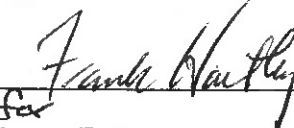


To: SUPERSEDED BY EI 12-020 EFFECTIVE 11/10/13		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 06-022
Title: REVISED STANDARD SPECIFICATIONS SECTION 637 – ENGINEER'S FIELD OFFICE, LABORATORY AND EQUIPMENT			
Distribution: ☐ Manufacturers (18) ☒ Local Govt. (31) ☒ Agencies (32) ☐ Surveyors (33) ☒ Consultants (34) ☒ Contractors (39) _____ ()		Approved:  for _____ James F. Tynan, Director, Construction Division Date <u>8/22/06</u>	

ADMINISTRATIVE INFORMATION:

- This Engineering Instruction (EI) is effective with projects submitted for the letting of January 11, 2007.
- This EI supersedes EI 04-005 and EI 04-009.
- The revisions issued with this EI will be incorporated into a future revision of the Standard Specifications.

PURPOSE:

This EI issues a revised Standard Specification Section 637 Engineer's Field Office, Laboratory and Equipment.

TECHNICAL INFORMATION:

- The revised Section 637 eliminates equipment and supplies that are no longer being used by the construction inspection staff, upgrades the requirements for existing equipment and supplies, adds new required equipment and supplies, improves the health and safety requirements and incorporates several of the existing Section 637 special specifications.
- This EI is being issued concurrently with EI 06-021 *Design Guidance for Section 637 – Engineer's Field Office, Laboratory and Equipment*.
- The minimum floor area requirements have been revised and the nomenclature has changed. The smallest size offices, Types A and B, have been eliminated and the largest size offices, Types F and G have been added. The minimum floor area requirements for the all types have been increased and they are now known as Types 1 thru 5.
- The Construction Seat Management Initiative (CSMIN) covers the provision of computing infrastructure for the Engineer's Field Office and eliminates the need for the inclusion of this equipment in project bid documents.
- The Office Technology Supplies special specification has been incorporated into the revised Section 637; however the intended use of this contract pay item is to provide technology-related materials and supplies only in situations when they are unavailable from the State. Office supplies such as pens, paper, data storage media, etc. should be purchased through the Regional office supplies contract with the Office of General Services as they are not covered by this item.
- The revised Section 637 and the provision of computing and automation infrastructure under the CSMIN should substantially reduce or eliminate the need for special specifications relating to the Engineer's Field Office.
- Guidance and selection criteria for the project designer are available on the Construction Division's Website at <http://www.dot.state.ny.us/constr/637/section637.html>

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This EI approves the following Contract Pay Items

637.11	Engineer's Field Office – Type 1	Month
637.12	Engineer's Field Office – Type 2	Month
637.13	Engineer's Field Office – Type 3	Month
637.14	Engineer's Field Office – Type 4	Month
637.15	Engineer's Field Office – Type 5	Month
637.21	Mobile Telephone	Dollars-Cents
637.22	Pager	Dollars-Cents
637.23	Two-Way Radio System	Month
637.24	Digital Camera	Dollars-Cents
637.25	Digital Camcorder	Dollars-Cents
637.26	Rain Gauge	Each
637.31	Inspection Vehicle	Month
637.32	Inspection Boat - Type A	Month
637.33	Inspection Boat - Type B	Month
637.34	Office Technology and Supplies	Dollars-Cents
637.35	Partnering Workshop	Dollars-Cents

This EI disapproves the following Contract Pay Items

Contract Pay Item	Description
619.0494--10	Boat for Inspection
637.0494--11	Boat for Inspection
637.0502 M	Engineer's Office – Type A
637.0602 M	Engineer's Office – Type B
637.06029911	Mobile Trailer/Engineer's Office – Type B
637.0702 M	Engineer's Office – Type C
637.0802 M	Engineer's Office – Type D
637.0902 M	Engineer's Office – Type E
637.09020108	Engineer's Office Type E (Modified)
637.1092--11	Engineer's Office, Type G
637.1093--11	Engineer's Office, Type G
637.1096--15	Inspection Vehicles
637.13----11	Engineer's Office – Type F
637.20----20	Mobile Telephone
637.21----20	Pager
637.22----20	Two-Way Radio System
637.3501--20	Desktop Computer
637.3502--20	Laptop Computer
637.3503--20	Portable Computer Docking System
637.3504--20	Tablet Computer
637.3505--20	Handheld Computer
637.3506--20	Local Area Network (LAN)
637.3507--20	Printer (8.5 x 11)
637.3508--09	Computer Accessories and Software (DC)
637.3508--20	Printer (11 x 17)
637.3509--20	Color Printer (8.5 x 11)
637.3510--20	Color Printer (11 x 17)
637.3511--20	Portable Printer
637.3512--20	Plotter

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637.3513--20	Scanner
637.3514--20	Multifunction Machine
637.3515--20	Digital Camera
637.3516--20	Office Technology Supplies
637.98----15	Partnering Workshop
683.6012--11	Black & White Laser Printers
683.6013--11	Color Laser Printers
683.6014--11	Multifunction Units

IMPLEMENTATION:

Main Office Design Quality Assurance Bureau will insert the standard specification shelf note beginning with projects submitted for the letting of 01/11/07.

TRANSMITTED MATERIALS:

The Standard Specification shelf note Section 637 - Engineer's Field Office, Laboratory and Equipment is transmitted with this EI.

BACKGROUND:

The previous Standard Specification Section 637 Engineer's Office and Laboratory Building had become outdated in many aspects and needed general revision, with attention to safety and health. The specification contained equipment and supplies that were no longer being used by the construction inspection staff and technical/material requirements for other items that had become obsolete. The minimum office footprint areas were increased to accommodate additional equipment. New pay items have been added due to the revisions and the incorporation of several Section 637 special specifications.

CONTACT:

Refer questions regarding this Engineering Instruction to Jon King via email at jking@dot.state.ny.us or to the Construction Division at (518) 457-6472.

ENGINEER'S FIELD OFFICE, LABORATORY AND EQUIPMENT

Make the following changes to Volume 2 of 3 of the Standard Specifications of 2002:
Page 6-129, line 7 to Page 6-136, line 12, **Delete** Section 637 in its entirety and **Replace** it with the following:

SECTION 637 – ENGINEER'S FIELD OFFICE, LABORATORY AND EQUIPMENT

637-1 DESCRIPTION. This work shall consist of providing, furnishing and maintaining an Engineer's Field Office and a Field Laboratory in good working condition and appearance for the exclusive use of, and occupancy by the inspection staff. The buildings shall be habitable environments, readily accessible to the public and free of any recognizable health or safety hazards. The work shall also consist of providing and maintaining equipment for use by the inspection staff.

637-1.01 Engineer's Field Office. This work shall consist of providing, for the Engineer's use a building, or a portion thereof, or a modular trailer of a specified type erected at a location approved by the Engineer.

637-1.02 Field Laboratory. This work shall consist of providing a Field Laboratory for soils and materials testing at a location approved by the Engineer.

637-1.03 Concrete Cylinder Curing Box. This work shall consist of providing a concrete cylinder curing box.

637-1.04 Mobile Telephone. This work shall consist of providing and maintaining mobile telephone equipment and service.

637-1.05 Pager. This work shall consist of providing and maintaining pager communication equipment and service.

637-1.06 Two-Way Radio System. This work shall consist of providing and maintaining a two-way radio system.

637-1.07 Digital Camera. This work shall consist of providing and maintaining a fully operational digital camera system.

637-1.08 Digital Camcorder. This work shall consist of providing and maintaining a fully operational digital camcorder system.

637-1.09 Rain Gauge. This work shall consist of providing and maintaining a wireless rain gauge system.

637-1.10 Inspection Vehicle. This work shall consist of providing and maintaining motor vehicle(s) for exclusive use by the Engineer and the Inspection Staff.

637-1.11 Inspection Boat. This work shall consist of providing and maintaining a motorized boat for exclusive use by the Engineer and the Inspection Staff.

637-1.12 Office Technology Supplies. This work shall consist of providing technology-related materials and supplies for use by the inspection staff.

637-1.13 Civil Rights Reporting Software. This work shall consist of providing Department standard civil rights reporting software.

ENGINEER'S FIELD OFFICE, LABORATORY AND EQUIPMENT

637-1.14 Partnering Workshop. This work shall consist of a partnering workshop coordinated and facilitated by an independent facilitator. The Department and the Contractor will share the cost of the partnering workshop equally.

637-2 MATERIALS.

637-2.01 Engineer's Field Office. The Engineer's Field Office shall be within a secured, weatherproof building or mobile trailer. If two (2) or more mobile trailer units are provided, they shall be joined with weatherproof connections. Mobile trailers shall be in new or like new condition. The Contractor may furnish equivalent facilities in an existing building, provided that the building is located to provide convenient service. The Contractor shall supply the Engineer with a copy of the Certificate of Occupancy for the existing building.

The Engineer's Field Office shall be in accordance with the requirements of the New York State Uniform Fire Prevention and Building Code, 19 NYCRR, and any applicable local codes.

The electrical system shall be able to continuously operate all equipment and be provided with adequate receptacles. To accommodate computer equipment, the field office shall be provided with a dedicated 20 amp electrical service and a vacant floor-to-ceiling area with a 1.0 m x 1.0 m footprint along a wall for the installation of a computer hardware rack/cabinet. Electric light shall be provided by non glare-type luminaries to provide a minimum illumination level of 1,000 lux at desk-height level. An ambient air temperature of $21^{\circ}\text{C} \pm 3^{\circ}\text{C}$ shall be maintained.

Fire extinguishers and smoke and carbon monoxide detectors shall be provided and installed.

The Engineer's Field Office shall be partitioned to provide separate rooms, defined as either "small" or "large", with adjoining doors. Table 637-1 below contains the minimum area requirements for each of the office types.

TABLE 637-1 ENGINEER'S FIELD OFFICE AREA REQUIREMENTS					
Physical Requirement	Engineer's Field Office Type				
	1	2	3	4	5
Min. total floor area (m ²)	50	80	120	230	250
Min. number of small rooms	2	3	2	3	6
Min. floor area of small rooms (m ²)	9	9	11	14	16
Min. number of large rooms	1	1	2	2	2

A. Potable Water. From a local municipal water supply, certified well or bottled with a heating/refrigerator unit to provide hot and cold water. An exterior frost-free hose bib shall be provided in a location adjacent to the Engineer's Field Office. The hose bib need not be installed on a potable water line, and if the water in the line is not potable, it shall be clearly marked as such.

B. Restroom. A separately enclosed room, lockable from the inside, that is properly ventilated and in compliance with applicable sanitary codes. The Contractor shall provide all lavatory amenities, necessary paper and soap products, hot and cold running water and a toilet. The toilet shall be flush-type where sanitary facilities are available, and a type approved by the Engineer prior to installation where sanitary facilities are not available. The minimum required number of restrooms to be provided is specified in Table 637-2.

C. Parking Area. The Contractor shall provide and/or construct paved or hard surfaced (gravel or bankrun material) secure parking area with dedicated parking spaces adjacent to the Engineer's Field Office. Each parking space shall be 2.75 m by 5.5 m, and the minimum required number of spaces to be provided is specified in Table 637-2.

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D. Field Office Signs. The sign panel material shall be aluminum, fiberglass, plywood or lightweight plastic. The sign sheeting shall be ASTM Type III. The sign panel shall be 900 mm high by 1200 mm wide with white legend on green background with the phrases as positioned and described below. If erected at a location where the sign might be struck by an errant vehicle, the sign support shall be a breakaway type.

The letters in the phrase "FIELD OFFICE" shall be 150 mm C series with the top of the letters 150 mm below the top of the panel. The letters in the phrase "ENGINEER-IN-CHARGE" shall be 150 mm B series with the top of the letters 450 mm below the top of the panel. The letters in the phrase "N.Y.S. DEPT. OF TRANSPORTATION" shall be 38 mm E series with the top of the letters 750 mm below the top of the panel. All phrases shall be centered horizontally on the panel.

If the Engineer's Field Office is not located within or adjacent to the contract limits, two (2) additional signs shall be displayed conspicuously within the contract limits. The signs shall be similar to the above description, except that they shall be 1200 mm high by 1600 mm wide and have an additional bottom line of text containing the street address of the Engineer's Field Office. The letters in the street address shall be 150 mm B series with the top of the letters 900 mm below the top of the panel and centered horizontally on the panel.

E. Mailbox. Standard mailbox (with post if necessary) or post office box meeting the requirements of the U.S. Postal Service.

F. Telephone and Answering System. A separate telephone and answering system for the exclusive use of the inspection staff. The minimum required number of telephone voice lines to be provided is specified in Table 637-2 (these lines are in addition to the separate lines to be provided for the facsimile machine and dial-up computer access). The telephone and answering system shall provide the ability to answer all voice lines from each voice line, transfer calls to all voice lines and be equipped with a single, dedicated answering system.

A minimum of one (1) telephone shall be cordless and a minimum of one (1) telephone shall be equipped with speaker and conference call capability. The remaining telephones, at least one (1) per required voice line, shall be extension telephones with minimum 7 m long cords. The answering system shall be capable of recording outgoing messages up to 60 seconds long and receiving a minimum of 40 incoming messages of 60 seconds duration. The system must include automated voice marking of time and day of each message received and provide a message mark so that new messages may be played back without erasing old messages. The system shall include remote programming of playback, backspace, and outgoing message re-record and allow for the retrieval of messages without a remote control unit.

G. Facsimile Machine. Plain paper laser or inkjet facsimile machine with a dedicated telephone line. The machine shall be capable of sending and printing a maximum paper size of 216 mm x 356 mm, have a minimum 20 page memory storage, a minimum 20-sheet document feeder, a minimum 50-sheet paper capacity, transmit at least 6 pages per minute and have an autodial/redial with a minimum of 50 phone number memory. The machine shall be capable of storing and printing outgoing message confirmation information and printing the sender's name, fax number and page number on incoming faxes.

H. Photocopier. Heavy duty, electric, dry-process photocopying machine. The machine shall be capable of duplex copying paper sizes of 216 mm x 279 mm, 216 mm x 356 mm and 279 mm x 432 mm, and have separate trays for each paper size. It shall have a document feeder, collator and the capability to reduce/enlarge copies between each paper size. One (1) case (5,000 sheets, 20 lb, white) of each paper size shall be provided as initial stock.

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I. Paper Shredder. Automatic start, heavy duty cross-cut paper shredder. The shredder shall be able to receive 216 mm wide paper and shred a minimum of 15 sheets simultaneously along with CDs and staples.

J. Adding Machine. Tape type, four-function adding machine that registers to at least 10 digits. The minimum required number of adding machines to be provided is specified in Table 637-2.

K. Pencil Sharpener. Manual or electric pencil sharpener, minimum 1 per room.

L. Exterior Bulletin Board. An installed 1.2 m x 2.4 m weatherproof bulletin board in front of or adjacent to the Engineer's Field Office. The bulletin board may be attached to an outside wall of the office. The location selected must be handicapped accessible and clearly visible.

M. Interior Bulletin Board. An installed, wall-mounted 1.2 m x 1.8 m bulletin board made of cork or similar material in a large room, and one (1) 0.6 m x 1.2 m wall mounted bulletin board installed per room.

N. Dry Erase Board. Installed, wall-mounted 0.6 m x 1.2 m dry erase boards, minimum one (1) per room.

O. Storage Locker. Metal or wood storage locker with shelves, a tumbler lock and two (2) keys for the storage of survey, GPS and testing equipment. The total locker space footprint provided shall be a minimum of 0.8 m² with a minimum height of 1.8 m.

P. Fire Resistant Cabinet. Fire resistant, legal size filing cabinet with locks and two (2) keys each, meeting the requirements of ANSI/UL Standard 72 for Insulated Filing Devices, Class 350-1 hour. Each office shall be provided with two (2) 2-drawer cabinets, and the required number of additional 4-drawer cabinets as specified in Table 637-2.

Q. Bookcase. Self-standing, 3-shelf metal or wood bookcase, approximately 1.2 m high, 1.2 m wide and 0.3 m deep. The minimum required number of bookcases to be provided is specified in Table 637-2.

R. Wastebasket. Minimum 26 liter wastebasket, minimum one (1) per desk.

S. Refrigerator. Electric, top-freezer type providing a minimum storage space of 0.4 m³ for Engineer's Field Office Types 1 and 2, and a minimum storage space of 0.6 m³ for Types 3, 4 and 5.

T. Kitchenette. To include a minimum 0.03 m³, 1,300 watt microwave oven, a sink with hot and cold running water with minimum dimensions of 380 mm x 380 mm x 150 mm deep, usable counter space with minimum dimensions of 1.5 m long x 0.6 m deep and cabinet space with minimum dimensions of 1.5 m long x 0.5 m deep x 0.75 m high. If the water in the sink is not potable, it shall be clearly marked as such.

U. Stove. Electric, propane or bottle gas stove with a minimum of two (2) burners adequate for rapid drying of soil samples, including fuel or electrical supply. A stove is required when a separate Field Laboratory is not included.

V. First Aid Kit. A Type III kit in accordance with ANSI Z308.1 *Minimum Requirements for Workplace First Aid Kits*. The minimum number of first aid kits to be provided is specified in Table 637-2.

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W. Thermometer. A minimum-maximum thermometer displaying in degrees centigrade and mounted with an external probe to give the temperature both indoors and outdoors.

X. Coat Rack. A metal or wood coat rack or closet capable of holding at least 4 coats. The minimum required number of coat racks to be provided is specified in Table 637-2. A single coat rack may be provided as long as it holds the minimum number of coats as per Table 637-2.

Y. Office Desk and Chair. Fully assembled freestanding office desks and chairs. Each desk shall have a 1.5 m long by 0.75 m wide work surface and a height of 0.7 m, at least 2 lockable drawers and include an adjustable shelf approximately 0.3 m wide and no less than 0.75 m long. Each desk shall also be provided with an adjustable chair with arms, 5 legs with casters and be adjustable from approximately 0.4 m to 0.6 m in height. Each desk shall have a dedicated electrical outlet receptacle. The required number of office desks and chairs to be provided is specified in Table 637-2.

Z. Office/Conference Table. Commercial-grade rectangular table with weather/spill resistant top a minimum of 2.4 m long by 0.75 m wide by 0.7 m high. The minimum required number of office/conference tables to be provided is specified in Table 637-2.

AA. Folding Chair. Commercial-grade, folding steel chair with approximate overall dimensions of 740 mm high by 470 mm wide by 520 mm deep. The minimum required number of folding chairs to be provided is specified in Table 637-2.

BB. Drafting Table. Adjustable height, tilting top drafting table with brackets and legs and approximate dimensions of 1.8 m long by 0.9 m wide by 0.9 m high. The minimum required number of drafting tables to be provided is specified in Table 637-2.

TABLE 637-2 ENGINEER'S FIELD OFFICE FURNISHING REQUIREMENTS					
Furnishing Description	Required Number per Engineer's Field Office Type				
	1	2	3	4	5
Restrooms	1	1	2	2	3
Parking spaces	6	8	12	18	22
Telephone voice lines	2	3	4	6	8
Telephone line for computers	1	1	1	1	1
Telephone line for facsimile	1	1	1	1	1
Adding machines	2	2	2	3	6
Fire resistant cabinets (4-drawer)	2	3	4	6	8
Bookcases	5	7	10	12	16
First aid kits	1	1	1	2	2
Coat racks	1	2	3	4	5
Office desks and chairs	4	8	12	18	22
Office/conference tables	2	2	3	4	5
Folding chairs	4	6	8	10	15
Drafting tables	1	1	2	3	3
Drafting stools	2	2	4	6	6
Vertical plan filing racks	1	1	2	3	8
Roll file units	1	1	1	2	4

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CC. Drafting Stools. Adjustable height stool with backrest. The minimum required number of drafting stools to be provided is specified in Table 637-2.

DD. Vertical Plan Filing Rack. Constructed of metal, capable of hanging up to 12 sets of plan drawings up to 0.9 m x 1.2 m in size, 12 hanging clamps included. The minimum required number of vertical plan filing racks to be provided is specified in Table 637-2.

EE. Roll File Unit. Twelve (12) compartments, each measuring approximately 150 mm x 150 mm. The minimum required number of roll file units to be provided is specified in Table 637-2.

637-2.02 Field Laboratory. The Field Laboratory shall be a secured, weatherproof room, building or mobile structure not less than 9 m² floor area in size. The floor covering shall be linoleum, tile or other serviceable finish. A local exhaust system shall be provided. An ambient air temperature of 21°C ±5°C shall be maintained. The Contractor may furnish equivalent facilities in an existing building, provided that the building is located to provide convenient service. The Contractor shall supply the Engineer with a copy of the Certificate of Occupancy for the existing building.

The Field Laboratory shall be in accordance with the requirements of the New York State Uniform Fire Prevention and Building Code, 19 NYCRR, and any applicable local codes.

The electrical system shall be able to continuously operate all equipment and be provided with adequate receptacles. Where an electric hotplate or stove is provided, service shall be increased over 20 amperes by an amount equal to the rating of the device provided.

The Field Laboratory shall be sufficiently anchored to prevent damage from vibration caused by the laboratory equipment.

Fire extinguishers and smoke and carbon monoxide detectors shall be provided and installed.

A. Potable Water. From an existing system or from an external 200 liter (minimum) gravity-feed storage tank connected to the sink faucet and refilled as necessary.

B. Sink. A sink at least 900 mm long by 600 mm wide by 450 mm deep, equipped with water faucet and drain line.

C. Counter. A work counter next to sink at least 600 mm long by 600 mm wide.

D. Cabinet. A storage cabinet or locker at east 0.6 m square by 1.8 m high, equipped with at least 4 shelves, a lock and 2 keys.

E. Table. A heavy duty work table not less than 2.4 m long by 0.75 m wide by 0.90 m high.

F. Pedestal. A heavy wooden block for soil compaction tests, nominally 250 mm square by 300 mm high.

G. Stove. As specified in §637-2.01U.

H. Office Desk and Chair. As specified in §637-2.01Y.

637-2.03 Concrete Cylinder Curing Box. The concrete cylinder curing box shall be constructed of non corroding materials. A moisture proof seal shall be provided between the lid and body of the box. Provision for automatic control of water temperature to 22°C ±3°C shall be made when the box is located in an uncontrolled environment. A bimetallic thermometer shall be inserted with its sensing element in the storage water. The thermometer shall be capable of being read from the outside without opening the box. The thermometer shall have minimum gradations of 1°C and shall be protected from damage. Electric utility connections shall be made in a lockable switch box securely attached to the outside of the curing box.

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A rustproof wire or metal rack shall be set above the bottom of the box to support cylinders in an upright position. The rack and all temperature control elements shall be positioned to allow free circulation of water around the cylinders. A combination hose connection and drain shall be provided at the lower front edge of the box so that it may be drained or water may be circulated. A drain shall also be provided on the box in such a position that when open will drain water to within 25 mm over the top of the cylinders. All areas of the box shall be easily drained and accessible for cleaning.

The concrete cylinder curing box shall be capable of maintaining the required water temperature through an ambient air temperature range of -23°C to $+38^{\circ}\text{C}$. The box shall be capable of holding a minimum of nineteen (19) 150 mm x 300 mm cylinders. When filled with water, the box shall not leak enough so that the cylinders are exposed.

637-2.04 Mobile Telephone. Mobile telephone equipment shall meet the requirements below. All necessary hardware, cables, operating manuals, and other pertinent media for all the components shall be provided. The equipment shall be no more than one (1) year old. To verify the age of the equipment, the Contractor shall provide the Engineer with a dated copy of the receipt(s) for the purchase of the equipment. Once equipment has been provided, it does not require replacement every year. The number of mobile telephones shall be as identified in the contract proposal special note entitled "Section 637 Pay Item Quantities".

A. Telephone and Accessories

- Handheld and transportable
- Digital communications technology, if service is available, otherwise analog is acceptable.
- Two-way radio ('push-to-talk', 'walkie-talkie', etc.) capability, if service is available, otherwise 'mobile-to-mobile' calling feature is acceptable.
- Electronic locking capability
- Spare battery
- AC power charging unit
- Hands-free operation accessories
- Belt clip/holster
- DC power cord for in-vehicle use

B. Service

- Minimum 500 minutes per month telephone air time calling plan
- Continuous coverage across entire contract location, or best coverage available
- Local service so that most on-site and regional calls are not considered long-distance calls

637-2.05 Pager. The pager and its accessories shall meet the requirements below. All necessary hardware, cables, operating manuals, and other pertinent media for all the components shall be provided. The number of pagers shall be as identified in the contract proposal special note entitled "Section 637 Pay Item Quantities".

A. Pager and Accessories

- Pocket-sized paging device
- Capable of being activated by a public telephone call
- Audible and vibrating message alerts
- Message time-stamping
- Batteries
- Belt clip/holster for pager

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B. Service

- Minimum 500 numeric pages per month pager service plan
- Continuous coverage across entire contract location (or best coverage available)
- Local or toll free pager number
- Voice mail (or alternate message recording option) with storage for a minimum of 15 messages

637-2.06 Two-Way Radio System. The two-way radio system shall meet the requirements below. All necessary hardware, cables, operating manuals, and other pertinent media for all the components shall be provided. The Contractor shall obtain all necessary FCC licenses, permits, and copies of FCC Regulations required for the operation of the equipment furnished. The number of base stations, in-vehicle radios and handheld radios shall be as identified in the contract proposal special note entitled "Section 637 Pay Item Quantities".

A. Base Station

- Desktop two-way radio base station
- Power – Operate from a 110 VAC power supply, consuming no more than 50 Watts
- Frequency – Provide one channel (T/R) within the 150 MHz to 174 MHz range
- Desk microphone
- Tone coded squelch
- Transmitter
 - RF Power Output – 25 Watts (minimum)
 - Modulation – ± 5 KHz
 - Spurious and Harmonic Emissions – Down 60 dB below carrier
 - Frequency Stability – $+0.0005\%$ of assigned center frequency from -30°C to 60°C
 - FM Noise – Down -55 dB (minimum)
 - Audio Response – Within +1 dB to -3 dB over 300 Hz to 3000 Hz with 6 dB/octave pre-emphasis at less than 3% distortion (minimum)
- Receiver
 - Sensitivity – 0.35 microvolts for 20 dB quieting (minimum)
 - Squelch Sensitivity – 0.2 microvolts (minimum)
 - Selectivity – -70 dB EIA for two signals on 30 KHz channel spacing (minimum)
 - Frequency Stability – $+0.0005\%$ from -30°C to 60°C temperature range with 25°C reference (minimum)
 - Modulation Acceptance – + 6.5 KHz (minimum)
 - Audio Output – 3 watts with less than 5% distortion over 300 to 3000 Hz (minimum)
 - Intermodulation – dvNn -70 dB (minimum)
- Antenna
 - Accepts RF energy up to 500 Watts in frequency band from 150 MHz to 174 MHz, into an impedance of 50 Ohms
 - Radiate energy with a gain of 5 dB in an omnidirectional pattern (minimum)
 - VSWR shall not exceed 1.5 to 1
 - Mast length of 6 m (minimum)
 - Mounted with heavy duty galvanized steel wall mount set (or Engineer-approved alternative)
 - Grounded for lightning protection to N.E.C. standards
- Transmission Line (Base Station to Antenna)
 - 13 mm coaxial cable with corrugated copper outer and copper clad aluminum inner conductors, and foam dielectric and vinyl sheath (or Engineer-approved alternative)
 - All necessary connectors, adaptors, and installation hardware

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B. In-Vehicle Radio

- Mobile, in-vehicle, dash-mounted two-way radio device
- One channel capability in the 150 MHz to 174 MHz band (minimum) with tone-controlled squelch
- Inside speaker
- Press-to-talk microphone
- Antenna
- All necessary cables and hardware
- Power Source – 12 V DC with negative ground
- Transmitter and receiver parameters shall be the same as those of the base station and handheld two-way radio units

C. Handheld Radio

- Handheld, portable, two-way radio device
- Power output – 4 Watt (minimum)
- Battery – Rechargeable w/ recharging unit
- Battery life – 12 hours (minimum), otherwise alternate provisions (extra radios, batteries, etc.)
- Belt clip or holster
- Durability – Meets Mil Std 810 C, D, and E

637-2.07 Digital Camera. The digital camera system shall meet the requirements below. All necessary hardware, cables, operating manuals, and other pertinent media required for the operation of the camera unit itself, including connecting the camera to the office computer system. The camera must be able to download the images to a computer without any proprietary software having to be installed on a computer. The equipment shall be no more than one (1) year old. To verify the age of the equipment, the Contractor shall provide the Engineer with a dated copy of the receipt(s) for the purchase of the equipment. Once equipment has been provided, it does not require replacement every year.

- Minimum 3.0 megapixel resolution with 3x optical zoom and autofocus operation
- 40 mm LCD screen and optical viewfinder
- Built-in intelligent flash (auto/on/off)
- Time/date stamp on each picture
- A total of two (2) rechargeable sets of batteries (Lithium-Ion or NiMH) and high-capacity (approximately 1 hour) charging unit
- Two (2) 512 MB memory cards – commercially available removable recording media
- Soft storage/carry case with shoulder strap

637-2.08 Digital Camcorder. The digital camcorder shall meet the requirements below. All necessary hardware, cables, operating manuals, and other pertinent media for all the components shall be provided, including connecting the camera to the office computer system. The camera must be able to download the video to a computer without any proprietary software having to be installed on the computer. The equipment shall be no more than one (1) year old. To verify the age of the equipment, the Contractor shall provide the Engineer with a dated copy of the receipt(s) for the purchase of the equipment. Once equipment has been provided, it does not require replacement every year.

- Commercially available format
- Autofocus operation
- 60 mm LCD screen and optical viewfinder
- Equipped with Electronic Image Stabilization
- Low-light recording capable
- Time/date stamp on recording
- AC adapter and all cables and connections necessary for computer interface

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- Two (2) rechargeable batteries (Lithium-Ion or NiMH) and charging unit
- Recording media to store 180 minutes of video footage
- Soft storage/carry case with shoulder strap

637-2.09 Rain Gauge. The wireless rain gauge system shall meet the requirements below. All necessary mounting materials and hardware, operating manuals and other pertinent media for the components shall be provided.

- Wireless remote transmission from outdoor weatherproof rainfall sensor to indoor display unit
- Self-emptying tipping bucket
- Display daily rainfall information and at least nine (9) day historical rainfall records
- Two (2) sets of rechargeable batteries for each component and charging unit
- No computer software shall be necessary for rain gauge operation or rainfall data storage/viewing

637-2.10 Inspection Vehicle. The vehicle(s) provided shall not be over four (4) years old or have over 60,000km on the odometer as of the delivery date. The supplied vehicle(s) shall be of such durability to carry occupants and equipment over rough terrain and contain sufficient weather protection for both the occupants and equipment. The vehicle(s) shall have sufficient cargo capacity to carry the equipment necessary for the work. The vehicle(s) shall be properly registered, maintained (including repairs, tires, lubrication, fuel, washing, etc.), and be provided with an owner's policy of liability insurance in conformance with §107-06B. The vehicle(s) shall be equipped with or meet the following minimum specifications:

- Manufacturer's Standard 4 or 6 cylinder engine
- Automatic transmission
- Manufacturer's Standard four (4) wheel drive or all-wheel drive
- Power steering
- Air conditioning
- Manufacturer's base level interior option
- Left, right and center mirrors
- Roof mount flashing yellow light
- All Standard Manufacturer equipment and accessories including spare tire, jack, owner's manual, etc. shall be included with the vehicle(s), along with vehicle registration and insurance cards

637-2.11 Inspection Boat. The boat provided shall comply with the following minimum requirements:

- All required capacity, maximum horsepower, and identification plates shall be affixed in the manner required by Coast Guard regulations.
- The motor's horsepower shall meet the rated requirements of the boat and be equipped with a forward, neutral, and reverse. The power train shall be equipped with an interlock so that the engine may not be started in gear. U.S. Coast Guard-approved fuel tanks shall be provided.
- All equipment required by Coast Guard regulations shall be provided for the boat. The equipment shall include, but not be limited to, the following:
 - Class B-1 fire extinguisher
 - Life jackets for all persons aboard
 - One anchor, Danforth-type or Navy stockless, suitable for the specified boat
 - Bailing device
 - Power operated whistle or horn
 - Visual distress signals
 - Means for accessing work sites not accessible from land from the water (piers, floating equipment, etc.)

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- Registration, licenses, and other legal requirements for boat operation shall be obtained by the Contractor and kept current by the Contractor for the length of time the boat is in operation.
- Dockage facilities shall be maintained by the Contractor and shall be constructed (if necessary) so that easy access to the boat is provided at all times under all tidal conditions.
- The Contractor shall maintain the boat in good, clean condition at all times as required. Fuel tanks shall be maintained full at all times.

A. Inspection Boat – Type A

- Boat lengths up to and including 6 m
- The boat will be operated by an appropriately trained and certified member of the inspection staff.

B. Inspection Boat – Type B

- Boat lengths in excess of 6 m
- An appropriately trained, certified and licensed operator shall be provided.

637-2.12 Office Technology Supplies. Materials as specified in the bid documents or by the Engineer.

637-2.13 Civil Rights Reporting Software. The software product to be used shall be the current product and version approved by the Department. The Contractor shall utilize computer equipment meeting the minimum requirements for operating the software as specified by the approved vendor.

637-2.14 Partnering Workshop. None specified.

637-3 CONSTRUCTION DETAILS. The equipment, with the exception of the office technology supplies, shall be maintained by, and remain the property of, the Contractor.

637-3.01 Engineer's Field Office. The Contractor shall be responsible, until use and occupancy is relinquished by the State, for any and all damage, direct or indirect, of whatever nature, occurring to the property of the State and property of the inspection staff which is kept in the Engineer's Field Office. The Engineer will provide the Contractor with a detailed list of items kept in the office, with corresponding dollar values, and will provide the Contractor with updates when something on the list changes. Non-State-owned property shall only be those items used in the performance of contract-related work activities. Such property shall be replaced within 30 days of the reported damages and would include any loss caused by, but not limited to, fire, theft, vandalism or malicious mischief. The Contractor shall not be responsible for items kept in the Engineer's Field Office that are not on this list.

The Contractor shall install the Engineer's Field Office sign at a location approved by the Engineer. If the Engineer's Field Office is not located within or adjacent to the contract limits, two (2) additional signs shall be displayed conspicuously within the contract limits in locations directed by the Engineer.

The Engineer's Field Office shall be fully equipped and made available for use and occupancy by the inspection staff prior to the start of any contract work, and shall be made available after contract final acceptance as directed in writing by the Regional Construction Engineer.

All furniture and equipment shall be fully assembled, operational, clean and serviceable. The Engineer's Field Office shall be cleaned weekly or more often if required, and the timing of the cleaning operations shall be coordinated with the Engineer. The Contractor shall remove and dispose of all rubbish generated in the office and shall keep the office free from pests. The Contractor shall remove snow from all areas subject to vehicular circulation and parking.

After completion, all portable buildings or trailers, fencing, surfacing and utilities shall be removed from the location and the areas cleaned, loamed and restored as required.

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637-3.02 Field Laboratory. The Contractor shall be responsible for any and all damage, direct or indirect, of whatever nature, occurring to the property of the State which is kept in the Field Laboratory. The Engineer will provide the Contractor with a detailed list of items kept in the laboratory, with corresponding dollar values, and will provide the Contractor with updates when something on the list changes. Non-State-owned property shall only be those items used in the performance of contract-related work activities. Such property shall be replaced within 30 days of the reported damages and would include any loss caused by, but not limited to, fire, theft, vandalism or malicious mischief. The Contractor shall not be responsible for items kept in the Field Laboratory that are not on this list.

The Field Laboratory shall be fully equipped and made available for use and occupancy by the inspection staff prior to the start of any contract work. Such use and occupancy shall be made available after contract final acceptance as directed in writing by the Regional Construction Engineer.

All furniture and equipment shall be fully assembled, operational, clean and serviceable. The Field Laboratory shall be cleaned weekly or more often if required, and the timing of the cleaning operations shall be coordinated with the Engineer. The Contractor shall remove and dispose of all rubbish generated in the laboratory and shall keep the laboratory free from pests.

After completion, all portable buildings or trailers, fencing, surfacing and utilities shall be removed from the location, the areas cleaned, loamed and restored as required.

637-3.03 Concrete Cylinder Curing Box. Prior to the placement of any structural concrete, the Contractor shall furnish the Engineer a concrete cylinder curing box and two (2) locks with two (2) keys for each lock. The locks shall fit each securing latch of the curing box. This concrete cylinder curing box shall remain exclusively available to the Engineer at a location approved by the Engineer. The Contractor shall provide and maintain all necessary utility connections to operate the curing box.

637-3.04 Mobile Telephone. The Contractor shall submit to the Engineer a list of three (3) service providers with their available phone equipment and calling plan options. The list shall include the following information for each service provider:

- Service provider - include contact information (customer service telephone number and website address if available)
- Available calling plans
- Available telephone equipment (including a picture of the telephone)
- Service contract details (year commitment, etc.)
- Pricing information

The Engineer will select the service provider, equipment, and calling plan from the Contractor's list. The Contractor shall provide the designated equipment within one (1) week after selection to the Engineer. The Contractor shall supply qualified instruction to the inspection staff regarding proper equipment operation. The mobile telephones shall be for the exclusive use of Department personnel and their authorized representatives. The Contractor shall provide replacement due to breakdown, damage, loss, or theft within 24 hours of notification.

The Contractor shall provide the Engineer with legible copies of the monthly bills for the mobile telephone(s) provided. The bills shall show the number of minutes usage, or voice message units, and the total usage charges for the billing period.

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637-3.05 Pager. The Contractor shall submit to the Engineer a list of three (3) service providers with their available pager equipment and service plan options. The list shall include the following information for each service provider:

- Service provider - include contact information (customer service pager number and website address if available)
- Available service plans
- Available pager equipment (including a picture of the pager)
- Service contract details (year commitment, etc.)
- Pricing information

The Engineer will select the service provider, equipment, and service plan from the Contractor's list. The Contractor shall provide the designated equipment within one (1) week after selection to the Engineer. The Contractor shall supply qualified instruction to the inspection staff regarding proper equipment operation. The pagers shall be for the exclusive use of Department personnel and their authorized representatives. The Contractor shall provide replacement due to breakdown, damage, loss, or theft within 24 hours of notification.

The Contractor shall provide the Engineer with legible copies of the monthly bills for the pagers provided.

637-3.06 Two-Way Radio System. The Contractor shall provide, install, and maintain the two-way radio system in the locations designated by the Engineer. The Contractor shall make the system fully operational prior to the start of any contract work. The Contractor shall submit to the Engineer the details for the proposed two-way radio system to be provided. The details shall include the following information:

- Equipment/service provider - include contact information (customer service telephone number and website address if available)
- The proposed system components to be provided (exact transmission/hardware options), including pictures of the equipment

Once the Engineer approves the proposed system, the two-way radio system shall be installed in a timely manner. The Engineer may direct the Contractor to submit alternate system proposals. The Contractor shall supply training to the inspection staff regarding proper operation of the two-way radio system. The two-way radio system shall be for the exclusive use of Department personnel and their authorized representatives. The Contractor shall provide replacement due to breakdown, damage, loss, or theft within 24 hours of notification.

The Contractor shall be responsible for all modifications to the Engineer's field office, vehicle(s), and/or any other designated locations necessary to make it compatible with and capable of supporting the two-way radio system such as, but not limited to the electrical system.

637-3.07 Digital Camera. The Contractor shall provide and maintain a digital camera system for the exclusive use of Department personnel and their authorized representatives. The digital camera shall be fully operational prior to the start of any contract work and the Contractor shall supply qualified instruction to the inspection staff regarding proper equipment operation. The Contractor shall provide replacement due to breakdown, damage, loss, or theft within 24 hours of notification. The State may retain ownership of any data storage media, data storage containers and consumables.

637-3.08 Digital Camcorder. The Contractor shall provide and maintain a digital camcorder system for the exclusive use of Department personnel and their authorized representatives. The digital camcorder shall be fully operational prior to the start of any contract work and the Contractor shall supply qualified instruction to the inspection staff regarding proper equipment operation. The Contractor shall provide replacement, due to breakdown, damage, loss, or theft within 24 hours of notification. The State may retain ownership of any data storage media, data storage containers and consumables.

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637-3.09 Rain Gauge. The Contractor shall provide, install and maintain the wireless rain gauge system in accordance with the manufacturer's instructions in a location approved by the Engineer. The Contractor shall make the system fully operational in a timely manner, at a minimum, prior to any soil disturbance at the site. The Contractor shall provide replacement due to breakdown, damage, loss, or theft within 24 hours of notification.

637-3.10 Inspection Vehicle. Prior to the start of any contract work, the Contractor shall make the inspection vehicle(s) available for inspection by the Engineer. The Contractor shall make arrangements for delivery to the site on the date specified by the Engineer. The vehicle(s) will be driven by the Engineer and other personnel authorized by the Engineer possessing a valid driver's license.

The Contractor shall provide fuel, oil, proper maintenance, tires, and replacement parts as required to keep the vehicle(s) in safe operating condition, and undertake all repairs, including repairs arising from the vandalism, accidents or other damages. The Contractor shall either establish an account at a local gas station or provide the inspection staff with the monetary means to fuel the vehicles. If any vehicle requires maintenance or repairs which cannot be completed on the same day, a comparable replacement vehicle shall be provided while the vehicle is out of service. If the vehicle is lost or stolen, the Contractor shall replace the vehicle within five (5) work days with a comparable vehicle.

637-3.11 Inspection Boat. The Contractor shall furnish the boat (and operator for Type B Inspection Boats) within five (5) work days after written notification by the Engineer, and the boat (and operator for Type B Inspection Boats) shall, thereafter, be available at all times to the Engineer and other personnel authorized by the Engineer.

637-3.12 Office Technology Supplies. The Contractor shall provide office technology-related supplies for the exclusive use of Department personnel and their authorized representatives. The supplies shall be provided within two (2) work days of the Engineer's request, unless the Engineer agrees to a longer delivery time. The Department shall retain ownership of the technology-related materials and supplies.

637-3.13 Civil Rights Reporting Software. After contract award, if the Contractor does not already own the software, the Contractor shall purchase the Department standard civil rights reporting software and obtain training from an approved vendor.

A. Software. From an approved marketing vendor, the Contractor shall:

- Purchase one copy of the software module to support the Contractor's import of Contractor and subcontractor payroll data, compliance monitoring and creation of required reports.
- Purchase additional copies of the software module to support the entry of payroll data by subcontractors in instances where subcontractors do not own the software or cannot create compatible import files.
- Install vendor issued upgrades and maintain the software to ensure data submissions are made using the most recent approved version of the software.

B. Training. The Contractor shall obtain software training from an approved vendor

637-3.14 Partnering Workshop. The Contractor and the Regional Construction Engineer will jointly select a facilitator and a location for the workshop. A list of potential facilitators is available from the Department. The facilitator shall present a one (1) to two (2) day Partnering Workshop for this contract between the time of award and the start of work. For long duration, multi year projects, a subsequent follow-up workshop may be convened, with the agreement of the Contractor and the Regional Construction Engineer, at an appropriate point during the progression of the work. The associated costs for this subsequent workshop will be reimbursed under this item.

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637-4 METHOD OF MEASUREMENT

637-4.01 Engineer's Field Office. The Engineer's Field Office will be measured for payment as the number of months satisfactorily provided, measured to the nearest 0.25 months.

637-4.02 Field Laboratory. The Field Laboratory will be measured for payment as the number of units satisfactorily provided.

637-4.03 Concrete Cylinder Curing Box. The concrete cylinder curing boxes will be measured for payment as the number of units furnished and installed.

637-4.04 Mobile Telephone. The mobile telephone will be measured for payment on a fixed price Dollars-Cents pay unit basis.

637-4.05 Pager. The pager will be measured for payment on a fixed price Dollars-Cents pay unit basis.

637-4.06 Two-Way Radio System. The two-way radio system will be measured for payment on a monthly basis, measured to the nearest 0.25 months.

637-4.07 Digital Camera. The digital camera will be measured for payment on a fixed price Dollars-Cents pay unit basis.

637-4.08 Digital Camcorder. The digital camcorder will be measured for payment on a fixed price Dollars-Cents pay unit basis.

637-4.09 Rain Gauge. The rain gauge will be measured for payment as the number of units furnished and installed.

637-4.10 Inspection Vehicle. The inspection vehicle(s) will be measured for payment on a monthly basis, measured to the nearest 0.25 months.

637-4.11 Inspection Boat. The inspection boat will be measured for payment on a monthly basis, measured to the nearest 0.25 months.

637-4.12 Office Technology Supplies. Office technology supplies will be measured for payment on a fixed price Dollars-Cents pay unit basis.

637-4.13 Civil Rights Reporting Software. The civil rights reporting software will be measured for payment on a Dollars-Cents pay unit basis.

637-4.14 Partnering Workshop. The Partnering Workshop will be measured for payment on a Dollars-Cents pay unit basis.

637-5 BASIS OF PAYMENT. For the items to be paid on a Dollars-Cents pay unit basis, the total cost shown in the itemized proposal will be considered the price bid even though payment will be made only for actual equipment and materials supplied. The unit price amount is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figure will be disregarded, and the original price will be used to determine the total amount bid for the contract.

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637-5.01 Engineer's Field Office. The unit price bid per month for the Engineer's Field Office shall include the cost of all labor, materials and equipment necessary to complete the work including property rental, utility charges and incidental expenses. Payment will be made for each month of availability for occupancy by the Engineer and inspection field staff.

No payment will be made under Engineer's Field Office for each calendar day during which there are deficiencies in compliance with these requirements. The first calendar day shall commence 24 hours after notice to the Contractor of such a deficiency. This nonpayment shall be deducted from the next contract payment. The amount of such calendar day nonpayment will be determined by dividing the unit price bid per month by 30.

If the cited deficiencies exceeds 72 hours or is permitted to recur, liquidated damages will be assessed at twenty percent (20%) of the rate shown in Table 108-1 of §108-03 *Failure to Complete Work on Time* for each subsequent calendar day or part thereof that the cited deficiency resulting in nonpayment is not corrected.

Monthly payments may be terminated prior to contract final acceptance by written notification by the Regional Construction Engineer that such office will no longer be required on the contract. Payment for each month's occupancy of the Engineer's Field Office after the date of contract final acceptance will be made as part of the final contract payment. Failure of the Contractor to supply documentation required to complete the final estimate may result in nonpayment during this delaying period.

During periods of contract extension of time where Engineering Charges are assessed, no payment will be made for occupancy and services, except that payment for each month's occupancy after the date of final acceptance will be made as part of the final estimate.

637-5.02 Field Laboratory. The unit price bid for each Field Laboratory shall include the cost of furnishing all labor, materials and equipment necessary to complete the work including property rental, utility charges and incidental expenses.

Payment will be made for each Field Laboratory when it has been placed on the work site and is fully operational.

637-5.03 Concrete Cylinder Curing Box. The unit price bid for each concrete cylinder curing box shall include the cost of all labor, materials and equipment necessary to complete the work including property rental, relocation, repair or replacement, painting, cleaning, maintenance, and utility charges.

637-5.04 Mobile Telephone. The mobile telephone is a "draw down" item. As materials are supplied, the receipts for the materials shall be submitted to the Engineer. The Contractor will be reimbursed for receipted costs of materials plus 5% for profit and overhead ("materials" includes all labor, materials and equipment, including services and service contracts provided to furnish, install, maintain and remove all components of the mobile telephone system).

The number of mobile telephones to be provided shall be in accordance with the contract proposal special note entitled "Section 637 Pay Item Quantities".

The Contractor will be reimbursed for any receipted penalties incurred for breaking an approved service contract with the telephone service provider. If the length of the service contract extends beyond the estimated completion of construction, the Contractor will only be reimbursed for penalties relating to the remainder of the service year in which the contract was terminated. Unless a credit is provided by the service provider, the Contractor will be penalized for the number of days of nonuse of the equipment due to service interruption or malfunctioning of the equipment. The penalty will be based on the per-day cost derived from the bill. No payment will be made for service during periods of contract extensions of time where engineering charges are assessed.

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637-5.05 Pager. The pager is a "draw down" item. As materials are supplied, the receipts for the materials shall be submitted to the Engineer. The Contractor will be reimbursed for receipted costs of materials plus 5% for profit and overhead ("materials" includes all labor, materials and equipment, including services and service contracts provided to furnish, install, maintain and remove all components of the pager).

The number of pagers to be provided shall be in accordance with the contract proposal special note entitled "Section 637 Pay Item Quantities".

The Contractor will be reimbursed for any receipted penalties incurred for breaking an approved service contract with the pager service provider. If the length of the service contract extends beyond the estimated completion of construction, the Contractor will only be reimbursed for penalties relating to the remainder of the service year in which the contract was terminated. Unless a credit is provided by the service provider, the Contractor will be penalized for the number of days of nonuse of the equipment due to service interruption or malfunctioning of the equipment. The penalty will be based on the per-day cost derived from the bill. No payment will be made for service during periods of contract extensions of time where engineering charges are assessed.

637-5.06 Two-Way Radio System. The unit price bid per month for the two-way radio system shall include the cost of all labor, materials and equipment, including services to install, maintain and remove all components of the two-way radio system. A deduction of 1/30 of a month will be made for each 24-hour period, or portion thereof, during which the two-way radio system does not comply with these specified requirements. When directed in writing by the Engineer, payment for each month's use of the two-way radio system after the date of acceptance will be made as part of the final estimate. Payment will begin the first month the two-way radio system is furnished and made available for use. Monthly payments may be terminated on a specified date prior to acceptance of the Contract by written notification by the Engineer that the two-way radio system will no longer be required.

The number of components of the two-way radio system, including the base stations, in-vehicle radios and handheld radios to be provided shall be in accordance with the contract proposal special note entitled "Section 637 Pay Item Quantities".

637-5.07 Digital Camera. The digital camera is a "draw down" item. As materials are supplied, the receipts for the materials shall be submitted to the Engineer. The Contractor will be reimbursed for receipted costs of materials plus 5% for profit and overhead ("materials" includes all labor, materials and equipment, including services to furnish, maintain, and remove all of the components of the digital camera system).

If new equipment is not provided, the Engineer will determine a reasonable cost for the equipment. The Contractor shall provide a copy of the original receipt for the equipment to assist the Engineer in assessing the current value of the equipment. Used equipment less than one (1) year old shall be assessed at no more than fifty percent (50%) of the original receipted cost. Equipment over one (1) year old shall not be considered for approval.

637-5.08 Digital Camcorder. The digital camcorder is a "draw down" item. As materials are supplied, the receipts for the materials shall be submitted to the Engineer. The Contractor will be reimbursed for receipted costs of materials plus 5% for profit and overhead ("materials" includes all labor, materials and equipment, including services to furnish, maintain, and remove all of the components of the digital camcorder system).

If new equipment is not provided, the Engineer will determine a reasonable cost for the equipment. The Contractor shall provide a copy of the original receipt for the equipment to assist the Engineer in assessing the current value of the equipment. Used equipment less than one (1) year old shall be assessed at no more than fifty percent (50%) of the original receipted cost. Equipment over one (1) year old shall not be considered for approval.

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637-5.09 Rain Gauge. The unit price bid for each rain gauge shall include the cost of furnishing all labor, materials and equipment necessary to complete the work including installing and maintaining all components of the wireless rain gauge system.

Payment will be made for the rain gauge when it has been installed and is fully operational.

637-5.10 Inspection Vehicle. The unit price bid per month shall include all costs in connection with furnishing properly registered vehicles, maintaining the vehicles (including repairs, tires, lubrication, fuel, washing, etc.), and providing an owner's policy of liability insurance for the vehicles in conformance with §107-06B. A deduction of 1/30 of a month will be made for each 24-hour period, or portion thereof, during which the vehicle is unavailable to the Engineer, or personnel authorized by the Engineer, regardless of the reason for the vehicle's unavailability. When directed in writing by the Engineer, payment for each month of use after the date of acceptance will be made as part of the final estimate. Payment will begin the first month the vehicle is furnished and made available for use. Monthly payments may be terminated on a specified date prior to acceptance of the Contract by written notification by the Engineer that the vehicle will no longer be required.

637-5.11 Inspection Boat. The unit price bid per month shall include the cost of furnishing all labor, fuel, maintenance, repairs, registration permits, the operator (for Type B Inspection Boats), and other necessary incidentals for operation of the boat. A deduction of 1/30 of a month will be made for each 24-hour period, or portion thereof, during which the boat is unavailable to the Engineer, or personnel authorized by the Engineer, regardless of the reason for the boat's unavailability. When directed in writing by the Engineer, payment for each month of boat use after the date of acceptance will be made as part of the final estimate. Payment will begin the first month the boat is furnished and made available for use. Monthly payments may be terminated on a specified date prior to acceptance of the Contract by written notification by the Engineer that the boat will no longer be required.

637-5.12 Office Technology Supplies. Office technology supplies is a "draw down" item. As the materials are supplied, the receipts shall be submitted to the Engineer. The Contractor will be reimbursed for receipted costs of materials plus 5% for profit and overhead ("materials" includes all labor, materials and equipment, including services and service contracts provided).

637-5.13 Civil Rights Reporting Software. The Department will reimburse the Contractor for the purchase of the required software and fifty percent (50%) of the training cost at an approved vendor for Contractor employees upon submission of original receipts. No payment will be made for required computer hardware. No payment will be made for software, training and/or fees paid or reimbursed by another source (i.e., another Department contract or another state/municipality that requires use of the software). No payment will be made for software maintenance fees subsequent to initial purchase. The Contractor shall retain the software upon completion of the contract with the understanding that the Contractor will employ this copy of the software on subsequent contracts with the Department.

637-5.14 Partnering Workshop. The Department will reimburse the Contractor for fifty percent (50%) of the costs for the facilitator and the facility upon submission of original receipts. Receipted costs eligible for 50% reimbursement include the fee for the facilitator and the costs for the facilitator's travel and expenses; associated workshop costs such as charges for the rental of the meeting room, required audio/visual equipment and any handouts, notes or workshop materials. The costs for travel, lodging, meals and salaries of workshop attendees, other than those of the facilitator, will not be eligible for reimbursement under this item.

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Payment will be made under:

Item No.	Item	Pay Unit
637.01	Field Laboratory	Each
637.03	Concrete Cylinder Curing Box	Each
637.10	CHAMP® Management System	Dollars-Cents
637.11	Engineer's Field Office – Type 1	Month
637.12	Engineer's Field Office – Type 2	Month
637.13	Engineer's Field Office – Type 3	Month
637.14	Engineer's Field Office – Type 4	Month
637.15	Engineer's Field Office – Type 5	Month
637.21	Mobile Telephone	Dollars-Cents
637.22	Pager	Dollars-Cents
637.23	Two-Way Radio System	Month
637.24	Digital Camera	Dollars-Cents
637.25	Digital Camcorder	Dollars-Cents
637.26	Rain Gauge	Each
637.31	Inspection Vehicle	Month
637.32	Inspection Boat - Type A	Month
637.33	Inspection Boat - Type B	Month
637.34	Office Technology and Supplies	Dollars-Cents
637.35	Partnering Workshop	Dollars-Cents