# SECTION 055300 ACCESS HATCHES

## PART 1 - GENERAL

A. Description

This section describes materials, fabrication, and installation of access hatches.

B. Related Work Specified Elsewhere

1. General Concrete Construction: 030500.

2. Precast Concrete Vaults: 034220.

3. Painting and Coating: 099000.

C. Design Criteria

Access hatches shall be designed to support AASHTO H-20 wheel loading.

D. Submittals

1. Submit shop drawings in accordance with the General Conditions and Section 013300.

2. Submit drawings of fabricated items, such as ladders, access hatches, and lock boxes. Show dimensions and reference materials of construction by ASTM designation and grade. Show design criteria.

3. Submit details showing connection to the vault walls and installation.

4. Submit manufacturer's structural design calculations stamped by a registered Professional Structural or Civil Engineer.

E. Measurement and Payment

See Section 012000

## PART 2 - MATERIALS

A. Aluminum Access Hatches

1. Access Hatches:

a. Access hatches shall be Halliday Series 2R (Double-Leaf, reinforced to support AASHTO H-20 wheel load) of the sizes and configurations

shown in the drawings or approved equal. Aluminum doors shall be anodized. Latch and lifting mechanism assemblies, hold-open arms and guides, and all brackets, hinges, pins, and fasteners shall be 316 stainless steel.

b. Operation of the hatches shall be smooth and easy with controlled operation throughout the entire arc of opening and closing.

c. Covers: Shall be made of aluminum diamond pattern. Covers shall be designed as specified in Part 1.C of these specifications.

d. Hinges: Shall be specifically designed for horizontal installation and shall be through bolted to the covers with tamperproof Type 316 stainless steel lock bolts and shall be through bolted to the frame with Type 316 stainless steel bolts and locknuts.

e. Lifting mechanisms: Manufacturer shall provide the required number and size of compression spring operators enclosed in telescopic tubes to provide, smooth, easy, and controlled cover operation throughout the entire arc of opening and to act as a check in retarding downward motion of the covers when closing. The upper tube shall be the outer tube to prevent accumulation of moisture, grit, and debris inside the lower tube assembly. The lower tube shall interlock with a flanged support shoe fastened to a formed gusset support plate.

f. A removable exterior turn/lift handle with a spring loaded ball detent shall be provided to open the hatch and the latch release shall be protected by a flush, gasketed, removable screw plug.

g. Hardware

(1) Hinges: Type 316 stainless steel hinges and steel pin, shall be provided and shall pivot so the cover does not protrude into the channel frame.

(2) Covers shall be equipped with a hold open arm which automatically locks the cover in the open position.

(3) Covers shall be fitted with the required number and size of compression spring operators.

(4) A Type 316 stainless steel snap lock with fixed handle shall be mounted on the underside of the cover.

(5) Compression spring tubes shall be an anti-corrosive composite, all fasteners and hardware shall be Type 316 stainless steel material. Springs shall have an electrocoated acrylic finish for corrosion resistance.

(6) Cover shall be fitted with a large recessed lock box, continuously welded to the underside of the access cover, with an independently hinged cover. Padlock hole shall be minimum 3/8-inch diameter. Box shall be sized to allow room for locking device to swivel and lie horizontally.

h. Factory Finishes: Aluminum surfaces shall be provided with a Mill finish by the factory. See Section 3.C for protective coatings to be applied before installation.

i. Locking Device:

(1) Padlock to be provided by Owner.

B. Ladder

1. Ladder shall be aluminum and steel-reinforced copolymer polypropylene, conforming to ASTM D4101. Minimum diameter of rungs shall be ¾ inch. The distance between rungs shall not exceed 12 inches and shall be uniform throughout the length of the ladder. The minimum clear length of rungs shall be 16 inches. Provide pull-up handrail as shown in the drawings. Ladder shall meet all ASTM C497 load requirements. Manufacturer: Lane International of Tualatin, Oregon, or equal.

PART 3 - EXECUTION

A. Storage of Materials

Store structural material, either plain or fabricated, above ground on platforms, skids, or other supports. Keep material free from dirt, grease, and other foreign matter and protect from corrosion.

B. Installation and Erection

1. Coordinate access hatch installation requirements with Precast Vault manufacturer.

2. Clean the surfaces of metalwork to be in contact with concrete of rust, dirt, grease, and other foreign substances before placing concrete.

3. Set frames and supports accurately in position when concrete is placed and support it rigidly to prevent displacement or undue vibration during or after the placement of concrete. Unless otherwise specified, where metalwork is to be installed in recesses in formed concrete, said recesses shall be made, metalwork installed, and recesses filled with dry-pack mortar.

4. Mount ladder to provide clearance in back of ladder so that the distance from the centerline of the rungs to the nearest permanent object in back of the ladder is not less than 7 inches. Mount ladder per manufacturer's recommendations.

C. Coatings:

1. Coat aluminum surfaces to be embedded or which will be in contact with concrete per Section 099000, System No. 54 and per manufacturer's recommendation before installation. Allow the coating to dry before the aluminum is placed in contact with the concrete.

2. Where aluminum surfaces come in contact with dissimilar metals, keep the dissimilar metallic surfaces from direct contact by use of neoprene gaskets or washers.

END OF SECTION