
Attachment A. Real Property Legal and Physical Recommendations

A.1 Introduction

The Department of Defense (DoD) holds legal interests in 600,000 real property facilities as well as nearly 30 million acres of land at 4,700 sites³ worldwide. Altogether, the scope and variety of these assets are unmatched by any other government or private enterprise. Financially, the plant replacement value of the total real property asset inventory exceeds \$650 billion, and the funds needed to operate, sustain, and recapitalize the assets exceed \$40 billion each year. The goal is defense installation assets that are available when and where needed, and with the right capabilities to support current and future mission requirements.⁴

“By establishing the Business Management Modernization Program (BMMP) and accompanying business transformation program office, the Department of Defense made a commitment to remedy its well-documented and frequently publicized financial and business problems. For this reason, The Secretary of Defense ... affirmed business transformation as one of the Department's top ten priorities.”⁵ As an integral part of this program, the Installations and Environment (I&E) Domain is “...transforming, not just by incorporating best business practices, but also by extending these practices into new, previously unexplored areas.”⁶ More, this transformation is not just “...doctrinal innovation, and the employment of technology – it is also about changing our approach to the fundamental business practices and infrastructure “backbone” of the Department of Defense.”⁷

The Real Property Inventory (RPI) is the foundation for business management activities and decision making in the I&E Community. To develop a common approach and improve accountability for reporting real property assets throughout the DoD and to establish consistent terminology, there is a need for a cross-service business process that will standardize location reporting. This standardization will have the following benefits:

- Increase reliability and validity of real property asset reporting,
- Eliminate omission of real property assets,
- Eliminate duplicate reporting of real property assets, and
- Provide standard terminology within the DoD to reference real property assets.

The critical data requirements published in the draft Department of Defense Instruction (DoDI) 4165.14 are well documented and have been analyzed in the *Assessment of DoD Real Property*

³ DoD Base Structure Report, Fiscal Year 2004 Baseline

⁴ 2004 Defense Installations Strategic Plan

⁵ Business Management Modernization Program homepage, program overview section, http://www.dod.mil/comptroller/bmmp/pages/over_background.html

⁶ 2004 Defense Installations Strategic Plan

⁷ *ibid*

Information Systems dated 8 August 2001. These two documents delineate the requirements for buildings and structures. During deliberations of the Military Service and Defense Agency real property subject matter experts at the Real Property Inventory Workshop held during October 2003, the following RPI areas were identified for improvement:

- Installation and site definitions,
- Inventory attributes of land,
- The concept for uniquely identifying real property across DoD,
- Utilities system reporting,
- Commercial leasing, and
- Inventory attributes required to enable space management.

Work teams comprised of representatives from the Military Services, Defense Agencies, and the Business Transformation Directorate were formed to identify the specific functional/business requirements (rules) and data and information requirements and standards needed to improve each area. Methodologies and recommendations are included in this attachment.

The draft DoDI 4165.14 and the current Military Service-specific data elements served as the basis for the efforts of the work groups. The RPI will be augmented to include the additional data elements proposed by the work groups and identified in Attachment D. Business rules were established to answer specific questions and to provide overall guidance about data elements and their inclusion in the RPI.

A.2 Attributes of Land for Real Property Inventory

A.2.1 Background

Land is a major asset category for the DoD and parcels of land are the basic building block for all DoD sites and installations. The DoD owns or controls nearly 30 million acres of land that must be effectively accounted for and efficiently managed. The types of land assets in the Real Property Inventory (RPI) range from unimproved wilderness areas to central urban developments. Likewise, the land portfolio reflects a myriad of land uses representing the different missions and requirements of the DoD Services and Agencies.

As part of the overall Business Transformation effort, specific attention is targeted to identify and define the essential data elements associated with land for inclusion in the RPI. A goal of this effort is to standardize the definitions and reporting of land throughout the DoD and to provide requisite data for land management functions.

The Attributes of Land Work Group concentrated on defining the unique attributes (specific data elements) required to track land separately from facilities in the RPI. Two intermediate goals of this effort were to minimize data duplication and to simplify the RPI processes. Certain issues and corresponding data needs were believed to be asset management related and not within the scope of the core land RPI data attributes.

The Attributes of Land Work Group started with the draft Department of Defense Instruction (DoDI) 4165.14 and the current Service-specific data elements as the initial basis to identify and define the core land RPI data elements and attributes. The data elements to be included in the RPI were defined by the Work Group as additional elements that are essential to land asset accountability or management. The lists of data elements were combined and evaluated based on the need for a given data element in the core DoD RPI. Attributes that include physical, legal, and financial aspects of the real property inventory are addressed in the RPI land data elements, definitions, and business rules. Data elements related to real property management were not included in the final RPI land data elements list and were deferred for future management-focused consideration.

A.2.2 Land Characteristics

The starting point for the Attributes of Land Work Group was “how to record land.” To a large extent today, the Installations track land as a single entry in their systems. The exception to this rule is when certain artificial bounds are encountered such as when an Installation has a land area that crosses state boundaries or has multiple non-contiguous locations. This level of granularity has the limiting effect of impeding the visibility of some of the legal aspects of the land acquisition. Installations change in size over time and tracts of land can be added or subtracted to meet the mission. Deed restrictions and reversionary clauses are examples of attributes of the land that require a greater level of granularity.

The consensus was that DoD should track land based on its acquisition and the restrictions identified for each tract. The work group settled on parcels as the unit of land in the RPI. Land parcels, along with facilities, become the building blocks of real property for DoD. A parcel is a specific area of land whose perimeter is delineated by metes and bounds or other survey methods and is under the command or control of a Military Service or Washington Headquarters Services (WHS). A parcel is created by a transaction whereby a Military Department or WHS acquires an

interest in land, and a legal instrument evidences the interest so acquired. Additional characteristics about the land parcel that need to be tracked include the following.

- The legal description of the parcel extracted from the deed or relevant transaction instrument. Generally, this will consist of a metes and bounds or other survey description if available.
- Whether the land is improved, semi-improved, unimproved or, other.
 - Improved land includes areas developed for housing, organized recreation (e.g., golf course, ball fields, etc.), and other building or structure projects. Vegetation consists primarily of ornamental trees, shrubs, and grasses planted to enhance the aesthetic qualities. Improved land typically requires regular, and sometimes extensive, maintenance and upkeep.
 - Semi-improved lands include areas that are generally located in proximity to runways and test and training sites. These relatively undeveloped areas are mowed frequently for vegetation, fire, and pest management measures. The major vegetation components of these areas are native and introduced grasses and annual forbs. Semi-improved land typically requires less extensive maintenance and upkeep than improved land.
 - Unimproved lands comprise areas that are managed as part of the natural environment. Maintenance and upkeep is minimal or not required at all.
 - Situations that do not fit into one of the above categories (e.g., lakes and ponds) fall into the “other” category.
- Restrictions (e.g., falls within the 100 year flood plain) will be associated with each land parcel.
- Whether the land is in a rural or urban area. Rural areas represent a city, town, or unincorporated area with a population of 50,000 inhabitants or less, other than an urbanized area immediately adjacent to a city, town, or unincorporated area that has a population in excess of 50,000 inhabitants, as specified in 7 U.S.C. 2009.

Core data elements, business rules, and pick list values for land are provided in Attachment D.

A.2.3 Policy Changes

Two policy changes are required to effectively implement the land provisions of this report.

- Since land parcels form the building blocks of sites, either as a single parcel or a contiguous group of parcels, they must be completely identified. Land is often inventoried at the aggregate level for each installation rather than at the parcel level. In the “To-Be” environment, Services and Agencies record land assets by parcel in the inventory.
- A second issue raised is the current way in which the DoD categorizes land through the Facility Analysis Category (FAC) codes and equivalent Service Category Codes (CATCODE). In the “As-Is” environment, land category codes identify the acquisition method of the land. Since the “To-Be” core RPI data includes a data element to track acquisition type, the current category codes represent a redundant capability. The suggested approach is to align the category codes to document the use of the land. This will create an additional information track not available today. Data could be used to

validate land use studies and master planning documents. To implement this recommendation and adjust the policy, a cross-Service work group should be convened under the auspices of the ODUSD (I&E) Installations Requirements and Management Directorate. The outcome of the work group should be the revised scheme for land FAC codes and the appropriate mapping to the revised Service CATCODEs.

A.3 Installation and Site Definitions

A.3.1 Background

The questions “What is an Installation” and “What is a Site?” were asked at the Installations and Environment (I&E) Workshop Kick-off Meeting held on 12 October 2003. A standard taxonomy is needed to support federal government (including internal DoD) data requests and Congressional inquiries, as well as ad hoc efforts such as Base Realignment and Closure. Currently, the information provided to address different requests (e.g., number of installations, number of sites, whether an installation can support a certain requirement, etc.) is not always consistent.

The Installation and Site Work Group initially discussed the basic concept and definition of the terms “installation,” and “site” with a view towards standardization. Standard definitions will provide DoD-wide users with a common understanding of the terms as they are used to identify different elements of the RPI. This in turn will allow guidance, policy, instructions, and regulations to be written without having to list, define, or provide examples of the terms. Standard definitions for these terms (concepts) are as follows.

- **Installation.** In the broadest terms, an installation is a military base, camp, post, station, yard, center, homeport facility for any ship, or other activity.
- **Site.** In the broadest terms a site is a location. In more focused terms, a site is generally a specific area of land consisting of a parcel or contiguous parcels.

The establishment of standard definitions will stratify the difference between the two terms. Today, installation and site mean differing things based on the discussion at hand. United States Code Title 10 is a good example of this. Definitions for installation and site vary from section to section. Each definition is tailored to satisfy the subject addressed in that section. For example, an installation is defined as follows.

- Section 2687 defines an installation as a base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the DoD, including any leased facility, which is located within any of the several states, District of Columbia, Commonwealth of Puerto Rico, American Samoa, Virgin Islands, or Guam (excludes civil works areas).
- Section 2391 defines an installation as any private facility producing goods or services pursuant to a defense contract.

Likewise, a site is defined in United States Code Title 10 as follows.

- Section 2710 defines a site as a location that is or was owned, leased to, or otherwise possessed or used by the DoD. This definition does not include any area or facility that is used for or was permitted for the treatment or disposal of military munitions. Since Section 2710 deals with Unexploded Ordnance specifically, the definition for site here should not be applied in any other context.

A.3.2 Installation and Site Characteristics

The work group developed the concepts, data elements, definitions, business rules, and scenarios involving the relationships among land, facilities, sites, and installations. Figure A-1 presents these relationships. New data characteristics (beyond that already contained in draft Department of Defense Instruction [DoDI 4165.14]) are also identified. Descriptive scenarios that portray different possible configurations of sites and installations are depicted in the charts in Appendix A-1 of this attachment.

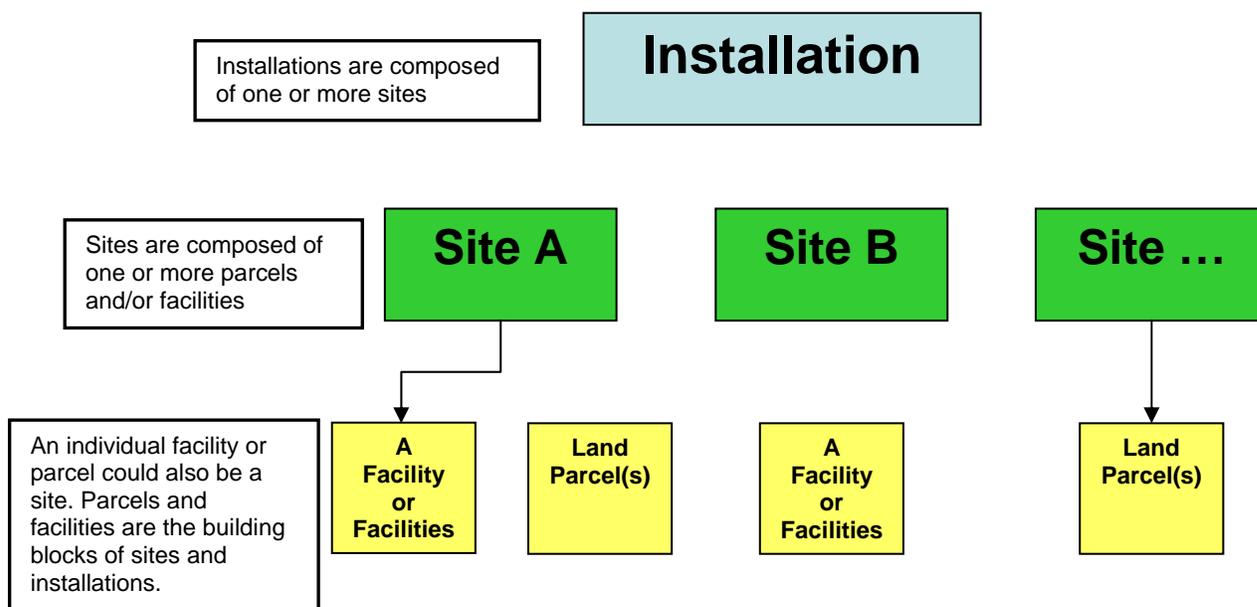


Figure A-1. The Relationships Among Installations, Sites, Parcels, and Facilities

The Site Unique Identifier and the Installation Unique Identifier are required as additional elements in the RPI beyond those already identified in draft DoDI 4165.14. The Installation and Site Work Group also recommended the following standard definitions for installation, site, facility, and parcel.

- **Installation.** Base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the DoD, including leased facilities or sites at which the Department of Defense is conducting environmental restoration activities. This term does not include any facility used primarily for civil works, river and harbor projects, flood control projects, or contingency operations.

For real property purposes, “installation” is a single site or a grouping of two or more sites for inventory reporting. An installation can exist in three possible forms:

- A single site designated as an installation, (e.g., Naval Support Facility Diego Garcia);
- Several non-contiguous or contiguous sites grouped with one of the sites designated as the primary site (e.g., Fort Lee) and other sites as subordinate (satellite) sites; or
- Several contiguous or non-contiguous sites grouped together as a single installation, where no one site is designated as the primary site, (e.g., Army National Guard manages all the sites in a single state as a “virtual” installation.)

Installations represent management organizations with a mission.

- **Site.** Physical (geographic) location that is or was owned by, leased to, or otherwise possessed or used by one Military Service or an Agency of the DoD, to include locations under the jurisdiction of the DoD where a hazardous substance has been deposited, stored, disposed of, placed, or otherwise came to be located.

A site may exist in one of three forms.

- Land only, where there are no facilities present and where the land consists of either a single parcel or two or more contiguous parcels.
- Facility or facilities only, where the underlying land is neither owned nor controlled by the government. A stand-alone facility can be a site. If a facility is not a stand-alone facility, it must be assigned to a site.
- Land and all the facilities thereon, where the land consists of either a single parcel or two or more contiguous parcels.

A site is the sum of all real property at a specific location.

- **Facility.** A building, structure, or linear structure under the custody or control of a Service or the Washington Headquarters Services.
- **Parcel.** A parcel is a specific area of land whose perimeter is delineated by metes and bounds or other survey methods.

Both parcels and facilities are linked to sites.

A complete set of core data elements (attributes), business rules, and pick list values are provided in Attachment D.

The Installation and Site Work Group also defined the site decision rules that delineate single or multiple sites under alternative physical conditions. This could include, for example, a state or municipal owned road that traverses an area of the installation. The consensus business rule defines such an area as a single site if the installation retains ownership of the land under the road. However, if the road and the right-of-way along the road are owned by a party other than DoD, then this would be two sites since contiguous ownership no longer exists. Similarly, the work group created site decision rules for a number of other possible and existing scenarios

described in Appendix A-1 of this attachment entitled, “*Land Area Scenarios and Business Rules Defining Sites.*”

A.3.3 Policy Changes

The internal policy changes required to effectively implement the provisions of this installation and site effort are as follows:

- An Installation Unique Identifier and a Site Unique Identifier will identify each installation and site;
- All facilities and/or parcels must be aggregated into sites; and
- Services will track real property by installation, site, parcel, and facility.

A.4 Concept for Uniquely Identifying Real Property

A.4.1 Background and Research Findings

For the Installations and Environment (I&E) Community, enterprise-wide, readily accessible real property information that is accurate and timely will form the nucleus for functions such as property asset accountability, regulatory compliance, resource requirements for infrastructure, and decision support. In the future or “To-Be” world, DoD real property asset information can no longer be managed as a local, functional, component, or Service “stovepipe” resource.

Tying today’s disparate real property systems and DoD information needs into an enterprise requires a strong linking mechanism. A unique identifier (UID) readily serves this purpose. In this case, the Real Property Unique Identifier (RPUID) becomes the key element in the real property inventory that distinctively and uniquely identifies a parcel of land, a building, or other real property improvements in which the Department of Defense (DoD) has a legal interest. The RPUID allows related data from across the spectrum of DoD business areas to be linked to specific real property asset records. The RPUID functions for real property similar to the way in which a social security number functions for an individual. The RPUID remains with the asset from its acquisition. It will never be reused and will be archived only when DoD has relinquished its interest in the asset.

A unique identifier by definition must be “unique.” It cannot be duplicated. This is the single inviolate rule. There is no requirement for the UID to be either alphabetic or numeric; it can just as easily be alphanumeric. Similarly, a UID can be derived from existing data, parts of existing data mated with some sequencing scheme, or constructed totally of new, non-derived sequencing data. Terminology-wise, an identifier constructed with any existing data in its structure is called an intelligent identifier. This means that the identifier, or at least some part of it, has meaning outside the context of its unique identification role. While there is nothing wrong with using an identifier constructed like this, it is unsuitable as a “permanent” UID if the existing data used within the UID structure can ever change. A non-intelligent identifier is similarly defined as an identifier that has no specific meaning, in total or in part, outside of its UID role.

The RPUID Work Group considered the advantages and disadvantages of both the intelligent and non-intelligent identification schemes. The group found that many organizations and corporations that have implemented UIDs used an intelligent identifier. However, discussions and lessons learned during the research phase led the work group to determine that a non-intelligent identifier would prove most advantageous to DoD. The rationale is further developed in the following examples.

1. Intelligent identifier examples

Federal Information Processing Standards (FIPS) Codes. FIPS Publication 6-4 lists codes for counties and equivalent entities of the United States. These codes are assigned sequentially within a state, so that counties and other geopolitical units are always alphabetized within a state. When county names change, or a county is divided into more than one county, the numbers assigned to several counties can change whenever there is a

need to re-alphabetize. This has resulted in the need to change data within information systems.

Environmental Protection Agency (EPA) Facility Identification Codes. At one time, the EPA created a facility identification code by combining the U.S. Postal Service state code with the Data Universal Numbering System (DUNS) number for a facility. However, about 65 percent of the facilities regulated and monitored by the EPA are not businesses to which DUNS numbers have been assigned. In addition, the EPA's objective is to uniquely identify a facility at a location, regardless of ownership. The DUNS number is assigned to a business based on ownership. The facility DUNS number changes as ownership changes. These types of issues resulted in this methodology for creating a facility identification code to be deemed inappropriate for EPA usage. EPA now uses a non-intelligent methodology to create the necessary codes.

2. Non-Intelligent identifier examples

Social Security Number. The number is permanently assigned to an individual and identifies that individual regardless of his or her residence, place of employment, or any other characteristic.

DUNS Number. DUNS numbers are assigned and maintained by Dun and Bradstreet to uniquely identify business establishments. The DUNS number is recognized worldwide as a business identification standard. Over 14 million DUNS numbers have been assigned in the U.S. and over 9 million outside the U.S.

It is clear that a non-intelligent type identifier scheme will better support the I&E Domain real property asset management needs with a permanent identifier. It will not change over time as the characteristics of the asset changes and will uniquely identify that asset for the duration of its useful life and into historical archiving. While this schema does not require the identifier to be alphabetic, numeric, or alphanumeric, a numeric integer "number" uses less storage space than corresponding alpha based "character" data. Therefore, the best alternative for the RPUID is a numeric, non-intelligent sequencing scheme. Once assigned, the RPUID number will be permanently tied to that specific asset.

A.4.2 **RPUID Business Characteristics**

The DoD will use the RPUID to permanently and uniquely identify all real property assets in which it has an interest. The following business rules define how the RPUID is used, when it is created, and specifics associated with non-owned property.

The RPUID:

- Is assigned to all real property assets (parcels, buildings, structures, and linear structures) in which DoD has an interest;
- Does not replace any of the commonly used identifiers currently in existence, such as facility number or building name;

- Is assigned to the real property asset, not to the owner or the installation since the owner and installation may change over time;
- Is not based on the characteristics of the asset and does not change when criteria of assignment or the attributes of the real property asset changes;
- Remains a part of the real property asset for the life of the asset and is archived with the asset record at the time the DoD relinquishes its interest;
- Is the key element that will allow DoD to track financial and physical changes of the real property assets over the asset's life cycle and beyond; and
- May be assigned when:
 - o An acquisition contract (land purchase, construction, or design-build effort), is awarded;
 - o Ownership of an asset is initially transferred to the DoD;
 - o An in-leasing contract is awarded;
 - o An asset is permitted from another government agency;
 - o A license agreement is executed;
 - o A Status of Forces Agreement is negotiated and signed; or
 - o An easement is negotiated and signed.
- Expansion (or contraction) of a facility or leased space does not require a new RPUID. Although the attributes will change, the RPUID remains the same.
- A gap in time of a lease will require a new RPUID assignment. An example of a gap in time of use could be a lease expiration and re-acquisition after a period of time rather than an option being exercised upon termination of the original duration.
- A single lease or occupancy agreement that includes multiple buildings requires an RPUID to be assigned to each property.

A.4.3 Procedures for Assigning and Maintaining an RPUID

RPUID procedures will be in accordance with the following business rules.

- The RPUID registry will be maintained at OSD. RPUIDs will be assigned programmatically using technology to remove human error.
- Central control of the registry system prevents duplication of RPUIDs.
- A history of ownership is modified if ownership of the real property asset changes; however, the RPUID remains the same.
- New asset RPUIDs will be created to identify a real property asset not previously identified within the DoD.
- A RPUID is never duplicated or re-used.
- Access to the RPUID and core data that identify a facility will be accessible to other DoD systems for use and sharing of information.

A.4.4 RPUID Data Characteristics

Each RPUID is a unique integer in the range 1 to 1×10^{17} . At creation, the web based system-generated non-intelligent identifier will be validated and cross-referenced to prevent duplication. This integer assignment range can provide 100 quadrillion RPUIDs. Despite unforeseeable factors, this range of values is anticipated to be adequate for at least 75 years.

No spaces, hyphens, or other edit characters will be used in the RPUID. It will be created and maintained solely as an integer value.

A RPUID can be referenced in a parent-child relationship to other RPUIDs for related subsets of assets, as needed for data linkages. Multiple land parcels and/or facilities might be referenced to a site.

The RPUID is an integer value and will not be constructed as parent and child where the child is given a suffix number to the parent RPUID, (e.g., 111111111111316946 as parent, and 00000000000316946.01 as child). Any child relationship will also be an integer value that can be linked to the parent as shown in table A-1 in tabular format.

Table A-1: Parent Child Linkages

Parent Real Property Unique Identifier (RPUID)	Network System	Child RPUID	Network System Component
111111111111316946	Water	11111111111110017	Water Tower
111111111111316946	Water	11111111111100009	Intake Pipe
111111111111316946	Water	11111111111110204	Water Treatment Facility
111111111111316946	Water	11111111111120220	Distribution Line

A.4.5 Application of the RPUID

RPUID Usage Examples

The following examples show how the RPUID is handled when land and facility assets change over the life of the asset.

Land

- **Acquisition.** If additional land (contiguous or non-contiguous) is acquired, this will constitute a new parcel requiring a new real property asset record with an RPUID. If land is transferred to another installation, the land parcel will retain its original RPUID; however, its relationship (using the parent-child relationship) will change to a new site associated with the acquiring installation.
- **Renovation.** Land is not renovated. An improvement to land may be for example, fill, trees, grading, or a berm. The RPUID will not change.
- **Expansion.** See Acquisition.
- **Disposal.**

Full: When the disposal action for an entire parcel is completed, its real property asset record, RPUID, and associated information will be archived when DoD relinquishes its interest.

Partial: When a disposal action only affects a portion of a parcel, the remaining part of the parcel will retain the existing RPUID; however, the real property asset record attributes will change. The part of the parcel disposed of will require a new real property asset record with a new RPUID. The real property asset record and RPUID for the part of the parcel disposed of will be archived when DoD relinquishes its interest.

Facilities: Buildings, Structures, and Utilities

- **Acquisition.** If a new facility is constructed or acquired, a new real property asset record will be created and a new RPUID will be assigned when the construction contract is signed.
- **Renovation.** If a facility is partially or totally renovated, the original RPUID will still apply; however, the real property asset record attributes will change.
- **Expansion.** If a facility is expanded, the original RPUID will still apply; however, the real property asset record attributes will change.
- **Disposal.**

Full: When the disposal action for an entire facility is completed, the real property asset record and RPUID will be archived when DoD relinquishes its interest.

Partial: When a disposal action only affects a portion of an existing facility, the remaining part of the facility will retain the existing RPUID and the real property asset record attributes will change. The part of the facility disposed of will have the cost of disposal, physical attributes, and date associated with the disposal action documented in the disposal section of the real property record.

A.4.6 Proposed Policy Changes

An RPUID will be assigned for all real property assets to enable tracking information unique to the real property asset regardless of whether the information is legal, physical, or financial in nature.

The RPUID is created when the DoD acquires legal interest in the real property asset.

An RPUID will be assigned to all existing real property assets that are under the custody and control of the DoD.

The RPUID and associated real property asset information will be archived when DoD relinquishes legal interest.

A.5 Network Facilities

A.5.1 Background

A complete utility system includes many different components. For example, an electric power system has three major capabilities: generation, transmission, and distribution. In the current “As-Is” environment, the Military Services track most utilities distribution systems as a single inventory record; however, consistency tracking the complete system is lacking. For example, FAC codes 8111 (Electrical Power Source), 8112 (Stand-By/Emergency Power), 8121 (Electrical Power Distribution Line), and 8131 (Electrical Power Substations and Switching) record the electric utility lines as well as the structures and subsequent electrical equipment required to generate, transmit, and distribute electricity. FAC code 8910 (Utility Building) includes all buildings that contain utility equipment and functions. While an intensive user of RPI information may understand how to generate a system view of utility data, an intermittent user may find it complicated. The need to identify all facility assets associated with the complete system exists in order to effectively manage the real property assets.

The primary objectives of the Network Facilities Work Group are as follows:

- Develop a process and procedure to clearly identify all parts of a network facility system (e.g., a potable water system, a road system, and a railroad system) on an installation;
- Standardize measurement and segmentation of linear structures to ensure consistency in the RPI; and
- Determine the specific asset data elements for inclusion in the RPI.

Issues that affect the data and business characteristics include:

- Inventorying linear structures (e.g., road system, electrical distribution system, and water and sewer systems);
- Inventorying the non-linear facilities (e.g., reservoir, water treatment plant, bridge, trestle) of the network facility system;
- Segmenting linear structures to inventory their segments (e.g., pipeline, road, railroad, and electrical power line);
- Inventorying nodes (e.g., pumps, valves, switches, and transformers); and
- Providing for geo-spatial integration.

The utilities issues expanded to include other linear structures (roads, railroads, etc.). For the purposes of this report, the term “network facilities” includes utility systems and other linear real property assets in which DoD has an interest. These types of assets typically comprise the basic infrastructure of an installation or are part of its general physical plant. Information required for maintenance, management, and ongoing operations will be created and retained by the users of that data in the Real Property Management System (e.g., Public Works (PW)/Civil Engineer (CE)), or the accounting and finance department). The data elements included for the RPI are the fundamental, core inventory data items required for overall asset accountability and real property management for the life cycle of the asset.

A.5.2 Network Facilities Characteristics

Per Joint Publication 1-02 “*Dictionary of Military and Associated Terms*,” a facility is defined as a real property entity that consists of one or more of the following: a building, a structure, a utility system, pavement, and/or underlying land. This could also mean a real property entity consisting of one or more of the following: a building, a structure, a utility system, a linear structure (defined below), or underlying land.

Network facilities are **complete “systems” or compound assets** comprised of linear structures, buildings, and structures. The road network, water/sewage system, or electrical distribution system on an installation is comprised of linear and non-linear real property assets.

- The roads, rail lines, water and sewer pipes, fences, trails, taxiways, and other networks that are part of “systems” that traverse installations (via pipelines, wires, cables, or rails, etc.). This could also be stated as distribution facilities that deliver a common service or commodity to one or more real property asset(s). These linear structures will continue to be inventoried as a whole; however, segments (the piece of linear structure between two breakpoints) will be delineated by identifiable nodes or breakpoints. A segment, also called a module, is defined as a discrete portion of a linear structure between two identifiable nodes. A node is a logical breakpoint feature (e.g., substation, pole, tower, crossing, road intersection, major pump, etc.) of a linear structure. The segments will be identified as modules in the RPI. See Figure A-2 for an example.
- Buildings and structures within the utility or other network system occupy discrete “footprints” or fixed locations. This could include a pump station for a water system or a bridge on either a rail or road system. These types of facilities typically establish the node or breakpoint that splits linear structures into segments. Buildings and structures create a footprint that is located only on a single site.
- Each real property asset within the system will be linked to the complete system by the asset type code (L- land or F – facility), the facility type code (B – building, S – structure, or LS – linear structure), and asset subtype code (e.g., EL- electrical generation and distribution, NG – natural gas, etc.).

The network facility will be assigned an RPUID and each linear structure (total distribution system), non-linear building, and structure will be assigned an RPUID for identification, tracking, and inventorying within the RPI. Segments will not be assigned an RPUID but will be labeled as Module 1 through Module X. See figure A-2 for an example.

The term “Network Facilities” includes utilities and other linear-type real property assets in which DoD has an interest. These assets are also a part of the basic infrastructure of an installation or are part of the installation’s general physical plant. Every utility (e.g., acetylene and ice plants) is not a network facility and every network facility (e.g., railroad and roads and streets) is not a utility. The utility systems and other linear type facilities considered in this document include:

- Bulk Liquid Fuel Facilities;
- Communication Lines;
- Electricity (Power);

- Heating;
- Sewer;
- Water;
- Roads;
- Railroads;
- Ground Improvement Structure (e.g., fence, wall, and storm drainage); and
- Miscellaneous Utilities.

To properly inventory linear structures, they must be segmented into distinct lengths or modules. A module is therefore defined as a discrete portion of a linear structure between two identifiable nodes. If no such features are present, the facility should be artificially segmented by a designated amount of linear feet for the convenience of the real property manager. Table A-2 shows a proposed designated amount for artificial linear structure segmentation if no identifiable node is present.

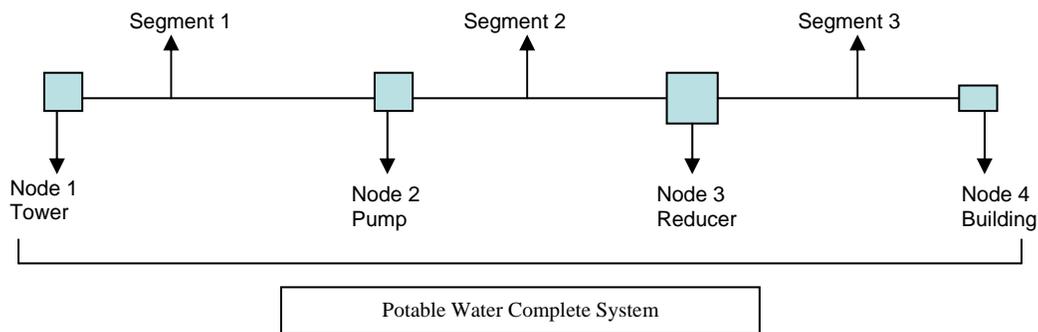


Figure A- 2: Relationship between Node and Segment

Segmenting the linear structure allows defined units or lengths of the facility to be identified in the inventory, an important element in not only tracking existing assets but also their general characteristics. Segmentation also follows industry best practices. Part of the process of developing segments is accurately identifying nodes (physical and discrete items such as pumps, poles, manholes, substations, etc.). The relationships between the network facility and its components are shown in Figure A-3 for a potable water system.

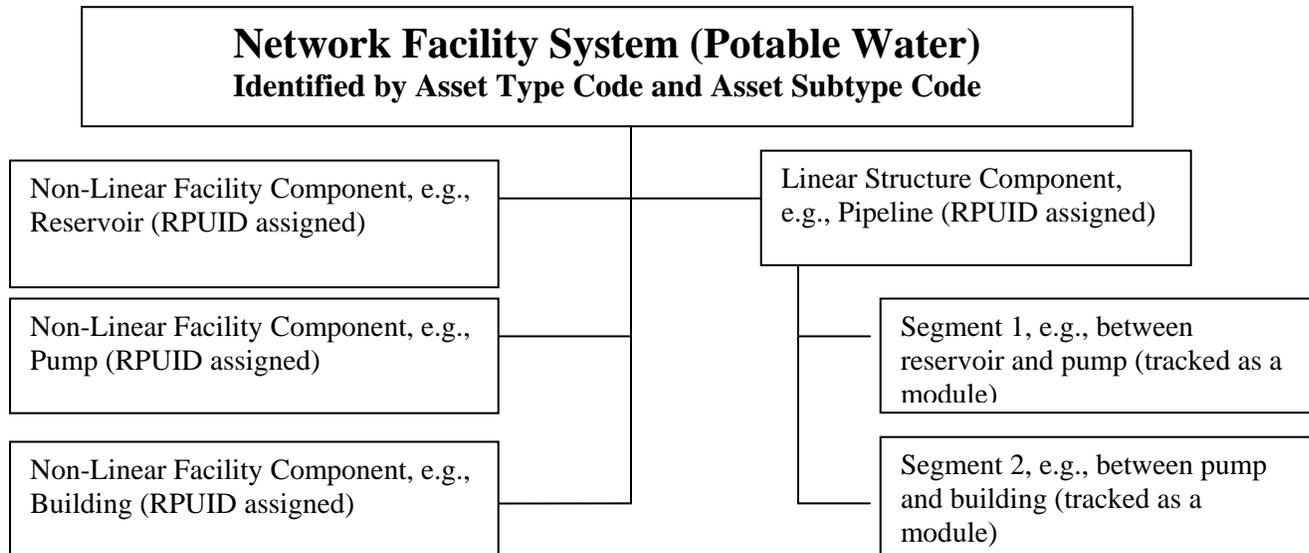


Figure A-3: Example - Components of a Specific Network Facility

An example of segmentation of a network facility is described more fully in the following paragraph and is shown in Figure A-4 for a railroad.

A.5.3 Segmentation

Railroads are part of an installation's physical plant and transportation infrastructure but are not generally considered to be a utility. Nevertheless, railroads create a linear footprint or network across one or more sites that comprise the installation. In order to properly inventory all the rail assets, the rail line will be segmented by identifiable nodes, as described below. Each segment will be delineated as a length of rail line between the two breakpoints. This will include the set of parallel rails, the crossties, spikes, and signage.

The segmentation will be based on the following breakpoints or nodes:

- Switches;
- Crossings;
- Type of rail;
- Signals;
- Bridges/trestles;
- Yards/terminals;
- Site or installation boundary; and
- If a section of track equals one-half mile without a switch, crossing, signal, or bridge/trestle, yard, terminal or any other identifiable feature, then the half-mile segment will be artificially delineated as a module.

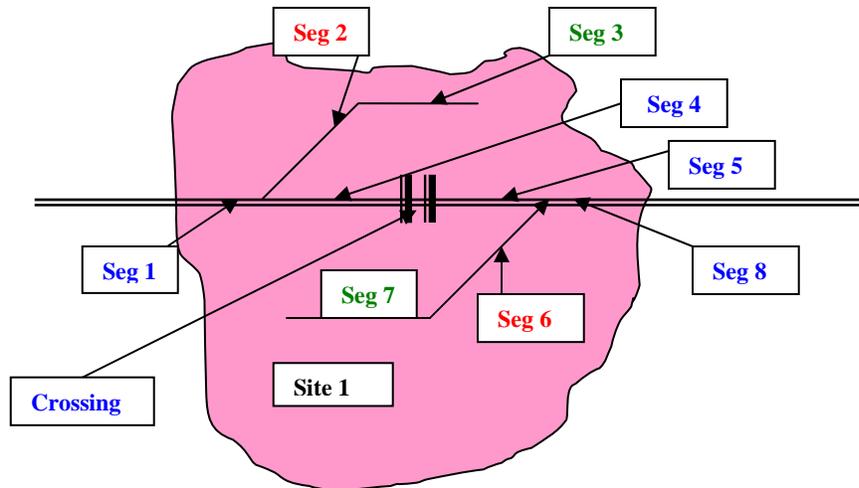


Figure A-4: Railroad Segments (Seg) Example

This example includes a railroad track (with spurs, sidings, and a crossing) located on a single site. Although not shown in the example, the railroad track will also have signals and switches. The track is divided into eight segments or modules. These eight segments are linked to the site where the individual segments cross. As can be seen from this example, segmentation provides an easy way for real property management personnel to identify exactly what portions of a railroad (spur, siding, main track) require sustainment, restoration, or modernization and which are rated for the transportation of hazardous materials. Segmentation will also allow the tracking of sustainment, restoration, and modernization costs at a more granular level. The segments shown in Figure A-4 are described below.

- Seg 1 or Module 1 is the stretch of track from where it enters the site until the first spur (includes switch).
- Seg 2 or Module 2 is the spur until it reaches the siding (includes switch).
- Seg 3 or Module 3 is the siding off of the first spur.
- Seg 4 or Module 4 is the section of track from the first spur until it reaches the road crossing. The total length of this segment will include the crossing. If the crossing was actually a bridge or trestle, the bridge or trestle would be considered a non-linear asset that is part of the network facility. The bridge or trestle would have an assigned RPUID and its characteristics would be inventoried as data elements for the bridge.
- Seg 5 or Module 5 is the section of track from the crossing until it reaches the second spur.
- Seg 6 or Module 6 is the second spur.
- Seg 7 or Module 7 is the second siding.
- Seg 8 or Module 8 is the section of track from the second spur to the site boundary.

A potable water system is part of the key infrastructure of every installation's physical plant. The potable water system is normally comprised of buildings, structures and linear structures across one or more sites that comprise the installation. In order to properly inventory all the linear assets, the water distribution pipe will be segmented by identifiable nodes, as described

below. Each segment will be delineated as a length of distribution pipe between the two breakpoints. This can include reservoirs, wells, distribution pipes, treatment plants, pumps, and storage tanks.

Figure A-5 shows a potable water distribution system (network facility).

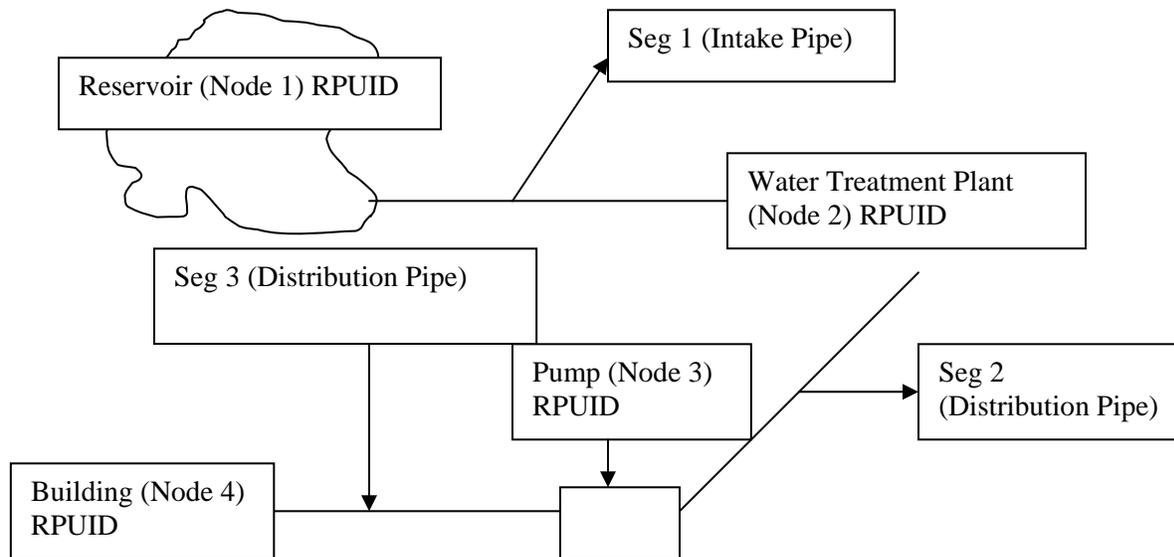


Figure A-5 Potable Water Network Facility Segments (Seg) Example

The system is divided into three segments. Each segment is assigned and tracked as a module of the asset record and four nodes. These seven components are described below.

- Node 1 is the water reservoir located on the installation.
- Seg 1 or Module 1 is the length of distribution pipeline (Intake Pipe) from the point of intake to the water treatment facility.
- Node 2 is the water treatment plant.
- Seg 2 or Module 2 is the length of distribution pipeline (Distribution Pipe) from the water treatment facility to a major pump.
- Node 3 is a major pump.
- Seg 3 or Module 3 is the length of distribution pipeline (Distribution Pipe) from the major pump to the point where it is tied into the building's potable water distribution system.
- Node 4 is the building.

The definitions listed below identify the types of assets to be inventoried.

In the absence of natural breakpoints, basic guidance is provided to provide a convenient start and stop point for a module. This guidance is intended to be flexible and relies on common sense implementation. For example, if an electrical distribution line has reached 1,000 LF from the start point and another breakpoint (node) is only another 300 LF away, common sense would

dictate that the module will be 1,300 LF versus having two modules, one 1,000 LF in length and the other 300 LF in length.

Table A- 2: Artificial Linear Structure Segmentation (Not All Inclusive)

Linear Structure	Segmentation Amount
Steam Lines	1,000 LF
Electrical Lines	1,000 LF
Water Lines, Potable, Non-Potable, and Fire	1,000 LF
Sewage and Storm Drainage Lines	1,000 LF
Fence	1,000 LF
Wall	1,000 LF
Petroleum, Oil and Lubricant (POL) Lines	1,000 LF
Natural Gas Lines	1,000 LF
Communication Lines	1,000 LF
Tunnel	1,000 LF
Airfield Runways	1,000 LF
Road/Street	1,050 LF (.2 MI)
Railroad	2,640 LF (.5 MI)

The following examples depict how segmentation is handled in linear structures that are expanded, renovated, or disposed.

- 1. Expansion.** If a segment is expanded and the expansion does not create another segment based on the rules above, then the old Seg X module will still apply and the attributes will be updated. If a new segment is required due to this expansion, it will be assigned its own Seg X module. See Figure A-6.

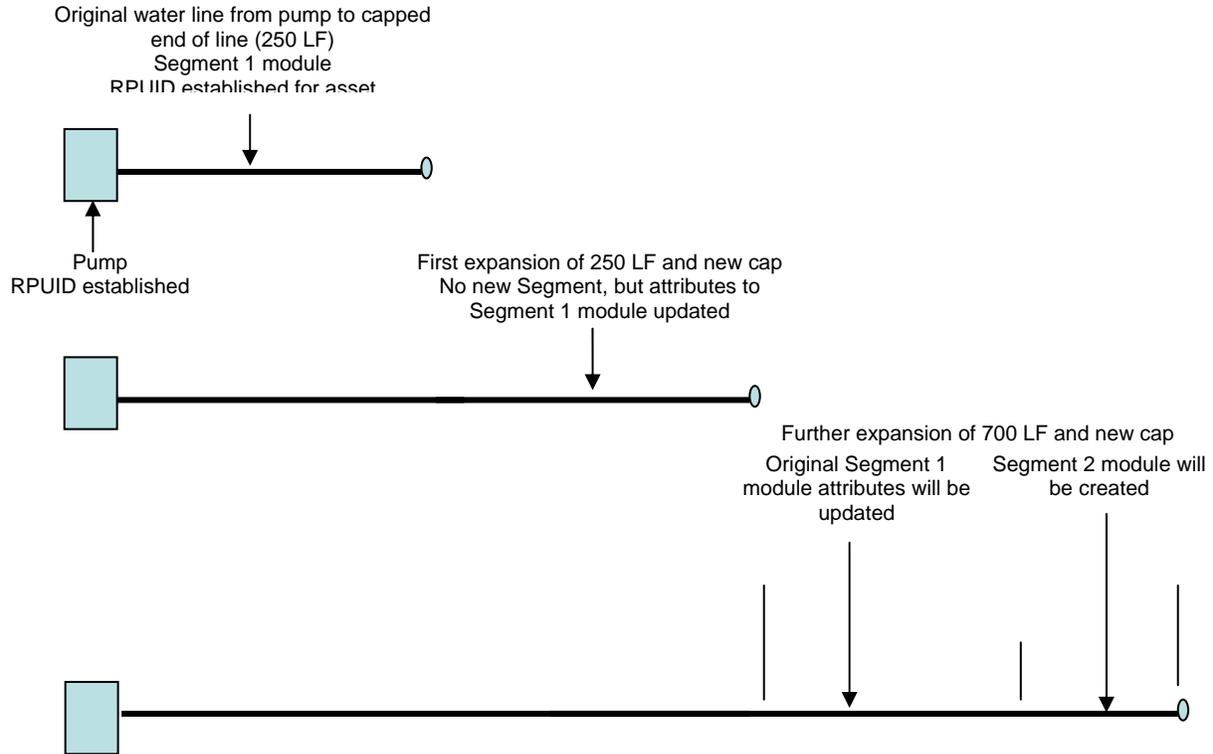


Figure A-6: Segmentation in an Expanded Linear Structure

2. **Renovation.** Either an entire or a partial segment may be renovated. See Figure A-7.
 - a. If a renovation involves all or part of a single segment, the affected segment's data attributes will be adjusted accordingly in the RPI. The RPI will have the capability for many such entries over the life cycle of the system.
 - b. If a renovation project affects multiple segments, each segment will maintain its Seg X module number. The replacement date and amount of segment replaced will be entered into the appropriate real property asset record as an update to its attributes.

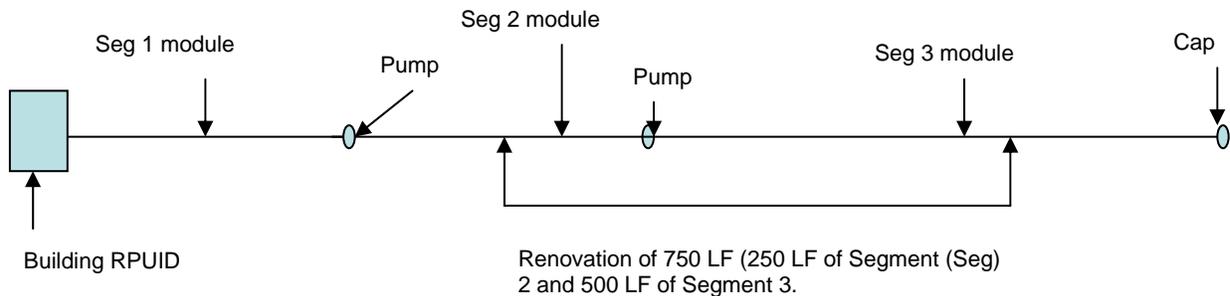


Figure A-7: Segmentation in a Renovated Linear Structure

- 3. Disposal.** If a segment or group of segments is disposed of, the Seg X module(s) and attributes of the module(s) will be updated. This also applies to partial segment disposal.

New characteristics need to be added to enable the network facilities concept. Identification of these characteristics would include the following:

- Codes that identify the type of network facility the assets comprise (e.g., “EL” for electrical system, “RR” for railroad, “PW” for potable water treatment and distribution).
- Seg X module number to identify the discrete portion of a linear structure between two identifiable nodes.
- Whether the segment of the linear structure is above or below the surface (ground or water).
- Whether the segment meets regulatory standards to transport (pipeline, railroad, etc.) hazardous materials. An example of this is 131-pound railroad trackage.
- The supplier type (commercial; federal, state, or local government; or public utility) of the common service or commodity to which the network facility is connected.

A.5.4 Procedure Changes

Currently, the linear structures, structures, and buildings associated with a complete utility system are not accounted for as a total system. Other linear structures such as roads, railroads, etc., are inventoried and accounted for in the same way. The implementation of the network facilities concepts proposed in this report will require the following procedure changes to allow the total system to be easily identified in the RPI.

- Network facilities will be identified through the Asset Type Code (L- land and F – facility), Facility Type Code (B – building, LS – linear structure and S – structure) and Network Facility Type Code (e.g., EL- electrical generation and distribution, NG – natural gas, RR – railroads, etc.).
- Network facilities must also be identified by their individual components (buildings, structures, and linear structures).
- Each linear component should be broken down into segments based on implementation guidance.

A.6 Non-Owned Real Property

A.6.1 Background

Acquiring rights to real property not owned by DoD is a standard practice. The principal rights acquired are the occupancy and use of land or a facility. Rights to real property not owned by DoD are acquired through one of a number of conveyance types evidenced by a written legal agreement. Although General Services Administration (GSA) is typically the government source for the definition of each type of conveyance (see Public Building Service (PBS)/GSA Companion Document, Chapter 3), each Service also has developed its own definitions. A standardized real property reporting system will require common definitions and interpretations of each conveyance vehicle. The conveyances included in this document and the recommended definitions are as follows.

- **Commercial Leases.** A written agreement that conveys a possessory interest in real property, usually exclusive, for a period of time for a specified consideration. This is a grant instrument type.
- **Permits.** Authority granted by another federal government agency to perform a specified act or series of acts on the permitor's property without acquiring any estate. This also authorizes an act that would in other circumstances constitute a trespass. This is a grant instrument type.
- **Licenses.** Authority granted by another individual, organization, corporation, or non-federal governmental entity to perform a specified act or series of acts on the licensor's property without acquiring an estate. This also authorizes an act that would in other circumstances constitute a trespass. Use is not exclusive. This is a grant instrument type.
- **Easements.** A legal right to use real property for a specific purpose. An easement can be a positive, the right to do something on another's property; or a negative, the right to prevent an owner of the property from doing something, e.g., limiting the height of construction so as to provide an unobstructed view.
- **Rights of entry.** A right to go upon the real property of another for a short duration for specified purposes.
- **Status of Forces Agreement.** A written agreement with a foreign government that may convey a possessory interest in real property in a foreign country, usually exclusive, for a period of time for a specified consideration.
- **Occupancy Agreements.** Real property assignments from GSA to DoD Components for a possessory interest in real property for a period of time for a specified consideration. This helps define the specific real property instrument used by GSA when space is provided to DoD for its use.

The DoD requires much of the same initial data to account for and manage non-owned real property as it does for owned property. The Real Property Inventory (RPI) will be augmented to include additional data elements that reflect the nature of the non-ownership acquisition plus the associated terms and conditions of the DoD's interest in the property. The RPI will include the requisite data for managing and administering all non-owned property in which the DoD has an interest as well as performing all accounting functions.

For simplification purposes within this document, the term “grant” (or “grants”) is used generically to reflect any type of non-ownership interest in real property unless the discussion is pertinent to commercial leases only. Although the specific form of conveyance may differ legally or administratively, the same fundamental data elements and business rules apply for RPI purposes regardless of the type of conveyance. Leases are a specific type of real estate contract and are categorized for accounting and budgeting purposes, for example, as either operating or capital leases. Both categories of lease are included in this discussion. Each of the other conveyance types of non-ownership rights to real property represents a legal agreement that may be simple or complex in coverage and context. These transactions may include the following common components.

- The rights of use and occupancy granted by the space provider to the space user or customer.
- Whether or not consideration is paid and if so it may be comprised of several component parts.
- Specific start and end dates denoting agreement duration.
- Standard terms and conditions with varying specific requirements.
- The GSA categorizes lease provisions for the acquisition of a leasehold interest as follows:
 - Definitions and general clauses,
 - Performance,
 - Inspection,
 - Payment,
 - Standards of conduct,
 - Adjustments,
 - Audits,
 - Disputes,
 - Labor standards, and
 - Subcontracting.

The Leasing Work Group identified the DoD-standard data elements to facilitate grant accountability and to address associated issues with appropriate business rules to achieve full acceptance of those standard elements. The scope included in-grants of real property from any source external to DoD.

The purpose of this effort was to address the RPI issues surrounding non-owned real property, including issues regarding the financial accounting of non-owned real property. Resolution of the key issues resulted in the recommended data and business characteristics described below.

A.6.2 Grant Data Characteristics for the RPI

The data elements required to inventory owned property served as the basis for data elements necessary to track in-granted assets. To a degree, the major difference is who owns the asset. The attributes to be added to the RPI were defined as those additional data characteristics considered essential to non-owned asset stewardship and financial accounting reporting

An initial set of rules for non-ownership interests were required to handle the three specific situations identified in Figure A-8.

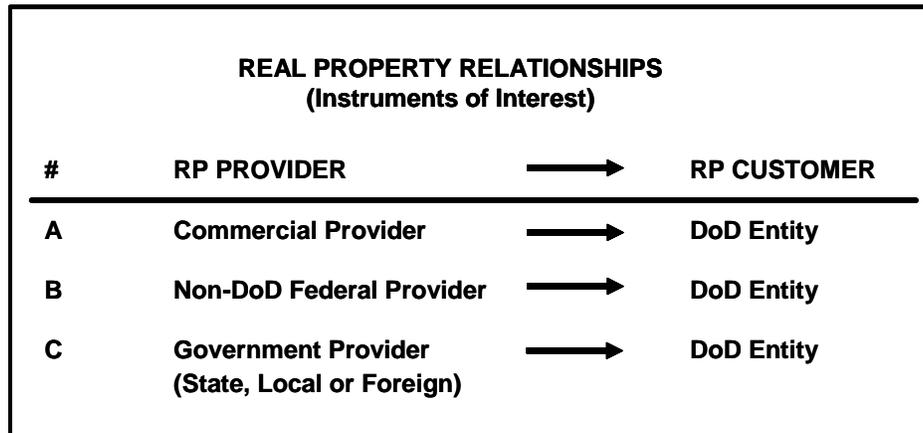


Figure A-8: Real Property Relationships: Customers and Providers

- An in-grant of property rights to a DoD entity from a non-DoD entity creates a new asset for the DoD RPI. A new RPUID is assigned to the asset and the property's attributes are entered into the real property asset record unless the in-grant is a renewal (with no gap in time) or a sublease of space already inventoried.
- If an assignment is authorized under real property acquisition law or regulations, then the asset is recorded in the RPI, regardless of the duration, amount of space, or costs involved.
- When any type of grant has ended (end of term expiration, early termination, or hold-over expires), the information on the grant will be archived.
- Physical and functional condition assessments will be performed on granted space as well as on owned space. Granted space is an integral part of the total inventory of space. It requires equal consideration for planning and management purposes.
- By rule, all properties (owned and non-owned) and records must be reviewed once within a 5-year period. This must occur within a 3-year period for heritage assets. Any process that validates the location, description, and condition will set this date to the current date.
- The Tenant Improvement Allowance Indicator code is considered in the decision process to terminate a lease early. The amount of the allowance and the unpaid/paid balance are assumed to be carried by the Lease Management System.
- The determination that a lease is a capital lease is derived from acquisition. If, at its inception, a lease meets one or more of the following four criteria, the lessee should classify it as a capital lease.
 - The lease transfers ownership of the property to the lessee by the end of the lease.
 - The lease contains an option to purchase the leased property at a bargain price.
 - The lease term is equal to or greater than 75 percent of the estimated economic life of the leased property.
 - The present value of rental and other minimum lease payments, excluding the portion of the payments representing executory cost, equals or exceeds 90 percent of the fair market value (FMV) of the leased property.

The source of the in-grant annual rental consideration is the legal instrument that established the in-grant. Only total outlays required under the in-grant will be captured.

The Leasing Work Group identified the following new or modified data characteristics for inclusion in the RPI core data elements database.

- Instrument number and/or amendment number to link the legal instrument to the real property granted in the inventory.
- A designator that signifies if a lease involves a tenant improvement allowance being paid as part of the lease payment in excess of the base rent.
- The total number of vehicle parking spaces that are part of, or included in, the in-grant instrument.
- A designator that shows the type of interest DoD has in the real property. For leases, this code will allow the leasehold interest to be identified as either a capital or operating lease.
- The RPI should capture the cost of real property acquired under a capital lease that is the lesser of the FMV of property or the present value of the rental and other minimum lease payments during the lease term. This excludes that portion of the payments that represent executory cost to be paid by the lessor. This value should be derived from acquisition.
- A designator that provides the reason(s) why a lease was classified as a capital lease. The value should be derived from acquisition.
- A mechanism to capture the cost of each leasehold improvement that meets the capitalization criteria made to the leased property. Leasehold improvements represent physical enhancements made to property by or on behalf of the property's lessee, regardless of the method of payment (installment vs. lump-sum). This may apply to either operating or capital leases.
- The date a capitalized leasehold improvement is made to a leased facility. On this date, an interim Transfer and Acceptance of Military Real Property document (DD Form 1354) is signed. This "Placed in Service" date triggers amortization of the leasehold improvement. The useful life for a leasehold improvement is the lesser of the useful life of the improvement or the term of the underlying lease.
- The length of time for the grant. The grant term is derived from the grant start date and the grant end date.
- The estimated useful life is needed for amortization of capital leases. The capital lease, Original Asset Recorded Cost, is amortized over the lesser of the lease term or the estimated useful life of the asset.
 - The estimated useful life of capital improvements involving a conversion of the functionality of the original asset, i.e., altering the original designed use of the facility will be determined by the new FAC code assigned to the facility.
 - The estimated useful life of capital improvements, such as major renovation projects, that extend the useful life of an asset, but do not alter the original designed use of the facility should be determined by the engineering community during the project planning and design phase. The estimated useful life of the capital improvement should not exceed the standard useful life for the design use FAC.

- The estimated useful life of capital improvements that increase the size, capacity, or efficiency, such as raising the roof or installing HVAC where none existed, should be determined by the engineering community during the project planning and design phase.

Modifications to existing core data elements from the draft DoDI 4165.14 are recommended as follows.

- **Grant Annual Cost Amount.** The annual amount paid for use of a space obtained from another organization. This will include all amounts defined in the legal instrument. The source of this value is the legal instrument. Only total outlays required under the grant, not component costs, will be captured.
- **Instrument Number.** The legal instrument number assigned by the agency who executed the grant, such as the US Army Corps of Engineers, Naval Facilities Engineering Command, or GSA. In addition to leases, GSA may provide space via an Occupancy Agreement which also has a unique number.

A.6.3 Granting DoD Assets

Title 10 places all real property assets in the Department under the authority of one of the Military Departments or WHS. As such, conditions exist that a Military Department will outgrant an asset to another Military Department or Defense Agency in the normal conduct of business. When this occurs a new asset will not be created for the DoD RPI. The Military Department that is the grantor will retain responsibility for reporting the asset, and the grantee will provide sufficient information to enable the grantor to properly report. The grantee Military Department or Defense Agency will create a record in their inventory database for management purposes; however this record will not be reported as an asset. No additional core data elements, over and above those already identified are necessary to satisfy this condition, are required.

A.6.4 Policy Changes

DoDI 4165.14 will have to be adjusted to include ingranted assets. A policy should be instituted stating that each item of real property acquired by DoD, Defense Agencies, and Washington Headquarters Services must have a written legal instrument to support its acquisition.

A.7 Real Property Inventory Attributes to Enable Space Management

A.7.1 Background

The I&E Community's primary focus is to ensure quality work and living places for the Warfighters and other DoD personnel. The real property inventory (RPI) serves not only to inventory the real property assets, but also to provide key data to manage those assets effectively in order to accomplish the DoD's multiple missions. Space management is a crucial functional area for the operational utilization of the DoD's more than 2.2 billion square feet of owned or leased real property, worldwide.⁸ Space management requires matching needs with availability and capability. In addition to knowing the physical inventory, the management function must track the user of the space, how much space is being used and for what purpose, the physical and qualitative characteristics of the space, and how long the current user is expected to remain. A target objective is for each Military Service to reduce excess, non-useable space and to limit the use of leased space.

Currently, RPI data kept by the individual services are neither broad enough nor sufficiently standardized to allow successful space management across the Military Services and at the DoD level. The Military Services capture different data elements or define similar elements differently. As the DoD moves toward more joint-use operations and functions under continued cost-control scrutiny, optimizing real property asset utilization within and among the Military Services and Agencies becomes even more vital.

Managing the magnitude and variety of the DoD real property portfolio and coordinating mission needs with space availability requires substantial, specific information at a granular level. Some data needs are purely quantitative (size and location) while others are qualitative (capacity and quality). Although detailed data are required for space management purposes, not all data are required at the RPI level. Consequently, some data items, such as the amount of space currently employed by a specific user, are carried as an RPI core data element. Other, more detailed data will be deferred to the space management functional area when this business process reengineering engagement is started.

As the repository of the DoD's real property data, the RPI will include not only the physical details but also key utilization attributes of each property for effective asset management and planning. That is, the RPI will contain data elements relating to fundamental utilization attributes, such as the property's designed use, how it is actually being used, and who is using how much space and where. The physical data elements in the RPI, such as width, length, and height of a warehouse or the width and length of a runway, often (but not always) overlap with capacity attributes. Therefore, the physical data elements and attributes may provide the basis for computing a facility's use capabilities or capacity. Capacity, therefore, will be a derived attribute, not an individual data element in the RPI.

The primary purpose of the Space Management Work Group was to identify additional data and business characteristics required in the RPI to enable space management. This group identified

⁸ DoD Base Structure Report, Fiscal Year 2004 Baseline, p DoD-82

the following four key space management RPI requirements for every asset in the inventory. The RPI should identify:

- The asset,
- The space provider,
- The space user, and
- The type and amount of space being used.

The Space Management Work Group concentrated on isolating data and business characteristics required for inventory purposes from data and business characteristics required for real property management purposes.

A.7.2 Data Characteristics for RPI Space Management

The work group identified the following new or modified data characteristics for inclusion in the RPI to meet requirements.

- A code that identifies the organization using the assigned area of a real property asset. There may be more than one user for a facility or parcel.
- Designators (design use FAC codes and CATCODEs) to identify the original intended use of the real property asset as shown on the original planning documents. These design designators should only be changed if the physical characteristics of the facility have been altered through an improvement project to accommodate a new design use.
- Designators (current use FAC codes and CATCODEs) that represent the current use of the asset.
- The quantity of space associated with each user in a facility. This should be reported for each user.
- The quantity of space associated with each use (e.g., administration and warehouse) in a facility. The installations should use FAC codes and CATCODEs to record the use.
- A code that rates the physical quality of the facility at the time of the inventory or asset review. This should align with the “Q-code” ratings established.
- A code that identifies the extent the facility is meeting the mission for which it was designated.
- A flag to indicate if space has more than one user. An example is space in a facility that is used by the installation Monday through Friday and by a reserve unit on the weekend. A joint use indicator will mark the space so the area is counted only once for inventory purposes.
- The length of the facility in linear feet.
- The width of the facility in linear feet.
- The height of the facility in linear feet.
- The number of habitable floors/stories within a facility from the ground level up (including the ground level).
- The number of habitable floors/stories within a facility below the ground level, including the basement.

A.7.3 Policy Changes

The design use FAC code can be changed as a result of a capital improvement and will be reflected on either the DD Form 1391 (FY, Military Construction Project Data) or DD Form 1354 (Transfer and Acceptance of Military Real Property) submitted with the capital improvement.

All space used (owned, leased, and in-granted from another Federal Department) will be reported.

A.8 Conclusion

The Real Property Inventory (RPI) requirements identified and defined in this attachment and throughout the document as a whole, represent the core data and business characteristics needed to effectively manage and track real property inventory across DoD. The essential data and business processes must be standardized to simplify collection and reporting, and foster communications across DoD. This is most critical as existing real property assets evolve to support the Warfighter in a more flexible environment. Standard terms and data will allow the Department to make more informed decisions at all levels. Below is a recap of the recommendations and policy changes (by topic) as defined in this attachment.

Attributes of Land

The current way that DoD categorizes land through the Facility Analysis Category (FAC) codes and equivalent Service Category Codes (CATCODE) is based on the acquisition method of the land. Since the core data includes a data element to track acquisition type, the current category codes represent a redundant capability. The suggested approach is to configure the category codes to document the use of the land. This will create an additional information track not available today. Data could be used to validate land use studies and master planning documents. To implement this recommendation and adjust the policy, a cross-Service working group should be convened under the auspices of ODUSD (I&E) Installations Requirements and Management Directorate. The outcome of the working group should be the revised scheme for land FAC codes and the appropriate mapping to the revised Service CATCODEs.

Installation and Site

To enable reliability and validity of real property reporting, the following actions must be taken.

- Incorporate the installation and site definitions provided into real property instructions and regulations across DoD.
- Identify each real property asset and assign it an RPUID.
- Assign each real property asset to a site.
- Assign each site to an installation.
- Assign each site a Site Unique Identifier (UID).
- Assign each installation an Installation Unique Identifier (UID).
- Use the scenarios shown in appendix A-1 of this attachment to properly identify sites and installations.
- Services will track real property by installation, site, parcel, and facility.

Real Property Unique Identifier

The RPUID will be the key element of DoD's implementing strategy to track financial and physical changes of assets over the life cycle. The RPUID creates the capability to link data from systems across the DoD to an individual real property asset. It will eliminate the need for multiple real property data files and will promote the concept of an authoritative source, where data is entered once but shared by many.

- An RPUID will be assigned for all real property assets to enable tracking information unique to the real property asset regardless of whether the information is legal, physical, or financial in nature.
- The RPUID is created when the DoD acquires legal interest in the real property asset.
- An RPUID will be assigned to all existing real property assets that are under the custody and control of the DoD.
- The RPUID and associated real property asset information will be archived when DoD relinquishes legal interest.

Network Facilities

The implementation of the concepts proposed in this document will be based on the following changes.

- Network facilities will be identified through the Asset Type Code (L- land and F – facility), Facility Type Code (B – building, LS – linear structure, and S – structure) and Network Facility Type Code (e.g., EL- electrical generation and distribution, NG – natural gas, and RR – railroads, etc.).
- Network facilities must also be identified by individual component (buildings, structures, and linear structures).
- Each linear component could be broken down into segments based on implementation guidance provided.

Non-Owned Real Property

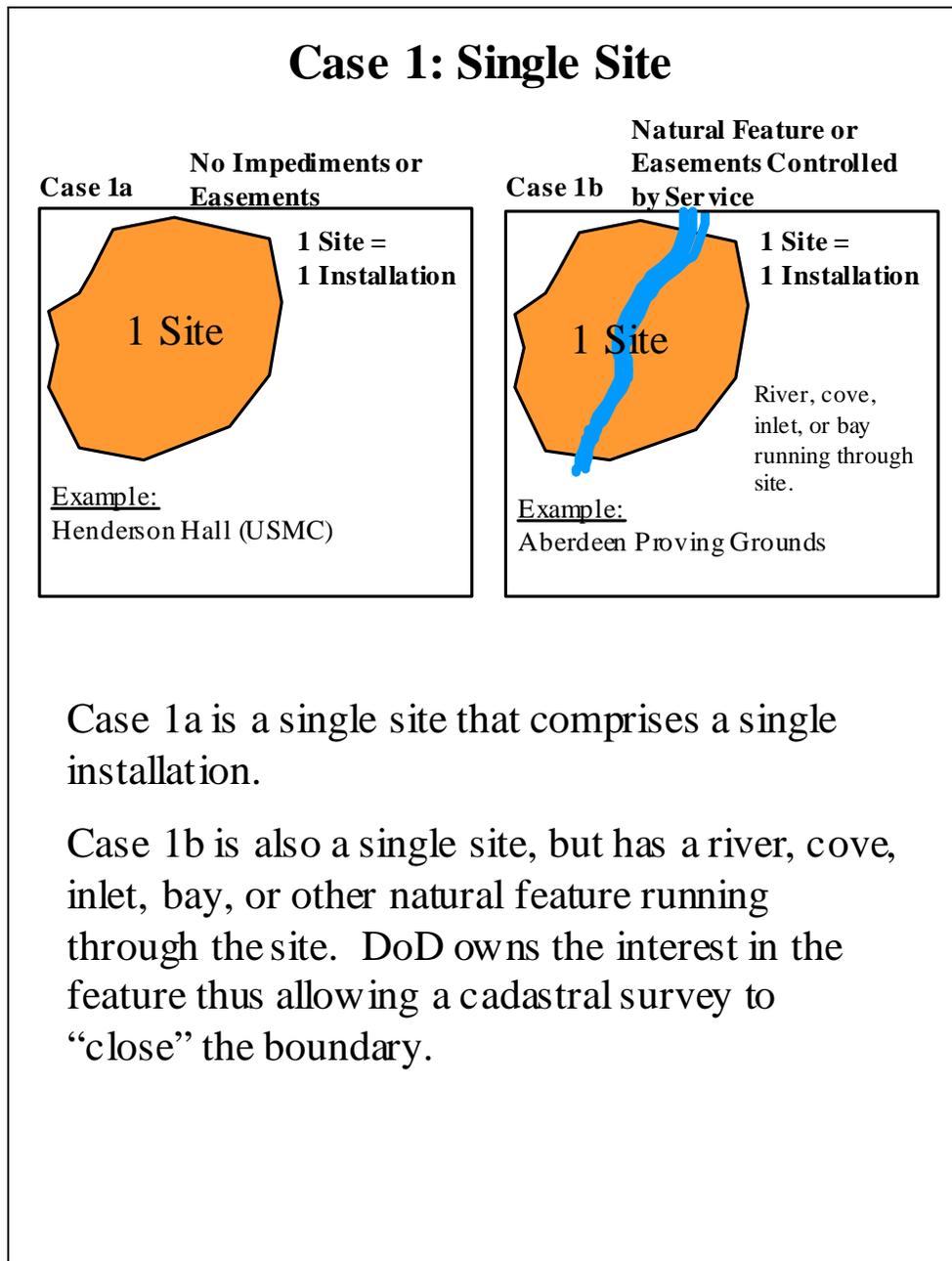
DoDI 4165.14 will be adjusted to include in-granted assets. A policy should be instituted that states that every item of real property acquired by DoD, Defense Agencies, and Washington Headquarters Services must have a written legal instrument to support its acquisition.

Space Management

The design use FAC code can be changed as a result of a capital improvement and will be reflected on either DD Form 1391 (FY, Military Construction Project Data) or DD Form 1354 (Transfer and Acceptance of Military Real Property) submitted with the capital improvement.

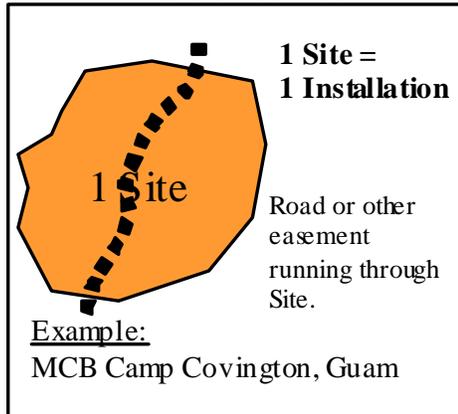
All space used (owned, leased, and in-granted from another Federal Department) will be reported.

Overall, the work groups evaluated and proposed improvements to the full life cycle management of the inventory process. This will enable more extensive analysis of consistent information and will support well-founded real property decisions across the DoD.

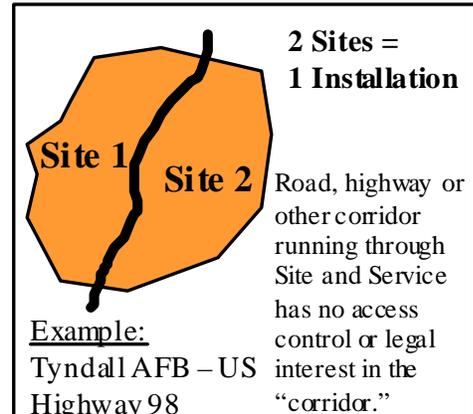
Appendix A-1 Land Area Scenarios and Business Rules Defining Sites

Case 2: Road, Highway, or Other Corridor

Case 2a Service has legal interest to the “corridor”



Case 2b Service has no legal interest to the “corridor”

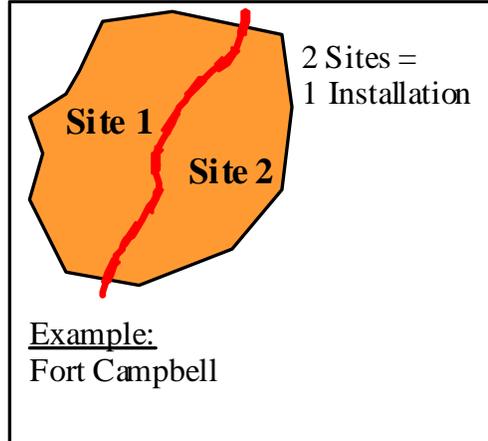


Case 2a is a single site with a power easement, gas line or road running through it. The Service owns the land but has allowed another party use of the property. A cadastral survey would “close” the boundary.

Case 2b is two sites because DoD has no legal interest in the “corridor” since the land (the road and the right-of-way) is owned by another party. A cadastral survey of DoD property would be broken by the corridor thus enclosing two sites.

Case 3: State or Country Boundary

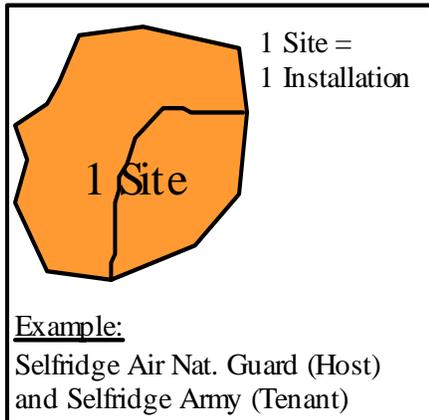
Case 3 State or Country Boundary



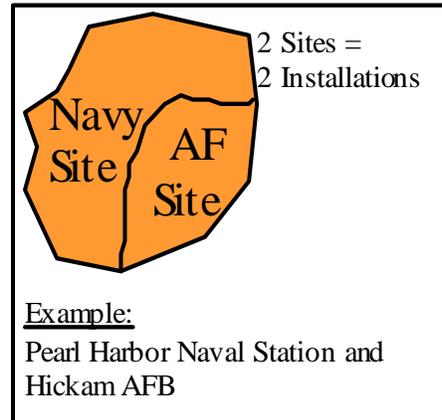
Case 3 is a single land area under the custody and control of a single military service, but divided by a state or country boundary. A legal cadastral survey would create two sites because of the legal nature of the state line. This type of geographic boundary requires the installation to be divided into two sites. The primary site will be the location of the command building.

Case 4: Co-Location

Case 4a Under control of a single service



Case 4b Under control of two services

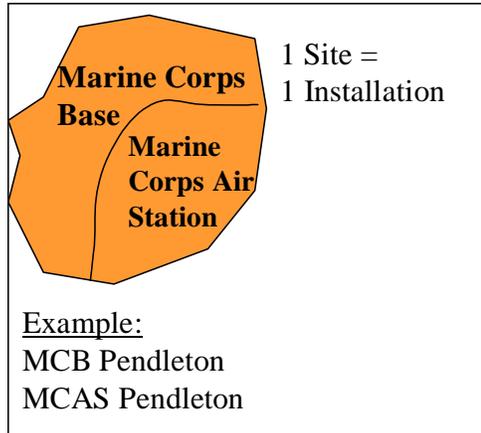


Case 4a is a single land area with more than one service or agency located on it. All of the property is under the custody and control of one service, the host. The other service, therefore, is a tenant. This is a single site assigned to a single installation.

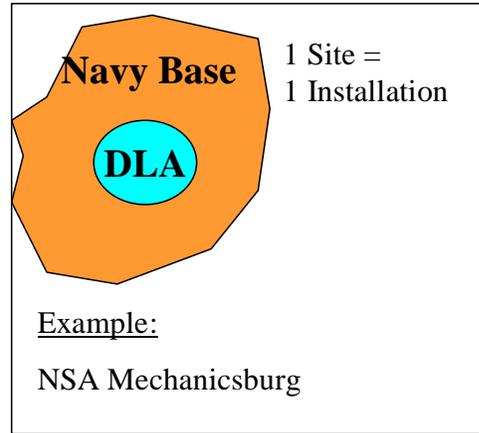
Case 4b is a single land area under the custody and control of two different services. The property under the custody and control of each service is a site for that service. Each site is assigned to a single installation by the respective services.

Case 5: Other Configurations

Case 5a



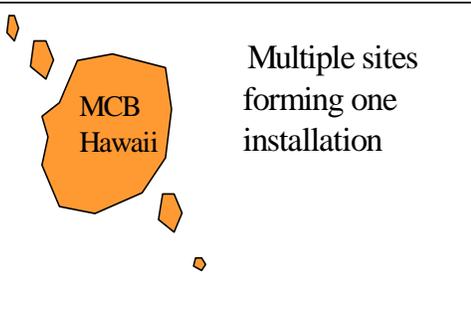
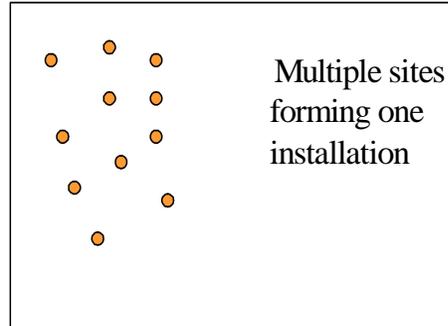
Case 5b



Case 5a: When one service has custody and control of a single land area, even if the service provides two dissimilar missions on that land area, the land area will be considered a single site for inventory control purposes, and must be assigned to an installation according to site business rules.

Case 5b: When one service has custody and control of a single land area, but a Defense Agency occupies a discreet area of land within that single land area, the entire land area will be considered a single site for inventory control purposes, and must be assigned to an installation according to site business rules

Case 6: Noncontiguous Sites

Case 6a Designated primary site with satellite sites	Case 6b No designated primary site
 <p data-bbox="565 451 743 567">Multiple sites forming one installation</p> <p data-bbox="342 756 743 879"><u>Example:</u> MCB Hawaii and outlying sites in Kenya</p>	 <p data-bbox="1079 462 1258 577">Multiple sites forming one installation</p> <p data-bbox="836 756 1193 879"><u>Example:</u> Texas Army National Guard</p>

Case 6a: When more than one site is assigned to an installation, one site may be designated as the primary site, with other sites being satellite sites. This may be the most common configuration.

Case 6b: When more than one site is assigned to an installation and there is no primary site, this is referred to as a virtual installation.