

SECTION 32 33 00
SITE FURNISHINGS

SPEC WRITER NOTES: Use this section only for NCA projects. Delete text between // _____ // not applicable to project. Edit remaining text to suit project.

PART 1 - GENERAL

SPEC WRITER NOTE: 1. Modify, add or delete, numbered items work indicated in following paragraph, reflect project specific site furnishings.
 2. Site furnishings has been selected to describe site items not included in other specifications sections.

1.1 SUMMARY

A. Section Includes:

1. Gravesite Layout Markers at specified locations.
2. Flower-watering stations, including trash // and recycling // receptacles, water spigot, and flower vase container.
3. Ash Urns at locations indicated on Drawings.
4. Benches.
5. Bollards, Chain and Locks.
6. Flag Sleeves.

1.2 RELATED REQUIREMENTS

- A. Materials product data and samples: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Product and Finish Color: Section 09 06 00, SCHEDULE FOR FINISHES.
- C. Concrete footings: Section 033000 - CAST-IN-PLACE-CONCRETE.

1.3 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this section.
- B. ASTM International (ASTM):
 1. ASTM A53/A53M-12 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 2. B221-14 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
 3. B61-15 - Steam or Valve Bronze Castings.
 4. B62-15 - Composition Bronze or Ounce Metal Castings.
- C. American Welding Society (AWS):
 1. D1.1-2006 - Structural Welding Code - Steel.

2. D1.2-2014 - Structural Welding Code - Aluminum.

D. National Association of Architectural Metal Manufacturers (NAAMM):

1. AMP 500-06 Metal Finishes Manual.

1.4 SUBMITTALS

A. Submittals Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES:

B. Submittal Drawings:

1. Show size, configuration, and fabrication and installation details.
2. Show floral regulations decal content, lettering color and background color.

C. Manufacturer's Literature and Data:

1. Description of each product.
2. Installation instructions.
3. Warranty.

D. Samples:

1. Each Product: 152 mm (6 inch) // long // square //, each type and color //.
 - a. Submit quantity required to show full color // and texture // range.
2. // Trash Receptacle // Markers // Benches // Ash Receptacle // Flower Vase Receptacle //: Full sized, complete assembly.
3. Approved samples may be incorporated into work.

E. Qualifications: Substantiate qualifications comply with specifications.

1. Manufacturer // with project experience list //.
2. Fabricator // with project experience list //.
3. Installer // with project experience list //.
4. Welders and welding procedures.

F. Record Documentation:

1. Flag Sleeve: Annotated Record Drawings using swing tie measurements from prominent features, at approximate 90- degree angles.

1.5 QUALITY ASSURANCE

A. Manufacturer, Fabricator, Installer Qualifications:

1. Regularly manufactures, fabricates, and installs specified products.
2. Manufactured, Fabricated, Installed, specified products with satisfactory service on five similar installations for minimum five years.

- a. // Project Experience List: Provide contact names and addresses for completed projects. //
 - 1) // Photographs, drawings and other documents showing character and quality of final installation //.
- B. Installer Qualifications: // Product manufacturer. // Manufacturer authorized representative //.
 - 1. Regularly installs specified products.
 - 2. Installed specified products with satisfactory service on five similar installations for minimum five years.
 - a. // Project Experience List: Provide contact names and addresses for completed projects. //
 - 1) // Photographs, drawings and other documents showing character and quality of final installation //.
- C. Welders and Welding Procedures Qualifications: // AWS D1.1/D1.1M. // AWS D1.2/D1.2M //.

1.6 DELIVERY

- A. Deliver products in manufacturer's original sealed packaging.
- B. Mark packaging, legibly. Indicate manufacturer's name or brand, type, // color, // production run number, and manufacture date.
- C. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

1.7 STORAGE AND HANDLING

- A. Store products indoors in dry, weathertight // conditioned // facility.
- B. Protect products from damage during handling and construction operations.

1.8 WARRANTY

SPEC WRITER NOTE: Always retain construction warranty. FAR includes Contractor's one year labor and material warranty.

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

SPEC WRITER NOTE: Specify extended manufacturer's warranties for materials only.

- B. Manufacturer's Warranty: Warrant // benches // bollards // _____ // against material and manufacturing defects.

SPEC WRITER NOTE: Specify customarily available warranty period for specified products.

- 1. Warranty Period: // Three years // _____ //.

PART 2 - PRODUCTS - GENERAL

2.1 PRODUCTS - GENERAL

- A. Basis of Design: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Provide each product from one manufacturer // and from one production run //.

SPEC WRITER NOTE: Products below are used at NCA Cemetery projects as "standardized facilities". Relative specification paragraph are performance based, written around specific products for "standardization".

2.2 FLOWER WATERING STATIONS

- A. General: Materials, finishes and colors // match existing // as indicated on Drawings. //.

SPEC WRITER NOTE: Use paragraph below for projects when flower watering station is NCA unofficial "Victor Stanley" standard, both new or matching existing facilities. Product information: Victor Stanley Ironsides S-42.

2.3 GRAVESITE LAYOUT MARKERS

- A. General: Provide // both // Gravesite Grid Monuments // and // Gravesite Grid Markers //.

SPEC WRITER NOTE: Include both or select product specified below.

- 1. Gravesite Grid Monuments: Bronze survey marker (monument marker) set into // cast-in-place concrete base // precast concrete base field set in concrete //.

SPEC WRITER NOTE: Follow link to this product:
www.berntsen.com/GoShopping/Surveying/ConcreteSurveyMarkers/BronzeConcreteSurveyMarkers/tabid/1750/ctl/ViewProduct/mid/584/itemID/374/Default.aspx.

(CTRL + CLICK to follow link).

a. Materials:

- 1) Monument Base: // Cast-in-place // Precast // concrete monument base, // or field setting concrete, // minimum of 24.1 MPa (3,500 psi) @ 28 days, reinforcement and dimensions as indicated on Drawings.
- 2) Monument Marker: Domed-top, 89 mm (3 1/2") diameter, bronze concrete survey marker with integral locator magnet, and flared anchor post for concrete installation.

SPEC WRITER NOTES: Follow the link to this product:
www.berntsen.com/GoShopping/Surveying/RebarPipeCaps/BronzeSurveyCapsforRebar/314diametercaps/tabid/1790/ctl/ViewProduct/mid/624/itemID/889/Default.aspx.

(CTRL + CLICK to follow link).

2. Gravesite Grid Markers: Bronze survey marker (Grid Marker) with insulator set on No. 10 soft metric (No. 6) rebar.

a. Materials:

- 1) Grid Marker: Domed-top, 81 mm (3 1/4 inches) diameter, bronze concrete marker.
- 2) Rebar: Manufacturer's standard rebar, No. 10 soft metric (No. 6); dimension as indicated on Drawings.
- 3) Insulator: Manufacturer's standard plastic insulator.

B. Text and Cross-hairs: Top text as indicated on Drawings.

1. Text: All caps, 4.75 mm (3/16 inches) high.
2. Cross hairs: Field engrave as indicated on Drawings. Align gravesite grid and engrave based on surveyed location data.

SPEC WRITER NOTE: Select and modify appropriate paragraphs depending upon project site conditions. Generally, match existing facilities, unless project work scope specifically requires otherwise.

2.4 TRASH RECEPTACLE

- A. Trash Receptacles: // Match existing. // Provide as indicated on Drawings or approved equal //.
1. Steel Body Construction:
 - a. Vertical Bar: Solid steel, 9.53 mm x 25.4 mm (3/8 x 1 inch).
 - b. Horizontal Bands: Solid steel, 6.35 mm x 63.5 mm (1/4 x 2-1/2 inches).
 - c. Support Bars: Steel, 9.53 mm x 76.2 mm (3/8 x 3 inches).
 - d. Top Ring: Solid steel, 15.88 mm (5/8 inch).
 - e. Leveling Feet: 9.53 mm (3/8 inch) diameter threaded steel shaft.
 - f. Joints: Fully welded, grind smooth.
 2. Capacity: 136 liter (36-gallon).
 3. Inner Liner: High-density plastic inner liner, 2.72 kg (6 lbs.) maximum weight.
 4. Lids: Manufacturer's standard // steel, // high strength plastic, // tapered formed lid and dome, secured with stainless steel aircraft cable and attachments, with self-closing door.
 5. Mounting Plate: Standard (1) anchor bolt hole.
 6. Identification: Identify trash receptacle with the word // "TRASH" // or // "RECYCLE" // graphic symbol //, material, finish, color, letter style and size as indicated on Drawings.

SPEC WRITER NOTE: Include galvanized finish for high salt abusive climate project location.

7. Steel // and // Galvanized-Steel // Powder Coat // Finish: Manufacturer's standard shot blasted, etched, phosphatized, preheated, and electrostatically polyester, powder coatings, 8-10 mils (200-250 microns) dry film thickness.
 - a. // Standard Colors: Victor Stanley Standard // Bronze // Black // Green // Tavern Square Green //.
 - b. // Color: To match existing. // As indicated on Drawings //.

2.5 FLOWER VASE RECEPTACLE

- A. Materials: // To match existing, // Regularly manufactured for VA Cemeteries use, // with special lightweight hinged lid.
1. Size: As indicated on Drawings.
 2. Finish and Color: Same as trash receptacle // and // recycle //, except as follows:
 - a. Identification: Identify flower vase receptacles with the word "FLOWER VASES" as indicated on Drawings.
 - b. Decal: "Floral Regulations" decal, factory applied pressure sensitive vinyl on top of receptacle lid as indicated on Drawings. Contents and color approved by Contracting Officer's Representative (COR).

SPEC WRITER NOTES: Refer to
NCA Facilities Design Guide for style
required at project location.

2.6 WATER SPIGOT ASSEMBLIES

SPEC WRITER NOTE: Use paragraph below
when Murdock style, Murdock-Super Secur
M-ESH-175 is used.

- A. Water spigots, // to match existing // Victor Stanley color coating approved by Architect/Engineer, or approved equal, freeze resistant, with integral shut-off valve.
1. Housing: Cast aluminum, paint finish, color to match Victor Stanley // Bronze // selected // paint system.
 2. Inner Supply: Solid-brass castings, ASTM B61 and B62.
 3. Lever Handle: Aluminum-bronze casting, self-closing, operates with maximum 2 kg (5 lbs.) force at maximum 275 kPa (40 psi) inlet water pressure.
 4. Outer casings and inner supply line: Manufacturer's standard galvanized steel pipe.
 5. Nozzle: Solid brass casting.
 6. Outlet: Plain ends, // no threads. // threaded with vacuum breaker //.

SPEC WRITER NOTE: Use paragraph below when Haws style, Haws 6252EHLF spigot is used.

- B. Water spigots // to match existing and // as indicated on Drawings, ADA compliant, spigot paddle operated, maximum 2 kg (5 lbs.) force water flow, connected to // irrigation // potable // spigot water system isolation valve //.

2.7 // CAST IRON // STEEL PIPE // _____ // BOLLARDS AND CHAIN AND LOCK

- A. Steel Pipe Bollard: ASTM A53, Grade B, seamless, galvanized steel, Schedule 40, size and length as indicated Drawings.
1. Finish: Zinc rich primer and // two coats exterior enamel // powder coated //.
 - a. Color: Approved by Architect/Engineer.
- B. Chain Attachment and Chain and Lock:
1. Chain: Zinc plated // Powder coated // proof coil chain, 10 mm (3/8 inch), 1180 kg (2,600 pound) working load limit, length as indicated on Drawings. Provide enlarge link at ends.
 2. Lock: Two inch, laminated steel body, zinc plated keyed; hardened steel, double locking shackle, solid brass cylinder, and five pin tumblers. Provide locks with identical keys. Provide // four // _____ // locks and spare keys.

2.8 BENCHES

SPEC WRITER NOTE: For informational purposes, below is written around Victor Stanley's product. Modify as required to suit project.

- A. Description: Front welds ground and polished to form continuous surface from top tubular section to each vertical steel slat. Steel seat members reverse contoured; solid steel bar end sections, welded and ground; end arm rests standard integral welded configuration, with no center armrests.
- B. Material: Steel.
- C. Locations, sizes and quantities as indicated Drawings.
- D. Finish: Manufacturer's standard shotblasted, etched, phosphatized, preheated, and electrostatically polyester, powder coatings.
1. Color: // VS Bronze // VS Black // VS Green // approved by Architect/Engineer.

- E. Mounting Hardware: Tamper resistance stainless steel. Exposed bolt ends or flat bolt heads are not acceptable.

SPEC WRITER NOTES: Refer to
NCA Facilities Design Guide parameters
for flag sleeve design.

2.9 FLAG SLEEVES

SPEC WRITER NOTES: Retain paragraph below
for existing facilities.

- A. Provide flag sleeves at locations and details on Drawings // to match
// modified from // existing flag sleeves.

SPEC WRITER NOTES: Retain paragraph below
for new facilities.

- B. Provide flag sleeves at locations and details on Drawings.

2.10 FINISHES

- A. Steel Finish:

1. Powder-Coat Finish: Manufacturer's standard two-coat finish system consisting of the following:
 - a. One coat primer.
 - b. One coat thermosetting topcoat.
 - c. Dry-film Thickness: 0.05 mm (2 mils) minimum.
 - d. Color: Refer to Section 09 06 00, SCHEDULE FOR FINISHES.

- B. Aluminum Anodized Finish: NAAMM AMP 500.

1. Clear Anodized Finish: AA-C22A41; Class I Architectural, 0.018 mm (0.7 mil) thick.
2. Color Anodized Finish: AA-C22A42 or AA-C22A44; Class I Architectural, 0.018 mm (0.7 mil) thick.
3. Clear Anodized Finish: AA-C22A31; Class II Architectural, 0.01 mm (0.4 mil) thick.
4. Color Anodized Finish: AA-C22A32 or AA-C22A34; Class II Architectural, 0.01 mm (0.4 mil) thick.

- C. Aluminum Paint finish:

1. Baked-Enamel or Powder-Coat Finish: Polyester powder coating. Comply with manufacturer's coating process.
2. Fluorocarbon Finish: AAMA 2605; 70 percent fluoropolymer resin, 2-coat system.

2.11 ACCESSORIES

- A. Primers:
- B. Welding Materials: AWS D1.1/D1.1M, type to suit application.
- C. Fasteners: Tamper resistant Stainless steel, // acorn // shear // nut.
- D. Anchors:
- E. Galvanizing Repair Paint: MPI No. 18.
- F. Touch-Up Paint: Match shop finish.
- G. Concrete Footing: Comply with SECTION 033000 - CAST-IN-PLACE CONCRETE.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Inspect planned installation materials and locations. Notify COR of any discrepancies in conditions.
 - 1. Verify materials are damage free and compliant with Drawings. Report non-compliance to COR.

3.2 PREPARATION

- A. Examine and verify substrate suitability for product installation.
- B. Protect existing construction and completed work from damage.

SPEC WRITER NOTE: Include below for
existing items. Insert item name.

- C. Remove existing // item name // to permit new installation.
 - 1. Retain existing // item name // for reuse.
 - 2. Dispose of // other // removed materials.
- D. Correct substrate deficiencies.
 - 1. Fill.
 - 2. Grind.
 - 3. Level.
- E. Stake alignment and locations for approval by COR. Verify elements "fit" within location provided.

3.3 INSTALLATION - GENERAL

- A. Install products according to manufacturer's instructions // and approved submittal drawings //.
 - 1. When manufacturer's instructions deviate from specifications, submit proposed resolution for COR consideration.
 - 2. Install items rigid and plumb as indicated on Drawings.
- B. Gravesite Grid Monuments and Markers:

1. Install at locations indicated on Drawings.

C. Flower Watering Stations:

1. Stake flower watering station location. Obtain COR approval before forming concrete pad. Install concrete pad according to SECTION 033000 - CAST-IN-PLACE CONCRETE.
2. Anchor flower vase container as indicated on Drawings and manufacturer's instructions.

D. Trash // and // Recycle // Receptacle:

1. Anchor receptacle as indicated on Drawings and manufacturer's instructions.

E. Water Spigot:

1. Install water spigot assemblies according to manufacturer's instructions, including pipe, // isolation valve, // fittings, // pressure reducing valve // and valve boxes. // Install washed stone for splash area. //

F. Pipe Bollards: Install in locations indicated on Drawings.

1. Install bollards in concrete footings, dimension as indicated on Drawings.
2. Backfill and compact excavation around bollard or sleeve according to SECTION 31 20 00 - EARTH MOVING.
3. Fill pipe bollard with concrete, rounded smooth, trowel finish top.
4. Clean excess material from bollard surface, and apply finish as specified.
5. Install eyebolts, washers and nuts for chain and lock attachment. Provide locks and spare keys to COR.
6. Benches:
 - a. Install benches as recommended by manufacturer.

G. Flag Sleeves:

1. Install flag sleeves with flag poles set plumb and top sleeves set at correct elevation, on finish grade, so as not to interfere with mowing operations.
2. Mark Flag sleeve locations along adjoining roadway, // chiseled mark in curb // paint dot at pavement edge // perpendicular to road centerline.

3.4 CLEANING

- A. Clean exposed surfaces. Remove contaminants and stains.
- B. Polish exposed surfaces // gloss // satin // sheen.

C. Remove excess material and debris. Clean above ground portions of receptacles and other site improvements.

- - - E N D - - -