

DEPARTMENT OF THE ARMY
Omaha District, Corps of Engineers
106 South 15th Street
Omaha, Nebraska 68102-1618

:NOTICE: Failure to acknowledge : Solicitation No. W9128F 04 B 0015
:all amendments may cause rejec- :
:tion of the bid. See FAR : Date of Issue: 19 JUL 2004
:52.214-3 of Section 00100 : **Date of Opening: 24 AUG 2004**

Amendment No. 0004
18 August 2004

SUBJECT: Amendment No. 0004 to Specifications and Drawings for Construction of **Visitor Control Center / Main Gate, Minneapolis-St. Paul IAP-ARS, Minneapolis, Minnesota**, Solicitation No. W9128F 04 B 0015.

TO: Prospective Bidders and Others Concerned

1. The specifications and drawings for subject project are hereby modified as follows (revise all specification indices, attachment lists, and drawing indices accordingly).

a. Specifications. (Descriptive Changes.)

(1) Section 16375, page 10, after paragraph 2.6, insert the following new paragraphs:

"2.6 CONDUIT AND DUCTS

Duct lines shall be nonencased direct-burial, thick-wall type.

2.6.1 Metallic Conduit

Intermediate metal conduit shall comply with UL 1242. Rigid galvanized steel conduit shall comply with UL 6 and ANSI C80.1. Metallic conduit fittings and outlets shall comply with UL 514A and NEMA FB 1.

2.6.2 Nonmetallic Ducts

2.6.2.2 Concrete Encased Ducts

UL 651 Schedule 40.

2.6.2.3 Direct Burial

UL 651 Schedule 80.

2.6.3 Conduit Sealing Compound

Compounds for sealing ducts and conduit shall have a putty-like consistency workable with the hands at temperatures as low as 2 degrees C (35 degrees F), 35 degrees F, shall neither slump at a temperature of 150 degrees C (300 degrees F), 300 degrees F, nor harden materially when exposed to the air. Compounds shall adhere to clean surfaces of fiber or plastic ducts; metallic conduits or conduit coatings; concrete, masonry, or lead; any cable sheaths,

jackets, covers, or insulation materials; and the common metals. Compounds shall form a seal without dissolving, noticeably changing characteristics, or removing any of the ingredients. Compounds shall have no injurious effect upon the hands of workmen or upon materials."

(2) Section 16375, page 16, after paragraph 3.2.3, add the following new paragraph:

"3.2.4 Duct Line

Low-voltage cables shall be installed in duct lines where indicated. Cable splices in low-voltage cables shall be made in manholes and handholes only. Neutral and grounding conductors shall be installed in the same duct with their associated phase conductors."

(3) Section 16375, page 17, after paragraph 3.4.2, insert the following new paragraphs:

"3.5 DUCT LINES

3.5.1 Requirements

Numbers and sizes of ducts shall be as indicated. Duct lines shall be laid with a minimum slope of 4 inches per 100 feet. Depending on the contour of the finished grade, the high-point may be at a terminal, a manhole, a handhole, or between manholes or handholes. Short-radius manufactured 90-degree duct bends may be used only for pole or equipment risers, unless specifically indicated as acceptable. The minimum manufactured bend radius shall be 18 inches for ducts of less than 3 inch diameter, and 36 inches for ducts 3 inches or greater in diameter. Otherwise, long sweep bends having a minimum radius of 25 feet shall be used for a change of direction of more than 5 degrees, either horizontally or vertically. Both curved and straight sections may be used to form long sweep bends, but the maximum curve used shall be 30 degrees and manufactured bends shall be used. Ducts shall be provided with end bells whenever duct lines terminate in manholes or handholes.

3.5.2 Treatment

Ducts shall be kept clean of concrete, dirt, or foreign substances during construction. Field cuts requiring tapers shall be made with proper tools and match factory tapers. A coupling recommended by the duct manufacturer shall be used whenever an existing duct is connected to a duct of different material or shape. Ducts shall be stored to avoid warping and deterioration with ends sufficiently plugged to prevent entry of any water or solid substances. Ducts shall be thoroughly cleaned before being laid. Plastic ducts shall be stored on a flat surface and protected from the direct rays of the sun.

3.5.3 Concrete Encasement

Ducts requiring concrete encasements shall comply with NFPA 70, except that electrical duct bank configurations for ducts 6 inches in diameter shall be determined by calculation. The separation between adjacent electric power and communication ducts shall conform to IEEE C2. Duct line encasements shall be monolithic construction. Where a connection is made to a previously poured encasement, the new encasement shall be well bonded or doweled to the

existing encasement. The Contractor shall submit proposed bonding method for approval in accordance with the detail drawing portion of paragraph SUBMITTALS. Where ducts are jacked under existing pavement, rigid steel conduit will be installed because of its strength. To protect the corrosion-resistant conduit coating, predrilling or installing conduit inside a larger iron pipe sleeve (jack-and-sleeve) is required. Separators or spacing blocks shall be made of steel, concrete, plastic, or a combination of these materials placed not farther apart than 4 feet on centers. Ducts shall be securely anchored to prevent movement during the placement of concrete and joints shall be staggered at least 6 inches vertically.

3.5.4 Nonencased Direct-Burial

Top of duct lines shall be not less than 24 inches below finished grade and shall be installed with a minimum of 3 inches of earth around each duct, except that between adjacent electric power and communication ducts, 12 inches of earth is required. Bottoms of trenches shall be graded toward manholes or handholes and shall be smooth and free of stones, soft spots, and sharp objects. Where bottoms of trenches comprise materials other than sand, a 3 inch layer of sand shall be laid first and compacted to approximate densities of surrounding firm soil before installing ducts. Joints in adjacent tiers of duct shall be vertically staggered at least 6 inches. The first 6 inch layer of backfill cover shall be sand compacted as previously specified. The rest of the excavation shall be backfilled and compacted in 3 to 6 inch layers. Duct banks may be held in alignment with earth. However, high-tiered banks shall use a wooden frame or equivalent form to hold ducts in alignment prior to backfilling.

3.5.5 Installation of Couplings

Joints in each type of duct shall be made up in accordance with the manufacturer's recommendations for the particular type of duct and coupling selected and as approved.

3.5.5.2 Plastic Duct

Duct joints shall be made by brushing a plastic solvent cement on insides of plastic coupling fittings and on outsides of duct ends. Each duct and fitting shall then be slipped together with a quick 1/4-turn twist to set the joint tightly.

3.5.6 Duct Line Markers

Duct line markers shall be provided at the ends of long duct line stubouts or for other ducts whose locations are indeterminate because of duct curvature or terminations at completely below-grade structures. In addition to markers, a 5 mil brightly colored plastic tape, not less than 3 inches in width and suitably inscribed at not more than 10 feet on centers with a continuous metallic backing and a corrosion-resistant 1 mil metallic foil core to permit easy location of the duct line, shall be placed approximately 12 inches below finished grade levels of such lines."

b. Drawings (Not Reissued). The following drawings are revised as indicated below with latest revision date of 18 August 2004. These drawings are not reissued with this amendment.

(1) Sheet E5.01, on the Feeder Schedule, notes 2 and 3, column "Conduit Size", delete "1 ¼" conduit and substitute "2".

(2) Sheet E5.01, on the Feeder Schedule, column "Conductors Number/Size", Feeder #1: delete "3-300#" and substitute "4-300#". Feeder #2: delete "3-#1/0" and substitute "4-#1/0". Feeder #3: delete "3-#1" and substitute "4-#1". Feeder #4: delete "3-#8" and substitute "4-#8". Feeder #5: delete "3-#3" and substitute "4-#3".

(3) Sheet EU.01, to end of note "NEW 1-2" CONDUIT FOR FUTURE POWER TO NEW DROPARM (NIC)", add "DROPARM ONLY NIC" (occurs in 2 places on this sheet).

(4) Sheet EU.01, add the following new General Note:

"4. Provide 2-2"C (4-#1, 2"C and one 2" spare conduit capped with pull wire) for power from transformer to Gatehouse." "Provide 2-2"C (4-#1/0, 2"C and one 2" spare conduit capped with pull wire) for power from transformer to Visitor Control Center."

(5) Sheet EU.05, delete leader text "NEW MH#3" and substitute "NEW MH#2".

2. This amendment is a part of the bidding papers and its receipt shall be acknowledged on the Standard Form 1442. All other conditions and requirements of the specifications remain unchanged. If the bids have been mailed prior to receiving this amendment, you will notify the office where bids are opened, in the specified manner, immediately of its receipt and of any changes in your bid occasioned thereby.

a. Hand-Carried Bids shall be delivered to the U.S. Army Corps of Engineers, Omaha District, Contracting Division (Room 301), 106 South 15th Street, Omaha, Nebraska 68102-1618.

b. Mailed Bids shall be addressed as noted in Item 8 on Page 00010-1 of Standard Form 1442.

3. Bids will be received until 2:00 p.m., local time at place of bid opening, 24 AUG 2004.

Attachments:

Type "G" Manhole Detail

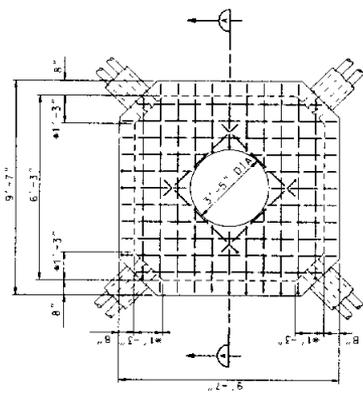
Type "D" Manhole Detail

U.S. Army Engineer District, Omaha
Corps of Engineers
106 South 15th Street
Omaha, Nebraska 68102-1618

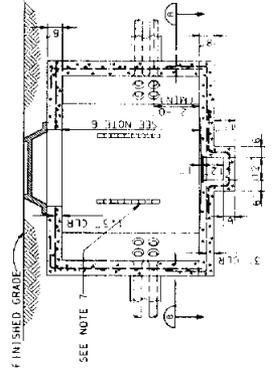
18 August 2004

JDW/4529

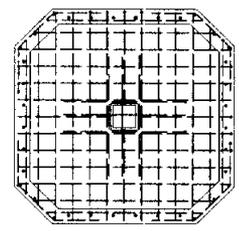
MAN HOLE



PLAN



SECTION A-A

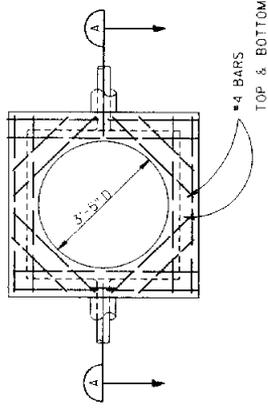


SECTION B-B

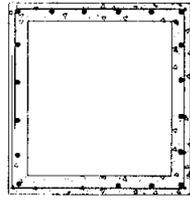
- NOTES: DIMENSIONS WITH A * SHALL BE INCREASED AS REQUIRED FOR ADDITIONAL DUCT WIDTH.
1. ALL ROOF SLAB BARS #13 AT 9" O.C.
 2. ALL VERTICAL WALL BARS #13 AT 9" O.C. BENT 2'-0" AT TOP.
 3. ALL HORIZONTAL WALL BARS #13 AT 9" O.C.
 4. ALL FLOOR SLAB BARS IN BOTTOM #13 AT 9" O.C.
 5. MUST HAVE 6'-0" OR MORE TO SUIT DEPTH QUANTITY OF CONDUITS.
 6. RACKS SHALL BE 30" MIN. IN LENGTH AND RACKS WITH 36" SPACING BETWEEN THEM SHALL BE CENTERED ON ALL FOUR WALLS.
 7. LID SHALL BE LABELED "ELECTRIC" OR "TELEPHONE" AS APPLICABLE.

TYPE "G" MANHOLE
50-3741 F

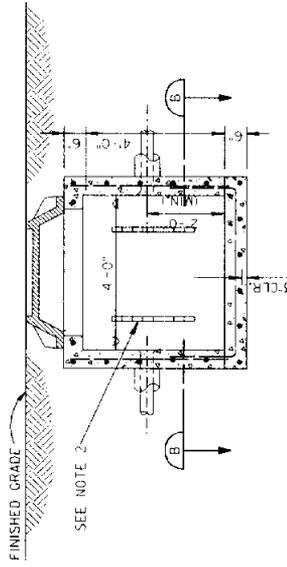
HANDHOLE



PLAN



SECTION B



SECTION A

NOTES:

1. ALL BARS #4 AT 9" O.C.
2. RACKS SHALL BE 30" MIN. IN LENGTH. TWO RACKS WITH 24" SPACING BETWEEN THEM SHALL BE CENTERED ON THE TWO WALLS WITHOUT DUCT PENETRATIONS.
3. LID SHALL BE LABELED "ELECTRIC" OR "TELEPHONE" AS APPLICABLE.

TYPE "D" MANHOLE

NO SCALE