SECTION 111323 - PORTABLE DOCK EQUIPMENT

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. SUMMARY
				1. Section includes portable loading dock lifts (scissors lifts).
				2. Related Requirements:

Retain subparagraph below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 111319 "Stationary Loading Dock Equipment" for stationary dock lifts (scissor lifts).

* + - 1. DEFINITIONS

Retain terms that remain after this Section has been edited for a project.

Definition in paragraph below is from MH 30.1 and specifically applies to dock levelers.

* + - * 1. Operating Range: Maximum amount of travel above and below the loading dock level.
			1. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at Project site.

Inspect and discuss electrical roughing-in, equipment bases, and other preparatory work specified elsewhere.

Review sequence of operation for each type of portable dock equipment.

Review coordination of interlocked equipment specified in this Section and elsewhere.

Review required testing, inspecting, and certifying procedures.

* + - 1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Submittals Package: Provide all submittals, except closeout submittals, as a single submittal package.
				5. Product Data: For each type of product.

Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

* + - * 1. Shop Drawings: For portable dock equipment.

Include plans, elevations, sections, and attachment details.

Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location of each field connection.

Include diagrams for power, signal, and control wiring.

Coordinate "Qualification Data" paragraph below with "Quality Assurance" Article.

* + - * 1. Qualification Data: For Installer.
			1. CLOSEOUT SUBMITTALS
				1. Operation and Maintenance Data: For portable dock equipment, to include in operation and maintenance manuals.
			2. QUALITY ASSURANCE
				1. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
				2. Service Availability: A fully equipped service organization capable of guaranteeing response time within 24 hours to service calls shall be available to service the completed Work.
1. PRODUCTS

Manufacturers and products listed in SpecAgent and MasterWorks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

* + - 1. PORTABLE LOADING DOCK LIFTS (SCISSOR LIFTS) <Insert drawing designation>

Copy this article and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each product.

* + - * 1. General: Portable, scissors-type, single-leg, hydraulic dock lift of capacity, size, and construction indicated; complete with controls, safety devices, and accessories required.

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Beacon Industries, Inc.

Blue Giant Equipment Corporation.

Pentalift Equipment Corporation.

Approved equivalent.

* + - * 1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

Verify that manufacturers have determined rated capacity according to MH 29.1. See the Evaluations.

* + - * 1. Standard: MH 29.1.

"Rated Capacity" paragraph below is an example only. Rated capacities of dock lifts vary from typically 3000 to 30,000 lb, depending on manufacturer and product.

* + - * 1. Rated Capacity: Lifting capacity of not less than [8000 lb] [load indicated on Drawings] and with axle loads of [6500 lb at ends and 5000 lb at sides] [magnitudes indicated on Drawings].

Nonskid, safety-tread deck plate is standard and smooth-surface deck plate is optional with most manufacturers. Hot-dip galvanizing is an option with most manufacturers; however, manufacturers caution that hot-dip galvanizing the deck plate may cause it to distort.

* + - * 1. Platform: [Nonskid, safety-tread] [Smooth-surface] heavy[ hot-dip galvanized-] steel deck plate.

Standard platform sizes vary in width from 4 to 8 feet and from 6 to 12 feet in length in many capacities. See the Evaluations.

Platform Size: [72 inches wide by 72 inches long] [72 inches wideby 96 inches long] [72 inches wideby 120 inches long] [As indicated on Drawings].

MH 29.1 requires one or more options in "Platform Guarding" subparagraph below "or other sufficient means" to protect individual from potential shear of pinch points created by lift motion and adjacent construction for pit-mounted lifts. Revise below to include additional requirements if lift rise exceeds 5 feet.

Platform Guarding: **[Bevel toe guards] [Toe sensor] [Indicator bar] [Skirts] [Enclosure]** to comply with requirements in MH 29.1.

Most manufacturers use steel pipe for guard rails. Square aluminum sections are also available from some manufacturers. Hot-dip galvanizing is an option with some manufacturers.

**[Removable] [Fixed]** Guard Rails: Provide **[steel] [hot-dip galvanized-steel] [aluminum]** guard rails on two sides of platform with a single, removable chain across each end. Provide guard rails not less than 39 inches high with midrail and 4-inch- high, kick plate at bottom.**[ Mount rail sockets flush with platform surface.]**

Most manufacturers provide nonskid, safety-tread steel plate. Hot-dip galvanizing is an option with some manufacturers.

* + - * 1. Bridge: **[Nonskid, safety-tread steel] [Nonskid, safety-tread hot-dip galvanized-steel] [High-tensile aluminum]** plate.

Revise "Hinged Bridge" subparagraph below to suit Project. Bridge may be located at ends or on sides depending on configuration. More than one bridge is possible if situation warrants. Split-lip bridge plates are optional feature with some manufacturers.

Hinged Bridge: Hinged, throw-over bridge bolted to full-length, heavy-duty, piano-type hinge welded to toe guard at end of platform. Provide bridge complete with heavy-duty lifting chains. Chamfer edge of bridge to minimize obstructing wheels of material-handling vehicles.

Revise "Size" subparagraph below to suit Project. If using split-plate bridge, indicate size of each section.

Size: **[18 inches long by 60 inches wide] [18 inches long by 72 inches wide] [As indicated on Drawings]**.

Locations: **[Ends] [Sides] [As indicated on Drawings]**.

* + - * 1. Function: Dock lifts shall compensate for differences in height between truck bed and loading platform.

Retain "Vertical Travel and Travel Speed" subparagraph below if requirements are indicated on Drawings. Otherwise, delete and retain "Vertical Travel" and "Travel Speed" subparagraphs below.

Vertical Travel and Travel Speed: As indicated on Drawings.

"Vertical Travel" subparagraph below is an example only. Maximum vertical travel distance varies from 50 to 80 inches for single-leg products, depending on manufacturer and product. Lowered height is usually pit depth.

Vertical Travel: Maximum of 60 inches from a lowered height of 12 inches for a total raised height of 72 inches.

Speed of travel up and down varies from 1 to 18 fpm depending on manufacturer, product, and rated capacity. Typical speeds are 8 to 12 fpm.

Travel Speed: Nominal raising speed of **[8] [10] [12]**fpm.

Various manufacturers provide different mechanisms for operating hinged, throw-over bridges. Most bridges are manually operated.

Hinged Throw-over Bridge Operation: **[Manual] [Spring assist] [Manual-assist bridge winch] [Automatic powered]**.

* + - * 1. Hydraulic Operating System: Self-contained, electric, hydraulic power unit for raising and lowering lift; of size, type, and operation needed for capacity of lift indicated; controlled from a remotely located push-button station.

Revise "Power Unit" subparagraph below to suit Project and manufacturer's standard products. Motor horsepower varies from 1 to 10 hp; 5 hp is the most common.

Power Unit: Consisting of continuous-duty motor, high-pressure gear pump, valve manifold, oil-line filters, and oil reservoir.

Equip manifold with relief valve, check valve, pressure-compensated flow-control valve, and solenoid valve and with provisions for lowering lift manually if power fails.

Equip reservoir, valve manifold, and pressure line with oil-line filters.

Revise "Cylinders" subparagraph below to suit Project. Before revising, verify standard cylinder type with manufacturers.

Cylinders: Equip lift with not less than two heavy-duty, high-pressure, hydraulic, ram-type cylinders. Rams shall be manufacturer's standard, either direct-displacement plunger or rod-and-piston type with positive internal stops. Cylinder rods shall be chrome plated and polished.

Protection in "Rate of Descent Protection" subparagraph below is required by MH 29.1.

Rate of Descent Protection: Pressure-compensated flow control or hydraulic velocity fuse to limit down speed for each cylinder.

In "Remote-Control Station" subparagraph below, Type 12 boxes are "industrial use, dust tight, and drip tight - indoor."

Remote-Control Station: Multibutton control station of the constant-pressure type with UP and DOWN push buttons. Controller shall consist of magnetic motor starter with three-pole adjustable overloads and 24-V control transformer with 4-A, fused secondary prewired to terminal strips and enclosed in NEMA ICS 6, **[Type 12]** box.

Upper-Travel-Limit Switch: Equip unit with manufacturer's standard, adjustable, upper-travel-limit switch.

* + - * 1. Construction: Fabricate lift from structural-steel shapes rigidly welded and reinforced for maximum strength, safety, and stability. Design assembly to withstand deformation during both operating and stored phases of service. Provide mounting brackets and removable lifting eyes for ease of installation.

Scissors Mechanism: Fabricate leg members from heavy,**[ hot-dip galvanized]** steel-formed tube or plate members to provide maximum strength and rigidity.

Scissors Configuration: **[Single leg] [Multiple width] [Multiple length]**.

Bearings: Pivot points with permanently lubricated antifriction bushings or sealed ball-bearings for minimum maintenance.

Requirements in "Maintenance Leg" subparagraph below are required by MH 29.1.

Maintenance Leg: Removable, safety maintenance leg or hinged, safety maintenance bars.

* + - * 1. Materials:

Steel Plates, Shapes, and Bars: ASTM A36.

Rolled-Steel Floor Plate: ASTM A786, rolled from steel plate complying with ASTM A572, Grade 55.

Steel Tubing: ASTM A500, cold formed.

* + - 1. FINISH REQUIREMENTS
				1. Baked-on Factory Finish: Provide unless otherwise indicated. Clean, pretreat, and apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat in manufacturer's standard color.

Toe Guards: Paint to comply with ANSI Z535.1.

Retain "Hot-Dip Galvanizing" paragraph below if required.

* + - * 1. Hot-Dip Galvanizing: Comply with the following:

ASTM A123 for iron and steel portable dock equipment.

ASTM A153 or ASTM F2329 for iron and steel hardware for portable dock equipment.

1. EXECUTION
	* + 1. EXAMINATION
				1. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
				2. Examine roughing-in for electrical systems for portable dock equipment to verify actual locations of connections before equipment installation.
				3. Proceed with installation only after unsatisfactory conditions have been corrected.
			2. INSTALLATION, GENERAL
				1. Install portable dock equipment as required for a complete installation.
			3. ADJUSTING
				1. Adjust portable dock equipment to function smoothly and safely and lubricate as recommended by manufacturer.
				2. Test lifts for vertical travel and adjust to maintain operating range indicated.
				3. After completing installation of exposed, factory-finished portable dock equipment, inspect exposed finishes and repair damaged finishes.
			4. DEMONSTRATION
				1. Engage a Company Field Advisor to train Facility’s maintenance personnel to adjust, operate, and maintain portable dock equipment.

END OF SECTION 111323