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3-Part Specification for

Country Estate Fence

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GENERAL NOTES TO SPECIFIER:

THIS SPECIFICATION INCLUDES ALL COUNTRY ESTATE VINYL FENCE STYLES EXCEPT POST AND RAIL TYPE FENCE. USE SECTION 32 31 26 TO SPECIFY VINYL POST AND RAIL FENCE..

THIS SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE, AND THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR EDITING.

EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION NUMBERS AND TITLES ARE CORRECT. (NUMBERS AND TITLES REFERENCED ARE BASED ON *MASTERFORMAT*, 2004 EDITION).

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING SECTIONS 01 25 13-PRODUCT SUBSTITUTION PROCEDURES, 01 33 00-SUBMITTAL PROCEDURES, 01 62 00-PRODUCT OPTIONS, 01 66 00-PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01 74 00-CLEANING AND WASTE MANAGEMENT, 01 77 00-CLOSEOUT PROCEDURES, AND 01 78 00-CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE APPROPRIATE ARTICLES.

THIS IS AN OPEN PROPRIETARY SPECIFICATION ALLOWING USERS THE OPTION OF APPROVING OTHER MANUFACTURERS THAT COMPLY WITH THE CRITERIA SPECIFIED HEREIN.

NOTES TO THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G. [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. _____ .

BOLD FACE TYPE IDENTIFIES OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE INCLUDED OR DELETED DEPENDING ON PROJECT REQUIREMENTS. CONVERT THE BOLD FACE TYPE TO REGULAR TYPE WHEN INCLUDING THESE PARAGRAPHS OR FEATURES. WHEN DELETING A PARAGRAPH, BE CERTAIN THAT ALL SUBPARAGRAPHS ARE ALSO DELETED.

REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

ELECTRONIC VERSIONS OF THIS SPECIFICATION UTILIZE AUTOMATIC PARAGRAPH NUMBERING.

WHEN EDITING IS COMPLETE, DELETE ALL TEXT ON THIS PAGE, THEN REMOVE THE SECTION BREAK AT THE TOP OF THE NEXT PAGE TO REMOVE THIS PAGE FROM THE DOCUMENT.

SPECIFICATION BEGINS ON THE FOLLOWING PAGE.

SECTION 32 31 24

VINYL FENCE

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Vinyl fence and gates manufactured with co-extruded and/or mono-extruded profiles from 100 percent virgin PVC compounds.
- B. Related Sections:
 - 1. ___ ___ ___–Grading.
 - 2. ___ ___ ___–Cast-in-Place Concrete.
 - 3. ___ ___ ___–**Gate Operators.**

INCLUDE APPROPRIATE LANGUAGE BELOW IF PRODUCTS SPECIFIED IN THIS SECTION ARE TO BE BID AS ALTERNATES. OTHERWISE DELETE FOLLOWING PARAGRAPH.

- C. Alternates:
 - 1. Reference Section 01 23 00–Alternates.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. [ASTM D 256](#) Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.
 - 2. [ASTM D 638](#) Standard Test Method for Tensile Properties of Plastics.
 - 3. [ASTM D 648](#) Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.
 - 4. [ASTM D 695](#) Standard Test Method for Compressive Properties of Rigid Plastics.
 - 5. [ASTM D 696](#) Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer.
 - 6. [ASTM D 732](#) Standard Test Method for Shear Strength of Plastics by Punch Tool.
 - 7. [ASTM D 790](#) Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - 8. [ASTM D 4226](#) Standard Test Methods for Impact Resistance of Rigid Poly(Vinyl Chloride) (PVC) Building Products.
 - 9. [ASTM D 4726](#) Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Exterior-Profile Extrusions Used for Assembled Windows and Doors.
 - 10. [ASTM F 964-13](#) Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Exterior Profiles Used for Fencing.
- B. Vinyl Manufacturers Association:
 - 1. [Guidelines For The Vinyl Manufacturers Association Program On Manufacturer's Conformity Based On ASTM F 964-13.](#)

1.03 DEFINITIONS

- A. Mono-extruded profile: A profile manufactured with a consistent layer of one material throughout the product.
- B. Co-extruded profile: A profile manufactured with two or more concentric streams of material.

1.04 SUBMITTALS

- A. Reference Section 01 33 00–Submittal Procedures; submit following items:
 - 1. Product Data.
 - 2. Shop Drawings:
 - a. Manufacturer's typical detail and assembly drawings including post anchorage details.
 - b. Dimensioned plan showing fence location relative to property lines, location of gates, gate swing, and details of post anchorage.
 - c. Note proposed changes from plans and details shown on Drawings.
 - 3. **Samples:**
 - a. Provide minimum 12 inch long sample of each PVC profile used in the fence system. **Include post cap and picket cap.**
 - b. **Provide minimum 2 by 2 foot assembled fence section including components (except gates) and accessories.**
 - c. **Provide PVC sample of available colors.**
 - 4. Quality Assurance/Control Submittals:
 - a. Qualifications: Proof of manufacturer's qualifications.
 - b. Manufacturer's Installation Instructions.
- B. Closeout Submittals: Reference Section 01 78 00–Closeout Submittals; submit following items:
 - 1. Maintenance Instructions.
 - 2. Special Warranties.

1.05 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer Qualifications:
 - a. Minimum ten years experience in producing vinyl fence of the type specified.
 - b. Member American Fence Association.
 - c. Member Vinyl Manufacturers Association.
 - d. Member International Code Council.
 - e. Maintain Quality Control Manual in compliance with ICC AC 10.
 - f. VMA Accreditation and Certificate of Conformance.
 - 2. Installer Qualifications: Manufacturer's approval.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Reference Section 01 66 00–Product Storage and Handling Requirements.
- B. Special Instructions:
 - 1. Store vinyl fence materials on clean flat surface.
 - 2. Do not stack more than 5 packs high.

1.07 WARRANTY

COUNTRY ESTATE WARRANTS FENCE FOR COMMERCIAL PROJECTS FOR 20 YEARS AND FENCE FOR RESIDENTIAL PROJECTS FOR 50 YEARS. SELECT APPROPRIATE WARRANTY PERIOD BELOW BASED ON PROJECT TYPE.

- A. Special Warranty: Non-prorated, non-transferable, [20 year] [50 year] limited warranty against defective raw materials and defects in manufacturing.
 - 1. Include warranty against color change due to normal atmospheric conditions that exceed the limits established by ASTM D 4726.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Nebraska Plastics, Inc.
 - PO Box 45
 - Cozad, NE 69130-0045
 - Tel: (800) 445-2887
 - Fax: (308) 784-3216
 - E-mail: countryestateinfo@nebplastics.com
 - Website: www.countryestate.com
 - Int. Tel: (308) 784-2500

INSERT NAME, ADDRESS AND CONTACT INFORMATION FOR LOCAL DEALER BELOW.

- 1. Dealer:

SELECT DESIRED FENCE STYLE FROM NEBRASKA PLASTICS CURRENT COUNTRY ESTATE STYLES www.countryestate.com/ AND INSERT APPROPRIATE NAME AND DESIGN OPTION (IF ANY) BELOW. E.G: HAMPTON (SCALLOP).

- B. Style: Country Estate _____
 - 1. Height: [36] [48] [60] [72] [84] [96] inches [As shown on Drawings].
- C. Substitutions: Reference Section 01 25 13–Product Substitution Procedures.

2.02 MATERIALS

- A. Posts, Rails, and Vertical Infill Members: Rigid PVC Homopolymer Compound:
 - 1. Manufacturer's standard extruded PVC profiles. Comply with ASTM F 964-13.
 - 2. Physical Properties:
 - a. Impact Resistance, ASTM D 256: (ft lbs per inch notch)
 - 1) 23 degrees C – >2.0.
 - 2) 0 degrees C – >1.0.
 - b. Tensile Strength, ASTM D 638: >6,000 psi.
 - c. Tensile Modulus, ASTM D 638: >377,000 psi.
 - d. Deflection Temperature, ASTM D 648: >70 degrees C.
 - e. Drop Dart Procedure A, ASTM D 4226: >1.0 in-lb per mil.
 - f. Drop Dart Procedure B, ASTM D 4226: >3.0 in-lb per mil.
 - g. Compressive Strength, ASTM D 695: 8,500 psi.
 - h. Thermal Expansion, ASTM D 696: <4.4 times 10⁻⁵ in per in per degree F.
 - i. Shear Strength, ASTM D 732: 6,5000 psi.
 - j. Flexural Strength, ASTM D 790: >11,500 psi.
- B. Aluminum Post Inserts: Manufacturer's standard extruded aluminum profile.**
- C. Aluminum Rail Insert Bars: Manufacturer's standard extruded aluminum profile.**
- D. Hardware: Black powder coated, 14 gauge, type 304 stainless steel.**

SELECT HINGE AND LATCH TYPE BELOW BASED ON POST SIZE AND ANTICIPATED USE. COMMERCIAL HARDWARE WRAPS THREE SIDES OF A 5 BY 5 POST AND CAN BE USED ONLY ON 5 BY 5 POSTS. UNIVERSAL HARDWARE WRAPS TWO SIDES OF A POST AND CAN BE USED ON 3-1/2 BY 3-1/2 , 4 BY 4 OR 5 BY 5 POSTS. UTILITY HARDWARE WRAPS TWO SIDES OF A POST AND CAN BE USED ON 3-1/2 BY 3-1/2 OR 4 BY 4 POSTS.

1. **Hinge and Latch Type:** [Commercial Hardware] [Universal Hardware] [Utility Hardware] [As shown on Drawings]. Hinges shall be adjustable to maintain proper gate alignment.
2. **Cane Bolt.** Provide on inactive leaf of double gates.

E. Concrete: Reference Section ___ ___ ___ ; 2,500 psi minimum.

2.03 COMPONENTS

ENTER DIMENSIONS FOR COMPONENTS BELOW BASED ON STYLE SPECIFIED ABOVE AND MANUFACTURER'S RECOMMENDATIONS. NOTE, SOME STYLES MAY NOT USE ALL COMPONENTS LISTED.

- A. Posts:
1. Line: _____.
 2. Corner or End: _____.
 3. Gate: _____.
 4. **Post Inserts: Provide in gate posts.**
- B. Rails:
1. Top: _____.
 2. Middle: _____.
 3. Bottom: _____.
 4. **Rail Inserts: Provide in rails as recommended by manufacturer.**
- C. Vertical Infill Member (Pickets or Panels): _____.
- D. **PVC Lattice Panels: 5/16 by 1-1/2 inch solid PVC strips placed at 45 degree angle and spaced at 3-1/2 inches on center.**
- E. **PVC Gates: Match fence style and provide PVC diagonal bracing as recommended by manufacturer.**
1. **Provide manufacturer's patented gate sockets concealed in gate vertical frame members.**
 2. **Hinge and Latch Hardware: Provide type specified above.**
 3. **Cane Bolt: Provide for [single gates] [pairs of gates] [single and pairs of gates].**
 4. **Provide additional reinforcing as recommended by manufacturer for gates operated by gate operators.**

2.04 ACCESSORIES

- A. PVC Post Cap: [Traditional (External Flange)] [Flush (Internal Flange)] [Federation] [New England] [Gothic] [Post Ender].

PICKET CAP, IF DESIRED, DOES NOT NEED TO MATCH THE STANDARD STYLE, HOWEVER, NOT ALL CAPS WILL FIT ALL PICKETS, COORDINATION IS REQUIRED TO ASSURE THE CAP MATES PROPERLY TO THE PICKET.

- B. **PVC Picket Cap:** [Fleur de lis] [Quad finial] [Dog-eared] [Pyramid] [Flat cap] [Per standard style].

- C. Provide manufacturer's standard brackets, fasteners, PVC grommets, and other accessories required to complete installation.

2.05 FINISH

BECAUSE ALMOND, ADOBE AND GRAY COLORS ARE MORE EXPENSIVE THAN WHITE, NEBRASKA PLASTICS RECOMMENDS SELECTING THE COLOR PRIOR TO BIDDING IF POSSIBLE.

- A. PVC Components and Accessories: Integral color – [White] [Almond] [Gray] [Adobe] [As selected by Architect].
- B. Gate Hardware: Powder coated black.

2.06 SOURCE QUALITY CONTROL

- A. Manufacturer PVC profiles in accordance with ASTM F 964-13. Test in accordance with manufacturer's Quality Control Manual.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine earthwork where fencing is to be installed.
 - 1. Verify that soil is either firm undisturbed or properly compacted at post locations.
 - 2. **Verify property line locations, legal boundaries, and relative post placement.**
- B. Coordinate with responsible entity to correct unsatisfactory conditions.
- C. Commencement of work by installer is acceptance of existing conditions.

3.02 PREPARATION

- A. Stake fence layout including posts and gates to be inside property lines. Note locations of underground utilities, irrigation systems, benchmarks, property monuments and other underground structures.

3.03 INSTALLATION

MANUFACTURER'S INSTALLATION INSTRUCTIONS ARE SUITABLE FOR NORMAL INSTALLATION CONDITIONS. UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL INFORMATION IN THIS ARTICLE.

- A. Follow Country Estate Installation Guide except as modified herein.
- B. Post Setting:
 - 1. Spacing: [4] [6] [8] foot center to center except as otherwise shown on Drawings.

VERIFY THAT DRAWINGS SHOW DETAILS FOR THE POSTS AND FOOTINGS BASED ON THE STYLE OF FENCE SPECIFIED, THE TYPE OF POST (END, CORNER, OR GATE), AND FOLLOW RECOMMENDATIONS IN THE COUNTRY ESTATE INSTALLATION GUIDE.

- 2. Footing Depth and Type: As shown on Drawings.
- 3. **Install Post Inserts in gate posts.**
- 4. Set posts and fill post holes with concrete.

- C. Install specified fence components and accessories using the routed post/inserted rail method except where conditions require pocket mounted rails or where pocket mounted rails are shown on Drawings.

3.04 ADJUSTING

- A. Adjust gates and hardware to operate smoothly and latch securely.**

3.05 CLEANING

- A. Reference Section 01 74 00–Cleaning and Waste Management.
- B. Clean fence in accordance with manufacturer's instructions.

END OF SECTION¹

¹ This specification was prepared specifically for Nebraska Plastics, Inc. by ASC Specification Consultants. Comments or suggestions for improvement should be addressed to: ASC; 8687 Great Horned Owl Lane; Blaine, WA 98230-6306; Tel: (360) 371-5487. E-mail: specifier@asc-specs.com

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