

**SECTION 11 82 26  
WASTE COMPACTORS**

**PART 1.00 – GENERAL**

**1.01 REFERENCE STANDARDS**

- A. ASTM A449 - Standard Specification for Hex Cap Screws, Bolts and Studs, Steel, Heat Treated, 120/105/90 ksi Minimum Tensile Strength, General Use; 2014 (Reapproved 2020).
- B. SAE J429 - Mechanical and Material Requirements for Externally Threaded Fasteners; 2014.

**1.02 RELATED DOCUMENTS**

- A. The "Contract Drawings"; the "Specifications"; the "Instructions to Bidders and General Conditions, NYCHA Contracts", latest edition; the "Form of Proposal"; Division 1 General Requirements; the "Amendments to General Conditions"; and all amendments and addenda, apply to the work of this Section.

**1.03 SUMMARY**

- A. This section includes:
  - 1. Interior waste compactor – hydraulically operated, automatic, horizontal compacting piston extrusion type.
  - 2. Top loading hopper.
  - 3. Transition chute.
  - 4. Roller conveyor.
  - 5. Accessories.

**1.04 RELATED SECTIONS:**

- A. Section 01 00 00 – General Requirements
- B. Division 21 – Fire Suppression
- C. Division 26 – Electrical

**1.05 SUBMITTALS**

- A. See Section 01 33 00 – Submittal Procedures, for submittal procedures.
- B. Product Data: Provide manufacturer's specifications and descriptive literature, installation instructions, and maintenance information.
- C. Shop Drawings: Indicate plans for each unit or groups of units, elevations with model number, overall dimensions; construction, and anchorage details.
- D. All Interior Compactors supplied must also be provided with the following SUBMISSIONS: Shop drawings; Demonstration class; and Instructions:
  - 1. Shop drawing of control panel assembly and wiring diagram
  - 2. Shop drawing of power pack assembly and electrical system
  - 3. Comprehensive electrical wiring diagram, including internal panel and all field wiring from the source of supply to external equipment
  - 4. Points list and Modbus register map for the PLC that includes all available controller points data and register locations
  - 5. Laminated instructions showing operation of the Interior Compactor, bilingual, in both English and Spanish.
  - 6. A minimum 2-hours training and product demonstration for employees, including complete instructions for proper operation and maintenance.
  - 7. Chart of preventive and routine periodic maintenance and lubrication requirements
  - 8. Complete set of all mechanical and electrical drawings and schematics in accordance with JIC standards.
  - 9. Troubleshooting guide containing a list of symptoms, probable cause, and remedy for each malfunction

10. Complete parts list, with manufacturer's item number, part number, manufacturer's description, and quantity required for each system.
11. All installation and operations manuals, maintenance schedules, and other information shall be delivered to the Development Superintendent in hard copy and electronic formats

#### **1.06 QUALITY ASSURANCE**

- A. Manufacturer Qualifications:
  1. Regularly engages in manufacturing, installing and servicing waste compactors of the type required for this project.
  2. Has a minimum of three (3) years experience in manufacturing waste compactors.
- B. Installers Qualifications: Compactor manufacturer or an experienced installer with technical qualifications of at least three years of successful experience; trained supervisory and installation personnel; facilities suitable for handling specified compactor equipment.
- C. Tradespersons and Workmanship Standards: Use adequate numbers of skilled workers capable of properly performing the work. Remove and replace work which does not comply with work quality standards as specified and as recognized in the construction industry for applications indicated. Remove and replace other work damaged or deteriorated by faulty workmanship.
  1. Availability of Tradespersons: At each progress or job meeting, review availability of tradespersons and projected needs to accomplish work as scheduled. Report on events which might affect progress of work. Where possible, consider alternatives and take actions to avoid disputes and delays.
- D. Single Source Responsibility for major compactor components: The major compactor components shall be the product of one manufacturer of established reputation, except they may be the products, either wholly or in part, of another manufacturer of established reputation provided such items are engineered and produced under coordinated specifications.
- E. Sample Installation: Install sample installation in accordance with Section 01 00 00.

#### **1.07 DELIVERY, STORAGE AND HANDLING**

- A. Coordinate storage needs with the development superintendent. Keep any assigned spaces clean and store material in original protective packaging. Prevent soiling, physical damage, and wetting.
- B. Coordinate the removal of old, and the installation of new equipment and materials with the Development Superintendent.
- C. Packing and Shipping: Protect equipment and exposed finishes, especially chutes and accessories during transportation and erection against damage. Deliver materials in manufacturers' original, unopened, protective packaging.
- D. Do not store hazardous or flammable material on site without written NYCHA permission

#### **1.08 SITE CONDITIONS**

- A. Take measurements at the project site so that the installation of contract work will occur properly. Do not proceed with installation until work area dimensions are confirmed to meet project requirements.
- B. Restore or replace any existing materials and equipment that is damaged as a result of the work of this contract.

### **PART 2.00 - PRODUCTS**

#### **2.01 MANUFACTURER'S**

- A. Compactors
  1. Apple Compactor and Incinerator Co. (Model 350 HA Series).
  2. Arrow Steel Inc. (Model NYC 2000-A).
  3. Compactors Inc. (Model XM-40)
  4. Or equal.

B. Other companies that may offer equivalent products:

1. J.V. Manufacturing, Inc.
2. Harmony Enterprises, Inc.
3. Marathon Equipment Company
4. Premier Compaction Systems
5. PTR Baler & Compactor Company
6. SP Industries, Inc.

## 2.02 EQUIPMENT

A. Waste Compactor Systems

1. General Requirement

- a. Compactors can be one of the manufacturers' standard models listed above constructed to meet (or equivalent to) requirements below.
- b. Compactor: Hydraulically operated, automatic, horizontal compacting piston extrusion type compactor, discharging into multiple bag (sausage or other type) cartridges or container.
- c. Each compactor shall have a minimum charging opening directly above the compactor ram of 576 sq. in. with minimum dimension of 24 inches. The minimum face area of the ram shall be 288 sq. in. The maximum cycle time for complete forward and reverse cycle of the compactor ram shall be 50 seconds including any dwell time at the forward and reverse end of the stroke. Maximum length of Compactor to be seven (7) feet.
- d. Each compactor shall compact a minimum volume of 6,000 cu. in. per stroke.
- e. Compactor shall have a top loading hopper connected by flanged, bolted joints to the chassis and to the transition chute/existing flue.
- f. Compactor shall have a sensing device of the electrical (photocell) type to initiate the compaction process and continue it as long as there is refuse in the hopper. Device shall have adjustable time delay (1 to 10 seconds) and shall not obstruct the flow of refuse.
- g. Compactor shall have an automatic shut off device (to shut-off the machine when the cartridge bag is full) complete with visual indication on the control panel and remote indicator.
- h. Compactor shall have a compaction ratio preset and fixed to obtain a density of 300 lbs per cubic yard to 700 lbs per cubic yard. Maximum weight of any slug shall be adjustable to maximum 100 lbs. Adjust the setting as directed by the Authority.
- i. Provide the compactor system with suitable isolation and/or noise absorption material or other noise control equipment to comply with the
  - 1) N.Y.C. Building Code noise requirements.
- j. All principle components shall come mounted with manufacturer's name plates showing model, serial number and all other pertinent features.
- k. The clearance between the operating side of the compactor and the adjacent side walls shall be at least 24 inches unless field conditions do not permit. If less than 24 inches, machine shall be moveable.
- l. The discharge or front end of the compactor shall be at least 18 inches from the closest wall or obstruction unless field conditions do not permit. Distances less than 18 inches must be approved by Technical Services.
- m. Locate the instrumentation, controls, access door and other such appurtenances to allow ready access for operation and maintenance.
- n. Do not mount the power unit and control box on the compactor body or hopper; locate it within the refuse room where shown on drawings.
- o. All structural components shall be steel, ASTM A-36, unless otherwise specified. Bolts, studs and nuts shall conform to ASTM A449 or SAE J429, grade 5.
- p. All welding shall be performed by qualified welders in accordance with applicable ASME and AWS Standards.

- q. Blow torch, plasma cutter, etc. shall not be needed to replace parts including wear surfaces, tykee nose cone, ram, cylinder.
2. Compactor Design
- a. The compactor unit shall be a welded or bolted assembly of steel plates at least 3/8 inch thick. The refuse inlet connection shall be continuously welded to the chamber 1) and fabricated of steel plate at least 1/4 inch thick. The bottom plate shall not extend to the back of the compactor.
  - b. The compactor shall utilize a ram pushed by a hydraulic cylinder capable of exerting a minimum force of 50,000 lbs. The ram shall be fabricated of steel plate, at least 3/8 inch thick, fully welded all 4 sides. The ram face shall be a minimum of 1 inch thick.
  - c. Provide a replaceable straight guillotine type shearing edge made of hardened steel.
  - d. The ram shall be bolted to and shall ride in the chassis. Contact shall be made with two full 3/8 inch thick replaceable wear surfaces (one on the ram and one on the chassis) made of Alloy Steel Plate T-1-321 or AR-400. Ram guides shall be provided on full length of the compactor chassis. The hydraulic cylinder which pushes the ram shall be mounted on a structural steel channel or equivalent. Front of the ram to be fitted with a 4 inch "tykee nose" bolted to the center of the ram.
  - e. The reduced section and discharge tube shall be constructed of 3/8 inch thick abrasive resistant alloy steel plate with a Brinell hardness of 250. The one piece reducer section and discharge tube shall be bolted to the main body of the compactor. The discharge tube shall have butt welded wear resisting seams.
  - f. All material utilized in the fabrication of the compactor shall provide for a minimum factor of safety of five (5) (five times operating pressure) based on the ultimate tensile strength. Welds and reinforcement shall not in any way reduce the material strength. Where compactor chassis is formed by welding it shall be welded inside and outside. The bottom of the front end of the compaction chamber shall have extra reinforcement.
  - g. Provide a 1/16 inch thick steel cover in the rear of the compactor chassis.
  - h. Install compactor in a level position so that the bottom of the discharge tube will be at the proper height to discharge multiple bags onto the roller sections or container which shall be mounted 12 inches above the finished floor unless field conditions require a different height. The legs shall be anchored to floor by means of 1/2" dia. carbon steel expansion bolts.
  - i. Permanently affix to the compactor frame in a conspicuous location, an identification plate clearly indicating the manufacturer's name, model and serial number.
3. Transition Chute and Hopper
- a. Provide a transition chute to connect the existing lined flue to the compactor hopper. The chute shall be pitched at least 60 degrees with the horizontal. Fabricate the hoppers to provide the steepest possible slope into the compaction chamber; minimum pitch 50 degrees with horizontal. Minimum cross sectional area of chute and hopper (perpendicular to pitch line) shall be at least equal to the area of the flue.
  - b. The transition chute and hopper shall be constructed of 10 gauge carbon steel plate with a minimum 1/4 inch steel plate for the inclined surfaces subject to impact loading (must be reinforced for building over 12 stories). Structural framing of the chute and hopper shall be 1-1/2 inch angles welded into a continuous frame. The chute and hopper shall be fabricated in a minimum of two sections with a shut off gate, between the sections. The upper section shall have a collar fabricated from structural steel angles which shall fit snugly to the refuse chute. Provide 1/4 inch x 1 inch fire retardant braided rope between flue and transition chute. For ease of disassembly, provide flanged, bolted joints between the chassis and the hopper, and between the transition chute and hopper below the shutoff gate. Provide angle stiffeners from the top of the hopper to the compactor chassis. Weld four 3/4" angle iron stiffeners to each hopper side. Hopper (including inclined surface) may be constructed of 3/8 inch steel, in which case stiffeners may be omitted.

- c. Wire brush the inside of the chute and hopper. Remove loose mill scale, rust, oil, grease, weld flux or splatter. Immediately coat with zinc rich paint as manufactured by Pittsburgh Plate Glass Co. Paint outside of the chute and access doors the same as the compactor.
  - d. Provide ¼ inch thick steel pockets with closed ends to protect sprinkler nozzles and heat sensors/thermostats.
  - e. Provide main access door(s) in the hopper (minimum size 20 inches by 24 inches) to permit operating personnel to rod down refuse in the lower section of the flue or transition chute. Provide one additional door in the transition chute (minimum size 12 inches by 12 inches) for access to compactor and transition chute components requiring periodic maintenance and/or inspection. The main access door and frame shall be reinforced ¼ inch steel plate and shall swing outward. The bottom or top of the door, depending on location, shall be a maximum of 12 inches from the compactor inlet. The other doors shall be a minimum of 12 inches x 12 inches, reinforced 10 gauge steel framed by 3/16 inch steel plate and swing outward. Equip access door(s) with vinyl covered door handles and heavy duty 1/2 inch steel barrel latch bolt.
4. Shutoff Gate
- a. Provide a manually operated shutoff gate at the highest possible elevation between the upper and lower sections of the transition chute. The gate shall be ¼ inch thick (minimum) reinforced steel plate which does not interfere with refuse flow when fully open.
  - b. The gate shall travel horizontally supported by roller in a continuous steel channel frame 2 inch x 1 inch with safety stop. Securely fasten a vinyl covered handle to the gate. If the gate or frame projects beyond the hopper, provide a minimum clearance of 6 feet 6 inches above the floor. The gate may be split and hinged if it is below this height.
    - 1) Minimum depth of steel channel frame: two (2) inches
5. Roller Conveyor
- a. Each machine shall have a roller conveyor to accommodate a plastic sleeve (sausage). The machine shall discharge the compacted refuse directly into the plastic sleeve positioned on the discharge tube.
  - b. Roller conveyor sections shall have 2-3/4 inch galvanized steel channel frames and shall be 18 inches wide. The rollers shall be 2 inch diameter reinforced ball bearing rollers. Roller spacing, center to center, shall be 3 inches. Rollers shall be supported on roller stands which will be bolted to section and to the floor with 1/4 inch dia. bolts. Rollers shall be set at 12 inches above the floor or as approved. It shall include any work necessary to ensure level installation of Roller conveyor.
  - c. Deflectors shall be 12 gauge sheet steel, tack welded to conveyor frame, and extending a minimum of 15 inches above the rollers. Ends of deflector to be curved – no sharp corners.
  - d. Provide galvanized diamond cover plate 36" x 18" x ¼" thick at first 3' (Three Feet) length of the Roller Conveyor at front of the compactor unit. Tack welded to conveyor channels at both sides. Provide minimum of four tack welds to each channel. Installation shall be as per field condition and as directed by the Authority's Representative.
  - e. Install two signs first one at front of the Compactor above Nose Cone in English and Spanish. This sign shall read "DO NOT STEP ON NOSE CONE". Second one on wall adjacent. This sign shall read "CAUTION! STEPPING SURFACE IS SLIPPERY WHEN WET" The signs letters shall be block, painted white and 2" high.
6. Programmable Logic Controller (PLC)
- a. Each machine shall be controlled by a PLC. The PLC shall have an available RJ45 connection port and have Modbus TCP or BACnet IP communication capability.
    - 1) Modbus TCP or BACnet IP must be configured and enabled for external communication. Any settings required to communicate compactor data to the

external NYCHA Niagara N4 based BMS system (installed by others) shall be enabled.

- 2) Controller shall be programmed with the default IP address 172.16.0.45, with subnet mask 255.255.255.0. Multiple compactors in the same building shall have sequential IP addresses. Programmed IP address shall be physically labeled on the controller.
  - 3) Provide a points list or Modbus register map, including all points and names. Point names shall comply with the latest version of NYCHA's Controls Integration Standard.
  - 4) Contractor shall provide administrative level credentials and engineering software needed for controller access and configuration.
- b. Program the PLC to monitor the following points.
- 1) Door Open/Full Bag switch status
  - 2) Jam detection status
  - 3) Oil Level/Temperature status
  - 4) Hydraulic Pressure sensor
  - 5) Emergency Stop Switch
  - 6) Motor running status
  - 7) Motor Off status
  - 8) Ram extending
  - 9) Ram retracting
- c. Program the PLC to generate timestamps for the following operations/conditions
- 1) Ram forward and reverse operation
  - 2) Lockout due to jam
- d. Program the PLC with start and stop timers for the following conditions
- 1) Equipment lockout due to oil level switch (start timer when switch opens, reset timer when switch closes)
  - 2) Equipment lockout due to door open/full bag switch (start timer when switch opens, reset timer when switch closes)
  - 3) Equipment lockout due to emergency stop switch (start timer when switch opens, reset timer when switch closes)
- e. Program the PLC to generate an alarm for the following conditions
- 1) Alarm when equipment locks out due to a jam
  - 2) Alarm when lockout due to oil level is not reset within specified timeframe
  - 3) Alarm when lockout due to open door/bag full is not reset within specified timeframe
  - 4) Alarm when lockout due to emergency stop switch is not cleared within specified timeframe
  - 5) Alarm at specified increments of ram cycles
  - 6) Alarm at specified increments of motor operating hours
- f. Data points, timestamps, totalizers, alarms, and any available points shall be written to Modbus TCP registers and available for external communication.

## B. Hydraulic Power System

### 1. Hydraulic Power Pack Assembly

- a. Design the hydraulic power pack to operate between 1,000 and 3,000 psi. Mount the bottom of the hydraulic power pack at least twenty-four (24) inches above the floor. Include the following components:
  - 1) Hydraulic Reservoir
  - 2) Filter(s) and Strainer (External)
  - 3) Pump (External)
  - 4) Over-Pressure Protection
  - 5) Thermal Overload Protection
  - 6) Directional Control Valves(s)

- 7) Pressure Gauge
  - b. Hydraulic Reservoir: Shall have a minimum oil reserve equal to 2-1/2 times the maximum capacity rating of the hydraulic pump. Provide the 2 inch filler hole with an external oil strainer fixed with fasteners requiring hand tools for removal. Cover with a well-fitting cap. Reservoir to have a full flow suction filter of 140 microns size and a flush-mounted or protected fluid level indicator. Properly protect breather hole with an air cleaner of sufficient capacity to maintain atmospheric pressure at maximum demand. Provide a drain at front bottom of tank. The sides and bottom of the oil
    - 1) reservoir shall be 12 gauge carbon steel plate, with 3/16 inch steel plate for the top. All appurtenances thru bolted on the tank top shall include approved type gaskets. Provide all tank openings receiving appurtenances with screw type fittings with approved welded or through bolt tank flanges.
  - c. Pump: High-low gear type. Pump speed shall not exceed 1,800 rpm. Pump shall be external, accessible for maintenance. The pump shall be direct- coupled with its driving motor. The mounting surface provided for the pump and motor shall be rigid and prevent coupling misalignment. Flexible couplings shall be used between the motor and pump, and a detachable safety guard shall be fastened over the coupling where pump is exposed.
  - d. Motor: for the hydraulic pump shall be adequately rated. The motor shall comply with NEMA Standards MG-1 and have a TEFC enclosure for a hydraulic power system. In sizing a motor, no portion of a motor's service factor above 1.0 shall be used in continuous operation of the motor. The motor shall be rated 3 HP, 208 volts, 60 hertz, three phase. Motor speed shall not exceed 1800 rpm.
  - e. Over-Pressure Protection: Provide a pressure relief valve, spring operated plunger type (non-chatter), with means for protective locking of its relief setting to prevent tampering.
  - f. Thermal Overload Protection: Provide the reservoir with a temperature overload switch to shut off the pump on high oil temperature (135 degrees Fahrenheit.). The temperature switch shall be reset automatically or manually when the oil temperature drops 10 degrees or to a safe level
  - g. Low Oil Switch: Provide a low oil switch inside the reservoir 6" below the normal oil level. When oil is replaced the switch shall automatically reset.
  - h. Directional Control Valves(s): Shall be a four-way, three-position, double coil, solenoid operated type, rated at 115 volts, 60 Hz. With NEMA 12 enclosure. When de-energized, it shall block flow of fluid to or from the hydraulic cylinders, averting uncontrolled motion of the ram or ejection plunger. The unit shall be sized for minimum of 17 GPM.
  - i. Pressure Gauge: Provide the Hydraulic Power Pack with quick disconnect fitting for pressure gauge on each Hydraulic Power Pack to receive a glycerine filled pressure gauge with mating quick disconnect fitting. Provide the number of gauges and fittings as specified in the SUPPLIES AND CLOSEOUT PROCEDURES section (3.09A) of this contract to the Development superintendent.
2. Hydraulic Cylinders
    - a. Cylinders shall be double acting type with high strength prestressed tie rods and removable heads.
  3. Cylinder shall be pressure, machine tool type. Wall shall be of heavy thickness, seamless steel tubing, with a safety factor of 4. The cylinder glands shall be externally removable without cylinder disassembly. The cylinder mounting shall be trunion type only. Cylinder to be connected through ram plate. Cylinder to have a threaded shaft with a minimum 1 inch, 14 thread nylon locking nut. Port size shall be 3/4 inch NPT minimum. The cylinder stroke shall extend a minimum of one inch beyond the flange of the compactor into the nose cone. Do not subject the end caps to loads or use as stops.
    - a. Piston rod material shall be high-strength steel, 100,000 psi minimum tensile strength, chrome plated to satin finish. The rod seal shall be self- compensating,

highly abrasive resistant, polyurethane elastomer. Rod wiper shall be synthetic rubber.

4. Hydraulic Hoses and Tubing
    - a. Hydraulic system piping shall be fully annealed seamless carbon alloy steel –SAE 1010 with approved flare type fittings. Wall thickness shall withstand design pressure of the system with a minimum safety factor of 4.
    - b. Final connections at power unit and at compactor shall be flexible hydraulic hoses. Pressure rating shall not be less than design pressure of the system with a minimum factor of safety of 3.
    - c. Run tubing without interfering with access to compactor and power unit. Support with approved “High Pressure Hydraulic Pipe Supports” secured to wall every 2 feet with expansion bolts or proper fasteners.
- C. Sanitizer - Deodorizer

## **PART 3.00 - EXECUTION**

### **3.01 PREPARATION**

- A. Compliance: Comply with manufacturer’s product data, including product technical bulletins, product catalog installation instructions and product carton instructions.

### **3.02 INSTALLATION**

- A. Install compactor system components and each item of equipment in accordance with the, referenced codes and specification, and approved shop drawings.
- B. Comply with manufacturer’s written instruction.
- C. Work Schedule and Sealing Compactor Chute Doors
  1. Prior to the start of work, the Contractor shall submit to the Authority, for approval, his/her proposed schedule for performing the work. After approval of an agreed upon schedule, strictly adhere to the time limitations established. Variances will not be acceptable unless approved in writing by the Authority.
  2. It is the intent of these Specifications that there is minimum interruption to the building services during the work of this contract.
  3. No shutdowns will be permitted on weekends or legal holidays.
  4. Schedule work so that all work is completed in five consecutive days. Restore service by 4:00 p.m. Friday. Overtime necessary to maintain this schedule shall be paid by the contractor at no additional cost to the Authority.
  5. Seal all compactor chute doors prior to the replacement of compactor. Notify the Development Superintendent at least seventy-two (72) hours before sealing chute doors. Remove all seals when the installation is complete.
  6. When chute doors are sealed, the Development Superintendent will supply refuse cans for each floor and dispose of garbage for that work week (a maximum period of five consecutive business days- Monday through Friday). If the chute doors are sealed for more than five (5) days, the Contractor shall remove all garbage after the fifth day from each floor as often as deemed necessary by the Development Superintendent. All refuse cans will be furnished by the Authority.
- D. Location and Relocation of Equipment by Contractor
  1. Inspect the premises prior to bid to insure that all required equipment can be installed with adequate clearance.
    - a. Install equipment with allowances for safe access for maintenance and repair.
  2. Whether or not shown on the Contract Drawings, relocate existing services, utilities, and equipment as required to permit installation of the offered equipment, subject to the approval of the Authority.

### **3.03 INSPECTIONS AND TESTS**

- A. Field Tests

1. The Contractor shall demonstrate both normal operation and malfunction shutdowns. Malfunction shutdowns shall be demonstrated by simulated individual malfunction of all interlocked items. Malfunction conditions shall include blockage of ram by heavy object and temporary disconnection of the appropriate lead wires to interlocked components.
2. Correct defects found as a result of field testing, to the satisfaction of the Authority.
3. Adjust equipment in each building until each compactor system is operating properly. Make all adjustments prior to the instruction periods. The time required to achieve proper system operation is in addition to the required sixteen hour training.

#### **3.04 CLEANING AND SALVAGE**

- A. Keep work areas free from dirt and rubbish during performance of work. Remove debris from premises on a daily basis. Before final acceptance, work area must be free of dirt and debris. All removed equipment (except items which are to be disconnected and turned over to the Development Superintendent) must be legally disposed of.
- B. At the request of the Authority, carefully disconnect, remove and return to the Authority in a location of the Development as selected by the Superintendent, various items as selected by the Authority.

#### **3.05 ASBESTOS REMOVAL**

- A. The existing compactor units may contain an asbestos gasket that will be removed by the Authority. Notify and coordinate with NYCHA's Environmental Field Operations Unit (EFO) within its Environmental Contract Services (ECS) Unit, at least ten (10) business days before the removal of the asbestos containing gasket.
- B. If the removal/reinstallation of the compactor units may possibly impact any asbestos containing pipe insulation, contact the ECS unit to request EFO to remove this pipe insulation, prior to working within the compactor room.

#### **3.06 SERVICE CALLS**

- A. If the compactor unit breaks down or fails to operate properly, respond by sending a serviceman to job site to make repairs within four (4) hours of receipt of notification (by telephone or other means) or by 9:00 a.m. the following day if the 4 hour notification period would occasion arrival at the Development after 5:00 p.m. This schedule shall be adhered to Monday through Friday and on Saturday until 2:00 p.m.
- B. Furnish only qualified mechanics for the performance of maintenance. The Authority retains the right to reject maintenance personnel it deems unsatisfactory to properly service the equipment.

#### **3.07 INSTRUCTION, DEMONSTRATION AND TRAINING**

- A. Provide competent instructors employed by the compactor equipment manufacturer to train NYCHA personnel in the operation, maintenance and troubleshooting of the equipment and accessories installed under this contract. Length and scheduling of each instructional training session to be as required by the Development's Property Maintenance Supervisor. Begin instruction after completion of all work, and as directed and required by the Authority during the warranty period. Maximum of sixteen (16) hours of training (to be given during normal business hours).

#### **3.08 SUPPLIES AND CLOSEOUT PROCEDURES**

- A. Spare Parts – Furnish the following spare parts to the each Development's Property Maintenance Supervisor upon completion of work:
  1. Thrust block: Two (2), one of each size, for each compactor machine.
  2. Sprinkler nozzles: Ten (10) nozzles.
  3. Five (5) per compactor machine.
  4. Pressure gauges: Four (4) gauges.
- B. Start-up Kit
  1. Provide a start-up kit with each compactor, consisting of the following:

- a. 100 compactor sausage type plastic bags, opaque, polyethylene, 4 mil thick to fit compactor provided (one type) or other bags compatible with compactor and as recommended by manufacturer..
  - b. 200 wire ties.
  - c. One (1) wire tie twister with wood handle.
  - d. One (1) plastic loading cone designed for the compactor provided.
  - e. Diagrammatic or pictorial instruction sheet for wall mounting in compactor room. Sheet to be plastic laminated, minimum 8-1/2 by 11 inches in size, with black lettering on white background.
- C. Final Acceptance: Before requesting final inspection for certification of final acceptance and final payment, check with the Contract Inspector and Project Administrator regarding specific procedures and obligations required by the Authority for final acceptance.

**END OF SECTION 11 82 26**