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<td>DUALTUBE-1</td>
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GENERAL NOTES

DESIGN: Current (at time of letting) AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (Fatigue Category II - natural wind gust only).

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Recurring Special Provisions. ("Standard Specifications") All references to "Mast Arm Assembly and Pole" are applicable, unless otherwise noted.

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 Structural Welding Code and the Standard Specifications.

ANCHOR RODS: Shall conform to ASTM F2354 Grade 105. No welding shall be permitted on rods.

FASTENERS: All connection bolts shall be High Strength Bolts M164, Galvanize M232 (A153), Type 3 or stainless steel hex bolts conforming to ASTM A193, Grade B8 or B8M. Class 5 U-bolts shall be produced from ASTM A576 Type 304, 304L, 316 or 316L. Condition A cold finished, or an equivalent material acceptable to the Engineer. Nuts for stainless steel bolts shall be stainless steel conforming to ASTM A193, Grade B (AISI Type 304) or Grade 8 (AISI Type 304L). All nuts shall be "heavily" with nuts or stainless and semi-finished hexagonal heads equivalent to the finished hex series of the American National Standard. Washers for stainless steel bolts shall be stainless steel conforming to ASTM A193, Grade B or 304.

REINFORCEMENT BARS: Reinforcement bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

CAMBER: Minimum AASHTO camber = L / 1000 + dead load camber.

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**MONOTUBE SIGN STRUCTURE**

**MONOTUBE - 2**

**MONOTUBE FOUNDATIONS**

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1,250 psi, which must be determined by previous soil investigations at the project. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.

If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions “B” or “F” are reduced by more than 12” by the Contractor, “as-built” plans shall be prepared and submitted to the District Bureau of Operations for future reference. No substitutions or decomposable forms shall be used below the lower conduit entrance. Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer’s written permission.

Concrete shall be placed monolithically, without construction joints. Backfill shall be placed per Article 502 of Standard Specification and prior to erection of the foundation. Cost included in Drilled Shafts Concrete Foundations.

Shaft Concrete Foundations

Concrete shall be placed monolithically, without construction joints. Backfill shall be placed per Article 502 of Standard Specification and prior to erection of the foundation. Cost included in Drilled Shafts Concrete Foundations.

**CONCRETE SEALS**

A normal surface finish followed by a Concrete Sealer application will be required on concrete surfaces above the lowest elevation 6” below finished ground line. Cost included in Drilled Shafts Concrete Foundations.

**SIGN MOUNTING BRACKET**

Provide conduit openings both poles.

**U-BOLT DETAIL**

Typical, except conduit may be required at one foundation.

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**SECTION A-A**

**SECTION B-B**

6’-6” maximum spacing. 2’-0” maximum sign overhang beyond end bracket.

**FOOTINGS**

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1,250 psi, which must be determined by previous soil investigations at the project. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.

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**SIGN MOUNTING BRACKET**

Provide conduit openings both poles.

**U-BOLT DETAIL**

Typical, except conduit may be required at one foundation.

---

**SECTION A-A**

**SECTION B-B**

6’-6” maximum spacing. 2’-0” maximum sign overhang beyond end bracket.

**FOOTINGS**

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**SIGN MOUNTING BRACKET**

Provide conduit openings both poles.

**U-BOLT DETAIL**

Typical, except conduit may be required at one foundation.

---

**SECTION A-A**

**SECTION B-B**

6’-6” maximum spacing. 2’-0” maximum sign overhang beyond end bracket.

**FOOTINGS**

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**SIGN MOUNTING BRACKET**

Provide conduit openings both poles.

**U-BOLT DETAIL**

Typical, except conduit may be required at one foundation.
DUALTUBE - 2

Shaft Concrete Foundations:

- Use the boring data to determine if the foundation dimensions need to be modified. If dimensions differ, the Contractor shall notify the Engineer to determine if the foundation alterations need to be modified. Dimensions shall be modified based on the soil conditions encountered.

- Normal surface finish followed by a Concrete Sealer application will be required on concrete surfaces above the lowest elevation 6'' below finished ground line. Cost included in "Drilled Shaft Concrete Foundations".

- No sonotubes or decomposable forms shall be used below the lower conduit entrance.

- Permanent metal forms or other shielding may not be left in place below that elevation.

- Concrete shall be placed monolithically, without construction joints. Shafts shall be placed monolithically, without construction joints.

- No construction joints shall be placed per Article 502 of Standard Specification and prior to erection of support column.

- Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.

- Foundation designs shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite.

- When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site-specific designs.

- If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation alterations need to be modified. If dimensions differ, the Contractor shall notify the Engineer to determine if the foundation alterations need to be modified.

- Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.

- Concrete shall be placed monolithically, without construction joints.

- Shaft shall be placed monolithically, without construction joints. Shafts shall be placed monolithically, without construction joints.

- Additional information on "Drilled Shaft Concrete Foundation".

- "B" or "F" are revised by more than 12'' by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

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