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# *Department of the Army Pamphlet 420–11

**Facilities Engineering**

## Project Definition and Work Classification

By Order of the Secretary of the Army:

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**History.** This publication is a major revision. The portions affected by this major revision are listed in the summary of change.

**Applicability.** This pamphlet applies to all individuals responsible for classification of work on Regular Army and Army Reserve real property as either maintenance, repair, or construction regardless of funding source.

**Proponent and exception authority.** The proponent of this publication is Deputy Chief of Staff, G–9. The proponent has the authority to approve exceptions or waivers to this publication that are consistent with controlling law and regulations. The proponent may delegate this approval authority, in writing, to a division chief within the proponent agency or its direct reporting unit or field operating agency in the grade of colonel or the civilian equivalent. Activities may request a waiver to this publication by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through their higher headquarters to the policy proponent. Refer to AR 25–30 for specific requirements.

**Suggested improvements.** Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to usarmy.pentagon.hqda-dcs-g-9.mbx.publication-management@army.mil.

**Distribution.** This pamphlet is available in electronic media only and is intended for the Regular Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

*This regulation superseded DA Pam 420–11, dated 18 March 2010.

# *SUMMARY of CHANGE*

DA PAM 420–11
Project Definition and Work Classification

This major revision, dated 3 October 2023—

- Adds information on capitalization on repair projects (paras 1–7, 2–4, and 4–3).
- Adds examples of funded and unfunded costs (paras 2–2 and 3–5).
- Adds additional information on how to calculate the facility replacement value (para 4–3).
- Updates guidance on Telecommunications and Unified Capabilities (app B).
- Updates terminology (throughout).
- Clarifies the work classification examples which conform to the definition of repair (throughout).
- Adds guidance governing the classification of work associated with equipment-in-place and information management equipment in repair projects (throughout).
- References AR 420–1 and other required and related publications separated from the regulation (throughout).

**Contents** (Listed by chapter and page number)

# Chapter 1
# Introduction

## Section I

## General

### 1–1. Purpose
The purpose of this pamphlet is to promote Armywide uniform interpretation on the development and execution of projects to sustain or improve existing real property owned or leased and set the Army up for financial auditability success. To accomplish this, the pamphlet discusses work being performed to real property facilities by way of examples, broken down into the categories of work in which they belong. These examples of maintenance, repair, and minor construction projects reflect statutory requirements, DoD, and Army policy and guidance governing the classification of the work. It includes discussions of command and equipment, real property installed equipment and personal property, to assist with determining what can be included in the scope of an operations and maintenance classified project regardless of how it is funded (appropriation or working capital funds). The examples given are not all inclusive and not authoritative; they are presented as guidance. This pamphlet does not contain policy. Policies associated with this pamphlet are in AR 420–1 and other Army regulations and their associated pamphlets. The guidance provided herein is presented to assist the field in building defensible cases regarding the classification of the work to be accomplished and not be the cited as justification for making a work classification decision. Maintenance, repair, and minor construction undertakings are not complete until bookkeeping and accounting are finished in both the real property records and the proper accounting of the funds in General Fund Enterprise Business System (GFEBS) and Logistics Modernization Program when applicable. Classification applies to Capital Investment Program projects to repair or improve facilities under the purview of working capital fund capital budget. This pamphlet also discusses common work classification issues associated with managing Army Real Property.

### 1–2. References, forms, and explanation of abbreviations
See appendix A. The abbreviations, brevity codes, and acronyms (ABCAs) used in this electronic publication are defined when you hover over them. All ABCAs are listed in the ABCA database located at https://armypubs.army.mil/abca/.

### 1–3. Associated publications
Policy associated with this publication is AR 420-1.

### 1–4. Records management (recordkeeping) requirements
The records management requirement for all record numbers, associated forms, and reports required by this publication are addressed in the Records Retention Schedule–Army (RRS–A). Detailed information for all related record numbers, forms, and reports are located in Army Records Information Management System (ARIMS)/RRS–A at https://www.arims.army.mil. If any record numbers, forms, and reports are not current, addressed, and/or published correctly in ARIMS/RRS–A, see DA Pam 25–403 for guidance.

## Section II

## Work Classification Concepts

### 1–5. General
*a.* There are many words to describe projects executed to sustain or improve real property. These words include, but are not limited to, the following: sustainment, restoration, renovation, modernization, upgrade, maintenance, repair, construction, revitalization, improvement, conversion, and demolition. These words have a variety of meanings conveying different concepts to different people. Because work classification is the process of fitting real property undertakings into the structure of statutes and Army policy, wording must be precise so that everyone understands the work involved and which appropriations and statutes are being used. Crucial to the determination of whether a replacement must be recognized as a repair or an improvement is the intent behind the replacement.

(1) Work classification is the process of determining if a proposed project is performing activities of adding something new or repairing, a facility, or component thereof, and which appropriations may be used to fund the effort. This applies to certain types of leased facilities where capital improvements are allowed or already included in the lease agreement (see AR 405–45 for policy and procedures). This pamphlet also provides examples of personal property (equipment) which sustainment and maintenance is the responsibility of the property owner in accordance with Deputy Chief of Staff (DCS), G–4 policy and procedures. The definition of a repair project can be found in Title 10, United States Code, 2811 (10 USC 2811) and the definition of military construction (MILCON) can be found in 10 USC 2801.

(2) A repair project is based on the concept of correcting failed or failing conditions in facilities, systems, or components. Because the facility or structures was provided by a construction project, the facility or structure is considered to start from the position that it was initially "complete and useable." Therefore the construction concept of complete and useable is of limited value in a repair project. The concept that a facility or structure may be "effectively used for its designated functional purpose" is of more utility.

*(a)* If the facility, system, or component cannot be classified as failed or failing, then there is no basis for a repair project, unless it is a conversion.

*(b)* Presently, 10 USC 2811 allows conversions of facilities to be executed as repair so long as external dimensions are retained. When a facility is approved to be converted to another category code, this may require reassessment of the facilities Mission Support Functional Capability (F-Rating) and Quality (Q-Rating) in accordance with AR 215–14, the results of which may now show the facility in failing condition and therefore eligible for a project.

*(c)* A properly approved conversion is required before a project is executed to change spaces to meet new functional use or the work classifier must fall back on the actual condition to establish the category of work to be accomplished. Energy sources require an cost-benefit analysis (CBA) in accordance with 10 CFR 436, Subpart A to be approved for conversion from one fuel source to another. Horizontal pavements such as roads and parking lots cannot be converted as defined in 10 USC 2811 from an unpaved structure to a paved structure.

(3) Generally speaking, the scope of a project to a facility is accomplished within its footprint. It may be helpful to think of the boundary of a facility to include 5 feet beyond its foundation. There may be cases where a facilities dedicated heating ventilation and air conditioning unit is outside of this imaginary and arbitrary five-foot line but is a component of the facility in question. This should not be confused with central or district heating and cooling systems, which should be considered a utility system, rather than a building component. The utilities servicing the structure have a category code distinct from the facility and if repairs to the utility system(s) are needed, accomplished using separate projects; one for each system being repaired (for example, electric, water, and sewer). Generally, it is easy to arrive at the decision of a utility system which is in the incipient stages of failure due to age and other factors such as changing demands on an existing system. However, be cautious of changes in capacity and/or external dimensions as these may be indications of construction.

(4) Because work classification deals with real property, it does not apply to the equipment used by units, tenants, and building occupants in the performance of their duties. Their equipment is personal property. Personal property is not required in a building or structure to yield one which is complete and useable. An example is the cabling supporting the telephone system in a building. The cabling is personal property while the conduits and cable trays are real property.

*(a)* The work on personal property is classified only so far as eliminating it from funded real property work for either maintenance and repair or construction. It includes all types of production, processing, technical, training, servicing, Research, Development, Test, and Evaluation (RDT&E), and pre-wired work stations. For more details see DoD FMR 7000.14–R. Commanders and managers accountable for personal property must ensure it is installed properly and does not affect the integrity of the facility into which it is placed or removed. In existing facilities, the cost of the work is usually reimbursable. It is funded by the units, tenants, or building occupants.

*(b)* In the case of construction, personal property is not funded with construction appropriations. For MILCON projects, both major and unspecified minor military construction (UMMC), personal property is planned and programmed separately as a "MILCON Tail" using either operations and maintenance or other procurement, Army appropriations. The costs are not part of the funded project cost. Similarly, in the case of minor construction using operations and maintenance funds, it is funded separately using either sub-activity groups (SAG) 131 Base Operations Support (BOS), operations and maintenance, or other procurement appropriations and is not part of the funded project cost.

(5) Management of real property facility projects is one of the most critical duties of facility engineers.

*(a)* Clear understanding of how to legally utilize the funds available to support facilities operations is critical.

*(b)* The work classifier must be mindful of the regulatory and administrative restrictions. Moreover, the determination of the proper source of appropriated funds needed on a specific project and the amount of funds that can be expended is governed by statutory and regulatory restraints.

*(c)* Violations of statutes that could result in criminal prosecutions are generally considered beyond the scope of federal employment and may subject the offender to individual prosecution.

(6) Violations of statutory and regulatory limitations are a serious offense. This requires clear distinction between maintenance and repair, personal property, and construction work. Seek current definitions from the DoD Dictionary (available at https://www.jcs.mil/doctrine/) in accordance with DoDI 5025.12.

(7) Proper accounting of projects using GFEBS is critical.

*(a)* Determine if a project falls under SAG 131 BOS (Installation Services or Facilities Operations) or SAG 132 (Facility Sustainment, Restoration, and Modernization, or Demolition/Disposal of Excess Facilities).

*(b)* Properly determine which portions of a project must be accounted for as an expense verses capital improvement.

*b.* All work, regardless of who funds the work and who executes it, must be classified and documented. Work classification is the basis for the determination of the funded project cost and the unfunded project cost.

(1) Funded project costs are costs directly associated with execution of the undertaking. These costs define where the approval authority for a real property project is located. The approval authority will approve only a specific portion of the undertaking. For example, in an undertaking involving maintenance, repair, construction, and placement of personal property, three separate funding expenditures need to be approved. Commanders and managers can only approve the expenditures valued at a cost below their delegated amounts. DA Form 4283 (Facilities Engineering Work Request) is used to codify these approvals. If the maintenance and repair project exceeds the work classifiers delegated approval authority, it must be elevated to the commander or manager with sufficient authority or ultimately through the chain of command to Deputy Assistant Secretary of the Army (DASA) (Installations, Housing, and Partnerships) (DASA–IH&P) with several supporting documents: a memorandum from the commander or manager accountable for the real property requesting approval, a project data sheet, a current DD Form 1391 (FY _ Military Construction Project Data) describing the work needed, a repair to replacement calculation, Environmental review, a local legal review and a draft DASA–IH&P approval memorandum. These requests will be answered with an approval memorandum or a disapproval (stating reason for disapproval). The approval received only approves the repair. It does not approve any of associated work, construction, or personal property.

*(a)* Associated projects in the undertaking are each treated as a separate project. Separate approvals are needed for each of these projects.

*(b)* However, the individual approvals can be granted in the same document if each component project is individually addressed. They can also be contained in a single contract, if funds are properly tracked.

(2) Unfunded project costs are not directly associated with the actual work on the undertaking. They are approved separately. They contain all the items that are not specifically part of the actual work on the real property. They are separate but related undertakings such as the design (an intellectual exercise), permits or items funded by different appropriations. This includes the installation and purchase of the personal property. Note that design costs are capitalized in all real property projects.

(3) Both funded and unfunded project costs are covered in detail in DoD FMR 7000.14–R. The total project cost is the sum of funded and unfunded project costs.

### 1–6. Why work classification is important

*a.* Proper work classification reduces likelihood of personnel committing an Antideficiency Act violation. Antideficiency violations are serious and affect the Army's credibility. DoD and DA policy calls for disciplinary action in Antideficiency violation cases. While unintentional violations may not result in a criminal prosecution, it may still warrant disciplinary action. Circumstances such as "a heavy workload at year-end" or an employee's "past exemplary record" or an urgent need to provide mission support, generally are relevant only in determining the appropriate level of discipline, not in determining whether discipline

should be imposed. In view of this, care must be taken to ensure that the Army does not violate the Antideficiency Act. When in doubt, seek advice from the organizations supporting legal advisor.

*b.* See 10 USC 2805 for the current definition of a minor construction project. While it may appear simple in concept, its application is often difficult. Misclassification of construction as maintenance and repair, errors in defining minor construction projects, and in decisions on relocatable buildings (RLB) have resulted in many Antideficiency Act violations. The act states that any officer or employee of the United States who makes or authorizes an expenditure or obligations exceeding an amount available in an appropriation or fund for the expenditure of an obligation will be subject to appropriate administrative discipline, including, when circumstance warrant, suspension from duty without pay or removal. Those convicted of a knowing and willful violation will be fined not more than $5,000, imprisoned for not more than 2 years, or both. The relevant laws governing are 31 USC 1341, 31 USC 1349, 31 USC 1519, and 31 USC 1350.

## 1–7. Guidance

*a. Army pamphlets.*

(1) Army pamphlets prohibited from prescribing policy or delegating authorities. Laws, policies, and notification limits provided herein may have changed after this pamphlet is published.

(2) The examples provided throughout this publication are for guidance only and do not take precedence over DoD issuances or Army regulations.

*b. Repair of facilities.*

(1) At the time of this publication, 10 USC 2811 defines a repair project as one whose purpose is:

*(a)* To restore a real property facility, system, or component to such a condition that it may effectively be used for its designated functional purpose, or;

*(b)* To convert a real property facility, system, or component to a new functional purpose without increasing its external dimensions.

(2) Failed or failing (incipient stages of failure). Incipient stages of failure are the beginning stages of failure. The facility, system, or component may still function, but it shows signs that it will fail sometime in the near future. Failure can be used as justification for establishing a project to repair what has failed.

(3) A facility can been in an overall failing condition while the condition of the individual systems and components have not yet failed.

(4) The scope of a project to repair a facility may include repair by replacement of facility components, and the replacements should be up to current code and standards. The replacement component may also address increases in size or capacity needed to support the facility except activities directed towards expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater than, it's current use.

*(a)* A system or component may be completely replaced and provide for more capacity than the original system or component due to increases or projected increases in demand or standards. For example, heating, ventilation, and air conditioning equipment can be repaired by replacement. The replacement may be state of the art. It can provide for more or less capacity than the original unit to meet current loads in the facility that may be different than when the facility was first put into use. This example excludes heating, ventilation, and air conditioning procured as personal property equipment specifically to provide conditioning needed for another piece of personal property equipment. For example, heating, ventilation, and air conditioning system to provide conditions needed for production or manufacturing operation that the facilities heating, ventilation, and air conditioning system is unable to provide.

*(b)* A facility repair project may increase the gross square footage of a building by adding floors to interior space within the existing building envelope where overhead clearance allows it. Further, interior rearrangements and restoration of an existing facility to allow for effective use of existing space or to meet current building code requirements (for example, accessibility, health, safety, or environmental), may be included as repair. A project may also add exterior appurtenances where such work is required to meet applicable building codes and standards, unless prohibited by law. Be mindful of projects involving floor plan reconfiguration that exceeds 50 percent of the area, as these projects will require the entire floor to be brought up to the requirements for new construction.

*(c)* When a facility or system or component is in an overall failing condition, corrective work may involve increases in quantities or capacities of components or systems and may include systems or components not previously present in the facility. Correction of deficiencies in failed or failing components or

systems will meet current Army standards and codes and provide for increases in capacity needed to support increases in demand.

*(d)* In a facility repair, this key concept is true even when the component or system is not considered failed or failing, in and of themselves, but where such work, for reasons of economy, should be done concurrently with restoration of failed or failing components or systems in the facility.

(5) A utility system or component thereof may be considered "failing" provided—

*(a)* The utility system or component of such a system exists.

*(b)* The system or component to be replaced has been in service for a minimum of three years.

*(c)* The project is estimated to have a payback period of about 25 years or less.

*(d)* If a utility project is documented as assisting in providing utility resilience or is assisting in the establishment of micro-grids, which will support a critical mission, the utility system will be eligible for repair as technically obsolete regardless of the payback period.

(6) A facility that is failed or failing may include increases in quantities of components or extension of utilities or protective systems to areas not previously served for functional reasons or to meet current codes or standards. Components or systems needed to meet codes or standards that are required to be placed on the exterior of the facility are also repair. Any other additions that increase the exterior building dimensions would be construction.

(7) If the facility is not considered to be failed or failing, then increases in quantities of components or extension of utilities or protective systems to areas not previously served for functional reasons or to meet codes or standards is construction.

*c. Construction.*

(1) At the time of this publication, the term MILCON in 10 USC 2801; includes any construction, development, conversion, or extension of any kind carried out with respect to a military installation, whether to satisfy temporary or permanent requirements, or any acquisition of land or construction of a defense access road. For current policy and procedures (see AR 420–1). The following examples of construction is only offered for convenience:

*(a)* The erection, installation, or assembly of a new facility, either temporary or permanent.

*(b)* The addition, expansion, extension, alteration, conversion (conversion was added to the definition of a repair project in the 2017 National Defense Authorization Act) or complete replacement of an existing facility.

*(c)* The relocation of a real property facility from one installation to another.

*(d)* Real property installed equipment made a part of an existing facility.

*(e)* Related site preparation, excavation, filling, landscaping, or other land improvements.

*(f)* Foundations, site work, and utility work associated with the setup of equipment, in accordance with AR 420–1.

(2) The use of construction appropriations language such as complete and useable should not be applied to a maintenance or repair project. The most important assessment of a restoration and modernization project is, "Will the project allow for effective use of the existing space?"

*d. Major repair.*

(1) Major work is not a unique type of project found in public law or DoD policy. For the purposes of this pamphlet, it is work that significantly affects the area which is being repaired. It can be work such as gutting building interior with the replacement of components required to provide a facility to such a condition that it may be effectively used for its designated purpose.

(2) Projects of this nature fit into the description of MILCON in 10 USC 2801.

*(a) Major repair.* In a major repair, multipurpose facilities are repaired as a single unit without regard to separately identified areas. The various areas may be adjusted in size, increased or decreased, and functions may be added or removed so that the overall space may be effectively used to support the mission.

*(b) Major repair of a facility.* In a major repair of a facility, a sensitive compartmented information facility (SCIF) may be added as part of the repair project. It should be kept in mind that there are special requirements for SCIFs and upon completion of the real property work the SCIF must be certified as meeting all security requirements. The equipment items installed used in the SCIF is not real property and should not be funded as part of the project. For the most part they are the responsibility of the using organization.

*(c) Conversion.* In an approved facility conversion project changing the overall function of a building, must be done in accordance with AR 405–45 and AR 405–70.

*(d) Building components.* Such an undertaking may include, under the classification of repair, the relocation or reconfiguration of building components such as partitions, windows, and doors. The inclusion of greater quantities of components or systems is acceptable to provide for effective use of the facility for its designated functional purpose. Also in the repair project, items needed for compliance with codes and standards will be included. Some examples of components that can be included as repair are handicapped ramps, elevators, and their required circulation space, and stairs needed to comply with the Architectural Barriers Act. Safety features such as fire evacuation stairs can be added, either inside or outside of the building envelope to comply with National Fire Protection Association's NFPA 101® Life Safety Code®. These code and safety features can be added to either the interior or exterior of the facility as repair.

*(e) Utility systems.* Restoration of utility systems may include the relocation and reconfiguration of system components into arrangements to meet current standards and current codes. Utility systems servicing a facility undergoing repair (restoration) may be handled separately in different project(s). One for each utility system needing restoration.

*(f) Failed or failing systems.* In case of failed or failing systems or components, such an undertaking may also incorporate additional components, if based on good engineering judgment, when the additional components are to meet current code and are needed to permit the efficient and safe use of the replacement system and completed facility.

*e. Additions and new facilities.* Additions and new facilities can only be accomplished under 10 USC 2801 MILCON authority. A construction project, which must be complete and usable on its own, may be accomplished concurrent with a repair project.

*f. Complete replacement.* Complete replacement of a facility cannot be executed under 10 USC 2811 repair authority.

*g. Conversion and reuse.* The Army encourages construction standards that provide for future flexibility in conversion and reuse. Buildings should be easily adaptable to future missions and tenant space needs with a minimum of investment. By adopting reconfigurable facility standards, the Army can significantly cut long-term costs for planning, design, and repurposing. Installations should plan for open office space and use specialized space and private offices only when required by higher level guidance.

*h. Maintenance.* The routine recurring work required to keep a facility in such condition that it may be continuously used at its original or designed capacity and efficiency for its intended purpose is one definition of maintenance found in the DoD Dictionary. Maintenance includes cyclic work done to prevent damage which would be more costly to restore than to prevent. Maintenance work is classified as repair. Examples include replacement of disposable filters, painting, waterproofing the exterior of buildings, caulking, refastening loose siding, and sealing bituminous pavements. Painting done in connection with repair work (that is required as a result of the repairs) is properly classified as repair.

*i. Relocatable buildings.* An RLB is equipment. For policy and guidance see DoDI 4165.56, AR 405–45, and AR 735–5. In accordance with AR 25–30, DoD issuances takes precedence over Army publications. Maintenance and repair of the equipment is accomplished using operation and maintenance funds. This is not applicable to RLBs provided as swing space by a construction contractor as part of a repair project. This guidance also does not applicable to tenant procured RLB's who should follow their organizations policy and procedures for sustaining equipment.

*j. Sustainment, repair, and modernization.* These words are budgetary terms used to describe work performed on real property. See DoD FMR 7000.14–R for more details. Sustainment contains elements of maintenance and repair. Restoration may contain repair and construction (for Americans with Disabilities Act related modifications and accessibility issues). Modernization is typically construction but can contain repair if replacing components that normally last more than 50 years or when accomplishing a conversion.

(1) Sustainment means the maintenance and repair activities necessary to keep an inventory of facilities in good working order. It includes regularly scheduled adjustments and inspections, preventive maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components (usually accomplished by contract) that are expected to occur periodically throughout the life cycle of facilities. This work includes regular roof replacement, refinishing of wall surfaces, repairing and replacement of heating and cooling systems, replacing tile and carpeting, and similar types of work. It does not include environmental compliance costs, facility leases, or other tasks associated with facilities operations (such as custodial services, grounds services, waste disposal, and the provision of central utilities).

(2) Restoration in DoD FMR 7000.14–R means the restoration of real property to such a condition that it may be used for its designated purpose. Restoration includes repair or replacement work to restore facilities damaged by inadequate sustainment, excessive age, natural disaster, fire, accident, or other causes. An example of excessive age restoration work would be to remove underground single wall tanks that would cause significant environmental damage if allowed to remain in the ground until failure.

(3) Modernization in DoD FMR 7000.14–R means the alteration or replacement of facilities solely to implement new or higher standards, to accommodate new functions, or to replace building components that typically last more than 50 years (such as, the framework or foundation).

(4) Recapitalization is a fiscal term and not a type of work classification. Recapitalization in DoD FMR 7000.14–R means the major renovation or reconstruction activities (including facility replacements) needed to keep existing facilities modern and relevant in an environment of changing standards and missions. Recapitalization extends the service life of facilities or restores lost service life. It includes restoration and modernization of existing facilities, as well as replacement of existing facilities with new using construction.

(5) Deferred maintenance and repair are maintenance and repairs not performed when required or scheduled and have been delayed to a future period. Maintenance and repairs are activities directed toward keeping fixed assets in an acceptable condition. Maintenance and repair activities include preventive maintenance; replacement of parts, systems, or components; and other activities needed to preserve or maintain the asset. Maintenance and repair, as distinguished from capital improvements, exclude activities directed towards expanding the capacity of an asset or otherwise upgrading it to serve needs.

(6) Once the project has started (funds obligated), the funds are available for five years after the appropriation year after which they expire. The approval authorities in place during the fiscal year of the approval are used until the project is completed or the project is cancelled. Subsequent increases in the approval authority do not apply to a project which is underway. If another project is approved, it must use current year funds. Increases above the approval amount or approved scope must follow existing re-approval guidance.

**1–8. Work classifications applications**

*a.* According to AR 420–1, work classification actions must be based on good faith, sound judgment and in conformance with all regulatory requirements and limitations. The decision making process should be supported with clear explanations in the project file. When doubt exists, assistance should be sought from the legal advisor for the organization and/or senior officials in the chain of command and included in the project file.

*b.* There are two principal considerations when determining work classification:

(1) Strict adherence to the prohibition against incrementing or fragmenting construction or repair for the purpose of circumventing approval authority limitations and notification requirements.

(2) For construction, an honest assessment of what constitutes a “complete” and “usable” facility or a “complete” and “usable” improvement to existing facility must be made.

*(a) Airfield.*

1. An airfield exists and is in use. There are concurrent requirements for a new control tower and an addition to the hangar. Planning for each a separate project would be consistent with policy in DoD FMR 7000.14–R, Volume 3. In this instance, they are interrelated to each other. This would also be consistent with 10 USC 2801 where these are investments to procure a new facility and expand an existing one and would be “complete and usable” upon completion.

2. A new airfield is needed where none currently exists. Assume the requirements for the airfield consists of a control tower, hangar, landing strip and taxiways. Viewing each facility as a separate project violate the prohibition on project splitting and incrementation. While each may be “complete,” the facilities are interdependent and all are required to have a “usable” airfield. All must be constructed as a single project to be truly “complete and usable”.

*(b) Individual buildings.*

1. An administrative building exists and is in use. There are concurrent but unrelated alteration (construction) requirements in the basement’s mechanical room and in the headquarters area of the facility. Each would properly be a separate project, since each is independently “complete and usable” upon completion.

2. An administrative facility. No fire suppression system exists in the building. There is an audible fire alarm system that is considered to be in a failing condition. Existing facilities are required by DoD building

code to comply with NFPA 101® Life Safety Code®. A requirement exists for an alarm to notify a person manning a remote 24/7 station when the facilities alarm system is active so that person can promptly notify appropriate authorities and first responders. New facility components must meet current code requirements. If installation of a new fire suppression system requires additional equipment for alerting the monitoring location, it is proper for a repair project to bring the alarm system up to code. The installation of the fire suppression system, on the other hand, would be properly classified as construction. Key to this is that the fire suppression is not being installed as an act to just bring the facility up to code but as part of a larger undertaking to repair the entire facility and make it useable for its intended purpose.

*c.* When construction is accomplished concurrent with repair and/or maintenance work as an integrated undertaking, the construction may be treated as a separate project. Because the construction is treated as a separate project, cost limitations, notification, and other requirements associated with applicable construction projects apply. The projects may be approved on the same document or on separate documents depending on the costs and the delegated approval authorities.

(1) A single undertaking could range from repairing one block in a sidewalk to all work required to repair a building. Its scope is dependent upon need for accomplishment, economical contracting practice, and good engineering judgment. Also, the scope may be limited by the availability of funds.

(2) When a finite project is to be funded over a number of consecutive years, the entire project scope must be approved at one time.

(3) Project scope must be based on reason or logic that could not in any way be interpreted as intending to circumvent dollar approval levels.

*(a)* It would be inappropriate to divide the work required to repair a building into separate projects on systems and components to keep the repair of the facility within local approval authority when the entire building is in need of repair. Breaking the repair project into many smaller projects rather than developing one repair project for the entire failing facility, in essence, makes the addition of systems and components that are currently not present (but which are required by codes and standards) become construction.

*(b)* Part of the analysis on a repair project is the calculation of a repair to replacement ratio expressed as a percentage. The numerator of the repair to replacement ratio consists of the sum of all repair work to be accomplished on the facility plus any associated construction costs. The denominator is the calculated cost to replace the facility. This calculation is a part of each repair record with a funded cost greater than the current operations and maintenance construction limit contained in 10 USC 2805. To accomplish this, it is necessary to know exactly how the Army defines the facility being worked on.

(4) If many items are of equal priority in the same facility, and good engineering judgment indicates that they should be accomplished simultaneously, they should be considered as a single undertaking of finite scope and therefore one project.

(5) When maintenance and repair, and minor construction are to be accomplished at the same time, the maintenance and repair, and minor construction work are treated as two separate projects. Each project requires its own DA Form 4283. When the approval of one project is above the delegated authority, only that project is referred to higher headquarters for approval. Approvals are always made at the lowest level possible.

*d.* An analysis of work classification and project scope is essential in determining project approval authority and adhering to statutory and regulatory requirements and limitations. The repair projects approved by DASA–IH&P are based on estimates. Care should be taken to ensure your estimates are such that new approvals are not necessary. The DD Form 1391 is not a funding document, it is an approval document.

*e.* The scope of a contract may include one or more projects or one project may be divided into several contracts. Project approval levels do not apply in so far as the packaging of contracts is concerned. A contract's scope must be determined on the basis of good engineering principles, operational and administrative considerations, and contracting practices that are in the best interest of the government. It is important when contracting Maintenance and repair, construction, personal property, and other services in the same contract that clear audit trails be maintained for each category of work to ensure that no project approvals are exceeded.

*f.* The availability of funds does not affect approval levels or what must be combined into a project. Additionally, the type or source of funds does not affect the work classification rules or project scope determinations; however, approving officials must consider limitations when other than operation and maintenance funds are being used. Similar type repair work need not be combined into a single project or a repair project need not satisfy a total requirement. Maintenance and repair projects that are single

undertakings, of finite scope, which satisfy specific requirements, may stand alone. Work must not, however, be divided into a number of projects solely to keep the projects within an approval authority.

*g.* Services, studies, investigations, and environmental compliance. These include:

(1) The cleanup of a contaminated water supply for non–Army facilities by a third party contract.

(2) The services of a contractor to remove, incinerate, or demolish contaminated real property or systems.

(3) The services of a contractor to perform ground water treatment.

(4) Studies and investigations.

(5) The installation of test wells that are used for detecting the location of ground water or the extent of groundwater contamination are part of a study and not chargeable to construction. If the last well is used for monitoring, then it should be charged as construction.

*h.* Demolition and removal can be either SAG 132 or SAG 131 depending on the circumstances. These include the following:

(1) Demolition and removal of contaminated structures.

(2) Excavation and removal of contaminated soil.

(3) The removal of underground storage tanks.

(4) The removal of underground contaminated utility systems.

(5) The removal of unexploded ordnance.

*i.* As previously discussed, a repair (including conversion) project means the facility or facility component or facility system has failed, or is in the incipient stages of failing, or is no longer performing the functions for which it was designated. For example, a wall relocated solely to provide a better interior arrangement fits into DoD FMR 7000.14-R's definition of modernization and likely an improvement rather than an expense. Be mindful of the DoD code requirement to bring an entire floor up to code if movement of said wall impacts 50 percent or more of the total of the floor area.

(1) The installation of components to meet code requirements. In a barracks that has been declared to be failed or failing, entire floor layouts may be rearranged. In barracks that contain central latrines and shower facilities (or have these systems in outlaying buildings), the latrines and showers may be relocated and reconfigured into arrangements to meet current standards. Such work may be classified as repair provided the existing utility systems and latrines are in a failed or failing condition. The work may result in increases in overall quantities of fixtures and piping and other materials.

(2) The rearrangement includes the reconfiguration of partitions, doors, windows, and utility systems and must include code requirements such as fire detection and suppression and isolation systems. The installation of such systems and increases in quantities of materials would be properly classified as repair when included into the major repair project.

*j.* In the absence of a conversion or major repair, replacing personal property equipment with real property installed equipment typically does not qualify for operations and maintenance appropriations. Real property installed equipment is replacing the term Installed Building Equipment. For example, replacing a leaking four-gallon fire extinguisher with an automatic sprinkler system is not repair. Neither is replacing a long deteriorating electrical extension cord with conductors in conduit. In both examples, replacing personal property with real property systems or components would be an addition and thus new construction.

*k.* In the case of component replacement, the replacement does not need to be in kind. Improved materials, equipment, methods, or arrangements are not precluded. As a matter of general policy, all repairs are made to code and to current standards. Further, energy and water saving materials should be used in repair projects whenever feasible. An CBA should be a routine decision making tool in the selection of materials or methods of maintenance and repair. For requirements and guidance completing economic analysis in AR 11–18, and Cost Analysis Manual and the U.S. Army CBA Guide available at the Army Financial Management & Comptroller website (https://www.asafm.army.mil/cost-materials/cost-tools/). As part of repair, constituent utilities systems that need to be replaced within a facility (for example, electrical, plumbing, heating, and ventilation are categorized as real property installed equipment) may be increased in capacity to accommodate accumulated growth and/or to meet current codes or modern accepted engineering standards. For example, a failing air conditioning system within an existing facility may be replaced with a larger system and in determining the replacement capacity of the air conditioner, growth in heat load will be considered. Further, the air conditioning system may be extended to areas not previously served to allow for effective use of existing space or to meet current building code requirements.

*l.* Standards change, and the Army will comply with current DoD policy, Army policy, practices, standards, and codes when executing repair projects. An existing incandescent street light that is destroyed by

accident, nature, or has failed to the point of requiring complete replacement, must be replaced with a more modern type in accordance with Assistant Secretary of the Army Installations, Energy, and Environment Memorandum Subject “Exterior Lighting Technologies Policy”, dated 13 November 2012; whichever is more current. A broken 4–inch sewer line may be replaced with a 6–inch line because the latter size is the current minimum standard permitted. Replacement of a sewer line in acceptable condition, however, with a larger size to provide additional capacity to serve needs different from, or significantly greater than its current use would not be appropriate to fund from operations and maintenance appropriations.

*m.* Complete replacement of a facility is new construction. Partial replacement may be funded with appropriations for operations and maintenance as long as the replaced components are failed or deteriorating. An example is a segment of road that needs to be totally replaced. This may be accomplished as repair since the segment is part of the complete facility.

*n.* When an area of real property has multiple facilities in place to accomplish a single purpose, and a majority of the facilities are considered to have failed due to lack of sustainment or natural disaster, then, each facility must be replaced by construction. Consideration should be given to combining all the replacement construction projects into a single MILCON project. This would avoid the appearance of using multiple operations and maintenance construction projects to circumvent MILCON. However, if justified, the operations and maintenance construction projects may be accomplished individually if the individual construction projects are not contiguous (touching) and not interdependent.

*o.* For most work classification purposes, a facility is a discrete building or structure or other real property improvement identifiable at a minimum by five digits of the DoD real property Category Code system (see DA Pam 415–28). The current list of category codes is available for download from the Headquarters Installation Information System, Army business system (available at https://hqiis.army.mil/). A facility may contain one functional area or it may contain multiple functional area. Construction proposed for a multi-use facility may be divided into separate projects if each project can be clearly defined and the result is a complete and usable facility. In these multi-use facilities, individual areas may increase or decrease in size and new functional areas may be added or functional areas may be removed to ensure the overall existing space can be effectively used for its intended purpose. Examples are as follows:

(1) Enlisted unaccompanied personnel housing (category code 7211) represents a single facility. A housing facility damaged by fire may be repaired if the foundation and walls still exist, and does not require total replacement.

(2) Utilities are a single (physically or geographically identifiable) system that delivers a specific service or commodity. Some of the most common systems are: generation and supply of electric power; treatment or supply of water; collection or treatment of wastewater; generation or supply of steam, hot water, and chilled water; or supply of natural gas.

*(a)* A utility system includes the equipment, structures, and other improvements required to be complete and usable when constructed new where none currently exist. Associated real property, land, easements, and rights-of-way are included as part of the real property utility system.

*(b)* A water supply system contains several discrete facilities with unique category codes needed to supply the water. Therefore, category group 84 contains potable, nonpotable, and fire protection water facilities. Complete replacement of a failing water storage tank, who’s category code is 84610, would be considered new construction. In some cases, descriptions of category codes for a specific facility such as a potable water storage tank, exclude other facilities such as a building whose purpose is to house the equipment associated with the tank. A building with that purpose has a different assigned category code.

(3) Roads and other pavements category group 85. These facilities consist of roads, streets, walks, and parking which are grouped into the facilities that reflect their construction. These facilities include the signs, signals, fixed, unmoving safety barriers, bridges, and other appurtenances necessary for a safe efficient road, sidewalk, and parks. Conversion may not be used as a reason to pave an unpaved area.

*p.* In the case of major facility restoration, for example, interior gutting and removal where building components such as partitions, windows, doors, or utilities need to be replaced, such work is repair even though replacement items may be installed in a different location or configuration within the building. Major facility repairs or restoration projects are approved as a single project and not approved by component or system.

(1) Interiors may be rearranged and components and systems may be added to the extent that they are meeting established standards and codes or to make effective use of the existing space. Any increase in the exterior building dimensions is construction except those to meet codes and standards, for

example, placing a ramp at the exterior entrance of the facility or an elevator on the exterior to allow for handicapped access is repair. While the addition of mission square footage is construction.

(2) Undertakings on facilities that consist of many small individually approved projects put together may not include the addition of systems that currently do not exist as repair. The addition of systems in this case is construction. To be considered a major facility repair or restoration the maintenance and repair project must be approved in its entirety as a single project; this allows the inclusion of the needed systems, which currently do not exist but are required by codes and standards, as part of the overall repair.

(3) As stated above, repair means that the facility or facility component has failed, or is in the incipient stages of failing. A utility system or component thereof may be considered failed or failing when it is unable to perform as originally designed. Refer to Unified Facilities Criteria (UFC) 1–200–02 for Life Cycle Cost Analysis requirements. The treatment facility may be considered failing and technically obsolete when a law has been enacted that will require levying a fine if compliance with new standards are not met.

*q.* Projects that may qualify under technological obsolescence include the following examples:

(1) Demand Side Management agreements with private utility companies such as—

*(a)* Replacing T–12 fluorescent lamps (F40 T12) and electromagnetic ballast with T–8/T–5 fluorescent lamps with electronic ballast or light emitting diode (LED) lamps.

*(b)* Replacing incandescent lamps with compact fluorescent or LED lamps.

*(c)* Replacing motors with premium efficiency motors.

*(d)* Replacing air conditioning/heat pump units with >15 seasonal energy efficiency rating rated equipment.

(2) Replacing uncooled boiler water collection lines with sample coolers.

(3) Replacing toilets, faucets, and showerheads with Ultra low-flow aerated fixtures or waterless urinals.

(4) Replacing boilers/furnaces with high efficiency condensing boilers/furnaces.

(5) Bringing a utility system into compliance with local, state, or Federal laws to avoid fines or other penalties.

*r.* Conversion may be accomplished using funds available from operations and maintenance appropriations in accordance with 10 USC 2811. Conversions are usually made from excess facilities to facilities that are in shortage. In many cases the commander or manager accountable for the real property may not have the authority to make the conversion. See AR 405–45 and AR 405–70 for authority, policy, and procedures for approving conversions.

*s.* Until DCS, G–9 (DAIN–ODC) places a project into the project book, the scope may be changed by the work classification authority with the approval of the commander or manager accountable for the real property. The scope may be amended by deletions or additions as dictated by the work classification authority.

*t.* Minor construction prohibitions include the following:

(1) *Project.* No construction project will be subdivided in order to reduce costs below an approval threshold or minor construction ceiling. Project splitting results in the construction of a facility or a portion of a facility that is not complete and usable.

(2) *Incrementation.* Incrementation is a form of project splitting that occurs when a single construction project is split into separate parts, each of which are complete and usable by itself but are interdependent with the other parts so that the total project is not complete until all parts are complete. For example, a project to construct an airfield could be broken into increments of runways, taxiways, aprons, control tower, and hangars, each of which are complete and usable by themselves, but the total project is not complete until all the interdependent increments are complete and the total requirement is satisfied.

(3) *Relationship of facilities.* Classifying interdependent facilities as separate construction projects. In order to determine what constitutes a complete and usable facility and to comply with the prohibition on project splitting and incrementation, construction projects involving multiple facilities must contain a comparison of facility interrelationship versus facility interdependence.

*(a)* Interrelated facilities are funded as separate construction projects.

*(b)* Interdependent facilities are classified as a single undertaking and costed as a single construction project.

*u.* Determining interrelated versus interdependence requires analyzing the functional relationship between the facilities as informed by the documented requirement. The relationship should be based on the

overall requirement and not increments of the overall requirement. As a matter of routine, look at the overall undertaking; if it might appear that all the projects combined are circumventing the UMMC or MILCON approval process, then one should present the undertaking to higher authority or get a legal opinion.

*v.* Planned phasing of construction on an existing facility, a new facility, or in connection with a new or existing interdependent group or complex of facilities is not permissible. "Phasing" is the process of breaking a complete project into sequential tasks such as foundation, superstructure, and finish work that are not independently complete and usable. One "phase" is no good without companion "phases" as far as producing a completed facility. Phasing constitutes prohibited project splitting. Phasing has meaning only in reference to the construction sequence the funding process. A single "phase" of a project should never be requested for authorization. Rather, all "phases" of a project necessary to construct a complete and usable facility must be requested simultaneously.

*w.* 10 USC 2805; minor construction authority will not be used to begin or complete major construction projects contained in the annual Military Construction Authorization Act. It will not be used as a basis to complete projects financed under other authorizations when available funding is lacking. In rare instances, a minor MILCON project may precede a major MILCON project when it would provide a complete and usable facility that meets a specific need during a specific time frame. A minor project may follow a major project when new mission requirements arise following project approval.

*x.* The following may constitute a statutory violation and are prohibited:

(1) Planned acquisition or improvement of real property facilities through a series of minor construction projects.

(2) The subdivision of a construction project to reduce costs to a level that meets a statutory limitation or the splitting or incrementing of the costs of a project to reduce costs below an approval threshold.

(3) Development of a minor construction project solely to reduce the cost of an active MILCON project below the level at which Congress would be informed of the cost variation.

(4) Use of a RLB which the Army owns under the guise of procuring it as construction materials for a larger real property project, the cost of the RLB is part of the funded project construction cost and the approval must include all costs incurred including site preparation, lease costs, and purchase costs. However, when the RLB is obtained from another department or federal agency (such as the Defense Reutilization and Marketing Office) as excess, the cost associated with the RLB is an unfunded project cost and is not part of the approval cost.

*y.* Nonappropriated funds (NAF) or private funds may be used with appropriated funds for construction when it can be clearly shown that the construction projects are intended for different purposes. The combination of funding sources is not to be used to increment the appropriated fund construction project or to circumvent limitations. Construction projects having a total combined cost less than the amount identified in 10 USC 2805 may be approved in accordance with authorities delegated in AR 420–1. Construction projects that have a total combined cost in excess of the amount identified in 10 USC 2805 must be submitted to the DCS, G–9 for review and submission to DASA–IH&P for approval. Separate and identifiable projects having different funding sources may be combined for contracting purposes without prior approval; however, the costs for each type of project must be clearly identifiable. See AR 215–1 and AR 420–1 for policy and guidance on NAF or privately funding projects.

*z.* No minor construction projects will be complete until the terms of the National Environmental Policy Act (PL 91–190) have been met. See AR 200–1 and AR 420–1 for policy and guidance on real property actions needing to meet said terms to include base realignment and closure actions.

*aa.* The Secretary of the Army or designee must approve any proposed minor construction project, regardless of cost, that Congress previously denied or otherwise disapproved.

*bb.* 10 USC 2805; project cost limitations in effect at the time of approval of a minor construction project remain in effect throughout the life of the project. Any subsequent change in project cost limitations cannot be applied to previously approved minor construction projects, unless the project is submitted for re-approval and legal review.

*cc.* Minor construction projects will not be allowed to exceed the applicable statutory limit in 10 USC 2805 in effect at the time of project approval. If it becomes apparent that a construction project is approaching the statutory limit, the following actions will be taken.

(1) Work costs will be monitored daily to ensure costs do not exceed the statutory limit.

(2) Work will be halted before the statutory limit is exceeded.

(3) The approving official will review the project and reduce the scope of work while still obtaining a facility that is complete and usable, if possible. Only truly unnecessary work may be deleted. Adding the deleted work as a separate project at a later date may constitute prohibited project splitting or incrementation.

(4) If a reduction in scope is not possible, DCS, G–9 (DAIN–OD) will be notified for assistance.

(5) If two minor construction projects are to be executed in the same building and the projects are contiguous to each other (touching), they must be approved as a single project.

(6) Planning and design costs are excluded from the cost determination for purposes of determining compliance with the amounts established in 10 USC 2805 for minor construction projects.

## Chapter 2
## Work Classification Examples

### 2–1. General

*a.* This chapter contains specific examples of the types of work accomplished under the umbrella of operations and maintenance or construction. Additional information on individual facilities and utility systems regarding work classification may be provided in the following Army publications: DA Pam 420–1–2, gives specific guidance on construction, and DA Pam 420–1–3, provides additional work classification guidance.

*b.* Maintenance is a subcategory of repair. Therefore maintenance and repair are considered a single category of work.

*c.* Determining if equipment in a building is real property installed equipment or not is an important element of work classification. real property installed equipment includes all types of production, processing, technical, information systems, communications, training, servicing, and RDT&E equipment. In general, if the piece of equipment is needed by the user to perform the mission, but not needed to provide shelter from the environmental effects of nature, the equipment is probably real property installed equipment.

*d.* Maintenance and repair should always consider energy resilience in the planning of projects.

### 2–2. Work classification buildings and transportation systems

*a. Buildings.*

(1) Meeting current codes and standards is generally required when executing a repair project. When converting a building for a new functional purpose, consideration must be given to how the building can best be effectively used. Components or systems that are in good condition should be replaced only if the new use requires a different configuration.

(2) Examples of repair:

*(a)* Elimination of hairline cracks in plaster by grooving out and patching.

*(b)* Total or partial skim coating of hairline cracks.

*(c)* Waterproofing and sealing of walls; painting of building exterior or interior.

*(d)* Sanding, sealing, and finishing of wood floors.

*(e)* Pointing of masonry joints and sealing of masonry walls.

*(f)* The replacement of failing wood trusses or the installation of supplemental trusses, beams, or columns to augment the existing failing roof structural system. The strengthening of structural systems, specifically to increase the load carrying capacity beyond initial design capacity to meet current loads or to accommodate code or standards changes during repair projects is repair.

*(g)* The replacement of rigid underlayment and application of floor covering in a building to correct failing, unsafe, or unsanitary conditions is repair.

*(h)* Installation of slip resistant treads or nosing on existing stairs if stairs are in need of repair, or if these items are required to eliminate safety issues is repair.

*(i)* Installation of fiberglass roof shingles to replace deteriorated roll roofing if installation is essential to protect the building. The use of higher quality material is justified to reduce further maintenance costs. In addition, during the repair of the roof, the placement of reflective insulation materials on the roof or insulation materials under the roof where none exists to reduce the building thermal intake would be considered repair.

*(j)* Installation of prefabricated siding over deteriorated siding or siding that will not economically retain paint is repair. For the latter, replacement of siding must be cost effective with respect to painting over the expected life of the facility. If it was accomplished in conjunction with residing or replacement of a wall

liner, or ceiling, the installation of insulation, where none exists, to meet current standards it would be considered repair. In this case, the wall liner or ceiling must exist and be in a failed or deteriorated condition; otherwise, the installation of only insulation, where none exists, is properly classified as construction. The installation could be repair if it is justified economically through a Life Cycle Cost Analysis in accordance with UFC 1–200–02, or to meet requirements of a conversion.

*(k)* When it is proven to be more cost effective to paint building interiors by first covering the unlined ceilings and walls with gypsum board than to paint bare studded walls and exposed trusses, the installation of gypsum board ceiling and painting will be classified as repair.

*(l)* Replacement of carpeting serving as prime floor finish which is worn to the extent it requires complete replacement is repair.

*(m)* When windows or doors of nonstandard size need replacement, changing the size of the window or door frame to accommodate a standard size which can accommodate a wheelchair is repair.

*(n)* Replacing windows and exterior doors to meet the requirements of anti-terrorism and force protection standards and energy conservation when the windows are failing is repair. The failing condition may be justified by documentation that hardware is difficult to obtain; the manufacture has discontinued the window or door model being used; or, an excessive amount of repair resources are needed to keep the windows and doors functional.

*(o)* Total re-plastering of deteriorated walls or ceilings is repair.

*(p)* Replacement of failed venetian blinds with draw shades or curtains, or the opposite, is repair. This is true even if the replacement draw shades need to be fire retardant.

*(q)* Replacement of failed or failing kitchen cabinets is repair. This could include an increase in counter area and cabinet space to meet current standards or codes.

*(r)* Replacing a spalling deteriorated ceiling with a suspended ceiling is repair.

*(s)* A facility subject to conversion to a new functional purpose, may include replacing the existing floor covering.

*(t)* When the restoration of a generally deteriorated building requires replacement of partitions, the interior may be rearranged as repair. Increases in the linear feet of partitions, the number of doors, or the number of windows over the previously existing number is allowed when the increases are to provide for more effective use of the building or to meet current standards or codes.

*(u)* When a facility is being repaired or constructed, the installation of prefabricated modules such as office or medical modules, or moveable walls or partitions, the classification of the work to install these items is non-construction when the modules are real property installed equipment and when the conditions applicable to prefabricated office and medical modules in chapter 3 are met. If prefabricated office and medical modules or partitions are purchased to augment the arrangement of real property partitions, providing open office space as part of the repair or construction project, the modules are real property installed equipment and the installation is classified in accordance with the type of project being executed.

*(v)* If structural analysis as part of a project determines a load-bearing wall must be moved and the load-bearing wall has damage (failed or failing), moving the load-bearing wall can be done as a standalone repair project, or part of a broader scope repair project on the same facility. If a conversion of the facility is planned so it can meet a new functional purpose, the wall may be moved.

*(w)* Periodic inspection to meet statutory and regulatory requirements, such as inspection of truss and roofing structures, is considered repair (sustainment).

*b. Transportation systems.*

(1) Roads, railroads, and airfields are managed using Sustainment Management Systems (SMS). These modules have been proven to save funds when used as management tools. RAILER is the software management tool for railroads and paved areas use Pavement Engineered Management System (PAVER™) as the management tool. Inspections of Army Materiel Command managed installations airfield pavements is centrally funded and managed by Installation Management Command using PAVER™. Inspections of non-Army Materiel Command managed installations airfield pavements must be programmed for funding and inspections performed using PAVER™. Commanders and managers accountable for real property are expected to fund the evaluation of their roads and use the inspection program PAVER™. DoD directed the standardizing of facility condition assessments in a memorandum dated 10 September 2013. For pavements and railroads, this involves the linear segmentation of the real property facilities which is accomplished by the use of SMS modules PAVER™ and RAILER. The results of the inspections will be inserted into DA databases through an interface with BUILDER. Appurtenances to

paved areas such as signs, street lights, runway lights, traffic lights, real property control bollards, culverts, and bridges are part of the transportation facility and are repaired as such.

(2) Examples of repair:

*(a)* Seal coat, asphalt rejuvenation, and a single surface treatment of asphalt roads and hard stands are repair.

*(b)* Cleaning and sealing of cracks and joints in pavements and repairing potholes, patching, and repairing spills.

*(c)* Tightening bolts on rail and turnouts.

*(d)* Lubrication of switches and switch stands.

*(e)* Adjustment of switches and switch stands.

*(f)* Compaction of ballast.

*(g)* Vegetation control in ballast areas and roadways and the removal of debris and silt, and grading and seeding of drainage ditch side slopes.

*(h)* Cleaning ditches and cutting overhanging trees.

*(i)* Re-gauging track.

*(j)* Re-spiking.

*(k)* Tightening loose tie plates.

*(l)* Work necessary to restore failing pavement sections designated by PAVER™ to serve their designated purpose may include replacement of constituent materials (surface course, base course, subbase, and more). Asphalt concrete overlays used as a method of repairing failed or failing pavements may be designed to accommodate accumulated normal growth and evolutions in missions, equipment, and facilities and should include any anticipated missions or increases in usage based on the Master Plan.

*(m)* On an unsurfaced road, replacing road materials such as crushed stone, gravel, sand, or clay which have been displaced by traffic; addition of materials to reestablish prior grade and cross section; application of a single or double surface treatment to an existing stabilized surface.

*(n)* Restoring surface smoothness by heating, sacrificing, remixing, compacting, and resurfacing.

*(o)* Repair work required to restore railroads including work necessary to restore trackage to the current standard necessary to ensure safe and efficient operation. Work also includes ballast cleaning, replacement, and/or addition, rail and tie replacement, and reconstruction of failed crossings to current standards.

*(p)* Work necessary to repair failed or failing storm drainage systems including reshaping, seeding, or sodding ditches or channel slopes, and replacing damaged or deteriorated drainage structures.

*(q)* Complete replacement of a damaged or failing bridge and reconstruction of the associated intersecting roads to provide access to the bridge is repair. The bridge and road comprise a system, so the bridge is considered a component of the road system and so replacing a bridge is a partial replacement of the facility and repair is appropriate.

*(r)* Repair of failed or failing roads at the entrance to an installation may include increasing the base data of surfaced areas (widening, extending, and enlarging) to accommodate additional lanes, parking, turning and holding areas as well as appurtenances, rails, and traffic signs and signals necessary to provide proper traffic control and access to an installation that meets force protection and anti-terrorism standards.

*(s)* Repair work includes recycling, applying overlays, slab replacement, and repairing drainage systems. Paving of the invert or side walls of an open drainage ditch and placement of erosion control measures such as riprap and gabions are properly classified as repair.

*(t)* A segment of a linear facility such as a road, may be repaired through replacement. Statutory limitations on use of funds made available for construction and operations and maintenance do not distinguish between buildings and linear facilities such as roads. Therefore limitations on complete replacement, expansion of external dimensions, or increasing the throughput or capacity significantly different than originally constructed apply.

*(u)* Periodic inspection to meet statutory and regulatory requirements, such as pavement inspections (airfields, roads, or parking), airfield obstruction surveys and rail inspections are considered part of the preventative maintenance program. These actions are funded from the sustainment portion of the budget.

*(v)* Periodic dredging of a channel, waterway, or pier that has decreased in depth (silted in) is repair. The depth of the water within the channel, waterway, or at a pier may be increased during the dredging to allow for greater depth requirements of projected vessels.

*(w)* Children's playgrounds shock absorbing blocks are considered paving material. Replacing any type of failed or failing paving material in a road, parking area or other area such as children playgrounds with acceptable paving material is repair.

*(x)* Appurtenances to paved areas when damaged are considered failed or failing and are repaired as part of the pavement structure. Culverts under roads and bridges under or over paved structures are repaired as part of the paved structure.

*c. Construction.*

(1) Buildings. Work pertaining to the addition, expansion, extension, or total replacement of a building must be funded from MILCON appropriations (except for equipment driven by codes or standards such as handicapped access and fire evacuation stairs).

*(a)* Extensions or additions that increase the overall dimensions (length, width, or height) is not fundable from operations and maintenance appropriations. In the case of increasing the height of a space in a building, if the roof was in need of repair, an increase in height of the walls can only be funded from MILCON appropriations and the roof replacement would be repair.

*(b)* Installing new partitions, lining of unlined walls and ceilings, including necessary painting, and the associated insulation is construction unless these actions are accomplished during a major restoration project.

*(c)* Relocation of real property walls, partitions, doors, and windows in good condition to permit more effective use of the building when not accomplished as a part of a repair project, are would be capital improvements not eligible for funding from operations and maintenance appropriations.

*(d)* Alterations in arrangement of utilities within buildings, initial permanent installation of equipment, and adding doors or windows, for functional reasons are construction. However, in the case where repair of a facility has been justified, the number and arrangement of doors, windows, length of partitions, and utility locations within the building will allow for effective use of the space. Further, in case of conversions, all work within the external dimensions may qualify as repair. Increases of the external dimensions not in support of a code or a standard is construction and subject to the approval process of in effect at the time of the construction.

*(e)* Addition of insulation for energy conservation when such work is not related to a repair project is construction. If insulation is justified by an CBA with a payback within the expected life of the building, and the building has existed for 3 years, the insulation can be considered technically obsolete and can be considered failing. The addition of insulation in the latter case would then be repair.

*(f)* The addition of a suspended ceiling where there was no ceiling before is construction. Where repair of a facility has been justified and in a conversion, the suspended ceiling may be installed as repair.

(2) Transportation systems.

*(a)* An overlay which is used to convert unsurfaced roads or airfield overruns or roads with only a surface treatment to an asphaltic concrete surface is construction.

*(b)* Asphalt concrete overlays to increase existing pavement strength to accommodate a change in mission is construction. However, after the pavement has failed or is in the incipient stages of failure, a repair is justified and this repair may increase the strength to accommodate the change in mission. In any event, a repair must be justified by the PAVER™, SMS, and the pavement condition index may be used to justify a failed or failing condition.

*(c)* Restoration of the entire pavement facility following deterioration, damage, or failure, which comprises complete replacement or reconstruction of the pavement facility, is construction and may not be accomplished as repair. See this publication for additional guidance with respect to pavement facilities.

*(d)* Paving of sidewalls of a drainage system or ditch only for beautification purposes is construction.

*(e)* Work which will increase the base data of surfaced areas (widening, extending, and enlarging) is construction; however, an increase in road, street, bridge lane width, or runway or taxiway length and width to meet current minimum standards, if accomplished incidental to major repair of the existing facility, is properly classified as repair.

*(f)* Installation of additional appurtenances, such as drainage structures, curbs, and combination curb and gutters is construction, except as follows: concrete curb and gutters added incidental to major street and parking lot repair are classified as repair to existing pavement edges and shoulders.

*(g)* Any extension to storm drainage systems to accommodate curbs and gutters installed as construction is classified as construction. Extension of storm drainage systems to accommodate curbs and gutters installed during a repair project is repair.

*(h)* Asphaltic concrete surfacing of a stabilized or surface treatment pavement is construction.

*(i)* Reconstruction of trackage to higher standards to meet new missions is construction. During a repair of failed or failing trackage, an increase in the weight of rail used in the repair to meet increased standards or missions is repair.

*(j)* Extension of trackage is construction.

*(k)* Replacing inadequately sized drainage lines and structures with larger sizes to meet capacity of a new mission requirement when the drainage lines and structures are not failed or failing is construction.

*(l)* Improvement of an unimproved area with subbase, base, wearing surface, and/or drainage or the overlay of an unsurfaced pavement with bituminous or Portland cement concrete is construction.

*(m)* Dredging for the sole purpose of increasing the depth of a channel, waterway, or at a pier to allow larger vessels to use the channel, waterway, or pier is construction. Increasing the depth in conjunction with periodic maintenance dredging is repair.

*(n)* A new ditch or sediment retention structure basin or pond is construction, unless it is placed in conjunction with a larger repair project to maintain water flow in a stream.

*d. Equipment and relocatable items.*

(1) Items of equipment that are movable in nature, not permanently affixed as an integral part of a facility and not needed for the facility to be complete and usable, do not meet the definition of real property installed equipment and therefore are personal property. These equipment items include all types of mission, production, processing, technical, training, RDT&E, and pre-wired work stations. The items of equipment are financed from applicable operations and maintenance appropriations, RDT&E appropriations, procurement appropriations, or working capital fund resources, as appropriate. Permanently affixed as an integral part of a facility means that the item of equipment is affixed in such a manner that it cannot be moved without damage to the equipment or irreparable damage to the facility.

(2) Accommodations for personal property equipment may be provided in the building design in MILCON projects. The equipment may be mounted and connections provided for in the design but it is detachable without permanent, (unrepairable) damage to the building or equipment. The costs of alterations to the real property for installation or removal of this movable equipment is an equipment cost financed from applicable operations and maintenance appropriations, RDT&E appropriations, procurement appropriations, or working capital fund resources, as appropriate.

(3) The following are examples of installation or relocation of items:

*(a)* Installation of moveable partitions in a building may be personal property equipment or real property installed equipment depending on how the partitions are authorized. Moveable partitions and office furnishings funded as an element of the construction project is real property and accounted for as real property installed equipment. Moveable partitions and office furnishings funded by the user are personal property and the cost of installation is paid by the property book holder as an unfunded cost classified as non-construction. Temporary removal and reinstallation of portions of existing walls, roofs, utility systems, and appurtenances to permit installation and removal of personal property equipment is funded by equipment funds.

*(b)* The partitions may support cabinets, desks, sinks, or electronic equipment as specified by the manufacturer.

*(c)* A building may be considered complete and usable if it is constructed with all utility connections, and has a covered floor, ceiling, utility room with heating, ventilation, and air conditioning (if needed), and proper toilets.

*(d)* For partition supplied as personal property equipment, repair, and replacement are the responsibility of the property owner. Any work accomplished by the installation host to support repair will be reimbursable and subject to schedule availability.

*e. Control of access to installations is a Physical Security Protection and Services responsibility.* The procurement, installation, and maintenance of active (electronic and mechanical systems, such as electronic bollards, sensor fencing, hydraulic barriers) and passive (non-electronic systems, such as jersey barriers) are the responsibility of installation physical security office. (Hydraulic barriers imbedded in the road can be removed and the roadway easily restored after removal or, if necessary, abandoned-in-place.) Barriers that are not electronic or hydraulic and are not moveable are real property.

### 2–3. Work classification grounds

*a. General.* This section contains examples of work classification for maintenance, repair, and construction of grounds including dams, shore lines and stream banks. Replacement or additional landscape

planting must be in accordance with the installation's approved Natural Resources Management Plan. See AR 5–9 for policy and procedures for funding of facilities services.

*b. Maintenance and repair.*

(1) Grass cutting for beautification purposes is maintenance and repair. It is accounted for as a service under BOS. Grass cutting and vegetation control on dams, railroad rights-of-way, ammunition storage igloos, and to clear visibility on road ways is an operating cost and is maintenance and repair. They are accounted for as sustainment.

(2) Periodic cutting back of brush under power lines or from edges of roads and railroad rights-of-way and dams is repair and accounted for as sustainment.

(3) Application of fertilizer and weed/pest control agents on improved grounds is repair, but is accounted for as a service within BOS, except when accomplished on road rights-of-way and dams.

(4) Periodically scheduled lime, fertilizer, and seed application to maintain good growth on undamaged, vegetated waterways and other areas where vegetation has been previously established is repair, but it is accounted for under BOS. If it is performed on edges of roads, railroad right-of-way, or dams, it is accounted for as sustainment. This excludes prescribed follow-up treatments outlined as performance standards for initial establishment of vegetation associated with construction or repair projects and on areas maintained for beautification which is accounted for as BOS.

(5) Periodic inspection to meet statutory and regulatory requirements, such as inspection of erosion control structures, bridges, and dam structures are considered maintenance and funded under sustainment.

(6) Periodic removal of sediment (dredging) from sediment barriers, catchments, harbors, and navigation channels is repair. When removing the sediment, the dredging depth may be increased from the previously established depth to meet new standards or codes. The new standard may be established by the size and depth needed to accommodate proposed arrivals of larger ships.

(7) Removal of debris from an erosion control structure inlet to prevent damage or failure is repair.

(8) Controlling trees and vegetation to prevent subsurface drainage systems from clogging is repair.

(9) Removal of sediment from erosion control structures, barriers, or catchments and from constructed ranges and other real property facilities is repair.

(10) Removal of sediment from inundated areas not designed as real property facilities or as constructed sediment barriers or catchments is repair.

(11) Replacement of dead, deteriorated, or overgrown landscape planting is repair. Replacement does not have to be on a "one for one" or "same species" basis and, the location and size of the area landscaped may vary to fit the overall Installation Design Guide and the Natural Resources Management Plan.

(12) Replacement of dead or deteriorated turf by seeding, sodding, or placement of synthetic turf is repair. A CBA is needed to support the installation of the synthetic turf and the drainage structure it requires. This includes turf used to support the Army Combat Fitness Test. If justified by the CBA, the work can be accomplished as repair.

(13) The Army Combat Fitness Test may require a structure over the training area. If this is the case and the structure is procured via construction, the synthetic turf placed inside the structure is personal property. If the structure is placed as equipment (RLB), the RLB and the synthetic turf are both equipment and procured as a single equipment purchase. When under a structure the synthetic turf does not need a drainage system. The structure over the turf will provide the drainage structure. Synthetic turf on a NAF supported field is considered equipment-in-place and maintained by the using organization.

(14) Replacement of damaged trees, shrubs, and turf is repair.

(15) Work required to fix or eliminate future erosion of shore lines along streams and ocean fronts, including the placement of rip-rap or sea walls, is repair.

(16) Work such as filling and shaping to correct gullies, rills, and sheet erosion on training lands or real property facilities to reduce soil loss, to restore the natural shape of the land or land-formed facility, or to prevent further damage is repair.

(17) Maintenance of sediment barriers and catchments, excluding sediment removal, is repair.

(18) Root removal and replacement of damaged subsurface drainage systems where failure has occurred (for example, water backup, out-of-pipe flow) is repair.

(19) Erosion control measures such as the placement of rip-rap, gabion structures, or small check dams to prevent or contain erosion is repair.

(20) Work to reestablish a shoreline lost to storm damage or flooding is repair.

(21) Dams are an important element in our water systems. If the repair to replacement ratio for the repair is greater than 50 percent, all faults will be corrected by the restoration project (see AR 420–1).

(22) Creation of an erosion control structure for grade control and channel lining where no previously existed is construction unless it is part of a larger repair project. Reestablishment of a shoreline lost and the placement of a preventive structure where aggressive water damage has caused the loss of established landscaping along a shoreline is repair.

(23) Likewise paving sidewalls of a drainage structure as an erosion control measure is repair and paving the sidewall and the invert concurrently, may be repair if is required by current code for the facility and the functional purpose remains the same and capacity is not substantially greater than originally designed.

(24) Replacing component parts of damaged pavements, appurtenances, rails, and traffic signs and signals is repair.

*c. Construction.*

(1) Additional landscaping around real property facilities whether accounted for as BOS or construction.

(2) Providing a drainage ditch to carry surface runoff where no ditch previously existed is construction.

(3) Extending subsurface or surface drainage systems to include additional drainage area is construction, unless it is part of a larger repair project.

(4) Creation of a sediment retention structure (basin, pond) by means of excavation and/or erection of a dam where no structure previously existed is construction, unless it is part of a larger repair project.

**2–4. Work classification utilities**

*a. General.* This paragraph contains examples of work classification for maintenance, repair, and construction of utilities systems. The term "utility systems" define systems providing a facility type service to an installation or part of an installation. These services can include heating ventilation, air conditioning, sewage, fuel, water, electricity, and fuel systems. The system is composed of the equipment, fixtures, structures, appurtenances, and other improvements utilized in connection with the system as well as real property, easements, and rights-of-way associated with the system needed to provide, regulate, and distribute the service to the installation. The system may consist of several different category coded facilities. The water utility system, as an example, can be consistent of category codes 84130, water well, potable; 84330 fire protection system; 84610, water storage tank; and several more category coded facilities, as well as many appurtenances. The system can consist of category codes 84130, water well, potable; 84141, pump station, potable; 84210 water distribution lines, potable; 84330 fire protection system; and 84610, water storage tank.

*b. Sustainment, maintenance, and repair.*

(1) Periodic replacement of filters, belts, and brushes in heating, pumping, ventilation, air conditioning, and refrigeration systems.

(2) Lubrication of pumps, motors, and shaft bearings.

(3) Adjustment of controls in elevators and heating, ventilation, and air conditioning systems.

(4) Fire flow testing and flushing of water and sewer lines.

(5) Flushing and cleaning of boilers.

(6) Cleaning and inspection of grease traps.

(7) Checking continuity of electrical grounding and lightning systems.

(8) Replacement of failed or failing lighting fixtures with fixtures that provide the correct level of illumination prescribed by current Army standards or codes.

(9) Replacement of serviceable lighting fixtures is repair when the ceiling is being replaced as repair, and when a different type fixture is dictated by the replacement ceiling.

(10) Replacement of failed or failing overhead electrical distribution system with components such as distribution lines, poles, insulators, or lightning arrestors with an underground distribution system to conform to the Installation Design Guide or the National Electric Code.

(11) Replacement of a serviceable 110 volt circuit with a 220 volt circuit when a failed 110 volt window air conditioning unit is being replaced as repair with a 220 volt unit.

(12) Replacement of a corroded pipe that is failed or failing with a pipe having higher corrosion resistance or a greater capacity to accommodate growth in the areas served.

(13) Replacement of a failed or failing manual facility related control system with an automatic state of the art control system. Exercise caution however and complete a CBA to assist senior leaders with

making decisions on the best use of limited funds available for operations and maintenance in cases like this. Therefore, it is unlikely to be in the Army's best interest to expend funds to replace it with a state of the art control system prior to recapitalization of the facility component. In other words, include justification in the projects file why it is in the Army's best interest to replace the control system as a separate project rather than replacing it when the system it is controlling (assuming it is real property installed equipment) is replaced/modernized.

(14) Replacement of failed or failing installed space heaters with a central heating system. The area served by the heating system may be increased to make efficient use of existing space within a building or structure.

(15) The cost of removal and replacement of failed or failing food service equipment. (Note: The actual cost of the equipment itself is not funded from sustainment, restoration, and modernization accounts.) Failed or failing food service equipment need not be replaced in the same location and they may be rearranged to meet new DA approved layouts, as repair.

(16) Replacement of failed or failing trough urinals with an adequate number of wall mounted urinals is repair. The wall mounted urinals may be of the water saving type or waterless.

(17) Replacement of multiple failed or failing window mounted air conditioning units with a central system including duct-work, piping, and wiring is repair when the window air conditioning units are real property installed equipment. The area served may be increased to provide for efficient use of existing space. (Note: When the air conditioning units are occupant-owned the occupant may install a central system at their expense.)

(18) A failed or failing Heating Ventilation and Air conditioning system may be repaired. The equipment can be repaired by replacement, can be state of the art, and provide for more capacity than the original unit due to increased demand or changes in codes or standards. The decision on failed or failing may take accessibility, health, safety, or environmental reasons into account when making the decision.

(19) Replacement of failed or failing wall mounted or free-standing drinking fountains. All drinking fountains are real property installed equipment.

(20) Replacement of a failed or failing air-cooled condenser with a water-cooled condenser, or replacement of a failed or failing water-cooled condenser with an air-cooled condenser is repair regardless of size. The replacement condenser can be increased in size to accommodate increases in demand that occurred since placement. If the space available within the building is not large enough to accept the replacement condenser, the condenser may be placed outside of the building. The condenser will still be considered to be within the building five-foot line as will be connecting pipes and wiring connections to the condenser. Constructing a building to house the condenser will be construction, but all piping and wiring connecting the condenser to the building will be repair. Further, if the exterior of the replacement condenser is an integral weather housing and no building is required then all work is repair.

(21) Replacement of a failed or failing single bowl kitchen sink with a double kitchen sink.

(22) Replacement of twin sinks in a bathroom, when only one needs replacement and a matching sink is not available.

(23) The replacement of a heating system that is failed or failing with a heat pump will be repair and inclusion of air conditioning is repair if it is required by existing codes or standards, even if the facility doesn't currently have a means of cooling/dehumidifying the air.

(24) Replacement of a failed or failing direct buried system with a shallow trench or overhead system is repair.

*c. Construction.*

(1) Additions or expansions of existing serviceable utility distribution and collection systems, that is, overhead and underground electric distribution systems, steam, hot water, fueling point, gas distributions systems, water mains and services, sewer mains and laterals is construction.

(2) Altering unit arrangement and/or making changes to existing serviceable utility plants and systems to accomplish increases in capacity or operational efficiency to accommodate new or changed operational requirements is construction unless accomplished as part of a larger repair project.

(3) A fuel conversion on a serviceable furnace, boiler, or water heater is construction, unless the existing equipment can be justified as technically obsolete and thus failing, in which case it can be repair.

(4) Installation of new real property installed equipment or systems, such as, kitchen equipment, space heating, water heaters, or plumbing systems where none existed and no repair project can be justified.

(5) Re-installation of any previously removed real property installed equipment where such equipment was originally removed to accommodate a new use.

(6) The interconnection of two serviceable heating plants to eliminate the operation of one heating plant.

(7) The installation of fuel oil storage tank at a gas fired heating plant to permit gas/oil operation unless the fuel oil storage tank is part of a larger repair project.

(8) The installation of a new humidifier in a warm air heating system.

(9) The installation of any size air conditioning equipment and mechanical ventilation equipment in any facility is construction except when air conditioning is classified as personal property. If the air conditioning equipment is part of a larger repair project and it has been justified by codes or standards it is repair.

(10) The alteration of any serviceable air conditioning or ventilation system to improve or increase operating characteristics.

(11) The addition of secondary or advanced treatment to a primary sewage treatment plant is construction unless the addition is driven by a change in the operating certifications granted by the regulatory body.

(12) The installation of new water pumps or wells to meet new loads.

(13) At the time of this publication, the installation of new electric vehicle charging stations that are connected to the grid accounted for as real property is construction.

(14) Connection charges to utility companies for the connection of new or expanded facilities, or capital contributions to the utility suppliers' "backbone" system (see AR 420–1). Each utility is considered separately when privatized.

**2–5. Work classification landfills**

*a. General background.*

(1) In accordance with AR 420–1, it is Army policy to use municipal utility systems in lieu of Army landfills, if feasible.

(2) In the absence of a regional system, contractual arrangements for solid waste collection, hauling, and disposal should be made with a public agency or a commercial entity. New landfills on Army installations will be planned only when studies (including third party contracting) show that these services are not economically available from outside sources.

(3) If corrective actions are required on closed landfills because of environmental contamination, funds may be eligible for programming under the Defense Environmental Restoration Program (DERP) as Solid Waste Management Unit projects. This Defense Environmental Restoration Account (DERA) funding mechanism is for continental United States (CONUS) facilities only. Installations outside the continental United States (OCONUS) must use environmental compliance funds or Host Nation Infrastructure Funding as appropriate.

*b. Operations.*

(1) Operation of existing landfills is not construction and is considered an operating expense that is covered under the Base Support, Real Property Service ****79.** account. This includes costs of opening new cells to include cell liner and cell leachate collection systems, the day-to-day operations of placing refuse, compacting, daily and final cover, closure, and erosion control.

(2) Operation of closed landfills to include the operation of an existing leachate collection and treatment systems are engineering support efforts that are covered under the Base Support, Real Property Service ****79.** account.

*c. Repairs.*

(1) If a landfill, either existing or closed, is determined to be a failed or failing, (for example, confirmed ground or surface water contamination), the system may be fixed with repair funds. Repair funds should be utilized for correction such as liner or leachate collection system repairs.

(2) The DERA is the preferred funding mechanism to correct a failed or failing system on a closed landfill in CONUS.

*d. Construction.*

(1) All new landfills are construction efforts and will be programmed as construction projects, either MILCON or operation and maintenance, and are accounted for under the Base Operations Restoration and Modernization ****76.** account. All preparatory work for the overall site footprint will be included in the construction project. This includes, but is not limited to, site development, leachate collection, pumping stations, treatment facilities, scales, fencing, monitoring wells, haul roads, and storm water drainage control.

(2) Improvements such as, leachate collection, treatment facilities, fencing, monitoring wells, required on the original overall footprint after project completion are classified as construction and are funded using either MILCON or Operation and Maintenance. These undertakings are accounted for under the Base Operations Restoration and Modernization ****76.** account.

(3) If additional construction, for example, installation or extension of liners and additional leachate collection or treatment systems, at an existing landfill is required solely to meet new federal or state regulations and there is no sign of ground or surface water contamination, the work is a construction. This is true unless the new regulations requires fines to be paid unless the regulations are met, in which case the system can be classified as failing and thus repaired.

**2–6. Work classification asbestos**

*a. Background.*

(1) Surveys of facilities are needed to determine the location and condition of asbestos containing material (ACM) (surveys are properly funded under BOS Environmental Compliance, removal or abatement is not).

(2) The ACM is typically managed in place. The installation host is responsible for monitoring the condition of ACM to ensure no hazard exists to building occupants. Any ACM that is not a hazard not friable will be encapsulated to ensure containment. If a project is planned in a facility that contains ACM, removal of the ACM will be considered part of the funded project cost and funded by the sponsor of the project.

*b. Repair.*

(1) If ACM is in a failed or failing condition, abatement work is considered repair.

(2) If ACM is not failed or failing by itself but is removed in connection with repairs to failed or failing building components or systems, the asbestos abatement is considered an integral part of the repair project and is therefore repair and is a portion of the funded project cost.

(3) The cost of remediating unknown environmental contamination within the footprint of a repair project.

*c. Construction.*

(1) If ACM is not failed or failing but is removed in connection with alteration or construction work, the asbestos abatement is an integral part of the construction project and is therefore construction.

(2) If ACM is not failed or failing but is removed anyway as a matter of policy, such abatement work is construction.

*d. Service.*

(1) If ACM is contained in a facility which is scheduled to be demolished, not as part of a construction project, but as part of the installation master plan, asbestos abatement is not considered construction and should be funded with demolition funds.

(2) Surveys for the identification and inventorying of ACM is a service and thus an unfunded project cost and is funded under BOS; the environmental compliance account should be used.

**2–7. Work classification Defense Environmental Restoration Program**

*a.* The following summarizes Army policy governing the classification of work for projects performed under DoDI 4715.07 at Army installations.

*b.* All cleanups under the subject to the DERP, in accordance with 10 USC 2701, address hazardous substances, pollutants, and contaminants, and military munitions sites consistent with the provisions of 42 USC 9601, 40 CFR 300, EO 12580, and 42 USC 6901. For activities that resulted in contamination at non-permitted sites, see AR 200–1. The DERA was established by 10 USC 2703 (Environmental Restoration Transfer Account) as a “transfer account”. In 1997, PL 105–56 changed DERA to a direct appropriation to the components through the establishment of the component environmental restoration account (for the Army, the restoration account is known as Environmental Restoration, Army). Under 10 USC 2703, all funds appropriated to carry out the functions of the Secretary of Defense relating to environmental restoration are appropriated to the transfer account and are subsequently transferred to other appropriate accounts (for example, operations and maintenance procurement for use in conducting environmental restoration activities).

*c.* The following procedures and guidelines will be employed to ensure that the proper appropriation is identified in the Army request for transfers. This section also contains examples of work classification for typical projects accomplished under DERA. Proper work classification of projects prior to the beginning of

the fiscal year in which the project is to be executed is critical. Improper work classification may result in project delays.

(1) The basic work classification guidance contained here is derived from AR 200–1, AR 420–1, and DoDI 4715.07. This guidance is subject to change. Check Army regulations prior to execution of projects.

(2) The commanders or managers accountable for real property subject to DERP must be involved in the work classification decision process.

(3) The installation host is responsible for providing MILCON sites which have been surveyed. Preparation of environmental documentation and site survey is considered advance planning and will be funded from other than MILCON or NAFs.

*(a)* If a proposed project must be sited in a known environmentally sensitive area where an Army cleanup program has already cleaned to current or reasonably anticipated future land use, the cost of design and construction of mitigation measures required as a direct result of MILCON or NAF projects may be paid from MILCON funds, if these costs are included in the cost estimate and description of work on DD Form 1391.

*(b)* If during the execution of a MILCON project environmental contaminants are discovered, the installation is responsible for emergency response/initial response activities when these costs are not included in the MILCON project. If initial response activities are not adequate and additional remediation/cleanup is required, the project proponent is responsible for identifying the environmental requirements and securing funds.

(4) Environmental restoration projects using funds that have passed through the component environmental restoration transfer account may result in the construction of real property using a work classification other than construction.

*(a)* The work classification for projects subject to DERP must be accomplished in accordance with current public laws and DoD and Army policy.

*(b)* Operational expenses for project subject to DERP are operations and maintenance expenses.

(5) Construction projects above operations and maintenance thresholds at environmental restoration sites using funds that have not passed through the component environmental restoration transfer account are not eligible for the MILCON exemption applicable to DERP, must be classified as construction if a complete and usable facility will remain in place after the restoration effort is complete. An example would be a steel building using a slab-on-grade foundation that housed a groundwater pump and treatment system during restoration efforts. At the end of the treatment effort, the building would remain in place.

*(a)* If funded using dollars that had passed through the component environmental restoration transfer account, the project would be classified as repair.

*(b)* If funded using normal operations and maintenance funds, the project would be classified as construction, and if above the operations and maintenance threshold for MILCON, must be funded from the MILCON appropriation.

## Chapter 3
## Equipment–Real Property Installed Equipment, Equipment-in-Place, and Relocatable Buildings

### 3–1. Overview

*a. Real Property Installed Equipment (Installed Building Equipment).*

(1) See AR 405–45 for policy and mandatory procedures for accounting for installed equipment. Not all equipment that is provided as part of the construction contract and have their costs included as a funded construction cost are classified as real property installed equipment. For example, information system items such as cables and distribution panels are not real property installed equipment; cable trays and conduits (usually within the wall, ceiling, or floor) are real property installed equipment, except for secure systems which are required to be mounted on the wall exterior. Maintenance and repair of real property installed equipment follows the classification guidance contained herein is not inclusive.

(2) Examples of supporting equipment that are considered real property installed equipment are listed below—

*(a)* Bedside headwall units (built-in).

*(b)* Benches (built-in).

*(c)* Bleachers (built-in).

*(d)* Bookcases (built-in).
*(e)* Cabinets (built-in).
*(f)* Cable trays and conduits (for information systems and unclassified communications).
*(g)* Carpet (primary floor covering).
*(h)* Chapel seating, baptisteries, pulpits, communion rail and raised platforms (built–in).
*(i)* Closets (built-in).
*(j)* Correctional facility equipment.
*(k)* Desks and tables (built-in).
*(l)* Dishwasher and pot and pan washing equipment (large equipment installed in special rooms with-in a building).
*(m)* Drinking water fountains and coolers.
*(n)* Electrical (electric fixtures, power utilization, and distribution equipment).
*(o)* Elevators and elevator doors.
*(p)* Escalators.
*(q)* Exhaust systems.
*(r)* Fire alarm and detection systems including built-in cabinets and the cabinets at the 24/7 monitoring station.
*(s)* Food service equipment (built-in) (list of real property installed equipment serviced by host installation are listed in appendix B).
*(t)* Gas fittings.
*(u)* Hardware and fixtures for the handicapped that are needed for compliance with American Disabilities Act.
*(v)* Heating, ventilating, and air conditioning building control systems.
*(w)* Hoists (crane and crane rails) (designed as part of the structure or built-in).
*(x)* Incinerators (purchased with construction funds).
*(y)* Information systems (see AR 420–1 for policy as it relates to construction or maintenance and repair).
*(z)* Intercom systems.
*(aa)* Key control systems (electronic card key entry systems of a general nature and/or special cipher locks for secure areas and electronic card key systems for secure area entry are personal property).
*(bb)* Kitchenette units.
*(cc)* Laboratory sinks, tables, benches (built-in).
*(dd)* Lockers (built-in).
*(ee)* Mass notification (mass notification which has been added to existing fire alarm and paging systems which are themselves real property installed equipment).
*(ff)* Medical gas systems.
*(gg)* Nurse call system.
*(hh)* Electrical panel boards.
*(ii)* Prewired workstations (when purchased as part of a real property repair or construction project these pre-wired work stations become real property and equipment procurement limits do not apply). They will be included on the DD Form 1354 (Transfer and Acceptance of DoD Real Property) as installed equipment.
*(jj)* Plumbing.
*(kk)* Pneumatic tube systems.
*(ll)* Protective construction features.
*(mm)* Refrigeration equipment (built-in) (excluding Defense Commissary Agency, Army and Air Force Exchange System, and morale, welfare, and recreation (MWR) concessionaires' equipment).
*(nn)* Storm sash and doors.
*(oo)* Safety signs.
*(pp)* Screens.
*(qq)* Shelving and racks (built-in).
*(rr)* Signs and markings for boundary, area, building room, and unit identification.
*(ss)* Sprinklers.
*(tt)* Sterilizers (built-in).
*(uu)* Storage bins (built-in).
*(vv)* Theater and auditorium railings.

*(ww)* Theater stage and fire curtain.
*(xx)* Traffic railings.
*(yy)* Vaults.
*(zz)* Vehicle and pedestrian traffic control and signs.
*(aaa)* Venetian blinds, window shades, or drapes.
*(bbb)* Wardrobes (fixed).
*(ccc)* Waste disposers.
*(ddd)* Other similar non-severable items.
*b. Auxiliary generators.*
(1) Generators affixed as a permanent part of a facility that provide power to facility electrical loads are typically considered to be real property installed equipment and should be funded with MILCON funds. Generators which are only to support personal property are themselves personal property.
(2) Auxiliary generators maintained by the installations' Directorate of Public Works and funded by MILCON appropriations are authorized only for the facilities and systems (see AR 420–1 and its associated pamphlet for policy and guidance).

**3–2. Personal property equipment**
*a. Personal property.*
(1) Such items of personal property may be severed or removed from a facility without causing irreparable damage, destroying, or reducing the usefulness of the facility.
(2) It is accounted for on property book records, not on real property records (see AR 405–45 for policy and procedures regarding real property and AR 735–5 for policy and procedures regarding personal property).
*b. Costs.*
(1) Items of equipment that are movable in nature and not affixed as an integral part of a facility must be financed from applicable operations and maintenance appropriations, RDT&E appropriations, procurement appropriations, or working capital fund resources, as appropriate. The cost of the following items is included in the operation and maintenance of the personal property.
(2) An existing facility cannot be considered failing if it doesn't have the equipment needed by the user/tenant specific to their mission. The work to make improvements to a facility so equipment can be installed into existing real property facilities is non-construction. Examples include all types of production, processing, technical, training, servicing, RDT&E, and pre-wired work stations. The work to install or remove the equipment is considered non-construction and is funded with equipment funds. The associated cost of this equipment and the costs related to its procurement (including items such as transportation, packing, unpacking, assembly, and attachment) are non-construction. They are an unfunded project cost.
(3) All costs are funded from the owning property book holder. Actions to install or remove it may include temporary removal and reinstallation of portions of existing walls, roofs, utility systems, and appurtenances to permit movement of equipment. This includes paved surfaces into which holes are created to permit installation of mechanical or electrical equipment to control traffic. These holes can be easily removed when equipment items are removed.
(4) The secondary utility work necessary to connect it to existing utilities services within a real property facility between the primary entry and source of utilities into the structure to be served is an unfunded project cost and not construction. Some typical examples are as follows:
*(a)* Installation and relocation of prefabricated interior screens, partitions, modular furniture, and dividers which are not permanently attached. Movable screens or detachable panels that are readily removed. This includes smart glass or other improvements to display equipment which improves the production of facility users.
*(b)* Installation of false floors and platforms required solely for operation of the equipment to be installed.
*(c)* Installation of required shielding for electromagnetic radiating devices. Structural changes, including new partitions related to installing shielding, are construction.
*(d)* The temporary removal and reinstallation of items such as portions of walls, roof, and utility systems to permit the installation of equipment. Re-installation may involve rerouting or relocation of some items.
*(e)* Installation of special foundations, pads on slab-on-grade, or pits in facilities, including pits for installation of traffic control equipment. Installation of floors other than slab-on-grade are limited to bases

needed to spread load and to secure the item. Increase in load-bearing capacity of these floors by additional or larger structural components would be considered investment costs and budgeted as construction.

(5) Heating, ventilation, and air conditioning installed to meet manufacturers' specifications for equipment temperature, humidity, particulate matter, and air circulation must be addressed in a Memorandum of Agreement clearly stating who retains the sustainment funds and must pay for any maintenance and repair of the equipment. The installation of air conditioning under the following circumstances:

*(a)* To meet manufacturers' specifications for equipment temperature, humidity, particulate matter, and air circulation.

*(b)* In clean rooms installed in non-air-conditioned spaces or when the building central system cannot meet the temperature and humidity requirements of clean room operations.

*(c)* For operator occupied areas where installed equipment will increase the temperature or humidity beyond safety levels in the immediate area of equipment. Under this policy, air conditioning may be provided only in bona fide equipment spaces directly related to the equipment and not in administrative or other working spaces.

*(d)* In facilities where windows are not allowed to be opened for bona fide security reasons.

(6) Installation of mechanical ventilation and separate exhaust systems when needed for personnel safety or for the proper functioning of the equipment as required by the manufacturer.

(7) Installation of intrusion detection equipment, except for conduit and junction boxes.

(8) Installation of specialty fire extinguishing systems for rooms that contain substantial amounts of computers, communications, and automatic data processing equipment.

(9) Trunked radio systems are considered personal property; their procurement, activation, and any monthly recurring service charges are the responsibility of the proponent/user. The proponent/user remains responsible for any monthly recurring service charges. In a repair undertaking, these costs are an unfunded project cost.

(10) Hospital facilities may support the use of hand held trunked radio transceivers in support of their installations emergency management plan. Radio frequency repeating equipment may be installed in the facility. In a repair undertaking, these costs are an unfunded project cost.

*c. Other procurement, Army funded construction.*

(1) Equipment shelters acquired as equipment to support facilities/systems according to AR 25–13 are not real property. They only provide weather protection for the equipment inside the shelter.

(2) See AR 25–1 and AR 25–13 for policy and guidance on funding and sustainment of communications infrastructure.

(3) All equipment shelters, regardless of the source of funding or construction agency, will be built to UFC and Unified Facilities Guide Specifications to the greatest extent possible.

(4) Each installation is required to have a master plan in accordance with DoDD 4165.06 (see AR 210–20 for full details). For Army real property, site approval must be obtained from the installations' Directorate of Public Works. When a tenant of another services' facility, follow the terms and conditions of that particular Installation Agreement. Additionally, follow Army policy and procedures for planning programming, budgeting, and execution sustainment of the occupied facility.

(5) Final design approval will be obtained from the installations' Directorate of Public Works prior to awarding a construction contract.

(6) Construction management for construction will be accomplished in accordance with DoDD 4270.5.

(7) Transfer of construction to the installations' Directorate of Public Works real property records department will be in accordance with Army policy and procedures.

(8) The purchase, installation, maintenance, and repair of equipment (personal property) must be accomplished in accordance with AR 710–2 and AR 735–5.

### 3–3. Special cases

*a. Conveyor systems.* These systems are typically comprised of a series of mechanical equipment such as belt conveyors that automatically transport loads and materials within an area. Items transported may include, but are not limited to, boxes and trays.

(1) An installed track system, including switches and controls, normally designed to fit a particular facility. A building's fire protection and mechanical systems may need to be altered to accommodate system installation and/or provide proper coverage after conveyors are in place.

(2) An automated conveyor system will be accounted for and subsequently maintained and repaired in accordance with AR 405–45, AR 420–1, AR 710–2, and AR 735–5.

*b. Prefabricated office and medical modules.* The purchase and installation of modular units, moveable walls, and partitions can be accomplished with either real property project funds or with equipment funds as personal property. Smart glass will not be included as part of modules installed as real property, but may be used on prefabricated office and medical modules installed as personal property. The modifications to the facility to install smart glass are funded by the property owner. When the equipment is to be accounted for as personal property, the equipment will be—

(1) Owned and accounted for by the user's property book.

(2) Maintained and repaired with user's property book funds.

(3) Made for indoor use only.

(4) Movable or if attached to the real property, it can be severed or removed without destroying the usefulness of the equipment. Removing the equipment from the building may be accomplished according to paragraph 3–2*b*(2). Structural integrity of the building will be maintained at all times.

*c. High altitude electromagnetic pulse protected facilities.* When classified as personal property, the responsibilities outlined above belong with the accountable organization, the user, or the occupant of the facility. This work may be accomplished by the host installation on a reimbursable basis.

*d. Multi-purpose fields.* These may be natural turf or synthetic/artificial turf. Replacing natural turf with artificial turf requires a CBA showing a savings to investment ratio greater than 1.0 as a means to cover the field verses natural turf.

(1) Most artificial turf systems will require proper drainage to deal with storm water and prevent flooding. The drainage systems ought to be considered an integral part of a turf system, natural or artificial. When the artificial turf is considered personal property, the installation of the drainage system is an unfunded project cost which is charged to the property book holder. It is considered as a non-construction cost. This work is analogous to connecting personal property to a utility system. The artificial turf will be installed and maintained by the property book that owns the artificial turf.

(2) When considering the use of artificial turf as a ground cover, a life cycle cost analysis will be used to demonstrate that synthetic/artificial turf is the most economical and useful alternative with a savings to investment ratio greater than 1.0. The life cycle cost analysis will be maintained with the property records for the life of the equipment. However, there are considerations other than economics which could lead to the use of artificial turf on a training field. The type of soil and the climate are major considerations that should be taken into account when considering artificial turf. The justification to install artificial turf as real property is not just an economic decision. The mission should be considered. The installation of artificial turf needs approval from the commander or manager accountable for the real property.

(3) Synthetic/artificial turf may be used for physical education training fields (category code 17992) to support the new physical training regiments.

*e. Uninterruptible Power Supply.* An Uninterruptible Power Supply (UPS) System is not inherently a part of the real property utility system. The UPS system may be classified as either real property installed equipment or personal property equipment depending upon the type, size, use, and installation. A UPS is not authorized to support real property equipment such as heating, ventilation, and air conditioning systems, lighting, and so forth unless it is part of the installation utility system. They must be designed to support only the data and communication systems that require continuous power to maintain operation without data loss. The UPS is to support data systems until the auxiliary or back up power is restored. Work classification guidance:

(1) A UPS system which occupies a specific area of a building and is structurally, mechanically, and electrically affixed as an integral part of that facility is classified as real property. Rooms for housing a UPS must be built to UFC and Unified Facilities Guide Specifications. For example, a system that starts out as a lead acid battery system that completely fills a room may evolve into a much smaller lithium ion system that is contained in a single cabinet. At that point the UPS may be considered personal property and the owner of the equipment being served will be responsible for its maintenance and repair.

(2) A UPS system which requires no structural changes and is not affixed or built into a facility and which can be moved and relocated without destroying the usefulness of the facility is classified as personal property.

(3) A battery system used to store energy generated by supplemental energy systems such as wind generators, solar photovoltaic cells, or hydroelectric systems are not considered UPS devices.

*f. Dining facility equipment.* A dining facility contains both real property and unit equipment. See appendix B for a list of what may be included in the construction project. See AR 405–45 for policy and procedures related to real property and AR 735–5 for policy and procedures regarding personal property, which includes equipment. Examples of dining facility equipment that may be included in the construction project are listed below:

(1) All walk-in freezer with all supporting units.
(2) All walk-in refrigerator with all supporting units.
(3) Air curtain (refrigerators).
(4) Sink vegetable prep.
(5) Closed-couple waste pulping system.
(6) Storage shelving system.
(7) Table with sink (attached to wall).
(8) Wall mount central system.
(9) Waste pulper with through connection.
(10) Refrigerator, rapid thaw (built-in).
(11) Tray slide (attached to the building).
(12) Pot filler/spray hose assemblies.
(13) Pots and pans sanitizer.
(14) Table, drain board (pot and pan).
(15) Pots and pans sink.
(16) Heater booster.
(17) Spray, pre-rinse with wall bracket.
(18) Booster water heater (all type).
(19) Delrin slat belt conveyors.
(20) Food waste disposal liquid.
(21) Conveyor with soiled tray table.
(22) Soiled dish table with through.
(23) Dishwashing machine (all type).
(24) Service sink (floor mounted).
(25) Clean dish table (dishwasher).
(26) Soiled dish table (dishwasher).
(27) Spray assembly with wall bracket.
(28) Wall mounted shelves.
(29) Food waste disposers.
(30) Water booster heater.
(31) Headcount station, buffet feeding.
(32) Air curtains (exit doors).
(33) Pot and pan washers.
(34) Central system hose reels with attachments.
(35) Food waste reduction system.
(36) Sink heater.
(37) Convertible/adjustable floor drain protector.
(38) Traycon accumulator.
(39) Power soak sinks.
(40) Faucet hose station ice making machines.
(41) Coffee dispenser with pre-heater.
(42) Clean dish table (dishwasher).
(43) Display refrigerator.
(44) Specialty bar with sneeze guard.
(45) Heated cabinet, reach-in.
(46) Food warmer.
(47) Horizontal refrigerator, (2) drawer.
(48) Serving unit, heated (2 wells).
(49) Urn stand.
(50) Breath protector, lighted.
(51) Reach-in refrigerator (built-in).

(52) Reach-in freezer (built-in).
(53) Hinged glass door pass-through refrigerators.
(54) Pizza oven.
(55) Rotisserie oven with ventless hood.
(56) Blast chiller.
(57) Insulated tilting skillet.
(58) Mixer tables.
(59) Soft serve ice cream freezer.
(60) Self-service food protectors with light fix.
(61) Convection steamers.

**3–4. Personal property, fixed**

*a.* Equipment and relocatable items that are movable in nature but are affixed to a facility must be financed from applicable operations and maintenance appropriations, RDT&E appropriations, procurement appropriations, or working capital fund resources, as appropriate. This includes all types of equipment for production, processing, technical work, training, servicing, and RDT&E, and pre-wired workstations (when purchased as part of a real property repair or construction project the pre-wired workstations are real property and normal expense/investment limits do not apply). This includes any operational equipment for which installation mountings and connections are provided in the building design. If the equipment can be detached without irreparable damage to the building or the equipment and the equipment is used primarily for mission or production purposes, it should be considered personal property (see AR 405–45 and AR 735–5).

*b.* The costs of alterations to install movable equipment that is not an integral part of a facility must be financed from applicable operations and maintenance appropriations, RDT&E appropriations, procurement appropriations, or working capital fund resources, as appropriate. The following are examples of actions allowing installation or relocation of items such as prefabricated screens, partitions, workstations, false floors, platforms, and shielding for electromagnetic radiating services. Actions may include temporary removal and reinstallation of portions of existing curtain walls, roofs, utility systems, and appurtenances to permit installation or removal of equipment; paved surfaces into which holes are created to permit installation of equipment that can be covered or restored when items are removed. The secondary utility work necessary to connect equipment to existing utilities services in the vicinity of the equipment is part of the installation or removal.

*c.* Personal property consists of capital equipment and other equipment of a movable nature which has been fixed in place or attached to real property, but which may be severed or removed from buildings without severe structural damage to the building. For a repair project the acquisition and installation of personal property equipment is an unfunded project cost. In construction projects, some personal property will be considered part of the project (funded project cost). Personal property is accounted for in accordance with AR 710–2. Examples of fixed personal property are listed below—

(1) Antennas and antenna towers for point-to-point communications and cellular towers.
(2) Air compressors supporting other items of personal property.
(3) Autoclave and sterilization equipment, all types and sizes.
(4) Blanking equipment.
(5) Blast furnaces.
(6) Blasters and roto blasters.
(7) Chain and tractor equipment (crane and crane rails are see above).
(8) Conveyor systems.
(9) Demountable partitions.
(10) Dental chairs, pedestal units, and support equipment, including vacuum and airlines.
(11) Dies.
(12) Drills.
(13) Dryers.
(14) Educational television systems.
(15) Relocatable level 2/3 electric vehicle charging stations.
(16) Electronic repair laboratory and shop equipment.
(17) Electronic navigational aids, such as terminal very high frequency omni-directional range, and tactical air navigation.

(18) Fixed facilities for radio and meteorological stations.
(19) Fixed target range systems.
(20) Forges.
(21) Grinders.
(22) Heat treating machines.
(23) Incinerators (purchased with equipment funds).
(24) Intrusion detection systems.
(25) Infant Abduction Monitoring System.
(26) Jigs.
(27) Lathes.
(28) Laundry equipment.
(29) Local Area Network (LAN) equipment and cables.
(30) Mass Notification Systems that are standalone systems.
(31) Medical and dental equipment.
(32) Metal plating equipment.
(33) Microscopes (fixed).
(34) Modular office furnishing and walls with or without hanging furniture (see prefabricated office and medical modules above).
(35) Molders.
(36) Organs.
(37) Ovens and furnaces.
(38) Paint sprayers.
(39) Photographic equipment.
(40) Planners.
(41) Presses.
(42) Prewired workstations (when purchased as part of a real property repair or construction project the pre-wired workstations become real property and equipment procurement limits do not apply).
(43) Printing presses and related equipment.
(44) Punches.
(45) Raised flooring required solely for operating equipment (computer rooms).
(46) Riveters.
(47) Scientific measuring instruments.
(48) Sewing machines.
(49) Sheet metal equipment.
(50) Smart Glass–Viewing Glass that is used as part of a modular screen wall.
(51) Stamping and cleaning equipment.
(52) Steam cleaning equipment.
(53) Stills.
(54) Stitching machines.
(55) Telescopes.
(56) Telephones, cabinets, and cabling (except cabinets and cables for unaccompanied housing and Army Family Housing (AFH)).
(57) Testing equipment.
(58) Training equipment and simulators both inside a facility and outside a facility.
(59) Vats.
(60) Wash tanks.
(61) Welding machines.
(62) Woodworking equipment.

### 3–5. Information systems in repair projects

*a.* Planning for information system infrastructure during project planning and design of projects is important and required in accordance AR 25–13. All repair projects that affect the communications systems in a facility will be coordinated with the installation Network Enterprise Center (NEC) prior to starting the planning and design. The coordination should begin early enough to allow the NEC or supporting G–6 to identify the information system costs to program the funds needed to support the facility. A continuing dialogue is needed from the time of project inception until the project is completed and the DD Form 1354 is

signed, and the building is turned over to the end user. It is recommended to use “Information System Planning, Programming, and Cost Estimation” software to calculate costs associated with information system support. This is the program used to develop estimates to support TAB F in DD Form 1391. While TAB F is not available in the Modernization Restoration DD Form 1391, a stand-alone version of TAB F is available. Appendix C is to be used as a guide to determine funded and unfunded project cost for information system in repair projects. Funded project costs are approved as part of the facilities sustainment, restoration, and modernization real property undertaking. Information system items are unfunded costs, usually classified as equipment. Neither the information system equipment nor its installation is facilities sustainment, restoration, and modernization funded and it is either funded by the host installation or the tenant user of the building.

(1) An item that is funded by the construction project does not mean the item is considered real property.

(2) Examples include:

*(a)* Footings for communications poles and for communications towers.

*(b)* Poles and towers used jointly for power and communications.

*(c)* Underground duct lines used for power and communications (either separately or jointly owned). This includes manholes, hand holes, pull boxes, and other similar access points that are parts of the underground duct lines.

*(d)* The use of a common envelope or trench, or adjoining manholes, hand holes, pull boxes, or similar access points with one or more common walls without openings, as specified in UFC 3–550–01, is encouraged. Do not place power and communications cables in the same conduit or access point.

*b.* For those items of information systems for which maintenance, operation, repair, or replacement costs or activities are funded by the host installation see appendix C. Appendix C serves two main functions:

(1) Describes information system components for both information and associated equipment systems supporting repair-funded projects. The list is not exhaustive.

(2) Provides “Funding Type” (unfunded or funded project costs) for the components that are needed by the users of the building. Funded project costs may be paid for as part of the project out of SAG 132 funds. They are facilities sustainment, restoration, and modernization funded items. Unfunded project costs may be paid out of SAG 131 funds. These items are BOS funded and they can be paid from various other sources. Information system cost estimate, software that would be used to complete TAB F in a MILCON project will help identify cost of the information system and provide an idea of who must pay for the item.

*(a)* Information system support for repair projects is an important part of project planning. Proper programing needs to be started as early as possible, in most cases at least two years prior to funding. All repair projects that affect the communications systems in a facility will be coordinated with the installation NEC or supporting G–6 prior to starting the planning and design in accordance with AR 25–13. The coordination should begin early enough to allow the NEC to identify the information system costs to program the funds needed to support the facility. A continuing dialogue is needed from the time of project inception until the building is turned over to the end user.

*(b)* The outside plant facilities is also of concern. In most cases, work out side of the five-foot line should be a separate project. This work is probably either repair if the equipment is failing or changes in the building require changes in the backbone of the Information infrastructure. Construction if the system is just being improved.

(3) The following are typically funded with a project:

*(a)* Government-owned real property, materials, supplies, services, rental trailers and buildings, utilities, or items applicable to the project.

*(b)* Installed capital equipment (for construction projects) and real property installed equipment. Personal property is excluded from project costs for repair projects.

*(c)* Transportation costs applicable to materials, supplies, real property items, equipment, and government-owned equipment.

*(d)* Civilian labor costs including labor costs of foreign national civilians, but not including civilian prisoner labor. Costs of foreign military troops such as Korean Augmentation to the U.S. Army will be treated as unfunded costs. Costs for labor provided by foreign quasi-military organizations that are paid from the operations and maintenance appropriation, such as the Korean Service Corps, are funded costs.

*(e)* Supervision and inspection costs.

*(f)* Troop travel and per diem directly related to the project.

*(g)* Costs for maintenance and operation of government-owned equipment (including organic troop unit equipment) and rental cost for non-government equipment. These costs are expensed at a reasonable rate established locally and does not include the repair costs of government-owned equipment broken on the project site.

*(h)* Costs for preparation of operation and maintenance manuals for installed systems.

*(i)* Demolition unless it is associated with previously established plans and the cost of site preparation, except for NAF projects which require a clean site down to 6 inches prior to starting a project.

*(j)* The cost of installing equipment in place in MCA funded new facilities.

*(k)* Costs of mitigation identified in environmental documentation completed in accordance with 32 CFR 651.

*(l)* Actual funds expended OCONUS when the funds used do not have a fluctuation account (see DoD FMR 7000.14–R).

### 3–6. Relocatable buildings

*a.* RLBs are also known as relocatable facilities in DoDI 4165.56. DoD issuances take precedence over Army policy.

*b.* RLBs are equipment that are accounted for as personal property. It is accounted for in the equipment property book in accordance with AR 710–2 and AR 735–5. It can belong to a garrison or a unit.

*c.* Examples include fully assembled, mobile (with axles) structures; CONEX boxes, tension fabric structures, shed on skids, and similar units to be used outdoors designed to be assembled on site but which are easily disassembled and moved. Specifically excluded from this definition are building types and forms, provided as an integral part of a mobile equipment item, which are incidental portions of such equipment components, such as communication vans or trailers. A RLB is further defined as—

(1) An arrangement of components and systems designed to be transported over public roads with a minimum of assembly upon arrival and a minimum of disassembly for relocation. An RLB is designed to be moved and reassembled without major damage to floor, roof, walls, or other significant structural modification and is intended for use outside existing real property facilities to temporarily serve the function of a real property facility.

(2) The RLB has an exit plan established during approval which defines when the RLB will be no longer needed.

*d.* The period of use will be in accordance with DoDI 4165.56. The RLB may be used for no more than 7 years, unless DASA (IH&P) approves a longer period of use. The RLB may be used for no more than 7 years, unless DASA (IH&P) approves a longer period of use to a maximum of 14 years. The RLB is a piece of equipment used as a building. It is for use outside existing real property facilities. RLBs are specifically designed for the purpose of being readily moved, erected, disassembled, stored, and reused without structural damage and a minimum of refurbishment.

*e.* In contingency areas an RLB may be used for the duration of the contingency operations.

*f.* RLB costs are defined using the concept of a complete system rather than individual items of equipment or components that when placed together, becomes a system. The concept of a system must be considered in evaluating the procurement of an individual end item. A system is comprised of a number of components that are part of and function within the context of a whole to satisfy a documented requirement. In this case, system unit cost applies to the aggregate cost of all components being acquired as a new system. When stationing a new unit, the requirement may stand for several different types of systems, office, housing, equipment motor pools, and operational areas. Each of these are considered a separate system and should not be aggregated in one single system as with construction. They each standalone providing a separate function from the others.

*g.* RLBs are not real property, they are equipment and accounted for as equipment. In GFEBS, RLBs are noted by entering “RELO” in construction type. RLBs do not generate any SAG 132 sustainment funds and so are maintained using funds accounted for in SAG 131 (BOS). When used to support repair or operations and maintenance construction projects they are an unfunded project cost.

### 3–7. Exemptions

The following items of equipment are obtained for special events:

*a.* Tents are not considered RLBs. A tent is a temporary or semi-permanent portable shelter consisting of sheets of fabric or other material draped over or attached to a frame of poles. It is easy to assemble

and disassemble. Tents may be attached to the ground with stakes lines or ropes and may be connected to real property utilities. A tent is accounted for as unit equipment or as personal property on an equipment property book; they are not governed by the RLB delegation. Tension fabric type shelters such as clam shells or sprung shelters and other similarly constructed structures which are designed with the exterior fabric as a structural element are not considered tents but are RLBs and are usually governed by the relocatable delegation. If costs permit, these structures may be used in construction projects as their life expectancy is usually at least 25 years (semi-permanent structures).

*b.* See AR 405–45, AR 405–70, and AR 735–5 for policy on procuring RLBs to use as swing space for construction or repair projects.

(1) Swing space is not to be the major portion of the project scope. Ownership and control of the RLBs remain with the contractor when a contractor also performs the restoration of the facility.

(2) See AR 405–45, AR 405–70, and AR 735–5 for approval requirements for use of RLBs as swing space to support projects.

(3) The RLBs will be used only for the duration of the construction or repair projects. They will be promptly removed upon completion of the projects.

*c.* RLBs to be used by the U.S. Army Corps of Engineers to support contracting actions on funded MILCON and operations and maintenance projects. The RLBs must be removed immediately upon completion of the contract. RLBs are only used when real property facilities are not available. The real property facilities do not need to be located adjacent to the project work sites. Siting and utility support for contractor-provided RLBs, unless prior approval is granted by DCS, G–9, must be coordinated with and approved by the installations senior commander or their delegated representative for such matters.

*d.* Contractor-owned RLBs are types of buildings that do not require approval under this policy and must be removed upon completion of the contract. The installations senior commander or their delegated representative must locally approve siting. Utility support for these RLBs will be metered and the costs reimbursed by the contractor.

*e.* Small sheds are moveable structures that are 500 square feet or smaller and are obtained as either real property or as equipment. Small sheds procured as personal property are approved and accounted for in accordance with AR 735–5. Those procured as real property will be accounted for in accordance with AR 405–70 and AR 420–1.

*f.* This guidance does not apply to training equipment used for things such as: tactical shelters; tactical training base structures; military operations in urban terrain, (reconfigurable trailers); or, training aid devices simulators/simulations structures. Equipment in these categories should be accounted for as unit equipment. They are not considered real property even when assigned a real property category code. Any sustainment funds must be assigned to the unit owning the training equipment.

*g.* Unit allowance lists does not apply to property items that are accountable in table of allowances; such as Common Table of Allowance, table of allowances, tables of equipment (TOE) or modified TOE, and Table of Distributions and Allowance, and also does it apply to portable chemical toilets, ablution units, or family housing.

*h.* Mobile equipment item is not covered by this guidance and does not apply to building types and forms that are provided as an integral part of mobile equipment and that are incidental portions of such equipment components, like medical mobile units, communications vans, or communications trailers.

*i.* This guidance does not apply to tactical use RLBs that are centrally controlled and managed.

*j.* Shipping containers, or American National Standards Institute (ANSI) and/or International Organization for Standardization (ISO) Shipping Containers. This regulation does not apply to ANSI and or ISO containers owned by the Army and Managed by U.S. Army Sustainment Command Packaging Storage and Containerization Center. See AR 56–4 for policy and guidance on management of these containers. These items will not be used as habitual areas such as office space or sleeping areas. This guidance does not apply to requirements which support local events of a short duration. Some examples following: Change of Command ceremonies, Deployment/Re-Deployment events; initial fielding of equipment, training exercises, MWR events which support holiday celebration and civilian community interactions, and Army and Air Force Exchange System or Commissary special sales events. The equipment will be promptly removed at the conclusion of the event or when not needed.

*k.* For RDT&E test events, the equipment and any improvement to real property will be promptly removed at the conclusion of the event by the owner of the RLB.

## Chapter 4
## Project Documentation

### 4–1. General
See AR 420–1 for specific requirements for project file and minimum required contents. The project file may be either electronic or hard copy. It is intended to be a complete historical record of the project from inception to completion. Correspondence and other documentation pertinent to the project will be included in the project files at all appropriate levels. At a minimum, the file will include work requests, project approval documents, inspection reports, and memorandums for record pertaining to decisions resulting from discussions, meetings, and telephone conversations.

### 4–2. Establishment of official project files for repair projects
*a.* The file must include the DA Form 4283. Staff receiving the form should ensure it contains sufficient details explaining why repair work is needed to the facility.

*b.* The file will usually include work requests from the facility user. It would be followed by staff interpretation of what is needed to be accomplished to fulfill the user needs.

*c.* It should contain inspection and survey reports, memorandum for record summarizing discussions, meetings, and telephone conversations which resulted in the work classification decisions leading up to the project approval. Any memorandums for record should provide auditors insight into the thoughts which lead to any project approvals.

*d.* The file should also contain information that a notation has been made to the:

(1) Inventory of military real property which has been changed to include the sum of all the recordable facilities engineering costs of the project.

(2) Installation master plan has been amended and approved in accordance with AR 210–20.

(3) Each undertaking will have an initiating approved DA Form 4283. An undertaking involving both maintenance and repair and construction may be approved on a single DA Form 4283 as long as an approval limit is not exceeded.

(4) The minimum requirement is a form that provides approval for design.

(5) If the DA Form 4283 is approved for execution, it will clearly describe the work to be accomplished in each work classification that has an estimated funded cost on the form. Maintenance and repair are considered one project and construction is considered a separate project. The approvals may be on a single document and only one project file is needed.

(6) In addition, both projects may be executed in a single contract provided costs are tracked separately and can be audited separately after contract completion.

*(a)* Initial estimate, identification of estimator, justification for the project, and related correspondence.

*(b)* Requests for approval to higher authority when applicable.

*(c)* Signed approval documents from higher authority to include letters, estimates, specifications, and plans, and approved DD Form 1391 as applicable.

*(d)* Sets of revised plans and estimates, if changes to these documents were required by the approving authority.

*(e)* Supporting auditable list of materials, such as the list of materials issued and the costs. The file may contain more than one work order if it is desired to control each classification of work.

*(f)* Job phase calculation sheets and other documentation used in estimating the project, to include identification of funded and unfunded costs, estimated total costs, calculations to show how costs were developed, identification of crafts involved, and source documents used for the estimates.

*(g)* On projects approaching regulatory or statutory limitations, a written record showing all actual costs incurred to date. Maintenance and analysis of this written record should preclude the potential violation of the Antideficiency Act.

(7) In addition to the above requirements, files for construction type projects should also include a request from the tenant depicting: when the construction was determined to be necessary; when the work must be completed; what the consequences would be if the project were not completed by the specified time. When and if the approval limit for the installation is exceeded, DD Form 1391 will be initiated to obtain an approval from higher authority. The approval must be obtained prior to exceeding the delegated approval limit.

(8) Some projects will have approvals transmitted electronically (email) with execution numbers assigned.

(9) Some will be approved by a memorandum which states the revision date of the DD Form 1391 approved and the amount approved.

*e.* Besides the header information and the cost estimates, the body of the DD Form 1391 for repair projects contains the following five paragraphs. Format requirements for repair DD Form 1391's is not the same as those for MILCON projects.

(1) Project description, describes what the project is to accomplish, including who the project will support.

(2) Project justification, describes the condition of the components, systems, and the facility in general. The faults and defects in the physical condition of the facility stand as the primary justification for a repair project. When a substantial amount of the components and systems making up a facility have failed or are failing the facility should be considered failing and a general repair is in order. This should be clearly stated at the beginning of the justification.

(3) The additional information section allows for any information that would impact the decision to accomplish the repair. The age of the building, its historic status, and its effect on the environment should be briefly discussed if it has a bearing on the repair. If this is a re-approval, the history of the project should be included in the discussion. In addition, there are some mandatory statements and estimates that need to be placed in this section:

*(a)* This project is consistent with force structure plans.

*(b)* The repair of this facility is more cost effective than replacement.

*(c)* The estimated replacement cost of the facility.

*(d)* The repair cost to replacement ratio worksheet.

*(e)* This project complies with 10 USC 2811, for maintenance repair and construction contracts for real property using funds available for operations and maintenance funds.

*(f)* Asbestos, lead-based paint, bio-hazards or other hazardous materials, if found, will be handled, stored, and disposed of in accordance with current laws and regulations.

*(g)* Estimated Equipment-In-Place cost.

*(h)* Required assessments have been made for supporting facilities and project is not in 100-year floodplain in accordance with EO 11988.

*(i)* The facility will meet the standards requirements for seismic, anti-terrorism, and force protection construction upon completion of the project.

*(j)* Include any repair or construction DA Form 4283's executed in the last two fiscal years should be documented. The work for this project is separate from the work completed in prior fiscal years.

*(k)* The facility category code.

*(l)* Value engineering analysis completed by a qualified agency with the purpose of improving performance, reliability, quality, safety, and life cycle costs pursuant to 41 USC 1711 for maintenance and repair projects. See AR 420–1 for policy on exemptions from the requirement to have a value engineering study.

*(m)* Sustainable principles integrated into the design development and construction of the project in accordance with Energy Policy Act of 2005, the Energy Independence and Security Act of 2007, EO 13834, and other applicable laws and executive orders.

*(n)* Estimated design cost.

*(o)* Communications and information management equipment costs. TAB F is not available on repair project DD Form 1391s. The Information System Cost Estimate software program is utilized to develop the estimated cost for a given facilities telecommunications and unified capabilities infrastructure. This program should be used to complete this section (unfunded equipment costs).

1. Primary Facility, real property installed equipment.
2. Primary Facility, Personal Property.
3. Supporting Facilities, real property installed equipment.
4. Supporting Facilities, Personal Property.

*(p)* Estimated Unfunded furniture cost.

*(q)* Estimated Unfunded swing space cost.

*(r)* The facility installation status report rating.

(4) Statement explaining what will likely happen if the work is not funded.

(5) Associated Project Scope describes any associated construction being accomplished along with the repair. Information in this section will have a cost associated with it in Block 9.

*f.* See AR 405–45 for policy on Capital Improvements and guidance in DA PAM 405–45 for documentation requirements.

**4–3. Facility replacement cost**

*a.* Replacement cost is a stand-alone cost that represents the total cost to design and construct a new facility based on current codes, UFC, and other design criteria that replaces an existing facility.

*b.* Plant Replacement Value is used as a common measure of facility and inventory size, as well as the basis for facility condition index values and estimating recapitalization requirements. Headquarters Installation Information System calculates the Plant Replacement Value in accordance with UFC 3–701–01 for non-land assets where the real property asset type is building, linear structure, or structure (B, LS, or S). Headquarters Installation Information System does not calculate Plant Replacement Value for real property assets whose operational status is “To Be Acquired” or for RLBs. View the Headquarters Installation Information System user guide for more information.

*c.* The Army is required to notify congress when it is decided to execute a repair project in excess of such amount as may be specified in 10 USC 2811. At the time of this publication that notification limit is $7,500,000. The report to congress needs to include an explanation why it is in the governments best interest to repair the facility rather than replace it if the current cost estimate exceeds 75 percent of the estimated cost of a MILCON project to replace the facility. This is known as the repair to replacement ratio.

*d.* The replacement cost of the affected facility is for a facility of the same type (permanent, or semi-permanent) and identical size, that is, same square footage at current construction standards and unit costs contained in UFC 3–701–01 with applicable adjustments. These publications are revised periodically. See DoD 7000–14 R, volume 2b for the DoD standard formula for calculating the plant replacement value.

## Appendix A

## References

### Section I

### Required Publications

Unless otherwise indicated, all Army publications are available on the Army Publishing Directorate website at https://www.armypubs.army.mil/. United States Code is available at https://uscode.house.gov/.

**AR 5–9**
Installation Agreements (Cited in para 2–3*a*.)

**AR 11–18**
The Cost and Economic Analysis Program (Cited in para 1–8*k*.)

**AR 25–1**
Army Information Technology (Cited in para 3–2*c*(2).)

**AR 200–1**
Environmental Protection and Enhancement (Cited in para 1–8*z*.)

**AR 210–20**
Real Property Master Planning for Army Installations (Cited in para 3–2*c*(4).)

**AR 215–1**
Military Morale, Welfare, and Recreation Programs and Nonappropriated Fund Instrumentalities (Cited in para 1–8*y*.)

**AR 405–45**
Real Property Inventory Management (Cited in para 1–5*a*(1).)

**AR 405–70**
Utilization of Real Property (Cited in para 1–7*d*(2)(*c*).)

**AR 420–1**
Army Facilities Management (Cited in para 1–1.)

**AR 710–2**
Supply Policy Below the National Level (Cited in para 3–2*c*(8).)

**AR 735–5**
Property Accountability Policies (Cited in para 1–7*i*.)

**DA Pam 405–45**
Real Property Inventory Management (Cited in para 4–2*f*.)

**DA Pam 415–28**
Guide to Army Real Property Category Codes (Cited in para 1–8*o*.)

**DA Pam 420–1–2**
Army Military Construction and Nonappropriated-Funded Construction Program Development and Execution (Cited in para 2–1*a*.)

**DA Pam 420–1–3**
Transportation Infrastructure and Dams (Cited in para 2–1*a*.)

**DoD FMR 7000.14–R**
Financial Management Regulation (Cited in para 1–5*a*(4)(*a*).) (Available at https://comptroller.defense.gov/.)

**DoDI 4165.56**
Relocatable Facilities (Cited in para 1–7*i*.) (Available at https://www.esd.whs.mil/.)

**EO 12580**
Superfund Implementation; as amended (Cited in para 2–7*b*.) (Available at https://www.archives.gov/.)

**PL 91–190**
National Environmental Policy Act (Cited in para 1–8*z*.) (Available at https://www.congress.gov/.)

**PL 105–56**
Department of Defense Appropriations Act (Cited in para 2–7*b*.) (Available at https://www.congress.gov/.)

**UFC 3–701–01**
DoD Facilities Pricing Guide, with Change 2 (Cited in para 4–3*b*.) (Available at https://www.wbdg.org/.)

**UFC 4–711–01**
Family Housing (Cited in app B-1a(3).) (Available at https://www.wbdg.org/.)

**32 CFR 651**
Environmental Analysis of Army Actions (Cited in para 3–5*b*(3)(*k*).) (Available at https://www.ecfr.gov/.)

**40 CFR 300**
National Oil Hazardous Substances Pollution Contingency Plan (Cited in para 2–7*b*.) (Available at https://www.ecfr.gov/.)

**10 USC 2701**
Environmental restoration program (Cited in para 2–7*b*.)

**10 USC 2703**
Environmental restoration accounts (Cited in para 2–7*b*.)

**10 USC 2801**
Scope of chapter; definitions (Cited in para 1–5*a*(1).)

**10 USC 2805**
Unspecified minor construction (Cited in para 1–6*b*.)

**10 USC 2811**
Repair of facilities (Cited in para 1–5*a*(1).)

**31 USC 1341**
Limitations on expending and obligating amounts (Cited in para 1–6*b*.)

**31 USC 1349**
Adverse personnel actions (Cited in para 1–6*b*.)

**31 USC 1350**
Criminal penalty (Cited in para 1–6*b*.)

**31 USC 1519**
Criminal penalty (Cited in para 1–6*b*.)

**42 USC 9601**
Definitions (Cited in para 2–7*b*.)

## Section II

### Prescribed Forms

Unless otherwise indicated, DA forms are available on the Army Publishing Directorate (APD) website (https://armypubs.army.mil).

**DA Form 4283**
Facilities Engineering Work Request (Cited in para 1–5b(1).)

## Appendix B

## Components of Information Support Systems and Sub-Systems Associated with Repair Projects

### B–1. Building telecommunications cabling all sustainment and restoration

*a.* Unclassified Systems.

(1) The installations NEC should be aware of all voice and data information system infrastructure requirements needed by the using Army and non-Army activities (tenants). A representative from the NEC should coordinate closely with the repair projects project manager to ensure NEC provided infrastructure for common-use baseline and mission-funded services are factored into the project design and execution. Representative features include:

*(a)* Equipment in the project may not be part of the project for repair projects. For policy and guidance on funding sources for information systems and associated equipment for construction projects (see AR 25–1, AR 25–13, and AR 420–1).

*(b)* Horizontal and backbone cable path infrastructure (see tables B–1 and B–2).

*(c)* Installed communications cables (see tables B–1 and B–2).

*(d)* Telecommunication systems will be designed, in accordance with AR 25–1 and AR 25–13.

(2) Telecommunications equipment rooms and telecommunications rooms contain equipment cabinets, equipment racks, cable box enclosures, telephone terminal backboards, protective blocks, cable terminations/cross-connect blocks, cable patch panels, cable management hardware, patch cords, electrical power outlets with ancillary hardware, and fittings.

(3) Government-owned housing is a special case. The cabling and equipment necessary to provide television and phone outlets in most rooms is a funded project cost. See UFC 4–711–01 and AR 420–1 housing management.

*b.* See AR 25–1 and AR 25–13 for specific information on the implementation of secure internet protocol router network (SIPRNET) infrastructure.

**Table B–1**
**Unclassified systems components**

| System Component | Work Classification Project Funding |
|---|---|
| Telecommunications Equipment Rooms [only] | Funded |
| Telecommunications Rooms [only] | Funded |
| Cable paths, protected | Funded |
| Cables | Unfunded |
| Cabling, Systems Furniture | Unfunded |
| Application-specific electrical components | Unfunded |
| Attached device personal demand service | Unfunded |
| Signal line filters–premises distribution secure systems | Unfunded |
| Installed on signal lines originally procured with construction project funds are an unfunded project cost in repair | Unfunded |
| Installed on signal lines procured with other than construction project fund | Unfunded |

**Table B–2**
**SIPRNET systems components**

| System Component | Work Classification Project Funding |
|---|---|
| Protective Distribution System (Cable Path) in accordance with SIPRNET Technical Guide & Standard Designs | Unfunded |

**Table B–2**
**SIPRNET systems components—Continued**

| | |
|---|---|
| Information Processing System | Unfunded |
| SIPRNET Alarmed Carrier Systems | Unfunded |
| Cabling (Fiber Optic, Coax, Copper) Intrusion Detection Systems | Unfunded |
| Classified Telecommunications Systems above SIPRNET | Unfunded |

### B–2. Telephone system, administrative

*a.* Voice services and telephone systems must comply with AR 25–1 and AR 25–13.

*b.* Voice over internet protocol is the DoD-preferred means of providing sensitive but unclassified voice communications as there is a moratorium on investments in legacy voice-switching equipment. Telephone instrument, common user-includes plain old telephone system dual-tone multi-frequency series 2500 type, explosion-proof, weatherproof, and multi-line telephone sets. Common user telephone provides basic telephone service in support of official use, safety, courtesy, and convenience. These items are personal property and not a funded project cost. They can be incorporated in a repair contact or by a separate contract at the user's expense.

*c.* Telephone instruments, all-other-include call directors, key systems unique sets, integrated voice/digital terminals, integrated services digital network sets, secure terminal/instruments systems, and so forth. Non-common user telephones provide features in excess of that considered essential for basic service; they are considered personal property and will be funded by the user.

*d.* New telephone switch shelters/huts will be programmed any time a new remote switching unit/node is required. Whenever possible, these shelter requirements should be coordinated and combined with any nearby data node facility. New, pre-cast concrete shelters for core communications nodes will be of the following standard, nominal outside dimensions (width x length). The dimensions may vary slightly by manufacturer.

(1) Medium Shelter: 11'-6" x 36'.

(2) Large Shelter: 23' x 36'.

*e.* New shelters may be provided as construction.

*f.* Central office equipment upgrade/expansion/replacement. This work is usually an unfunded project cost. If the building is in a failing condition the repair will be a funded project cost and the equipment will be an unfunded project cost.

### B–3. Telephone system, non-administrative (individual subscriber): housing or quarters

*a.* Voice services and telephone systems must comply with AR 25–1 and AR 25–13.

*b.* Policy for AFH is different than for Permanent Party Unaccompanied Housing, Officer and Permanent Party Unaccompanied Housing, senior noncommissioned officer .

*c.* AFH, Permanent Party Unaccompanied Housing, Officer or Permanent Party Unaccompanied Housing, Senior NCO, and Permanent Party Unaccompanied Housing and Institutional Training Unaccompanied Housing telephone service will be installed, operated, and maintained in accordance with AR 25–13.

*d.* See table B–3 for examples of system components.

**Table B–3**
**Telephone System, non-Administrative (individual subscriber)**

| System Component. | Work Classification Project Funding |
|---|---|
| Building telecommunications cabling system (see table B–1). | |
| Outside plant infrastructure, cable, equipment, and equipment shelter. Installation Information Infrastructure Modernization Program (I3MP) which is funded by others can be used to construct an outside plant and may be used to provide equipment shelters that contain only equipment. | Unfunded |
| Telephone instruments and other attached devices. | Unfunded |

## B–4. Local area networks

*a.* Support to the common user nonsecure internet protocol router data network is limited to these situations in repair projects:

(1) Provide the data interface between the facility/separate functional area and the existing installation data network.

(2) Provide common user level data switches linking all satellite telecommunication rooms back to the main telecommunication equipment room.

(3) Provide a data switch to interconnect facilities.

(4) Provide a network management solution to manage the data system assets. Typical devices include data switches, edge devices, and when appropriate, modems for smaller facilities.

*b.* New data node shelters/huts will be programmed any time a new data node is required (see table B–4). Whenever possible, these shelter requirements should be coordinated and combined with any nearby telephone switch facility. New, pre-cast concrete shelters for core communications nodes will be of the following standard, nominal outside dimensions (width x length). The dimensions may vary slightly by manufacturer.

(1) Medium Shelter: 11'-6" x 36'.

(2) Large Shelter: 23' x 36'.

*c.* Table B–4 provides examples of LAN system components.

**Table B–4**
**Local area networks**

| System Component | Work Classification Project Funding |
|---|---|
| Baseline services or common user nonsecure internet protocol router network systems | Unfunded |
| Mission-funded other than common-use baseline services data systems | Unfunded |
| Other LAN/data network devices: terminals, printers, keyboards, peripheral equipment, Thin Client, and so on | Unfunded |
| Media Converters (Fiber to Copper) | Unfunded |
| Wireless LAN | Unfunded |
| Wireless Intrusion Detection Devices | Unfunded |
| LAN node shelter/hut | Funded |
| SIPRNET Data Switch | Unfunded |

## B–5. Outside plant facilities

*a.* Outside plant and inside plant facilities is described in AR 25–13.

*b.* The outside plant includes include installed or in place telecommunications cable (copper and fiber optic), and their associated connecting terminals, telephone poles, maintenance holes, and duct bank systems (see table B–5).

*c.* Line equipment may be required to complete the cable path; representative line equipment includes wired-in equipment such as voice multiplexers and terminals (see table B–6).

**Table B–5**
**Replace outside plant facilities**

| System Component | Work Classification Project Funding |
|---|---|
| Failing Cable pathway: manholes, hand holes, duct, poles, pedestals, and so on. | Funded |
| Cables | Unfunded |

**Table B–6**
**Line Equipment**

| System Component | Work Classification Project Funding |
|---|---|
| Wired-in: required to complete the cable path | Unfunded |
| Personal property: user application-specific electrical components | Unfunded |
| Replace outside plant not a direct result of a repair project | Unfunded |

### B–6. Entertainment television systems government-owned master antenna

*a.* All entertainment television service must comply with AR 25–1 and AR 25–13.

*b.* For medical facilities that use a commercial cable television signal as the source of entertainment channels, the complete head-end, distribution system, and connection to the cable television source will be funded as part of the repair.

*c.* Funding sources shown apply to government-owned, -operated, and -maintained entertainment television systems (see table B–7). Commercial cable television systems, whose services are procured on a subscriber basis, to include all system components and associated connection charges, are not repair-funded, except in special cases required by contracts (see table B–8).

*d.* Outside plant path for commercial services may use existing government-owned outside plant facilities path infrastructure if available and approved by the responsible installation authority in accordance with existing regulations such as AR 25–1 and AR 25–13.

**Table B–7**
**Entertainment Television Systems Government-owned master antenna**

| System Component | Work Classification Project Funding |
|---|---|
| Television systems | Funded |
| Cabling, interior | Unfunded |
| Cabling, exterior | Unfunded |
| Antennas, dipole, and loop, fixed | Unfunded |
| Antennas, dish, non-medical facility | Unfunded |
| Antennas, dish, medical facility | Unfunded |
| Amplifiers, splitters, and couplers | Unfunded |
| Receivers, non-medical facility | Unfunded |
| Receivers, medical facility | Unfunded |

**Table B–8**
**Entertainment Television Systems Commercially-Owned Cable Company**

| System Component | Work Classification Project Funding |
|---|---|
| Cable path/access systems | Unfunded |
| Cabling, interior inside the 5-foot line | Unfunded |
| Cabling, exterior outside the 5-foot line | Unfunded |
| Set-up and recurring fees and charges | Unfunded |

### B–7. Non-entertainment audio/video system components

*a.* Only protected cable paths within the facility are funded with a project.

*b.* Unfunded common system items associated with non-entertainment audio/video system equipment include:

(1) Cables coaxial.
(2) Cables–telecommunications.
(3) Amplifiers, splitters, couplers, line drivers, and so on.
(4) Application-specific electrical components installed externally to the cable path.
*(a)* Attached device common user service, for example, impedance matching devices, and so on.
*(b)* Attached device personal demand service, for example, adapters for user unique devices.
(5) Signal line filters.
*(a)* Installed on signal lines procured with project funds.
*(b)* Installed on signal lines procured with other than construction or repair project funds.
*(c)* Monitors.
*(d)* Cameras.
*(e)* Sound subsystems.
*(f)* Video projectors.
*(g)* Video recorders & video playback systems.
*(h)* Antennas.
*c.* Additional examples of unfunded components include:
(1) Operating consoles and other head-end equipment for Closed-circuit television (CCTV) for training and surveillance purposes.
(2) Operating consoles and other head-end equipment for mission orientated visual information systems for briefing rooms, auditoriums, command and control facilities, conference rooms, and other applications not addressed elsewhere in this appendix.
(3) Computer workstations for Video Information Projection Systems.
(4) Teleconferencing.
*(a)* Screens.
*(b)* Coding and decoding equipment.
*(c)* Computer subsystems.
(5) Head-end transmitters for educational television systems.
(6) Computer-Aided Instruction Systems.
*(a)* Learning station equipment.
*(b)* Computer subsystems.

**B–8. Medical facilities non-entertainment audio/video system components**

*a.* Only protected cable paths within the facility are funded with a project.
*b.* Unfunded common system items associated with non-entertainment Audio/Video system equipment include:
(1) Cables coaxial.
(2) Cables.
(3) Amplifiers, splitters, couplers, line drivers, and so on.
(4) Monitors and cameras.
(5) Sound subsystems.
(6) Antennas.
*c.* Additional examples of unfunded components include:
(1) Operating consoles and other head-end equipment for CCTV.
(2) Operating consoles and other head-end equipment for composite medical information system.

**B–9. Examples of funded information support systems**

*a.* Protected cable paths for intrusion detection (physical security) systems.
*b.* Complete AM–FM radio and public address system.
*c.* Complete central clock systems.
*d.* Complete Fire alarm and detection system.
*e.* Complete nurse call.
*f.* Complete intercommunication (intercom) systems where intercommunication capability is provided integrally with the administrative telephone system, that capability will be funded integrally with the telephone system and included in the information system cost estimate. When this capability is a separate system, it will not be in the information system cost estimate.
*g.* Operating and malfunction alarms associated with construction funded equipment.

*h.* Real-time clock for building energy management control system.

*i.* Un-interruptible power supplies.

(1) Used in support of equipment procured with construction project funds to support facility systems components only.

(2) Used in support of a combination of equipment, some of which is procured with construction funded project and some with other than construction project funds, where the UPS will support the facility systems components as well as personal property equipment.

*j.* Utility and/or energy monitoring and control system.

(1) Utility and/or energy monitoring and control system, non-energy resilience and conservation investment program, with maintenance management subsystem.

(2) Utility and/or Energy monitoring and control system, non-energy resilience and conservation investment program, without maintenance management subsystem.

(3) Utility and/or energy monitoring and control system maintenance management subsystem in conjunction with non-energy resilience and conservation investment program-funded utility and/or energy monitoring and control system.

*k.* Test, Measurement, and Diagnostic Equipment (TMDE), and special tools for dedicated real property-procured and installed systems and components.

**B–10. Examples of unfunded information support systems**

*a.* Real-time clock.

*b.* Antennas and antenna towers for point-to-point communication.

*c.* TMDE, and special tools.

(1) Dedicated to fixed DCS, G–6 procured and installed systems and components.

(2) Other TMDE.

*d.* Cellular telephone instruments.

*e.* Electronic navigational aids: terminal very high frequency omni-directional range, tactical air navigation, and so on.

*f.* Fixed and portable facility equipment for radio and meteorological stations.

*g.* Portable clock (battery or plug-in).

*h.* Complete radio paging systems.

*i.* Reproduction, photographic, printing, and similar hard copy developing and processing equipment.

*j.* Official telecommunications center record traffic equipment (for example, teletype, facsimile, or terminal).

(1) Common user.

(2) Dedicated/special purpose.

*k.* Intrusion detection system, physical security.

(1) Cables.

(2) Sensors.

(3) Operating consoles and other head-end equipment.

(4) Amplifiers, splitters, couplers, and so on.

(5) Assessment cameras and monitors.

(6) Application-specific electrical components installed externally to the cable path.

*(a)* Attached device common user service, for example, impedance matching devices, and so on.

*(b)* Attached device personal demand service, for example, adapters for user unique devices.

*l.* Trunked radio set.

(1) Trunked Radio Systems non-medical facility.

(2) Trunked Radio Systems medical facilities.

*m.* Un-interruptible power supplies.

(1) Used in support of equipment procured with DCS, G–9 funds.

(2) Used in support of equipment procured with other than construction funded project or DCS, G–6 funds.

## Appendix C

## Project Work Classification, Approval, and Cost Accounting Workflow

### C–1. Step 1, establish projects based on needs

Which of the following is the basis for the project?

*a.* New unit/mission/vehicle/weapon system.

*b.* Facility needs repair or construction.

### C–2. Step 2, classify all work

*a.* Maintenance and repair: due to facility, system, or component failure, or incipient stages failing.

*b.* Or as construction. Facility, system, or component is or has not failed or it is not (incipient stage) failing. Planning and design costs are excluded from the cost determination for purposes of determining compliance with the amounts established in 10 USC 2805 for minor construction projects.

### C–3. Step 3, determine funding type

Funding is available from the following appropriations:

*a.* MILCON 10 USC 2082. Funds from this appropriation are used for new construction, conversion of existing facilities, or complete and usable improvement to an existing facility. Construction projects with estimated costs above the upper minor construction limit in 10 USC 2805 may only be funded from this appropriation.

*b.* UMMC 10 USC 2805. UMMC is a MILCON appropriation and is only used for construction projects. If the estimated cost for the construction project is above the current operations and maintenance construction limit but less than the upper minor construction limit in 10 USC 2805 then it is funded using UMMC.

*c.* Operations and Maintenance (repair of facilities) 10 USC 2811. All maintenance, sustainment, and repair projects should be funded from this appropriation. Construction projects with a cost estimate falling below the operations and maintenance construction limit in 10 USC 2805 may be funded from this appropriation.

*d.* Operations and Maintenance (other) for Equipment-In-Place and other unfunded costs. This equipment includes all types of production, processing, technical, training, servicing, RDT&E, and pre-wired work stations. If it is needed for the user of the building to do his job it is Personal Property (equipment-in-place). This equipment must be financed by the user from applicable operations and maintenance appropriations, RDT&E appropriations, procurement appropriations, or working capital fund resources, as appropriate.

### C–4. Step 4, determine funded and unfunded project costs

*a.* See definitions for funded costs.

*b.* Answer the following questions for assistance in determining if something falls into the unfunded cost category:

(1) Contribute to a MILCON project.

(2) Are financed from appropriations other than MILCON or repair projects.

(3) Are not reimbursed by appropriations available for MILCON or repair projects.

### C–5. Step 5, find approval level (funded costs)

In accordance with current delegation of authority in regards to an Army regulation or memorandum.

### C–6. Step 6, document capitalization for General Fund Enterprise Business System entry

*a.* Capitalization is the process of recognizing the total costs of the facility in the financial records.

*b.* DoD FMR 7000.14–R defines capitalized general property, plant, and equipment as assets that meet four criteria:

(1) Have an estimated useful life of two years or more.

(2) Are not intended for sale in the ordinary course of operations.

(3) Are acquired or constructed with the intention of being used or being available for use by the Army.

(4) Have a recorded cost that equals or exceeds the appropriate DoD capitalization threshold.

## Glossary of Terms

**Equipment**
Personal property that is functionally complete for its intended purpose, durable, and nonexpendable. Equipment generally has an expected service life of 2 years or more; is not intended for sale; does not ordinarily lose its identity or become a component part of another article when put into use; has been acquired or constructed with the intention of being used (see DoDI 5000.64).

**Equipment-in-place**
A special category of personal property (not real property) consisting of capital equipment and other nonexpendable equipment of a movable nature that has been fixed in place or attached to real property, but not as an integral part of the facility. Therefore, such equipment may be severed or removed from a facility without severely damaging, destroying, or reducing the usefulness of the facility. Equipment–in–place is personal property and does not include real property installed equipment. It is accounted for on property book records (not real property records) (see AR 405–45).

**Incrementation**
The splitting of a project into separate parts where either criteria is met. It is done solely to reduce costs below an approved threshold or the minor construction ceiling. Each part is, in itself, complete and usable. The total project is not complete until all parts are complete. In order to determine what constitutes a stand-alone project, that is, a complete and usable facility, a comparison of interdependence as opposed to facility interrelationship should be made (see AR 415–32).

**Interdependent facilities**
Those facilities which are mutually dependent in supporting the function(s) for which they were constructed and therefore must be included in the cost of a single project, for example, a new airfield on which the runways, taxiways, ramp space and lighting are mutually dependent to accomplish the intent of the construction project (see AR 415–32).

**Interrelated facilities**
Those facilities which have a common support purpose but are not mutually dependent and are therefore funded as separate projects, for example, unaccompanied housing is constructed to house soldiers with the subsequent construction of recreation facilities. Their common purpose to support health, welfare, and morale creates an interrelationship. However, neither facility is necessary for the operation of the other (see AR 415–32).

**Maintenance**
The routine recurring work required to keep a facility in such condition that it may be continuously used at its original or designed capacity and efficiency for its intended purpose (see JP 4–0) (available at https://jdeis.js.mil/jdeis/generic.jsp/).

**Master plan**
The master plan for an established installation is an integrated series of documents which presents in graphic, narrative, and tabular form the present composition of the installation and the plan for its orderly and comprehensive development to perform its various missions in the most efficient and economical manner over a 20-year period (see AR 210–20).

**Personal Property**
Property of any kind or any interest therein, except real property; military-issued equipment/gear; records of the United States Government; and naval vessels of the following categories: aircraft carriers, surface combatants, and submarines (see JP 4–0) (available at https://jdeis.js.mil/jdeis/generic.jsp/).

**Preventive maintenance**
Care and service of equipment and facilities in satisfactory operating condition by systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects (see JP 4–02) (available at https://jdeis.js.mil/jdeis/generic.jsp/).

**Real property facility**
For work classification purposes, a separate and individual building, structure, logical systems, utility system, or other real property improvement identifiable in the three-digit category code listed in AR 420–1. A

real property facility will be assigned only one 3–digit category code based on the primary construction category code being used (see AR 420–1).

**Real property installed equipment**
Items of equipment that are affixed and built into the facility as an integral part of the facility. Equipment that is integral part of the facility is equipment that is necessary to make the facility complete, and if removed would destroy or reduce the usefulness of the facility. Use of the equipment determines if it is an integral part of the facility.

**Relocatable buildings**
See relocatable facility.

**Relocatable facility**
A facility that is specially designed and constructed to be readily erected, disassembled, transported, stored, and re-used. Examples of relocatable facilities include, but are not limited to, trailers, CONEX boxes, sheds on skids, tension fabric structures, and air supported domes. A relocatable facility is not constructed as a part of any other military vehicle, DoD tactical equipment (vehicle mounted or wheeled and towable) or equipment which is already accounted for in a designated accountable property system of record (see DoDI 4165.56).

**Repair project**
Refers to a project to restore a real property facility, system, or component to such a condition that it may effectively be used for its designated functional purpose, or to convert a real property facility, system, or component to a new functional purpose without increasing its external dimensions (see 10 USC 2811(e)).

**Training equipment**
Items of tactical systems (tanks), nontactical equipment (forklifts), or components of equipment (engine) used to support training (see AR 380–38).