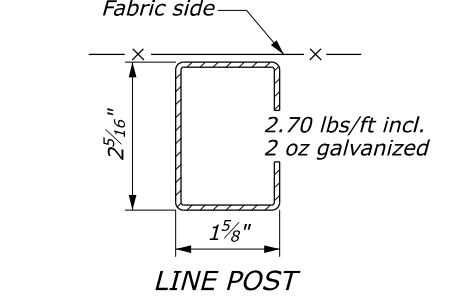
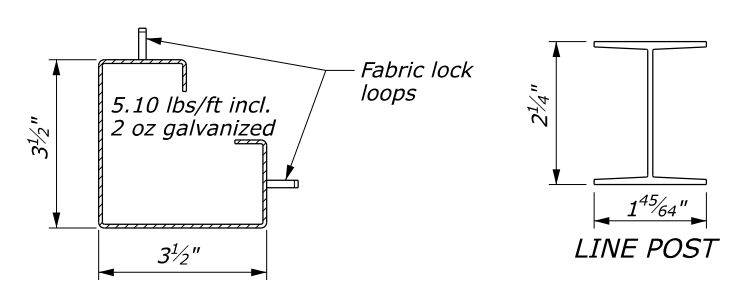
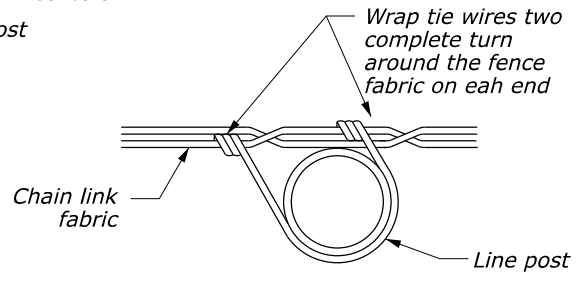
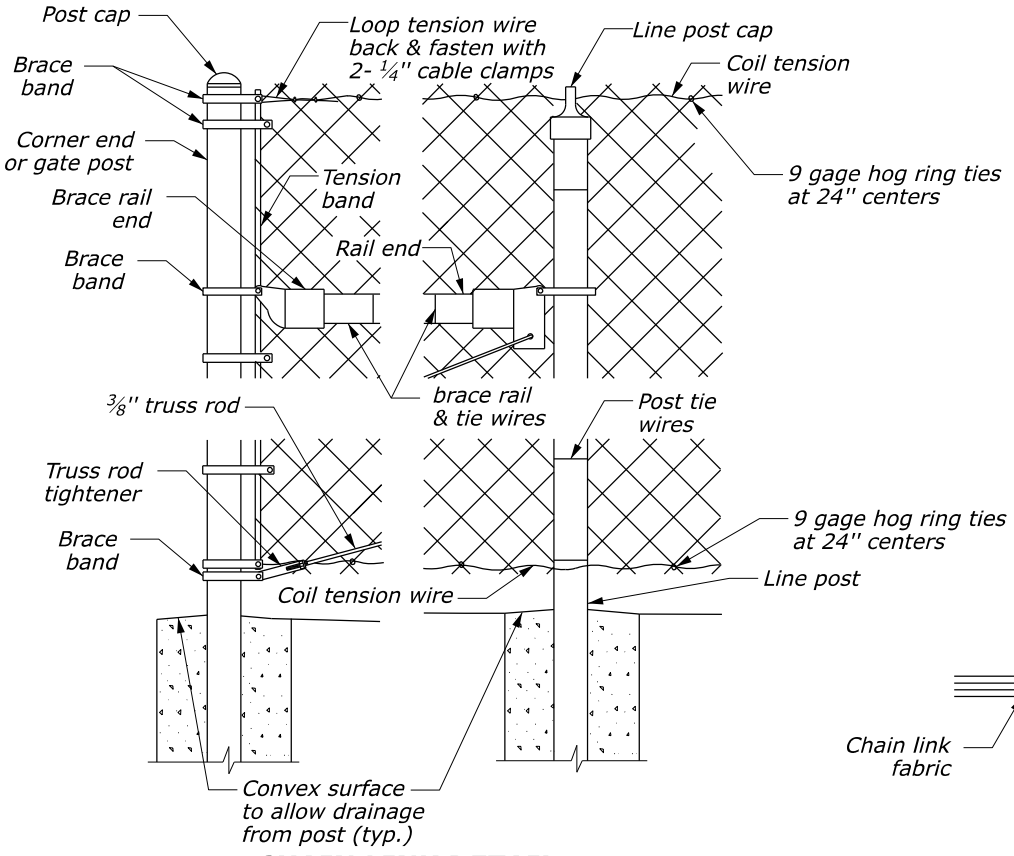


- NOTES:**
- Use Type 1 requirements from chain link fence table unless otherwise specified.
  - Set all post in concrete. Set corner, end, and pull posts to the dimensions shown. Set line posts to a minimum depth of 24 inches in concrete. Increase depth by 3 inches for each additional foot of fence height over 4 feet.
  - Install braces on all terminals on fences without a top rail. No braces are required on fabric 6 feet in height or less where a top rail is specified. Install braces where fabric is over 6 feet in height. Where a top rail is used, attach the brace at the halfway point of the terminal post above grade and, where the rail is omitted, at the two-thirds point above grade. Do not install top rail unless specified in the Special Contract Requirements.
  - Adjust the post top elevations to provide a smooth visual fence profile. Install corner posts at horizontal breaks in the fence at 15° or more.
  - If alternate steel posts are used, provide fastening bands, caps, brace rail, rail ends, and truss rod attaching hardware compatible with the post sizes and styles selected.
  - Provide fence fabric with a 2-inch mesh. Use 11-gage wire in fabric heights of 48 inches or less and 9-gage wire in fabric heights greater than 48 inches. Provide Class D coating when zinc-coated steel fence fabric is provided. Knuckle both selvages on fabric less than 72 inches high. For fabric 72 inches or higher, knuckle one selvage and twist the other.
  - See Sheet 2 of 2 for hardware and gate requirements.

**CHAIN LINK FENCE**

|                         |            | CHAIN LINK FENCE            |             |                  |             |               |             |                 |             |               |             |
|-------------------------|------------|-----------------------------|-------------|------------------|-------------|---------------|-------------|-----------------|-------------|---------------|-------------|
|                         |            | POST SIZE AND WEIGHT TABLE  |             |                  |             |               |             |                 |             |               |             |
| DESCRIPTION             | FENCE TYPE | ROUND PIPE                  |             | HOT ROLLED SHAPE |             | ROLLED FORMED |             |                 |             |               |             |
|                         |            | Steel                       | Aluminum    | Steel            | Steel       | Steel         |             |                 |             |               |             |
|                         |            | Minimum yield strength Psi. |             |                  |             |               |             |                 |             |               |             |
|                         |            | 25,000                      | 25,000      | 50,000           | 45,000      | 45,000        |             |                 |             |               |             |
|                         |            | Size and mass               |             |                  |             |               |             |                 |             |               |             |
|                         |            | dia. inch                   | mass lbs/ft | dia. inch        | mass lbs/ft | dia. inch     | mass lbs/ft | dia. inch       | mass lbs/ft | dia. inch     | mass lbs/ft |
| Brace rail & top rail   | Type 1     | 1.66                        | 2.27        | 1.660            | 0.786       | 1.66          | 1.40        | -----           | -----       | 1 1/4 x 1 5/8 | 1.40        |
|                         | Type 2     | 1.66                        | 1.82        | -----            | -----       | 1.66          | 1.40        | -----           | -----       | 1 1/4 x 1 5/8 | 1.40        |
| Line post               | Type 1     | 2.375                       | 3.65        | 2.375            | 1.264       | 2.375         | 3.12        | 2 1/4 x 1 45/64 | 3.26        | 2 1/4 x 1 5/8 | 2.70        |
|                         | Type 2     | 2.375                       | 2.96        | -----            | -----       | 2.375         | 2.31        | -----           | -----       | 1 7/8 x 1 5/8 | 2.76        |
| End, corner & pull post | Type 1     | 2.875                       | 5.79        | 2.875            | 2.004       | 2.875         | 4.64        | -----           | -----       | 3 1/2 x 3 1/2 | 5.10        |
|                         | Type 2     | 2.875                       | 4.69        | -----            | -----       | 2.875         | 3.25        | -----           | -----       | 3 1/2 x 3 1/2 | 5.10        |

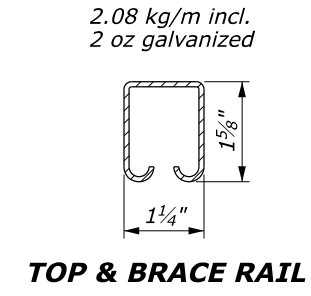
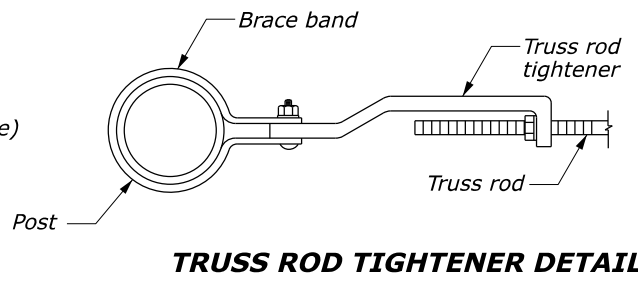
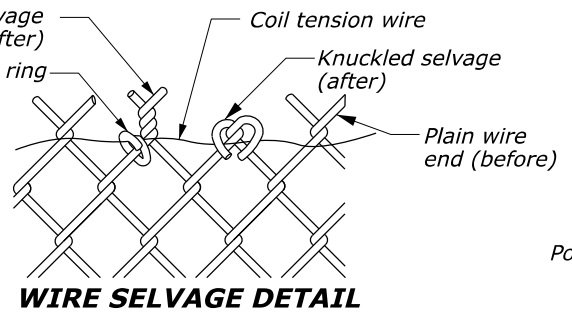


**CHAIN LINK DETAIL**

**CHAIN LINK FENCE TIE DETAIL**

**END OR CORNER POST**

**ALTERNATE STEEL POST & BRACE SECTIONS**

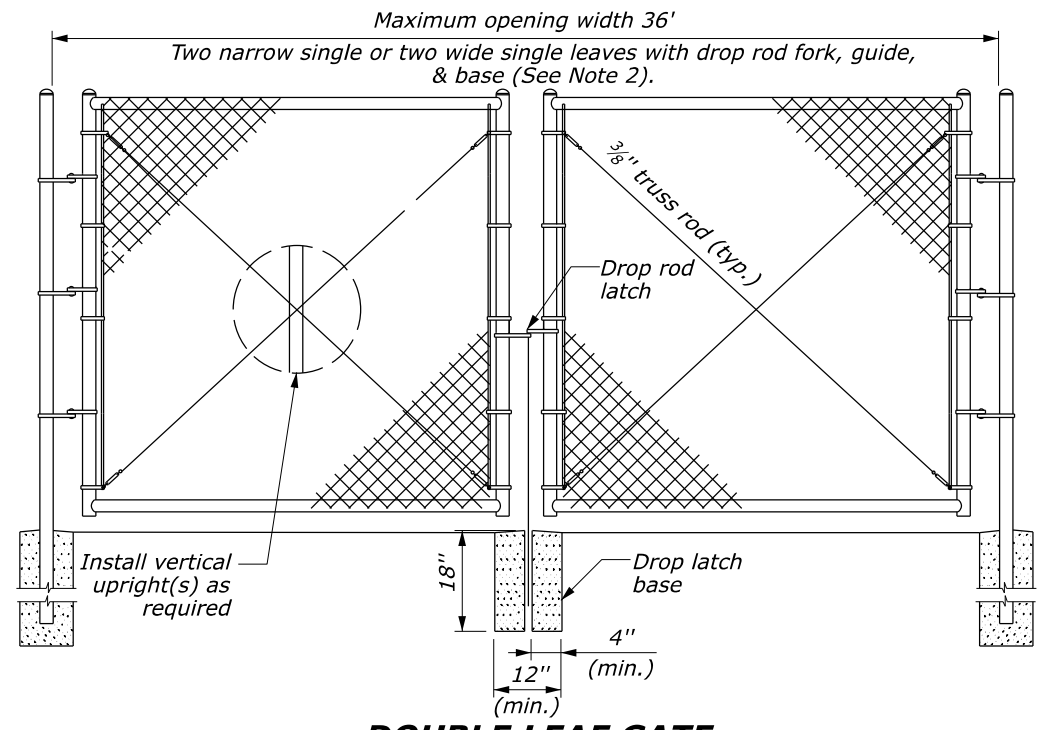


NO SCALE

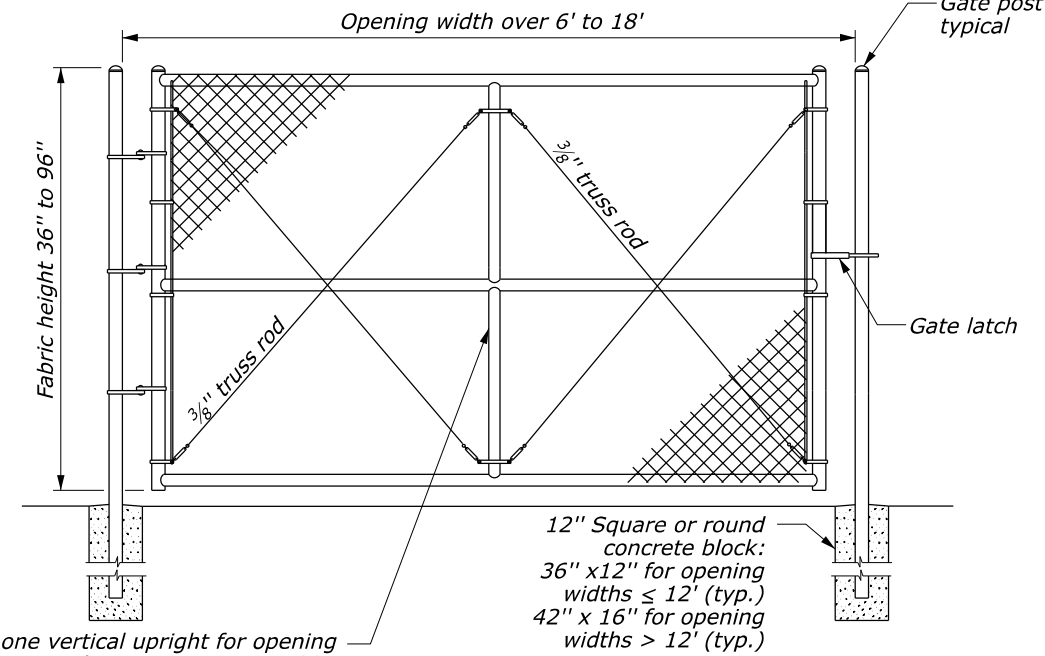
|  |                             |
|--|-----------------------------|
| U.S. DEPARTMENT OF TRANSPORTATION, FHWA<br>OFFICE OF FEDERAL LANDS HIGHWAY | EFLHD DETAIL<br>E619-09     |
| <b>CHAIN LINK FENCE AND GATE</b>   | SPECIFICATION<br>FP-24      |
| Sheet 1 of 2   | APPROVED FOR USE<br>06/2024 |

M:\Standards\_and\_Details\EFLHD\_Detail\Drawings\FP-24\619-Fences, Gates, Cattle Guards and Bollard Posts\61909\_detail.dgn [Sheet:1] 13 June 2024 9:25 AM

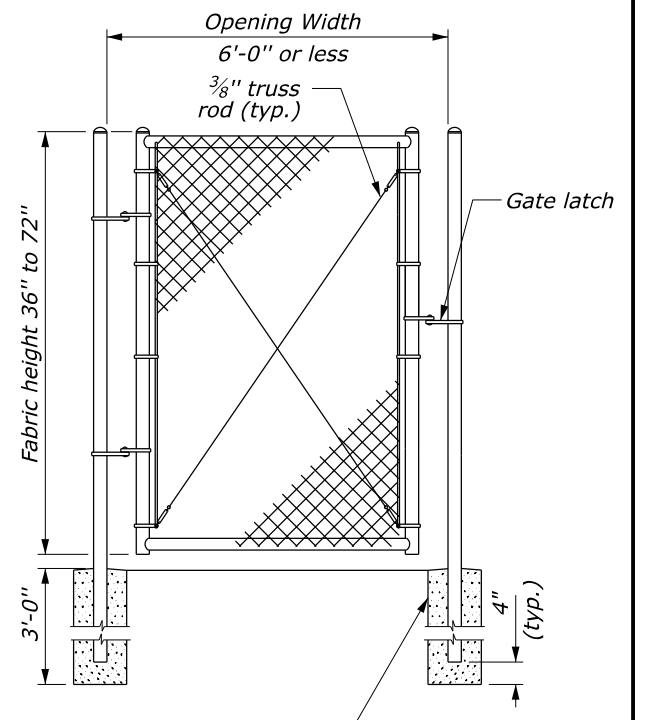
| HARDWARE ITEM DESCRIPTION  | STANDARD REQUIREMENTS   |
|----------------------------|---|
| Brace rail and top rail    | See table on Detail E619-09, Sheet 1 of 2   |
| Line post                  | See table on Detail E619-09, Sheet 1 of 2   |
| Corner; end and pull posts | See table on Detail E619-09, Sheet 1 of 2   |
| Post cap                   | Cast non-ferrous alloy or galvanized pressed steel cap must fit snugly on post and gate top   |
| Line post cap              | Galvanized pressed steel minimum $\frac{3}{32}$ " thickness or galvanized malleable ferrous alloy   |
| Tension band               | Minimum $\frac{3}{32}$ " x $\frac{5}{16}$ " galvanized steel  |
| Brace band                 | Minimum $\frac{3}{32}$ " x $\frac{5}{16}$ " galvanized steel  |
| Band bolt                  | Minimum $\frac{5}{16}$ " x $1\frac{1}{4}$ " galvanized carriage bolt, (Lock washer & flat washer for each band)   |
| Rail end                   | Galvanized pressed steel or galvanized malleable ferrous alloy minimum $\frac{3}{8}$ " thickness on back bolting appendage  |
| Brace rail end             | Galvanized pressed steel or galvanized malleable ferrous alloy minimum $\frac{3}{8}$ " thickness on back bolting appendage  |
| Truss rod tightener        | Minimum $\frac{1}{4}$ " formed galvanized steel   |
| Truss rod                  | $\frac{3}{8}$ " galvanized, NC threaded rod, lock washer, & flat washer with two 90° bends opposite of threaded end   |
| Top rail sleeve            | Galvanized steel 0.051" minimum thickness by 6" minimum length  |
| Tension bar                | Minimum $\frac{3}{16}$ " x $\frac{3}{4}$ " galvanized steel   |
| Fence fabric               | 2" diamond mesh fabric, See Note 7 on Detail E619-09, Sheet 1 of 2  |
| Tie wires                  | Minimum 9 gage aluminum with one hooked end   |
| Coil tension wire          | 0.177" minimum diameter metallic coated wire  |
| Gate latch                 | Minimum $\frac{1}{8}$ " galvanized pressed steel or malleable ferrous alloy. 1 latch per each single gate with bent minimum $\frac{3}{8}$ " attachment bolt, washer & nut.                                      |
| Frame hinge                | Minimum $\frac{1}{8}$ " galvanized pressed steel with 2 - $\frac{3}{8}$ " U-bolts, lockwasher & nuts per hinge. Use 2 hinges per gate leaf up to 8' in width and 3 hinges per gate leaf widths greater than 8'. |
| Drop rod latch & guide     | Minimum $\frac{1}{8}$ " galvanized pressed steel. Drop rod guide includes $\frac{3}{8}$ " x 3" carriage bolt with lock washer & nut. Weld drop rod fork to rod & coat with an approved zinc rich coating.       |



**DOUBLE LEAF GATE**



**WIDE SINGLE LEAF GATE**



**NARROW SINGLE LEAF GATE**

| CHAIN LINK GATE                    |       |                             |               |           |               |           |               |
|------------------------------------|-------|-----------------------------|---------------|-----------|---------------|-----------|---------------|
| POST AND FRAME SIZE AND MASS TABLE |       |                             |               |           |               |           |               |
| GATE LEAF WIDTHS                   |       | ROUND PIPE                  |               |           |               |           |               |
|                                    |       | Steel                       |               | Aluminum  |               | Steel     |               |
|                                    |       | Minimum yield strength Psi. |               |           |               |           |               |
|                                    |       | 25,000                      | 25,000        | 25,000    | 25,000        | 50,000    | 50,000        |
| Size and mass                      |       |                             |               |           |               |           |               |
|                                    |       | dia. inch                   | lbs/ft (min.) | dia. inch | lbs/ft (min.) | dia. inch | lbs/ft (min.) |
| 6 feet or less                     | Gate  | 2.875                       | 4.64          | 2.875     | 1.94          | 2.875     | 4.64          |
| Over 6 feet to 12 feet             | post  | 4.000                       | 8.65          | 4.000     | 2.99          | 4.000     | 6.56          |
| Over 12 feet to 18 feet            | size  | 6.625                       | 18.02         | -----     | -----         | -----     | -----         |
| Outside frame member               | frame | 1.900                       | 2.28          | 1.900     | 1.900         | 1.900     | 2.28          |
| Interior bracing member            | size  | 1.660                       | 1.83          | 1.900     | 1.900         | 1.660     | 1.84          |

NO SCALE

**NOTES:**

1. Reinforce the gate frame corners with a malleable iron or pressed steel fitting designed for the purpose or shop weld the corners. Grind smooth all welds and coat each gate with the necessary hinges, latch, and drop rod locking device design for the type of gate posts and used on the project. Provide positive type latching devices with provisions for pad locking at all gates. Provide keepers to retain the gate in the open position.
2. Use alternate gate frames constructed of steel section, other than pipe, as approved.
3. The design of the chain link hardware may vary from the details shown. Ensure all hardware and materials used in a single installation are uniform and compatible.

|  |                             |
|--|-----------------------------|
| U.S. DEPARTMENT OF TRANSPORTATION, FHWA<br>OFFICE OF FEDERAL LANDS HIGHWAY | EFLHD DETAIL<br>E619-09     |
| <b>CHAIN LINK FENCE AND GATE</b>   | SPECIFICATION<br>FP-24      |
| Sheet 2 of 2   | APPROVED FOR USE<br>06/2024 |