

Attachment J03

Fort Hunter Liggett Water Distribution System

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J03 Fort Hunter Liggett Water Distribution System

J03.1 Fort Hunter Liggett Area Overview

Fort Hunter Liggett, California, is the largest Reserve Command post in the Army, occupying over 165,000 acres in the San Antonio River valley next to the Los Padres National Forest. The installation is situated approximately 250 miles north of Los Angeles and 150 miles south of San Francisco in California's Central Coast region. The post was established in 1940 and named after Lieutenant General Hunter Liggett (1857–1935), who commanded the 41st National Guard Division, and later, the First Corps of the American Expeditionary Forces during World War I. He also served as Chief of Staff for General Pershing. Today, Fort Hunter Liggett is operated primarily as the Army Reserve Command Western Reserve Training Center serving Active and Reserve components. Fort Hunter Liggett's mission is to maintain and allocate training areas, airspace, facilities and ranges in order to support reserve and active components' field maneuvers, live fire exercises, testing, and institutional training. Additionally, the installation provides quality of life and logistical support to training units.

The Multi-Purpose Range Complex (MPRC) supports live fire and maneuver training for tanks and Bradley Fighting Vehicles. Aviation training takes place at Tusi Army Heliport and Schoonover Tactical Air Strip, with additional aviation training at MPRC and Stony Valley. Several small arm ranges are also provided, from an M16 Qualification Range to a Hand Grenade Range.

The installation's population today is 250 permanent residents and civil servants, with increases up to 4,000 transient active duty personnel when on training rotation. Housing occupancy is typically 98 percent.

J03.2 Water Distribution System Description

The Fort Hunter Liggett water distribution system consists of all appurtenances physically connected to the system from the points at which the water enters the system and/or where the Government ownership currently starts, to the point of demarcation defined by Section J03.10 of this section or the real estate easements that result from negotiations under this contract. The system may include, but is not limited to wells, storage tanks, distribution piping and appurtenances. The following description and inventory is included to provide the Offeror with a general understanding of the size and configuration of the system. The Offeror shall base the proposal on site inspections, information in the technical library, and other pertinent information, and to a lesser degree on the following description. Under no circumstances shall the successful Contractor be entitled to any rate adjustments based on the accuracy of the following description and inventory.

There are no groundwater withdrawal permits. Fort Hunter Liggett operates the supply system under California Department of Health Services Water Supply Permit No. 02-90-003, amended May 17, 2000 for corrosion control. The Offeror shall comply with all sampling and testing requirements of the California Department of Health Services, Drinking Water Field Operations

Branch, per Water Quality Monitoring Summary, (for a “Community Small Groundwater Developed” (CSGD)), for the Monitoring Period of January 2002-December 2004.

The Contractor shall comply with all applicable federal, state, and local regulations governing the operation of the water systems.

J03.2.1 Water Distribution System Fixed Equipment Inventory

J03.2.1.1 Description

The water distribution system at Fort Hunter Liggett consists of ground water supply, treatment, storage, and piping. The original water distribution system dates back to the 1940’s, but improvements and modifications have been made as needed since that time. The cantonment area is served by 3 active wells with capacities of 400 gallons per minute (gpm) (Well T-236) and 650 gpm (Wells P-382 and P-383). The two latter are 520 and 570 feet deep, respectively, and are located 4 miles southeast of the cantonment area. A 12-inch diameter PVC transmission main connects the two remote wells to the cantonment area. Air relief and blowoff valves are located every 500 feet along this pipeline. Well T-236 is 300 feet deep and is located on the northwest edge of the cantonment area. Gas chlorination facilities with safety equipment are located at each well for treatment of the groundwater. A corrosion inhibitor additive is also applied to the groundwater at this time as required by the California Department of Health Services, Drinking Water Field Operations Branch. The installation currently uses TramFloc®. Treated water is subsequently pumped directly to the main water storage tank, with branches into the distribution system. Each well is normally inspected twice weekly to ensure safe operation of the equipment. Annual water production at the post is approximately 100 million gallons per year.

There are two additional wells under the control of Fort Hunter Liggett’s Directorate of Public Works that serve two remote officer’s quarters. The Argyle House is located 12 miles southeast of the cantonment area on Argyle Road and has a 20 gpm, 215-foot deep groundwater well. The Interlake House is located approximately 10 miles south of the cantonment area on Interlake Road and has a 20 gpm, 208-foot deep groundwater well and a 10,000-gallon ground storage tank. Both wells have 12% sodium hypochlorite added as the disinfectant. These two officer’s housing units are not connected to the on-post water distribution system.

There are two aboveground storage tanks on post. The major tank that feeds the system is a 1 million gallon (MG) capacity steel standpipe. The level in this tank controls the pumping rates of the three wells that serve the cantonment area. Telemetry of the three wells and the 1 MG tank is monitored in the Fire Station, Building 120. The other tank in the system is located in the Rancho Milpitas Family Housing Area and has a capacity of 200,000 gallons and is controlled by an altitude valve.

The Main Post area includes 51,426 feet of piping varying from less than 2 inches to 16 inches in diameter. The average pressure in the system is 50 psi. The age of the piping in the system ranges from 2 to 62 years.

Bacterial monitoring is performed weekly at specific areas in the distribution system. The Contractor shall perform and analyze samples in accordance with all local, state and federal

regulations regarding drinking water quality. Samples are currently analyzed by an independent laboratory.

Irrigation of ball fields, lawns, and commercial areas is very prevalent at Fort Hunter Liggett and represents a significant amount of the potable water demand. Automobile and tank washracks also use potable water.

There are several nonpotable wells and tanks on the installation that will not be included with this solicitation. These facilities are mainly used for fire protection and will remain under the control of the installation.

J03.2.1.2 Inventory

Table 1 provides a general listing of the major water distribution system fixed assets for Fort Hunter Liggett. The system will be sold in an “as is, where is” condition without any warrant, representation, or obligation on the part of Government to make any alterations, repairs, or improvements. Ancillary equipment attached to, and necessary for, operating the system, though not specifically mentioned herein, is considered part of the purchased utility.

Table 1
Fixed Inventory
Water Distribution System – Fort Hunter Liggett

Item	Size (inches)	Material	Quantity	Unit	Approximate Year of Construction
Piping	Unknown	Unknown	2,942	Linear Feet	1941, 1990
	¾	Unknown	166	Linear Feet	1941, 1990
	¾	Copper	64	Linear Feet	1941, 1990
	¾	Iron Pipe (IP)	403	Linear Feet	1941, 1990
	¾	Polyvinyl Chloride (PVC)	248	Linear Feet	1990
	1	Unknown	286	Linear Feet	1941, 1990
	1	Copper	137	Linear Feet	1941, 1990
	1	IP	264	Linear Feet	1941, 1990
	1	PVC	343	Linear Feet	1990
	1 ¼	Unknown	101	Linear Feet	1941, 1990
	1 ¼	Copper	44	Linear Feet	1941, 1990
	1 ½	Unknown	557	Linear Feet	1941, 1990
	1 ½	Copper	27	Linear Feet	1941, 1990
	1 ½	IP	436	Linear Feet	1941, 1990
	2	Unknown	633	Linear Feet	1941, 1990
	2	Copper	88	Linear Feet	1941, 1990
	2	IP	518	Linear Feet	1941, 1990
	2	PVC	2,890	Linear Feet	1990
	2 ½	Unknown	20	Linear Feet	1941, 1990
	3	Unknown	146	Linear Feet	1941, 1990
	3	Asbestos Cement (AC)	250	Linear Feet	1941
	3	IP	3,829	Linear Feet	1941, 1990
	3	PVC	361	Linear Feet	1990
	3	Steel	117	Linear Feet	1941
	4	Unknown	290	Linear Feet	1941, 1990
	4	AC	710	Linear Feet	1941
	4	PVC	1,761	Linear Feet	1990
	6	Unknown	163	Linear Feet	1941, 1990

Item	Size (inches)	Material	Quantity	Unit	Approximate Year of Construction
Piping	6	AC	1,866	Linear Feet	1941
	6	Cast Iron	303	Linear Feet	1941
	6	PVC	1,608	Linear Feet	1990
	6	PVC	6,000	Linear Feet	2001
	8	Unknown	1,070	Linear Feet	1941, 1990
	8	AC	2,116	Linear Feet	1941
	8	PVC	2,916	Linear Feet	1990
	10	Unknown	86	Linear Feet	1941, 1990
	10	PVC	940	Linear Feet	1990
	12	Unknown	2,670	Linear Feet	1941, 1990
	12	AC	6,507	Linear Feet	1941
	12	PVC	5,870	Linear Feet	1990
	16	PVC	1,500	Linear Feet	1976
Total Piping			51,426	Linear Feet	
Hydrants			2	Each	1990
			3	Each	1998
			1	Each	2001
			77	Each	2002
			9	Each	Unknown
Total Hydrants			92	Each	
Isolation Valves			18	Each	Unknown
Air Release Valves			12	Each	Unknown
Blowoff Valves			1	Each	Unknown
Backflow Prevention Devices			11	Each	Unknown

Well	Capacity	Depth	Equipment	Chemical Feed	Approximate Year of Construction
T-236	400 gpm	300 feet	40 hp aboveground motor/propane generator	Chlorine Gas, Corrosion Inhibitor	1956
P-382	650 gpm (8-inch piping)	1,000 feet	125 hp submersible motor (pump/motor at 480 feet depth)	Chlorine Gas, Corrosion Inhibitor	1994 (motor replaced in 2002)
P-383	650 gpm (6-inch piping)	1,000 feet	125 hp submersible motor (pump/motor at 500 feet depth)	Chlorine Gas, Corrosion Inhibitor	1995 (motor replaced in 2000)
Argyle House (T-361)	20 gpm	208 feet	Hydropneumatic tank	Sodium Hypochlorite 12%	1953
Interlake House (T-462)	20 gpm	210 feet	Hydropneumatic tank	Sodium Hypochlorite 12%	1956

Tank	Capacity	Dimensions	Material	Control	Approximate Year of Construction	Additional Comments
Ground Storage Tank	1 million gallons	30 feet high, 75 feet in diameter	Steel, welded	Level indicator telemetry to control wells automatically	1970	Painted exterior and relined interior in 2000
Ground Storage Tank – Rancho Milpitas	200,000 gallons	16 feet high, 46 feet in diameter	Steel, riveted	Altitude valve (no telemetry to wells)	1995	Cathodic protection system (has not been painted since construction)
Interlake House Ground Storage Tank	10,000 gallons	7 feet high, 15.5 feet in diameter	Concrete	None	1956	

J03.2.2 Water Distribution System Non-Fixed Equipment and Specialized Tools Inventory

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment and tools. The successful Contractor shall provide any and all equipment, vehicles, and tools, whether included in the purchase or not, to maintain a fully operating system under the terms of this contract.

Table 2
Spare Parts
Water Distribution System – Fort Hunter Liggett

Qty	Item	Make/Model	Description	Remarks
None.				

Table 3
Specialized Equipment and Vehicles
Water Distribution System – Fort Hunter Liggett

Description	Quantity	Location	Maker
None.			

J03.2.3 Water Distribution System Manuals, Drawings, and Records Inventory

Table 4 lists the manuals, drawings, and records that will be transferred with the system.

Table 4
Manuals, Drawings, and Records
Water Distribution System – Fort Hunter Liggett

Qty	Item	Description	Remarks
			The installation maintains a limited collection of manuals, drawings and records on installed components of the water distribution systems. This information or copies thereof will be transferred during the transition period.

J03.3 Current Service Arrangements

Fort Hunter Liggett currently receives all of its water supply from groundwater wells owned and operated by the installation.

J03.4 Secondary Metering

The installation may require secondary meters for internal billings of their reimbursable customers, utility usage management, and energy conservation monitoring. The Contractor shall assume full ownership and responsibility for existing and future secondary meters IAW Clause C.3.

J03.4.1 Existing Secondary Meters

Table 5 provides a listing of the existing (at the time of contract award) secondary meters that will be transferred to the Contractor.

Table 5
Existing Secondary Meters
Water Distribution System – Fort Hunter Liggett

Meter Location: Building Number	Description
Ground Storage Tank - Rancho Milpitas	There are two (2) flow meters located on the appurtenant piping to this tank. Regular meter readings are not required to be provided.

J03.4.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters as listed in **Table 6**. New secondary meters shall be installed IAW Clause C.13, Operational Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Clauses C.3 and J03.5 below. Although at the present time, the installation does not require any new meters to be installed, if meters are required in the future, the Contractor shall comply with Clause C.3.3.

Table 6
New Secondary Meters
Water Distribution System – Fort Hunter Liggett

Meter Location: Building Number	Description
None.	

J03.5 Monthly Submittals

The Contractor shall provide monthly submittals to the Government for the following:

Invoice (IAW G.2). The Contractor's monthly invoice shall be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

Outage Report. The Contractor's monthly outage report will be presented in a format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall include the following information for Scheduled and Unscheduled outages:

Scheduled: Requestor, date, time, duration, facilities affected, feedback provided during outage, outage notification form number, and digging clearance number.

Unscheduled: Include date, time and duration, facilities affected, response time after notification, completion times, feedback provided at time of outage, specific item failure, probability of future failure, long term fix, and emergency digging clearance number.

Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

Meter Reading Report. If required by the Contracting Officer, the monthly meter reading report shall show the current and previous month readings for all secondary meters. The Contractor's monthly meter reading report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

System Efficiency Report. If required by Paragraph C.3, the Contractor shall submit a system efficiency report in a format proposed by the Contractor and accepted by the Contracting Officer. System efficiency reports shall be submitted by the 25th of each month for the previous month. System efficiency reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

J03.6 Energy Savings and Conservation Projects

IAW C.3, Utility Service Requirement. No projects have been implemented by the installation for energy conservation purposes.

J03.7 Service Area

IAW Clause C.4, Service Area. The service area is defined as the cantonment area of Fort Hunter Liggett as well as the MPRC, Argyle House, and Interlake House.

J03.8 Off-Installation Sites

There are no off-installation sites included in this package.

J03.9 Specific Transition Requirements

IAW Clause C.13, Operational Transition Plan. **Table 7** lists service connections and disconnections required upon transfer, and **Table 8** lists the improvement projects required upon transfer of the Fort Hunter Liggett water system.

Table 7
Service Connections and Disconnections
Water Distribution System – Fort Hunter Liggett

Location	Description
None.	

Table 8
System Improvement Projects
Water Distribution System – Fort Hunter Liggett

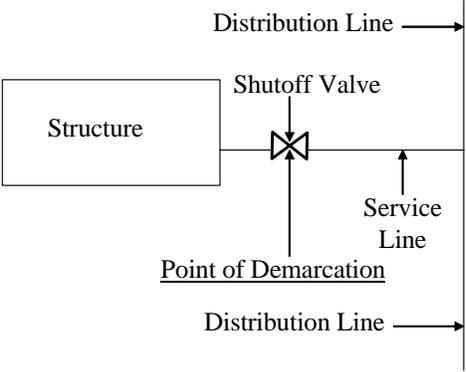
Location	Description	Year of Completion
None.		

J03.10 Water Distribution System Points of Demarcation

The point of demarcation is defined as the point on the water distribution pipe where ownership changes from the Contractor to the building owner. The table below identifies the general locations of these points with respect to the building served.

Table 9
Points of Demarcation
Water Distribution System – Fort Hunter Liggett

Point of Demarcation	Applicable Scenario	Sketch
The point of demarcation is 5 feet away from the exterior of the structure.	All scenarios where a shutoff valve does not exist at the building.	

Point of Demarcation	Applicable Scenario	Sketch
The point of demarcation is the upstream side of the shutoff valve.	All scenarios where a shutoff valve exists outside the building.	

J03.10.1 Unique Points of Demarcation

The following table lists anomalous points of demarcation that do not fit any of the above scenarios.

Table 10
Unique Points of Demarcation
Water Distribution System – Fort Hunter Liggett

Building No.	Point of Demarcation Description
None.	

J03.11 Treatment Plants and Storage Tanks

The following table lists all water treatment plants and storage tanks.

Table 11
Water Treatment Plants and Storage Tanks
Water Distribution System – Fort Hunter Liggett

Description	Facility #	State Coordinates	Other Information
There are no water treatment plants at Fort Hunter Liggett. Each well is individually chlorinated.			
Ground Storage Tank	139	N 36E01'03" W 121E14'33"	See Table 1.
Ground Storage Tank – Rancho Milpitas	035	N 36E00'20" W 121E13'34"	See Table 1.
Interlake House Ground Storage Tank	Unknown	N 35E55'59" W 121E05'05"	See Table 1.