

## **CONSTRUCTION REQUIREMENTS FOR WIRELESS TELECOMMUNICATION FACILITY**

### **1. GENERAL**

The most current version of the City of Fargo Standard Specifications for Construction and the attached General Specifications, along with these Special Instructions, shall govern the construction of this project. Specifications can be downloaded at <http://fargond.gov/city-government/departments/engineering/design-construction/construction-specifications>.

### **2. NOISE RESTRICTION**

No construction activities or moving of equipment shall occur between the hours of 10:00 pm and 7:00 am except for sawing of new concrete. When sawing is planned to occur during these hours, the Contractor shall distribute written notices to residents located within ½ block of the work by 7:30 pm.

### **3. TRAFFIC CONTROL**

The Contractor is responsible for providing and maintaining traffic control measures to restrict access to the project site and maintain the safety of the general public. All devices and methods of traffic control shall conform to the Manual of Uniform Traffic Control Devices, latest edition and shall conform to section 4100 of the Standard Specifications.

### **4. TEMP FENCE - SAFETY**

A temporary safety fence shall be installed and maintained by the Contractor in any areas where a hazardous situation may occur such as open trenches, pavement removal areas, or other areas that could be a hazard to the public. The safety fence shall be orange in color, 4 feet high and constructed of high-density polyethylene and shall be installed in accordance with Manufacturer's recommendations. Temporary safety fence shall be Tenax Sentry Diamond Mesh or approved equal and shall be installed where needed as work progresses.

### **5. CONCRETE SIDEWALKS AND DRIVEWAYS**

All expansion material shall be ½ inch in thickness. The "free" end of the smooth dowel shall be coated with an approved lubricant and covered with an approved metal or plastic dowel cap or sleeve.

If uncontrolled cracking occurs, the concrete shall be completely removed to the nearest planned longitudinal and transverse joints. The removal and replacement method shall be approved by Engineer and at the Applicant's expense.

Newly placed concrete shall match the existing elevation (+/-1/8") of all adjoining concrete. Any placed concrete not properly matching elevations as deemed by the Engineer shall be removed and replaced at the Contractor's expense.

Section 2300 2.5 Concrete Proportions and Properties of the City of Fargo Standard Specifications for Construction shall be deleted and replaced with the following:

- One cubic-yard of mixed concrete in place shall contain not less than 517 lbs. of cement at a maximum water/cement ratio of 0.42. The slump shall not exceed four inches. Minimum 28-day compressive strength shall be 4,000 psi. Air content shall be targeted for 6% and shall fall between 5% and 8%.

#### 6. SIDEWALK & ADA CURB RAMP DETAILS

Section 2300 3.13 A.D.A. Curb Ramps, Drawing No. 5.1, Drawing No. 5.2, and Drawing No. 5.3 of the City of Fargo Standard Specifications for Construction shall be deleted and replaced with the following:

[A link will be provided to the latest approved details](#)

Sidewalk and ADA curb ramps shall be constructed in accordance with details shown below

[A link will be provided to the latest approved details](#)

#### 7. DETECTABLE WARNING PANELS

Detectable warning panels shall be cast-in-place, unpainted cast iron plates manufactured by East Jordan Iron Works, Neenah Foundry, or approved equal.

#### 8. SHOP DRAWINGS & PRODUCTION DATA

One set of shop drawings and product data, checked and stamped approved by the Contractor, shall be submitted to the Engineer for evaluation and approval of all materials and equipment required in the plans and specifications prior to installation and construction. Any unique construction techniques shall be submitted, along with drawings, to the Engineer for approval. If the Contractor submits changes to any structural drawings, they shall be required to be stamped by a Professional Engineer.

Shop drawings and product data shall include manufacturer's or fabricator's drawings, diagrams, schedules, operational curves, test reports, catalog cuts, or descriptive data showing model, size, type, weight, ratings, and other information as may be considered necessary to determine compliance with the contract documents and to enable proper installation of the material or equipment being proposed.

In submitting shop drawings, product data, and samples, the Contractor represents that they have determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that they have checked and coordinated the information contained within such submittals with the work and the contract documents.

Approval of shop drawings by the Engineer does not relieve the Contractor from their responsibility to comply with the requirements of the plans and specifications.

#### 9. INNERDUCT

1.5", Schedule 40 innerduct, Smooth Outside, Controlled Outside Diameter at 1.900. Inside Diameter of 1.579, Minimum wall thickness of .145 and color RED.

Innerduct will be required as shown on plans and will be connected to stubbed out 1.5" conduit at all concrete base and feed point locations. Installation of Innerduct shall be at a minimum depth of 24" below finished grade. The Innerduct will be placed in line with bases behind curb unless the Contractor gets approval from Project Engineer to adjust placement. BORING WILL BE THE REQUIRED METHOD OF INSTALLATION IN ALL ESTABLISHED AREAS.

Duct Seal all Innerduct/conduit entering or exiting foundations, feed points and pull boxes.

#### 10. CONDUCTOR

All conductor shall be continuous color-coded (black, red and green). The conductor between standards shall be 3 - #6 USE. All wiring within standards between distribution conductors and luminaires shall be #12 AWG stranded copper, 600-VOLT, type RHW. All luminaires shall be grounded. Conductor connections in street light bases shall be Tyco Electronics GelCap SL splice cover kit with connector. All other conductor splices shall be, UL listed, with PowerGel sealant type connections meeting all codes for desired application.

#### 11. FUSE HOLDERS

All fuse holders shall have 3" of heat shrink at conductor connections.

#### 12. FURNISH & INSTALL PULL BOX

PVC Pull Box with metal frame and cover, the size shall be 24" dia x 36" deep. 24" of pea rock shall be installed for drainage below the pull box and will extend 6" beyond the outside edge of pull box. The top of pull box shall be flush mounted in concrete areas and flush to 1" above final grade and sloped to match in areas of sod. Provide enough slack to pull conductor and splices a minimum of four feet above finished grade.

#### 13. CONCRETE BASE

Bases shall be as specified in the plans. Bolt circle and projection shall be verified with manufacturer specifications.

The Contractor shall use Hydro-vac excavation for concrete bases where standard auger method is not possible due to extreme number of utilities and services. Base locations shall be field verified after locates with Contractor and City of Fargo project manager.

#### 14. ANTI-SEIZE

Anti-seize material shall be applied to all threaded bolts and screws. Verify with Project Engineer type of material.

#### 15. REPAIRS

Mailboxes, roadway, driveways, sidewalk sections, sod and any private or public property that is removed or damaged during the installation of the new street lighting system or the removal of the existing system shall be returned to their original condition at the Contractors' expense.

Care shall be taken to clean up the project site, removing all debris, excess dirt, wire scrap, excess concrete, etc., on a daily basis.

**16. SEEDING WITH HYDRO-MULCH**

All disturbed areas, base removal sites, bore pits or any existing sod areas shall be returned to their original condition. The Contractor must adhere to the seeding and soil placement specifications as published in the City of Fargo Standard Specifications for Construction (revised 2014) Section 3100 using Type B seed. Seeding shall be watered daily until germination, then twice weekly or as necessary, for a 4-week period after installation. All costs associated with the site preparation work, proper compaction in all locate and bore pit holes, compaction around new bases and in removed base holes, imported black dirt, seeding with hydro-mulch and required watering will not be measured for payment but shall be incidental to the project. Overspray of hydro-mulch shall be cleaned off of all street light standards and other private and public property.

**17. LOCATE RESTORATIONS**

The Contractor shall adhere to all City of Fargo Standards when coring in the right of way.

**18. PROJECT COORDINATION AND CONSTRUCTION METHODS**

The installation of innerduct and bases shall be coordinated to ensure a clean work site with a minimum amount of excavation. The Contractor will not be allowed to offset the location of innerduct from the center of the base hole. Preferred method of innerduct installation is to drill base holes and install innerduct through center of base, eliminating considerable digging, clean up and site restoration. Bore sites, base holes and other excavation sites must be protected at all times. Excess excavation material must be removed from the project daily. No excavation site shall be left open for more than 48 hours.

**19. FINAL INSPECTION**

After the Contractor has completed the installation of the public facility and any clean-up items, he shall make a written request to the Engineer for a final inspection. Upon receipt of this request, the Engineer will set a date and time for the final inspection.