SECTION 32 30 00
SITE FURNISHINGS

SPEC WRITER NOTES:
1. Use this section only for NCA projects.
2. Delete between // --- // if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1 - GENERAL REQUIREMENTS, which are hereby made part of this Section of the Specifications.

SPEC WRITER NOTE:
Modify, add or delete, the numbered items of work indicated in the following paragraph to reflect the project specific site furnishings.
NOTE: Site furnishings has been selected to describe all of the site items not included in other specifications sections.

1.2 DESCRIPTION

A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Furnish and install the Gravesite Layout Markers at the specified locations.
2. Furnish and install the Flower-watering stations, including trash receptacles, water spigot, and flower vase container and complete any required work necessary to make the water supply equipment operate using the water supply source indicated.
3. Furnish and install Ash Urns at the locations depicted on the Contract Drawings.
4. Furnish and install benches at the specified locations.
5. Steel Pipe Bollards, Chain and Locks
6. Flag Sleeves

1.3 RELATED WORK

A. The following items are not included in this Section and will be performed under the designated Sections:
1. Section 033000: CAST-IN-PLACE-CONCRETE

1.4 SUBMITTALS

A. Submit the following in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES:

SITE FURNISHINGS
32 30 00-1
1. General: For each item specified in description of work or Part 2 – Products, provide information showing complete detail, location in the project, material and size of components, method of joining various components and assemblies, finish, and location, size and type of anchors. Mark items requiring field assembly for erection identification and furnish erection drawings and instruction.

2. Provide templates and rough-in measurements as required.

3. Provide samples of full range of colors and finishes available for review and approval, prior to ordering.

1.5 REFERENCES STANDARDS

The publications listed below form a part of this specification and the work shall comply with pertinent standards of the latest editions as specified below or by industry standards unless designated otherwise herein.

A. American Society for Testing and Materials (ASTM):
   B221-08 ............... Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes

B. American Welding Society (AWS):
   D1.2-97 ............... Structural Welding Code Aluminum

C. National Association of Architectural Metal Manufacturers (NAAMM)

PART 2 – PRODUCTS

SPEC WRITER NOTE:

The following paragraphs contain products for use at NCA Cemetery projects, some of which are products that the NCA would like to have as “standardized facilities”. The relative specification paragraph are performance based, but have been written around the specific products for which “standardization” is desired. A Spec Writer Note is provided in advance of each such paragraph to provide information to the Spec Writer as to which product has been used for the performance criteria in the specifications.

2.1 GRAVESITE LAYOUT MARKERS

A. General: Gravesite layout markers for this project shall consist of both Gravesite Grid Monuments and Gravesite Grid Markers.

1. Gravesite grid monuments shall be comprised of a bronze survey marker (monument marker) set into a cast-in-place concrete base or pre-cast concrete base field set in concrete.

SPEC WRITER NOTE:

Follow the link to this product: http://www.berntsen.com/GoShopping/Surveying/ConcreteSurveyMarkers/BronzeConcr
a. Materials:

1) Monument Base: //Cast-in-place//pre-cast// concrete monument base, //or field setting concrete, //shall be a minimum of 24.1 MPa (3,500 psi) @ 28 days, reinforced as shown on details; dimensions as shown on Contract Documents.

2) Monument Marker: Domed-top, 89 mm (3 1/2") diameter, domed bronze concrete survey marker with integral locator magnet, and flared anchor post for securing to concrete.

SPEC WRITER NOTES:
(CTRL + CLICK to follow link)

2. Gravesite Grid Markers shall be comprised of a bronze survey rebar cap (Grid Marker) set onto a No. 10 soft metric (No. 6) rebar.

a. Materials:

1) Rebar: No. 10 soft metric (No. 6) rebar with dimension as shown on Contract Drawings.

2) Grid Marker: Domed-top, 81 mm (3 1/4") diameter, forged aluminum concrete marker with plastic insulator that receives and secures, with a non-wobbly attachment, the No.10 soft metric (No. 6) rebar and isolates the bronze from the steel.

B. Text and Cross-hairs: Text of top as shown on Contract Drawings; text all caps with height to be 4.75 mm (3/16"). Cross hairs shall be field engraved as shown on the Contract Drawings, aligned with the gravesite grid and engraved based upon Contractor-surveyed location data.

C. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the work include, those manufacturer’s that can demonstrate, during the submittal process, that they have provided these products as part of successful installations matching the specifications and drawings, at a minimum of three VA National Cemeteries.

SPEC WRITER NOTE:
Spec writer should select and modify the following appropriate paragraph(s) depending upon the project site conditions. Generally, match the existing facilities, unless the project
work scope specifically requires otherwise.

2.2 FLOWER WATERING STATIONS: GENERAL

A. Flower watering station materials, finishes and colors shall //match existing//fully comply with the specifications and Contract Drawings// or be deemed as approved equal.

SPEC WRITER NOTE:
For projects where the designed flower watering station is to be the NCA unofficial “Victor Stanley” standard, either as a new facility or when matching existing facilities, utilize the following paragraph 2.3 for the Trash Receptacle. Follow this link to the product information: Victor Stanley Ironside S-42 with
http://www.victorstanley.com/products/?mode=prodDetail&id=26&catId=0#
(CTRL + CLICK to follow link)

2.3 TRASH RECEPTACLE

A. Trash receptacles shall //match existing// completely meet the specifications and Contract Drawings or be approved as an equal//. To achieve approval as an equal, submittal of a point by point comparison of the proposed equal product to the //existing product//specifications and Contract Drawings// is required by the Contractor during the submittal process. If the product being submitted for approval as an equal has any features that are different than the //existing product//specifications and Contract Drawings//, they must be identified in the submittal. If the differences result in a product that is deemed less than //the existing//that specified and shown in the Contract Drawings//, then the process for attempting approval as an equal shall NOT be performed during submittals. The product should be submitted with a variance request along with explanation of the differences, why they should be accepted and any cost or project completion factors shall be included.

B. MATERIALS

1. Main body construction shall be 9.53mm x 25.4mm (3/8” x 1”) vertical solid steel bar; 6.35mm x 63.5mm (1/4” x 2-1/2”) horizontal solid steel bands; 9.53mm x 76.2mm (3/8” x 3”) steel support bars; 15.88mm (5/8”) solid steel top ring; leveling feet with a 9.53mm (3/8”) diameter threaded steel shaft. All trash receptacles shall be signed to read “TRASH” as indicated on the details in the Contract Drawings. Sign material, finish, color, font and font size shall be as shown on the Contract Drawings. Mounting of signs shall be as shown on
approved Shop Drawings. All joints of steel components shall be fully welded and ground smooth throughout.

2. Unit shall contain one 136 liter (36-gallon) capacity high density plastic inner liner with its weight not to exceed 2.72 kg (6 lbs.). The unit manufacturer shall provide the black plastic inner liners which shall be molded on tooling designed for and owned by the unit manufacturer. They inner liner shall offer maximum capacity and strength with lightweight construction using critical molded ribs, integral handholds, and high strength materials. This style of inner liner shall minimizes handling difficulty and facilitate easy emptying and storage while affording long service life.

C. REQUIRED OPTIONS

1. Lids: Units shall be shipped with manufacturer’s standard tapered formed lid with formed dome and with self-closing door. The lids shall be made of the manufacturer’s standard high strength plastic material designed to match the selected manufacturer’s standard color. Each lid shall be provided with a stainless steel aircraft cable and attachments to secure the lid to the unit.

   //Bronze//Black//Green//Tavern Square Green//.

   //2. Color shall match existing.//


D. FINISHES

1. All fabricated metal components are steel shotblasted, etched, phosphatized, preheated, and electrostatically powder-coated with TGIC polyester powder coatings. Products are fully cleaned and pretreated, preheated and coated while hot to fill crevices and build coating film. Coated parts are then fully cured to coating manufacturer's specifications. The thickness of the resulting finish averages 8-10 mils (200-250 microns).

   //2. Project location has been determined to be a high salt abusive climate. Hot dip galvanizing before powder coating is required. Hot dip galvanizing will provide greater protection in salty climates but yields a slightly less smooth coating finish. All of the fabricated metal components and castings shall be hot dip galvanized.//

2.4 FLOWER VASE RECEPTACLE

A. Flower vase receptacles shall //match existing// completely meet the specifications and Contract Drawings or be approved as an equal//. To achieve approval as an equal, submittal of a point by point comparison of the proposed equal product to the //existing product///specifications
and Contract Drawings// is required by the Contractor during the submittal process. If the product being submitted for approval as an equal has any features that are different than the //existing product// specifications and Contract Drawings//, they must be identified in the submittal. If the differences result in a product that is deemed less than //the existing// that specified and shown in the Contract Drawings//, then the process for attempting approval as an equal shall NOT be performed during submittals. The product should be submitted for consideration as part of a variance request along with explanation of the differences, why they should be accepted and any cost or project completion factors shall be included.

B. MATERIALS:

1. Flower vase receptacles shall //match existing// or be regularly produced by the manufacturer for use at VA Cemeteries, with a special light weight hinged lid designed for the VA Cemeteries. Flower vase receptacles shall be of the size indicated on the Contract Drawings, and shall be of the same construction, finish and indicated Victor Stanley color as the trash receptacles, with the following exceptions:

2. All flower vase receptacles shall be signed to read “FLOWER VASES” as indicated on the details in the Contract Drawings.

3. The “Floral Regulations” decal shall be as indicated on the Contract Drawings and be factory applied to the top of the receptacle lid. Decal shall be pressure sensitive vinyl designed for outdoor use. The content of the decal, lettering color and background color of decal shall be as approved during the shop drawing process. The materials for the decal shall be regularly used by the manufacturer for flower vase receptacles at VA National Cemeteries.

SPEC WRITER NOTES:

1. Select the appropriate Paragraph 2.5 after referring to the NCA Facilities Design Guide for the style to be used at the project location.

2. If the Murdock style is for this project site, use the corresponding paragraph 2.5 and for additional information follow the link to this product: Murdock-Super Secur M-ESHSC-175


   (CTRL + CLICK to follow link)
3. If the Haws style is to be used for this site, use the corresponding paragraph 2.5.

2.5 WATER SPIGOT ASSEMBLIES

A. Water spigots shall match existing with the approved Victor Stanley color coating, or be approved equal. Water spigot fountain shall be from a manufacturer with at least 5 years of experience producing similar products. The water spigot fountain assembly shall operate with an inlet water pressure of 275 kPa (40 psi) and shall include a pressure regulator installed on the supply line to the spigot prior to the connection to the spigot as well as an isolation valve, both of which shall be installed in a valve box as indicated on the drawings. The spigot shall be of cast aluminum with a long lasting paint coating system, applied to a sand blasted aluminum, with a primer coat and finish coat that matches the Victor Stanley Bronze//selected// paint system color. The water spigot shall operate with a handle, be self-closing, and operate with 2 Kg (5 lbs) of force or less when the water pressure to the spigot is provided at 275 kPa (40 psi) or less. The spigot shall be designed as an anti-freeze jug filler. The outlet for the spigot shall be plain end, with no threads (preferred configuration) or shall include a vacuum breaker on the outlet if the end is threaded. The spigot shall have a top access that allows replacement of the anti-freezing mechanism from the top of the cast aluminum body following removal of the access cover. The final approved configuration, including the mounting method, shall be as approved during the submittal process.

SPEC WRITER NOTE:
For additional information on the Haws 6252EHLF spigot follow the link to: http://www.hawsco.com/modelmain.asp?componentid=230&categoryid=5&searched=1 (CTRL + CLICK to follow link)

A. Water spigots shall match existing and// be constructed as indicated on the drawings. The water spigot indicated on the drawings shall be an ADA compliant spigot operated with a paddle that allows the water to flow when pushed either right or left, with 2 Kg (5 lbs) of force or less. The assembly shall be installed with a pressure regulating valve and isolation valve installed in the meter box and the assembly is to be (blown out) if located in a region where the temperatures seasonally go below freezing. The spigot assembly shall contain all pipes, fittings, attachments, mounting base, and any other ancillary materials or equipment to produce a fully functional water spigot assembly, as
indicated on the drawings, from the connection to the //irrigation//potable// water system at the isolation valve for the spigot.

2.6 STEEL PIPE BOLLARDS AND CHAIN AND LOCK

A. Provide steel pipe bollard, ASTM A-53, Grade B, seamless, galvanized steel, Schedule 40, size and length as depicted on Contract Drawings. Install in locations and as shown on Contract Drawings. Finish shall be zinc rich primer and two coats of exterior enamel. Color to be approved by owner’s designated representative.

B. Where shown on Contract Drawings, Bollards shall include provisions for chain attachment, chain and lock.

1. Chain: Provide three-eighths inch 10mm(3/8”) zinc plated proof coil chain, 1180 Kg (2,600 pound) working load limit, length as shown on Contract Drawings.

2. Lock: Provide four identical two inch, laminated steel body, zinc plated keyed locks with hardened steel, double locking shackle, solid brass cylinder, and five pin tumblers. All locks shall have identical keys.

3. Provide enlarged link on the ends of the chains to allow the chain to be attached to eyehooks and to allow the locks to pass through the links.

2.7 BENCHES

SPEC WRITER NOTE:
For informational purposes, the following specifications are written around the manufacturer’s product found in this link: http://www.victorstanley.com/products/?mode=prodDetail&id=1&catId=0 (CTRL + CLICK to follow link)

A. To establish an acceptable level of quality for the bench materials and fabrication process, the following manufacturing features are listed and required for the purpose of identifying manufacturers that provide work and materials generally complying with these specifications. Their selection for this work shall not relieve them from performing the work as specified.

B. Manufacturing Features: Front welds are to be ground and polished until they form a continuous surface from the top tubular section to each vertical steel slat. Steel seat members shall be gently reverse contoured for maximum comfort. The end sections shall be solid steel bar, welded and ground, structurally adequate for the maximum loads, including an industry standard or greater design load safety factor. End arm rests are required and shall be standard integral welded
configuration, with no center arm rests. All fabricated metal components are to be steel shotblasted, etched, phosphatized, preheated and electrostatically powder-coated with TGIC polyester powder coatings.

C. Benches shall be at the locations, sizes and in the quantities indicated on the Contract drawings.

D. Bench color shall be //VS Bronze//VS Black//VS Green, as approved during the submittal process.

E. All mounting hardware shall be stainless steel. Use of acorn nuts is required; exposed bolt ends or flat bolt heads are not acceptable.

F. WARRANTY:
   1. All benches shall be free from defects in material and/or workmanship for a minimum period of three years, from final acceptance. Warranty shall not apply to damage resulting from accident, alteration, misuse, tampering, negligence or abuse.

SPEC WRITER NOTES:
   1. Refer to the NCA Facilities Design Guide for the parameters for flag sleeve design.
   2. Select the applicable Paragraph A herein below and delete the others.

2.8 FLAG SLEEVES

A. //For existing facilities, furnish flag sleeves at the locations and following the details in the Contract Drawings which match the existing flag sleeves.//

A. //For existing facilities, furnish flag sleeves at the locations and following the details in the Contract Drawings, which are modified from the existing flag sleeves.//

A. //For new facilities, furnish flag sleeves at the locations and following the details in the Contract Drawings.//

B. Flag sleeves shall be furnished and installed as indicated and shall support the flag pole style selected for this facility as determined by the Operations staff//, or as furnished as part of this project//.

C. Flag sleeve locations shall be marked along the adjoining roadway, by //chiseling a mark in the curb//painting a dot on the edge of the pavement// perpendicular to the road centerline at the flag sleeve location. The flag sleeve locations shall be also be located on the "Record Drawings" for the project and shall be annotated using swing tie measurements from prominent features, at approximate 90 degree angles.

PART 3 – EXECUTION

3.1 INSPECTION

A. Prior to installation of any of the work in this section, contractor shall inspect the planned installation locations to insure that conditions are not significantly different from those indicated on the
contract drawings. All materials shall be inspected prior to installation to insure compliance with the contract documents and to insure there is no damage. Should conditions be different from those indicated on the contract documents, contractor should immediately notify the Resident Engineer.

3.2 PREPARATION
A. Stake alignment and locations for all site furnishings for review and approval by Resident Engineer. Verify that all elements in this section “fit” within location provided.
B. Install items rigid, plumb and true to lines and levels shown.
C. Assemble (if required) and install items as per manufacturer’s printed instructions, or approved shop drawings, unless otherwise specified or shown.

3.3 INSTALLATION
A. Gravesite Grid Monuments and Markers:
   1. All material must be checked upon receipt at the job site prior to installation to check for any damage that may have occurred during transport. Units will be installed in complete accordance with manufacturers' recommendations and as shown the Contract Drawings.
   2. Cross-hairs on bronze monuments and marker shall be field inscribed, based upon accurate Contractor-survey: refer to Contract Drawings.
B. Flower Watering Stations:
   1. Stake location of flower watering stations and obtain approval from Owner’s Representative prior to forming concrete pad. Install concrete pad in accordance with 033000 – CAST-IN-PLACE CONCRETE.
   2. Anchor trash receptacle and flower vase containers as shown on the Contract Drawings and following the manufacturer’s recommended installation instructions. //Following installation of water spigot, install washed stone for splash area.//
   3. Install water spigot assemblies according to manufacturer’s recommendations, including pipe, //isolation valve,// fittings, //pressure reducing valve// and valve boxes. All anchoring hardware shall be stainless steel. Coordinate all work with other trades.
C. Pipe Bollards:
   1. Install galvanized steel pipe bollards in concrete footings, 21 MPa (3,000 PSI) @ 28 days, conforming to dimensions as indicated in Contract Drawings and in accordance with SECTION 033000 – CAST-IN-PLACE CONCRETE.
   2. Backfill and compact excavation around bollard or sleeve in accordance with SECTION 31 20 00 – EARTH MOVING.
3. Ensure that all bollards are plumb and aligned within a maximum one-fourth inch tolerance of indicated location on plans or by requirement of regulatory requirements, whichever is more stringent.

4. Fill pipe bollard with concrete as shown. Provide rounded smooth, trowel finish top for positive drainage.

5. Clean any excess material from surface of bollard, and apply finish according to specifications.

6. Furnish and install galvanized steel eyebolts with washers and nuts as indicated for the chain and lock attachment. Furnish and install the chain and padlock(s) and provide spare locks and keys to the Resident Engineer.

D. Benches:

1. Benches shall be shipped assembled. Mount benches as recommended by the manufacturer and as specified herein. All mounting hardware shall be stainless steel. Use of acorn nuts is required; exposed bolt ends or flat bolt heads are unacceptable.

E. Flag Sleeves:

1. Install flag sleeves as indicated on the Contract Drawings at the locations indicated. Install the flag sleeves so the flag poles set in them are plumb and insure that the top of the sleeves are set at the correct elevation, based upon finished grade, so as to not interfere with the mowing operations.

3.4 CLEAN UP

A. Clean up area of excess material and debris. Clean above ground portions of all receptacles and other site improvements.