Section J – 0200000 Management and Administration	
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Definition	Description
90-Day Storage Area/Site	Refers to a location where more than 206 liters (55 gallons) of HW, or 1 liter (quart) of acute HW, from any one waste stream is stored prior to shipment for treatment or disposal.
Appurtenances	Structures, devices and appliances, other than pipe, conduit, buildings, and motorized equipment, which are used in connection with a water distribution system, for example, valves, hydrants, corporation cocks, services, etc. OR a wastewater collection system, for example, valves, manholes, etc.
Assessment	A general term referring to either a survey or inspection of a facility to determine condition.
Asset	A general term used to refer to an item, such as a component, system, building or facility, which is managed by an automated data management program.
AutoCAD®	AutoCAD® is a commercial computer-aided design and drafting software application.
Backflow Preventer (BFP)	A device for a water supply pipe to prevent the backflow of water into the water supply system from the connections on its outlet end.
Branch	A sewer that receives wastewater from a relatively small area and discharges into a main sewer serving more than one branch-sewer area.
Building Control System (BCS)	Includes Direct Digital Controls (DDC) for HVAC and lighting.
Cathodic Protection	Reduction or elimination of corrosion by making the metal a cathode by means of an impressed direct current (DC) or attachment to a sacrificial anode (usually Magnesium (Mg), Aluminum (Al), or Zinc (Zn)).
Chemical Feeder	A device for feeding chemicals to water at a known, controlled rate.
Chlorinator	A device to apply chlorine to water at a known, controlled rate.
Competent Person	A person who has the professional experience and training necessary to identify existing and predictable hazards at a work or service environment, and who has the authority to take prompt and corrective action to eliminate or remove dangers from the environment. One who can identify existing and predictable hazards in the working environment or working conditions that are dangerous to personnel and who has authorization to take prompt corrective measures to eliminate them.
Compliance (OSD COLS)	Compliance includes permits, training requirements, record keeping, reporting, documentation, plans, surveys, hazardous waste disposal, and Environmental projects.
Component Inventory Management Unit (CIMU)	An organization of like-kind real property into manageable maintenance units. CIMU is a building component, group of components or component assemblies, serving a specific purpose in a facility that can be expected to follow a common and predictable lifecycle behavior. This class of non-equipment will include items such as exterior walls, exterior windows, interior finish, and roofs. This class of equipment will include items such as fan coil units, air handling units, lighting, and water closets. CIMUs can include one or more items of installed equipment typically subject to routine scheduled maintenance.
Condition Based Maintenance (CBM)	A maintenance philosophy that encompasses a condition management cycle that is sustained throughout the entire life-cycle of a facility and its constituent component sections, or assets. CBM is composed of two major activities: the Infrastructure Condition Assessment Program (ICAP) and the Integrated Priority List (IPL) that form the condition management cycle.
Confined Work Space	A space that is large enough and so configured that a person may bodily enter a space (such as in tanks, vessels, silos, storage bins, hoppers, vaults, pits, and like spaces where there is limited means of entry) and is hindered or restricted from escaping during an emergency.
Construction	Construction is the erection, installation, or assembly of a new facility; the addition, expansion, extension, alteration, conversion or replacement of an existing facility; or

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Definition	Description
	the relocation of a facility from one installation to another. Construction includes equipment installed in and made a part of such facilities, and related site preparation, excavation, filing and landscaping, or other land improvements.
Construction Equipment	Construction equipment refers to specialized heavy machinery that covers one industry and is specifically designed for executing construction work. Construction equipment requirements shall include a list of equipment establishing the size, quality, number of units, and unit prices. Construction equipment prices provided by the Contractor shall be the lowest price available considering the availability of equipment and the time constraints of the job. The direct equipment price shall be adjusted by all discounts and rebates that accrue to the Contractor. All indirect cost associated with construction equipment, such as: the Contractor's hourly composite trade wage, adjusted to allow for workforce productivity; sub-contractor cost, costs for pre-expended bin materials, shipping and handling, union agreements, crew sizes, hand tools, universal equipment (excluding construction equipment), mobilization, demobilization, payroll burdens and fringes, overtime, job (field) overhead (including clerical support, supervision, inspection, fees, taxes, licenses, permits, and insurance), general and administrative (home office) overhead, profit, and all other associated markups shall not be included in the equipment price since the cost for these items were included in the labor hour unit price bid. Additionally, time for job preparation, safety standby personnel, and similar indirect labor elements shall not be included.
Contracting Officer (KO)	That individual with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.
Contracting Officer's Representative (COR)	The individual appointed by the KO responsible for monitoring the Contractor's technical compliance and progress, relative to assigned contract(s)/orders(s), based on the contract requirements specified in the PWS and in accordance with the PAP. The COR performs a variety of contract administration duties that includes oversight of PA, documenting and rating Contractor performance, reviewing invoices, and acceptance of work. Assignment as a COR is a collateral duty typically performed by the FSCM or SPAR.
Contractor	That entity or its representative responsible for the delivery of the services or materials specified in this contract, as designated by contract award. The term Contractor as used herein refers to both the prime Contractor and any subcontractors. The prime Contractor shall insure that subcontractors comply with the provision of this contract.
Contractor Representative	That individual appointed by the Contractor, either orally or in writing, who has been assigned responsibility for executing the requirements of this contract.
Cross-Connection	In plumbing, a physical connection through which a supply of potable water could be contaminated, polluted, or infected. A physical connection between water supplies from different systems.
Direct Material Costs	The actual vendor invoice charges for materials used for performance of work under this contract. Direct material costs shall include transportation charges when such charges are included on the invoice by the vendor, as well as any discounts allowed for prompt payment and discounts or rebates for core value or salvage value that accrue to the Contractor. When questions arise concerning the cost of materials, material costs will be based on the lowest of quotes provided by the Contractor from at least three different commercial vendors for the direct material cost. The Government retains the right to obtain additional quotes in questionable situations. The lowest price will be used.

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Definition	Description
Dynamic Assets	Powered mechanical equipment with continuous rotating and reciprocating components. (i.e., HVAC equipment, elevator, air handling units, fan, compressor, pump). Assets that are maintained through the planned maintenance (PM) process. These assessments are performed by the PM Technician on an annual basis in the most invasive circumstances.
Electronic Operation And Maintenance And Support Information (eOMSI)	A set of consultant-prepared data and document files that contain detailed, as-built technical information that describes the efficient, economical and safe operation, maintenance and repair of a facility, plant, equipment or system throughout its life cycle. Generally, it is prepared during construction and submitted upon completion of a new facility or major facility upgrade. eOMSI's typically include asset information, staffing and budgeting information, supply support including critical spare parts, operating procedures, troubleshooting and diagnostic guides, extended warranty data, maintenance task frequencies and documentation, technical data, repair procedures and manufacturer's product data. eOMSI data and document files are provided in electronic formats.
Equipment	Tangible asset that is functionally complete for its intended purpose, durable, and non-expendable.
Facilities Life Cycle	A facilities life cycle is divided into four stages, requirements (planning and design), acquisition (construction and acceptance), stewardship (operations, maintenance and repair), and disposal.
Facilities Maintenance Management	The planning, prioritizing, organizing, controlling, reporting, evaluating, and adjusting of facilities maintenance operations to support the CNO/NAVFAC facilities policy and objectives and satisfy customers' facility needs. Defined by the International Facility Management Association as "the practice of coordinating the physical workplace with the people and work of the organization."
Facility	A building or structure designed and created to serve a particular function.
Facility Planning Document	The complete record of planning information for a single facility category (identified by five digit code) including requirements and assets information, deficient and surplus quantities for the category, buildings included in the category, proposed planning actions to satisfy deficiencies and eliminate surpluses, and notes providing further descriptive information concerning the category code and the proposed planning actions.
Facility-Related Control System (FRCS)	Consists of Building Control Systems (BCS), Utility Control Systems (UCS), and any other ashore controls systems.
Filter	A device or structure for removing solid or colloidal matter (which usually cannot be removed by sedimentation) from water, or other liquids or semi-liquids, by straining process whereby the solids are held on a medium of some kind (granular, diatomaceous earth, woven, porous, etc.) while the liquid passes through.
Fixed Burden Rate (FBR)	The additional costs (expressed in percent of direct material cost) for ordering, handling, and stockpiling materials and repair parts. For example, if the offeror's Fixed Burden Rate for materials in the Base Period is 10% then: $100,000.00 + ($100,000.00 x 10%) = $110,000.00 The Government will compensate the Contractor for the required parts and materials and not the total amount shown in Schedule of Indefinite Delivery Indefinite Quantity Work.
Fluoridation	The addition of a chemical to increase the concentration of fluoride ions to a predetermined limit causing a reduction in the incidence of dental cavities.

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Definition	Description
Frequency Of Service	Annual (A). Services performed once during each 12-month period of the contract at intervals of 335 to 395 days. Biennial (B). Services performed once during each 24-month period of the contract at internals of 670 to 790 days. Daily (D5). Services performed once each calendar day, Monday through Friday, including holidays unless otherwise noted. Daily (D7). Services performed once each calendar day, seven days per week, including weekends and holidays. Monthly (M). Services performed 12 times during each 12-month period of the contract at intervals of 28 to 31 calendar days. Quarterly (Q). Services performed four times during each 12-month period of the contract at intervals of 80 to 100 calendar days. Semiannual (SA). Services performed twice during each 12-month period of the contract at intervals of 160 to 200 calendar days. Semimonthly (SM). Services performed 24 times during each 12-month period of the contract at intervals of 14 to 16 calendar days. Three times weekly (3W). Services performed three times a week, such as Monday, Wednesday, and Friday. Twice weekly (2W). Services performed twice a week, such as Monday and Thursday or Tuesday and Friday. Weekly (W). Services performed 52 times during each 12-month period of the contract at intervals of six to eight calendar days.
FTE	Document Identifier Code that is used to request disposition instructions.
Gage, Water-Level	A gage, recording or otherwise, which indicates the water level in a reservoir, still well, or other receptacle.
Government Furnished Property (GFP)	Property in the possession of, or directly acquired by, the Government and subsequently furnished to the contractor for performance of a contract. Government furnished property includes, but is not limited to, spares and property furnished for repairs, maintenance, overhaul, or modification. Government furnished property also includes contractor acquired property if the contractor acquired property is a deliverable under a cost contract when accepted by the Government for continued use under the contract.
Hazardous Material (HM)	A material that because of its quality, concentration, physical, chemical or infectious nature may pose a threat to human health or the environment if released or spilled into the environment or any material designated by the Department of Transportation (DOT) or any materials that require a SDS form as posing a potential threat while being transported. Hazardous materials are listed in 49 CFR Part 172.
Hazardous Substance (HS)	A material included in a specific list designated by the EPA in Title 40, Code of Federal Regulations (CFR) Parts 116 to 117, Protection of Environment which poses a threat to the environment when discharged above the reportable quantities. Reportable quantities are identified in 40 CFR 117, Determination of Reportable Quantities for Hazardous Substances. The term has been expanded for this contract to include: petroleum and petroleum contaminated substances and crude Petroleum Oil Lubricants (POL) that are not otherwise specifically listed or designated as a hazardous substance above. The term HS includes HM and HW.
Hazardous Waste (HW or HAZWASTE)	Any discarded solid waste (liquid, semi-solid, solid, or gaseous) that meets the definition of a hazardous waste by USEPA, state authorities, or the Navy. In accordance with RCRA, a solid waste is a listed hazardous waste if it is specifically listed, or it is a characteristic hazardous waste if it exhibits the characteristics of ignitability, corrosivity, reactivity, or toxicity.
Hazardous Waste Management Plan	In accordance with OPNAVINST 5090.1C, every Navy shore activity that generates HW shall develop and use a Hazardous Waste Management Plan or a Hazardous

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Definition	Description
	Waste management component in its P2 Plan and EMS. A Hazardous Waste Management Plan shall: • Identify applicable federal, state, and local regulations pertaining to the generation and management of hazardous waste. • Identify training requirements and describe procedures for obtaining training and maintaining training records. • Assign responsibilities for the generation, designation, handling, storage, treatment, disposal, and all documentation. • Describe all hazardous waste generation and management procedures. • Include or reference the hazardous waste minimization plan and goals. • Include or reference contingency plans and emergency response procedures. The plan shall be kept up to date to include changes in hazardous waste generation and management procedures, as well as changes in applicable federal, state, and local hazardous waste regulations. The plan shall include or reference minimization procedures sufficient to achieve DOD minimization goals. Tenant activities are covered by the host CO's Hazardous Waste Management Plan.
Hazardous Waste Manifest	A hazardous waste manifest as defined in 40 CFR 260 is required for the transport of hazardous waste. The installation commanding officer (ICO) or the ICO's designated representative shall retain signature authority for hazardous waste manifests.
Hazardous Waste Profile Sheet (HWPS)	A document which identifies and characterizes the waste and provides users knowledge of the waste, and/or laboratory analysis, and details the physical, chemical, and other descriptive properties and/or processes which created the hazardous waste.
High Voltage Transmission	Transmission of electrical loads greater than 69 kilovolts (kV).
Human Machine Interface (HMI)	A medium for information exchange and mutual communication between electromechanical systems and the user.
Industrial Control Systems (ICS)	Synonymous with Facility-Related Control Systems (FRCS).
Infrastructure Condition Assessment Program (ICAP)	A Navy automated data management program that utilizes historical asset lifecycle data and a structured assessment process to evaluate the condition facilities and their components. A foundational component of Condition Based Maintenance (CBM). ICAP comprises three of the four CBM quadrants: Inventory, Assessment, and Analysis.
Inspection	A rigorous, detailed assessment of the condition of a facility performed to generate a fundable scope and cost estimate for prioritization and funding of maintenance and repair.
Integrated Maintenance Program (IMP)	IMP is a recurring state-of-the-art, reliability-centered inspection, testing, maintenance and repair program that determines best practices for managing the functions and consequences of failures of facilities equipment and system components. IMP encompasses accepted commercial practices, such as reactive, preventive, predictive and proactive maintenance, into one optimal program. The IMP approach gives the Contractor full responsibility to maintain systems and equipment and perform repairs whenever necessary to ensure equipment and systems are operational and remain in a constant state of readiness. IMP also includes housekeeping, which is the care and servicing of property and equipment within facilities of a utility plant and distribution system, synonymous with janitorial and custodial services.
Integrated Priority List	The IPL is the fourth quadrant of the CBM cycle. This process includes generating maintenance plans composed of projects. The IPL is composed of the following: • Maintenance Execution Plan (MEP): Current year • Maintenance Action Plan (MAP): Next two years

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Definition	Description
	• Long Range Maintenance Plan (LRMP): Three years, plus; this can go out manually as far as required, but is usually capped at 5 to 6 years out.
Internet Navy Facilities Assets Data Store (iNFADS)	A Navy database system that stores all Navy property records for Class 1 (land) and Class 2 (buildings, structures, utilities, parking lots, etc.) properties.
Job or Work Order	An authorization for work that requires planning and estimating and has an individual line of accounting for financial and performance evaluation.
Lateral (Water)	The smaller pipes of a filter underdrainage system which are connected to the main pipe, or manifold, and which contain orifices through which the filtered water flows.
Lateral (Wastewater)	A sewer line that discharges into a branch or other sewer and has no other common sewer tributary to it.
Less-than-90-day Accumulation Areas or Storage Facilities	Temporary HW storage areas where HW may be stored for up to 90 days without a RCRA permit.
Life-Cycle Costs	A form of economic analysis that considers the total cost of owning, operating, and maintaining a building or system over its useful life.
Low Voltage Distribution	Distribution of electrical loads less than or equal to 600 volts (V).
Main (Water)	A pipeline on the discharge side of a water pumping station.
Main or Trunk (Wastewater)	The principal sewer to which branch sewers and submains are tributary.
Maintenance and Repair	The preservation or restoration of a piece of equipment, system, or facility to such condition that it may be effectively used for its designated purposes. Maintenance/repair may be adjustment, overhaul, reprocessing, or replacement of constituent parts or materials that are missing or have deteriorated by action of the elements or usage, or replacement of the entire unit or system if beyond economical repair.
Medium Voltage Distribution	Distribution of electrical loads ranging from greater than 600 V up to and including 69 kV.
Mission Dependency Index (MDI)	MDI is an Operational Risk Management metric used to communicate the relative importance of a facility in terms of mission criticality. It does this by evaluating the impact to the mission if the function provided by the infrastructure is interrupted or relocated. MDI is reported on a scale 1 to 100 with 100 representing the highest mission importance.
Monthly On-Site Labor Report	A compilation of all Contractor and subcontractor employee-hours involved in delivering contract services on a Government property.
NAVFAC MAXIMO	A specially configured software version of MAXIMO®, a commercially available computerized maintenance management system (CMMS), adopted by NAVFAC for enterprise facility asset data management. The terms “MAXIMO”, “NAVFAC MAXIMO” or “Government’s MAXIMO” shall be used interchangeably in the document.
Non-Dynamic Asset	Assets that do not receive planned maintenance (PM) and are assessed by Facility Management Specialist (1640 series) personnel.
Non-RCRA Regulated Waste	Waste that is not regulated as a hazardous waste under RCRA; however, is waste may be regulated by other federal, state or local regulations including but not limited to TSCA, Clean Air Act, Clean Water Act or other regulations and statues. Examples include Used Oil, Universal Waste, Oily Water, antifreeze, etc. Non-RCRA regulated waste (while not meeting the definition of a Hazardous Waste) must be managed according to its applicable regulations and may not be discarded into the general trash.

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Definition	Description
Non-Regulated Solid Waste (Debris and Rubbish)	Waste not associated with an industrial process such as refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food. Non-hazardous construction and demolition wastes such as dimension and non-dimension lumber, plywood, chipboard, and hardboard are included.
Operating Log	Daily detailed records of operation.
Partnering	The terms “partnering” and “partnership” used herein shall mean a relationship of open communication and close cooperation that involves both Government and Contractor personnel working together for the purpose of establishing a mutually beneficial, proactive, cooperative environment within which to achieve contract objectives and resolve issues and implementing actions as required.
Performance Assessment	A method used by the Government to provide some measure of control over the quality of purchased goods and services received.
Performance Assessment Representative (PAR)	The individual(s) assigned as a Technical Point of Contact (TPOC) / Subject Matter Expert (SME) to the COR to perform duties as the on-site representative who assesses Contractor performance. The PAR periodically observes Contractor performance, reviews delivered services, reviews quality management corrective actions, periodically assesses and documents Contractor performance on PAWs and the MPAS, and communicates findings as necessary with the Contractor, SPAR, and COR.
Point of Demarcation	Where service starts and ends. The connection or cut-off point between the wastewater utility systems property and equipment, and the facilities to which the wastewater system serves. Gravity Lines, Manholes, and Force Mains: The Point of Demarcation is the downstream connection point to the Main Sewer Line which is usually at a manhole. If there is not a manhole, the Point of Demarcation is at the connection to the main.
Potential of Hydrogen (pH)	Negative 10-base log (power) of the positive hydrogen ion concentration; measure of acidity
Pre-Expended Bin Materials And Supplies	The minor materials and supplies that are incidental to the job, for which the total direct cost of any one material line item shown on the material estimate is $10.00 or less. Examples of pre-expended bin materials and supplies include, but are not limited to, solder, lead, flux, electrical connectors, electrical tape, fuses, nails, screws, bolts, nuts, washers, spacers, masking tape, sand paper, solvent, cleaners, lubricants, grease, oil, rags, mops, glue, epoxy, spackling compound, joint tape, plumbers tape and compound, clips, welding rods, and touch up paint.
Property Administrator	An authorized representative of the Contracting Officer who is responsible for administering contract property requirements, terms and conditions of the contract
Property Management Program	A Government program established for the purpose of reviewing and approving the Contractor’s Property Management Plan and System through performance of a system analysis whenever government property is in the possession of the Contractor.
Pump	A mechanical device for causing flow, or for raising or lifting water or other fluid, or for applying pressure to fluids.
Quality Assurance (QA)	The planned and systematic activities implemented in a quality system so that quality requirements for a product or service will be fulfilled.
Quality Control (QC)	The observation techniques and activities used to fulfill requirements for quality.
R. S. Means	A data collection and organization system developed by R. S. Means Company which can be used to prepare accurate, dependable construction estimates and budgets in a variety of ways. The Contractor shall use the latest edition. Material prices are based on a national average and computed labor costs are based on a 30-city national average. An estimate prepared using this data is called a "Means estimate"; data may simply be referred to as "Means".

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Definition	Description
Real Property	Land and improvements to land (i.e., facilities). It includes equipment affixed and built into the facility as an integral part of the facility (such as heating systems), but not movable equipment (e.g., plant equipment, industrial equipment, buoys).
Real Property Inventory Equipment (RPIE)	A Government owned or leased individual pieces of equipment, apparatus, or fixture that are essential to the function of the real property (i.e. plumbing, electrical, heating, cooling and elevators). It is physically attached to, integrated into, and built in or on the property. Individual RPIE's can be combined to make a CIMU to facilitate facilities management. An individual RPIE can also be a CIMU if the equipment is complex enough to require its own management planning.
Regulated Waste	Any hazardous, non-hazardous, industrial process waste (aka special waste), e-waste, and/or off-specification HM, which because of its physical characteristics, chemical make-up or biological nature requires either special handling procedures and permitting, or poses an unusual threat to human health, equipment, property, or the environment. Examples include (but are not limited to) liquid sludge, pastes, and/or filter cakes, chemical compounds and/or petroleum products, fine powders or highly dusty materials, spent blast media and/or grit, demolition wastes from industrial facilities, debris and/or residues from spill cleanup work, underground storage tank remediation materials, pollution control wastes, ash from fires, furnaces, boilers or incinerators, off-specification products, other materials that have the potential to be a hazardous waste. All RW may be used or unused excess hazardous materials. Laboratory analysis may be required to verify the waste is not a RCRA-regulated hazardous waste.
Repair	Repair is the restoration of facilities or equipment to such a condition that it may be effectively utilized for its designated purposes by overhaul, reconstruction, or replacement of constituent parts or materials which have deteriorated by action of the elements or usage, and which have not been corrected through maintenance. This term also applies to replacement of the entire unit or system if beyond economical repair. The intent of repair is to have the equipment at normal working condition.
Replacement	Replacement, as a distinct work element, is confined to a program of planned replacement of a facility or its components. It may be further limited to major components such as air conditioning compressors, furnaces or hot water heaters. Replacement is performed when the equipment has reached the end of its useful life; when it no longer can perform due to degradation of its internal components and repair is no longer cost effective. Included under the replacement would be the major rebuilding of any component, since rebuilding also restores performance.
Reservoir	A pond, lake, tank, basin, or other facility, either natural in its origin, or created in whole or in part by the building of engineering structures, which is used for the storage, regulation and/or control of water.
Response Time	The time allowed the Contractor after initial notification of a work requirement to be physically on the premises at the work site with appropriate personnel, tools, equipment, and materials, ready to perform the work required.
Restoration	Restoration of real property to such a condition that it can be used for its intended purpose. Includes repair or replacement work to restore facilities damaged by inadequate sustainment, excessive age, natural disaster, fire, accident or other causes.
Restoration and Modernization (RM)	Renovation or reconstruction activities (including facility replacements) needed to keep existing facilities modern and relevant in an environment of changing standards and missions. Restoration and modernization extends the service life of facilities, restores lost service life, or updates and or alters a facility for adaptive reuse.

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Definition	**Description**
Sampling Plan	Plan and procedures to conduct sampling, field testing and laboratory analysis for a defined testing objective.
Sanitary and Clean Condition	Use of this term means that all of the listed conditions below are satisfied: 1) Obnoxious odors are not present, 2) Vector problems such as rodents are not present, 3) Fly breeding conditions are not present, 4) Facilities do not present a health hazard.
Satellite Accumulation Areas	Designated approved areas, at or near the point of generation and under the control of the operator generating the waste, where no more than 55 gallons (cumulative total) of all types of HW or 1 quart of acutely HW may be accumulated. The 55-gallon limit does not include non RCRA regulated waste, universal waste and used oil etc.
Satellite HW Accumulation Point (SHWAP)	An area at or near the point of generation where HWs are temporarily stored, up to 206 liters (55 gallons) or 1 liter (quart) of acute HW, from each waste stream, until removed to a 90 day site or shipped for treatment or disposal.
Sluice Gate	A gate, used for sluicing, constructed to slide vertically and fastened into or against the masonry of channels, dams, tanks, or other structures.
Special Project	A project whose funded cost exceeds the commanding officer's approval limits, but in the case of construction projects falls below the Military Construction (MILCON) threshold for costs.
Spill Prevention Control and Countermeasure (SPCC) Plan	The SPCC Plan establishes engineering controls including procedures, methods, equipment and other requirements to prevent the discharge of oil into or upon navigable waters. The Plan includes procedures for oil spill prevention, measures to contain spills and an established spill drill exercises to ensure effective countermeasures in the event of oil spill.
Spring	A surface feature where water issues from a rock or soil onto the land or into a body of water, the place of issuance being relatively restricted in size. Springs are classified in accordance with many criteria, including character of water, geologic formation, geographical location, etc.
Substation	Denotes a transformer substation. A facility where the distribution system voltage is transformed from a higher to a lower medium voltage.
Supervisory Control and Data Acquisition (SCADA)	Technology used to control and monitor utility systems.
Sustainment (ST)	Maintenance and repair activities necessary to keep a typical inventory of facilities in “normal working condition”. Sustainment includes regularly scheduled maintenance as well as cyclical major repairs or replacement of components that occur periodically over the expected service life of the facilities.
System	An assemblage of mechanically and/or electrically interlocked parts, equipment and/or components forming a unitary whole.
Tipalao Bay	Discharge point for the effluent from AHWWTP. Located West of the Island of Guam in the Philippine Sea. 13° 24’ 48” N Outfall Latitude, 144° 38’ 30” E Outfall Longitude.
Tracer ES	A web-based systems integration solution that gives facility managers an online, enterprise-wide view of all their buildings and systems, from any PC or mobile device on the network.
Tracer SC	An intelligent field panel that communicates with unit controllers that provide standalone control of HVAC equipment.
UNIFORMAT Classification	A standard classification of building components established by the National Institute of Standards and Technology.
Unit Priced Labor (UPL) Hour	The unit price bid by the Contractor to perform one hour of work-in-place. With the exception of direct material and construction equipment costs, the unit priced labor hour price shall include all indirect and direct costs associated with performing work, such as: the Contractor’s hourly composite trade wage, adjusted to allow for workforce productivity; sub-contractor cost, costs for pre-expended bin materials,

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	shipping and handling, wage determinations, union agreements, crew sizes, hand tools, equipment, universal equipment (excluding construction equipment), mobilization, demobilization, payroll burdens and fringes, overtime, job (field) overhead (including clerical support, supervision, inspection, fees, taxes, licenses, permits, and insurance), general and administrative (home office) overhead, profit, and all other associated markups. Any indirect cost or additional markups not allowed in the definition of direct materials shall be included in the UPL price. Additionally, time for job preparation, safety standby personnel, and similar indirect labor elements are included.
Universal Equipment	Universal equipment refers to equipment that can cover two or more industries and is commercially employed in execution of operation, maintenance, and repair work, such as: Aerial Work Platforms, Backhoes, Cranes, Dump Trucks, Excavators, Generators, Graders, Lifts, Loaders, Man Lifts, Monitoring and Test Equipment, Pumps, Tractors, Trailers, etc.
Universal Waste (UW)	Universal Waste (UW) (defined in 40 CFR Part 273) means batteries, fluorescent lamps, some pesticides, and mercury-containing equipment formally classified as a HW, but that are now subject to less stringent regulations, when recycled if recycling is available.
Utility Control Systems (UCS)	Includes Supervisory Control and Data Acquisition (SCADA) and Advanced Metering Infrastructure (AMI).
Utility Infrastructure Condition Assessment Program (UICAP)	A comprehensive assessment processes for planning, managing, and executing Navy utility infrastructure inspections.
Valve	A device installed in a pipeline for the purpose of controlling the magnitude and direction of the flow. It consists essentially of a shell and a disc or plug fitted to the shell.
Valve, Altitude Control	A valve which automatically shuts off the flow when the water reaches a predetermined elevation in an elevated tank (or reservoir), and opens when the pressure on the pump side is less than that on the tank (or reservoir) side of the valve.
Valve, Pressure-Regulating	A valve placed at either end of a pressure-regulating apparatus inserted in a water main to regulate the pressure in a waterline either upstream or downstream from the valve.
Violation - Class 1	Notice of Violation (NOV), Notice of Noncompliance (NON) or Field Citation as defined by OPNAVINST 5090.1 (most current) or regulator, issued by a Federal or local regulatory agency. Includes written notices issued by a regulatory agency.
Violation - Class 2	Written notice of administrative or procedural violation issued by a Federal or local regulatory agency. Also includes a Class 3 violation for which there is no approved Corrective Action Plan within 90 calendar days of discovery.
Violation - Class 3	Policy or Audit “violation:” Navy Policy violation cited by external audit organizations or valid findings by regulators or Contracting Officer Representative (COR). Also includes a Class 4 violation for which there is no approved Corrective Action Plan within 60 calendar days of discovery.
Violation - Class 4	Policy and Audit “violations” cited as a failure to comply with guidance and policy objectives or environmental standards or regulations that are formally identified as the Contractor’s responsibility.
Violation - Class 5	Policy and Audit “violation”, first identified and logged by the Contractor and subsequently corrected in a timely manner as defined by the associated Performance Standard.
Water Meter	A device installed in a pipe under pressure for measuring and registering the quantity of water passing through it.
Well	An artificial excavation that derives water from the interstices of the rocks or soil which it penetrates.

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Definitions and Acronyms

Acronym	Title
A2LA	American Association for Laboratory Accreditation
A2R2	Annual Allowance Requirements Review
AA&E	Arms, Ammunitions and Explosives
ABET	Originally, Accreditation Board for Engineering and Technology
ABPA	American Backflow Prevention Association
ACM	Asbestos Containing Material
ACO	Administrative Contracting Officer
AD&C	Ammunition, Distribution and Control
A-E	Architect-Engineer
AFNET	Air Force Network
AHA	Activity Hazard Analysis
AIN	Ammunition Information Notice
AIS	Annual Inspection Summary
A.K.A.	Also Known As
Al	Aluminum
AMI	Advanced Metering Infrastructure
AMHS	Automated Message Handling System
ANSI	American National Standards Institute
ANSI/ASSE	American National Standards Institute/American Society of Safety Engineers
ANSI/ISEA	American National Standards Institute/International Safety Equipment Association
ANSI-NCSL	American National Standards Institute-National Conference of Standards Laboratories
AOR	Area of Responsibility
APHA	American Public Health Association
APP	Accident Prevention Plan
AHRI (also ARI)	Air-Conditioning, Heating, & Refrigeration Institute
ARG	Amphibious Ready Group
ARV	Air Relief Valve
ASCII	American Standard Coder for Information Interchange
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASP	Ammunition Supply Point
AWWA	American Water Works Association
AWWARF	American Water Works Association Research Foundation
BCS	Building Control System
BEM	Building Energy Monitor
BFP	Backflow Preventer
BMP	Best Management Plan
BOS	Base Operations Support
BOSC	Base Operations Support Contract
BOWTS	Bilge and Oily Wastewater Treatment System
BW	Biweekly
C2OIX	Command and Control Office Information Exchange
C7F	Commander U.S. 7th Fleet
CAA	Clean Air Act
CAC	Common Access Card
CAT	Category
CBM	Condition Based Maintenance
CBMM	Condition Based Maintenance Management
CBSS	Craft and Boat Support System
CDR	Contract Discrepancy Report

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Definitions and Acronyms

Acronym	Title
CFC	Chlorofluorocarbon
CDO	Command Duty Officer
CFR	Code of Federal Regulations
CHRIMP	Consolidated Hazardous Material Reutilization and Inventory Management Program
CHT	Collection Holding Tank
CI	Condition Index
CIA	Controlled Industrial Area
CIMU	Component Inventory Management Unit
CIRCUITS	Centralized and Integrated Reporting for the Comprehensive Utilities Information Tracking System
CIRS	Contractor Incident Reporting System
CLIN	Contract Line Item Number
CLS	Capsulated Launch System
CM	Corrective Maintenance
CMMS	Computerized Maintenance Management System
CMP	COE Message Processor
CNATRA	Chief of Naval Air Training
CNIC	Commander Navy Installations Command
CNICINST	Commander Navy Installations Command Instruction
CNMI	Commonwealth of the Northern Marianas Islands
CNO	Chief of Naval Operations
CNSSI	Committee on National Security Systems Instruction
CO	Commanding Officer
CO2	Carbon Dioxide
COE	Common Operating Environment
COMLOGWESTPACINST	Commander Logistics Group Western Pacific Instruction
COMPACFLT	Commander U.S. Pacific Fleet
COR	Contracting Officer’s Representative
COR	Condition of Readiness
CPAF	Cost Plus Award Fee
CPF	Commander U.S. Pacific Fleet
CPG	Comprehensive Procurement Guideline
CPR	Cardiopulmonary Resuscitation
CSA	Customer Service Agreement
CSF	Conforming Storage Facility
CSG	Carrier Strike Group
CSMP	Current Ship’s Maintenance Project
CSP	Certified Safety Professional
CSS-15	Commander Submarine Squadron Fifteen
CWA	Clean Water Act
CWE	Current Working Estimate
DART	Days Away From Work, Restricted Duty, or Job Transfer
DBIDS	Defense Biometric Identification System
DC	Direct Current
DCG	Data Collection Guide
DCR	Direct Condition Rating
DDC	Direct Digital Control
DDESB	Department of Defense Explosive Safety Board
DFARS	Defense Federal Acquisition Regulation Supplement
DLA	Defense Logistics Agency

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Acronym	Title
DLA DS	Defense Logistics Agency Disposition Services
DMLSS	Defense Medical Logistics Standard Support
DMS	Defense Messaging System
DoD	Department of Defense
DoDI	Department of Defense Instruction
DoN	Department of Navy
DPAS	Defense Property Administration System
DPP	Disaster Preparedness Plan
DRMO	Defense Reutilization Management Office
E/U/R/PM	Emergency/Urgent/Routine/Planned Maintenance
eCMRA	Enterprise-wide Contractor Manpower Reporting Application
EHS	Extremely Hazardous Substance
EISA	Energy Independence and Security Act
ELIN	Exhibit Line Item Number
EM	Emergency Management
EM	Engineering Manual
EMR	Experience Modification Rate
EMS	Environmental Management System
ENSO	El Nino/Southern Oscillation
EO	Executive Order
eOMSI	Electronic Operation and Maintenance Support Information
EPEAT	Electronic Product Environmental Assessment Tool
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EQA	Environmental Quality Assessment
E-QIP	Electronic Questionnaires for Investigations Processing
E-SAFE	Electrical Safe Acts For Employees
ESAMS	Enterprise Safety Applications Management System
ESI	Explosives Safety Inspections
ESQD	Explosive Safety Quantity Distance
ESS	Explosives Safety Submission
FAR	Federal Acquisition Regulation
FCCHR	Foundation for Cross-Connection Control and Hydraulic Research
FEC	Facilities Engineering Command
FEMA	Federal Emergency Management Agency
FEMP	Federal Energy Management Program
FFP	Firm Fixed Price
FI	Facility Investment
FIFO	First-in/First-out
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FLCY	Fleet Logistics Center Yokosuka
FMC	Full Mission Capable
FOD	Foreign Object Damage
FOS	Facilities Operations Specialist
FOS	Fleet Ordnance Support
FRCS	Facility Related Control System
FRP	Facilities Response Plan
FSC	Facility Support Contract
FSCM	Facilities Support Contract Manager
FTX	Field Training Exercise

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Definitions and Acronyms

Acronym	Title
GAPCA	Guam Air Pollution Control Act
GAPCSR	Guam Air Pollution Control Standards and Regulations
GCA	Guam Code Annotated
GEDCA	Guam Economic Development and Commerce Authority
GEPA	Guam Environmental Protection Agency
GFE	Government-furnished Equipment
GFF	Government-furnished Facilities
GFM	Government-furnished Materials
GIS	Geographic Information System
G-NET	Guam Network
GPA	Guam Power Authority
GPR	Ground Penetrating Radar
GRBLP	Global Requirements Based Load Plan
GRBLP-A	Global Requirements Based Load Plan - Analysis
GSY	Guam Shipyard
GWA	Guam Water Authority
HA	Husbanding Agent
HAP	Hazardous Air Pollutant
HAZMAT	Hazardous Material
HAZWASTE	Hazardous Waste
HCA	Head Contracting Agency
HCFC	Hydro-chlorofluorocarbon
HM	Hazardous Material
HMI	Human Machine Interface
HP	Horsepower
HS	Hazardous Substance
HSB	Harbor Security Boat
HVAC	Heating, Ventilation, and Air Conditioning
HW	Hazardous Waste
HWMP	Heavy Weather Mooring Plan
HWPS	Hazardous Waste Profile Sheet
HWT	Heavyweight Torpedo
IA	Information Assurance
IAO	Inventory Accuracy Officer
IAW	In Accordance With
ICAP	Infrastructure Condition Assessment Program
ICC/NAFED	International Code Council/National Association of Fire Equipment Distributors
ICP	Integrated Contingency Plan
ICS	Incident Command System
ICS	Industrial Control System
IDIQ	Indefinite Delivery Indefinite Quantity
IDS	Intrusion Detection System
IEP	Installation Energy Manager
IMAP	Installation Management Accounting Project
IMP	Integrated Maintenance Plan
iNFADS	Internet Navy Facilities Asset Data Store
IPL	Integrated Priority List
IPM	Integrated Pest Management
IPMIS	Integrated Pest Management Information System
IPMP	Integrated Pest Management Plan

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Definitions and Acronyms

Acronym	Title
ISEA	In-Service Engineering Agent
ISO/IEC	International Organization for Standardization/International Electrotechnical Commission
ISSA	Inter-Service Support Agreement
ISSM	Information Systems Security Manager
IT	Information Technology
IUID	Item Unique Identification
IWPS	Island Wide Power System
JMPS	Joint Message Processing System
JPAS	Joint Personnel Adjudication System
JRM	Joint Region Marianas
JTREGMARIANASINST	Joint Region Marianas Instruction
KO	Contracting Officer
KVA	Kilo Volt Ampere
KWH	Kilo Watt Hour
LAN	Local Area Network
LDS	Lightning Detection System
LHE	Load Handling Equipment
LOGREQ	Logistic Requirement
LOTO	Lock Out/Tag Out
LSR	Logistic Service Representative
M	Monthly
MAERU	Mobile Ammunition Evaluation and Reconditioning Unit
MAP	Maintenance Action Plan
MDI	Mission Dependency Index
MDACS	Marianas Navy and Marine Corps Design and Construction Standard
Mg	Magnesium
MG	Million Gallons
MGD	Million Gallons Per Day
MEC	Munitions and Explosives of Concern
MEP	Mechanical, Electrical and Plumbing
MHE	Material Handling Equipment
MILCON (also MCON)	Military Construction
MIL-HDBK	Military Handbook
MILSTD	Military Standard
MILVAN	Military Van
MIS	Management Information System
MK30	Mark30
MO	Maintenance and Operations
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPAS	Monthly Performance Assessment Summary
MRC	Maintenance Requirement Card
MRI	Mission Readiness Index
MSC	Military Sealift Command
MSO	Marine Safety Office
MW	Mega Watt (1,000,000 Watts)
NACE	National Association of Corrosion Engineers
NALC	Navy Ammunition Logistics Code
NALO	Naval Air Logistics Office

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Acronym	Title
NAR	Notices of Ammunition Reclassification
NAVBASEGUAMINST	Naval Base Guam Instruction
NAVCOMPT	Naval Comptroller
NAVEDTRA	Naval Education and Training Command
NAVFAC	Naval Facilities Engineering Command
NAVFACINST	Naval Facilities Engineering Command Instruction
NAVFACMAR	Naval Facilities Engineering Command Marianas
NAVFAC MO	Naval Facilities Engineering Command Maintenance & Operations Manual
NAVHOSP	Naval Hospital
NAVMAG	Naval Magazine
NAVRAMP	Navy Radon Assessment and Mitigation Program
NAVSEA	Naval Sea Systems Command
NAVSEAINST	Naval Sea Systems Command Instruction
NAVSUP	Naval Supply Systems Command
NAVSUP GLS AMMO	Naval Supply Global Logistics Support Ammo
NAVSUPINST	Naval Supply Systems Command Instruction
NAWMU-1	Naval Airborne Weapons Maintenance One
NBBI	National Board of Boiler and Pressure Vessel Inspectors
NBG	Naval Base Guam
NBGTS	Naval Base Guam Telecommunications Site
NCCI	National Council on Compensation Insurance
NCTS	Naval Computer and Telecommunications Site
NEC	National Electrical Code
NELAP	National Environmental Laboratory Accreditation Program
NEPA	National Environmental Policy Act
NETA	InterNational Electrical Testing Association
N.E.W.	Net Explosive Weight
NFM	Naval Facilities Marianas
NFPA	National Fire Protection Association
NICE	Navy Interface for Command Email
NICET	National Institute for Certification in Engineering Technologies
NIST	National Institute of Standards and Technology
NIST SP	National Institute of Standards and Technology Special Publication
NMCARS	Navy Marine Corps Acquisition Regulation Supplement
NMCPAC EAD	Navy Munitions Command Pacific East Asia Division
NO2	Nitrogen Dioxide
NOA	Notice of Arrival
NOAA	National Oceanic Atmospheric Administration
NON	Notice of Noncompliance
NOSC	Navy-On-Scene Coordinator
NOSSAINST	Naval Ordnance Safety and Security Activity Instruction
NOV	Notice of Violation
NPC	Navy Port Control
NPDES	National Pollution Discharge Elimination System
NPDWR	National Primary Drinking Water Regulations
NRC	National Response Center
NSDWR	National Secondary Drinking Water Regulations
NSAA	Naval Support Activity Andersen
NSTM	Naval Ships’ Technical Manual
NTU	Nephelometric Turbidity Unit

Attachment J-0200000-01
Definitions and Acronyms

Acronym	Title
OBOS	Other Base Operations Support
ODCL	Operator's Daily Checklist
ODS	Ozone-Depleting Substance
OEM	Original Equipment Manufacturer
OHE	Ordnance Handling Equipment
OHF	Overhead Fire
OIS	Ordnance Information System
OIS-R	Ordnance Information System Retail
OIS-W	Ordnance Information System Wholesale
OIX	Official Information Exchange
O&M	Operation and Maintenance
ONE-NET	OCONUS Navy Enterprise Network
OOB	Out-Of-Balance
OOC	Out-Of-Commission
OPLIFT	Opportune Lift
OPM	Office of Personnel Management
OPNAV	Office of the Chief of Naval Operations
OPNAVINST	Chief of Naval Operations Instructions
OPORD	Operation Order
OPSEC	Operations Security
OSD COLS	Office of the Secretary of Defense Common Output Level Standards
OSHA	Occupational Safety and Health Administration
OSR	Oil Spill Response
OTIS	ODS Tracking and Inventory System
OWWO	Oily Waste and Waste Oil
PAP	Performance Assessment Plan
PAR	Performance Assessment Representative
PAW	Performance Assessment Worksheet
PBSA	Performance-Based Service Acquisition
PCB	Polychlorinated Biphenyls
PCP	Pentachlorophenol
pH	Potential of Hydrogen
PLC	Programmable Logic Controller
PM	Project Manager
PM	Planned Maintenance or Preventive Maintenance
PMRF	Pacific Missile Range Facilities
PMRP	Precious Metals Recovery Program
PMS	Planned Maintenance System
POA&M (also POAM)	Plan of Action and Milestones
POC	Point of Contact
POC	Port Operations Center
POHE	Portable Ordnance Handling Equipment
POL	Petroleum, Oil, and Lubricants
POMS	Port Operations Management System
PPE	Personal Protective Equipment
PQS	Personnel Qualification Standard
PRCSP	Permit Required Confined Space Program
PSB	Port Security Barrier
PSBB	Port Security Barrier Boat
PW	Public Works

Attachment J-0200000-01
Definitions and Acronyms

Acronym	Title
PWD	Public Works Department
PWS	Performance Work Statement
PWO	Public Works Officer
PWUC	Public Works Utilities Criteria
Q	Quarterly
QC	Quality Control
QM	Quality Management
QMS	Quality Management System
QUAL/CERT	Qualification/Certification
R.A.	Registered Architect
RCC	Regional Call Center
RCRA	Resource Conservation and Recovery Act
RDD	Required Delivery Date
RFI	Ready for Issue
RFP	Request for Proposal
RM	Restoration and Modernization (Special Interest Code)
ROH	Regular Overhaul
ROM	Rough Order of Magnitude
ROTC	Reserve Officer Training Corps
RPIE	Real Property Inventory Equipment
RSIP	Regional Shore Infrastructure Plan
RSL	Ready Service Locker
RSL	Remaining Service Life
RSO	Radiation Safety Officer
RSS&I	Receipt, Segregation, Storage, and Issue
RTF	Radio Transmission Facility
RTU	Remote Terminal Unit
SAAM	Special Assignment Airlift Mission
SAAR	Systems Authorization Access Request
SAE	Society of Automotive Engineers
SAR	Site Approval Request
SC	Security Clearances
SCA	Service Contractor Administrator
SCADA	Supervisory Control and Data Acquisition
SDS	Safety Data Sheets
SDWA	Safe Drinking Water Act
SECNAV	Secretary of the Navy
SECNAVINST	Secretary of the Navy Instruction
SEPCOR	Separate Correspondence
SHWAP	Satellite HW Accumulation Point
SIM	Shore Installation Management
SIPRNet	Secret Internet Protocol Routing Network
SLS	Sewer Lift Station
SM	Semimonthly
SME	Subject Matter Expert
SMTP	Simple Mail Transfer Protocol
SO	Safety Officer
SOH	Safety and Occupational Health
SOP	Standard Operating Procedure
SOW	Statement of Work

Attachment J-0200000-01
Definitions and Acronyms

Acronym	Title
SPAR	Senior Performance Assessment Representative
SPC	Statistical Process Control
SPCC	Spill Prevention Control and Countermeasure
SPI	Special Packaging Instructions
SPMIG	Standard Planned Maintenance System (PMS) Materials Identification Guide
SRC	Security Risk Category
SRF	Ship Repair Facility
SRM	Sustainment, Restoration, and Modernization
SSHO	Site Safety and Health Officer
ST	Sustainment (Special Interest Code)
SWOB	Ship Waste Off-Loading Barge
TAT	Turn Around Time
TCP/IP	Transmission Control Protocol/Internet Protocol
TE	Technical Exhibit
TELECON	Teleconference
TJC	The Joint Commission
TREEO	Training, Research and Education for Environmental Occupation
TSS	Total Suspended Solids
TTX	Table Training Exercise
TVS	Total Volume Storage
UCAR	Utilities Cost Analysis Report
UCS	Utilities Control System
UEM	Utilities and Energy Management
UFC	DoD Unified Facilities Criteria (UFC)
UFGS	DoD Unified Facilities Guide Specifications (UFGS)
UPV	Unfired Pressure Vessel
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USINDOPACOM	U.S. Indo-Pacific Command
USNS	United States Naval Ship
UXO	Unexploded Ordnance
VFD	Variable Frequency Drive
VIQ	Variation in Quantity
VLS	Vertical Launch System
VTE	Vertical Transportation Equipment
WBS	Work Breakdown Structure
WEF	Water Environment Federation
WHE	Weight Handling Equipment
WPM	Wood Packaging Material
WR	Weapons Requirement
YON	Yard Oiler Navy (Fuel Barge)
Zn	Zinc

Attachment J-0200000-02 Navy Facilities Asset Data
Attachment J-0200000-02 Navy Facilities Asset Data provided as a separate attachment (Provided as file name: Attachment J-0200000-02 Navy Facilities Asset Data.xlsx).

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Directives, Instructions, and References

NUMBER AND TITLE
10 Guam Code Annotated (GCA) Health and Safety, Division 2 Environmental Health (Div 2), Chapter (Ch) 46, Water Resources Conservation Act
10 GCA Chapter 47, Water Pollution Control Act
10 GCA Chapter 48, Toilet Facilities and Sewage Disposal
10 GCA Div 2 Ch 49, Air Pollution Control
10 GCA Div 2 Ch 52, Water and Wastewater Operators' Mandatory Certification Act
10 GCA Div 2 Ch 53, Safe Drinking Water Act
22 Guam Administrative Rules (GAR) - Guam Environmental Protection Agency (GEPA), Division 2 - Water Control, Chapter 6, Safe Drinking Water Regulations
22 GAR Div 2 Ch 7, Water Resource Development and Operating Regulations
22 GAR Div 2 Ch 11, Water and Wastewater Operator Certification Regulations
28 GAR - Public Utilities, Ch 2, Guam Waterworks Authority, §2120, Regulations Regarding the Use of Public Sewers
Title 15 Commerce and Foreign Trade, Code of Federal Regulations (CFR) 923, Coastal Zone Management Program Regulations
15 CFR 930, Federal Consistency with Approved Coastal Management Programs
16 CFR 3501, Coastal Barrier Resources 16 USC Chapter 55, Coastal Barrier Resources
2 USC. Sec 431. 2010. LexisNexis Academic. Web. 6 April 2012.
16 USC Chapter 33, Coastal Zone Management Sec 1451 et seq, Coastal Zone Management Act of 1972
16 USC Sections 145 to 1464, Coastal Zone Management Act (CZMA)
Title 29 Labor, Code of Federal Regulations (CFR)
29 CFR 1910, Occupational Safety and Health Standards for General Industry
29 CFR 1915, Occupational Safety and Health Standards for Shipyard Employment
29 CFR 1917, Marine Terminals
29 CFR 1918, Safety and Health Regulations for Longshoring
29 CFR 1926, Occupational Safety and Health Standards for Construction
Title 32 National Defense, CFR 172, Disposition of Proceeds from DoD Sales of Surplus Personal Property
32 CFR 190, DOD Natural Resources Management Program
32 CFR 229, Protection of Archeological Resources: Uniform Regulations
32 CFR 775, Procedures for Implementing the National Environmental Policy Act
33 USC Sec 1251 et seq. (40 CFR parts 100-136, 140, 230-233, 401-471, and 501-503), Federal Water Pollution Control Act [known as the Clean Water Act (CWA)]; and implementing regulations
33 CFR 154, Oil Pollution Prevention Regulations for Marine oil transfer Facilities
33 CFR 320-330, Clean Water Act Section 404 and Rivers and Harbors Act Section 10 Regulatory Program
33 CFR 324, Permits for Ocean Dumping of Dredged Material
33 USC 1329, Section 319 Nonpoint Source Management Programs
36 CFR 79, Curation of Federally owned and Administered Archeological Collections
36 CFR 800, Protection of Historic and Cultural Properties
Title 40 Protection of Environment CFR 82, Protection of Stratospheric Ozone
40 CFR 110, Discharge of Oil
40 CFR 112, Oil Pollution Prevention
40 CFR 116-117, EPA Regulation on Hazardous substances
40 CFR 117, 302, & 355, Reportable Quantities of Hazardous Substances
40 CFR 122-123 (33 USC Sec 402), National Pollutant Discharge Elimination System (NPDES) Program
40 CFR 125, Best Management Practices Criteria Under Clean Water Act
40 CFR 125, Criteria and Standards for the National Pollutant Discharge Elimination System & Best Management Practices Criteria Under Clean Water Act
40 CFR 130, Water Quality Planning and Management

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NUMBER AND TITLE
40 CFR 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants
40 CFR 141, National Primary Drinking Water Regulations
40 CFR 142, National Primary Drinking Water Regulations Implementation
40 CFR 143, National Secondary Drinking Water Regulations
40 CFR 144, Underground Injection Control Program
40 CFR 146, Underground Injection Control Program: Criteria and Standards
40 CFR 150-186, Environmental Protection Agency (EPA) Regulations for Pesticide Programs
40 CFR 150-186, FIFRA Regulations
40 CFR 220-225, 227-229, Ocean Dumping Regulations and Criteria
40 CFR 230-231 (33 USC Sec 403-404), Dredged or Fill Permits
40 CFR 240, Guidelines for the Thermal Processing of Solid Waste
40 CFR 243, Guidelines for Solid Waste Storage and Collection
40 CFR 244, Guidelines for Solid Waste Management of Beverage Containers
40 CFR 246, Guidelines for Source Separation for Material Recovery
40 CFR 247, Comprehensive Procurement Guideline for Products Containing Recovered Materials
40 CFR 257, Regulations on Criteria for Classification of Solid Waste Disposal Facilities and Practices
40 CFR 258, Criteria for Municipal Solid Waste Landfills
40 CFR 261, Identification and Listing of Hazardous Waste
40 CFR 262, Standards Applicable to Generators of Hazardous Waste
40 CFR 263, Standards Applicable to Transporters of Hazardous Waste
40 CFR 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
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American National Standards Institute (ANSI)/American Water Works Association (AWWA) A100 AWWA Standard for Water Wells
American National Standards Institute (ANSI)/International Safety Equipment Association (ISEA) 107-2010, American National Standard for High-Visibility Safety Apparel and Headwear
American National Standards Institute (ANSI)/InterNational Electrical Testing Association (NETA) Standard for Maintenance Testing Specifications for Electrical Power Equipment and Systems
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Army Field Manual (FM) 4-02.285 (FM 8-285), Multiservice Tactics, Techniques and Procedures for Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries
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AR 740-1, Logistics Storage And Supply Activity Operations
Army Supply Bulletin (SB) 742-1, Supply Bulletin Inspection of Supplies and Equipment Ammunition Surveillance Procedures
Army Technical Bulletion (TB) 9-1300-385, Munitions Restricted or Suspended
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American Society of Mechanical Engineers (ASME) A17.1, Safety Code for Elevators and Escalators
ASME B30.3, Tower Cranes
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ASME B30.8, Floating Cranes and Floating Derricks
ASME B30.22, Articulating Boom Cranes
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AWWA Drinking Water Handbook for Public Officials
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AWWA M3, Manual of Water Supply Practices: Safety Practices for Water Utilities
AWWA M4, Manual of Water Supply Practices: Water Fluoridation Principles and Practices
AWWA M5, Manual of Water Supply Practices: Water Utility Management Practices
AWWA M6, Manual of Water Supply Practices: Water Meters--Selection, Installation, Testing and Maintenance
AWWA M7, Manual of Water Supply Practices: Problem Organisms in Water -- Identification and Treatment
AWWA M9, Manual of Water Supply Practices: Concrete Pressure Pipes
AWWA M12, Manual of Water Supply Practices: Simplified Procedures for Water Examination
AWWA M17, Manual of Water Supply Practices: Installation, Field Testing, and Maintenance of Fire Hydrants
AWWA M19, Manual of Water Supply Practices: Emergency Planning for Water Utility Management
AWWA M20, Manual of Water Supply Practices: Chlorination Principles and Practices

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NUMBER AND TITLE
AWWA M21, Manual of Water Supply Practices: Groundwater
AWWA M22, Manual of Water Supply Practices: Sizing Water Service Lines and Meters
AWWA M23, Manual of Water Supply Practices: PVC Pipe Design and Installation
AWWA M27, Manual of Water Supply Practices: External Corrosion -- Introduction to Chemistry and Control
AWWA M28, Manual of Water Supply Practices: Cleaning and Lining Water Mains
AWWA M31, Manual of Water Supply Practices: Distribution System Requirements for Fire Protection
AWWA M32, Manual of Water Supply Practices: Distribution Network Analysis for Water Utilities
AWWA M36, Manual of Water Supply Practices: Water Audits and Leak Detection
AWWA M37, Manual of Water Supply Practices : Operational Control of Coagulation and Filtration Processes
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AWWA Principles and Practices of Water Supply Operation Series: Water Quality
AWWA Principles and Practices of Water Supply Operation Series: Water Sources
AWWA Principles and Practices of Water Supply Operation Series: Water Transmission and Distribution
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AWWA Standard C652-11, Disinfection of Water-Storage Facilities
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AWWA Water Conservation
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AWWA Work Practices for Asbestos-Cement Pipe
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AWWARF Evaluation and Restoration of Water Supply Wells
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NAVSEA SW551-A2-MMI-010, Mines MK 62 and 63 Description, Assembly, and Test
NAVSEA SW551-A3-MMI-010, Mine, Underwater MK 65 Mods 0, 1, and 3 Description and Procedures
NAVSEA SW551-B0-MMI-010, Mine, Underwater, Mark 56 Mod 0
NAVSEA SW553-B2-MMI-010, Mine, Underwater: MK 67 Description, Upgrading, and Downgrading
NAVSEA SW553-B2-MMI-020, Mine, Underwater: MK 67 Maintenance
NAVSEA SW570-AE-MMI-010, Mine Countermeasures Training Targets Description and Class-B Criteria Assembly/Disassembly, Deployment/Recovery, and Refurbishment
NAVSEA SW570-F0-MMO-050, Versatile Exercise Mine System (VEMS); Rigging, Deployment, and Recovery Description and Operation
NAVSEA SWO61-AA-MMA-010, Use of Explosives in Underwater Salvage
Naval Supply Systems Command (NAVSUP) Computer Aided Ammunition Sentencing Tool (CAAST)
NAVSUP APPENDIX A, Ammunition Material Condition and Status Identification
NAVSUP APPENDIX B, Ammunition Shelf-Life and Service Life Information
NAVSUP APPENDIX C, Security-Sensitive (CATI/II) Ammunition
NAVSUP APPENDIX D, Ammunition Condition Codes and Defect Codes
NAVSUP APPENDIX E, Ammunition Sentencing Visual Aids
Naval Supply Systems Command Instruction (NAVSUPINST) 4030.55, Packaging of Hazardous Material
NAVSUPINST 4750.1, Automated Fuel Maintenance System
NAVSUP Publication (P) - 485 Volumes I-III, Afloat and Ashore Supply
NAVSUP P-505, Preparing Hazardous Materials for Military Air Shipments
NAVSUP P-538, Management of Materials Handling Equipment (MHE) and Shipboard Mobile Support Equipment (SMSE)
NAVSUP P-558, Fuel Management Ashore
NAVSUP P-723, Navy Inventory Integrity Procedures
NAVSUP P-724 REV 23 CHG 2 CONVENTIONAL ORDNANCE STOCKPILE MANAGEMENT
NAVSUP P-724, Volumes I & II, Ashore Conventional Ordnance
NAVSUP P-801 Daily, Unserviceable, Suspended, and Limited Use
NAVSUP P-802 Weekly, Navy Ammunition Logistic Code
NAVSUP P-803, Navy Stock List of Conventional Ammunition
NAVSUP P-804, Stock List of Conventional Ammunition Data Supplement
NAVSUP P-805, Navy and Marine Corps Conventional Ammunition Sentencing Receipt, Segregation, Storage and Issue Sentencing
NAVSUP P-807, Navy And Marine Corps Conventional Ammunition Sentencing Fleet Sentencing
Navy Marine Corps Acquisition Regulation Supplement (NMCARS) 5237.102-90, Enterprise-wide Contractor Manpower Reporting Application (ECMRA)
Navy Ozone Depleting Substances (ODS) Advisory 96-02, Refrigerant Leak Repair
North American Electric Reliability Council (NERC) PRC 005, Protection System Maintenance
National Fire Protection Association (NFPA) 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
NFPA 101, Life Safety Code Handbook
NFPA 110, Standard for Emergency and Standby Power Systems
NFPA 291, Recommended Practice for Fire Flow Testing and Marking of Hydrants
NFPA 70, National Electrical Code
NFPA 70B, Recommended Practice for Electrical Equipment Maintenance
NFPA 70E, Standard for Electrical Safety in the Workplace

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Directives, Instructions, and References

NUMBER AND TITLE
NFPA 72, National Fire Alarm and Signaling Code
NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems
NMC GUAM WHARF NMC Guam Wharf/Orote Point New Limits
Navy Munitions Command East Asia Division Instruction (NMCEADINST) 4855, Fleet Customer Survey
Navy Munitions Command East Asia Division Unit Guam (NMCEADUNITGUAM) Complaint/Grievance Procedures Policy Statement
NMCEADUNITGUAM Equal Opportunity Policy
NMCEADUNITGUAM Fraternization Policy
NMCEADUNITGUAM Hazing and Physical Assault Policy
NMCEADUNITGUAM Occupational Safety and Health in the Workplace
NMCEADUNITGUAM Sexual Assault Prevention and Awareness Policy
NMCEADUNITGUAM Sexual Harassment Policy
Navy Munitions Command East Asia Division Unit Guam Instruction (NMCEADUNITGUINST) 3120.1, Navy Munitions Command East Asia Division Detachment Guam Organizational Manual
NMCEADDETGUINST 3301.1, Emergency Action Plan for Electronic Key Material System (EKMS) Communications Security (COMSEC) Material
NMCEADDETGUINST 5510.1, Information Security and Personnel Security Programs (ISP/PSP)
NMCEADUNITGUINST 5530.13, Issue and Control of Arms, Ammunition and Explosive (AA&E) Locks and Keys
Navy Munitions Command Instruction (NMCINST) 3500.1, Operational Risk Management (ORM)
NMCINST 5102.1, Navy Munitions Command Explosives Safety Program Monitoring and Reporting Procedures
NMCINST 5211.5, Privacy Act (PA) Program
NMCINST 8010.1, Workload Reporting for Fleet Ordnance Support (FOS) of Ammunition, Components and Accessories
NMCINST 8020.1, Explosive Safety Program Support
NMCINST 8023.1, Navy Munitions Command (NMC) Explosives Handling Qualification and Certification (Qual/Cert) Program Standardized Training
NMCINST 8023.2, Navy Munitions Command (NMC) Standard Operating Procedures
NMCNOTE 8000, Ship Tons for Navy Munitions Command (NMC) Fleet Ordnance Support (FOS) Activities
NMCNOTE 8023 Navy Munitions Command Explosives Handling Qualification and Certification Program Standardized Training Plan Template
NMCPAC 8010.1 Workload Reporting For Fleet Ordnance Support (FOS) Of Ammunition, Components And Accessories
NMCPACEAD 3500.2
NMCPACINST 4030.1, Wood Packaging Material (WPM) Policy Guidance
NMCPACINST 8023.2 Explosives Handling Qualification And Certification (Qual/Cert) Program - Standardized Training
NOLSC Naval Operational Logistics Support Center (NOLSC)
NOLSC AMMO GRAMS NOLSC Ammo Grams
National Pollutant Discharge Elimination System (NPDES) Permit Number GU0020389, U.S. Navy Fena Water Treatment Plant Authorization to Discharge Under the National Pollutant Discharge Elimination System
NPDES Permit No. GU0110019, Apra Harbor Wastewater Treatment Plant Authorization to Discharge Under the National Pollutant Discharge Elimination System
Navy Handbook OPNAV P-45-117-6-98, Electrical Safety Field Guide
Navy Tactical Reference Publication 4-10.1 (NTRP 4-10.1), Naval Conventional Ordnance Management
Office of the Chief of Naval Operations Instruction (OPNAVINST) 3100.6, Special Incident Reporting (OPREP-3 PINNACLE, OPREP-3 NAVY BLUE and OPREP-3 NAVY UNIT SITREP) Procedures
OPNAVINST 3440.16, Navy Defense Support of Civil Authorities Program
OPNAVINST 3500.39, Operational Risk Management
OPNAVINST 3591.1,Small Arms Training and Qualification
OPNAVINST 4100.5, Shore Energy Management

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Directives, Instructions, and References

NUMBER AND TITLE
OPNAVINST 4520.1, Navy Demilitarization Policy
OPNAVINST 4631.2, Management of Department of the Navy Airlift Assets
OPNAVINST 5090.1, Environmental Readiness Program Manual
OPNAVINST 5090.2, Overseas Drinking Water Operation and Operator Requirements
OPNAVINST 5100.19, Navy Occupational Safety and Health Program Manual for Forces Afloat
OPNAVINST 5100.23, Navy Safety and Occupational Health Program Manual
OPNAVINST 5102.1, Navy and Marine Corps Mishap and Safety Investigation, Reporting, and Record Keeping
OPNAVINST 5530.13, Department of the Navy Physical Security Instruction for Conventional Arms, Ammunition, and Explosives (AA&E)
OPNAVINST 5530.14, Navy Physical Security and Law Enforcement Program
OPNAVINST 5585.2, Department of the Navy Military Working Dog Manual
OPNAVINST 8000.16 VOLs I-IV, The Naval Ordnance Maintenance Management Program (NOMMP) Instruction
OPNAVINST 8010.12, Naval Conventional Ordnance Operational Logistics Policy
OPNAVINST 8010.13, Department of the Navy Policy on Insensitive Munitions
OPNAVINST 8015.2, Conventional Ordnance Inventory Accountability
OPNAVINST 8020.14, Department of the Navy Explosives Safety Policy
OPNAVINST 8020.15, Explosives Safety Review, Oversight, and Verification of Munitions Responses
OPNAVINST 8023.24, Navy Personnel Ammunition and Explosives Handling Qualification and Certification (Qual/Cert) Program
OPNAVINST 8026.2, Navy Munitions Disposition Policy
OPNAVINST 11010.20, Navy Facilities Projects
OPNAVINST 11010.20H Change 1, Navy Facilities Projects
OPNAVINST 11310.3, Operation and Maintenance Policy for Shore-to-Ship Power
OPNAVINST 11320.23, Shore Activities Fire Protection and Emergency Service Program
Ordnance Standard Operating Procedures (SOP)-01, MILVAN Container Loading and Unloading
Ordnance SOP-02, Receipt Procedures for Magazine Operations
Ordnance SOP-03, Internal Inventory Procedures for Magazine/Building Operations
Ordnance SOP-04, Ammunition Segregation Operations
Ordnance SOP-05, Prep/Issue Procedures for Magazine Operations
Ordnance SOP-06, Loading and Unloading Transportation of Ordnance by Motor Vehicle
Ordnance SOP-07, Wharves Conventional Ammunition Operations
Ordnance SOP-08, Inspection Procedures for Conventional Ammunition Magazines & Operating Buildings
Ordnance SOP-09, Pneumatic Nailer Procedures
Ordnance SOP-10, MILVAN/ISO Container Handling Lift Truck Operations
Ordnance SOP-11, Crane Operations
Ordnance SOP-12, Vertical Launching System Canister Dockside Handling Procedures
Ordnance SOP-13, Re-Desiccating and Maintenance Inspection Operations
Ordnance SOP-14, Explosive Ordnance Vertical Replenishment/Handling Operations
Ordnance SOP-16, Vertical Launching System (VLS) Handling Procedures for Piers and Wharves
Ordnance SOP-17, General Purpose Bomb Repalletization Procedures
Ordnance SOP-18, Harpoon Dockside Loading/Offloading for Thickwall and Grade B Canisters
Ordnance SOP-23, Underwater Mines MK 67 Assembly and Disassembly
Ordnance SOP-31, Air Shipment Operations
Ordnance SOP-32, Torpedo/Sub Surface Missile Handling Procedures
Ordnance SOP-33, Torpedo Maintenance Procedures
Ordnance SOP-34, Missile Maintenance Procedures within a Magazine and/or Operating Buildings
Ordnance SOP-36, MPPEH/MDAS Inspection and Certification Procedures

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NUMBER AND TITLE
Ordnance SOP-37, Mine Maintenance Procedures
Ordnance SOP-38, Assembly and Disassembly of Quick Strike Mines
Ordnance SOP-39, 2.75 Aircraft Rocket Systems Assembly/Disassembly/Testing/Loading & Ser 05e2/2 Use of Flatbed Trailers and Stake Trucks for Off-Station Shipments of Palletized Ammunition and Explosives in Guam & Ser 05e2/8 Interim Authorization for Unitization of Partial Unit Loads for Transhipment Purposes
Occupational Safety and Health Administration (OSHA) Directive CPL 2.100, Application of the Permit-Required Confined Spaces (PRCS) Standard, 29 CFR 1910.146
Public Law 24-20 (P.L. 24-20), An act to establish rules and regulations for certification of nurse assistants for the Guam Board of Nurse Examiners.
P.L. 24-322, An Act to establish rules and regulations for the Guam Environmental Protection Agency ("GEPA") air pollution control standards and regulations.
P.L. 91-596, Occupational Safety and Health Act
P.L. 110-140, Energy Independence and Security Act of 2007 (EISA)
Proper Work Classification Playbook for Marianas
NAVFAC Marianas Public Works Utilities Criteria (PWUC) for Design & Construction: Electric, Sewer & Water
Resource Conservation and Recovery Act (RCRA)
Secretary of the Navy (SECNAV) Manual M-5210.1, Department of the Navy Records Management Manual
SECNAV M-5239.1, Department of the Navy Information Assurance Manual
SECNAV M-5510.30, Department of the Navy Personnel Security Program
SECNAV M-5510.36, Department of the Navy (DON) Information Security Program (ISP) Manual
Secretary of the Navy Instruction (SECNAVINST) 4355.18, Reporting of Supply Discrepancies
SECNAVINST 5100.13, Navy and Marine Corps Tobacco Policy
SECNAVINST 5216.5, Department of the Navy Correspondence Manual
SECNAVINST 5239.22, Department of the Navy Cybersecurity Safety Program
SECNAVINST 5510.36, Department of the Navy (DON) Information Security Program (ISP) Instruction
Service Desk Guide for Reporting Utility System Outages
Small Arms, Gun Ammunition, Demolition Pyrotechnic and Chemical Munitions/Devices CD
Unified Facilities Criteria (UFC) 3-230-02, Operation and Maintenance of Water Supply Systems
UFC 3-240-13FN, Industrial Water Treatment Operation and Maintenance
UFC 3-410-01, Heating, Ventilating, and Air Condition Systems
UFC 3-430-07, Operations and Maintenance: Inspection and Certification of Boilers and Unfired Pressure Vessels
UFC 3-460-03, O&M: Maintenance of Petroleum Systems
UFC 3-501-01, Electrical Engineering
UFC 3-530-01, Interior and Exterior Lighting Systems and Controls
UFC 3-540-01, Engine-Driven Generator Systems for Backup Power Applications
UFC 3-540-07, Operation and Maintenance (O&M): Generators
UFC 3-550-07, Operation and Maintenance (O&M): Exterior Power Distribution Systems
UFC 3-560-01, Operation and Maintenance: Electrical Safety
UFC 3-570-06, O&M: Cathodic Protection Systems
UFC 3-600-02, Operations and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems
UFC 4-010-06, Cybersecurity of Facility-Related Control Systems
UFC 4-150-02, Dockside Utilities for Ship Service
United Facilities Guide Specifications (UFGS) 01 35 26, Governmental Safety Requirements
Naval Facilities Engineering Service Center (NFESC) User's Guide-29-ENV (UG-29-ENV), Cross-Connection Control and Backflow Prevention Program Implementation at Navy Shore Facilities
US Navy Risk Management Framework Process Guide (v2, 4Aug2017)
Vertical Launching System (VLS) All-Up-Round (AUR) Technical Tactical Documentation

J-0200000-04 Directives, Instructions, and References
NUMBER AND TITLE
Water Environment Federation (WEF) Manual of Practice FD-6, Existing Sewer Evaluation and Rehabilitiation

OPERATIONS

Air Ops

Airfield Ops
SIC 0AO
BEA AO
PE=0208532N

- Air Traffic Control
- Airfield Services
- Auxiliary Airfield Support
- Ground Electronics
- Operations Management
- Passenger Terminal & Cargo Handling
- Station Aircraft Operations

Port Ops

Port Ops
SIC 0PR BEA PR
PE=0208533N

- Ship Movement Berthing & Hotel Services
- Harbor Security Boat Maintenance
- Magnetic Silencing
- Berth Day Port Logistics
- Berth Day Port Operations Center
- Seaport Spill Response
- Ship Movement Support Craft & Boats
- Berth Day Support Craft and Boats

Ship Charter
SIC 0SC BEA SC
PE=0208533N

- MSC NWCF Tug/Workboat Support - Ship Movements

FACILITIES MANAGEMENT

Public Safety

Emergency Management
SIC 0EM BEA _ _
PE=0205079N

0EM – EM
- Dispatch
- Program Mgmt. and Planning
- Operations (C3)

0EM – OO
- EOD Support
- Weapons

Fire & Emergency Services
SIC 0FI BEA FI
PE=0203779N

- Aircraft Rescue & Fire Fighting
- Emergency Medical Services
- Fire Prevention
- Fire Suppression, HazMat, Technical Rescue Operations, Incident Command & Management

Force Protection
SIC 0CT BEA _ _

0CT – CT
PE=0208538N/ 0208539N
- Protection Mgmt. & Planning
- Protection Ops
- Protection Support Ops

0CX – CX
PE=0208534N
- Exercises
- Operations Training

Safety
SIC 0SA BEA SA
PE=0208534N

- Explosives Safety
- NAVOSH
- Recreational and Off-Duty Safety
- Traffic Safety

Environment

Compliance
SIC 0EC BEA EC
PE=0702856N

- Air
- Environmental Compliance Management
- Environmental Planning
- Safe Drinking Water
- Spill Prevention and Response
- Storm water
- Toxic Substances
- Underground Storage Tanks
- Waste
- Wastewater

Conservation
SIC 0CN BEA CN
PE=0708053N

- Listed and At-Risk Species
- Natural Resources Management

Cultural
SIC 0CR BEA CR
PE=0901853N

- Archaeology and Curation
- Built Environment
- Cultural Resources
- NAGPRA Repatriation

Range Sustainment
SIC 0RS
BEA RS
PE=0702856N

- MCAT

Facility Support

Base Support Vehicle & Equipment
SIC 0TR BEA TR
PE=0708542N

- Construction
- Cranes
- MHE
- Railway Equipment
- Support
- Trailers
- Vehicles

Collateral Equipment
SIC 0FQ
BEA FQ
PE=0208535N

- MILCON Collateral Equipment
- Non-MILCON Collateral Equipment

Facility Investment
SIC _ _ _
BEA _ _

0DE – DE
PE=0208093N
- Demolition

0NF – NF
PE=NA
- New Footprint

0RM – RM
PE=0203176N
- Restoration & Modernization

0ST – ST
PE=0203178N
- Sustainment

0ST – SM
- Sustainment Special Projects

Facility Management
SIC 0FP BEA FP
PE=0206079N

- Asset Mgmt.
- Facility Investment Planning
- Real Estate

Real Estate Leases
SIC 0RL BEA RL
PE=0206079N

- Real Estate Leases

Facility Services
SIC 0FX BEA FX
PE=0204079N

- Custodial
- Grounds Maintenance & Landscaping
- Integrated Solid Waste Mgmt.
- Pavement Clearance
- Facility Services Contract Support & Prog. Admin.
- Facility Services, Intrastation Moves & Other Services
- Pest Control
- Fleet Mooring

Utilities
SIC 0UT BEA UT
PE=0703879N

- Chiller Plant
- Compressed Air
- Delivered Fuels
- Electrical
- Natural Gas
- Sewage
- Steam
- Water

QUALITY OF LIFE

Fleet & Family Readiness

Unaccompanied Housing
SIC 0QO BEA QO
PE=0208553N

- Permanent Party and Dormitory FF&E
- Permanent Party and Dormitory Ops
- Public/Private Venture (PPV)

Galley
SIC 0GL BEA GL
PE=0808541N

- Food Service Contracts
- Galley Operations

MWR
SIC 0MW BEA MW
PE=0808530N

- Cat A Activities
- Cat B Activities
- Cat C Activities

Navy Safe Harbor
SIC 0SH BEA SH
PE=0808541N

- Navy Safe Harbor

Child & Youth Programs
SIC 0CD BEA CD
PE=0808519N

- Child Development Centers
- Child Development Homes
- Contract Spaces
- School Age Care
- Youth Programs

Family Housing
SIC _ _ _ BEA _ _

010 – 10 PE=0808779N
- Services

011 – 11 PE=0808545N
- Management

012 – 12 PE=0808779N
- Utilities

013 – 13 PE=0808545N
- Public/Private Venture

014 – 14 PE=0808545N
- Furnishings

015 – 15 PE=0808779N
- Leasing

016 – 16 PE=NA
- Miscellaneous

020 – 20 PE-0808779N
022 – 22
023 – 23
- Maintenance

Intra-station Moves
SIC 0IM BEA IM
PE=0708542N
- Intra-station Moves

Fleet & Family Support
SIC 0FS BEA FS
PE=0808520N

- Core Family Readiness
- Sexual Assault Prev. and Response

Other Community Support *
SIC 0OC BEA OC
PE=0808541N

- Laundry & Dry-cleaning
- Ships Store Ashore
- Voter Program
- Lodging

ENABLERS

Command & Staff

Command
SIC 0CA BEA _ _
PE=0208534N

0CA – CA
- Command/Admin
- SAPRO

0CA – CB
- Casualty Assist/ Funeral

0CA – CC
- Religious Programs

0CA – CE
- Staff/Force Judge Advoc

0CA – CF
- General Counsel

0CA – CG
- Inspector General

0CA – CH
- Public Affairs

0CA – CO
- CREDO Program

Info Tech Services
SIC 0IT BEA IT
PE=0208550N

- Business IT Services
- Common IT Services
- Operational IT Services
- Copier Services

Resource Mgmt.
SIC 0RN BEA _ _
PE=0208534N

SIC 0RN – CL
- Strategy & Future Req.'s

SIC 0RN – CM
VA – VA
- General and Admin (Labor)

Total Force Mgmt.
SIC 0MS BEA _ _

0MS – CI PE=0208561N
- Manpower Management

0MS – CJ PE=0208561N
- Civilian Workforce Mgmt & Military EO

0MS – CV PE=0208560N
- Shore Corrections, Transient Personnel & Personnel Accountability, Special Category Residents

0MS – MS PE=0208560N
- Total Force Directorate

0DC – DC PE=0208561N
FECA

Supply
SIC 0SP BEA SP
PE=0208540N

- Supply Services

Fuel
SIC 0FL BEA FL
PE=0207696N

- Fuel

For: OMN & OMNR & FHN
Excludes: MILCON, FHCON and OPN
FINAL

Commander, Navy Installations Command (NV52)

Installation Management Accounting Project (IMAP) Model 2019
July 2, 2018

- BOS N81 Accredited Models
- FOM (Facility Operation Model)
- FSM (Facility Sustainment Model)

Attachment J-0200000-06
Forms

CRANE AND RIGGING GEAR ACCIDENT REPORT

Accident Category: ☐ Crane Accident ☐ Rigging Gear Accident

From: UIC:	To: Navy Crane Center Bldg. 491 NNSY Portsmouth, VA 23709 Fax: 757-967-3808

Activity:			Report No:
Crane No:	Category:	Accident Date:	Time: hrs:
Category of Service: ☐ SPS ☐ GPS		Crane Type:	Crane Manufacturer:
Was Crane/Rigging Gear Being Used in SPS: ☐ Yes ☐ No		Was Crane/Rigging Gear Being Used in a Complex Lift/Critical Non-Crane Rigging Operation: ☐ Yes ☐ No	
Location:		Weather:	
Crane Capacity:	Hook Capacity:	Weight of Load on hook:	
Fatality or Permanent Disability? ☐ Yes ☐ No Reported to NAVSAFECEN? ☐ Yes ☐ No		Material/Property Cost Estimate:	

Accident Type:

☐ Personal Injury ☐ Overload ☐ Derail ☐ Damaged Rigging Gear
☐ Load Collision ☐ Two Blocked ☐ Dropped Load ☐ Damaged Crane
☐ Crane Collision ☐ Damaged Load ☐ Other: Specify _____

Cause of Accident:

☐ Improper Operation ☐ Equipment Failure ☐ Inadequate Visibility
☐ Improper Rigging ☐ Switch Alignment ☐ inadequate Communication
☐ Track Condition ☐ Procedural Failure ☐ Other: Specify _____

Chargeable to:

☐ Crane Walker ☐ Rigger ☐ Operator
☐ Maintenance ☐ Management/Supervision ☐ Other: Specify _____

Crane Function:

☐ Travel ☐ Hoist ☐ Rotate ☐ Luffing ☐ Telescoping ☐ Other ☐ N/A

Is this accident indicative of a recurring problem? ☐ Yes ☐ No

If yes, list Accident Report Nos.: _____

ATTACH COMPLETE AND CONCISE SITUATION DESCRIPTION AND CORRECTIVE/PREVENTIVE ACTIONS TAKEN AS ENCLOSURE (1). Include probable cause and contributing factors. Assess damages and define responsibility. For equipment malfunction or failure, include specific description of the component and the resulting effect or problem caused by the malfunction or failure. List immediate and long term corrective/preventive actions assigned and respective codes.

Preparer:	Phone:	E-mail:	Code:	Date:

Concurrences: (Include Code, Signature and Date)

	Code:	Date:
	Code:	Date:
Certifying Official (Crane Accident Only):	Code:	Date:

Attachment J-0200000-06
Forms

CRANE AND RIGGING GEAR ACCIDENT REPORT INSTRUCTIONS

This form is designed for fax transmission without a cover page or by e-mail and, with enclosures and signatures, shall be the official document. Electronic submission will be accepted without signatures but the names of the preparer, concurring personnel, and certifying official (for crane accidents only) shall be filled in. The e-mail address is m_nfsh_ncc_accident@navy.mil. The fax number is (757) 967-3808.

1. Accident Category: Indicate either crane accident or rigging gear accident.
2. From: The naval activity that is responsible for reporting the accident and UIC number.
3. Activity: The naval activity where the accident took place.
4. Report No.: The activity assigned accident number (e.g., 95-001).
5. Crane No.: The activity assigned crane number (e.g., PC-5), if applicable.
6. Category: Identify category of crane (i.e., 1, 2, 3, or 4), if applicable.
7. Accident Date: The date the accident occurred.
8. Time: The time (24 hour clock) the accident occurred (e.g., 1300).
9. Category of Service: Check the applicable service (SPS as defined by NAVSEA 0989-030-7000).
10. Crane Type: The type of crane involved in the accident (e.g., mobile, bridge), if applicable.
11. Crane Manufacturer: The manufacturer of the crane (e.g., Dravo, Grove, P&H), if applicable.
12. SPS: Was the crane or rigging gear being used in an SPS lift?
13. Complex lift: Was the crane or rigging gear being used in a complex lift?
14. Location: The detailed location where the accident took place (e.g., building 213, dry dock 5).
15. Weather: The weather conditions at time of accident (e.g., wind, rain, cold).
16. Crane Capacity: The certified capacity of the crane (e.g., 120,000 pounds), if applicable.
17. Hook Capacity: The capacity of the hook involved in the accident at the max radius of the operation, if applicable.
18. Weight of Load on Hook: If applicable, the weight of the load on the hook.
19. Fatality or Permanent Disability?: Check yes or no.
20. Material/Property Cost Estimate: Estimate total cost of damage resulting from the accident.
21. Reported to NAVSAFECEN?: Self-explanatory.
22. Accident Type: Check all that apply.
23. Cause of Accident: Check all that apply.
24. Chargeable to: Check all that apply.
25. Crane Function: Check all functions in operation at time of accident. Check N/A if a rigging gear accident.
26. Is this a recurring problem?: Check yes or no. Identify any other similar accidents.
27. Situation Description/Corrective Actions: Self-explanatory.
28. Preparer: Self-explanatory.
29. Concurrences: Self-explanatory.
30. Certifying Official (Crane Accidents Only): Self-explanatory.
31. Brief Description: No more than one paragraph summarizing the resultant incident.
32. Background and Detailed Description: Provide the relevant background in a descriptive timeline of preconditions leading up to the event, as well as a detailed description of the event.
33. Corrective Actions: List all short term and long term corrective actions that are taken to prevent recurrence of the incident. Short Term Corrective Actions are those actions taken that will allow return to work in short time frame. Long Term actions are more ‘programmatic’ in nature and typically include: process revision, changes in training, ‘mistake proofing’, etc.

Attachment J-0200000-06
Forms

CRANE AND RIGGING GEAR NEAR MISS REPORT

Near Miss Category: ☐ **Crane Near Miss** ☐ **Rigging Gear Near Miss**			
From: **UIC:**		**To: Navy Crane Center** **Bldg 491 NNSY** **Portsmouth, VA 23709** **Fax (757) 967-3808** **nfsh_ncc_accident@navy.mil**	
Activity:			**Report No:**
Crane/Equipment No:	**Category:**	**Near Miss Date:**	**Time:** **hrs**
Category of Service: ☐ **SPS** ☐ **GPS**		**Crane /Equipment Type:**	**Crane/Equipment Manufacturer:**
Location:		**Weather:**	
Crane/Equipment Capacity:	**Hook Capacity:**	**Weight of Load on Hook:**	

Is this near miss indicative of a recurring problem? ☐ **Yes** ☐ **No**

If yes, list report numbers: _____

In the space below, include a brief description of the event and corrective actions taken to prevent recurrence:

Preparer:	**Phone and email**	**Code**	**Date**

Attachment J-0200000-06
Forms

CRANE AND RIGGING GEAR NEAR MISS INSTRUCTIONS

This form is designed for fax transmission without a cover page or by e-mail and, with enclosures and signatures, shall be the official document. Electronic submission will be accepted without signatures but the names of the preparer, concurring personnel, and certifying official (for crane accidents only) shall be filled in. The e-mail address is nfsh_ncc_accident@navy.mil. The fax number is (757) 967-3808.

1. Near Miss Category: Indicate either crane or rigging gear near miss.
2. From: The naval activity that is responsible for reporting the near miss and UIC number.
3. Activity: The naval activity where the near miss took place.
4. Report No.: The activity assigned near miss number (e.g., 95-001).
5. Crane No.: The activity assigned crane number (e.g., PC-5), if applicable.
6. Category: Identify category of crane (i.e., 1, 2, 3, or 4), if applicable.
7. Near Miss Date: The date the near miss occurred.
8. Time: The time (24 hour clock) the near miss occurred (e.g., 1300).
9. Category of Service: Check the applicable service (SPS as defined by NAVSEA 0989-030-7000).
10. Crane Type: The type of crane involved in the near miss (e.g., mobile, bridge), if applicable.
11. Crane Manufacturer: The manufacturer of the crane (e.g., Dravo, Grove, P&H), if applicable.
12. Location: The detailed location where the near miss took place (e.g., building 213, dry dock 5).
13. Weather: The weather conditions at time of the near miss (e.g., wind, rain, cold).
14. Crane Capacity: The certified capacity of the crane (e.g., 120,000 pounds), if applicable.
15. Hook Capacity: The capacity of the hook involved in the near miss at the maximum radius of the operation, if applicable.
16. Weight of Load on Hook: If applicable, the weight of the load on the hook.
17. Is this a recurring problem?: Check yes or no. Identify any other similar near misses or accidents.
18. Situation Description/Corrective Actions: Self-explanatory.
19. Preparer: Self-explanatory

Attachment J-0200000-06
Forms

Solid Waste Management Report

Solid Waste Recycled

Description	Amount (lbs./tons)	Cost	Revenue
Glass			
Metal (aluminum, circuit boards, steel)			
Paper & Paper Board			
Plastic			
Food (cooking grease & oil, discarded food)			
Wood (packaging, pallets, plywood)			
Yard/Green Waste (mulch, trees, trimmings)			
Concrete			
Asphalt			

Select Waste

Description	Amount (lbs./tons)	Cost	Revenue
Construction and Demolition Debris			
Used Oil			
Ethylene Glycol Antifreeze			
Lead-Acid Batteries			

Other Waste

Description	Amount (lbs./tons)	Cost	Revenue
Sewage Sludge (land applied)			
Sewage Sludge (disposed)			
Oil Water Separator Liquids			
OWWO Oil			
OWWO Sludge			
Lift Station Grease			
Other Waste (SPECIFY)			

Attachment J-0200000-06
Forms

Contractor Hazardous Material Inventory Log
(EPRCA)

PRIME COMPANY NAME: _____CONTRACT NO: _____

PROJECT TITLE / LOCATION: _____

Material Name	Manufacturer	SDS Number	State (Liquid, Solid, Gas)	Storage Quantity		Quantity (lbs/gals) used in Calendar Year [ ]
				Average Daily	Maximum Daily	

Contractor(s) certifies that the hazardous material(s) removed from installation will be used/reused for its intended purpose.

_____ _____
Company Using Material Listed Above Company Representative's Signature

Submitted By: _____ Phone: _____ Fax: _____ Date: _____
Printed Name

Contracting Officer _____Phone: _____ Fax: _____ or ROICC Representative

Page ____ of ____

VOC/HAP Tracking Form
Emission Data

CONTRACTOR: **REPORTING PERIOD (Month):**

Product Name (Manufacturer's Name & Product Identification Name Or Number)	**Product Type** (I.E. Paint, Solvent, Adhesive) & **Usage** (I.E. Surface Prep, Or Clean-Up)	**AUL Unique Identifier Number**	**Quantity Used** (Gal)	**Product Density** (Lb./Gal.)	**VOC Content** (lb./gal.)	**Total VOC Weight** (lbs.)	**HAP Name** (NONE if none present in product)	**% Weight of HAP in Product**	**Weight of HAP (lbs.)** (N/A if NONE present)
Totals:									

Annex	Location	Bldg. no.	Description	Sq. Ft/ Available to Contractor	Building Shared w/ Government
0200000	Main Base	365	MCC Warehouse, Property Admin Office, Shipping & Receiving Office, MCC Office, DPAS Office	11,093	No
0200000	Main Base	103 (2nd floor)	MIS Satellite Office	147	Yes
0200000	Main Base	100	Contractor Headquarters	13,268	No
0200000	Andersen, Guam	18002	MIS Satellite Office	735	Yes
0600000	T-Wharf, NBG Guam	3169	Port Ops, PACSEA, Navy Divers, Area Training, NBG EOM, and DDGM	72,000	Yes
1501000	Main Base	103 (1st floor)	Technical Library	1,703	Yes
1501000	Main Base	103 (2nd floor)	Facilities Engineering Dept.	4,952	Yes
1502000	Naval Hospital	3	SRM Building	1,534	No
1502000	Naval Hospital	4	SRM Building	2,470	No
1502000	Main Base	1793	Maintenance Shop Store	8,000	No
1502000	Main Base	372	Maintenance Shop Store/ Office	7,619	Yes
1502000	Radio, Barrigada	55	SRM Northern	1,530	Yes
1502000	Radio, Barrigada	55	SRM Northern, Parking Lot	5,292	Yes

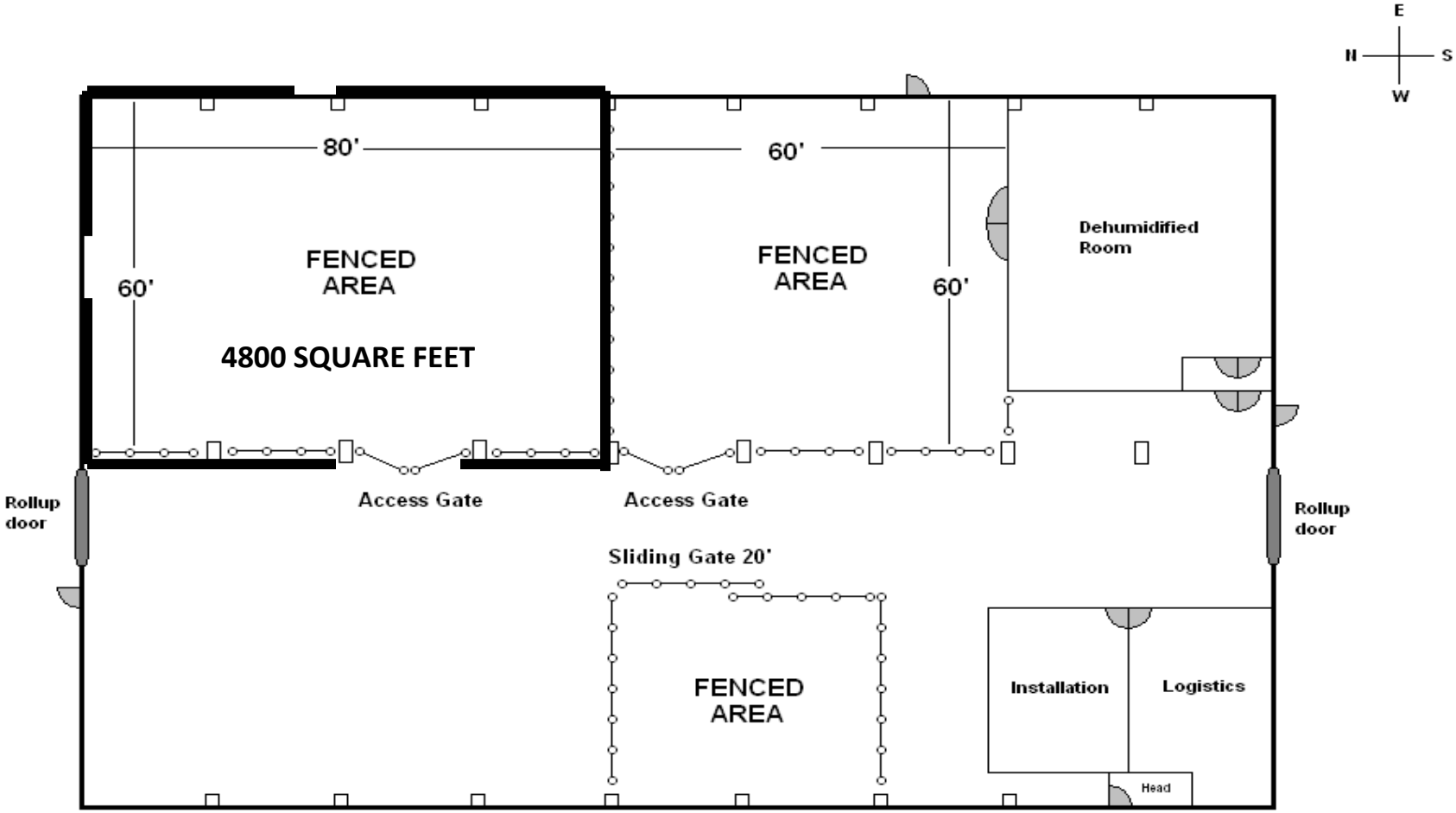
Annex	Location	Bldg. no.	Description	Sq. Ft/ Available to Contractor	Building Shared w/ Government
1502000	Radio, Barrigada	55	Operational Storage	2,500	Yes
1602000	Piti	4918	Utilities Headquarters	10,174	No
1602000	Piti	4921	NavFac UEM Storage	4,800	Yes
1602000	Main Base	307	Orote Power Plant	1,770	No
1602000	Andersen, Guam	5910	AAFB Main Substation / Office	544	No
1604000	Main Base/ AHWWTP	1794	Admin Office/ Operator Station	1,418	No
1604000	Main Base/ AHWWTP	1794	Pump Room (Future Storage Room)	1,380	No
1604000	Main Base/ AHWWTP	1820	Future Maint. Office/Shop	2,560	No
1604000	Main Base/ AHWWTP	1794L	Laboratory	327	No
1604000	Main Base/ AHWWTP	1794O	Laboratory	1,363	No
1604000	Main Base	1793	Maint. Office/ Shop	4,000	No
1605000	Polaris Point	4907	Demineralized Water Plant	2,738	No
1606000	Water- Fena	580	Fena WTP- Operator Room, Office, Locker	3,100	No

Annex	Location	Bldg. no.	Description	Sq. Ft/ Available to Contractor	Building Shared w/ Government
1606000	Water- Fena	585	Fena Lab, Admin	1,406	No
1606000	Water- Fena	585a	Fena Lab Annex (New Bldg.)	1,281	No
1606000	Main Base	1794L	AHWWTP (Lab)	327	No
1606000	Main Base	1794O	AHWWTP (Lab)	1,363	No
1700000	Main Base	355	Gas Cylinder Storage	280	No
1700000	Main Base	361	COPAR Part Storage/ Storage (K-Span)	4,930	No
1700000	Main Base	364	MHE Maintenance	9,860	No
1700000	Main Base	372	Maintenance & Administration	64,860	Yes
1700000	Main Base	373	Maintenance/Refueler Repair/Tanker Shop	2,352	No
1700000	Main Base	374	Fuel Farm	180	No
1700000	Main Base	400	Vehicle Wash Facility	2,021	No
1700000	Main Base		Transportation Compound	3.5 Acres	Yes

Maps and Work Area Layouts
Naval Base Guam Government Facilities SF Summary

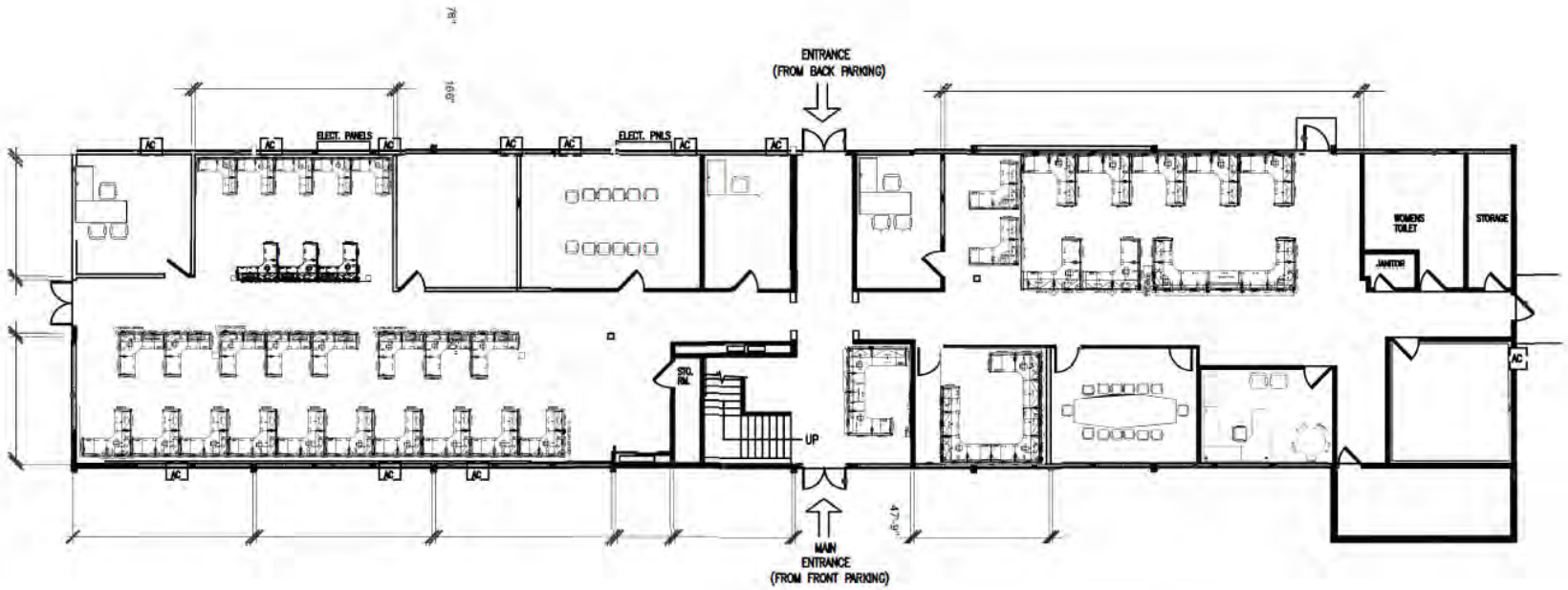
Naval Base Guam Government Facilities	
Bldg No.	**Square Footage**
4921 (NAVFAC UEM Storage, Piti)	4,800 SF
100 Contractor Headquarters	13,268 SF
55 (Operational Storage, Barrigada)	2,500 SF

Building No. 4921
NAVFAC UEM STORAGE



Building No. 100

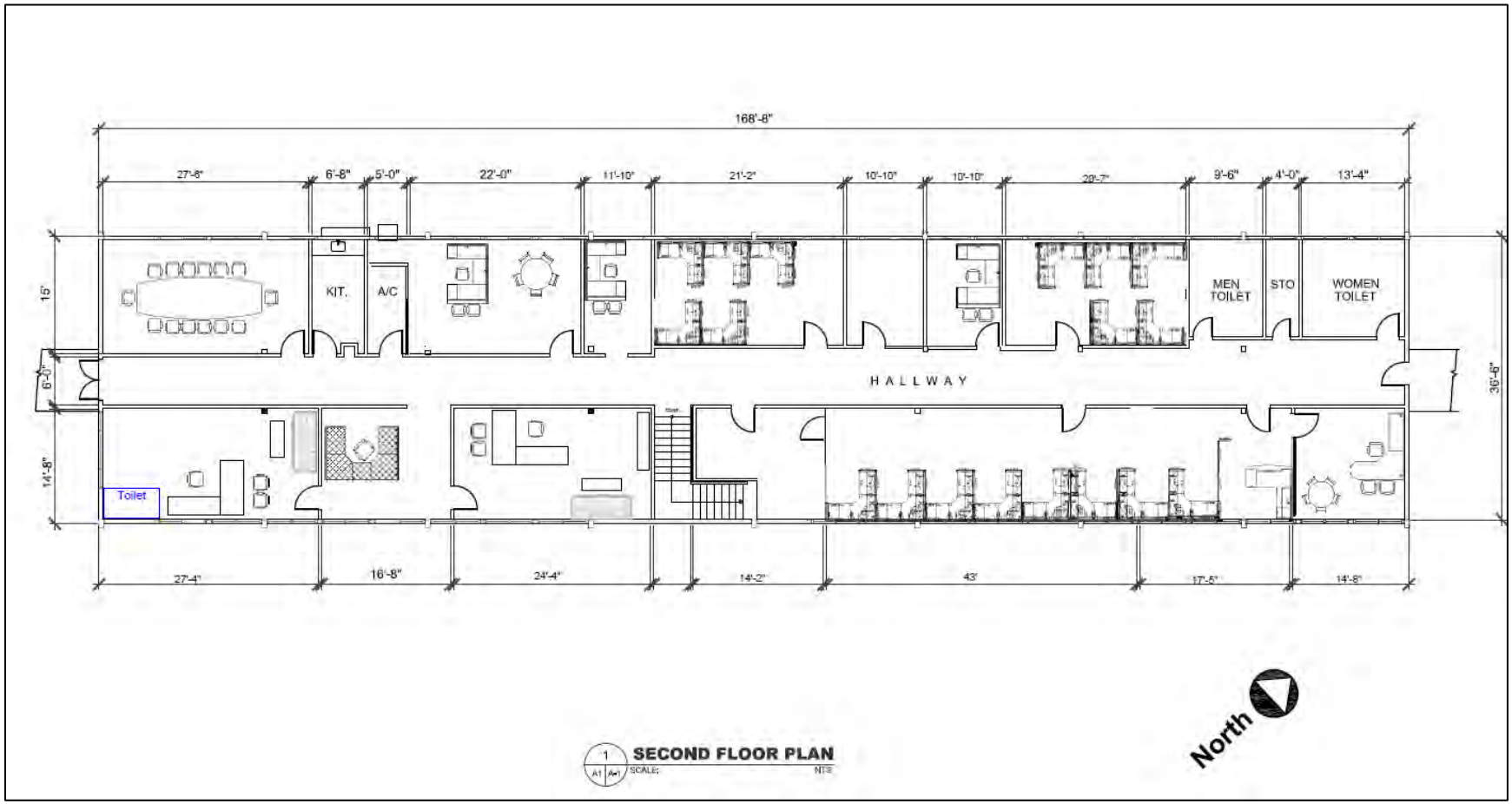
Contractor Headquarters (1st Floor)



1 A-1 **B-100 LOWER FLOOR PLAN**
SCALE NONE

Building No. 100

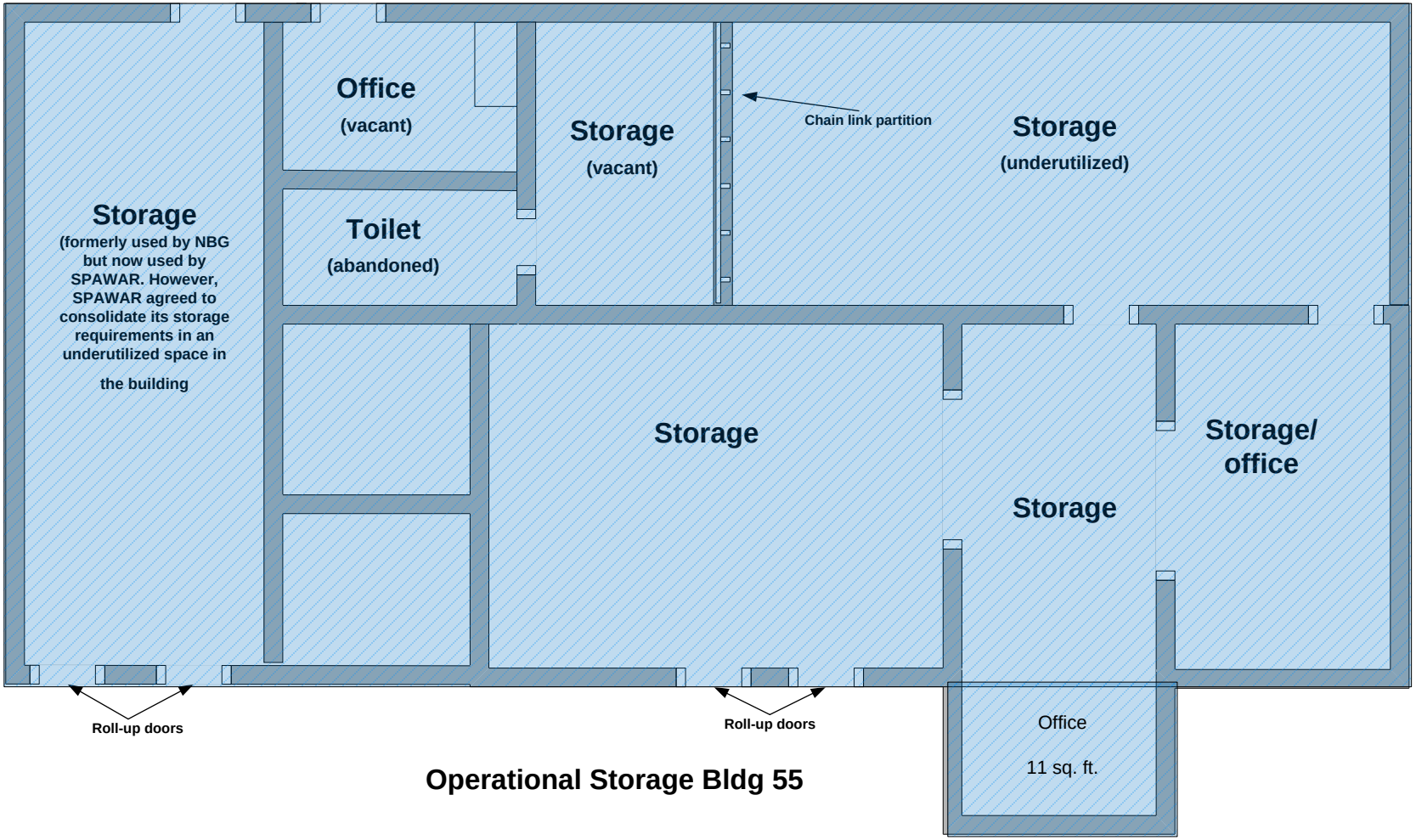
Contractor Headquarters (2nd Floor)



Building No. RB-55

Annex 1502 Additional Storage Space

Existing Authorized Space



Operational Storage Bldg 55

Attachment J-0200000-07 Government Furnished Property
Additional listings of Government Furnished Property provided as separate attachments (Provided as file names: Attachment J-0200000-07 Government Furnished Equipment and Attachment J-0200000-07 Government Furnished Material).

Attachment J-0200000-08
Functional Administration of Facility Related Control Systems (FRCS)

Information Technology (IT) refers to hardware and software such as computers (servers, desktops, laptops, etc.), computer operating systems (Windows, Linux, etc.) and related software, and computer network devices (Ethernet switches, firewalls, IP routers, WIDS, etc.). The Government installs, configures, operates and implements cybersecurity for IT, and permissions-limited administration, cyber and cybersecurity configuration of IT.

Operational Technology (OT) includes components such as controllers, PLC, sensors, RTU, meters, etc. The Contractor shall provide Functional Administration for Operational Technology (OT) components for FRCS, performing such duties as:

- Firmware updates
- Configuration Management of OT
- Programming of Programmable Logic Controllers (PLCs)
- Backups of OT device configuration
- Networking Infrastructure (Media) for non-IP / non-Ethernet
- Radio configuration and communications
- Identify proprietary OT software application requirements, update and configure FRCS applications based on role assigned by system owner
- Report and maintain cyber hygiene requirements
- Participate in Change Control Boards (CCB) which approves all alterations to FRCS
- Establish and maintain control system inventory in accordance with the NAVFAC Marianas FRCS Cyber Security Requirements
- Provide Contingency Plan for manual operations
- Participate in annual Test, Training & Exercise (TT&E) Program for Contingency Plant Incident Response Plan.
- Maintain familiarization with ACI-TTP and Incident Response Plan
- Ensure access to FRCS is only through government-owned devices such as field laptops

The Contractor will have two levels of control system access, operator and elevated user (privileged/enhanced user). All users must meet access and training requirements as specified in NAVFAC Marianas FRCS Cyber Security Requirements.

NAVFAC CIO provides services such as:

1. System Network Administration
a. Account creation and permissions
b. Network configuration and set up
c. IT Hardware and software installation, set up and administration
d. Installing, supporting and maintaining servers or other computer systems, and planning for and responding to service outages and other problems. Other duties may include scripting or light programming (i.e., for servers and network equipment), project management for systems-related projects, supervising or training computer operators, and being the consultant for computer problems beyond the knowledge of technical support
2. Information Assurance/Cybersecurity
3. Licensing and Version Management
4. Server Hardware Inventory
5. Coordinate with Contractor to troubleshoot software and/or hardware failures (Government-owned)
6. Develop and execute backup and disaster and recovery plans for SCADA computer network
7. Maintain security and the upkeep of firewalls and the security of computer
8. Maintain helpdesk for user support on SCADA system

NAVFAC Public Works provides listing of FRCS equipment to be maintained and operated.

Section J – 0600000 Port Operations	
Attachment Number	**Attachment Title**
J-0600000-01	Port Operations Equipment Inventory
J-0600000-02	Workload Data Quantities for Port Operations
J-0600000-03	Berthing and Hotel Services

Government-Owned/Government-Operated, Contractor Maintained
Harbor Security Boats, Dive Boats, and Associated Equipment

GOVIDTAG	NOMENCLATURE	MFG	MODEL	SERIALNO	QTY	UI	BOAT #
NA	Boat	Silvership	NA	VSI11X28C010	1	EA	NBG-1
NA	Boat Trailer	Loadmaster	NA	4YPAB3637ATO49147	1	EA	NBG-1
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CHX-1000822	1	EA	NBG-1
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGN-1010561	1	EA	NBG-1
NA	Boat	Silvership	NA	VSI11X29C010	1	EA	NBG-2
NA	Boat Trailer	Loadmaster	NA	4YPAB3635ATO49146	1	EA	NBG-2
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGN-1010188	1	EA	NBG-2
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGN-1010078	1	EA	NBG-2
NA	Boat	North River	NA	NRB36003G213	1	EA	NBG-3
NA	Boat Trailer	Boatmaster	NA	42XBK3632CB113994	1	EA	NBG-3
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGX-1009915	1	EA	NBG-3
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CHX-1002390	1	EA	NBG-3
NA	Boat	North River	NA	NRB36004G213	1	EA	NBG-4
NA	Boat Trailer	Boatmaster	NA	42XBK3634CB113995	1	EA	NBG-4
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CHX-1000803	1	EA	NBG-4
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGX-1002792	1	EA	NBG-4
NA	Boat	North River	NA	NRB36005G213	1	EA	NBG-5
NA	Boat Trailer	Boatmaster	NA	42XBK3636B113996	1	EA	NBG-5
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CHX-1000807	1	EA	NBG-5
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGN-1010082	1	EA	NBG-5
NA	Boat	North River	NA	NRB36006G213	1	EA	NBG-6
NA	Boat Trailer	Boatmaster	NA	42XBK3638CB114079	1	EA	NBG-6
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGX-1003810	1	EA	NBG-6
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGX-1000802	1	EA	NBG-6
NA	Boat	North River	NA	NRB36007I213	1	EA	NBG-7
NA	Boat Trailer	Boatmaster	NA	42XBK3638CB113997	1	EA	NBG-7
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGN-1010566	1	EA	NBG-7
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGX-1002801	1	EA	NBG-7
6112813912	Boat	SeaArk	NA	SAMA1463F303	1	EA	HPU-6
NA	Boat Trailer	Boatmaster	NA	42XBK28384F310881	1	EA	HPU-6
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6P3U-1014647	1	EA	HPU-6
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6P2U-1035101	1	EA	HPU-6
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CGX-1003810	1	EA	In Shop
NA	Outboard Engine	Yamaha	Yamaha 250HP 6 cyl	6CHX-1000804	1	EA	In Shop

Attachment J-0600000-02
Workload Data Quantities for Port Operations

Description	Quantity	Unit of Measures
Ship Movements (SM) (ARR/DEP/BS)	600-800 (750, 3 year/average)	Annually
Berthing (Ship Visit)	400	Annually
Mooring Plan	400	Annually
Berth Days	3,500-4,000 (3,781, 3 year/average)	Annually
Tugs Ship Movements	575	Annually
Tugs Equipment Support YON, SWOB, YC, Submarine Deep Draft Camel/3.3M/4.5M Yokohama Fenders,	250	Annually
Pilot Ship Movements	575	Annually
Pilot Equipment Support (YRB/M, YD)	30	Annually
Oil Booms Ship Movements	750	Annually
Oil Booms Equipment Support (YON/SWOB, Others)	300	Annually
Oily Waste/SWOB Support	50	Annually
Support Craft Debris Clean-up	24	Annually
Support Craft Personnel Transport	12	Annually
Dockmaster SM	575	Annually
Line Handlers	575	Annually
Crane Services SM	575	Annually
Berth Set-up	400	Annually
Hotel Services	575	Annually
Utility Connect/Disconnect	1150	Annually
Vessel Support Preservation equipment	100	Annually
Port Logistics (coordination)	150	Annually
Port Ops Center/Port Control	365/24/7	Annually
Harbor Entry Control	365/24/7	Annually
Radio Circuit	365/24/7	Annually
Expeditionary Forces Support	2	Annually
Various Drills	12	Annually
Thunderstorms Notifications	75	Annually
Force Protection	365	Annually
Message Traffic	365	Annually
LOGREQ's	400	Annually
Ship Movements Message	52	Annually
JRM/NBG Operations Brief	52	Annually
Daily Port Brief	365	Annually
Standard Operating Procedures	4	Annually
Custodial Wharf	250	Annually
Spill Response	12	Annually
Harbor Security Boats	365/24/7	Annually
Port Security Barrier Boats	365/24/7	Annually

Attachment J-0600000-03 Berthing and Hotel Services									
Examples of Vessel Types									
AS	SSN	SGSN	DDG	CG	LHA	LHD	LSD	LPD	CV
CVN	AOE	T-AE	T-AK (CPF)	T-AK (MPF)	T-AOT	T-ACS	T-AFS		
Berthing and Hotel Service Requirements/Equipment for Typical Vessels									
Brows	Brow Platform		Shore Power Cables				CHT Hoses		
Dockside Utilities shall be provided in accordance with United Facilities Criteria (UFC 4-150-02).									
Additional items ships may request:									
1	Cell Phones								
2	Currency Exchange/Bank services								
3	Paint Float								
4	YC barge								
5	JLG (manlifts)								
6	Oily waste removal								
7	Fueling F-76/JP-5								
8	Mail Delivery and Pickup coordination								
9	Crane Services								
10	Vans, CO's Sedans, stake trucks, and buses								
11	phone connections								
12	Hazardous waste removal								
13	MWR services								
14	Pay phones on Pier								
15	NIPR/SIPR umbilical connections								

Section J – 1501000 Facility Management	
Attachment Number	**Attachment Title**
J-1501000-01	Unexploded Ordnance (UXO) Technician I Requirements
J-1501000-02	Estimated Quantities for Facility Management Requirements
J-1501000-03	Proper Work Classification Playbook for Marianas
J-1501000-04	Public Works (PW) Work Type Definitions
J-1501000-04	Asset Tag and Asset Number Requirements

*Please note the UXO Technician I minimum qualification standards listed below are provided by the Department of Defense Explosives Safety Board Technical Paper 18 (DDESB TP 18).

C3. **Chapter 3**

UXOT1 TRAINING STANDARDS

C3.1. MINIMUM TRAINING STANDARDS FOR UXOTI

This chapter contains the minimum training standards for entry-level personnel to fill UXOTI positions on projects under DoD contracts. The training consists of both knowledge and skills requirements, and candidates must demonstrate the requisite knowledge of explosive operations and the ability to perform required tasks in compliance with existing operational and safety guidelines.

C3.1.1. Each candidate for a UXO Technician I position shall have completed:

- 200 hours of training on MEC and MPPEH
- 40 hours of Hazardous Waste Operations and Emergency Response (HAZWOPER) training

C3.1.2. This training shall be provided by an institution of higher education that shall certify successful completion of all requirements through written exams and practical exercises. Such institutes shall be accredited by a nationally recognized college or university educational accrediting agency, or a training institute authorized by either the Federal or a State government to provide certified training in the public service sector and shall have a demonstrated history of providing quality training programs.

C3.1.3. The employer shall certify that the individuals are qualified, as demonstrated by successful completion of the requisite training.

C3.2. CURRICULUM AND TRAINING OBJECTIVES

C.3.2.1. Range Clearance Activities.

C.3.2.1.1. Description. Understand range clearance requirements and procedures including safety and environmental concerns.

C.3.2.1.2. Objectives.

- Describe the purpose for clearing and maintaining ranges and impact areas
- Describe planning, safety, and environmental requirements for range clearance activities

C.3.2.2. Measurements and Mathematical Computations.

C.3.2.2.1. Description. Understand U.S. and metric conversion methods and basic mathematical computations.

C.3.2.2.2. Objectives.

- Identify metric prefixes
- Describe mathematical conversions within the metric system
- Convert from U.S. to metric and metric to U.S.

C.3.2.3. Electricity.

C.3.2.3.1. Description. Knowledge of basic electricity and circuits.

C.3.2.3.2. Objectives.

- Define terms and identify abbreviations and symbols
- Describe electrical conductivity and its characteristics in different materials
- Describe types of cells and batteries, their construction features, and process used to generate electro-motive force (EMF)
- Describe current flow, factors that affect current flow (including switches) and units of measurement of current flow.
- Describe electrical resistance and the factors that affect resistance
- Describe the operation of a series direct current (DC) circuit with respect to Ohms Law
- Describe the operation of basic parallel DC circuits with respect to the determination of equivalent resistance
- Describe capacitance (C) in terms of charging and discharging a capacitor

C.3.2.4. Physics.

C.3.2.4.1. Description. Understanding of basic physics.

C.3.2.4.2. Objectives.

- Define terms and identify abbreviations and symbols
- Describe forces and how they are graphically represented
- Describe Newton's first and third laws of motion
- Describe the difference between weight and mass
- Describe hydrostatics with respect to fluid pressure
- Describe properties of matter
- Define motion, work, and energy
- Describe measures of and forces affecting motion
- Define work and energy

- Identify the physical laws affecting gases
- Define magnetism

C.3.2.5. Explosives and Explosive Effects.

C.3.2.5.1. Description. Basic understanding of explosives and explosive effects.

C.3.2.5.2. Objectives.

- Define terms and identify abbreviations and symbols
- Summarize the history of explosives
- Define explosives, propellants, and pyrotechnics
- Describe characteristics of military high explosives, propellants, and pyrotechnics
- Identify the types of high explosive groups
- Identify forms and classes of propellants, black powder, pyrotechnic and tracer compositions
- Define explosive train
- Define explosion and identify types of explosions
- Describe forms of energy produced by explosions
- Describe types of explosions (detonations, partial detonations, deflagrations)
- Describe effects of an explosion (air blast, fragments, debris, thermal, ground shock)

C.3.2.6. Military Fuze Functioning.

C.3.2.6.1. Description. Understanding of how military fuzes function.

C.3.2.6.2. Objectives.

- Define terms and identify abbreviations
- Describe fuze forces
- Describe fundamental principles of fuzes, fuze arming and firing principles
- Describe fuze components
- Describe methods of employment and uses of fuzes
- Describe typical arming/functioning of fuzes
- Describe fuze types

C.3.2.7. Munitions and Explosives of Concern (MEC) and Explosives Safety Precautions.

C.3.2.7.1. Description. Understanding of MEC, MPPEH and explosives safety precautions.

C.3.2.7.2. Objectives.

- Define terms and identify abbreviations and symbols
- Describe the purpose of munitions and explosives safety precautions.
- Describe safety considerations that apply by category and group of MEC and MPPEH
- Describe basic safety precautions for the following:
  - explosive-loaded munitions and submunitions
  - toxic chemical-loaded munitions
  - pyrotechnic and incendiary munitions
  - smoke-loaded munitions
  - fuzing systems
  - training and practice munitions
  - underwater munitions

C.3.2.8. Surface Munitions Identification.

C.3.2.8.1. Description. Understanding of surface munitions by category and group to include:

- Projectile and projectile bullets
- Land mines and associated components
- Pyrotechnic items
- Rockets and rocket fuzes
- Grenade and grenade fuzes
- Submunitions

C.3.2.8.2. Objectives.

- Define terms and identify abbreviations and symbols
- Identify "category," "group" and "safety precautions"
- Demonstrate comprehension and detailed knowledge of live and practice munitions by category and group
- Recognize munitions color codes and markings
- Describe the basic safety precautions for explosive initiating components
- Describe the safety precautions for surface munitions

C.3.2.9. Air Ordnance Identification (dropped or launched).

C.3.2.9.1. Description. Understanding of air munitions by category and group to include:

- Bombs and bomb fuzes
- Guided missiles and missile fuzes
- Rockets and rocket fuzes
- Pyrotechnic items
- Submunitions

C.3.2.9.2. Objectives.

- Define terms and identify abbreviations and symbols
- Identify "category," "group" and "safety precautions"
- Demonstrate comprehension and detailed knowledge of live and practice munitions by category and group
- Recognize munitions color codes and markings
- Describe the basic safety precautions for explosive initiating components
- Describe the safety precautions for air ordnance

C.3.2.10. Chemical Munitions Identification (Chemical Munitions and Chemical Warfare Material (CWM)).

C.3.2.10.1. Description. Understanding of chemical munitions and CWM to include air and surface groups.

C.3.2.10.2. Objectives.

- Define terms and identify abbreviations and symbols
- Identify "category," "group" and "safety precautions"
- Demonstrate comprehension and detailed knowledge of live and practice chemical munitions and CWM by category and group
- Recognize munitions color codes and markings
- Describe the basic safety precautions for explosive initiating components
- Describe the safety precautions for chemical munitions and CWM
- Identify the effects of weather conditions on the duration of effectiveness of chemical agents
- Identify specific chemical agents by physical and chemical properties, and physiological effects

C.3.2.11. Pyrotechnic Munitions Identification.

C.3.2.11.1. Description. Understanding of pyrotechnic munitions.

C.3.2.11.2. Objectives.

- Define terms and identify abbreviations and symbols
- Identify "category," "group" and "safety precautions"
- Demonstrate comprehension and detailed knowledge of live and practice pyrotechnic munitions by category and group
- Recognize munitions color codes and markings
- Describe the basic safety precautions for explosive initiating components
- Describe the safety precautions for pyrotechnic munitions

C.3.2.12. Underwater Munitions Identification.

C.3.2.12.1. Description. Understanding of underwater munitions.

C.3.2.12.2. Objectives.

- Define terms and identify abbreviations and symbols
- Identify "category," "group" and "safety precautions"
- Demonstrate comprehension and detailed knowledge of live and practice underwater munitions by category and group
- Recognize munitions color codes and markings
- Describe the basic safety precautions for explosive initiating components
- Describe the safety precautions for underwater munitions

C.3.2.13. Detection Equipment.

C.3.2.13.1. Description. General, physical, functional, operational and maintenance description of munitions detection equipment for:

- Location of subsurface MEC using magnetometers (and related equipment)
- Performing evaluation procedures on subsurface MEC

C.3.2.13.2. Objectives.

- Describe the purpose of munitions detection equipment; operational characteristics and capabilities
- Describe the theory of operation
- Describe all major and associated components including displays, controls and indicators
- Describe operational tasks and preventive maintenance procedures
- Understand how to inventory and maintain equipment

C3.2.14. Munitions Response Planning.

C3.2.14.1. Description. Understanding of the elements of munitions response actions planning.

C3.2.14.2. Objectives.

- Describe the purpose for munitions responses
- Describe planning requirements for munitions responses
- Describe the inspection, verification and certification and chain of custody process
- Describe the proper assembly of protective works

C3.2.15. Personal Protective Equipment.

C3.2.15.1. Description. Understanding of all relevant personal protective equipment.

C3.2.15.2. Objectives.

- Understand the capabilities and limitations of PPE
- Understand the requirements for employing PPE safety
- Describe the requirements and process for performing decontamination

C3.2.16. Demolition Materials.

C3.2.16.1. Description. Understanding of demolition materials to include:

- Military and commercial explosives (U.S. and foreign)
- Initiating components and systems

C3.2.16.2. Objectives.

- Define terms and identify abbreviations and symbols
- Preparation of firing systems (both electric and non-electric) for demilitarization operations
- Describe military explosives, commercial explosives, and demolition materials.
- Describe the purpose of demolition materials and specialized explosive techniques
- Describe tools and equipment used during demolition operations
- Describe demolition accessories
- Describe electric power sources and test sets used with demolition firing circuits
- Describe demolition charge initiators
- Describe demolition charges, charge kits and assemblies

- Describe safety precautions for preparation and firing of demolition materials

C3.2.17. Firing Systems.

C3.2.17.1. Description. Understanding of firing systems.

C3.2.17.2. Objectives.

- Describe detonating cord demolition procedures
- Describe non-electric firing systems
- Describe electric firing systems
- Describe safety precautions for preparation and firing of demolition materials, including Hazards of Electromagnetic Radiation to Ordnance (HERO) precautions for electric initiators

C3.2.18. Demilitarization Procedures.

C3.2.18.1. Description. Understanding of demilitarization requirements and procedures for conventional munitions.

C3.2.18.2. Objectives.

- Describe the requirements for and purpose for demilitarization of conventional munitions
- Describe demilitarization procedures
- Describe the authorized demilitarization methods for different types of munitions
- Describe requirements and safety precautions for demilitarization operations
- Describe demilitarization of conventional explosives and related hazardous materials

C3.2.19. Storage, Handling and Transportation of Explosives (Military and Commercial).

C3.2.19.1. Description. Understanding of storage, handling and transportation of explosives.

C3.2.19.2. Objectives.

- Describe the purpose for proper storage, handling, and transportation of explosives
- Describe the hazard classification system
- Discuss Storage Compatibility Groups
- Discuss safety requirements

- Discuss transportation requirements for munitions and commercial explosives

C3.2.20. Skills Requirements.

C.3.2.20.1. Description. Demonstrate knowledge of policies, requirements and procedures in the safe performance of MEC and MPPEH duties.

C.3.2.20.2. Objectives.

- Practical demonstration of knowledge and comprehension of policies and procedures in safely performing the following:
  - Operation of detection equipment.
  - Location and identification of munitions by category and group.
  - Designing and constructing firing systems (both electric and non-electric)
  - Design, construct. and detonate a demolition explosive.

C4. CHAPTER 4

MINIMUM QUALIFICATION STANDARDS

C4.1. MINIMUM QUALIFICATION STANDARDS

Minimum qualification standards for workers to qualify as UXO technicians or UXO qualified personnel are contained in Table 4-1.

Table 4-1. Minimum Qualification Standards

Position Description	Training Required (Notes 1, 2, & 3)	Minimum Years of EOD/UXO Experience (Note 4)	Special Requirements (Note 5)
Senior UXO Supervisor	1, 2, or 3	10 years	Significant experience in all aspects of munitions response actions or range clearance activities, as appropriate for the contracted operation. Five years experience in supervisory positions.
UXO Safety Officer	1, 2, or 3	8 years	Experience in all phases of munitions response actions or range clearance activities, as appropriate for the contracted operation, and applicable safety standards.
UXO Quality Control Specialist	1, 2,3	8 years	Experience in all phases of munitions response actions or range clearance activities, as appropriate for the contracted operation, and the transportation, handling and storage of munitions and commercial explosives.
UXO Technician III	1, 2 or 3	8 years	Prior military EOD and/or commercial UXO experience in munitions response actions or range clearance activities, as appropriate for the contracted operation.
UXO Technician II	1 or 2 ------or------ 3	N/A -------or------ 3 years	Prior military EOD experience ----------or---------- Experience in response munitions response actions or range clearance activities, as appropriate for the contracted operation, plus specific project/explosives safety training.
UXO Technician I	3	0	Successfully completed formal course of instruction appropriate to this skill level
UXO-Sweep Personnel	Equipment and site specific training	N/A	Safety Equipment and site specific training. (Experience at this position is not required for UXO Technician I certification.)

Note: 1. Graduate of a military EOD School of the United States.

2. Graduate of a military EOD school of Canada, Great Britain, Germany, or Australia.

3. Graduate of a formal training course of instruction (see chapter 3 for detailed requirements) or EOD assistant courses.

4. Personnel working in the commercial industry may have significant breaks between jobs. Only actual time performing UXO-related tasks should be counted. (2080 hours = 1 man-year)

5. Divers conducting underwater detection and identification of munitions must have completed both the basic and the underwater portions of NAVSCOLEOD (or foreign equivalent) training.

Attachment J-1501000-02
Estimated Quantities for Facility Management Requirements

Spec Item	Service Description	Unit	Annual Quantity	Remarks
3.1	Work Control	Service Requests	10,425	
3.2	Inventory Management	Assets	2000	
3.3	Condition Based Maintenance (CBM) Services	Facilities	330	
3.4	Planned Maintenance (PM) Program Development	Plan	1	
3.5	Integrated Maintenance Program (IMP) Development	Plan	1	
3.6	Project Development			
3.6.1	Special Project Documentation Preparation	Projects	25	
3.6.2	Site Approval Documentation Preparation	Site Approvals	35	
3.6.3	Project Packages	Packages	55	
3.7	Facilities Engineering Services			
3.7.1	Dig Permits Services	Permits	375	
3.7.2	Explosive Safety Submission (ESS) Services	Work orders & Projects	70	
3.7.3	Engineering Document Services	Documents	140	
3.7.4	Weight Handling Equipment (WHE) Engineering Services	Documents	64	
3.8	Facilities Energy Management			
3.8.1	Facility Energy and Water Evaluations	Evaluations	50	
3.8.2	Energy Awareness and Outreach	Training Sessions	4	

Attachment J-1501000-03 Proper Work Classification Playbook for Marianas
Attachment J-1501000-03 Proper Work Classification Playbook for Marianas provided as a separate attachment (Provided as file name: Attachment J-1501000-03 Proper Work Classification Playbook for Marianas.xlsx).

Attachment J-1501000-04
Public Works (PW) Work Type Definitions

WORK CATEGORY	DEFINITION
Emergency Service	Situations which require immediate action to prevent loss or damage to Government property, restore essential services that have been disrupted, eliminate hazard to personnel or restore essential mission operational capability.
Urgent Service	Any deficiency that not immediately endanger personnel or property but extended delays of repairs could result in damage to Government property or soon affect the security, health or well-being of personnel or the continued operation of a service system.
Routine Service	Any deficiency that does not qualify as Emergency or Urgent, but is needed to maintain the agreed upon facility condition.
Project	Work that is scheduled and may require one or more of the following: planning, engineering, coordination, and multi-trades. May include simple and complex projects. Simple projects do not require formal planning and/or design. Scheduled component replacement and repair – Components replaced when needed. Useful service life is defined by failure or based on an economic analysis indicating repair costs exceed 70% of the replacement value.
Planned Maintenance	Scheduled work of a repetitive nature with completed estimates (e.g. HVAC, control systems, power plant watch standing, etc.) This work is to sustain existing facilities.

Attachment J-1501000-05
ASSET TAG AND ASSET NUMBER REQUIREMENTS

Asset tags shall be:

1. Durable, to last over the expected life span of the asset: for example, printed on poly-vinyl weatherproof labels or equivalent.

2. Adhere to the surface of the asset in a location that will enable long-term durability of the tag: for example, not on surfaces that are hot during operation, not in constant direct sunlight, not exposed to moisture.

3. Placed in a location that is obvious to anyone servicing the asset: for example, at the operator interface (control panel), at the equipment nameplate, at the power disconnect, inside doors or covers.

4. Attached in a way that will not interfere with the operation of the asset.

5. Replaced if any information on the tag is illegible or if the machine readable optical label is distorted such that it is unreadable or decoded inaccurately by a barcode scanner/reader.

6. A new asset tag is required if an asset is replaced with an asset with a new serial number.

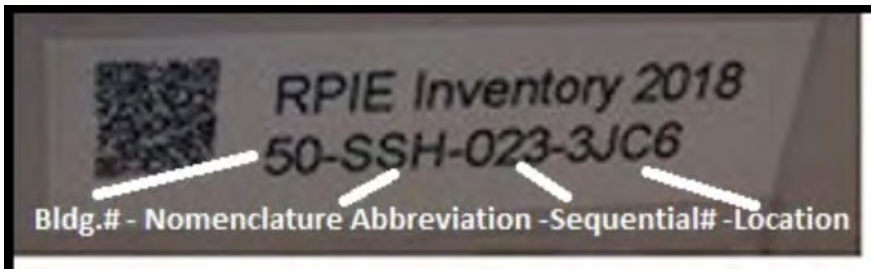
FORMAT REQUIREMENTS FOR NEW ASSET NUMBERS

Each asset shall have a unique Asset Number (Asset.ASSETNUM) in the following format:

A. NAVAL HOSPITAL ASSETS ONLY:

(1) Building number
(2) Dash "-"
(3) Nomenclature abbreviation
(4) Dash "-"
(5) Sequential #
(6) Dash "-"
(7) Location

Sample Asset Tag for Naval Hospital assets only:

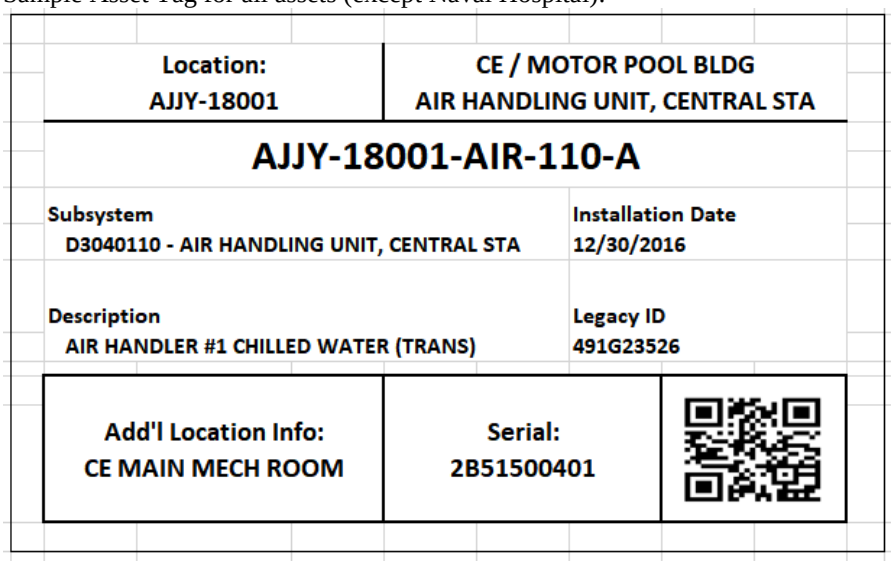


B. ALL OTHER ASSETS (except Naval Hospital):

(1) Location ID (e.g. “AJJY-18001”)
(2) Dash “-“
(3) First 3 characters of the Subsystem Description (e.g. “AIR”)
(4) Dash “-“
(5) Last three digits of Subsystem Number (e.g. “110”)
(6) Dash “-“
(7) Alpha Designator for each asset under the subsystem. For multiple assets (exact same asset) under the same subsystem, start with “A” thru “Z”, then “AA” thru “ZZ” (sequentially assigned and unique to each asset)

Example ASSETNUMs:AJJY-18001-AIR-110-A, AJJY-18001-AIR-110-B, AJJY-18001-AIR-110-C

Sample Asset Tag for all assets (except Naval Hospital):



Section J – 1502000 Facility Investment	
Attachment Number	**Attachment Title**
J-1502000-01	Facility Asset List (Provided as file name: Attachment J-1502000-01 Facility Asset List.xlsx)
J-1502000-02	NBG Hospital Asset List (Provided as file name: Attachment J-1502000-02 NBG Hospital Asset List.xlsx)
J-1502000-03	Oil/Water Separators (OWS) (Provided as file name: Attachment J-1502000-03 Oil_Water Separators (OWS).xlsx)
J-1502000-04	Septic Tanks and Leaching Fields (Provided as file name: Attachment J-1502000-04 Septic Tanks and Leaching Fields.xlsx)
J-1502000-05	Cathodic Protection Systems
J-1502000-06	Fire Hydrants (Provided as file name: Attachment J-1502000-06 Fire Hydrants.xlsx)
J-1502000-07	Critical Functional Areas
J-1502000-08	Grease Traps (Provided as file name: Attachment J-1502000-08 Grease Traps.xlsx)
J-1502000-09	Grease Trap Maintenance Schedule
J-1502000-10	Fire Alarm and Suppression Systems (Provided as file name: Attachment J-1502000-10 Fire Alarm and Suppression Systems.xlsx)
J-1502000-11	HVAC/Chilled Water Systems (Provided as file name: Attachment J-1502000-11 HVAC_Chilled Water Systems.xlsx)
J-1502000-12	Backflow Preventers (Provided as file name: Attachment J-1502000-12 Backflow Preventers.xlsx)
J-1502000-13	Radon (Provided as file name: Attachment J-1502000-13 Radon.xlsx)
J-1502000-14	VTE, MHE and Trackage (Provided as file name: Attachment J-1502000-14 VTE, MHE and Trackage.xlsx)
J-1502000-15	Boilers and UPVs (Provided as file name: Attachment J-1502000-15 Boilers and UPVs.xlsx)
J-1502000-16	Drinking Fountains (Provided as file name: Attachment J-1502000-16 Drinking Fountains.xlsx)
J-1502000-17	FY18 Historical Workload Data (Provided as file name: Attachment J-1502000-17 FY18 Historical Workload Data.xlsx)
J-1502000-18	Estimated Quantities for Facility Investment Requirements
J-1502000-19	Direct Digital Control (DDC) (Provided as file name: Attachment J-1502000-19 Digital Direct Control (DDC).xlsx)
J-1502000-20	Portable Generators (Provided as file name: Attachment J-1502000-20 Portable Generators.xlsx)

Location	System ID/ Facility	Description	Type	Remarks
Mainbase	Delta Pier	Cathodic Protection System	Galvanic	Steel H-pile supports
Mainbase	Echo Pier	Cathodic Protection System	Galvanic	Steel H-pile supports
Mainbase	EOD Waterside	Cathodic Protection System	Impressed Current	Water side of steel sheet pile bulkhead
Mainbase	EOD Landside	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Mainbase	Romeo-Waterside	Cathodic Protection System	Galvanic	Water side of steel sheet pile bulkhead
Mainbase	Romeo-Land R1	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Mainbase	Romeo-Land R2	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Mainbase	Sierra-Waterside	Cathodic Protection System	Galvanic	Water side of steel sheet pile bulkhead
Mainbase	Sierra-Land S1	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Mainbase	Sierra-Land S2	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Mainbase	Sierra-Land S3	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Mainbase	Tango-Waterside	Cathodic Protection System	Galvanic	Water side of steel sheet pile bulkhead
Mainbase	Tango-Land S1	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Mainbase	Tango-Land S2	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Mainbase	X-ray-Waterside	Cathodic Protection System	Galvanic	Water side of steel sheet pile bulkhead
Mainbase	X-ray-Land S1	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Mainbase	X-ray-Land S2	Cathodic Protection System	Impressed Current	Land side of steel sheet pile bulkhead
Fuel Farm	POL U-14	Cathodic Protection System	Impressed Current	POL tanks and pipelines, Sasa Valley Tank Farm
Fuel Farm	POL Nimitz Hill	Cathodic Protection System	Impressed Current	POL pipelines from Sasa to Tiyan
Fuel Farm	POL Tenjo Vista	Cathodic Protection System	Impressed Current	POL tanks and pipelines, Tenjo Vista Tank Farm
Fuel Farm	POL Polaris Pt	Cathodic Protection System	Impressed Current	POL pipelines from Delta Echo to Sasa and Tenjo. POL tanks/pipelines in Sasa.
Fuel Farm	POL Shell Tie-in	Cathodic Protection System	Impressed Current	POL pipelines from Delta Echo to Sasa and Tenjo.
Mainbase	EOD Area UST	Cathodic Protection System	Galvanic	Underground Steel Oil Water Separator
NCTS	S. Finn Water Tank	Cathodic Protection System	Impressed Current	Interior steel surfaces of water tank and riser column
NCTS	N. Finn Water Tank	Cathodic Protection System	Impressed Current	Interior steel surfaces of water tank and riser column
Fuel Farm	S1SV	Surge Storage Tank		Tank and distribution system
Fuel Farm	S2SV	Surge Storage Tank		Tank and distribution system
Fuel Farm	S3SV	Surge Storage Tank		Tank and distribution system
Fuel Farm	S4SV	Surge Storage Tank		Tank and distribution system
Fuel Farm	S5SV	Surge Storage Tank		Tank and distribution system
Fuel Farm	U9SV	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U10SV	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U11SV	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U12SV	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U13SV	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U14SV	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U15SV	Ship Fuel Storage Tank		Tank and distribution system

Location	System ID/ Facility	Description	Type	Remarks
Fuel Farm	U16SV	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U28TJ	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U29TJ	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U30TJ	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U31TJ	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U33TJ	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U34TJ	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U35TJ	Ship Fuel Storage Tank		Tank and distribution system
Fuel Farm	U5SV	Motor Gas Fuel Storage Tank		Tank and distribution system
Fuel Farm	U1SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U2SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U3SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U4SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U6SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U7SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U8SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U17SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U18SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U19SV	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	U20	Jet Engine Fuel Storage Tank		Tank and distribution system
Fuel Farm	C1DD	Lub Oil Storage Tank		Tank and distribution system
Fuel Farm	C2DD	Lub Oil Storage Tank		Tank and distribution system
Fuel Farm	B1SV	Ballast/Sludge Tank		Tank and distribution system
Fuel Farm	B2SV	Ballast/Sludge Tank		Tank and distribution system
Fuel Farm	H2SV	Ballast/Sludge Tank		Tank and distribution system
Fuel Farm	L1SV	Ballast/Sludge Tank		Tank and distribution system
Fuel Farm	R1SV	Ballast/Sludge Tank		Tank and distribution system
Fuel Farm	ST32TJ	Ballast/Sludge Tank		Tank and distribution system
Fuel Farm		POL Pipeline		Distribution system
Mainbase	Delta Pier H-piles			
Mainbase	Echo Pier H-piles			
Mainbase	EOD Area sheet pile seawall			
Mainbase	Romeo Wharf sheet pile seawall			
Mainbase	Sierra Wharf sheet pile seawall			
Mainbase	Tango Wharf sheet pile seawall			
Mainbase	X-Ray Wharf sheet pile seawall			
Polaris Pt	Alpha Wharf sheet pile seawall			
Polaris Pt	Bravo Wharf sheet pile seawall			

Location	System ID/ Facility	Description	Type	Remarks
Mainbase	Fleet Landing H-piles			
Mainbase	Sumay Cove sheet pile seawall			
Mainbase	Uniform Wharf sheet pile seawall			
Mainbase	Victor Wharf sheet pile seawall			
Mainbase	Kilo Wharf			
NCTS	Bldg 142	Water Storage Tank		
NCTS	Bldg A1365	Water Storage Tank		

Location	Bldg. No.	Functional Service									
		Power (Commercial & Emergency)	Fire Alarm & Fire Suppression	Water Service	Water Intrusion Into Equipment/ Operational Spaces	Building Access Ports (e.g., secured doors)	Air Conditioning	Elevators	Medical Gas	Steam	Back up Generator
Agana	1034AG	X			X	X					
Barrigada	51		X	X	X	X					
Barrigada	52		X	X	X	X					
Coontz	1067NZ	X			X	X					
Finegayan	112		X	X	X	X					
Finegayan	150		X	X	X	X					
Finegayan	199			X	X	X					
Finegayan	285		X	X	X	X					
Finegayan	287		X	X	X	X					
Finegayan	309		X	X	X	X					
Mainbase	3190	X									
Mt. Alutom	xxx						X				X
NAVHOSP	50 Hospital	X	X	X			X	X	X	X	X
NAVHOSP	23 Central Utility Plant	X					X			X	X
NAVHOSP	45 Liquid Oxygen Plant								X		
NAVHOSP	46 Fire Pump		X								
Nimitz Hill	200NZ	X	X	X	X	X	X				X
Orote	3012OP	X	X	X	X	X					
Piti	4921	X	X	X	X	X					
Polaris	4434PP	X	X	X	X	X					
Polaris	4470	X					X				
Wettengel	1043-HA	X			X	X					

Attachment J-1502000-09
Grease Trap Maintenance Schedule

Location	Building Number / Facility Name	Qty.	Frequency						Funding Customer	Remarks
			Bi-Weekly	Monthly	Bi-Monthly	Quarterly	Semi-Annual	On-Call		
Mainbase	Building 75 - Typhoonz	2		X					NBG	MWR
Naval Hospital	Building 50 - Naval Hospital	1					X		NAVHOSP	
Naval Hospital	Building 10 - NAVHOSP MWR Child Development Center	1					X		NAVHOSP	
Mainbase	Building 258 - NEX Old Chinese Restaurant	2		X					NEX	NEX
Mainbase	Building 258 - Tacos and Popeye's Restaurant	1		X					NEX	NEX
Mainbase	Building 258 - Domino's Pizza Restaurant	1		X					NEX	NEX
Nimitz Hill	Building 295 - Top of the Mar	2					X		NBG	MWR
Camp Covington	Building 586 - Camp Covington Galley	2		X					NBG	
Mainbase	Building 600 - Bowling Alley	1		X				~~X~~	NBG	MWR
Mainbase	Building 1983D - Childe Development Center	1		X					NBG	MWR

Attachment J-1501000-18
Estimated Quantities for Facility Investment Requirements

Spec Item	Service Description	Unit	Annual Quantity	Remarks
3	Recurring Work			
3.1	Work Orders	Work Orders	9153	
3.1.1	Emergency Work Orders	Work Orders	313	
3.1.2	Urgent Work Orders	Work Orders	270	
3.1.3	Routine Work Orders	Work Orders	7081	
3.1.4	Project Work Orders	Work Orders	1026	
3.2	Planned Maintenance (PM) Program	Facilities	1842	
3.3	Maintenance of Critical Functional Areas	Bldg	24	
3.4	Condition Assessment	Bldg	839	
3.5	Building Control Systems (BCS)	Assets	6041	
3.6	Inspection, Testing, and Certification Program			
3.6.1	Boilers and Unfired Pressure Vessels (UPVs)	Units	310	
3.6.2	Backflow Prevention Devices	Units	94	
3.6.3	Vertical Transportation Equipment (VTE)	Units	321	
3.6.4	Water Testing	Assets	444	
3.6.5	Cathodic and Lightning Protection	Assets	293	
3.6.6	Fire Alarm and Suppression Systems	Assets	1096	
3.6.7	Radon Mitigation System	Units	54	
3.6.8	Lead Testing	Units	372	
3.6.9	Weight Handling Equipment (WHE) and Trackage			
3.7	Other Recurring Services Program			
3.7.1	Grease Traps	Units	40	
3.7.2	HVAC/Chilled Water Systems	Assets	444	

Section J – 1601000 Utility Management	
Attachment Number	**Attachment Title**
J-1601000-01	Utility Liaison Description
J-1601000-02	MAXIMO Utilities Assets (Provided as file name: Attachment J-1601000-02 MAXIMO Utilities Assets.xlsx)
J-1601000-03	Estimated Utility Maintenance and Repair Workload
J-1601000-04	Workload Data
J-1601000-05	Environmental Sampling and Analytical Services Requirements

Attachment J-1601000-01
Utility Liaison Description

The Utility Liaison shall interface, inform and coordinate work with cognizant customers or approved Command designees to ensure timely and satisfactory response to customer issues.

In addition, the Utility Liaison will have the following responsibilities:

1. Interface and coordinate work with regulatory and other Government agencies through NFM Guam Utilities Department.
2. Attend meetings with Government to update, coordinate and resolve issues.
3. Keep the COR and/or cognizant PWO and JRM CDO abreast of issues of concerns, including, but not limited to, operational/systems emergencies and safety, at all times.
4. Provide notification and coordination for the following:
    a. Any time there is a scheduled outage, notify the COR and/or cognizant PWO and JRM CDO to minimize any negative impacts.
    b. Any time there is a scheduled outage, coordinate with customers to minimize any negative impacts.
5. Obtain a confirmation of receipt for the notification by email, note, or log a verbal message from the specified Government representative.
6. Obtain all necessary permits/modifications required prior to starting maintenance, repair, or replacement work. Permits include, but are not limited to, access, confined space, burn, air, Government of Guam, and hot work permits.
7. Coordinate with Government of Guam and other affected parties for work outside of Navy boundaries.

PWS UTILITIES REPAIR THRESHOLD

FY18

Steam								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**AVERAGE_COST**
EMERGENCY	59	0	0	0	0	0	59	$ 87.05
ROUTINE	153	0	0	0	0	0	153	$ 588.99
PROJECT	6	4	2	2	0	3	17	$ 13,785.24
RECURRING	110	4	0	0	0	0	114	$ 738.87

Water								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**AVERAGE_COST**
EMERGENCY	33	3	2	0	0	1	39	$ 2,639.86
ROUTINE	870	0	0	0	0	0	870	$ 411.90
PROJECT	14	6	6	2	0	0	28	$ 7,609.08
RECURRING	6799	0	0	0	0	0	6799	$ 82.13

Other								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**AVERAGE_COST**
ROUTINE	45	0	0	0	0	0	45	$ 530.10
PROJECT	0	3	0	0	0	0	3	$ 6,720.22

FY18

Electricity								
WORKTYPE	<5k	5-10k	10-15k	15-20k	20-25k	>25k	TOTAL	AVERAGE_COST
EMERGENCY	113	7	0	1	0	0	121	$ 1,543.60
URGENT	6	0	0	0	0	0	6	$ 435.07
ROUTINE	855	0	0	0	0	0	855	$ 858.62
PROJECT	47	55	16	3	2	4	127	$ 10,568.39
RECURRING	1714	1	1	0	0	0	1716	$ 345.04

WasteWater								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**AVERAGE_COST**
EMERGENCY	5	1	1	0	0	0	7	$ 3,468.44
ROUTINE	1665	0	0	0	0	0	1665	$ 242.02
PROJECT	19	21	2	0	0	0	42	$ 5,839.32
RECURRING	5013	0	0	0	0	0	5013	$ 41.63

Utilities Composite								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**COMPOSIT_COST**
EMERGENCY	210	11	3	1	0	1	226	$ 1,934.74
URGENT	6	0	0	0	0	0	6	$ 435.07
ROUTINE	3588	0	0	0	0	0	3588	$ 526.33
PROJECT	86	89	26	7	2	7	217	$ 8,904.45
RECURRING	13636	5	1	0	0	0	13642	$ 301.92

FY14 - FY18

Steam								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**AVERAGE_COST**
EMERGENCY	114	0	0	0	0	0	114	$ 155.09
URGENT	1	0	0	0	0	0	1	$ 532.16
ROUTINE	781	0	0	0	0	0	781	$ 547.20
PROJECT	37	31	12	3	4	11	98	$ 10,945.00
RECURRING	508	12	0	0	0	0	520	$ 637.82

Water								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**AVERAGE_COST**
EMERGENCY	238	5	3	2	0	2	250	$ 1,626.89
URGENT	1	0	0	0	0	0	1	$ 577.40
ROUTINE	3514	0	0	0	0	0	3514	$ 393.13
PROJECT	64	43	20	10	3	9	149	$ 9,749.66
RECURRING	34323	0	0	0	0	0	34323	$ 68.31

Other								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**AVERAGE_COST**
EMERGENCY	6	0	0	0	0	0	5	$ 1,041.70
ROUTINE	199	0	0	0	0	0	199	$ 549.87
PROJECT	8	12	1	0	0	0	21	$ 5,811.78
RECURRING	5	0	0	0	0	0	5	$ 108.88

FY14 - FY18

Electricity								
WORKTYPE	<5k	5-10k	10-15k	15-20k	20-25k	>25k	TOTAL	AVERAGE_COST
EMERGENCY	775	25	3	3	1	0	807	$ 1,362.09
URGENT	46	0	0	0	0	0	46	$ 287.80
ROUTINE	3078	0	0	0	0	0	3078	$ 780.81
PROJECT	231	211	50	14	8	13	527	$ 8,593.49
RECURRING	7842	5	6	2	0	2	7857	$ 286.76

WasteWater								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**AVERAGE_COST**
EMERGENCY	24	4	1	0	1	1	31	$ 4,091.13
ROUTINE	4991	0	0	0	0	0	4991	$ 295.50
PROJECT	74	45	6	5	1	7	138	$ 11,369.70
RECURRING	24119	0	0	0	0	0	24119	$ 38.99

Utilities Composite								
WORKTYPE	**<5k**	**5-10k**	**10-15k**	**15-20k**	**20-25k**	**>25k**	**TOTAL**	**COMPOSIT_COST**
EMERGENCY	1157	34	7	5	2	3	1207	$ 1,655.38
URGENT	48	0	0	0	0	0	48	$ 465.79
ROUTINE	12563	0	0	0	0	0	12563	$ 513.30
PROJECT	414	342	89	32	16	40	933	$ 9,293.93
RECURRING	66797	17	6	2	0	2	66824	$ 1,140.76
Total	80979	393	102	39	18	45	81575	

ELECTRICAL			
Item	**Title**	**Projected Qty (12 Month)**	**NOTES**
1	**Utility Consumption Data Collection**	36	1.) Meter Reading Raw Data for Ashore Electrical Consumption 2.) Meter Reading Raw Data for Afloat Electrical Consumption 3.) Meter Reading Data, Forced and Unread
	Meter Reading DoD Navy	13,200	Meters read varies monthly
	Meter Reading DoD AAFB	2,472	Meters read varies monthly
	AAFB	2,220	
	RED HORSE	252	
	Meter Reading DoD Navy/AAFB "Scrub List"	720	
	End of Month Meter ReadingCustomer Service Agreement (CSA) - Navy/ GPAAccounts/ Reads - South	1,800	
	End of Month Meter ReadingCustomer Service Agreement (CSA) - Navy/ GPAAccounts/ Reads - North	1,200	
	End of Month Meter ReadingCustomer Service Agreement (CSA) - Navy/ GPAAccounts/ Reads - MogFog Housing	1,200	
2	**System Support - Provide Support to Improve Overall**		
	Energy Conservation Program		
	Spare Parts List	12	
	One-Line (Schematic) Drawings	12	
	Distribution System Drawings	144	
	Utilities Technical Library		As required
	Standard Operating Procedures For Standby Power Plants	2	

WASTEWATER			
Item	**Title**	**Projected Qty (12 Month)**	**NOTES**
1	**Utility Consumption And Data Collection**	84	(7 reports x 12 mos)
2	**Sampling And Analysis - Quantities And Frequencies Are Identified In NPDES Permit**		
3	**System Support**	12	
	Spare Parts List, Updated Monthly	12	
	Wastewater Technical Library	12	

STEAM			
Item	**Title**	**Projected Qty (12 Month)**	**NOTES**
1	**Utility Consumption Data Collection**		
	Meter Reading	24	2 x 12 mos
2	**Sampling and Analysis**		
	Sampling and Analysis of Steam Monthly	12	1 x 12 mos
	Sampling and Analysis of De-mineralized Water Monthly	12	1 x 12 mos
	Sampling and Analysis of Feed Water Monthly	12	1 x 12 mos
3	**System Support**		
	Energy Conservation Program		
	Spare Parts List	12	1 x 12 mos
	Update Schematic Diagrams	4	As required
	Update Utilities Technical Library		As required
	Standard Operating Procedures For Boiler, Hot Water and De-mineralized Water Plants	4	

WATER			
Item	**Title**	**Projected Qty (12 Month)**	**NOTES**
1	**Utility Consumption Data Collection**		
	Read Ashore Water Meters Monthly (324/mo x 12 mos)	3,888	(324/MO X 12 mos)
	Read Afloat Meters Monthly (45/mo x 12 mos)	540	(45/mo x 12 mos)
	Daily Report	365	
	Monthly Report	12	
2	**Sampling and Analysis**		
	Samples and Analyses for Operations and Compliance (1 program x 12 mos)	12	
	Samples and Analyses for Water Distribution (1 program x 12 mos) Complaints	12	
3	**System Support**		
	Water Conservation Program (1 program x 12 mos)	12	
	Maintenance Program (1 program x 12 mos)	12	
	Firehydrant Flushing Program (1 program x 12 mos)	12	
	Firehydrant Refurbishing Program (1 program x 12 mos)	12	
	Firehydrant Inspection (1 program x 12 mos)	12	
	Firehydrant Testing (1 program x 12 mos)	12	
	Leak Detection Program (1 program x 12 mos)	12	
	Water Storage Tank Cell/Compartment Cleaning Program (1 program x 12 mos)	12	
	Standard Operating Procedures for Equipment/System/Operation (1 x 12 mos)	12	(1 x 12 mos)
	Spare Parts List, Updated Monthly (1/mo x 12 mos)	12	(1/mo x 12 mos)
	Production One-Line (Schematic) Drawings	12	AutCad & GIS
	Distribution System Drawings	12	AutCad & GIS
	Potable Water Technical Library (1 library x 12 mos)	12	(1 library x 12 mos)
	Data Base on Production and Distribution Equipment (1 x 12 mos)	12	(1 x 12 mos)
	Data Base on Production and Distribution Performance (1 x 12 mos)	12	(1 x 12 mos)
	Data Base on Production Processes (1 x 12 mos)	12	(1 x 12 mos)
	As-Built Drawings	12	

EV COMPLIANCE - NAVY			
Item	**Title**	**Projected Qty (12 Month)**	**NOTES**
1	**Clean Water Ashore**		
	MSGP	1	Annual report, req'd by regulations
	MSGP NOI	1	Required upon issuance of new MSGP permit
	Visual Monitoring Events	76	19 sites, quarterly
	MSGP Routine Inspection	50	21 sites inspected quarterly
	DMR	8	2 outfall permits, quarterly reports
	Biosolids Report		
	NPDES Studies		
	NPDES Permit Application / Renewal	1	Based on permit requirements
	Industrial Discharge Certificates Application	1	Based on regulatory requirements
	Conduct Off-Shore Monitoring	12	Monthly requirement
	Data Calls	24	based on annual average
	Records of Regulatory Visits	1	
2	**SDWA Compliance Ashore**		
	Ax 1607 Wells:		
	Maintain, Update Existing Water Well Permits	12	1 potable water; 6 groundwater monitoring
	Annual Well Operating Report	1	Annually, req'd by regulations
	Water Well Production Report	12	Monthly; required by regulations
	Monitoring Well Report	1	
	Water Well Inspection Report	1	Pre-EPA inspection and report
	Bacteriological Quality Report	12	Monthly report, req'd by regulations
	Finished Water Fluoride Report	12	Monthly report, req'd by regulations
	Distribution System Chlorine Residual Report	12	Monthly report, req'd by regulations
	VOC Report	5	1 Annual report, quarterly reports for NCS-8; required by regulations
	SOC Report	5	1 Annual report, quarterly reports for NCS-8; required by regulations
	Disinfection by Product Report	4	Quarterly reports ; previously named total trihalomethane; required by regulations
	Lead & Copper Report	1	Annual report; required by regulations
	IOC Report	5	1 Annual report, quarterly reports for NCS-8; required by regulations

Item	Title	Projected Qty	NOTES
	Nitrate Report	5	1 Annual report, quarterly reports for NCS-8; required by regulations
	Nitrite Report	5	1 Annual report, quarterly reports for NCS-8; required by regulations
	Radionuclides Report	4	quarterly reports for NCS-8; required by regulations
	IESWTR Report	12	Monthly report, req'd by regulations
	Acrylamide Certification report	1	annually required by regulations, been submitting this report but not reflected on the WDS
	Update Backflow Preventers Database	1	Annually, req'd by regulations
	Water Complaints		As-needed
	DBP Precursors Removal report	4	Quarterly report, req'd by regulations; submitted concurrently with DBP report
	Data Calls		As-needed; annual average
	Records of Regulatory Visits	1	
	UIC Wells (NBG Ax 1800):		
	Maintain, Update Existing UIC Well Permits		
	Annual Well Operating Report	1	Annually, req'd by regulations; For BEQ production Wells
	Water Well Production Report	12	Monthly requirement for BEQ UIC
	UIC Well Exceedence Investigation Report	5	Quarterly for BEQ UIC well; Semi-annually for GHS wells; required by permit
	UIC Monthly Inspections and Report	24	2 sites Guam High School and BEQ, monthly
	UIC Well Compliance Report	5	Quarterly for BEQ UIC wells; Semi-annually for GHS wells; required by permit
	Data Calls	2	For UIC Wells; annual average
	Records of Regulatory Visits	1	
3	**Baseline Inventory, Inspection**	2	

EV COMPLIANCE - NSAA/AAFB			
Item	**Title**	**Projected Qty (12 Month)**	**NOTES**
1	**SDWA Compliance Ashore**		
	Compliance Reporting	12	1 x month
	UIC Well Inspection on Critical Wells	330	11 wells inspected- monthly January thru June, weekly July thru December
	UIC Well Exceedence Investigation Report		As-needed report; required by permit
	UIC Well Compliance Report	1	Semi-Annual report; required by permit

QUALITY SYSTEMS/QUALITY CONTROL/QUALITYASSURANCE DOCUMENTATION
Laboratory Quality Systems
Laboratory Quality Assurance Plan
Laboratory Chemical Hygiene Plan
Laboratory Quality Control
Protocols and Methods
method performance (proficiencies)
method development
Proficiency Testing (PT)
Proficiency or Round Robin tests
SAMPLING & PRESERVATION REQUIREMENTS
Sample Containers
Provide & use certified cleaned sample containers and vessels, Materials, and equipment
Sampling Equipment
Clean and change auto-sampler tubing
Utilize high speed auto-samplers
Utilize low speed auto-samplers or manual bailers
Sampling & Preservation
Collect samples
Perform interference checks
Provide and maintain sample preservation
Provide and place safety barricades
Potable Water
Collect lead or lead & copper samples
VPDES
Collect monitoring wells samples
Collect bioassays for toxicity studies
Collect rain event samples
HRSD
Collect photo-silver samples
Provide reproduction of sampling locations not easily identifiable
FIELD TESTS
General
Calibrate field equipment
Perform field tests
Flow Measurements
Perform flow measurements
Perform salinity measurements
Hydraulic Conductivity
Perform hydraulic conductivity measurements
TRANSPORTATION AND TRANSFER OF SAMPLES
Package samples
Transport Samples
Deliver labeled samples
Adhere to holding time requirements
Provide trip blank samples

SAMPLE ANALYSIS
Holding Times
Adhere to sample holding times
Sample Analysis
Perform analyses
Perform tests for photo-silver
Perform Chloride analysis for any COD
WORK DOCUMENTATION, CONTROL, AND REPORTING REQUIREMENTS
Proficiency Testing
Provide copies of Proficiency or Round Robins tests results for analytes of concern
Sample Collection & Preservation
Provide and maintain sample collection records
Maintain records of preservation and verification
Chain-of-Custody (C-O-C)
Provide C-O-C documents to accompany samples
Maintain records on condition of samples
Maintain, control and store all laboratory testing records
Provide flow records
Corrective Actions
Provide amended reports
Maintain modifications to records
Compile and report test results
Provide report of results of each test performed and maintain copies thereof
Provide monitoring reports for all permits and maintain copies thereof
Signatory Requirements
Provide certified results
Maintain Proficiency Test results and raw data
SAMPLE STORAGE
Store and maintain the integrity of samples received, and their associated extracts
SAMPLE DISPOSAL
Dispose of samples, used sample containers, digestates, leachates, extracts, and/or other sample preparation products

Section J – 1602000 Electrical	
Attachment Number	**Attachment Title**
J-1602000-01	Electrical Systems Description
J-1602000-02	Utility Workload Data
J-1602000-03	Advanced Metering Infrastructure (AMI) Maintenance Plan

Attachment J-1602000-01 Electrical Systems Description
Various government agencies on Guam purchase commercial power through Naval Facilities Engineering Command Marianas Guam. The majority of these sites receive power at 34.5 kV. Currently there are 18 points of delivery at 34.5 kV and 13 points of delivery at 13.8 kV (includes 2 points of delivery for Anderson Air Force Base). These metered sites currently have a total demand of 45 MW and consume approximately 24,000 MWH per month. The Navy distributes power primarily at 13.8 kV, via overhead electrical distribution circuits. In general, Navy owned substation transformers step down Guam Power Authority's (GPA's) 34.5 kV transmission voltage to 13.8 kV. There are approximately 619 miles of primary distribution lines, about 10 percent of the lines are underground and 90 percent are overhead. Guam is subject to typhoons and earthquakes and the power system is exposed to a corrosive (saltwater) environment. The average age of primary distribution transformers is 15 years old. The majority of GPA's 34.5 kV transmission lines are overhead lines that have been damaged during past typhoons and earthquakes. During commercial power outages, the Navy has relied on two of its own standby power plants, 19.8 MW-Orote plant and 4.5 MW-Naval Hospital plant. The Orote power plant also supplements GPA's generation during peak load demands and provides emergency power to GPA. There are also 50 Navy owned emergency generators that support critical loads. The Advanced Metering Infrastructure (AMI) is a smart metering system for monitoring real-time consumption of electricity, water and steam utilities. These systems consist of meters, remote interface units, antennas and wireless transmission technology to record and transmit the consumption data to computer interfaces located at NCTS and in Building 3014.

Attachment J-1602000-02
Utility Workload Data

Title	Quantity	Units	NOTES
Production Operations - Provide Emergency and Backup			
Distribution Operations			
Orote Standby Power Plant	3	Each	Three (3) x 6.6 MW Generator Units
Shore Power Support Connection (Ships/ Submarines)	180	Annually	Estimated
Shore Power Support Disconnection (Ships/ Submarines)	180	Annually	Estimated
Shore Power Support Connection (Auxiliary Equipment)	180	Annually	Estimated
Shore Power Support Disconnection (Auxiliary Equipment)	180	Annually	Estimated
Shore Power Support Connection/ Disconnection (Pure Water Delivery Trailers)	180	Annually	Estimated
Provide Portable Generator for Shore Power Support Connections/ Disconnections(Pure Water Delivery Trailers)	6	Annually	Estimated
Industrial Control Systems (ICS) – Supervisory Control and Data Acquisition (SCADA)	8	Locations	
Maintenance and Repair			
Scheduled Outages	670	Annually	Estimated
Unscheduled Outages	180	Annually	Estimated
Emergency Outages (Short Notice Outage Request due to Emergent Issues Requiring Urgent/ Immediate Action)	24	Annually	Estimated
Navy-Owned Annex 16 Stationary Emergency Generators	15	Each	Facilities stationary generators moved to Annex 15
Portable NFM Generators	25	Each	
Battery Stations Excluding Those For The Stationary Emergency Generators	28	Stations	
High Voltage Switchgears	23	Switchgear	
Primary High Voltage Breakers	32	Substations	
Medium Voltage Sectionalized Switches	10	Switches	
Secondary Low Voltage Circuit Breakers in Substations	11	Substations	
Primary distribution Lines (13.8 kV)	619	Miles	Approximately 90% overhead and 10% underground
Transformers Equal To Or Greater Than 500 kVA (NAVY)	6	Each	
Transformers Equal To Or Greater Than 500 kVA (AAFB)	5	Each	
Transformers Less Than 500 kVA (NAVY)	84	Each	
Transformers Less Than 500 kVA (AAFB)	5	Each	
Protective Relays At The Substations	84	Each	
Indicating Meters At The Substations	60	Each	
Kilowatt-Hour Meters	1720	Meters	Includes both legacy and AMI meters
Major Ashore Transformer Substations	18	Substations	
Major Waterfront Transformer Substations	20	Substations	
Power Mounds for Shore-To-Ship Electrical Service	25	Power Mounds	
Exterior Floodlights (Navy)	159	Each	

Attachment J-1602000-03
Advanced Metering Infrastructure (AMI) Maintenance Plan

Meter and Radio Enclosure Maintenance

A. Electrical Meter Enclosure:
   1. Quarterly Items:
      a. Inspect enclosure for rust or scratches. Clean and use touchup paint as needed for carbon steel enclosures. Clean and coat stainless steel enclosures and antenna masts with a rust inhibiter as needed.
      b. Verify meter display is operational.
      c. Verify the antenna is positioned properly.
      d. Use display or DAS to verify the pulse counters for mechanical meters is incrementing properly (not every electric meter will require).
B. RTU and Radio (RPT) Enclosures
   1. Quarterly Items
      a. Inspect enclosure for rust or scratches. Clean and use touchup paint as needed for carbon steel enclosures. Clean and coat stainless steel enclosures and antenna masts with a rust inhibiter as needed.
      b. Verify the antenna is positioned properly.
      c. Use display (if equipped) or DAS to verify the pulse counters for mechanical meters is incrementing properly (Only required for 7550RTU).
C. Electric Meters:
   Periodic testing based on an annual statistical sampling plan should be implemented by meter type (ION 8600, etc.). Per ANSI C12.1 Code for Electricity Metering, the statistical sampling plan should conform to accepted principles of statistical sampling based on either a variables or attributes method. Meters shall be divided into homogeneous groups, e.g., manufacturer and model, for sampling purposes. Examples of statistical sampling plans include ANSI/ASQC Z1.9 or ANSI/ASQC Z1.4.

Section J – 1604000 Wastewater	
Attachment Number	**Attachment Title**
J-1604000-01	Wastewater Systems Descriptions
J-1604000-02	Wastewater Workload Data
J-1604000-03	Wastewater Historical Information
J-1604000-04	BOWTS Operations & Maintenance

Attachment J-1604000-01 Wastewater Treatment Plant, Wastewater Collection System, Bilge and Oily Waste Treatment System (BOWTS), and BOWTS Collection Systems Descriptions
Naval Base Guam Wastewater Treatment Plant and Wastewater Collection System
Wastewater from Naval operations in the Apra Harbor area, including the Navy housing, Navy wharves, Polaris Point (NBGPP), and NBG Munitions Site (NBGMS) and non-Navy clients is collected in a network which routes sewage to the Navy's Apra Harbor Wastewater Treatment Plant, a 4.3 million gallons per day secondary wastewater treatment plant at Orote Point. The collection system includes 33 lift stations with 70 sewage pumps and approximately 130 miles of collection piping. Processed wastewater effluent is disposed through a joint Navy and Guam Water Authority (GWA) outfall, extending from Orote Point into the Philippine Sea. Discharge from the Navy's wastewater treatment plant is authorized under National Pollutant Discharge Elimination System (NPDES) Permit Number GU0100119. All other Naval facilities (non-Apra), including Naval Hospital, Nimitz Hill, and Naval Base Guam Telecommunications Site (NBGTS) are connected to Guam's municipal sewage treatment system. Navy piping and appurtenances conveying wastewater from non-contiguous property to the Navy's wastewater treatment plant extend beyond the perimeter of the base. MAXIMO Utilities Assets are provided in J-1601000-02. Wastewater assets are identified by the UNIFORMAT Master System, System, and Sub System structure per NAVFAC P-603 Utilities Infrastructure Management Manual.
Naval Base Guam Bilge and Oily Waste Treatment System (BOWTS)
There are four BOWTS, which includes BOWTS connections at pier side, three pump stations. BOWT Systems consist of Liquid Equalization Tanks (LET), Oil Water Separators (OWS), Dissolved Air Flotation (DAF) Tanks, along with associated mixers, tanks, compressors, valves, controls, and piping.

Title	Annual Projected Qty	Units	NOTES
Treatment Operations - MGD/ Year @ Apra Harbor Wastewater Treatment Plant	1,080	Million Gallons	
Collection Operations			
Lift Stations (36 x 12 mos)	36	Sewer Lift Stations	1) SLS EOD, 2) SLS DRMO, 3) SLS 3 NMRC, 4) SLS 4 Nimitz Hill, 5) SLS 5 Piti Seaman's Club, 6) SLS 1 Sumay 1, 7) SLS 7 Ploaris Point, 8) SLS 8 Polaris Polaris Point, 9) SLS 9 Polaris Point, 10) SLS 10 X-Ray Wharf, 11) SLS 11 Fena Water Treatment Plant, 12) SLS 12 Naval Magazine, 13) SLS 13 Naval Magazine, 14) SLS 14 U.S. Coast Guard, 15) SLS 15 Orote Power Plant, 16) SLS 16 BLDG 3190, 17) SLS 17 BEQ, 18) SLS 18 Guam Ship Yard, 19) SLS 1A GSY 1A, 20) SLS 2.1 GSY 2.1, 21) SLS 2 Sumay 2, 22) SLS JRM Head Quarter, 23) SLS 21 Sierra Wharf, 24) SLS 22 Uniform Wharf, 25) SLS 23 Victor Wharf, 26) SLS 553 CC2, 27) SLS MB Naval Base Guam Main Gate, 28) SLS 4445 BLDG 4445, 29) SLS 4451 Alpha Wharf Boiler, 30) SLS 28 Camp Covington, 31) SLS BOQ 2000, 32) SLS Echo Wharf, 33) SLS 32 Kilo Wharf, 34) SLS 33 Wastewater Treatment Plant, 35) SLS Military Working Dog 36) SLS New NEX Gas Station and Mini Mart
Sewage Pumps (76 x 12 mos)	76	Sewage Pumps	
Miles of Collection Piping And Appurtenances	130	Miles	
BOWTS (Million Gallons)	1,500,000	Million Gallons	
Maintenance			
Drain, Clean, Inspect, Maintain Chlorine Contact Chambers, Annually	4	Chambers	2 x 2/year
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures To Primary Digestor Every 5 Years	1	Unit	Inspection/ Clean/ Drain done annually
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures To Secondary Digestor Every 5 Years	1	Unit	Inspection/ Clean/ Drain done annually
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures and Alternate Primary Clarifier, Annually	1	Unit	
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures and Alternate One Secondary Clarifier Annually	1	Unit	
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures and Alternate One Solid Contactor/Reaeration Tank, Annually	1	Unit	
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures and Alternate One Grit Removal Tank Annually	1	Unit	
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures and Alternate One Preaeration Tank, Annually	1	Unit	
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures To Dissolved Air Flotation Thickener Annually	1	Unit	
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures To Gravity Thickener Annually	1	Unit	
Drain, Clean, Inspect, Maintain, Perform Complete Corrosion Control Measures And Alternate One Bio-Tower, Annually	1	Unit	
Flush 1/4 of 1316 Manholes Annually. All Lines Have Been Flushed After Four Years	329	Manholes	
Flush Problem Area Piping to Reduce Grease Buildup Monthly. 7 Areas: Harbor View, South Tip, Top O' Mar, Fire Station, Old Apra Housing, SLS 23, NEX Autoport	780	Manholes/ Sewer Lines	
Valve Exercise Program	360	Valves	Valves 4 inches and above
Asset Management			
Backflow Preventers	420	Backflow Preventers	
Total assets added to maintenance plan	0		
Total assets maintained	420	Assets	
Sampling And Analysis - Quantities And Frequencies Are Identified In NPDES Permit			
System Support			
Finalized SOPs	3	SOPs	
Industrial Control Systems (ICS) - SCADA	5	Control Systems	Naval Base Guam (Apra Harbor WWTP and 4 lift stations)

J-1604000-03 Wastewater Historical Information	
Daily volumes of wastewater treated:	Range between 1.2 MGD and 9.1 MGD, with an average volume of 2.3 MGD.
Sludge disposed:	• Calendar Year 2016: 360 Cubic Yards • Calendar Year 2017: 186 Cubic Yards • Calendar Year 2018: 264 Cubic Yards • Average of 7 to 9 loads of sludge disposed per month via 5-cubic-yard trucks.
Chemical usage at the wastewater treatment plant:	• Salt 17 50lb/day • Bisulfite 155Gal Drum/Day • Bisulfite Nutrient 100lbs/month • 100 lbs/month of polymer

System Setup & Preparation

The following instructions are for the first startup of the system or after system has been shutdown for an extended period of time for repairs or maintenance. See the accompanying check list for important startup items.
Refer to each IOM section to familiarize yourself with setup of each sub-system. Pay attention to any operational warnings so pumps and other components are not damaged.

Refer to the drawings at the back of your PAE IOM to familiarize yourself with the equipment. It is assumed that each tank is full of clean tap water for initial startup & adjustment. If this is
not so please fill the tanks prior to the startup process.

Set and run the Hydro-pneumatic system alone prior to system startup per Section 6 instructions to give this system time to build water pressure.

1. Review all IOM sections and drawings to familiarize yourself with the entire system, component names.
2. Review all component manual to familiarize yourself with each component and its
1. adjustment.
2. Verify all tank drain valves are closed.
3. Verify that all switches are in the OFF position in the MCC (Motor Control Center).
4. Verify that disconnects for all pumping, mixing, de-watering systems and DAF
5. are in the OFF position.
6. Set the master MCC disconnect to ON. The MCC should now have power.
7. Set each sub-system disconnect to ON in the MCC for all systems, pumping, mixing, de-watering, DAF etc.
8. Set all pumping systems to automatic unless they are to be operated in manual mode.
9. Turn CRT flash/flocculation mixers, set flocculation mixer speed: (make sure water is in tank first).
10. Startup and adjust DAF pump: (make sure tank is full of water first). Once the DAF pump is adjusted and running properly it can be turned off and turned back on without requiring readjustment of the valves as long as the valve settings have not changed. Turn on the drag skimmer & set speed (slow speed approximately 30% to begin). See DAF IOM section for DAF pump startup procedure.
11. Fill the LET.
12. Once the LET is full the OS24 oil water separator feed pump system well begin processing water automatically. The water will gravity feed from the OS24 effluent to the CRT-FF and the DAF.
13. Verify that the CRT coagulant/sodium hydroxide & polymer drums are full of proper chemicals.
14. Adjust the CRT flocculation mixer to about 30-40% of full scale. The coagulation/pH mixer is a fixed speed.
15. Calibrate pH controller via 2-point calibration per manufacturer's IOM.
16. Set the pH controller Relay A (SP1) to control the on/off of the sodium hydroxide pump. Recommended set points of Relay A are pH 8.5 to start pump and pH 9.2 to stop pump or as required and as dictated by chemical supply company. Set dead band to 0.5 pH to limit pump chatter when the pH is close to the on & off set points. See Oakton IOM for manufacturer directions. Security codes protect calibration (code=11) and setup mode (code=22).

    Set low or high alarm pH level: The controller and pump have been setup for raising the pH. The chemical pump has been wired into the controller's Relay A. The Low pH limit set point has been factory set for 7.00 or 7.50. The chemical pump will pump NaOH until the controller reaches the set point when the pH is lower than the set point. Once set point is reached the pump will stop. You can change this set point up or down as desired. See pH transmitter manual Section
    6 for this adjustment.

    High alarm: By setting the controller to a high set point you will determine and set the highest pH level the controller will allow. You will use acid with the high
    setting to reduce the pH. The chemical pump will pump acid until the controller reached the set point when the pH is higher than the set point. Once set point is reached the pump will stop. You can change this set point up or down as desired. See pH transmitter manual Section 6 for this adjustment.

17. Set the Polyblend, polymer blending system per manufacturer's (Stranco) IOM and per chemical supplier recommendations.
18. De-watering: see IOM section 6 and manufacturers IOM for setup and operation of the screw press. The conditioning polymer makeup tank is located near the screw press. Its function is to makeup a polymer solution and feed it to the conditioning tank. Feed neat polymer into the suction pipe connected to mixing eductor. The fresh water connection from the hydro-pneumatic system should be connected to the inlet connection. The eductor pulls polymer into it when you open the inlet valve by creating a vacuum. The water flow simultaneously blends the polymer & water and fills the tank with this solution. Set the polymer metering pump for frequency and speed on the pump face. Make sure the sludge bin is located under the screw press sludge chute to catch sludge as it exits the press.
19. Turn on the AFFF detection system, open any valves, read Navy IOM instruction for calibration & operational instruction.
20. If desired or required the MCC can be left powered up to allow sump pumps to operate during periods of rain. You will need to establish typical on/off settings for any items you want to leave operational when the rest of the system is shutdown. Be sure to limit access to the MCC when it is powered so that people can not be exposed to the electrical system.
21. Set system feed pump system automatic or manual if you want to fill the LET manually. This pumping system is not connected to the BOWTS MCC system, locate its controls and operate as needed. Once all components are setup and ready to run, then start pumping waste stream through the system. Until you have an understanding of what each sub-system does and how to operate it do not begin treating waste.
22. Have your chemical supply person on-site to assist in adjusting the chemical recipe(s) you are using. Typically, chemistry does not optimize immediately at the initial startup, give the system time to react to each change of the chemical metering pumps readjustment. Water, waste & metered chemicals do not react instantly to metering changes. Take the time it requires to find the best chemical pump settings, chemical solution strength and chemical dosing amount. This will save time and expense versus a hurried approach where non-optimized adjustment and improperly balanced system leads to over/under dosing and unreacted waste.
23. The flash flocculation system provides for building a large, floatable mass by breaking an emulsion via coagulation & pH adjustment and then gathering the result and suspended solids into a small "flocc". The CRT second stage is provides to flocculate these smaller masses into larger "flocculated" masses also known as "flocc". The size of the flocc mater as the larger the flocc the easier it will be for the air bubbles in the DAF to float the flocc. So, work to build a large, dense flocc in the second chamber prior to the DAF. A properly built flocc leads to better removal performance in the DAF.

IOM SECTION	ITEM	SUN	MON	TUE	WED	THU	FRI	SAT
	Startup of System Verify Checklist							
1	**OS 160**							
	Open oil pump valves							
	Open Sludge pump valves							
	Open Effluent valve (if existing)							
	Open influent valve (if existing)							
	Water weir is adjusted							
	Tank is full of clean water							
	LET							
	Sump pump valves are open							
1	**OS 24**							
	Open oil pump valves							
	Open Sludge pump valves							
	Open Effluent valve (if existing)							
	Open influent valve (if existing)							
	Water weir is adjusted							

IOM SECTION	ITEM	SUN	MON	TUE	WED	THU	FRI	SAT
	Startup of System Verify Checklist							
	Tank is full of clean water							
2	**CRT-FF-400**							
	Coagulation pump is adjusted							
4	Polyblend system is set up an adjusted							
4	pH pump is adjusted							
	pH prove is clean and protective cap is removed							
4	pH controller is calibrated, set point is set.							
	Relay A is used for set point.							
	Coagulation mixer is functional							
	Flocculation mixer VFD speed is set							
	Demulsifier/coagulant supply drum is full							
	Fill sodium hydroxide supply drum							
	Fill polymer supply drum with neat product							
3	**DAF-60**							
	Skimmer VFD speed is set							
	Auger on/off is functional							
	DAF pump discharge valve is closed							
	DAF pump bypass valve is closed							
	DAF pump suction valve is open							
	Air metering valve is closed							
	Effluent valve is open (if existing)							
	Sludge pump valves are open							
	Float pump valves are open							
6	**Hydro-pneumatic system**							
	Pump valves are open							
	Air gap tank is full of water							
	Hydro-pneumatic tank is full & pressurized							
	Air micronizer valve is set							
6	**Sludge De-watering system**							
	Sludge tank pump valves are open							
	Sludge conditioning tank mixer VFD speed set							
	Polymer supply tank meter pump is							
	Polymer tank is full of solution							
6	Screw press is setup per IOM							
	Screw press VFD speed is set							
	Screw press sludge bin is in position							
6	**AFFF Monitor system**							
	System valves are open							
	System is setup per IOM							
	Alarms List							
	Oil storage high level							
	Oil storage leak detection							
	Polymer makeup tank (sludge conditioning)							

IOM SECTION	ITEM	SUN	MON	TUE	WED	THU	FRI	SAT
	Startup of System Verify Checklist							
	Sludge conditioning tank High level							
	AFFF detected in LET							
	System shutdown							
	Stop system feed pump system							
	Set all pumping systems to OFF position							
	(assumes all water processing has ceased or							
	you will process LET contents later)							
	Set CRT chemical metering pumps & mixers to OFF position.							
	Product floating in DAF has been skimmed							
	Shutdown DAF pump							
	Shutdown DAF auger (if running)							
	Shutdown DAF skimmer drive							
	Check sludge storage tank for unprocessed							
	sludge. Process sludge before shutting							
	down							
	Shutdown de-watering system							
	Verify all systems are shutdown							
	Shutdown disconnects for all sub-systems							
	Shutdown main MCC disconnect							
	Close main valve to sewer							
	Record shut down date & time							

Daily Operations

This section will provide you with items to be checked on a daily or weekly basis once you have started the system. The checklist following the itemized procedures is provided to remind you of important procedures.

1. Verify the component control switches are in the OFF position prior to startup
2. Verify the disconnect switches are in the OFF position prior to startup
3. Verify any manually operated valves are opened and set for proper operation.
4. Verify the hydro-pneumatic system is charged and ready for operation
5. Verify the CRT & de-watering chemicals are present and in sufficient volume to complete the days/weeks water load.
6. Verify mixers are operational
7. Calibrate the pH probe if needed. The calibration should be performed once per week to start. Then watch to see if less frequent calibration will work. Note: in order to verify frequency of calibration can compare pH with a hand held pH meter or you can wait for unusual pH readings to occur.
8. Check pH probe for a clean face.

IOM SECTION	ITEM	SUN	MON	TUE	WED	THU	FRI	SAT
	Startup of System Verify Checklist							
	Component control switches are in the OFF position prior to startup							
	Disconnect switches are in the OFF position							
	prior to startup							

IOM SECTION	ITEM	SUN	MON	TUE	WED	THU	FRI	SAT
	Startup: MCC main disconnect is in ON position							
	Sub-system disconnects are in ON position							
	Set system switches to automatic							
	Manually operated valves are opened							
	Hydro-pneumatic system is charged and ready							
	System feed pump system is set to automatic							
	Chemical drums are full							
	Mixers are operational							
	Chemical pumps are operational							
	pH probe is clean							
	Monitor sludge level in sludge tank and dewater as required							
	Check oil levels in oil storage tank have oils hauled off as needed							
	System Shutdown							
	Stop system feed pump system							
	Set all pumping systems to OFF position							
	Set CRT chemical metering pumps & mixers to OFF position							
	Product floating in DAF has been skimmed							
	Shutdown DAF pump							
	Shutdown DAF auger (if running)							
	Shutdown DAF skimmer drive							
	Check sludge storage tank for unprocessed sludge. Process sludge before shutting down.							
	Shutdown de-watering system							
	Verify all systems are shutdown							
	Shutdown disconnects for all sub-systems							
	Shutdown main MCC disconnect							
	Close main valve to sewer							
	Record shut down date & time							

Maintenance

1. **Chemical Reaction Tank**

a. The mixer should have the gearbox oil changed. Every 6 months or 2300 hrs.
b. Chemical pump setting should be check on a regular basis to ensure the proper amount of chemical is being metered.
c. Drain and visually inspect the interior of the tank for coating damage or corrosion once every 6 months.
d. Annual inspection required separator and its system components.

Electronic Metering Pump (Chemical Feed Pump)

e. Routinely check the physical operating condition of the pump. Look for the presence of any abnormal noise, excessive vibration, low flow and pressure output or high temperature.
f. Cartridge valves should be change every 6 – 12 months.
g. Check for leaks around fitting or as a result of deteriorating tubing.

h. Keep the pump free of dirt and debris as this provides insulation and lead to excessive pump temperatures

Stance Polygene (Polyblend)

i. Clean ancillary water and/or polymer strainer weekly
j. Flush system monthly following one-week procedure.
k. Replace mechanical seal – Annual
l. Replace bearing assembly – Annual
m. Replace thrust bearing – Annual
n. Clean injection check valve – Annual
o. Clean the acrylic cylinder – Annual
p. Ensure solenoid responds to loss of power – Annual
q. Ensure differential pressure switch operates correctly – Annual

2. Dissolved Air Flotation System (DAF)
a. Check sludge accumulation in hopper bottom. Removal as required.
b. Check effluent quality.
c. Remove sludge on a regular basis.
d. Check and Clean inside of the DAF tank.
e. Visual Inspection require by daily basis.
f. The yearly maintenance should consist of draining the DAF tank, cleaning, greasing and visual inspection of the internal coating and hardware.
g. Drag Skimmer system – greased chain, bearing, zinc fittings and maintain gear lube in gear box. Check and tension skimmer chains.

3. Oil / Water Separator
a. Sensory inspection on a weekly basis.
b. Check oil accumulation in storage chamber. Removal as required.
c. Check effluent quality. If quality declines check for items addressed in quality of effluent section.
d. Remove sludge on a monthly basis.
e. Cleaning the Flora Media.
f. Retpak media need to be clean and replace as necessary.
g. Drain and visually inspect the interior of the tank for coating damage or corrosion once every 6 months.

4. Pump Gear Box
a. Lubricant should be changed every 10,000 hrs service or 2yrs.

5. Mixers and Agitators
a. Air Motor – Use 50-100 phi filtered / lubricated air
b. Gear Reducer – Oil should be changed every 6 months or 2300 hrs.
c. Keep all equipment clean and free of debris.

6. Sludge De-watering System
a. Drain and visually inspect the interior of the tank for coating damage or corrosion once every 6 months.

Vincent Compact Screw Press
b. The bearing should be clean, properly lubricated and inspected.
c. The cone requires lubrication.

7. Magnetic Drive Pump
a. Pump required proper operation Daily, Weekly, and Monthly.
b. Check the motor oil every 6 month.

8. Electric Devices
a. Open, clean, dress and inspect electrical breakers, starters, contactors and switches.
b. Inspect wiring for defects and tighten loose terminal connections.

c. Mugger test electrical motors.

9. Air Conditioner (office)

a. Clean intake side of condenser coils, fans and screens.
b. Lubricate shaft and motor bearings and check the refrigerant pressure.
c. Pressure wash condenser coil as require and check air filter.
d. Clean electrical wiring, connections, evaporator coils, drain pan, blowers, fans, motors and drain piping as required.

10. Additional cost:

- Electrical supplies
- Spill kit and PPE
- Miscellaneous parts like hoses, caps, adapter etc.

11. Additional personnel

Facility Services will need two additional personnel to man, operate and provide maintenance for this system.

Items	**Description**	**PMI interval**	**Unit Hour**
1. CRT (Chemical Reaction Tank)	1. Gear Box Oil Changed - Mixer	SA	1
	2. Drain and visual inspection of the interior	SA	1
	3. Inspect separator and system components	A	1
CFP (Chemical Feed Pump)	4. Routine check required - sensory check	W	0.15
	5. Check pump setting	M	0.2
	6. Cartridge valves change	SA	1
	7. Check for leaks and keep clean	M	0.2
Polyblend (Stance Polygene)	8. Clean ancillary water and polymer strainer	W	0.2
	9. Flush system	M	0.15
	10. Replace bearing assembly, mechanical seal, and thrust bearing	A	3
	11. Clean injection check valve and acrylic cylinder	A	1
	12. Ensure solenoid respond and differential pressure switch operates correctly	A	0.5
2. DAF (Dissolved Air Flotation)	13. Visual and sensory inspection and effluent quality	D	0.15
	14. Check sludge accumulation and remove as required	M	1
	15. Check drag skimmer system and lubricated as needed.	Q	1
	16. Draining the DAF Tank, cleaning, greasing and visual inspection	A	2
3. Oil/Water Separator	17. Visual and sensory inspection and effluent quality check	W	0.3
	18. Check oil accumulation and sludge and removal as required.	M	2
	19. Check and clean Flopak Media	Q	1
	20. Check and clean Retpak media and replace as necessary	Q	1
	21. Drain and visually inspect the interior of the tank.	SA	2
4. Pump Gear Box	22. Lubricant changed	BA	0.3
5. Mixer & Agitator	23. Check and lubricate	Q	0.15
	24. Oil change require for gear reducer	SA	0.5
	25. Keep all equipment clean and free of debris	M	0.25
6. Sludge Dewatering	26. Drain an visually inspect the interior of the tank	SA	1
	27. Bearing should be clean, inspect and lubricated	Q	0.5
	28. Check the cone and lubricated as necessary.	Q	0.15
7. Magnetic Drive Pump	29. Proper operation and sensory check	D	0.1

Items	Description	PMI interval	Unit Hour
	30. Check motor oil and change as necessary	SA	0.15
8. Electric devices	31. All the electric devices check and clean.	M	0.5
9. A/C (Air Conditioner-office)	32. Clean intake side of condenser coils, fans and screens	Q	0.1
	33. Lubricate shaft and motor bearings and check the refrigerant pressure.	Q	0.4
	34. Pressure wash condenser coil as required and check air filter	Q	0.7
	35. Clean electrical wiring, connections, evaporator coils, drain pan, blowers, fans, motors and drain piping as required.	A	0.6
Subtotal			

Additional Costs:	36. Chemical consumption	$20,000	$20,000
	37. Electrical supplies	$5,000	$5,000
	38. Spill kit and PPE	$5,000	$5,000
	39. Miscellaneous parts - hoses, caps, adapter, clamps etc	$3,000	$3,000
Operators	40. Fuels Dist System Operator	$40,590.79	$40,590.79
	41. General Maintenance Worker	$33,767.69	$33,767.69
Sub Total		$107,358	$107,358
Grand Total			

* Break down material shown above:

Description of materials	Quantity	Units	Unit Cost	Total Cost
Gear Oil - Heavy Duty	5	GAL	30	150
Gear Lubricate	10	QT	20	200
Cartridge valve	4	EA	75	300
Bearing assembly, mechanical seal, and thrust bearing	1	LS	450	450
Sodium Hydroxide	5200	LBS	1.6	8320
Polymer	1320	GAL	8.5	11220

Note:
D: Daily
W: Weekly M: Monthly Q: Quarterly
SA: Semi-Annual
A: Annual
BA: Bi-Annual

4.0 Standard Operating Procedures

4.1 Start Up Procedures

These procedures should only be followed when the system is being started for the first time or major plumbing/electrical/equipment repairs have been performed. A check list (Table 4-1) is also provided to assist the operator following the procedures for safe system start up.

1. Review manufacturers' operating manuals for all equipment.

2. Close OWS effluent valve.

3. Verify sludge and slop oil pump valves are open on OWS.

4. Verify the service disconnects for the Air Compressor, BWMCC, FPS, OWS, and IAF are in the 'OFF' position. Verify the switches for the four Chemical Mixers are in the 'OFF', or down, position. Verify all the selector/pushbutton switches on the BWMCC, FPS, OWS and IAF are in the 'OFF' or 'STOP' position.

5. Energize the site main service disconnect (in the Siemens enclosure) and the 480 VAC main circuit breaker in PP-1.

6. Energize breakers in PP-1 for the following:
   IAF (Circuits 1-3-5)
   FEED PUMP SKID (Circuits 2-4-6)
   AIR COMPRESSOR (Circuits 7-9-11)
   TRANSFORMER (Circuits 25-27-29)

7. Energize the 208/120 VAC main circuit breaker in PP-1.

8. Energize breakers in PP-2 for the following:
   OWS SYSTEM (Circuits 1-3-5)
   SUMP PUMP (Circuit 7)
   TANK CONSOLES (Circuit 9)
   BWMCC (Circuit 11)
   ECA MIXER (Circuit 2)
   2PA MIXER (Circuit 4)
   NaOH MIXER (Circuit 6)
   H_2SO_4 MIXER (Circuit 10)
   GFI OUTLETS (Circuits 12, 14)

9. Connect air lines to the filter press and pre-coat skid using the single stem seal quick disconnects.

10. Start air compressor by engaging disconnect switch and selecting the 'ON' mode on compressor panel.

11. Energize power to the FPS and OWS by engaging the respective disconnects.

12. Fill the LET.

Table 4-1: Start-Up and Shut-Down Checklist

Item							
System Start Up							
Review manufacturers' operating manuals							
Close OWS effluent valve							
Verify OWS sludge and slop oil pump valves are open							
Verify all service disconnects on the air compressor, BWMCC, FPS, OWS, and IAF are off							
Verify the switches for the four chemical mixers are off							
Verify all the selector/pushbutton switches on the BWMCC, FPS, OWS, and IAF are 'OFF'							
Energize the site main service disconnect and the 480 VAC main circuit breaker in PP-1							
Energize IAF breaker (Circuits 1-3-5) in PP-1							
Energize FPS breaker (Circuits 2-4-6) in PP-1							
Energize Air Compressor breaker (Circuits 7-9-11) in PP-1							
Energize Transformer breaker (Circuits 25-27-29) in PP-1							
Energize the 208/120 VAC main circuit breaker in PP-1							
Energize OWS breaker (Circuits 1-3-5) in PP-2							
Energize Sump pump breaker (Circuit 7) in PP-2							
Energize Tank consoles breaker (Circuits 9) in PP-2							
Energize BWMCC breaker (Circuits 11) in PP-2							
Energize ECA mixer breaker (Circuits 2) in PP-2							
Energize 2PA breaker (Circuits 4) in PP-2							
Energize NaOH breaker (Circuits 6) in PP-2							
Energize H2SO4 breaker (Circuits 10) in PP-2							
Energize GFI outlets breaker (Circuits 12, 14) in PP-2							
Connect air lines to Filter press (2) and precoat skid (2)							
Energize air compressor by engaging disconnect switch and selecting the 'ON' mode on compressor panel							
Energize power to the FPS and OWS by engaging respective disconnects							
Fill the LET							
Fill the OWS by selecting the 'LOCAL' position on the FPS panel. Select feed pump 1 or 2 by using the pump selector switch. Place keyswitch in 'MAINT' position. Turn H-O-A switch for selected pump to the 'Hand' position and engage 'START' button.							
Energize power to the BWMCC by engaging main disconnect							
Turn the flowmeter switch on							
Check flowmeter readout display located on the BWMCC							
Fill OWS 2/3 full with water							
Turn off feed pump by engaging the 'OFF' pushbutton							
Fill demulsifier feed tank with 1350 and adjust chemical metering pump flow rate							
Fill sodium hydroxide feed tank with 50% solution and adjust chemical metering pump flow rate							
Fill 2PA feed tank with 2PA and adjust chemical metering pump flow rate							
Turn on chemical feed tank mixers							
Adjust OWS mixers mixing speeds to 40 and 80% for the emulsion and pH adjustment chamber respectively							

Calibrate pH probe and controller on OWS							
Set pH control points and alarm							
Set low and high pH alarms using relay B							
Fill IAF with water							
Fill H2SO4 feed tank with sulfuric acid and adjust chemical metering pump flow rate							
Turn on sulfuric acid feed tank mixer							
Open the OWS effluent ball valve							
Set IAF feed pump suction and discharge valve position to selected pump in next step							
Energize power to IAF by engaging main disconnect. Select 'LOCAL' position on IAF panel. Select feed pump 1 or 2 with pump selector switch, place keyswitch in MAINT' position.							
Engage 'START' pushbutton for selected pump							
Verify that IAF recycle valve throttles							
Adjust IAF skim operation timing relay							
Re-start FPS pump and verify proper throttling of IAF effluent valve							
Verify that the OWS sludge pump is operational							
Verify that the OWS slop oil pumps are operational							
Verify that the precoat skid double diaphragm pump is operational by adjusting air feed regulator							
Verify that the precoat skid mixer is operational by adjusting air feed regulator							
System Shut Down							
Stop feed pump on FPS panel							
Stop IAF feed pump from IAF control panel							
Shut down air compressor							
Turn main disconnect on FPS, OWS, IAF, and BWMCC electrical panels to 'OFF' positions							
Turn control and selector switches on the BWMCC, FPS OWS, and IAF control panels to 'OFF' positions							
Turn off site main service disconnect							
Close manual valve to sewer							
Record date and time							

Source: Arthur D. Little, Inc.

13. Begin filling the OWS by selecting the 'LOCAL' position on the FPS. Select Feed Pump 1 or Feed Pump 2 by using the Pump Selector switch; place the keyswitch in the 'MAINT' position. For the selected pump, turn the 'HAND-OFF-AUTO' selector switch to the 'Hand' position (see Note below describing the function of the HOA switches). Engage the 'START' pushbutton for the selected pump.

NOTE: The operation of the 'HAND-OFF-AUTO' (HOA) switches is as follows. In the 'OFF' position, no power is applied to the loads. In general, the 'HAND' mode is the manual mode, i.e. some or all of the safety sensor controls are overridden. The 'AUTO' mode employs all of the safety sensor controls, such as High or Low Level Sensors, and Level Indicating Sensors (LIS) to cycle the equipment on and off as appropriate.

14. Energize power to the BWMCC by engaging the main disconnect. Turn the flowmeter switch on.

15. Check the flow meter readout display located on the BWMCC panel.

16. Continue filling the OWS until it is approximately 2/3 full with tap water; turn off the Feed Pump by engaging the 'OFF' pushbutton.

17. Fill the demulsifier feed tank with ECA-1350 demulsifier using the appropriate chemical transfer pump. Ensure the metering pump selector switch is in the INTERNAL mode. Clean the transfer pump with tap water and adjust the flow rate of the ECA-1350 metering pump between 10 to 33 gpd. (Initial processing may be needed for final adjustment).

18. Fill the sodium hydroxide feed tank with 50% sodium hydroxide using the appropriate chemical transfer pump. Ensure the metering pump selector switch is in the EXTERNAL mode. Clean the transfer pump with tap water. Adjust the stroke of the metering pump to between 50% and 100% while the pump is running. (Initial processing may be needed for final adjustment).

19. Fill the polymer feed tank with ECA-2PA polymer using the appropriate chemical transfer pump. Ensure the metering pump selector switch is in the INTERNAL mode. Clean the transfer pump with tap water and adjust the flow rate of the ECA-2PA metering pump between 10 to 33 gpd. (Initial processing may be needed for final adjustment).

20. Start the chemical feed tank mixers.

21. Adjust mixing speeds for both electric mixers on the OWS. The emulsion chamber mixer should be set at about 40 percent full scale and the pH adjustment chamber mixer should be set at about 80 percent full scale.

22. Calibrate the pH probe and controller on the OWS per manufacturer's operating manual.

23. Set the pH control points to start and stop the sodium hydroxide metering pump per the manufacturer's operating manual. Relay A should be used to set the process control for this pH controller. Recommended set points are pH 8.5 to start the pump and pH 9.2 to stop the pump.

24. Use Relay B in the pH controller to set a low and high pH alarm per the manufacturer's operating manual. Recommended set point for the low and high pH alarm are pH 8.7 and 9.5.

25. Fill the IAF with tap water until water overflows to sewer.

26. Fill the H_2SO_4 feed tank with sulfuric acid using the appropriate chemical transfer pump. Ensure the metering pump selector switch is in the INTERNAL mode. Clean the transfer pump with tap water and adjust the flow rate of the H_2SO_4 metering pump as required. (Initial processing may be needed for final adjustment).

27. Start the chemical feed tank mixer for the H_2SO_4 tank.

28. Open the OWS manual effluent ball valve. Energize power to the IAF by engaging the main disconnect. Select the 'LOCAL' position on the IAF panel. Select Feed Pump 1 or Feed Pump 2 by using the Pump Selector switch; place the keyswitch in the 'MAINT' position.

    CAUTION: Verify that the IAF suction and discharge valves for Pump 1 and Pump 2 are properly configured to allow proper flow.

    Engage the 'START' pushbutton for the selected pump. The IAF recycle valve should start throttling when water level in the OWS effluent chamber reaches a preset high level. The recycle valve is fully open to recycle 100% of required flow to the IAF when water level in the OWS effluent chamber reaches a preset low level.

29. Adjust IAF skim operations by setting the timing relay in the separate enclosure to 15 minutes on the frequency and 2 to 5 minutes on the duration. The total volume of skim should not exceed 3% of the total volume of treated wastewater. Recommended skim is 1% to 2%.

30. Re-start the Feed Pump on the FPS control panel. Observe the liquid level and verify that a constant level is maintained through automatic throttling of the IAF effluent valve.

31. Verify that the OWS sludge pump operates. Activate pump using the 'OFF-ON' switch on the OWS control panel. Turn pump off.

32. Verify that the slop oil pumps operate. Activate pumps using the 'HAND' mode and the pump selector switch on the OWS control panel. Turn pumps off.

33. Verify that the pre-coat skid double-diaphragm pump operates. This can be checked by opening the regulator feeding air into the pump. Turn pump off.

34. Verify that the pre-coat skid mixer operates. This can be checked by opening the regulator feeding the mixer and the needle valve on the mixer. Turn mixer off.

Shut down procedures are as follows:

1. Stop the Feed Pump from the FPS panel.
2. Stop IAF Feed Pump from the IAF control panel.
3. Shut down air compressor.
4. Turn main disconnect on the FPS, OWS, IAF, and BWMCC electrical panels to 'OFF' positions.
5. Turn control and selector switches on the BWMCC, FPS, OWS, and IAF control panels to 'OFF' positions.
6. Turn off site main service disconnect at main electrical feeder. (Siemens enclosure)
7. Close manual valve to the sewer. This is to prevent "unexpected" discharging by siphon if the IAF effluent valve leaks.
8. Record date and time the system was shut down.

4.2 Standard Operating Procedures

Standard operating procedures are given as follows. These procedures should be followed for day to day operations. An operations check list (Table 4-2) is provided to assist the operators following the operating procedures.

1. Verify the service disconnects for the FPS, OWS, IAF, BWMCC, and Air Compressor are in the 'OFF' position. Verify that the switches for the four Chemical Mixers are in the 'OFF' or down, position. Verify all the selector/pushbutton switches on the BWMCC, FPS, OWS, and IAF are in the 'OFF' or 'STOP' position. Energize power via the site main service disconnect (Siemens enclosure). Place the keyswitch on the BWMCC to the 'RUN' position. Ensure the Sump Pump circuit breaker in PP-2 is engaged.
2. Verify that appropriate manual valves on the process lines are open. These include: (1) valves on the discharge and suction sides of the OWS oil discharge pumps, (2) valves on the suction and discharge sides of the OWS sludge pump, (3) the OWS effluent valve, (4) valves at suction and discharge side of IAF influent/recirculation pump selected, (5) the valve to the sewer, (6) valves at the suction side of the four metering pumps, (7) valves at the suction and discharge side of the selected feed pump, (8) valves on the inlet and discharge side of the sludge tank, (9) valve on the inlet of one of the slop oil tanks.
3. Start up Air Compressor.
4. Check and refill chemical tanks if necessary; verify mixers are operating.
5. Energize power to the FPS and OWS by engaging the respective disconnects. Place keyswitches to the 'RUN' position.

Table 4-2: Standard Operations Checklist

Week Ending:

Item	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
System Standard Operations							
Verify the service disconnects on the FPS, OWS, IAF, BWMCC and Air Compressor are in the 'OFF' position							
Verify the switches for the four chemical mixers are in the 'OFF' position							
Verify all the selector/pushbutton switches on the BWMCC, FPS, OWS, and IAF are in the 'OFF' or 'STOP' position							
Engage the main service disconnect							
Place the BWMCC keyswitch in the 'RUN' position							
Ensure the Sump Pump circuit breaker in PP-2 is on							
Verify all manual system valves are correctly positioned							
Start Air Compressor							
Check and refill chemical feed tanks if necessary							
Energize power to the FPS and OWS by engaging respective disconnects and place keyswitches in the 'RUN' position							
Turn control switches on the OWS panel for mixers to the 'ON' position							
Operate the OWS sludge pump once a week for 1 to 2 minutes to empty sludge trough							
Turn control switches for NaOH chemical metering pump and the selected oil pump to 'AUTO' position and select oil discharge pump 1 or 2							
Verify IAF tank is full and OWS effluent chamber is full							
Energize power to IAF by engaging the main, feed pump, and skim pump disconnects and place keyswitch in the RUN' position							
Select 'REMOTE' position on IAF panel							
Select IAF feed pump 1 or 2 with pump selector switch							
Engage 'START' button for selected IAF pump on BWMCC							
Adjust IAF eductor valve so gage reads 10"-15" of vacuum							
Turn control switches on BWMCC for LET sensors and flow meter to 'ON' positions							
Turn switches for ECA-1350, ECA-2PA, and H2SO4 chemical feed pumps and LET fail-safe valve to 'AUTO'							
Select 'REMOTE' position on FPS panel and select feed pump 1 or 2 with pump selector switch							
For selected pump turn 'HAND-OFF-AUTO' switch to 'AUTO'							
Select 'AUTO' position for selected pump on BWMCC							
During operation, operator should perform the following							
Periodically calibrate pH sensor							
Monitor liquid level in sludge storage tank and operate the filter press as required							
Monitor liquid level in slop oil tank and schedule a tank truck as required							
Inventory liquid level in chemical feed tanks and fill as required							
Collect effluent samples to monitor BOWTS performance							
Operate redundant equipment such as pumps periodically							

System Shut Down							
Stop FPS feed pump from BWMCC panel							
Stop IAF feed pump from IAF control panel							
Shut down air compressor							
Turn main disconnects on FPS, OWS, and IAF panels to OFF' positions							
Turn control and selector switches on BWMCC, FPS OWS, and IAF control panels to 'OFF' positions							
Turn off site main service disconnect at main feeder box							
Record date and time system was shut down							

Source: Arthur D. Little, Inc

6. Turn control switches on the OWS panel for Mixers to the 'ON' position.

NOTE: The sludge pump is operated manually about once a week for a period of about 1 to 2 minutes. This should be enough time to de-sludge the oil chamber sludge trough.

7. Turn control switches for the NaOH Chemical Metering Pump and the selected Oil Pump to 'AUTO' positions and select oil discharge pump 1 or 2.

8. Verify the IAF tank is full and the OWS has water in effluent chamber.

9. Energize power to the IAF by engaging the main, Feed Pump, and Skim Pump disconnects. Place keyswitch in the 'RUN' position.

10. Select the 'REMOTE' position on the IAF panel. Select Feed Pump 1 or Feed Pump 2 by using the Pump Selector switch. Engage the 'START' pushbutton for the selected pump on the BWMCC. Adjust the eductor valve such that the gage reads 10 to 15 inches of vacuum located on the IAF. The system is now ready to process wastewater.

11. Turn control switches on the BWMCC for LET Sensors and Flow Meter to 'ON' positions.

12. Turn control switches for ECA-1350, ECA-2PA, and H_2SO_4 Chemical Feed Pumps and LET Valve to 'AUTO' positions.

13. Select the 'REMOTE' position on the FPS panel. Select Feed Pump 1 or Feed Pump 2 by using the Pump Selector switch. For the selected pump, turn the 'HAND-OFF-AUTO' selector switch to the 'AUTO position. Select the 'AUTO' position for the selected pump on the BWMCC. The Feed Pump on the FPS will cycle with the level of water in the LET (*on* when the level reaches a preset 'high' level, *off* when the level reaches a preset 'low' level).

During operation, the operator should perform the following tasks:

1. Periodically calibrate the pH sensor per the manufacturers' operation manual.

2. Monitor liquid level in the sludge storage tank. The revolving beacon and an audible alarm will indicate a full tank. Operate the dewatering system to remove sludge from the system. Recommended back pressure for filter press plates is 5000 psi on hydraulic cylinder at startup. Operator should stop the filter press feed pump at the end of the filter press run and before the pump reaches its shut off head. This point can be identified audibly by a greatly decreased number of pump strokes per minute. Note that clear water may accumulate in the sludge storage tank after sludge settles. The operators should use the filter press feed pump to recycle the clear water to the LET.

3. Monitor liquid level in the slop oil storage tanks by visual examination. A revolving beacon and an audible will indicate a full tank. A full tank may be 'BYPASSED' on the BWMCC. Schedule a tank truck for offsite disposal as required.

4. Inventory liquid level in each chemical storage tank.

5. Periodically collect effluent samples to monitor the BOWTS performance.

6. Where redundant equipment is furnished, such as the OWS feed pumps, the OWS oil pumps, and the IAF feed pumps, spare or standby equipment should be operated periodically and serviced regularly to ensure their availability in the event of a failure.

Shut down procedures are as follows:

1. Stop the FPS feed pump from the FPS control panel on the BWMCC by pressing 'STOP' button.

2. Stop IAF feed pump from the IAF control panel by pressing 'STOP' button.

3. Shut down air compressor.

4. Turn main disconnects on the FPS, OWS, and IAF panels to 'OFF' positions.

5. Turn control and selector switches on the BWMCC, FPS, OWS, and IAF control panels to 'OFF' positions.

6. Turn off site main service disconnect at main electrical feeder (Siemens enclosure).

7. Record date and time the system was shut down.

4.3 Troubleshooting Guide

The following troubleshooting guide (Table 4-3) is presented to provide the operator with a list of possible system problems, their causes, and recommended actions for diagnosing and correcting system malfunctions.

Table 4-3: Troubleshooting Guide

Symptom	Possible Causes	Corrective Action
BWMCC		
BWMCC controls inoperative	No 120V power at BWMCC	If 'POWER ON' light out, check PP2 Circuit Breaker Panel, CB11
FPS 'POWER AVAILABLE' lights both out	No 480V power at FPS	Check PP1 Circuit Breaker Panel, CB2-4-6
	FPS Panel not energized	Check 480V Main Disconnect at FPS Panel
	Pump not energized	Check 480V Disconnect for Pump 1 'ON' or Pump 2 'ON'
	Pump not selected	Select Pump 1 or Pump 2 with FPS Pump Selector Switch
BWMCC System Feed Pump 'START' Push buttons inoperative (NOTE: There is a delay to allow the Influent Valve to open)	Improper switch settings on FPS	Set switches on FPS as follows: Keyswitch >> 'MAINT' H-O-A >> 'H' ('HAND') If 'REMOTE MODE' light out, LOCAL/REMOTE >> 'REMOTE'
	No 120V power at LET Sensors	Select LET SENSORS >> 'ON'
	Water level in LET too low	Fill LET above Low-Low level
	OWS High Liquid Level in Oil/Effluent Tank(s)	See **OWS** troubleshooting section
BWMCC 'AUTO MODE' light on, System Feed Pump(s) inoperative	'OFF/AUTO' Switch set improperly	Select OFF - AUTO >> 'AUTO'
	No 120V power at LET Sensors	Select LET SENSORS >> 'ON'
	Water level in LET too low	Fill LET above Low level
	OWS High Liquid Level in Oil/Effluent Tank(s)	See **OWS** troubleshooting section
IAF 'POWER AVAILABLE' lights both out	No 480V power at IAF	Check PP1 Circuit Breaker Panel, CB1-3-5
	IAF Panel not energized	Check 480V Main Disconnect at IAF Panel

Table 4-3: Troubleshooting Guide

Symptom	Possible Causes	Corrective Action
BWMCC - Con't.		
IAF 'POWER AVAILABLE' lights both out (continued)	IAF Pump circuit not energized, or, both circuits are energized	Check 480V Pump Disconnect at IAF Panel; only one Pump circuit should be 'ON'
	Pump not selected	Select Pump 1 or Pump 2 with IAF Pump Selector Switch
BWMCC IAF Feed Pump 'START' PBs inoperative	Improper mode selected on IAF	If 'REMOTE MODE' light out, LOCAL/REMOTE >> 'REMOTE'
	Liquid level in IAF Vessel too low	Check K-Tech sight gauge on IAF; check for leaks
	Liquid level in IAF Vessel too high	Check K-Tech sight gauge on IAF; check effluent valve, sensor outlet
Flow Meter Display inoperative	FLOW METER' Switch off	Select FLOW METER >> 'ON'
No flow displayed on meter	Flow sensor fouled	Clean paddle wheel on sensor
	Meter not programmed	Reprogram panel meter
ECA/2PA/H_2SO_4 Chemical Pump(s) inoperative	No 120V power to Pumps	Check PP2 Circuit Breaker Panel, CB2, 4, 6; check power switch(s) at Pump(s)
	Improper switch settings at Pump(s)	Select Internal Trigger mode at Pump(s); adjust Speed setting(s); adjust Stroke setting(s)
ECA/2PA/ H_2SO_4 Pumps inoperative in 'HAND' mode	Keyswitch in wrong position	Select Keyswitch >> 'MAINT'
ECA/2PA/ H_2SO_4 Pumps inoperative in 'AUTO' mode	System Feed Pump not running	See **FPS** troubleshooting section
LET Valve inoperative in 'HAND' mode	Keyswitch in wrong position	Select Keyswitch >> 'MAINT'
LET Valve inoperative in 'AUTO' mode	System Feed Pump not running	See **FPS** troubleshooting section
LET Level Sensors inoperative	No 120V power at LET Sensors	Select LET SENSORS >> 'ON'
'LET FULL' Light on; LET Tank full	LET Level Sensor(s) failed	Repair/replace LET Sensor(s)
	Influent Valve failed to open	Repair/replace Influent Valve

Table 4-3: Troubleshooting Guide

Symptom	Possible Causes	Corrective Action
BWMCC - Con't.		
'LET FULL' Light on; LET Tank full (continued)	System Feed Pump(s) failed	See **FPS** troubleshooting section
OIL TANK 1/2 FULL' Light on	Oil Tank(s) full	Select Tank Switch >> 'BYPASS'; manually valve to other tank, if empty; dischage both tanks, if full
'SLUDGE TANK FULL' Light on	Sludge Tank full	Select Tank Switch >> 'BYPASS'; manually valve off tank; discharge tank at next opportunity
Alarm/Strobe on	EMERGENCY STOP' PB depressed	Pull out PB
	No 120V power at Oil/Sludge Tanks	Check PP2 Circuit Breaker Panel, CB9
	Oil/Sludge Tank(s) full	Select Tank Switch >> 'BYPASS'; manually valve off tank; discharge tank(s) at next opportunity
	OWS High Liquid Level in Oil/Effluent Tank(s)	See **OWS** troubleshooting section
	No 120V power at LET Sensors	Select LET SENSORS >> 'ON'
	LET Tank full	Check LET Tank level; empty tank below High Level
FPS		
FPS controls inoperative	No 480V power at FPS	Check PP1 Circuit Breaker Panel, CB2-4-6
	FPS Panel not energized	Check 480V Main Disconnect; check fuses inside enclosure
'START' PBs inoperative (NOTE: There is a delay to allow the Influent Valve to open)	Improper switch settings	Set switches as follows: Keyswitch >> 'MAINT' H-O-A >> 'H' ('HAND') LOCAL/REMOTE >> 'LOCAL'
	No 120V power at LET Sensors	At BWMCC Panel, select LET SENSORS >> 'ON'
	Water level in LET too low	Fill LET above Low-Low level
	OWS High Liquid Level in Oil/Effluent Tank(s)	See **OWS** troubleshooting section
	No 120V power at Oil/Sludge Tanks	Check PP2 Circuit Breaker Panel, CB9

Table 4-3: Troubleshooting Guide

Symptom	Possible Causes	Corrective Action
FPS-Cont'd		
	Oil Tank(s) full	Select Tank Switch >> 'BYPASS'; manually valve to other tank, if empty; dischage both tanks, if full
	Sludge Tank full	Select Tank Switch >> 'BYPASS'; manually valve off tank; discharge tank at next opportunity
	'EMERGENCY STOP' PB depressed on BWMCC	Pull out PB on BWMCC
'AUTO MODE' inoperative	Improper switch settings	On BWMCC Panel, select OFF - AUTO >> 'AUTO'
	No 120V power at LET Sensors	On BWMCC Panel, select LET SENSORS >> 'ON'
	Water level in LET too low	Fill LET above Low level
	OWS High Liquid Level in Oil/Effluent Tank(s)	See **OWS** troubleshooting section
	No 120V power at Oil/Sludge Tanks	Check PP2 Circuit Breaker Panel, CB9
	Oil Tank(s) full	Select Tank Switch >> 'BYPASS'; manually valve to other tank, if empty; dischage both tanks, if full
	Sludge Tank full	Select Tank Switch >> 'BYPASS'; manually valve off tank; discharge tank at next opportunity
	'EMERGENCY STOP' PB depressed on BWMCC	Pull out PB on BWMCC
Pump(s) stop after short time delay (30 secs)	Influent Valve closed; no flow condition	On BWMCC Panel, select LET VALVE H-O-A >> 'AUTO'
	Influent Valve failure	Repair/replace Influent Valve
	Flow Switch failure	Repair/replace Flow Switch
'OL-1' or 'OL-2' Light on	Overload condition at motor starter	Depress 'RESET' button; if condition persists, repair/replace Pump Motor
OWS controls inoperative	No 208V power at OWS	If 'POWER ON' light out, check PP2 Circuit Breaker Panel, CB1-3-5

Table 4-3: Troubleshooting Guide

Symptom	Possible Causes	Corrective Action
OWS		
OWS controls inoperative (cont'd)	OWS Panel not energized	Check 208V Main Disconnect; check fuses inside enclosure
Sludge Pump inoperative	Improper switch setting	Select SLUDGE PUMP >> 'ON'
Oil Pump(s) inoperative in 'HAND' mode	Keyswitch in wrong position	Select Keyswitch >> 'MAINT'
Oil Pump(s) inoperative in 'AUTO' mode	Oil Pump High/Low Level Switch failure	Repair/replace Level Switch(es)
Mixer(s) inoperative	Improper switch settings	Select MIXER >> 'ON'; adjust speed control pot
NaOH Chemical Pump inoperative	No 120V power to Pump	Check power switch at Pump
	Improper switch settings at Pump	Select External Trigger mode at Pump; adjust Stroke setting
NaOH Chemical Pump inoperative in 'HAND' mode	Keyswitch in wrong position	Select Keyswitch >> 'MAINT'
NaOH Chemical Pump inoperative in 'AUTO' mode	NaOH Mixer switch off	Select NaOH MIXER >> 'ON'
	pH controller not properly adjusted	Run diagnostics on controller
High Liquid Level in Oil Tank	Oil Pump(s) off	Select OIL PUMP >> 'AUTO'
	Oil Pump(s) inoperative in 'AUTO' Mode	Repair/replace level switch(es); Select OIL PUMP >> 'HAND'
	Oil Pump(s) inoperative in 'HAND' Mode	Select Keyswitch >> 'MAINT'
	Oil Pump failure	Repair/replace Pump(s)
High Liquid Level in Effluent Tank	Closed OWS Effluent Valve	Open Valve
	IAF Pump(s) off	Turn on IAF
	IAF Pump failure	Repair/replace Pump; use standby Pump
OWS overflows	Liquid Level Switch failure	Repair/replace Level switch(es)
Out of Spec pH	Fouled pH Probe/pH controller not calibrated	Clean Probe; recalibrate pH controller

Table 4-3: Troubleshooting Guide

Symptom	Possible Causes	Corrective Action
IAF		
IAF controls inoperative	No 480V power at IAF	Check PP1 Circuit Breaker Panel, CB1-3-5
	IAF Panel not energized	Check 480V Main Disconnect
'START' PBs inoperative	Improper switch settings	Select 'P1' or 'P2'; select LOCAL/REMOTE >> 'LOCAL'
	Overload condition at motor starter	Depress 'RESET' button; if condition persists, repair/replace Pump Motor
Liquid level in IAF Vessel too low	Level Sensor failure	Check K-Tech sight gauge; repair/replace Level Sensors
Liquid level in IAF Vessel too low	Leak(s) in vessel	Check for leaks
Liquid level in IAF Vessel too high	Level Sensor failure	Repair/replace Level Sensors
	Effluent Valve off	Check effluent valve, sensor outlet
Skim Pump inoperative	Overload condition at motor starter	Depress 'RESET' button; if condition persists, repair/replace Pump Motor
Skim Pump inoperative in 'HAND' mode	Keyswitch in wrong position	Select Keyswitch >> 'MAINT'
Skim Pump inoperative in 'AUTO' mode	Skim Float failure	Repair/replace Skim Float
Inadequate skimming; Skim Valve inoperative	Skim Timer improperly set	Adjust Skim Timer
	Skim Float failure	Repair/replace Skim Float
Effluent Valve inoperative	Skim Timer improperly set	Adjust Skim Timer
	Level Controller failure	Repair/replace Level Controller
Recycle Valve inoperative	OWS Liquid Level Sensor improperly adjusted	Run diagnostics on controller
MISCELLANEOUS		
Tank Level Sensor Console(s) inoperative	No 120V power at Tanks	Check PP2 Circuit Breaker Panel, CB9
Oil Tank Alarm/Strobe on	Oil Tank(s) full	Manually valve to other tank, if empty; dischage both tanks, if full

Table 4-3: Troubleshooting Guide

Symptom	Possible Causes	Corrective Action
MISCELLANEOUS -Cont'd		
Sludge Tank Alarm/Strobe on	Sludge Tank full	Manually valve off tank; discharge tank at next opportunity
Sump Pump inoperative	No 120V power at Sump	Check PP2 Circuit Breaker Panel, CB7
LET Skim Pump inoperative	No air pressure at Skim Pump	Check valve at Skim Pump
Air Compressor inoperative	No 480V power at Air Compressor	Check PP1 Circuit Breaker Panel, CB7-9-11
SYSTEM		
Low effluent pH from OWS	pH controller not calibrated	Recalibrate pH controller
	Insufficient NaOH added	Check NaOH Chemical Pump rate;
	Insufficient NaOH in tank	Mix additional NaOH in tank
	Excessive salt water	Increase NaOH Chemical Pump stroke setting
High emulsified oil	Insufficient polymer added	Check demulsifier Chemical Pump rate for rate and concentration in effluent; adjust as required
	Insufficient demulsifier in tank	Mix additional demulsifier in tank
High suspended solids	Inadequate IAF skimming	Adjust IAF Skim Timer
	Insufficient ECA/2PA in tank	Mix additional ECA/2PA in tank

Source: Arthur D. Little, Inc.

Section J – 1605000 Steam	
Attachment Number	**Attachment Title**
J-1605000-01	Steam Systems Description
J-1605000-02	Historical Chemical and Material Usage
J-1605000-03	Workload Data

Attachment J-1605000-01 Steam Systems Description
The Steam Plant and Distribution Systems commence at and include the utility isolation point of connection. The Contractor shall develop and implement a PM program for the Steam Plant and Distribution Systems and all mechanically and electrically interlocked ancillary parts, equipment and components of the Steam Plant and Distribution Systems, such as boilers, air compressors, alarm devices, antennas, auxiliary generators, backflow prevention devices, chemical feed systems, control panels, deaerator systems, electric motors, filters, gauges, meters, overcurrent devices, piping, pumps, receivers, reverse osmosis water filtration systems, sensors, tanks, transmitters, valves, water treatment systems, monitoring and controls systems, etc.
Steam Plants
Building 6025 is located on Victor Wharf and is a Permanent boiler building with two boilers. Service at Victor Wharf is provided from the steam plant at BLDG 6025 through a permanent distribution system. The boiler plant at Victor wharf (CNRW-6025) has a 500 HP continuous capacity supported by two (2) 250 HP boilers and is distributed to Victor Wharf. Building 4451 is located at Polaris Point and is a Permanent boiler building with two boilers. The boiler plant at Polaris Point has a 300 HP continuous capacity supported by two (2) 150 HP boilers. Service to the Alpha Wharves are provided through temporary hoses laid to the ships. Building 4906 is located at Polaris Point and is a permanent demineralized treatment facility. There are three (3) portable boilers that are along the wharves (waterfront). These boilers provide shore steam where the plant cannot (Romeo and Sierra Wharves). A 150 HP Package Boiler feeds Romeo Wharf lines (no permanent boiler); a 150 HP Package Boiler feeds Sierra Wharf lines (no permanent boiler) and a 400 HP MUSE unit from EXWC. The two 150 HP Package Boiler units have one held in duty cycle and are in containers resting on the ground that can be loaded onto trailers for transportation. A single point of connection to the system results in 150 HP continuous service. Capacity may be limited due to the configuration of the distribution system.
Steam Distribution Systems
Steam is delivered to ships through a series of igloos containing multiple hookup steam risers located at each wharf. Distribution piping for the steam supply is a combination of direct-buried conduit, steel and concrete covered trenches, and a combination of riser steam pits, elevation steam pits, building steam pits, and aboveground/overhead piping. Most of the piping is steel (schedule 40 and 80). No condensate will be returned to the boilers.

Attachment J-1605000-02
Historical Chemical and Material Usage

Description	**2018**
Phosphate – 385 gallons per month	4620
Sulfite – 385 gallons per month	4620
Morphine – 385 gallons per month	4620
Brine - 2,500 pounds per month	30,000
Acid – 220 gallons per month	2640
Caustic – 165 gallons per month	1980

Notes:

1. The table shows only for two (2) 150 HP boilers at Polaris, two (2) 300 HP boilers at Victor Steam Plant, two (2) 100 HP Package boilers at PB#4 and PB#5 and one (1) 400 HP boiler MUSE at full operation/capacity. The usage will vary each month depending on the production.
2. Demineralized Water operations will vary each month depending on the production.

Item	Title	Projected Qty (12 Month)	NOTES
1	**Production/ Treatment Operations - Operate Efficiently and Safely the Steam, Hot Water and Demineralized Water Plant Equipment to Produce Quality Reliable Steam, Hot and Demineralized Water Such That all Steam and Related Hot Water and Demineralized Water**		
	Boiler Plants	36	3 X 12 mos
	Hot Water Plants	12	1 x 12 mos
	De-mineralized Water Plant	12	1 x 12 mos
	Produce / Supply De- mineralized Water to meet requirements	5,400,000	Supply vs Demand
2	**Distribution Operations**		
	Steam Distribution Systems	84	7 x 12 mos
	Hot Water Distribution Systems	12	1 x 12 mos
	Demineralized Water Distribution System (1 x 12 mos)	12	1 x 12 mos
3	**Maintenance and Repair - Components of the Steam, Hot Water and Demineralized Water Generation and Distribution Systems are at Optimum Equipment Performance, Availability and Reliability**		
	2 Boiler Plants with a Total of 9 Boilers	96	8 x 12 mos
	Heat Exchangers and Deaerators	12	1 x 12 mos
	Hot Water Plants	12	1 x 12 mos
	De-mineralized Water Plant	12	1 x 12 mos
	Boiler Burner PM	96	8 x 12 mos
	Repair Pipe Insulation	240	as required
	Calibrate Gauges	300	Increased calibrations ; NOTE: Other annexes & customers should not be included
	Repair Steam & Hot Water Leak	3	
	Projects Greater Than $25,000	2	Requires Approval By The COR

Section J – 1606000 Water	
Attachment Number	**Attachment Title**
J-1606000-01	Water Systems Description
J-1606000-02	Historical Potable Water Chemical Usage
J-1606000-03	GEPA Well Operating Permits
J-1606000-04	Fire Reservoir Levels
J-1606000-05	Water Workload Data

Attachment J-1606000-01 Water Systems Description
The water sources include the Fena Reservoir and dam, the Almagosa and Bona springs and 13 deep wells to the underground water source. Water is chlorinated prior to distribution. Wells are operated under Guam Environmental Protection Agency (GEPA) permits. The Fena Water Treatment Plant capacity is approximately 13.5 million gallons per day (MGD). The current total production of the deep-wells and the treatment plant is approximately 5 to 10 MGD. The storage capacity for the Navy distribution system is approximately 20 to 21 million gallons. The Navy's potable water distribution system has 11 storage tanks, 9 booster pumping stations (Barrigada, Adelup, Asan, Fena Pump Station, Harmon, NBGTS Booster Pump Station, Bona, Building 90 at NBG Barr, and Clearwell), and approximately 180 miles of distribution lines and appurtenances. MAXIMO Utilities Assets are provided in J-1601000-02. Water assets are identified by the UNIFORMAT Master System, System, and Sub System structure per NAVFAC P-603 Utilities Infrastructure Management Manual.

Attachment J-1606000-02
Historical Potable Water Chemical Usage

Alum		ACH		Salt		Phosphates		Fluoride		Chlorine	
2016 chemical usage											
Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total
1,349 #	122,000 #	39.6 #	0,857 #	42.2 #	200,200 #	97.8 #	37,710 #	28.1 #	10,260 #	32 #	11,770 #
2017 chemical usage.											
Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total
0 #	0 #	61.9 #	22,299 #	738 #	269,275 #	90 #	33,025 #	25.9 #	9,242 #	31 #	11,170 #
2018 chemical usage.											
Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total	Daily Ave	Yearly Total
0 #	0 #	66.4 #	23,595 #	662.9 #	241,891 #	108.3 #	39,550 #	23.6 #	8,615 #	32 #	11519#

Attachment J-1606000-03 GEPA Well Operating Permits
Attachment J-1606000-03 GEPA Well Operating Permits provided as a separate attachment (Provided as file name: Attachment J-1606000-03 GEPA Well Operating Permits.pdf).

Attachment J-1606000-04
Minimum Fire Reservoir Levels

RESERVOIR	FIRE LEVEL	FULL LEVEL	GALLONS /FOOT
NAVAL MAG	13.9	18.36	39,215
MAANOT	7.6	14.5	81,379
CLEARWELL	18.25	18.25	58,000
APRA HEIGHTS	7.2	17.93	290,016
TUPO	17.93	17.93	290,016
ADELUP	11.79	17.94	167,224
NIMITZ HILL	11.5	18.22	58,177
HOSPITAL	13.5	18.22	58,177
BARRIGADA	15.6	18.25	174,246
NCS GROUND	6.5	10.00	20,000
NCS NEW	14.5	32.00	15,625
Total Stored Water Volume			22.36 million gallons

Title	Quantity	Units	NOTES
Production / Treatment Operations			
Fena Water Treatment Plant capacity. Plant capacity is approximately 13. 5 million gallons per day (MGD), +/- 15%. [Total FENA Lake Produced	14	MGD	Plant Capacity is Approx. 13.5 Million Gallons Per Day (MGD), +/- 15%
Fena Reservoir and Dam	1	Each	1 dam
Springs (Almagosa and Bona) (2 Springs - Count Spring Even if Only One Pump Working)	2	Each	2 springs
Deep Wells	13	Each	13 well
Total Wells Produced Per Month	3	MGD	
Distribution Operations			
Storage Capacity (Total Volume Storage - [TVS AVG Volume]) Maintained at 18 To 20 Million Gallons. TVS of 15 Million Gallons or Less Must Be Reported and Corrected with an Increase in Level Readings From Twice Daily to One Every Four Hours at Each Water	20	MGD	average of 20 MGD
Storage Tanks	12	Each	12 tanks
Booster Pumping Stations	9	Each	9 Pump Stations
180 Miles of Distribution Lines and Appurtenances	180	Miles	180 miles
Water Meters	345	Each	345 meters
Backflow Preventer Units	177	Each	177 testable active bfp NOTE: This count is for NWCF backflow preventers only; this does not include Facility backflow preventers which is performed via cross-annex support.
Maintenance			
Calibrate or Replace Gauges	228	Each	total count of gauges = 228.
Valves Exercised	1,440	Each	adding in Fire Hydrant isolation valves
Drain/Clean/Inspect/Disinfect Water Tank Sections (Compartment or Cells)	32	Cells	11 reservoirs with total of 32 cells
Maintain 180 Miles of Distribution Lines and Appurtenances	180	Miles	
Flush, Test, and Refurbish Hydrants Annually	780	Each	total count of fire hydrants.
Flush Fire Hydrants Per The Water Quality Program	780	Each	total count of fire hydrants.
Test/PM Fire Hydrants	780	Each	total count of fire hydrants.
Test and Calibrate Water Meters Annually	480	Each	Total count of meters.
Test BFPs Annually	180	Each	This includes BFP and risers. High hazard BFPs are tested twice a year.
Industrial Control Systems (ICS) - SCADA	3,600	Unit	Barrigada Booster Pump Station, Nimitz Hill, Naval Hospital, Radio Barrigada, Adelup Reservoir, Fena Pump House, Fena Screen House, Fena Water Treatment Plant (13 included), Apra Reservoir, Tupo Reservoir, Naval Magazine Reservoir, Maanot Reservoir) and
SCADA assets maintained	720	Unit	
Disaster Preparation			
Tropical Storms	1	Each	
Typhoons	1	Each	
Inventory List of Contingency Material Every Quarter (1 Per Quarter)	1	Per Quarter	(1 Per Quarter)
Disaster Response	2	Unit	
Disaster Recovery	2	Unit	

Section J – 1700000 Base Support Vehicles and Equipment	
Attachment Number	**Attachment Title**
J-1700000-01	Allowable Individual Downtime by Alpha Code
J-1700000-02	Appearance Standards
J-1700000-03	Fleet Inventory
J-1700000-04	Workload Data Quantities for BSVE Requirements
J-1700000-05	Historical Fuel Delivery Schedule
J-1700000-06	Motor Equipment Utilization Record (DD Form 1970)
J-1700000-07	Dispatch Process and Procedures

Attachment J-1700000-01
Allowable Individual Downtime by Alpha Code

Alpha Code	Description	Allowable Individual Unit Downtime
A	Sedans	24
B	Bus-BOC- 37 passengers and under	24
C	Bus-BOS-38 passengers and over	24
D	Bus-Integral	24
E	Station Wagon	24
F	Ambulances	24
G	Truck, ½ Ton Pickup	24
H	Panels-Carryall-Truck, ¼-¾ Ton	24
I	Truck and Truck Tractor - 1 Ton	24
J	Truck and Truck Tractor - 1½-2 Ton	24
K	Truck and Truck Tractor - 2½ Ton	24
L	Truck and Truck Tractor – 3-4 Ton	24
M	Truck and Truck Tractor, 5-10 Ton	24
N	Truck and Truck Tractor 11 Ton and over	24
O	Trucks, Special Purpose or Design	24
P	Trailers	24
Q	Aircraft Ground Support Equipment	24
R	Material Handling Equipment (MHE)	24
S	Construction Equipment (Utilization Reporting Required)	40
T	Construction Equipment (Utilization Reporting Not Required)	40
U	Grounds Maintenance Equipment	40
V	Railway Cars	32
W	Powered Railway Equipment	32
X	Fire Fighting Equipment	32
Y	Weight Handling Equipment (WHE)	40
Z	Miscellaneous Transportation Equipment	40
Z (LSV)	Low Speed Vehicle	24

Attachment J-1700000-02
Appearance Standards

The Government recognizes that a vehicle subject to ordinary use and the passage of time will show wear and deterioration and will not remain in its original condition. The Contractor shall nonetheless, ensure that vehicle appearance adheres to at least the acceptable levels of wear and tear for motor transportation vehicles as defined herein. Each vehicle shall be subject to inspection by the COR. Based on the deficiencies identified by the COR correct all vehicle defects necessary to bring the vehicles up to the acceptable level (Level I, II or III) standard that is applicable.

a. LEVEL I. (Vehicle that have less than 12,000 miles) Interior and exterior appearances shall be maintained in like new condition for all passenger-carrying vehicles regardless of vehicle size. For cargo and special use vehicle, minor scuffing, scratches, abrasions and indenting of cargo area surfaces is acceptable. The removal of paint down to bare metal, punctures of sheet metal, dents in excess of ¼ inch deep and two inches in diameter, broken weld joints, missing pieces or panels, or discoloration of more than 10% of the cargo surface area shall be corrected by the Contractor even though such area and deterioration is common and ordinary in the use of the vehicle. For cargo and special use vehicles, moldings, doors, seals, and chrome shall be replaced or repaired whenever necessary due to damage or loss.

b. LEVEL II. (Vehicles that has between 12,001 and 48,000 miles) Interior and exterior appearances of passenger sedans are subject to progressive deterioration. Paint and chrome are subject to minor scratches, fading, minor pitting and blistering of chrome, and some chalking of paint. Interiors are similarly subject to deterioration with soiling of upholstery, carpeting, and headlines; and fading of original colors in upholstery items (except for executive or VIP use vehicles which shall be maintained in accordance with Level I passenger vehicle standards at all times).

    1) For passenger sedans, the Contractor shall touch up all minor scratches and pitting of paint whenever base metal is exposed or shows signs of rust. Professionally clean and mend torn or snagged upholstery items, and repair or replace with other items whenever necessary due to damage or loss. Repair and replacement of appearance items shall be accomplished in such a manner that the vehicle's appearance remains uniform and consistent with the vehicle's appearance. The Contractor shall specifically ensure that repairs and replacement of appearance items are uniform in color, size, type of material, and method of installation with the existing vehicle and the original equipment manufacturer's specifications.

    2) For station wagons, vans, and other vehicles containing cargo areas, the driver and passenger areas shall be maintained in accordance with the Level II standards for passenger sedans. Cargo areas and exteriors shall be maintained as follows: Scratching, abrasions, and indentation of the cargo area are acceptable. The removal of paint down to base metal, punctures sheet metal, rust, dents in excess of ½ inch deep and three inches in diameter, broken weld joints, missing pieces or panels, or discoloration of more than 15% of the cargo surface area shall be corrected by the Contractor, even though such wear and deterioration are common and ordinary in the use of the vehicle. Vehicle areas used for both passenger and cargo shall be maintained based upon the predominant use of the spaces. For example, vans, which are generally used as passenger-only vehicles, will be maintained as passenger sedans.

c. LEVEL III. (Vehicles having more than 48,000 miles) Interior and exterior appearances of vehicles shall be maintained at a minimum level of quality consistent with the customer's use of the vehicle. At a minimum, the Contractor shall maintain all vehicle exteriors free of dents in excess of ½ inch deep by three inches in diameter and free of paint damage that exposes bare metal caused by either accident or corrosion. The Contractor shall repair or replace any damaged or missing chrome, trim parts, or decorations. Cargo portions of vehicles shall be maintained free of punctures, dents in excess of ½ inch deep and three inches in diameter, broken weld joints, missing pieces or panels, or discoloration of more than 25% of the cargo surface area. The Contractor shall ensure that surface damage to painted cargo areas where base metal is exposed is corrected at least annually. Paint repair shall include removal of loose paint, removal of rust down to sound metal, application of both a prime and finish paint coating.

Attachment J-1700000-03 BSVE Inventory
Attachment J-1700000-03 BSVE Inventory provided as a separate attachment (Provided as file name: Attachment J-1700000-03 BSVE Inventory.xlsx).
Inventory B Pool Inventory C Pool Inventory Government Owned Client Owned Inventory Fire Fighting Equipment Inventory OHE Inventory Category 2 & 3

Attachment J-1700000-04
Workload Data Quantities for
Base Support Vehicles and Equipment (BSVE) Requirements

Item	Title	ANNUAL QTY
3	**Recurring Work**	
3.1	**Operations**	
3.1.1	**Billing Services**	24
3.1.2	**WHE/MHE/OHE/CESE Services**	
	C Pool Dispatches	671
	Material Handling Equipment Dispatches	179
	Cranes Lifts (Ship Support, Supply, Ordnance)	11,000
	Ordnance Transportation Delivery	
	Number of Trailers Moved	800
	Tons of Ordnance	1,800
	Local Deliveries	160
	Wharf Ordnance Operations	
	Ship Operations	40
	Tons of Ordnance	12,500
	Number of Lifts Onloaded	4,000
	Number of Lifts Offloaded	3,200
3.1.4	**Fuel Delivery Services and Fuel Program Requirements**	
	Fuel Deliveries (Gal Per Year Delivered) (Gasoline)	40,035
	Fuel Deliveries (Gal Per Year Delivered) (Diesel)	308,841
3.2	**Support Services**	
3.2.1	**Operator Testing and Licensing**	254
3.2.4	**Fuel Dispensing Facility**	
	Fuel Dispensed Annually (Gal) (Gasoline)	370,509
	Fuel Dispensed Annually (Gal) (Diesel)	136,529
3.2.5	**Vehicle Washing and Waxing**	818
3.3	**Maintenance**	
3.3.1	**Planned Maintenance**	
	Gov't Owned Planned Maintenance (B & C Pool)	1,374
	Safety Inspections (B & C Pool)	687
	Customer Owned Maintenance (D-Pool)	395
	Fire Fighting Vehicles and Equipment (E Pool)	11
	Maintenance of Vehicles and Equipment Pending Disposition/Resale	59
3.3.3	**Inspection and Load Test Certification of WHE, MHE and OHE**	
	Weight Handling Equipment (Category 1 through 4)	27
	Weight Handling Equipment (Miscellaneous)	45
	Material Handling Equipment	9
	Ordnance Handling Equipment	200
3.3.5	**Transportation Service Orders**	
	Priority "1"	65
	Priority "2"	153

Attachment J-1700000-04 Workload Data Quantities for Base Support Vehicles and Equipment (BSVE) Requirements		
Item	**Title**	**ANNUAL QTY**
	Priority "3"	597
3.3.6	**Category 1 and 4 Crane Oversight**	70

Attachment J-1700000-05 Historical Fuel Delivery Schedule
Attachment J-1700000-05 Historical Fuel Delivery Schedule provided as a separate attachment (Provided as file name: Attachment J-1700000-05 Historical Fuel Delivery Schedule.pdf).

J-1700000-05 (rev. 8)									
CUSTOMER FUEL REQUIREMENTS									
CDRL - DIESEL									
MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY	
ACTIVITY	EQUIPMENT	ACTIVITY	EQUIPMENT	ACTIVITY	EQUIPMENT	ACTIVITY	EQUIPMENT	ACTIVITY	EQUIPMENT
CNM FIRE DEPT	FIRE TRUCK	DRMO	FORKLIFTS	CNM FIRE DEPT	FIRE TRUCK			CNM FIRE DEPT	FIRE TRUCK
CNM FIRE DEPT	MERCY UNIT			CNM FIRE DEPT	MERCY UNIT			CNM FIRE DEPT	MERCY UNIT
CNM FIRE DEPT	MERCY UNIT			CNM FIRE DEPT	FIRE TRUCK			CNM FIRE DEPT	FIRE TRUCK
CNM FIRE DEPT	FIRE TRUCK			CNM FIRE DEPT	MERCY UNIT			CNM FIRE DEPT	MERCY UNIT
CNM FIRE DEPT	MERCY UNIT			CNM FIRE DEPT	MERCY UNIT			CNM FIRE DEPT	MERCY UNIT
CNM FIRE DEPT	MERCY UNIT			CNM FIRE DEPT	FIRE TRUCK			CNM FIRE DEPT	FIRE TRUCK
CNM FIRE DEPT	MERCY UNIT			CNM FIRE DEPT	FIRE TRUCK			CNM FIRE DEPT	FIRE TRUCK
CNM FIRE DEPT	FIRE TRUCK			CNM FIRE DEPT	FIRE TRUCK				
CNM FIRE DEPT	FIRE TRUCK								
CNM FIRE DEPT	FIRE TRUCK	DZSP21 ORDNANCE	FORKLIFTS			DZSP21 ORDNANCE	FORKLIFTS		
CNM FIRE DEPT	FIRE TRUCK	DZSP21 ORDNANCE	FORKLIFTS			DZSP21 ORDNANCE	FORKLIFTS		
		DZSP21 ORDNANCE	FORKLIFTS			DZSP21 ORDNANCE	FORKLIFTS		
		DZSP21 ORDNANCE	FORKLIFTS			DZSP21 ORDNANCE	FORKLIFTS		
CDRL - GASOLINE									
MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY	
ACTIVITY	EQUIPMENT	ACTIVITY	EQUIPMENT	ACTIVITY	EQUIPMENT	ACTIVITY	EQUIPMENT	ACTIVITY	EQUIPMENT
CNM SECURITY	STORAGE TANK								

Attachment J-1700000-06 Motor Equipment Utilization Record (DD Form 1970)
Attachment J-1700000-06 Motor Equipment Utilization Record (DD Form 1970) provided as a separate attachment (Provided as file name: Attachment J-1700000-06 Motor Equipment Utilization Record (DD Form 1970).pdf).

MOTOR EQUIPMENT UTILIZATION RECORD

1. DATE *(YYYYMMDD)*	2. TYPE OF EQUIPMENT	3. REGISTRATION NO./SERIAL NO.	4. ADMINISTRATION NO.

5. ORGANIZATION NAME	6a. FUEL	b. OIL

ACTION	9. TIME		10. MILES	11. HOURS	
7a. 1ST OPERATOR *(Last Name, First, M.I.)*	a. IN				12a. REPORT TO *(Last Name, First, M.I.)*
8a. OPERATOR'S SIGNATURE	b. OUT				13a. DISPATCHER'S SIGNATURE
	c. TOTAL		0	0	
7b. 2ND OPERATOR *(Last Name, First, M.I.)*	a. IN				12b. REPORT TO *(Last Name, First, M.I.)*
8b. OPERATOR'S SIGNATURE	b. OUT				13b. DISPATCHER'S SIGNATURE
	c. TOTAL		0	0	
7c. 3RD OPERATOR *(Last Name, First, M.I.)*	a. IN				12c. REPORT TO *(Last Name, First, M.I.)*
8c. OPERATOR'S SIGNATURE	b. OUT				13c. DISPATCHER'S SIGNATURE
	c. TOTAL		0	0	
7d. 4TH OPERATOR *(Last Name, First, M.I.)*	a. IN				12d. REPORT TO *(Last Name, First, M.I.)*
8d. OPERATOR'S SIGNATURE	b. OUT				13d. DISPATCHER'S SIGNATURE
	c. TOTAL		0	0	

14. DESTINATION	15. TIME		16. RELEASED BY *(Signature)*	17. REMARKS
	a. ARRIVE	b. DEPART		
(1) FROM				
(2) TO				
(3) TO				
(4) TO				
(5) TO				
(6) TO				
(7) TO				
(8) TO				
(9) TO				
(10) TO				
(11) TO				
(12) TO				
(13) TO				
(14) TO				
(15) TO				
(16) TO				

14. DESTINATION	15. TIME		16. RELEASED BY *(Signature)*	17. REMARKS
	a. ARRIVE	b. DEPART		
(17) TO				
(18) TO				
(19) TO				
(20) TO				
(21) TO				
(22) TO				
(23) TO				
(24) TO				
(25) TO				
(26) TO				
(27) TO				
(28) TO				
(29) TO				

INSTRUCTIONS

*1. Date. Enter the calendar date the equipment is to be used.

2. Type of Equipment. Enter the type of equipment as designated in the equipment log.

3. Registration Number or Serial Number. Enter the equipment/ registration number or serial number.

4. Administration Number. Enter the unit number or administrative number.

5. Organization Name. Enter the organization to which the equipment is assigned.

6. Fuel/Oil. Enter the amount of fuel (gallons) and/or oil (quarts) obtained for the equipment.

*7. Operator. Enter the name of the equipment operator.

8. Operator's Signature. The equipment operator (item 6) will enter signature immediately upon receipt of equipment.

*9. Time. Indicate time to the nearest 5 minutes using the 24-hour clock.
a. In. Enter time equipment was returned from dispatch or use.
b. Out. Enter the time the equipment was released for operation by the dispatcher.
c. Total. Enter total time the equipment was in the possession of the operator. Time is obtained by subtracting the time listed in "Out" line from that listed on the "In" line.

*10. Miles. Will be recorded to the nearest whole mile.
a. In. The operator will enter the mileage reading when the equipment is returned. If odometer is inoperative, enter estimated mileage.
b. Out. The dispatcher will enter the mileage reading at the time of dispatch.
c. Total. Enter the difference between the "Out" and "In" mileage.

*11. Hours. Will be recorded to the nearest whole hour. On those items which require servicing on an hourly basis and are not equipped with an hour meter, enter the estimated hours of operation.
a. In. The operator will enter the hour meter reading upon completion of the equipment usage.
b. Out. The dispatcher will neter the hour meter reading prior to equipment release.
c. Total. Enter the total hours dispatched for operation.

*12. Report To. Enter the name of the individual to whom the operator is to report.

13. Dispatcher's Signature. Self-explanatory.

14. Destination. Indicate each location at which a trip begins and ends. Normally this starts from the equipment pool ("From" Line) and ends at the same place after one or more intervening destinations.

*15. Time. All time will be recorded using the 24-hour clock, rounded off to the nearest 5 minutes.
a. Arrive. Enter the arrival time at each destination.
b. Depart. Enter the departure time from the motor pool and each succeeding location.

16. Released By. The person in charge of equipment on dispatch will release by signing on the line indicating the destination where the equipment was released to the operator. Upon termination of equipment used, but not moved, the person in charge will release the equipment by signing in the top block of this column.

17. Remarks. The remarks column will be used by the operator to record unusual operation or abnormal occurrences during operation, or other information as directed.

*Items marked with an asterisk (*) have been registered in the DOD Data Element Program.

Attachment J-1700000-07
Dispatch Process and Procedures

Process	Procedure

Receive Customer Request	Receive request from customer via phone, email, or memo for rental of equipment.
	Obtain information from customer regarding:
	• length of time equipment is required
	• what the equipment will be used for
	• whether equipment is needed with or without an operator
	• the customer's command and contact number
	Determine if equipment is available for the customer's requested time frame.
	• If equipment is available, reserve the equipment in CMMS for the customer.
	  o Confirm with the customer that the equipment is reserved and identify the pick-up location and time
	  o Verify that the customer has the required license and qualifications to operate the type of equipment requested and inform the customer that their license will be checked visually when they come to pick-up the equipment. For licensing requirements refer to NAVFAC P-300.
	• If equipment is not available discuss with customer to determine if other options are workable and proceed to next step. If no options are available inform the government representative so he/she can utilize GSA short term rental (GSA STR) or equivalent. The contractor shall (if not delivered by vendor) pick up GSA STR (or equivalent) assets from local vendors.

C-Pool Check Out	When customer arrives to pick up reserved C-Pool equipment, check CMMS or reservation log to verify the reservation.
	• Check the customer's license and qualification information.
	• Perform pre-rental inspection and have the customer complete an equipment inspection and identify pre-existing damage on the checkout form (NAVFAC Form 9-11240/13). Inform the customer that any damage not previously identified will be charged to the customer's command.
	• Issue dispatch trip tickets (DD Form 1970, Motor Equipment Utilization Record).
	• Complete a dispatch log (NAVFAC Form 9-11240/2) to record all BSVE dispatched off station and for all Class C pool vehicles.
	• Provide checkout information to customer, issue keys and forms.
	  o Verify that each fuel credit card requestor has a signed Statement of Understanding, Fleet Card User Certificate of Completion on file before issuing the fuel credit card.
	  o Issue a Government fuel credit card.
	Complete information in the CMMS reservation (trip ticket) and change status to "in progress."

Attachment J-1700000-07
Dispatch Process and Procedures

Process	Procedure

C-Pool Check In	Receive keys and documentation turned in by customer.
	
	Check equipment or has it checked for damage.
	
	• Perform post-rental inspection with customer, have the customer complete equipment inspection form (NAVFAC Form 9-11240/13), and ensure all discrepancies not previously identified are noted.
	
	• If there is noted damage, record the suspected cause and faulty party, and report to BSVE Administration to pursue reimbursement.
	
	  o BSVE Administration contact customer to complete an accident/damage report.
	
	  o For Navy owned equipment, BSVE Administration contacts Maintenance Shop for accident/damage cost estimates.
	
	  o For GSA vehicles, customer gets accident/damage cost estimates and BSVE Administration contacts GSA Accident Center for approval of repairs.
	
	  o Have equipment readied for next issue.
	
	• Receive keys, forms, and fuel card.
	
	• Verify that the fuel card matches the equipment issued, receive all fuel receipts, fuel logs, and check for accuracy before submitting to the Government for certification. The Government shall be notified of discrepancies prior to the customer's departure.
	
	• Perform safety inspection.
	
	• Ensure equipment is clean, fueled, and available for rental. If Contractor accepts BSVE that is not cleaned or fueled, the Contractor shall have the responsibility to clean and fuel prior to dispatching.
	
	Complete the dispatch ticket in CMMS.