

Part 1 General



1.1 RELATED REQUIREMENTS

- .1 Structural information assume based on existing conditions.
- .2 Coordinated electrical requirements with electrical consultant.
- .3 Section 05 50 00 - Metal Fabrications.
- .4 Section 09 91 13 - Exterior Painting
- .5 Section 11 13 13 - Loading dock bumpers
- .6 Section 11 13 16 - Loading dock seals & shelters

1.2 REFERENCE STANDARDS

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.40-97, Anticorrosive Structural Steel Alkyd Primer.
- .2 Green Seal Environmental Standards
 - .1 Standard GS-03-93, Anti-Corrosive Paints.
 - .2 Standard GS-11-97, Architectural Paints.
 - .3 Standard GS-36-00, Commercial Adhesives.

1.3 SCOPE OF WORK

- .1 Dock leveler supplier is to do a full survey of the existing dock levelers and make recommendations for items and systems that can be salvaged and re-used in the locations shown on the drawings.
- .2 All new items or refurbished items that are required to enable the full functioning of the dock levelers are to be clarified in terms by the supplier of the specifications.
 - .1 Blue Giant Corporate:
Contact David Rimmer, Account Executive, Nation C.A.R.E.®, 647.501.3126
drimmer@bluegiant.com

1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
 - .1 Indicate:
 - .1 Verify existing conditions. Remove existing dock leveler, refer to 02 41 00.08 - Demolition.
 - .2 Dimensions of pit and required clearances.
 - .3 Arrangement of storage tank, pump, jacks mechanical linkages and valves and piping, with sizes and working pressure.
 - .4 Details of cylinder, plunger, pump, motor, valves and operating station, showing names of manufacturers, type or style designations, part numbers, and hp and rpm of motor.

- .5 Factory test data of cylinder containing complete information covering test, cylinder material, inside and outside diameters and maximum test pressure.
- .6 Details of electrical equipment.
- .4 Shop drawings to be stamped by an electrical engineer registered in the Province of Ontario. .
- 5 Quality control submittals: submit following in accordance with Section 01 45 00 - Quality Control.
 - .1 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence, cleaning procedures.
 - .2 Manufacturer's Field Reports: submit manufacturer's written reports within 3 days of review, verifying compliance of Work, as described in PART 3, FIELD QUALITY CONTROL.
- .6 Closeout Submittals:
 - .1 Provide operation and maintenance data for dock levelers for incorporation into manual specified in Section 01 78 00 - Closeout Submittals and include:
 - .1 Complete description and sequence of operation together with wiring diagrams showing electrical connections, manufacturer's instructions covering maintenance requirements, and parts catalogue giving complete list of repair and replacement parts with cuts and identifying numbers.
 - .2 Dimensioned drawing of dock leveler installation as installed.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Packing, shipping, handling and unloading:
 - .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Waste Management and Disposal:
 - .1 Separate waste materials for reuse & recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

1.6 EXTRA MATERIALS

- .1 Provide maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Provide complete set of tools necessary to maintain and adjust every part of dock leveler.
- .3 Provide high pressure cartridge refill type grease gun and extra cartridge of recommended lubricant.

Part 2 Products

2.1 EQUIPMENT (RENOVATION MODEL)

- .1 Hydraulic unit:
 - .1 Supply and install one (1) hydraulic recessed, pit installed hinged dock leveler as shown in drawing. Electro-hydraulically operated dock leveler complete with hydraulic lip and deck cylinders. Model: Blue Giant #H6008W-TJX with no exceptions or substitution.
 - .1 Blue Giant Corporate: Contact David Rimmer, Account Executive, Nation C.A.R.E.®, 647.501.3126 drimmer@bluegiant.com;

- .2 Platform to lower itself to bottom position, level with dock and with lip behind bumpers, when truck moves away.
- .3 Provide manual override to be used in case of power failure, and allow lip to remain extended if desired.
- .4 Each unit supplied with power pack consisting of:
 - .1 Pneumatic cylinder, control valve, pump, fluid receiver, connections suitable for pit mounting and 10 m of air line.
 - .2 Integral motor, controls, pump, fluid receiver, connections suitable for pit mounting.
- .5 Power characteristics Voltage: (by Engineer to suite requirements).
- .6 Make cylinder of seamless steel piping with bore turned and polished and with positive stop ring to prevent plunger from leaving cylinder.
 - .1 Provide top and bottom mountings to ensure positive alignment and to prevent binding in any position of ramp platform.
- .7 Equip lifting jack assembly with two bearings for vertical stability, oil inlet connections, stuffing box with suitable packing and plunger wipe, and packing gland.
- .8 Have cylinder factory tested at pressure of 2.8 MPa minimum. Verify testing with engineer.
- .9 Provide electric power unit consisting of motor and direct-connected pump, wiring, conduit, oil piping and accessories.
- .10 Provide overload protection for motor, and pressure relief valve in pump bypassing oil back to reservoir.
 - .1 Provide check valve, continuous-duty solenoid valve and flexible hose.
- .11 Oil Reservoir:
 - .1 Make oil reservoir integral with torque tube assembly or separate welded steel tank, galvanized inside and out.
 - .2 Equip reservoir with strainer assembly and overflow and drain connections and protected vent opening.
 - .3 Provide initial filling of oil for system.
- .2 Leveler platform:
 - .1 Platform size: Confirm size requirements on site and with supplier. Verify dimensions on site. Provide hinged lip.
 - .2 Construct platform sections of checkered steel floor plate not less than 10 mm thick, flush with front edge of dock ramp frame in retracted position.
 - .3 Construct platform base of sectional steel box members including automatic compensation for out-of-level vehicles.
 - .4 Make leveler flexible with sufficient members to compensate for out-of-level vehicle condition of 100 mm maximum with not more than 15 mm differential between two flexible members in extreme condition.
 - .5 Use members of heavy structural shapes, rigidly welded and reinforced for concentrated wheel loads.
 - .6 No obstruction to protrude above platform floor surface of leading edge of leveler that will prevent closing of overhead doors installed over leveler platform, or hinder operations.

- .7 Make side members of leveler platform to function as protective steel plate skirts on each side of leveler platform front to back, when leveler platform is in fully raised position.
- .8 Construct underframe of leveler platform of rigid construction and supported by lifting mechanism at two widely separated points to prevent tilting, deflection or distortion of platform when concentrated wheel loads, up to and including maximum moving or roll-over load, are imposed on position of platform.
- .9 Leveler to have retractable safety legs or other safety stop device, that prevent leveler from descending to more than 12 mm below cross traffic position in event truck pulls away prematurely.
- .10 Provide two laminated fabric reinforced bumpers for each unit.
- .3 Operating station:
 - .1 Install wall mounted operating station where indicated.
 - .2 Provide four operating positions, clearly and permanently marked "UP", "DOWN", "FORWARD" and "REVERSE".
 - .3 Operate by handle or push-buttons for each position.
 - .1 Return operating handle to "OFF" position when released while moving leveler in any direction, and stop leveler in position at moment of release.
 - .4 Operate limit switches or similar devices at extreme positions of ramp travel to protect power system and mechanism from damage.
 - .5 Provide automatic safety lock to limit downward travel of leveler platform to maximum 50 mm in event trailer or truck moves away from leveler while carrying load up to maximum capacity.
 - .6 Accessories.
 - .7 Fail safe control: equip leveler with velocity valve in hydraulic system to prevent fluid discharge in event truck accidentally pulls away with equipment still on leveler.
 - .8 Maintenance strut: steel folding strut to prevent accidental collapse of leveler and lip during maintenance.
 - .9 Automatic overhead door security: automatic locking mechanism to leveler lip to prevent unauthorized lowering of leveler and access to building between lowered leveler and underside of closed door.
 - .10 Wheel chocks: moulded rubber, height mm high x width to suit application in mm wide, wheel chocks designed to provide maximum traction between tires and parking surface.
 - .11 Provide weather seals on both sides of platform.
 - .12 Safety legs: equip leveler with safety legs to prevent leveler dropping more than 25 mm below dock level, in event truck pulls away when leveler is in use.
 - .13 Provide steel tapered toe guards.
 - .14 Provide safety stripping four sides of unit.
- .4 Dock board:
 - .1 Provide manually operated front of dock mounted dock board with maximum capacity of 8000 kg.
 - .2 Design dock board to travel 150 mm up and 150 mm down from dock level.

- .3 Dock board size: 1800 mm wide by 700 mm long with 265 mm lip projection beyond bumpers.
 - .1 Construct dock board of two sections hinged together and secured with activated lock.
 - .2 Make sections of non-skid, checkered steel plate.
- .4 Counterbalance dock board with springs to reduce manual lifting effort to 100 N maximum.
- .5 Store dock board in vertical position 325 mm in front of dock with 300 mm of board section above dock level.
- .6 Board section: manually raise and pivot upward and inward remaining in approximately vertical position.
 - .1 When in extreme inward and upward position pivot board to horizontal plane and lower to bridge space between truck and dock.
 - .2 When truck moves away, platform automatically pivots to vertical position behind dock bumpers.
- .7 Refer to Section 05 50 00 Metal Fabrications for Steel Edging.
- .5 Finish:
 - .1 Paint slip resistant exposed ferrous metal work unless otherwise specified.
 - .2 Free surfaces of rust and coat with rust resistant paint.
 - .3 Clean but do not paint surfaces to be field welded.
 - .4 Apply two coats of anticorrosive structural steel alkyd primer MPI # 79 to to surfaces of structural members and frame of ramp excepting finished or working surfaces.
 - .5 Apply heavy coat of bituminous paint to concealed surfaces before building-in.
- .6 Power supply:
 - .1 Power supply: to be determined by electrical consultant in V, 3 phase, 60 Hz.
 - .2 Electrical service specified in electrical information prepared by electrical consultant includes: fused disconnect switch with conductors from switch to controller or starter.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 INSTALLATION

- .1 Install dock ramps in accordance with manufacturer's instructions.
- .2 Install electrical motors, controller units, pushbutton stations, relays and other electrical equipment required for proper operation.
- .3 Touch up shop primer to bolts, welds, and burned or scratched surfaces at completion of installation.
- .4 Adjust dock ramp operating components to ensure smooth continuous raising and lowering of platforms.
- .5 Deck surface in normal down position is to be level and flush with surface of surrounding dock surface.

3.3 FIELD QUALITY CONTROL

- .1 Site Tests: conduct operating tests for approval of Consultant including:
 - .1 Operation to maximum limits of travel in "UP", "DOWN", "FORWARD", and "REVERSE" directions.
 - .2 Extending ramp to rest on bed of variety of trucks or trailers.
 - .3 Demonstration of drop limitation.
 - .4 Demonstration of proper functioning of out-of-level compensation.
 - .5 Demonstration of proper functioning of compensation for variation in compression of truck or trailer springs.
 - .6 Demonstration of loading capacity.
- .2 Manufacturer's Field Services:
 - .1 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

3.4 CLEANING

- .1 Proceed in accordance with Section 01 74 00 - Cleaning.

End of Section