GENERAL NOTES

1. This fence to be used generally in urban areas.
2. For supplemental information refer to Specification 550.
3. Chain link fabric, past, truss rods, tension wires, tie wires, stretcher bars, gussets, and all miscellaneous fittings and hardware shall meet the requirements of AASHO and ASTM and signify current reference.
4. Fence Component Options:
   - Line post options:
     1. Galvanized steel pipe, Schedule 40 - 15/16" nominal dia., zinc galvanized at the rate of 1.8 oz./ft².:
        - ASTM A53 Table 2 (Grade A or B). ASTM F1083, and AASHTO M111.
     2. Aluminum coated steel pipe:
        - ASTM A53, Table 2 (Grade A or B). Schedule 40 - 15/16" nominal dia., 1.990 OD, coated at the rate 0.40 oz./ft². AASHTO M111.
   - Rail options:
     1. Steel H-Beam - 15/16" x 15/16". Zinc Galv. 1.8 oz./ft²: AASHTO M111 and Detail.
     2. Aluminum alloy pipe - 1 1/4" x 1 1/4", 1/8" thick.
   - Steel C - 15/16" x 15/16". Galv. AASHTO M111, OR, 0.9 oz./ft². zinc-5% aluminum-mischmetal.
   - Resistance welded steel pipe:
        - 50,000 psi yield strength ASTM A586/A586M, A633/A633M or unalloyed steel pipe ASTM A53/A53M base material, ASTM F118 Group 1 (Alternative Design). fence industry 2", 1 1/2" NPS, 1.900" dec. equiv., 0.120" min. wall, thick and min. wt. 1.660 lb./ft²; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, C, or D; the chromate conversion coating of external Type B shall have a thickness of 17µg/min. and the polymer film topcoat shall have a thickness of 0.0005" min. internal and external coatings are not restricted to the combinations of Table 2. ASTM F1043.
   - Chain link fabric options (2" mesh with twisted and barbed selvage top and bottom for all options except as described in Note 10.):
     1. Galvanized steel pipe:
        - ASTM A53, Grade A or B, Schedule 40 - 15/16" nominal dia., zinc galvanized at the rate of 1.8 oz./ft². (M181 Class D 2.0 oz./ft² modified to 1.8 oz./ft²).
     2. Aluminum alloy pipe:
        - ASTM B185, Type II - Aluminum Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 0.20 oz./ft².
   - Tie wire and hog ring options:
     1. Steel wire No.9 gage zinc galvanized at the rate of 1.2 oz./ft².: AASHTO M181.
     2. Aluminum coated steel wire:
        - ASTM A53, Grade A or B, Schedule 40 - 15/16" nominal dia., zinc galvanized at the rate of 0.40 oz./ft². AASHTO M111.
     3. Steel wire No.7 gage coated at the rate of 0.20 oz./ft².
        - AASHTO M181.
     4. Aluminum alloy wire with a diameter of 0.1443" or larger conforming to the requirements of ASTM B185, Type II - Aluminum Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 0.20 oz./ft².

E. Tension wire options:
   - Steel wire No. 7 gage zinc galvanized at the rate of 1.2 oz./ft².:
     1. Steel alloy wire with a diameter of 0.182" or larger conforming to the requirements of ASTM B113, 1020 Carbon Steel, Grade 1, or, Alloy 1020 Tempered H112.
   - Steel alloy wire No. 7 gage coated at the rate of 0.40 oz./ft²:
     1. Steel alloy wire with a diameter of 0.1443" or larger conforming to the requirements of ASTM B113, 1020 Carbon Steel, Grade 1, or, Alloy 1020 Tempered H112.
     2. Aluminum alloy wire.

F. Tie wire and hog ring options:
   - Steel wire No. 7 gage zinc galvanized at the rate of 1.2 oz./ft²:
     1. Steel wire with a diameter of 0.182" or larger conforming to the requirements of ASTM B113, 1020 Carbon Steel, Grade 1, or, Alloy 1020 Tempered H112.
   - Steel alloy wire with a diameter of 0.1443" or larger conforming to the requirements of ASTM B113, 1020 Carbon Steel, Grade 1, or, Alloy 1020 Tempered H112.

C. Rail options:
   - Galvanized steel pipe, Schedule 40 - 15/16" nominal dia., zinc galvanized at the rate of 1.8 oz./ft².:
     - ASTM A53 Table X, 2 ASTM F1083, and AASHTO M111.
   - Aluminum coated steel pipe:
     - ASTM A53, Schedule 40 - 15/16" nominal dia., 1.660 OD, coated at the rate 0.20 oz./ft². AASHTO M111.
   - Aluminum alloy pipe:
     - ASTM B185, Type II - Aluminum Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 0.20 oz./ft².
     - ASTM B185, Type IV - Polyvinyl Chloride (PVC) Coated Steel, No. 9 gage (coated core wire diameter), coated at the rate of 0.20 oz./ft².
   - Steel wire No.9 gage zinc galvanized at the rate of 1.2 oz./ft².
     - AASHTO M181.
   - Steel wire No.7 gage zinc galvanized at the rate of 0.40 oz./ft².
     - AASHTO M181.
GENERAL NOTES CONTINUED

5. Unless a specific material is called for in the plans the Contractor may elect to use either a single type of material or a combination of material types from the component options listed in note 4. Combinations of optional materials are restricted as follows:
(a) Only one fabric optional material will be permitted between corner and/or end post assemblies.
(b) Only one line post optional material will be permitted between corner and/or end post assemblies.
(c) Pull post assemblies shall be optional materials identical to either the line post optional material or the corner and end post assembly optional material; but, pull post assemblies shall be the same optional material between any set of corner and/or end post assemblies.

6. Concrete for bases shall be Class NS concrete as specified in Section 347 of the Standard Specifications or a bagged, dry material meeting the requirements of a concrete under ASTM C-387. Materials for Class NS concrete may be proportioned by volume and/or by weight.
7. Line post shall be 8'-6" long (Standard). Line post are to be set in concrete as described above or by the following methods:
(a) In accordance with special details and/or as specifically described in the contract plans and specifications.
(b) In accordance with ASTM F567 Subsections 5.4 through 5.10 as approved by the Engineer. The post installed in accordance with Section 5.8 shall be 9'-6" long.
(c) Post mounted on concrete structure or solid rock shall be mounted in accordance with the base plate detail "Fence Mounting on Concrete Endwalls and Retaining Walls," Sheet 3; or, by embedment in accordance with ASTM F567 Subsection 5.5.
End, pull and corner post assemblies shall be in concrete as detailed above for all soil conditions other than solid rock. Post within assemblies that are located on concrete structures or solid rock shall be set by base plate or by embedment as prescribed under (b) above for line post.

8. Pull post shall be used at breaks in vertical grades of 15° or more, or at approximately 350' centers except that this maximum interval may be reduced by the Engineer on curves where the curve is greater than 3°.
9. Corner post are to be installed at all horizontal breaks in fence at 15° or more and as required at vertical breaks over 15° as determined by the Engineer.
10. When fence has an installed top of fabric height less than 6' knuckled top and bottom selvages shall be used unless the plans specifically identify locations for twisted selvage fabrics.
11. Unless sliding gates or special gates are called for in the plans, all gates shall be chain link swing gates meeting the material requirements described and as approved by the Engineer. Payment shall include the gates, single or double, all necessary hardware for installation and any additional length and/or size for posts at the opening. Gates shall be paid for under the contract unit price for Fence Gates, EA.
12. For construction purposes corner post assemblies shall consist of one corner post, two braces, two truss rods, and all necessary fittings and hardware as detailed. End post assemblies shall consist of one end post, one brace, one truss rod and all necessary fittings and hardware as detailed.
13. In areas where there are physical constraints outside the right-of-way which restricts the fence construction, the fabric may be installed on the inside of the posts.

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TYPE IV VINYL COATED FABRIC

AASHTO M181 Table 4 Redefined As Follows

<table>
<thead>
<tr>
<th>PVC Thickness Range</th>
<th>M181 Class A (Extruded Or Extruded And Bonded Coating)</th>
<th>M181 Class B (Bonded Coating)</th>
</tr>
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<tbody>
<tr>
<td>Specified Diameter Of Metallic Coated Core Wire</td>
<td>Minimum Weight Of Zinc Coating</td>
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<tr>
<td></td>
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<tr>
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<td>0.015</td>
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</tr>
<tr>
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<td>0.015</td>
</tr>
</tbody>
</table>

DESIGN NOTE

This index details fencing that is constructed with chain link fabric 6' (nominal) in height and with specific ground clearance.

For fencing of different height or installation details, the fence shall be fully detailed in the Contract plans.
FENCE MOUNTING ON CONCRETE ENDWALL AND RETAINING WALLS

BARB WIRE ATTACHMENT

BASE PLATE AND ANCHOR NOTES:
1. Base plate identical for line, pull, end and corner posts and shall be considered an integral part of the respective posts for basis of payment.
2. Post to be plumbed by grout shim under base plate.
3. Anchors (Galvanized Steel):
   - For Barb Wire, one 1/4" Dia. Hole For 1/4" Anchors, Nuts, and Washers
   - For Barb Wire, steel 1/4" Dia. Hole For 1/4" Anchors, Nuts And Washers
   - Cast In Place, 10/16" Embedment
   - Headed Bolts, 1/4" Dia. Headed Bolts, 1/4" Dia. Headed Bolts
   - Cast In Place, 10/16" Embedment
   - Expansion Bolts Not Permitted
   - Specifications 446 and 937; drilled holes shall be 3/4" larger in diameter than the anchor bolt.

NOTES
Attachments to be used only when called for in the plans. Attachments to extend in direction of restraint unless otherwise called for in the plans, direction of restraint will be as follows:
(a) Outward on limited access right of way line
(b) Outward on controlled access right of way line
(c) Outward from lateral ditches, outfalls, retention basins, canals, borrow areas and similar support facilities located within highway right of way.
(d) Outward from lateral ditches, canals, borrow areas and similar support facilities.
(e) Outward on pedestrian ways.
The cap-arm shall be designed to provide a drive fit over the top of posts and to exclude moisture in posts with tubular sections.

One inch thick steel plates.

1. MOUNTING SHEET:
   - Dimensions Same As Adjacent Side
   - Post to be plumbed by grout shim under base plate.
   - Considered an integral part of the respective post for basis of payment.

2. Line post:
   - Post to be plumbed by grout shim under base plate.
   - Considered an integral part of the respective post for basis of payment.

3. Pull, end, and corner post:
   - Post to be plumbed by grout shim under base plate.
   - Considered an integral part of the respective post for basis of payment.

4. MOUNTING SHEET:
   - Dimensions Same As Adjacent Side
   - Post to be plumbed by grout shim under base plate.
   - Considered an integral part of the respective post for basis of payment.