design of the project with existing conditions.[11]

(U) While NAVFAC Washington officials required the architectural and engineering firm to verify existing conditions and dimensions before contract award, NAVFAC contracting officials stated that the presence of HAZMAT limited the on-site verification of the facility's physical conditions and interior systems. As a result, the construction contractor encountered site conditions that differed from the contract's specifications and drawings and that required design changes to address inadequate existing floor-to-floor heights and building space to accommodate laboratory requirements. To address the differing site conditions and make the necessary design modifications to accommodate the Naval Research Laboratory's needs, NAVFAC Washington officials issued 22 contract modifications, adding $7.3 million to the contract and extending the CCD by 860 days. Recommendations 1.a and 1.c address NAVFAC holding its officials accountable for following Facilities Criteria 1-300-09N and for verifying existing site conditions before contract award; therefore, we are not making an additional recommendation.

(U) NAVFAC Washington Officials Increased Contract Cost and Schedule to Address Contractor Requests for Equitable Adjustments

(U) NAVFAC Washington officials increased the contract cost by $16.1 million and extended the CCD by 518 days to settle three contractor requests for equitable adjustments for direct and indirect costs for labor, material, and equipment attributed to Government-caused delays for HAZMAT abatement and design changes. This occurred because NAVFAC Washington contracting officials implemented several work suspensions to address the design discrepancies, differing site conditions, and unforeseen cost growth. The contractor incurred costs for demobilization and remobilization, material storage, maintenance, rental, and other costs for Government-caused delays. Recommendations 1.a and 1.c address the verification of existing site conditions; therefore, we are not making an additional recommendation.

[11] (U) Facilities Criteria 1-300-09N, "Navy and Marine Corps Design Procedures," May 2014.

(U) NAVFAC Washington Officials Need to Implement Lessons Learned for Future MILCON Projects

(U) NAVFAC Washington officials experienced various challenges in planning and executing the MILCON project for the Electronics and Science Laboratory. To avoid similar challenges in the future for other MILCON projects both in the NAVFAC Washington Component Command and throughout NAVFAC, NAVFAC officials should ensure that lessons learned are captured and shared across NAVFAC. Therefore, the NAVFAC Commander should issue guidance requiring an after-action review for each NAVFAC project over budget or behind schedule and include contracting, design, funding, and oversight personnel in the after-action review to discuss lessons learned from pre-award through project completion; establish a method for sharing results across NAVFAC; and require NAVFAC officials to review the after-action reviews before planning new MILCON projects.

(U) OICC Florence Officials Experienced Cost Increases and Schedule Delays with the Aircraft Maintenance Hangar and Flight Line Utility Modernization MILCON Projects

(U) NAVFAC Mid-Atlantic officials awarded two MILCON projects, the Aircraft Maintenance Hangar and the Flight Line Utility Modernization, as a 3-year project on December 23, 2019, for $197.9 million (Aircraft Maintenance Hangar: $105.5 million; Flight Line Utility Modernization: $89.6 million, and unallocated exercised options: $2.8 million) with a CCD of July 14, 2022. In May 2020, NAVFAC Mid-Atlantic officials transferred the contract and management oversight to OICC Florence.

(U) As of December 31, 2023, OICC Florence contracting officials added $22.6 million (an 11.6 percent increase from the total of the projects' amounts in the base contract), and 825 days to the Aircraft Maintenance Hangar and Flight Line Utility Modernization MILCON projects at Marine Corps Air Station (MCAS) Cherry Point because of PFAS-impacted soil and water, challenges with commissioning, developing a construction security plan because of late Site Activation Task Force (SATAF) staffing, and utilities. Figure 5 shows the Aircraft Maintenance Hangar systems, a pump house and water tanks installed as part of the Flight Line Utility Modernization project, and describes the projects.

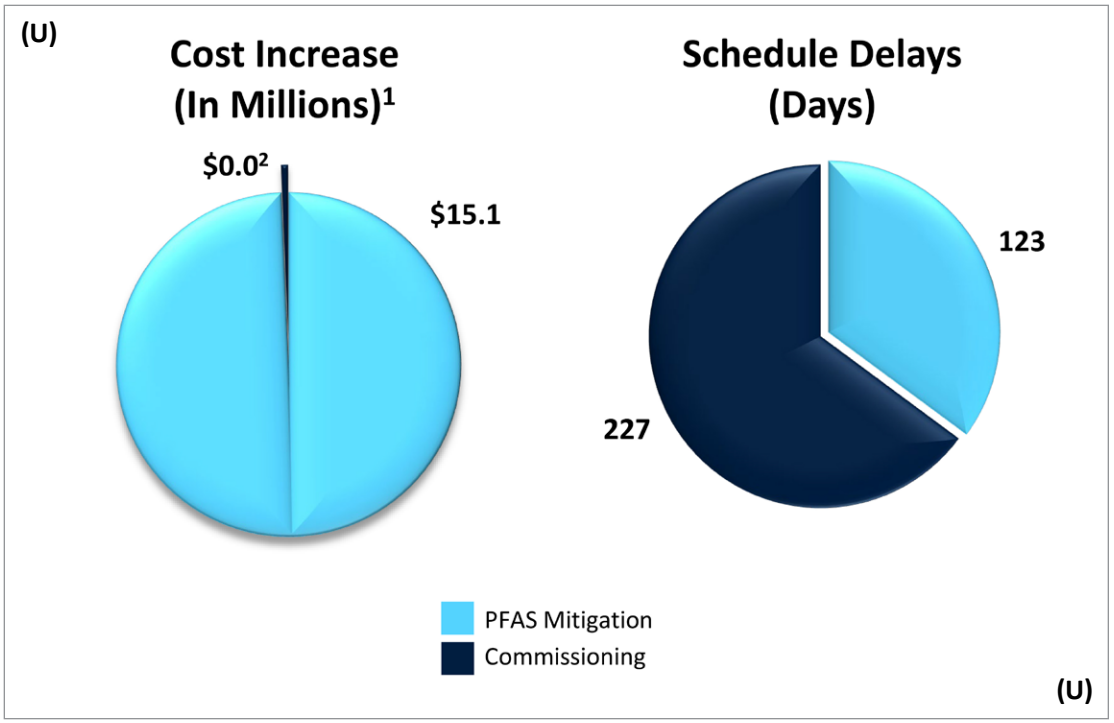
(U) Figure 5. Aircraft Maintenance Hangar Systems and Pump House and Water Tanks for the Flight Line Utility Modernization Project

(U) Source: OICC Florence (top) and the DoD OIG (bottom).

(U) OICC Florence Officials Experienced Environmental and Commissioning Challenges at the Aircraft Maintenance Hangar and Flight Line Utility Modernization Project Sites

(U) As of December 31, 2023, OICC Florence contracting officials added $15.1 million and 350 days to the Aircraft Maintenance Hangar and Flight Line Utility Modernization projects, attributable to PFAS-impacted soil and water mitigation actions and commissioning challenges. See Figure 6 for an overview of the cost increases and schedule delays for the Aircraft Maintenance Hangar and Flight Line Utility Modernization projects related to PFAS mitigation and commissioning challenges as of December 31, 2023.

(U) Figure 6. Aircraft Maintenance Hangar and Flight Line Utility Modernization Project Environmental and Commissioning Cost Increase and Schedule Delay Totals as of December 31, 2023



[1] (U) The cost increases exclude all exercised options and planned modifications so that the increase represents only unplanned cost increases.

[2] (U) Actual value of Commissioning is $40,427, rounded down to $0.

(U) Source: The DoD OIG.

(U) OICC Florence Officials Experienced Environmental Challenges at the Aircraft Maintenance Hangar and Flight Line Utility Modernization Project Sites

(U) As of December 31, 2023, OICC Florence contracting officials added $15.1 million and 123 days to the Aircraft Maintenance Hangar and Flight Line Utility Modernization projects because OICC Florence officials and contractor personnel treated more PFAS-impacted water than estimated and redesigned foundation piles. In addition, contractor personnel had to change their actions regarding PFAS-impacted soil to comply with changing regulations.

(U) The Contractor Treated Water For PFAS

(U) As of December 31, 2023, OICC Florence contracting officials added $1.5 million to the Aircraft Maintenance Hangar project, attributable to the contractor treating additional PFAS-impacted water, which occurred because NAVFAC Mid-Atlantic

(U) officials underestimated the potential for water seepage at the location.[12] OICC Florence officials stated that the estimate depended on several factors including anticipated precipitation and the contractor's means and methods such as depth of excavation, amount of time the excavation is left open, and style of support used for the excavation walls.[13] Contractors encountering PFAS-impacted soil and water is not a problem unique to MCAS Cherry Point or NAVFAC-managed MILCON projects; however, no formal DoD guidance to include cost estimates for PFAS-impacted soil and water in DD Form 1391 preparation currently exists. As PFAS is an evolving issue with changing Federal and state requirements, DoD officials at many installations will face similar challenges with estimating costs to address impacted soil and water that may be impacted by PFAS for ongoing and future MILCON projects. Therefore, the Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience, in coordination with the Deputy Assistant Secretary of Defense for Environmental Management and Restoration, should issue guidance emphasizing to personnel the importance of: 1) identifying situations in which PFAS-impacted soil and water may be encountered during MILCON projects; and 2) including all reasonable costs to manage PFAS-impacted soil and water when completing DD Form 1391, "FY ____ Military Construction Project Data," for all future MILCON projects.

(U) OICC Florence Officials Managed Changing Policies Related To PFAS-Impacted Soil

(U) As of December 31, 2023, OICC Florence contracting officials added $12.6 million and 39 days to the Aircraft Maintenance Hangar and Flight Line Utility Modernization projects, attributable to soil disposal.[14] According to OICC Florence officials, the North Carolina Department of Environmental Quality (NCDEQ) changed PFAS-impacted soil disposal regulations during construction. The regulation change reduced the contractor's options for soil removal from the project sites. Figure 7 shows the contractor removing soil from the Aircraft Maintenance Hangar project site.

[12] (U) NAVFAC Mid-Atlantic transferred administrative contracting officer responsibilities to OICC Florence-Resident OICC Florence Cherry Point.

[13] (U) OICC Florence contracting officials added 15 days because of weather delays, which is part of the total days in the "OICC Florence Officials Added Additional Costs and Schedule Delays to the Aircraft Maintenance Hangar Project for Other Minor Modifications" section of this report.

[14] (U) The allocations of the cost increase and days delayed for each MILCON project are $9.2 million and 39 days for the Aircraft Maintenance Hangar and $3.4 million and no days for the Flight Line Utility Modernization.

(U) Figure 7. Contractor Removing Soil from the Aircraft Maintenance Hangar Project Site
(U) Source: OICC Florence.

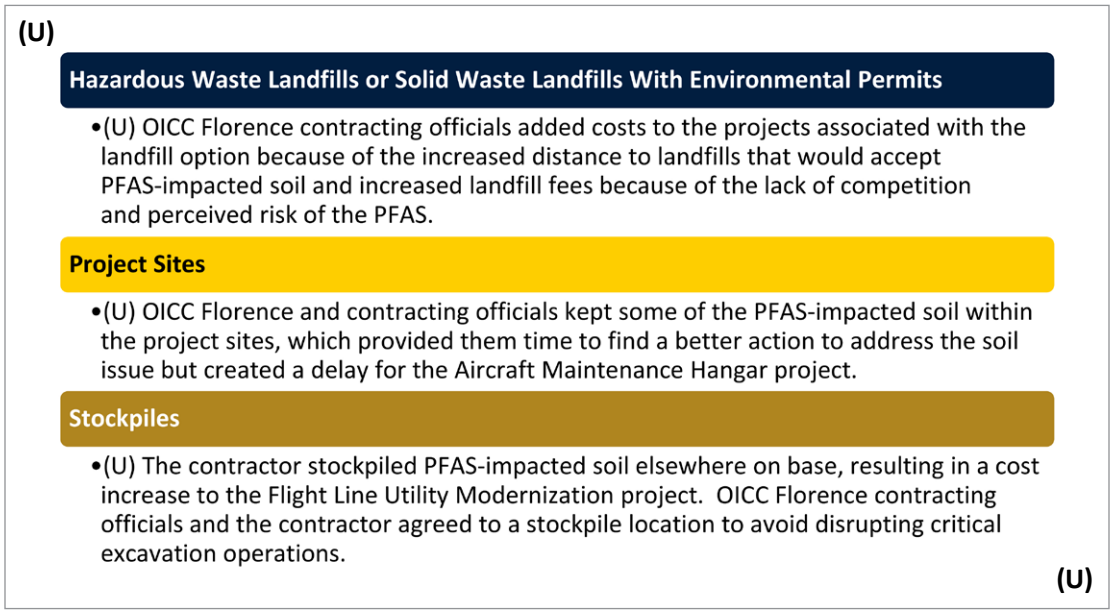
(U) An environmental officer from Marine Corps Installations East explained that during the construction phase of the Aircraft Maintenance Hangar and Flight Line Utility Modernization projects, a land farm, where the contractor deposited petroleum, oil, and lubricant-contaminated soil, underwent an NCDEQ soil analysis, which identified PFAS in the soil the land farm was processing.[15] The environmental officer stated that NCDEQ officials' identification of PFAS at the land farm prompted NCDEQ officials to issue a memorandum, "Soil Remediation Permits Prohibited from Accepting PFAS," on July 21, 2021. In the memorandum, the NCDEQ Underground Storage Tank Section Chief and Corrective Action Branch Head stated that facilities with North Carolina soil remediation or disposal permits cannot, under any circumstances, accept petroleum-contaminated soil if it is also possible that the soil contains PFAS.[16] The land farm operators could not process PFAS-impacted soil and no longer accepted the PFAS-impacted soil, or required increased testing of the soil with more restrictive thresholds before acceptance.

[15] (U) Land farms conduct land farming, also known as land treatment or land application, which is an above-ground remediation technology applied to petroleum-contaminated soil to reduce its concentrations of petroleum constituents (components or parts) through biodegradation.

[16] (U) Soil in and around flight lines is often impacted by both petroleum, oil, lubricant, and PFAS.

(U) Because the projects were under construction when the policy changed, OICC Florence and contractor personnel had an immediate need for removal of the soil to prevent delay of the projects. OICC Florence and contractor personnel relied on three previously established mitigation options in the Land Use Control plan.[17] Figure 8 lists the mitigation options derived from the Land Use Control plan and a description of how they affected the projects.[18]

(U) Figure 8. Mitigation Options Derived from the Land Use Control Plan



(U) Source: The DoD OIG.

(U) The Contractor Redesigned Foundation Piles To Prevent Aquifer Impacts

(U) As of December 31, 2023, OICC Florence contracting officials added $1.2 million and 84 days to the Aircraft Maintenance Hangar project, attributable to the foundation piles redesign from deep (approximately 70 feet) to shallow (approximately 30 feet) piles. OICC Florence officials stated that the original contract for the Aircraft Maintenance Hangar project allowed the contractor to use deep or shallow piles to support the new hangar.[19] Once the contractor submitted its design reflecting deep piles, MCAS Environmental Affairs Department officials reviewed the design and realized that the designed foundation would penetrate the clay layer protecting the Yorktown Confining Aquifer below from the potentially impacted soil above. An OICC Florence official stated that the contractor worked through several Land Use Control plan revisions with the

[17] (U) The Land Use Control plan delineates the areas of potential environmental concern, lists the soil disposal restrictions that the NCDEQ and Environmental Protection Agency have approved, and specifies methods of storage containment to minimize the risks of increasing or creating new contaminated areas.

[18] (U) These options do not apply to all MILCON sites and should not be considered the only options.

[19] (U) The Aircraft Maintenance Hangar was a design-build project.

(U) Environmental Protection Agency for approval to use the longer foundation piles with mitigating actions for PFAS. OICC Florence officials stated that the continued discussion between the contractor and regulating agencies began holding up the project schedule, jeopardizing its completion by the first squadron arrival date. As a result, OICC Florence officials and contractor personnel agreed to the use of a shallow pile design.

(U) Once the contractor completed and received approval from OICC Florence officials for the shallow pile design, the contractor submitted a revised Land Use Control plan to the Environmental Protection Agency and NCDEQ via MCAS Cherry Point's Environmental Affairs Department. However, according to OICC Florence officials, the Environmental Protection Agency and NCDEQ officials were slow to approve the revised Land Use Control plan. NAVFAC Mid-Atlantic and OICC Florence officials could have benefitted from increased coordination with stakeholders earlier in the process to avoid delays related to the aquifer and the resulting multiple revisions to the Land Use Control plan from the various stakeholders. Therefore, the NAVFAC Commander should review the Land Use Control plan development process and update that process to address coordination with multiple stakeholders and how to streamline revisions.

(U) OICC Florence Officials Experienced Commissioning Challenges

(U) As of December 31, 2023, OICC Florence contracting officials added $40,427 and 227 days to the Aircraft Maintenance Hangar and Flight Line Utility Modernization projects, attributable to building commissioning challenges.[20] Figure 9 shows an aircraft in the Aircraft Maintenance Hangar.

[20] (U) Aircraft Maintenance Hangar project features which OICC Florence officials hired contractors to commission included air systems, fire protection systems, elevators, boilers, and the airtight integrity of the building.

(U) Figure 9. Aircraft in the OICC Florence Aircraft Maintenance Hangar
(U) Source: OICC Florence.

(U) The commissioning process caused cost increases and schedule delays because OICC Florence contracting officials encountered challenges with the commissioning agent and with the availability of supplies. OICC Florence officials cannot accept a building unless the contractors complete the entire commissioning process or NAVFAC Headquarters issues a waiver for the incomplete commissioning steps.[21] An OICC Florence official explained that in the area surrounding MCAS Cherry Point, only one contractor was available for some types of commissioning on military bases. As a result, commissioning contractors have many other projects in the area and are often unavailable.

(U) Additionally, the contractor and commissioning agent disagreed on an interpretation of specifications and resulting tests. They resolved the disagreement through multiple clarification meetings, agreements to re-perform the tests, and determining the contractor needed to order the required testing equipment. However, the contractor experienced an anticipated lead time of 90 days to acquire the required testing equipment, further delaying commissioning.

[21] (U) Heating or air conditioning systems are an example of a necessary waiver, since they require testing during two different seasons.

(U) Although OICC Florence officials experienced commissioning challenges, other NAVFAC Component Commands have implemented strategies to reduce similar challenges with commissioning scheduling and responsibilities. For example, during discussions about commissioning with NAVFAC Northwest officials executing the Submarine Refit Maintenance Support Facility at Naval Base Kitsap, NAVFAC Northwest officials described their commissioning procedures. NAVFAC Northwest contracting, contractor, and commissioning officials at Naval Base Kitsap held regularly scheduled meetings, beginning at the start of the project to discuss commissioning including timing and responsibilities. OICC Florence officials, as well as other NAVFAC Component Commands could benefit from similar best practices.

(U) The Unified Facilities Guide Specifications, Section 01 91 00.15, "Building Commissioning," includes a section on project scheduling that is intended to "ensure sufficient time is scheduled to complete each item;" however, NAVFAC officials still experienced delays in MILCON projects because of commissioning challenges. Therefore, the NAVFAC Commander should develop and issue NAVFAC supplemental guidance to the Unified Facilities Guide Specifications, Section 01 91 00.15, that includes developing specific project schedules and establishing a regular schedule to discuss commissioning with all stakeholders early in the MILCON process.

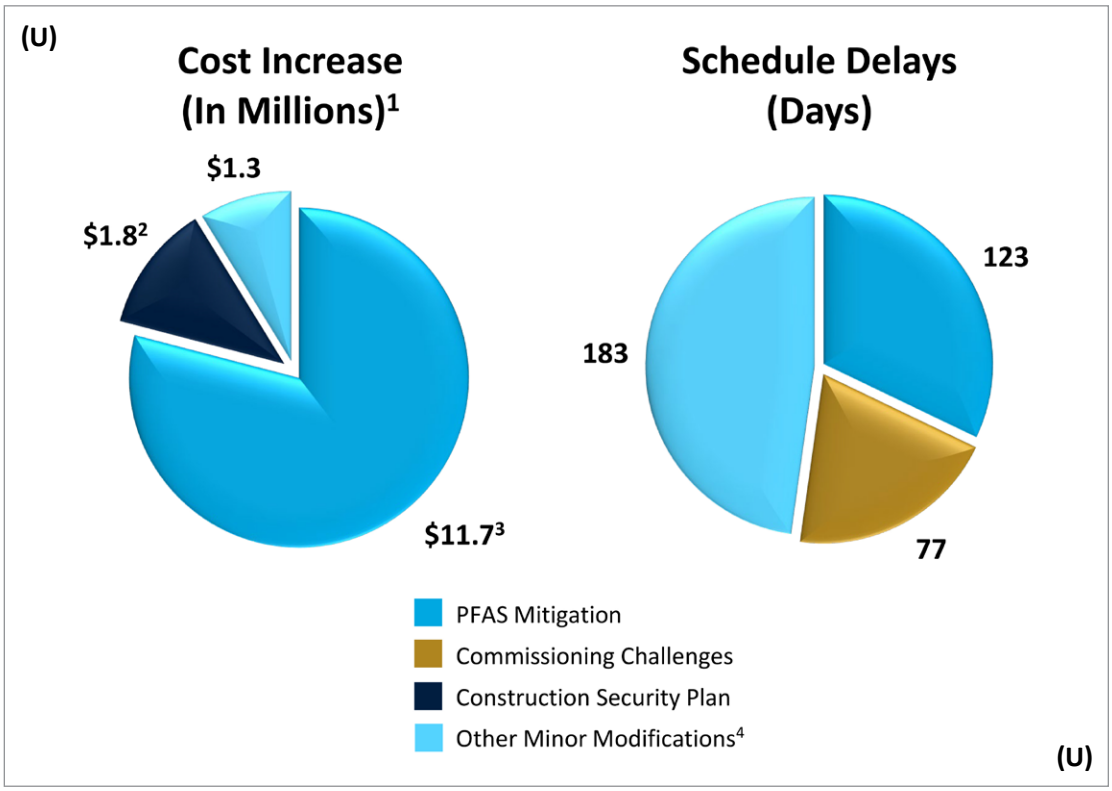
(U) OICC Florence Officials Experienced Challenges with the Aircraft Maintenance Hangar Project

(U) As of December 31, 2023, OICC Florence contracting officials increased the Aircraft Maintenance Hangar project amount by $14.7 million (or 13.9 percent) and extended the contract line item number (CLIN) completion date to August 1, 2023, a delay of 383 days (or 41 percent), of which $3 million and 183 days were attributable to challenges in developing a construction security plan and other minor modifications.[22] See Figure 10 for an overview of the cost increases and schedule delays for the Aircraft Maintenance Hangar project as of December 31, 2023.

[22] (U) As of January 31, 2024, OICC Florence officials were waiting for contractors to complete the commissioning process so that they could start the acceptance processes. OICC Florence officials revised the expected beneficial occupancy date to February 19, 2024.

(U) OICC Florence officials added $0.8 million and 183 days for other minor modifications including requirement changes, redesigns, revisions, differing site conditions, de-scopes, additional site surveying, additional utility work, reduced aircraft parking space, weather delays, and audiovisual equipment delays.

(U) Figure 10. Aircraft Maintenance Hangar Project Cost Increase and Schedule Delay Totals, as of December 31, 2023



[1] (U) The cost increases exclude all exercised options and planned modifications so that the increase represents only unplanned cost increases.

[2] (U) A rounding increase of $0.1 million.

[3] (U) OICC Florence contracting officials de-scoped the purchase of Aqueous Film Forming Foam concentrate from the Aircraft Maintenance Hangar project pending environmental studies of the foam, a deduction of $0.2 million included in this cost increase.

[4] (U) We are not discussing or making recommendations related to the other minor modifications.

(U) Source: The DoD OIG.

(U) According to OICC Florence officials, the construction security plan requirement was implemented late, which caused cost increases because it involved the development of a security plan, coordination with multiple agencies and security personnel, and additional inspections so the accrediting official could approve the secure spaces within the facility. Furthermore, OICC Florence officials had to add five full-time personnel to provide security at the project site and required additional badging for all personnel working within the secure area. Construction personnel had to check in and out of the area continuously, which slowed their work.

(~~CUI~~) The Unified Facilities Criteria states, "a construction security plan shall be developed by the site security manager and approved by the accrediting official to address the application of security to the Sensitive Compartmented Information Facilities planning, design, and construction."[23] [redacted]

(~~CUI~~) [redacted] The slow standup of the SATAF resulted in the delayed development of the construction security plan and its associated cost increases.[24] Therefore, the NAVFAC Commander should coordinate with Marine Corps Headquarters and Manpower Management Officer Assignments Command officials to issue guidance that establishes mutual expectations for staffing SATAF to MILCON projects. Additionally, we are not making a recommendation to the NAVFAC Commander about the timing of the implementation of the construction security plan because NAVFAC has already issued a new Instruction clarifying requirements for the construction security plan in relation to contract milestones.

(U) OICC Florence Officials Experienced Challenges with the Flight Line Utility Modernization Project

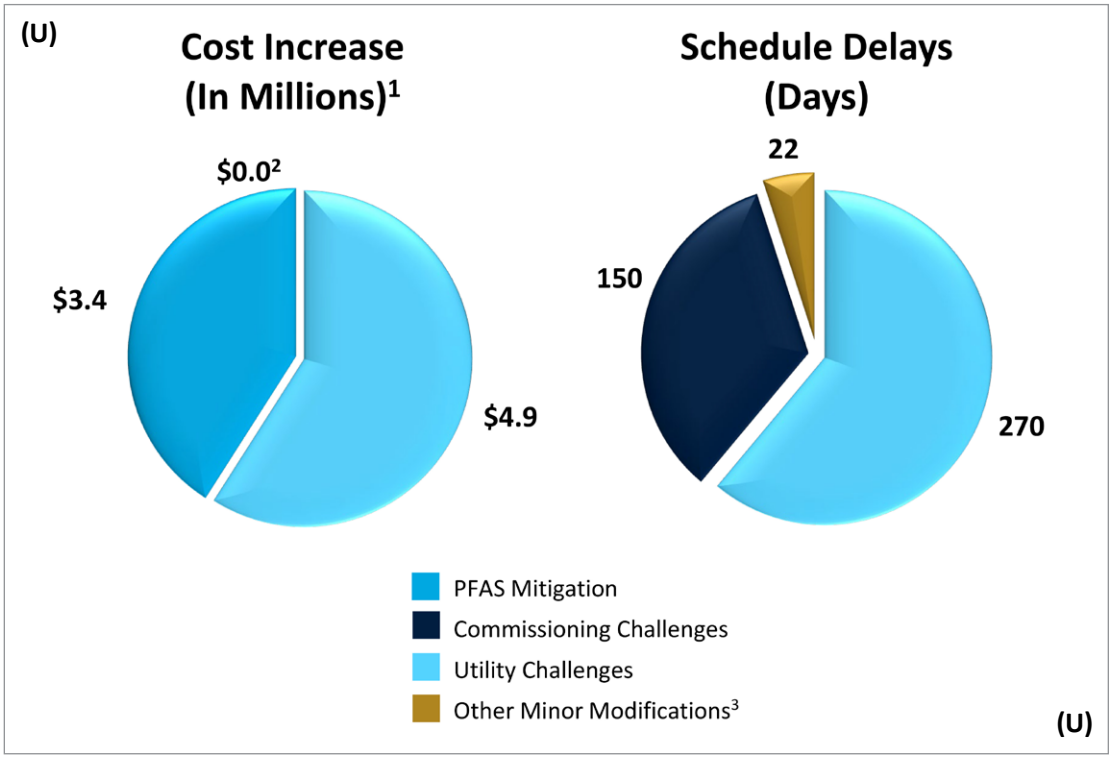
(U) As of December 31, 2023, OICC Florence contracting officials increased the Flight Line Utility Modernization project by $7.9 million (or 8.8 percent) and extended the CLIN completion date to September 29, 2023, a delay of 442 days (or 47.3 percent), of which $4.9 million and 270 days were attributable to utility

[23] (~~CUI~~) [redacted]
(U) Unified Facilities Criteria, section 4-010-05, "Sensitive Compartmented Information Facilities Planning, Design, and Construction," paragraph 1-12, "Construction Security Plan (October 2013 with change 1)."

[24] (~~CUI~~) [redacted]

(U) challenges with the Flight Line Utility Modernization project.[25] OICC Florence and contracting officials' utility challenges developed from redesigns, relocations, mislabeled utilities, and various other issues. See Figure 11 for an overview of the cost increases and schedule delays for the Flight Line Utility Modernization Project as of December 31, 2023.

(U) Figure 11. Flight Line Utility Modernization Project Cost Increase and Schedule Delay Totals, as of December 31, 2023



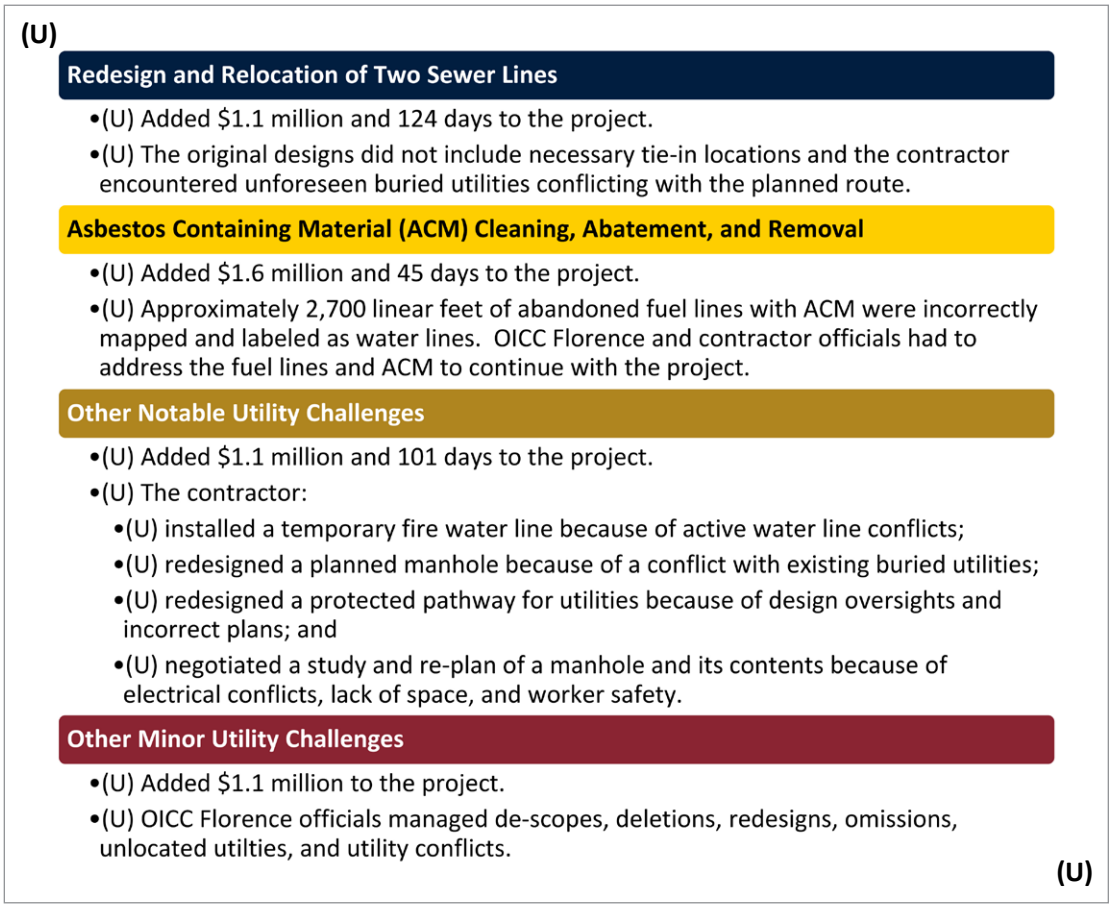
[1] (U) The cost increases exclude all exercised options and planned modifications so that the increase represents only unplanned cost increases.
(U) Other minor modifications had a value of -$0.4 million.
[2] (U) Actual value of commissioning challenges is $40,427, rounded down to $0.
[3] (U) We are not discussing or making recommendations related to the other minor modifications.
(U) Source: The DoD OIG.

(U) OICC Florence officials stated that many of the utility challenges they experienced with the Flight Line Utility Modernization project were because the utility maps and drawings of MCAS Cherry Point were from the 1940s to 1960s. Base officials struggled to accurately interpret and convert the old utility maps and drawings into the Geographic Information System, leading the designer of record to rely on outdated and inaccurate data. Additionally, the designer conducted limited preliminary investigations of the site through points of visual aid, access

[25] (U) OICC Florence officials accepted the Flight Line Utility Modernization project as complete on September 11, 2023, an 18-day efficiency gain by the contractor compared to the modified CLIN completion date of September 29, 2023.

(U) holes, or places of easy access. The contractor discovered the full extent of the unreliability of the utility data when personnel began digging and tracing the existing utility lines. As a result, the designer's plan did not account for unforeseen site conditions and anomalies. See Figure 12 for major utility challenges.

(U) Figure 12. Major Utility Challenges



(U) Source: The DoD OIG.

(U) In addition to OICC Florence officials, NAVFAC officials at Naval Base Kitsap also experienced challenges locating and identifying existing utilities. Our Recommendation 1.c to establish guidance for increased site surveys to include investigations of utilities should address this issue for future MILCON projects. Therefore, we are not making an additional recommendation.

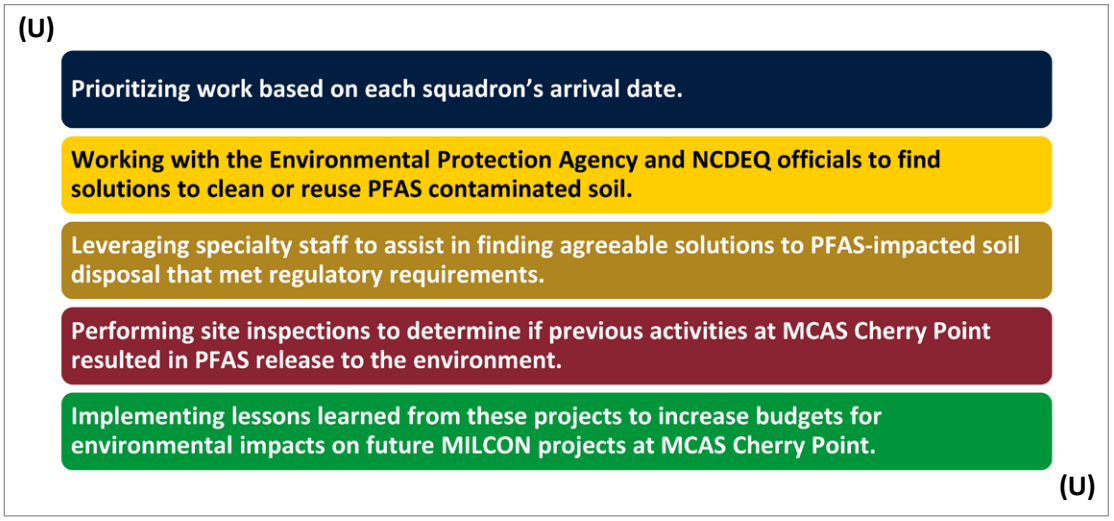
(U) OICC Florence Officials Implemented Mitigating Controls and Lessons Learned for Ongoing and Future MILCON Projects

(U) During the construction of the Aircraft Maintenance Hangar and Flight Line Utility Modernization projects, OICC Florence officials implemented several courses of action to mitigate additional cost increases and schedule delays, and noted several lessons learned for future MILCON projects.

(U) OICC Florence Officials PFAS Mitigation Controls And Lessons Learned

(U) OICC Florence officials implemented mitigating controls and lessons learned related to PFAS mitigation control. See Figure 13 for the mitigating factors and lessons learned.

(U) Figure 13. OICC Florence PFAS Mitigation Controls and Lessons Learned



(U) Source: The DoD OIG.

(U) For example, OICC Florence officials stated that the squadrons arrived on different dates, which allowed OICC Florence officials to eventually shift their focus to completing sections of the interior for the squadrons, instead of the whole interior of the hangar at once. OICC Florence mitigated the effects of project delays by changing course and focusing on completing half of the hangar for the first squadron.

(U) OICC Florence Officials Documented And Shared Lessons Learned For Joint Strike Fighter Program MILCON Projects

(U) Design managers, engineering technicians, construction managers, and other officials involved in Joint Strike Fighter MILCON projects documented and shared lessons learned with other commands overseeing Joint Strike Fighter MILCON projects. Resident OICC Florence Cherry Point officials reviewed the lessons learned before, or early in the Aircraft Maintenance Hangar project, helping them to potentially avoid issues that were previously experienced on similar projects at other installations. Additionally, OICC officials added lessons learned from the Aircraft Maintenance Hangar project to the existing shared lessons learned documentation including that OICC Florence officials should fully establish a Land Use Control plan before awarding the contract and review all request for proposal attachments for potential ambiguities.

(U) OICC Florence Officials Utility Challenges Lessons Learned

(U) OICC Florence and contractor personnel encountered many challenges because of outdated, inaccurate, or unavailable utility information. OICC Florence officials stated that they should have done better Subsurface Utilities Exploration in the pre-award stage, through more visual inspections, ground penetrating radar, thorough records reviews, and on-site inspections. Officials noted that on long, larger projects over a wide area, such as the Flight Line Utility Modernization project, old mismarked subsurface utilities are always an issue.

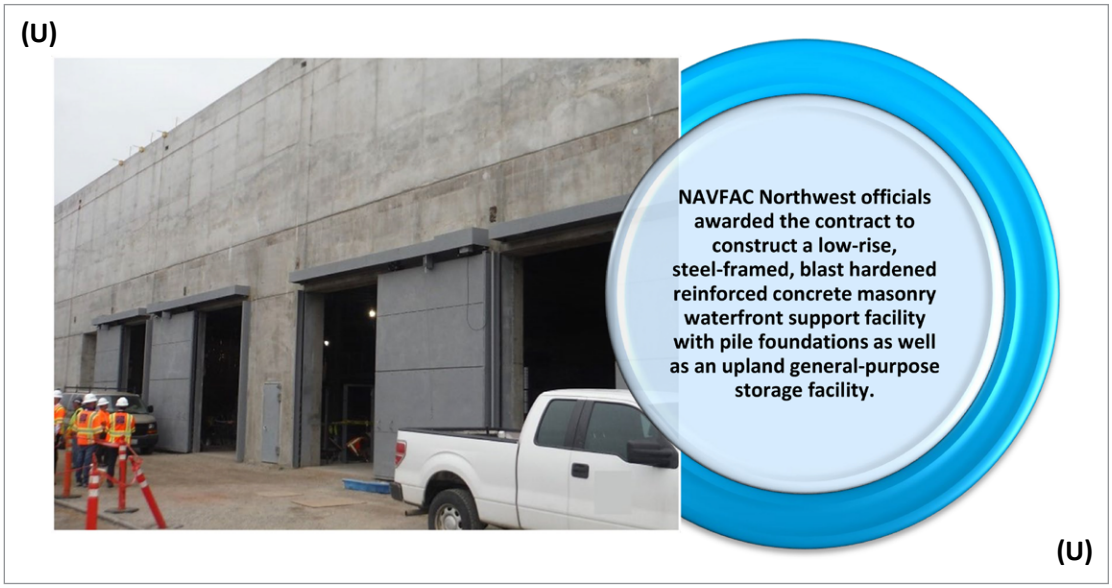
(U) OICC Florence officials stated that they applied lessons learned from the utility modernization project to other projects. For example, on another project, OICC Florence officials retained the architectural and engineering firm for both phases of the project and used extensive visual inspection to validate the old utility data and minimize potential issues.

(U) NAVFAC Northwest Officials Experienced Cost Increases and Schedule Delays for the Submarine Refit Maintenance Support Facility

(U) NAVFAC Northwest officials awarded the Submarine Refit Maintenance Support Facility as a nearly 3-year project on September 29, 2018, for $34.7 million with a CCD of June 30, 2021. As of December 31, 2023, NAVFAC Northwest contracting officials increased the contract amount by $2.4 million (or 6.9 percent) and extended the CCD to September 14, 2022, an increase of 441 days (or 43.9 percent). As of December 31, 2023, the Submarine Refit Maintenance Support Facility MILCON project is ongoing, and construction remains incomplete with an estimated CCD of September 14, 2022.[26] Figure 14 shows the construction of the Submarine Refit Maintenance Support Facility and a description of the project.

[26] (U) As of December 31, 2023, NAVFAC Northwest contracting officials were negotiating additional modifications to increase the contract cost and add days to the CCD.

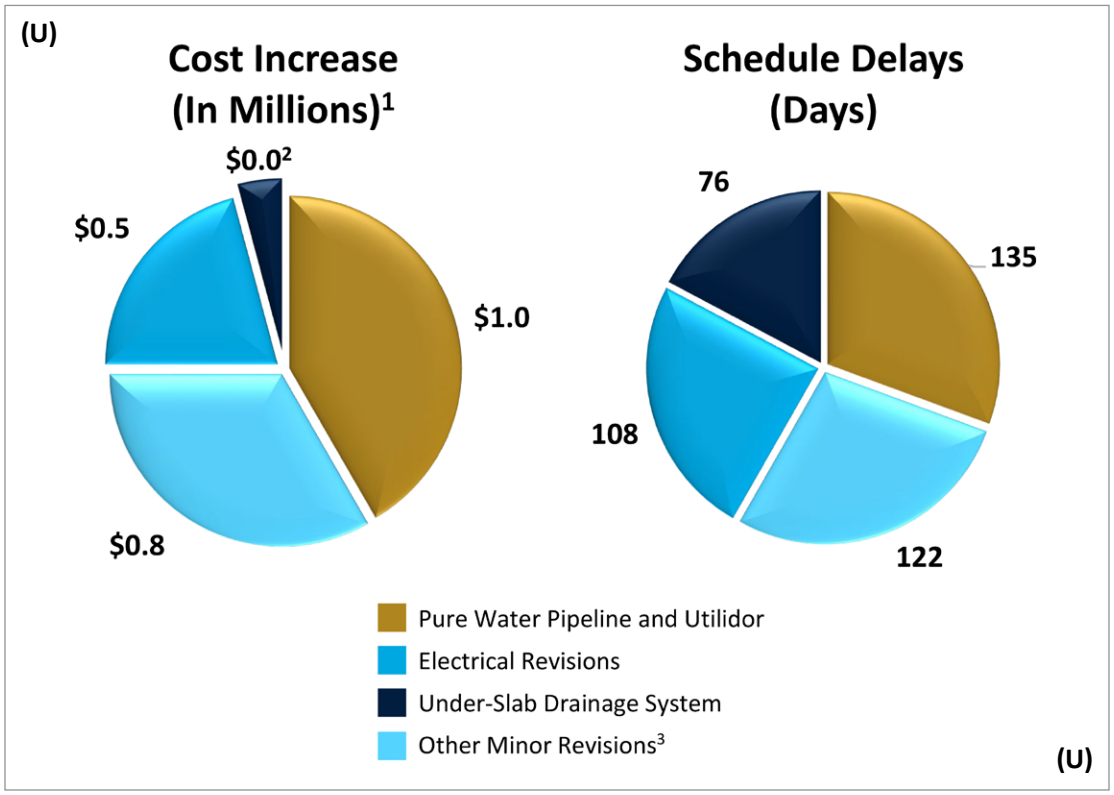
(U) Figure 14. Submarine Refit Maintenance Support Facility



(U) Source: NAVFAC Northwest

(U) During the execution of the project, NAVFAC Northwest officials encountered several issues requiring the contractor to install a pure water pipeline and utilidor into the project site, electrical revisions, and modifications to the under-slab drainage system. Figure 15 details the cost increases and schedule delays for the revisions.

(U) Figure 15. Submarine Refit Maintenance Support Facility Project Cost Increase and Schedule Delay Totals, as of December 31, 2023



[1] (U) The cost increases exclude all exercised options and planned modifications so that the increase represents only unplanned cost increases.

[2] (U) Actual value is $6,396 rounded down to $0.

[3] (U) We are not discussing or making recommendations related to the other cost increases and schedule delays.

(U) Source: The DoD OIG.

(U) NAVFAC Northwest Officials Increased Contract Cost and Schedule to Address the Pure Water Pipeline and Utilidor

(U) As of December 31, 2023, NAVFAC Northwest contracting officials increased the contract cost by $1 million and extended the CCD by 135 days for the contractor to install a pure water pipeline and utilidor at the project site. Puget Sound Naval Shipyard and Intermediate Maintenance Facility personnel initially responsible for the pure water pipeline installation could not perform the required work, resulting in the cost increases and associated schedule delays. NAVFAC Northwest officials explained that the pure water piping runs across the project site and along existing concrete structures, including a new concrete storage shed wall, new utilidor, and the existing drydock utility tunnel. According to the NAVFAC Northwest contracting officer, while locating utilities, NAVFAC officials and the contractor both relied on incomplete "as built" drawings, and uncovered utilities only when

(U) digging. Further complicating construction progress, NAVFAC Northwest officials explained they could not interrupt power to excavate for utilities when the Navy had a submarine docked because the submarine required continuous power. As a result, the contractor could not excavate at the construction site until the submarine departed and power could be interrupted. Our Recommendation 1.c to establish a standard operating procedure for investigating existing utilities during the design phase should address the issue for future projects. Therefore, we are not making an additional recommendation.

(U) Additionally, according to the NAVFAC senior project manager, because of unforeseen mission workload requirements, the Puget Sound Naval Shipyard and Intermediate Maintenance Facility pure water shop did not have enough staff to install the pure water piping system as originally planned. Therefore, NAVFAC Northwest officials relied on the contractor to install the pure water pipeline instead of Navy personnel to avoid falling further behind schedule. Increased coordination between NAVFAC Northwest officials and pure water shop personnel during the design and award phase concerning the timing of the project may have mitigated the cost increases and associated delays. Our Recommendation 1.d to conduct after-action reviews of all projects that are over budget or behind schedule and share those results across NAVFAC should address the issue of better coordination for in-house work. Therefore, we are not making an additional recommendation.

(U) NAVFAC Northwest Officials Increased Contract Cost and Schedule to Address Electrical Revisions

(U) NAVFAC Northwest officials increased the contract cost by $0.5 million and extended the CCD by 108 days for the contractor to make electrical revisions to the Submarine Refit Maintenance Support Facility project. The NAVFAC Northwest contracting officer stated the revisions resulted from site conditions that differed from what was anticipated. NAVFAC Northwest personnel developed the design; however, because the site was mostly concrete and rebar and personnel relied on outdated base utility maps, it was difficult for design personnel to determine what was under the surface. Therefore, when the contractor started construction, contractor personnel uncovered obstructions that were unaccounted for in the design and had to make revisions. Our Recommendation 1.c to the NAVFAC Commander to establish a standard operating procedure for investigating existing utilities during the design phase will also address this issue. Therefore, we are not making an additional recommendation.

(U) NAVFAC Northwest Officials Increased Contract Cost and Schedule to Address Modifications to the Under-Slab Drainage System

(U) NAVFAC Northwest contracting officials increased the contract cost by $6,396 and extended the CCD by 76 days for modifications to the building's under-slab drainage system. A NAVFAC Northwest contracting official issued the modification because design clarifications required the modification of the drainage system. The contractor originally included the drainage system in the contract but redesigned it to include changes in elevation and alternate pathways because of conflicts with other building components. Our Recommendation 1.c to the NAVFAC Commander to establish guidance for increased site surveys during the design phase of the project to better identify existing conditions should address this issue. Therefore, we are not making another recommendation.

(U) NAVFAC Northwest Officials Mitigated Further Cost Increases and Schedule Delays to the Pure Water Pipeline

(U) NAVFAC Northwest contracting officials determined that waiting on Puget Sound Naval Shipyard and Intermediate Maintenance Facility personnel to install the pure water pipeline and utilidor would result in continued cost increases and schedule delays to complete the MILCON project. Therefore, NAVFAC Northwest contracting officials issued a modification to the contract for the contractor to install the pipeline and utilidor instead of waiting on Navy personnel to perform the installation, in order to mitigate future cost increases and schedule delays. As a result, the contractor was able to continue construction of the Submarine Refit Maintenance Support Facility.

(U) NAVFAC Southwest Officials Experienced Cost Increases and Schedule Delays for the Ammunition Supply Upgrade Phase II Project

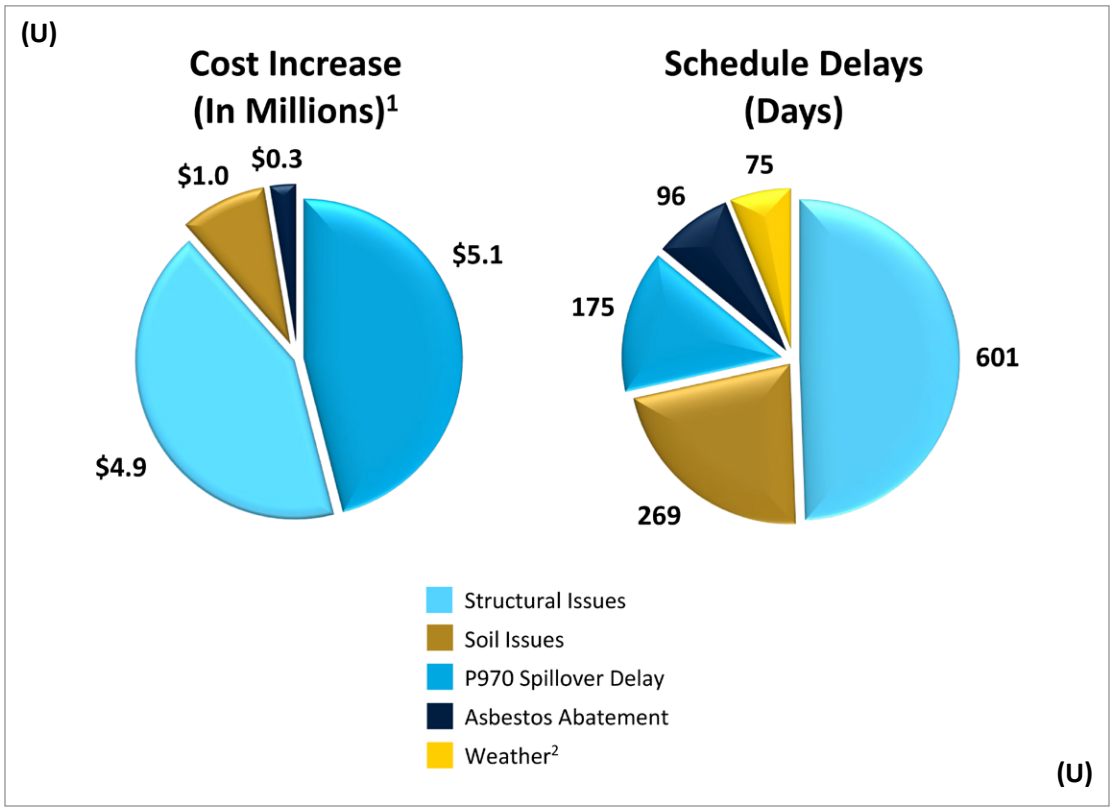
(U) NAVFAC Southwest officials awarded the Ammunition Supply Point Upgrade Phase II on September 27, 2018, for $34.4 million with a CCD of October 11, 2020. As of December 31, 2023, NAVFAC Southwest contracting officials increased the contract amount by $11.3 million (33 percent) and extended the CCD to February 9, 2024, a delay of 1,216 days (163.2 percent) because of several factors including structural issues, soil issues, delays from an adjacent MILCON project, asbestos, and unexpected weather factors at the project site. As of December 31, 2023, the Ammunition Supply Point Upgrade Phase II Project was ongoing, and construction was not complete. Figure 16 shows Magazine 16 and a description of the project.

(U) Figure 16. Close-Up View of Ammunition Supply Point Upgrade Phase II Project Magazine 16

(U) Source: The DoD OIG.

(U) NAVFAC Southwest officials awarded the contract to construct high explosive magazines at Camp Pendleton. See Figure 17 for an overview of cost increases and schedule delays for the Ammunition Supply Upgrade Phase II project as of December 31, 2023.

(U) Figure 17. Ammunition Supply Upgrade Phase II Project Cost Increase and Schedule Delay Totals, as of December 31, 2023



[1] (U) The cost increases exclude all exercised options and planned modifications so that the increase represents only unplanned cost increases.

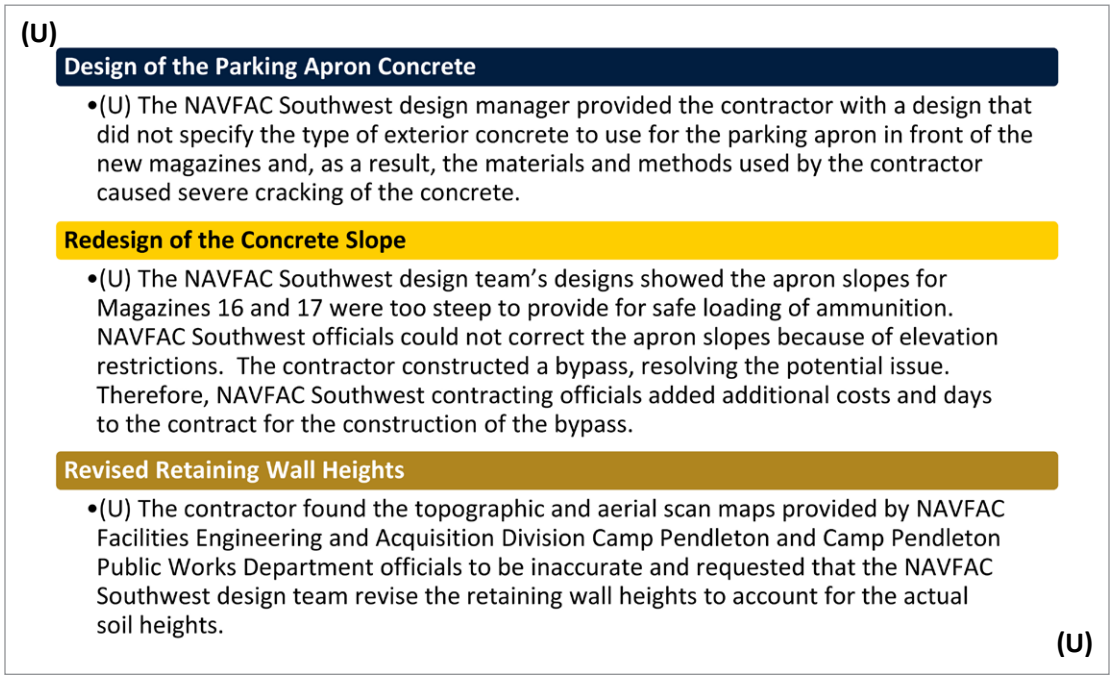
[2] (U) We are not discussing or making recommendations related to the weather.

(U) Source: The DoD OIG.

(U) NAVFAC Southwest Officials Added Costs and Days for Structural Issues

(U) As of December 31, 2023, NAVFAC Southwest contracting officials added $4.9 million and 601 days to the contract because of structural design changes to the ammunition supply point. According to NAVFAC Southwest contracting officials, the NAVFAC Southwest design team drew plans that contained design flaws. According to the construction manager, most of the structural design flaws only became apparent to the contractor during the construction phase. Figure 18 outlines the major structural flaws and design revisions to the ammunition supply point.

(U) Figure 18. Major Structural Flaws and Design Revisions to the Ammunition Supply Point Upgrade



(U) Source: The DoD OIG.

(U) Our Recommendation 1.c to establish guidance for increased site surveys and investigations to better identify and understand existing conditions, including the terrain and topography of the site when designing structures, should address this issue for future MILCON projects. Therefore, we are not making an additional recommendation.

(U) NAVFAC Southwest Officials Experienced Soil Issues at the Project Site

(U) As of December 31, 2023, NAVFAC Southwest contracting officials added $1 million and 269 days to the contract because the contractor had to mitigate poor soil conditions and make the surface favorable for constructing the new magazines. The contractor investigated the surrounding soil and determined that unsuitable soil existed underneath the existing structures, deeper than originally indicated on the original soil plans. NAVFAC Southwest contracting officials compensated the contractor to conduct adequate soil tests at the project site as well as grade and excavate the soil. Figure 19 shows Magazines 10-19.

(U) Figure 19. A Labeled Panoramic View of Magazines 10-19
(U) Source: NAVFAC Southwest.

(U) NAVFAC Southwest Officials Experienced a Delay Related to Ammunition Supply Point Upgrade Phase I (P970)

(U) As of December 31, 2023, NAVFAC Southwest contracting officials added $5.1 million and 175 days to the contract because of delays encountered by NAVFAC Facilities, Engineering, and Acquisitions Division Camp Pendleton on an adjacent MILCON project, for Ammunition Supply Point Upgrade Phase I (P970). NAVFAC Southwest officials stated that the Phase I MILCON project directly affected the Ammunition Supply Point Upgrade Phase II project because of the continued use of existing magazines at the project site and challenges coordinating between the two contractors.

(U) Further complications arose when the contractor for Phase I discovered suspected unexploded ordnance on the site in early 2018. To mitigate potential safety hazards, NAVFAC Southwest contracting officials hired an unexploded ordnance contractor to scan and survey the surrounding soil, which delayed both projects. As a result of the unforeseen delays, NAVFAC contracting personnel compensated the contractor for the increase from the originally quoted 2018 prices to newly quoted prices in 2021.

(U) Furthermore, during the construction of Phase II, the contractor needed interim power and other utility services. NAVFAC Southwest contracting officials initially provided plans which made these services dependent on adjacent Magazine 19, part of Phase I; however, at the time Phase I was significantly delayed and not yet operational.[27] If the issue of supplying interim utility services was not addressed, Marine Corps Base Camp Pendleton officials would incur increased maintenance costs and the probability of unplanned service outages would increase. To save costs and avoid potential delays, NAVFAC Southwest contracting officials implemented a temporary solution for providing utility services independent of the delayed Phase I project.

[27] (U) The Ammunition Supply Point Upgrade Phase I MILCON project constructed one low-rise, earth-covered, above ground, high explosive magazine with reinforced concrete walls, roofs, foundations, and floors.

(U) Our Recommendation 1.d to conduct after-action reviews should address the issues of NAVFAC officials' difficulties in scheduling work between adjacent projects and sharing lessons learned from one similar project to another. Therefore, we are not making an additional recommendation.

(U) NAVFAC Southwest Officials Added Costs and Days for the Removal of Asbestos

(U) NAVFAC Southwest contracting officials relied on existing HAZMAT material reports for their estimations of asbestos-containing materials (ACM); however, the contractor discovered additional unforeseen ACM, resulting in an increase of $0.3 million and 96 days to the contract as of December 31, 2023. While the contract and DD Form 1391 account for the presence of ACM and HAZMAT, the project manager stated that NAVFAC Southwest personnel underestimated the ACM quantity.

(U) NAVFAC Southwest contracting officials issued two modifications for additional abatement at Magazines 11, 13, 15, and 17. Although the contractor encountered additional materials over the estimated amount, NAVFAC Southwest contracting officials relied on existing HAZMAT material reports to estimate ACM. Our Recommendation 1.c to establish guidance for increased site surveys and investigations to include HAZMAT during the design phase of MILCON projects should address this issue on future MILCON projects. Therefore, we are not making another recommendation.

(U) NAVFAC Lessons Learned from the Ammunition Supply Upgrade Phase II Project

(U) NAVFAC Southwest and NAVFAC Facilities, Engineering, and Acquisitions Division Camp Pendleton officials noted several lessons learned. According to the project manager for the Ammunition Supply Upgrade Phase II, NAVFAC Southwest contracting officials now develop a cost scheduling risk analysis document to go along with the DD Form 1391 which will be incorporated into all MILCON projects going forward.[28] Additionally, NAVFAC Southwest contracting officials for the Ammunition Supply Upgrade Phase II observed the need for NAVFAC Southwest contracting officials and NAVFAC Facilities, Engineering, and Acquisitions Division Camp Pendleton officials to conduct more thorough site visits and inspections. Our Recommendation 1.c further addresses this issue for future NAVFAC MILCON projects.

[28] (U) The Under Secretary of Defense for Acquisition and Sustainment issued a memorandum on March 17, 2020, requiring project budget estimates using industry recommended practices to assess project financial risk for all MILCON projects submitted in FY 2022 and beyond.

(U) Delayed MILCON Projects and Increased Costs Impact DoD Readiness and Operations

(U) NAVFAC officials incurred $63.3 million in cost increases over contract award amounts, and schedule delays ranging from 383 days to 1,563 days, a total of 11 years and 1 month (4,045 days), on the five MILCON projects we reviewed. Delays in the types of MILCON projects we reviewed, such as the construction of research laboratories, maintenance hangars, utility networks, support facilities, and ammunition supply points hinder readiness and DoD officials' ability to meet certain National Defense Strategy goals.

(U) NAVFAC officials can further reduce MILCON cost increases and project delays by implementing lessons learned, best practices, and strategies for improving the MILCON process through better planning and designing of projects, including NAVFAC personnel thoroughly analyzing existing utilities, HAZMAT, and soil conditions before awarding construction contracts. Additionally, NAVFAC personnel can share lessons learned during the MILCON process to identify gaps and long-term solutions and minimize future cost increases and schedule delays.

(U) Recommendations, Management Comments, and Our Response

(U) Recommendation 1

(U) We recommend the Commander, Naval Facilities Engineering Systems Command:

a. (U) Determine whether Naval Facilities Engineering Systems Command Washington officials not fully considering the extent of HAZMAT at the Electronics Science and Technology Laboratory at the Naval Research Laboratory was an isolated incident, and whether they held officials accountable for not following Naval Facilities Criteria 1-300-09N; and subsequently take the appropriate corrective actions to ensure officials across the Command follow the guidance.

(U) Commander, Naval Facilities Engineering Systems Command Comments

(U) The Commander, NAVFAC, agreed with our recommendation. The Commander stated that they determined that the issues associated with the project's conversion from a facilities sustainment, restoration, and modernization project to a military construction project caused a discontinuity in the project development that impacted the surveys and studies conducted in ways that are not indicative of a systemic problem. The Commander stated that the project was funded with operation and maintenance funding and was not originally intended to provide

(U) a full facility renovation. The Commander stated that they are working with project sponsors to increase programming and budgeting for the necessary operation and maintenance planning funds.

(U) Our Response

(U) Comments from the Commander partially addressed the recommendation; therefore, the recommendation is unresolved. We agree with the Commander that many of the issues experienced with this project were not indicative of a systemic problem; however, the response did not fully address the recommendation. Specifically, we request the Commander provide comments within 30 days in response to the final report to address whether they held officials accountable for not following Naval Facilities Criteria 1-300-09N, and the corrective actions planned to ensure officials across the Command follow the guidance.

b. (U) Determine why Naval Facilities Engineering Systems Command Washington officials did not notify contract bidders of the increased scope of work as required by the Naval Facilities Engineering Systems Command Project Management Manual and take appropriate corrective actions to ensure contracting officials across the Command provide bidders with up-to-date hazardous material information.

(U) Commander, Naval Facilities Engineering Systems Command Comments

(U) The Commander, NAVFAC, partially agreed with our recommendation. The Commander explained that the full extent of the hazardous materials was not shared with the bidders because the full extent was not known until construction was underway. The Commander stated that it is standard practice for NAVFAC officials to share site and facilities conditions with bidders during the solicitation process. The Commander stated that NAVFAC officials will continue to inform contract bidders of known site conditions in the acquisition process.

(U) Our Response

(U) Comments from the Commander did not address the specifics of the recommendation; therefore, the recommendation is unresolved. NAVFAC, Washington officials received a 2017 hazardous materials report identifying higher levels of contamination before officials awarded the construction contract. Although they had the information, NAVFAC, Washington officials did not notify the contract bidders of the increased scope of work before contract award. NAVFAC Washington officials did not notify the contractor of the results of the 2017 hazardous materials report until February 8, 2018, nearly 3 months after contract award on November 2, 2017.

(U) Therefore, we request the Commander provide comments within 30 days in response to the final report to address why NAVFAC Washington officials did not notify contract bidders of the increased scope of work and what corrective actions the Command will take to ensure contracting officials provide bidders with up-to-date hazardous material information.

c. (U) Establish guidance for increased site surveys and investigations to better identify and understand existing site conditions, including hazardous materials, utilities, topography and terrain, and soil conditions during the design phase of military construction projects.

(U) Commander, Naval Facilities Engineering Systems Command Comments

(U) The Commander, NAVFAC, partially agreed with our recommendation. The Commander explained that NAVFAC relies on project sponsors to provide operation and maintenance funding early in the project development process. Additionally, when military construction projects are added to the budget late, the shortened planning and design time impacts NAVFAC official's ability to perform advanced planning and studies. The Commander stated that NAVFAC officials actively develop, maintain, and employ advanced planning and design guidance that is effective when properly funded.

(U) Our Response

(U) Comments from the Commander partially addressed the recommendation; therefore, the recommendation is unresolved. We acknowledge that unforeseen site conditions impacted four of the five military construction projects we reviewed: the Electronics Science and Technology Laboratory, Naval Research Laboratory, Washington, D.C.; Flight Line Utility Modernization, Marine Corps Air Station, Cherry Point, North Carolina; Submarine Refit Maintenance Support Facility, Naval Base Kitsap–Bangor, Silverdale, Washington; and Ammunition Supply Upgrade Phase II, Camp Pendleton, California. Although the Electronics Science and Technology Laboratory, Naval Research Laboratory, was impacted because it was added to the MILCON budget late, NAVFAC officials at each of the other locations also experienced challenges because of differing site conditions.

(U) NAVFAC maintains multiple guidance documents for officials to use during the planning phase; however, in each of these instances the existing guidance was either not followed or insufficient to determine the extent of the challenges with existing site conditions resulting in extensive cost increases and schedule delays.

(U) Therefore, we request the Commander provide comments within 30 days in response to the final report specifying the action the Command would take to address establishing guidance for increased site surveys and investigations to better identify and understand existing site conditions, including hazardous materials, utilities, topography and terrain, and soil conditions during the design phase of military construction projects.

d. (U) Issue guidance to contracting personnel to conduct an after-action review for each Naval Facilities Engineering Systems Command project over budget or behind schedule and include contracting, design, funding, and oversight personnel in the after-action review to discuss lessons learned from pre-award through project completion, establish a method for sharing results across the Command, and require Naval Facilities Engineering Systems Command officials to review the after-action reviews before planning new military construction projects.

(U) Commander, Naval Facilities Engineering Systems Command Comments

(U) The Commander, NAVFAC, agreed with our recommendation. The Commander agreed to outline the process for conducting after-action reviews with relevant stakeholders and to communicate lessons learned from pre-award through project completion. In addition, the Commander will leverage NAVFAC's Joint Lessons Learned Information System to record Lessons Learned during these reviews. The Commander stated that the outline of the after-action review process and recording lessoned learned in the Joint Lessons Learned Information System would be completed by the second quarter of FY 2025.

(U) Our Response

(U) Comments from the Commander addressed the specifics of the recommendation; therefore, the recommendation is resolved but will remain open. We will close the recommendation once we verify that NAVFAC officials outlined the after-action review process and recorded lessoned learned in the Joint Lessons Learned Information System.

e. (U) Review the Land Use Control plan development process and update that process to address coordination with multiple stakeholders, and methods to streamline revisions.

(U) Commander, Naval Facilities Engineering Systems Command Comments

(U) The Commander, NAVFAC, partially agreed with our recommendation. The Commander explained that Land Use Control Plans are the responsibility of the installation commander and, when requested, the NAVFAC provides execution and technical support. The Commander agreed to communicate lessons learned with installation commanders regarding processes governing stakeholder coordination and plan revisions by the fourth quarter of FY 2025.

(U) Our Response

(U) Comments from the Commander addressed the specifics of the recommendation; therefore, the recommendation is resolved but will remain open. We will close the recommendation once we verify that NAVFAC communicated lessons learned with installation commanders regarding processes governing stakeholder coordination and plan revisions.

f. (U) Develop and issue Naval Facilities Engineering Systems Command supplemental guidance to the Unified Facilities Guide Specifications, Section 01 91 00.15, "Building Commissioning," that includes developing specific project schedules and establishing a regular schedule to discuss commissioning with all stakeholders early in the military construction process.

(U) Commander, Naval Facilities Engineering Systems Command Comments

(U) The Commander, NAVFAC, agreed with our recommendation. The Commander agreed to develop additional direction within the Unified Facilities Guide Specifications to address project schedules and establishing a regular schedule to discuss commissioning with all stakeholders early in the military construction process by the fourth quarter of FY 2025.

(U) Our Response

(U) Comments from the Commander addressed the specifics of the recommendation; therefore, the recommendation is resolved but will remain open. We will close the recommendation once we verify that the Commander issued additional direction within the Unified Facilities Guide Specifications addressing project schedules and establishing regular schedule to discuss commissioning.

g. (U) Coordinate with Marine Corps Headquarters and Manpower Management Officer Assignment Command officials to issue guidance establishing mutual expectations for staffing the Site Activation Task Force to military construction projects to ensure timely and sufficient staffing of future military construction projects.

(U) Commander, Naval Facilities Engineering Systems Command Comments

(U) The Commander, NAVFAC, agreed with our recommendation. The Commander agreed to coordinate with stakeholders to determine the appropriate methodology and guidance for staffing future task forces by the fourth quarter of FY 2025.

(U) Our Response

(U) Comments from the Commander addressed the specifics of the recommendation; therefore, the recommendation is resolved but will remain open. We will close the recommendation once we verify that the Commander coordinated with stakeholders and determined the appropriate methodology and guidance for staffing future task forces

(U) Recommendation 2

(U) We recommend the Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience, in coordination with the Deputy Assistant Secretary of Defense for Environmental Management and Restoration, issue guidance emphasizing to personnel the importance of: 1) identifying situations where Per- and Polyfluoroalkyl Substance-impacted soil and water may be encountered during military construction projects; and 2) including all reasonable costs to manage Per- and Polyfluoroalkyl Substance-impacted soil and water when completing DD Form 1391, "FY ____ Military Construction Project Data," for all future military construction projects.

(U) Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience Comments

(U) The Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience agreed with our recommendation. The Deputy Assistant Secretary stated that they are already working with the Office of the Deputy Assistant Secretary of Defense for Environment and Energy Resilience to develop and issue policy addressing PFAS-impacted soil and water in the project development and execution process.

(U) Our Response

(U) Comments from the Deputy Assistant Secretary addressed the specifics of the recommendation; therefore, the recommendation is resolved but will remain open. We will close the recommendation once we verify that the Deputy Assistant Secretary issued policy addressing PFAS-impacted soil and water.

(U) Appendix

(U) Scope and Methodology

(U) We conducted this performance audit from May 2023 through August 2024 in accordance with 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 on our audit objectives.

(U) Internal Control Assessment and Compliance

(U) We assessed internal controls and compliance with laws and regulations necessary to satisfy the audit objective. In particular, we assessed the control environment, monitoring activity, and control activity internal control that was in place by interviewing NAVFAC personnel, with an understanding that each NAVFAC Component is different, and no two Component Commands will have an identical internal control system. We also verified whether NAVFAC officials mitigated cost increases and schedule delays from reoccurring on future MILCON projects. However, because our review was limited to these internal control components and underlying principles, it may not have disclosed all internal control deficiencies that may have existed at the time of this audit.

(U) Universe and Sample Information

(U) To determine our audit universe, we reviewed the Secretary of Defense's monthly MILCON report from March 2023 for MILCON projects.[29] The March 2023 2851 monthly report contained 247 projects that met our criteria. We selected active Navy and Marine Corps major MILCON projects located within the United States and sought projects across different Component Commands to include in our sample. From the 247 projects listed in the March 2023 2851 monthly report, we non-statistically sampled five MILCON projects from four different NAVFAC Component Commands that had high cost increases and schedule delays.

(U) We reviewed three NAVFAC Atlantic projects and two NAVFAC Pacific projects for this audit. Specifically, we reviewed MILCON projects at multiple NAVFAC Facilities Engineering Component Commands including Mid-Atlantic, Washington, D.C., Northwest, and Southwest. See Table 2 for a list of the projects we reviewed.

[29] (U) As provided under 10 U.S.C. § 2851, the Secretary of Defense generates a monthly online report detailing the status of the DoD's MILCON projects worldwide.

(U) Table 2. MILCON Project Information as of March 31, 2023

(U) Component Command	Project Number	Project Title	Project Award Value (In Millions)[1]	Cost Increase (In Millions)[1]	Days Delayed
Washington	P275	Electronics Science and Technology Laboratory, Naval Research Laboratory, Washington, D.C.	$63.3	$16.0	1,320
Mid-Atlantic/ OICC Florence[2]	P199	Aircraft Maintenance Hangar, Marine Corps Air Station, Cherry Point, NC	105.5	12.9	138
Mid-Atlantic/ OICC Florence[2]	P235	Flight Line Utility Modernization, Marine Corps Air Station, Cherry Point, NC	89.6	7.9	230
Northwest	P400	Submarine Refit Maintenance Support Facility, Naval Base Kitsap – Bangor, Silverdale, WA	34.7	2.4	441
Southwest	P1310	Ammunition Supply Upgrade Phase II project at Marine Corps Base, Camp Pendleton, CA	34.4	9.0	896
Total			**$327.5**	**$48.2**	**3025[2] (U)**

[1] (U) The costs and cost increases exclude all exercised options and planned modifications so that the increase represents only unplanned cost increases.

[2] (U) The Aircraft Maintenance Hangar project (P199) and Flight Line Utility Modernization project (P235) are both on the same contract; however, NAVFAC Mid-Atlantic contracting officials established separate completion dates for each project. Therefore, the report uses the CLIN completion date for each project, instead of the CCD for the contract.

(U) Source: The DoD OIG.

(U) Review of Documentation and Interviews

(U) We obtained and reviewed contracts and documentation issued by contracting officials at NAVFAC Washington, NAVFAC Mid-Atlantic, NAVFAC Northwest, NAVFAC Southwest, and OICC Florence. We reviewed the following contract files and additional documentation.

- (U) Contracts and associated modifications
- (U) Price Negotiation Memorandums, Technical Assessments, Proposed Changes, and other documentation for each modification
- (U) Solicitations and Requests for Proposals
- (U) Independent Government Estimates

- (U) DD Forms 1391 submitted to Congress by the Navy
- (U) Pictures of the MILCON projects

(U) We interviewed program and contracting officials from NAVFAC Washington, NAVFAC Mid-Atlantic, NAVFAC Northwest, NAVFAC Southwest, and OICC Florence. We also interviewed officials from the Office of the Under Secretary of Defense for Acquisition and Sustainment, Office of the Under Secretary of Defense (Comptroller), Office of the Deputy Assistant Secretary of Defense for Construction, Office of the Chief of Naval Operations, NAVFAC Headquarters, Assistant Secretary of the Navy (Energy, Installations, and Environment), and Marine Corps Installations Command.

(U) We also reviewed the following criteria and guidance.

- (U) Title 10, United States Code chapter 169, "Military Construction, and Military Family Housing"
- (U) DoD Financial Management Regulation 7000.14-R, volume 2B chapter 6, "Military Construction-Family Housing Appropriations"
- (U) DoD Financial Management Regulation 7000.14-R, volume 3 chapter 7, "Reprogramming of Military Construction and Family Housing Appropriated Funds"
- (U) Federal Acquisition Regulation (FAR) Part 7, "Acquisition Planning"
- (U) FAR Part 11, "Describing Agency Needs"
- (U) FAR Part 31, "Contract Cost Principles and Procedures"
- (U) FAR Part 33, "Protests, Disputes, and Appeals"
- (U) FAR Part 36, "Construction and Architect-Engineer Contracts"
- (U) FAR Part 42, "Contract Administration and Audit Services"
- (U) FAR Part 43, "Contract Modifications"
- (U) Defense Federal Acquisition Regulation Supplement (DFARS) Part 236.6, "Architect-Engineer Services"
- (U) DFARS Part 252, "Solicitation Provisions and Contract Clauses," Subpart 252.2, "Text of Provisions and Clauses," Section 252.243-7002, "Requests for Equitable Adjustment"
- (U) DoD Directive 4270.5, "Military Construction", February 12, 2005 (Incorporating Change 1, Effective August 31, 2018)
- (U) Unified Facilities Criteria
- (U) Facilities Criteria 1-300-09N, "Navy and Marine Corps Design Procedures," May 2014
- (U) NAVFAC Capital Improvements Project Management Manual

- (U) Under Secretary of Defense for Acquisition and Sustainment memorandum, "New Military Construction Budget Estimate Requirements," March 17, 2020

(U) This report was reviewed by the DoD Components associated with this oversight project to identify whether any of their reported information, including legacy FOUO information, should be safeguarded and marked in accordance with the DoD CUI Program. In preparing and marking this report, we considered any comments submitted by the DoD Components about the CUI treatment of their information. If the DoD Components failed to provide any or sufficient comments about the CUI treatment of their information, we marked the report based on our assessment of the available information.

(U) Use of Computer-Processed Data

(U) We did not use computer-processed data to perform this audit.

(U) Prior Coverage

(U) During the last 6 years, the Government Accountability Office (GAO) issued three reports and the DoD Office of Inspector General (DoD OIG) issued four reports discussing cost increases and schedule delays for MILCON projects for the Army, Navy, and Air Force and PFAS identification, mitigation, and remediation at DoD installations.

(U) GAO

(U) Report No. GAO-24-106499, "Military Construction: Better Information Sharing Would Improve DoD's Oversight", September 16, 2024

> (U) The GAO found that the DoD does not fully monitor the execution of its MILCON program and projects. The Office of the Secretary of Defense, which is responsible for general program oversight. relied on the Army and Navy construction agents for project monitoring. The Office of the Secretary of Defense officials told the GAO that the information they collect for these projects is for reporting purposes only and is not relevant for identifying trends, which can help inform a risk-based oversight approach. The DoD's annual reports on MILCON delays show that over the prior 5 fiscal years, poor initial planning contributed to about 25 percent of the projects delay for at least a year. In addition, the GAO found that Army and Navy construction agents do not consistently document and share lessons learned in their project monitoring.

(U) Report No. GAO-20-261R, "Military Construction: Cost Increase Reports Submitted in Fiscal Year 2018 and 2019," January 23, 2020

(U) The GAO found the DoD submitted five cost increase reports during FYs 2018 and 2019, all from the Air Force. The GAO did not receive cost increase reports from the Army, Navy, or Marine Corps. Three of the five reports for Air Force MILCON projects did not address the reporting element requiring that the senior engineer authorized to supervise MILCON projects and military housing projects under 10 U.S.C. § 2851(a) must cosign submitted reports. In addition, one of the five reports did not address the required reporting element to submit reports identifying cost increases to the congressional defense committees and the GAO no later than 180 days after the Secretary notifies the appropriate congressional committees of the cost increase.

(U) Report No. GAO-18-101, "Action Needed to Increase the Reliability of Construction Cost Estimates," March 27, 2018

(U) The GAO found that the DoD's guidance did not fully incorporate the steps needed for developing reliable estimates and the estimates for three projects that the GAO reviewed were not reliable. The GAO determined that DoD cost estimators did not follow all the best practices associated with the four characteristics (comprehensive, well-documented, accurate, and credible) of a reliable estimate for these projects. The GAO's Cost Estimating and Assessment Guide identified 12 steps that, if used, were more likely to result in reliable and valid cost estimates. However, the DoD's construction guidance, the Unified Facilities Criteria, did not include all these steps. Until the DoD incorporates these steps, the DoD and congressional decision-makers may not have reliable estimates to inform their decisions regarding appropriations and the oversight of projects.

(U) DoD OIG

(U) Report No. DODIG-2021-105, "Evaluation of the Department of Defense's Actions to Control Contaminant Effects from Perfluoroalkyl and Polyfluoroalkyl Substances at Department of Defense Installations," July 22, 2021

(U) The DoD OIG determined that DoD officials have not proactively identified, mitigated, and remediated contaminant effects from PFAS-containing materials other than aqueous film forming foam at DoD installations. As a result, people and the environment may continue to be exposed to preventable risks from other PFAS-containing materials.

(U) Report No. DODIG-2020-040, "Audit of Cost Increases and Schedule Delays for Military Construction Projects at Joint Region Marianas," December 11, 2019

(U) The DoD OIG determined that Deputy Assistant Secretary of Defense for Facilities Management, NAVFAC, Air Force, and Defense Logistics Agency officials experienced schedule delays and cost increases for nine MILCON projects, valued at $574.4 million, at Joint Region Marianas; however, Guam's unique characteristics and environment presented challenges in planning and managing MILCON in the region.

(U) Report No. DODIG-2018-125, "The Fort Bliss Hospital Replacement Military Construction Project," June 6, 2018

(U) The DoD OIG determined that as of March 2018, the Fort Bliss Hospital Replacement project had 978 contract change requests, including 132 canceled change requests that occurred during construction. The change requests included 453 engineering changes, including design errors and omissions.

(U) Report No. DODIG-2018-122, "U.S. Strategic Command Facility Construction Project," May 31, 2018

(U) The DoD OIG determined that USACE Omaha District personnel experienced multiple delays and cost increases to the U.S. Strategic Command Facility replacement facility at Offutt Air Force Base, Nebraska, because of the lack of expert involvement in the requirements development, inaccurate cost estimates, design deficiencies, contract modifications, fire, floods, mold, and challenges related to the execution of contract modifications. As of February 2018, project costs had increased the programmed amount of $564 million to $617.1 million, and construction completion was delayed 29 months.

(U) Management Comments

(U) Naval Facilities Engineering Systems Command

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
1322 PATTERSON AVENUE SE SUITE 1000
WASHINGTON NAVY YARD DC 20374-5065

7500
Ser 00/075
12 Sep 24

From: Commander, Naval Facilities Engineering Systems Command
To: Program Director for Audit Acquisition, Contracting, and Sustainment, Department of Defense Office of the Inspector General

Subj: NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND MANAGEMENT RESPONSE TO DRAFT AUDIT REPORT D2023-D000AV-0123.000, AUDIT OF COST INCREASES AND SCHEDULE DELAYS OF MILITARY CONSTRUCTION PROJECTS MANAGED BY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND

Ref: (a) SECNAVINST 5200.34E

Encl: (1) Management Response to Draft Audit Report D2023-D000AV-0123.000

1. Per reference (a), enclosure (1) is forwarded for review. Naval Facilities Engineering Systems Command (NAVFAC) is requesting closure for recommendations 1.a. through 1.c.

2. The NAVFAC point of contact is [redacted]

VANDERLEY.DEA
N.A [redacted]

D. A. VANDERLEY

Copy to:
NAVAUDSVC

(U) Naval Facilities Engineering Systems Command (cont'd)

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND MANAGEMENT RESPONSE TO DRAFT AUDIT REPORT D2023-D000AV-0123.000, AUDIT OF COST INCREASES AND SCHEDULE DELAYS OF MILITARY CONSTRUCTION PROJECTS MANAGED BY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND DATED: 14 AUGUST 2024

RECOMMENDATION 1.A: We recommend Naval Facilities Engineering Systems Command (NAVFAC): Determine whether NAVFAC Washington officials not fully considering the extent of hazardous material (HAZMAT) at the Electronics Science and Technology Laboratory at the Naval Research Laboratory was an isolated incident, and whether they held officials accountable for not following Naval Facilities Criteria 1-300-09N; and subsequently take the appropriate corrective actions to ensure officials across the Command follow the guidance.

CURRENT STATUS: Concur. NAVFAC determined that the issues associated with the subject project's conversion from an extensive Facilities Sustainment, Restoration, & Modernization (FSRM) project to a military construction (MILCON) project caused a discontinuity in the project development that impacted the surveys and studies conducted in ways that are not indicative of a systemic problem. The initial FSRM project, funded via Operation and Maintenance (O&M), was not originally intended to provide a full facility renovation. Subsequently, a determination was made that the required scope necessitated converting the project to MILCON, and the Deputy Assistant Secretary of the Navy for Installations and Facilities approved the requested conversion.

The FSRM project development team did not perform a HAZMAT survey during the project planning and design because they mistakenly believed that the laboratory buildings did not contain HAZMAT. When the FSRM project was converted to a MILCON project, it was erroneously assumed that all the surveys and studies had been completed during the early FSRM planning and design efforts, and no further studies were required. HAZMAT was subsequently discovered throughout the buildings during construction.

It is standard practice for a MILCON project development team to determine the studies and surveys that are required during the advanced planning stage. However, NAVFAC relies on project sponsors (non-NAVFAC entities) to provide O&M funding to support required study execution prior to and during project design to minimize unforeseen situations. Unforeseen situations are encountered during most construction projects, which can result in additional costs and schedule delays. If project sponsors fail to fully fund studies in a timely manner during the project development process, the project design will not be fully informed. Insufficient O&M funding for early planning and studies can be a contributing factor of failures to identity these types of issues in project development. NAVFAC is working with project sponsors to increase programming and budgeting for the necessary O&M planning funds.

DATE COMPLETED: 9 September 2024

RECOMMENDATION 1.B: We recommend NAVFAC: Determine why NAVFAC Washington officials did not notify contract bidders of the increased scope of work as required by the NAVFAC Project Management Manual and take appropriate corrective actions to ensure contracting officials across the command provide bidders with up-to-date HAZMAT information.

CURRENT STATUS: Partial Concur. The full extent of the HAZMAT and other issues were not shared with the bidders during contract solicitation because the full extent was not known at that time. It was not until construction was underway that the full extent of the problem was determined. It is standard practice for NAVFAC to share existing site and facilities conditions with bidders during the solicitation process. This is done through the request for proposal provision, which provides sufficient information

Enclosure (1)

(U) Naval Facilities Engineering Systems Command (cont'd)

for bidders understand the site and facilities conditions. Also, some or all the design specifics are provided depending on the acquisition strategy (i.e., design-build or design-bid-build). Bidders also have the opportunity to request additional information and engage in discussions with NAVFAC. NAVFAC will continue to inform contract bidders/proposers of known site conditions, such as identification of HAZMAT, in the acquisition process.

DATE COMPLETED: 9 September 2024

RECOMMENDATION 1.C: We recommend NAVFAC: Establish guidance for increased site surveys and investigations to better identify and understand existing site conditions, including HAZMAT, utilities, topography and terrain, and soil conditions during the design phase of MILCON projects.

CURRENT STATUS: Partial Concur. NAVFAC relies on project sponsors to provide O&M funding to resource studies and identify requirements early in the project development process. Lack of or limited O&M funding for advanced planning results in required studies being omitted or partially performed. Additionally, when MILCON projects are added to the budget late in the required project development timeline, the shortened planning and design time impacts NAVFAC's ability to perform needed advanced planning and studies.

NAVFAC actively develops, maintains, and employs extensive, detailed advanced planning and design guidance that is effective when properly funded, to include:

- NAVFAC Business Process Management Systems 25.6.2.3, Shore Mission Integration Group (SMIG) Project Readiness Index (PRI) DD 1391 Project Documentation
- SMIG PRI Documentation Form
- MILCON Project Checklist
- MILCON Planning & Engineering Studies Matrix
- Budget PRI Studies and Cost Matrix

DATE COMPLETED: 9 September 2024

RECOMMENDATION 1.D: We recommend NAVFAC: Issue guidance to contracting personnel to conduct an after-action review for each NAVFAC project over budget or behind schedule and include contracting, design, funding, and oversight personnel in the after-action review to discuss lessons learned from pre-award through project completion, establish a method for sharing results across the command, and require NAVFAC officials to review the after-action reviews before planning new MILCON projects.

CURRENT STATUS: Concur. NAVFAC conducts detailed root cause analysis into all projects that are significantly over-budget and/or behind schedule. NAVFAC will outline the process for conducting after-action reviews with relevant stakeholders for projects over budget or behind schedule to communicate lessons learned from pre-award through project completion. As part of NAVFAC's Strategic Plan initiative to elevate the learning potential of our Knowledge Management System, NAVFAC will leverage its Joint Lessons Learned Information System to record Lessons Learned during these reviews.

ESTIMATED COMPLETION DATE: Fiscal Year (FY) 2025 Quarter 2 (Q2)

RECOMMENDATION 1.E: We recommend NAVFAC: Review the Land Use Control plan development process and update that process to address coordination with multiple stakeholders, and methods to streamline revisions.

Enclosure (1)

2

(U) Naval Facilities Engineering Systems Command (cont'd)

CURRENT STATUS: Partial Concur. Land Use Control Plans are the responsibility of installation commander (e.g. Commander, Navy Installations Command and Marine Corps Installations Command). NAVFAC provides execution and technical support upon request. NAVFAC will communicate lessons learned with installation owners regarding processes governing stakeholder coordination and plan revisions.

ESTIMATED COMPLETION DATE: FY 2025 Q4

RECOMMENDATION 1.F: We recommend NAVFAC: Develop and issue NAVFAC supplemental guidance to the Unified Facilities Guide Specifications, section 01 91 00.15, Building Commissioning, that includes developing specific project schedules and establishing a regular schedule to discuss commissioning with all stakeholders early in the MILCON process.

CURRENT STATUS: Concur. NAVFAC will develop additional direction within the Unified Facilities Guide Specifications to specifically address the project schedules and establishing a regular schedule to discuss commissioning with all stakeholders early in the MILCON process.

ESTIMATED COMPLETION DATE: FY 2025 Q4

RECOMMENDATION 1.G: We recommend NAVFAC: Coordinate with Marine Corps Headquarters and Manpower Management Officer Assignment Command officials to issue guidance establishing mutual expectations for staffing the Site Activation Task Force to MILCON projects to ensure timely and sufficient staffing of future MILCON projects.

CURRENT STATUS: Concur. NAVFAC concurs that establishing a Recovery Site Activation Task Force for future weather-related or other disaster recovery operations is appropriate and has been proven to work well. NAVFAC will coordinate with stakeholders to determine the appropriate methodology and guidance for staffing future task forces.

ESTIMATED COMPLETION DATE: FY 2025 Q4

Enclosure (1)

3

(U) Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

ENERGY, INSTALLATIONS, AND ENVIRONMENT

MEMORANDUM FOR DEPARTMENT OF DEFENSE INSPECTOR GENERAL (ATTN: PROGRAM DIRECTOR FOR AUDIT ACQUISITION, CONTRACTING AND SUSTAINMENT)

SUBJECT: DoDIG Draft Report "DoD IG Draft Report (Project No. D2023-D000AV-0123.000) "Audit of Cost Increases and Schedule Delays of Military Construction Projects Managed by Naval Facilities Engineering Systems Command" Dated August 14, 2024

The Office of the Assistant Secretary of Defense for Energy, Installations, and Environment (OASD(EI&E)) has reviewed the subject draft report and provides the attached response to the DASD(IM&R) recommendation.

Additional technical comments on the portions of the report that discuss Per- and Polyfluoroalkyl Substances will be provided no later than 30 September 2024.

For additional information or assistance, please contact [redacted]

MCANDREW.MICH
AEL [redacted]

Michael McAndrew
Deputy Assistant Secretary of Defense for
Infrastructure Modernization & Resilience

Attachment:
As Stated

(U) Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience (cont'd)

DoDIG Draft Report "DoD IG Draft Report (Project No. D2023-D000AV-0123.000) "Audit of Cost Increases and Schedule Delays of Military Construction Projects Managed by Naval Facilities Engineering Systems Command" Dated August 14, 2024

Recommendation Comments

Recommendation 2: "(U) We recommend the Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience (DASD(IM&R)), in coordination with the Deputy Assistant Secretary of Defense for Environmental Management and Restoration (DASD(EM&R)), issue guidance emphasizing to personnel the importance of: 1) identifying situations where Per- and Polyfluoroalkyl Substance-impacted soil and water may be encountered during military construction projects; and 2) including all reasonable costs to manage Per- and Polyfluoroalkyl Substance-impacted soil and water when completing DD Form 1391, "FY ___ Military Construction Project Data," for all future military construction projects.

OASD(EI&E) Response: DASD(IM&R) concurs with the recommendation. ODASD(IM&R) is already working with DASD(EM&R) to develop and issue policy addressing Per- and Polyfluoroalkyl Substance-impacted soil and water in the project development and execution process.

(U) Acronyms and Abbreviations

ACM	Asbestos Containing Material
CCD	Contract Completion Date
CLIN	Contract Line Item Number
FAR	Federal Acquisition Regulation
GAO	Government Accountability Office
HAZMAT	Hazardous Materials
MCAS	Marine Corps Air Station
MILCON	Military Construction
NAVFAC	Naval Facilities Engineering Systems Command
NCDEQ	North Carolina Department of Environmental Quality
OICC	Officer in Charge of Construction
PFAS	Per- and Polyfluoroalkyl Substances
SATAF	Site Activation Task Force
U.S.C.	United States Code


INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
INTEGRITY
EFFICIENCY

Whistleblower Protection
U.S. Department of Defense

Whistleblower Protection safeguards DoD employees against retaliation for protected disclosures that expose possible fraud, waste, and abuse in Government programs. For more information, please visit the Whistleblower webpage at www.dodig.mil/Components/Administrative-Investigations/Whistleblower-Reprisal-Investigations/Whistleblower-Reprisal/ or contact the Whistleblower Protection Coordinator at Whistleblowerprotectioncoordinator@dodig.mil

For more information about DoD OIG reports or activities, please contact us:

Congressional Liaison
703.604.8324

Media Contact
public.affairs@dodig.mil; 703.604.8324

www.twitter.com/DoD_IG

LinkedIn
www.linkedin.com/company/dod-inspector-general/

DoD Hotline
www.dodig.mil/hotline

DEPARTMENT OF DEFENSE | OFFICE OF INSPECTOR GENERAL

4800 Mark Center Drive
Alexandria, Virginia 22350-1500
www.dodig.mil
DoD Hotline 1.800.424.9098