SECTION 11 82 00

SOLID WASTE RECYCLING EQUIPMENT

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\*\* NOTE TO SPECIFIER \*\* Nu-Recycling Technology, Inc.; Solid waste recycling equipment products.
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This section is based on the products of Nu-Recycling Technology, Inc., which is located at:
10364 Book Road
Naperville, IL 60564-5700
Toll Free 800-NuReTec (800-687-3832)
Phone: 630-904-5237
Fax: 630-904-5239
Web: www.Nuretec.com
Email: \_\_\_\_\_
Nu-Recycling Technology, Inc. has designed innovative product lines made in the U.S.A. since 1991. We take pride in our commitment and dedication to a cleaner, healthier environment. Nu-Recycling Technology, Inc. encompasses many years of experience in the design and manufacturing of recycling and odor control equipment to meet our world's growing environmental needs.
Our recycling and odor control units are customized for each individual site specs to ensure optimum results. We provide design assistance to Architects, Owners, Contractors and land based businesses to help meet their special requirement needs quickly, economically without sacrificing quality, saleable floor space or environment.
Nu-Recycling Technology, Inc. knows the continuing initiatives of state and local government authorities, as well as, how increased hauling costs and landfill tipping fees have created a need plus an incentive for multi-story building owners to implement recycling programs. Your answer to this significant demand is NuReTec® System's innovative waste management solutions.
This specification includes u-Recycling Technology, Inc., NuReTec® 3000 Automatic Bi-Sorter Recycling System and NuReTec® 3000 Automatic Tri-Sorter Recycling Systems that can be added to existing or new trash chute or trash chute / compactors systems to separate recyclables at each floor.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Solid Waste Recycling Equipment.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 11 19 - Insulating Concrete Forming.
		2. Section 04 27 23 - Cavity Wall Unit Masonry.
		3. Section 09 21 16.33 - Gypsum Board Area Separation Wall Assemblies.
		4. Section 14 91 82 - Trash Chutes.
		5. Section 23 05 00 - Common Work Results for HVAC.
		6. Section 26 05 00 - Common Work Results for Electrical
			1. Electrical characteristics and wiring connections.
			2. Power supply and fused disconnect as machine location.
			3. Low voltage control wiring and conduit from master control panel at the machine vertically to recessed junction boxes for floor controls at each level.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. NFPA 70 - National Electric Code.
		2. CSA - Canadian Electric Code.
		3. ANSI Z245-2 - American National Standard for Equipment Technology and Operations for Wastes and Recyclable Materials- Stationary Extruder Bagger- Safety Requirements; 1997.
	1. DESIGN / PERFORMANCE REQUIREMENTS
		1. Provide equipment and controls in compliance with:
			1. NFPA 70 - National Electric Code.
			2. CSA - Canadian Electric Code.
			3. ANSI Z245-2 - American National Standard for Equipment Technology and Operations for Wastes and Recyclable Materials- Stationary Extruder Bagger- Safety Requirements.
	2. SYSTEM DESCRIPTION

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs for the Recycling System required and delete the one that is not applicable.

* + 1. NuReTec 3000 Automatic Tri-Sorter Recycling System:
			1. Description: System uses a single trash chute in a multi-story building to deliver materials pre-separated by the residents into three separate containers designated for Paper; Commingled Recyclables (tin, plastics, aluminum, glass); and Garbage. The Garbage container may also be a compactor.
			2. Operation: Resident activated, three-button control panel is installed next to each trash chute Intake door is used to initiate the appropriate container selection. When a button is depressed to begin the selection process, that button lights up on every floor to let anyone attempting to use the system know what is currently being deposited down the chute. Once the material has passed the bottom of the trash chute the system automatically and immediately returns to the Garbage position, which is the "home" position when at rest.
		2. NuReTec 3000 Automatic Bi-Sorter Recycling System:
			1. Description: System uses a single trash chute in a multi-story building to deliver materials pre-separated by the residents into two separate containers one of which is also a compactor.
			2. Operation: Resident activated, two-button control panel installed next to each trash chute Intake door is used to initiate the appropriate container selection. When a button is depressed, to begin the selection process, that button lights up on every floor to let anyone attempting to use the system know what is currently being deposited down the chute. Once the material has passed the bottom of the trash chute the system automatically and immediately returns to the "home" position when at rest.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Manufacturer's data sheets including unit capacities, physical dimensions, utility requirements and locations, point loads for product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation requirements.
		3. Shop Drawings:
			1. Indicate machine location, rough in and anchor placement dimensions and tolerances, clearances required.
			2. Show typical details of assembly, erection and anchorage.
			3. Include wiring diagrams for power, control, and signal systems.
			4. Show complete layout and location of equipment, including required clearances and coordination with trash chute discharge.
		4. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
		5. Closeout Submittals. Submit in accordance with Section 01 78 23.19 - Preventative Maintenance Instructions:
			1. Operational Data: Include description of system operation, adjusting and testing required.
			2. Maintenance Data: Identify system maintenance requirements, servicing cycles, lubrication types required and local spare part sources.
			3. Manufacturer's Recycling Education Package including laminated instruction sheets for display at Chute Intake Doors on every floor.
			4. Warranty: Provide warranty in Owners name at installation. Standard one year warranty against material defect.
	2. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Minimum 12 years documented experience manufacturing producing products specified in this section.
		2. Installer Qualifications: Manufacturer's approver installer with a minimum 5 years experience installing similar equipment.
		3. Pre-Installation Meetings: Contractor shall convene pre-construction meeting at the job site a minimum of 7 calendar days prior to start of scheduled installation of the Work of this section.
			1. Review and coordinate the requirements of this Section.
			2. Require attendance by representatives of the following:
				1. Contractor.
				2. Recycling System manufacturer
				3. Recycling System Installer
				4. Other installers directly affecting, or being affected by the Work of this section.
				5. Notify Architect 7 calendar days in advance of scheduled meeting date.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
			1. Finish areas designated by Architect.
			2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
			3. Refinish mock-up area as required to produce acceptable work.
			4. Accepted mock-ups shall be comparison standard for remaining Work
	1. DELIVERY, STORAGE, AND HANDLING
		1. Store products in manufacturer's unopened packaging until ready for installation.
		2. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
	2. SEQUENCING
		1. Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
		2. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Nu-Recycling Technology, Inc., which is located at: 10S355 Schoger Dr.; Naperville, IL 60564; Toll Free Tel: 800-NuReTec (687-3832); Tel: 630-904-5237; Fax: 630-904-5239; Email: [request info ()](http://admin.arcat.com/users.pl?action=UserEmail&company=Nu-Recycling+Technology,+Inc.&coid=49043&rep=&fax=630-904-5239&message=RE:%20Spec%20Question%20(11170nur):%20%20&mf=); Web: [Nuretec.com](http://Nuretec.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
	1. RECYCLING SYSTEM

\*\* NOTE TO SPECIFIER \*\* Select one of the following two paragraphs for the Recycling System required and delete the one that is not applicable.

* + 1. NuReTec 3000 Automatic Tri-Sorter Recycling System:
			1. Construction:
				1. Main Body is welded 1/4 inch A-36 Steel Plate; Deflector Plate(s) are be 1/2 inch HS Aluminum; Recycling Chute and Baffles are 3/16 inch A-36 steel plate.
				2. Internal sections have fully welded seams or are fully bolted to accommodate installation.
				3. High speed, high torque 24 VDC actuators provided to drive the mechanisms.
				4. Equipment shall be mounted to the floor with walls and separated from the trash chute to reduce noise transmission.
			2. Master Control Panel: Master Control Panel is housed in a U.L. approved, NEMA 12 enclosure and wall mounted in the trash/garbage room a minimum of 55 inches above the floor to the bottom of the enclosure. Master Control Panel will control and monitor all mechanical and electronic operating functions of the System. Monitors shall determine when the Garbage container and Paper container are full, and will de-activate the System, but still allow for the disposal of garbage into the trash compactor or container.

\*\* NOTE TO SPECIFIER \*\* Power supply requires a 3-gang Junction box anchored to the Intake Door to allow for a recessed application; aluminum flex-conduit from floor to floor to J-Boxes with 18-8 wiring for installation of the Floor Control Stations.

* + - 1. Power Supply: 110VAC with a 24VDC output to the individual Floor Control Stations and electronic actuators as specified in Section - . System components shall meet applicable U.L. specifications and/or standards.
			2. Floor Control Stations:
				1. Control Stations are "flush mounted" to the finished wall independent of the j-box, using plastic anchors and screws.
				2. Control Stations shall permit user selection of three material types to be disposed of.
				3. When a button is depressed for one of the three material types, the same button lights up on every floor to alert anyone approaching the trash chute that someone is currently depositing a certain type of material.
				4. Depressing a button activates the linear actuator to move appropriate baffles into position to accept the material selected and deposit it into the correct container.
				5. Persons on other floors may also access the trash chute by pressing the lighted button representing the same material being deposited and placing their material into the chute. Other buttons will not be operable until the material being deposited has passed the bottom of the trash chute.
		1. NuReTec 3000 Automatic Bi-Sorter Recycling System:
			1. Construction:
				1. Main Body is welded 1/4 inch A-36 Steel Plate; Deflector Plate(s) are be 1/2 inch HS Aluminum; Recycling Chute and Baffles are 3/16 inch A-36 steel plate.
				2. Internal sections have fully welded seams or are fully bolted to accommodate installation.
				3. High speed, high torque 24 VDC actuators provided to drive the mechanisms.
				4. Equipment shall be mounted to the floor with walls and separated from the trash chute to reduce noise transmission.
			2. Master Control Panel: Master Control Panel is housed in a U.L. approved, NEMA 12 enclosure and wall mounted in the trash/garbage room a minimum of 55 inches above the floor to the bottom of the enclosure. Master Control Panel will control and monitor all mechanical and electronic operating functions of the System. Monitors shall determine when the Garbage container and Paper container are full, and will de-activate the System, but still allow for the disposal of garbage into the trash compactor or container.

\*\* NOTE TO SPECIFIER \*\* Power supply requires a 3-gang Junction box anchored to the Intake Door to allow for a recessed application; aluminum flex-conduit from floor to floor to J-Boxes with 18-8 wiring for installation of the Floor Control Stations.

* + - 1. Power Supply: 110VAC with a 24VDC output to the individual Floor Control Stations and electronic actuators as specified in Section - . System components shall meet applicable U.L. specifications and/or standards.
			2. Floor Control Stations:
				1. Control Stations are "flush mounted" to the finished wall independent of the j-box, using plastic anchors and screws.
				2. Control Stations shall permit user selection of two material types to be disposed of.
				3. When a button is depressed for one of the two material types, the same button lights up on every floor to alert anyone approaching the trash chute that someone is currently depositing a certain type of material.
				4. Depressing a button activates the linear actuator to move appropriate baffles into position to accept the material selected and deposit it into the correct container.
				5. Persons on other floors may also access the trash chute by pressing the lighted button representing the same material being deposited and placing their material into the chute. The other button will not be operable until the material being deposited has passed the bottom of the trash chute.
	1. FABRlCATlON
		1. System shall be fully factory assembled except where required to separate the sections for shipment and installation. All joints, shall be welded or lock-seamed tight.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until preliminary work including trash chute and machine space has been properly prepared.
		2. Verify electrical power is in place and of correct characteristics. Do not begin installation until electrical rough-in and distribution to each floor has been properly prepared.
		3. Permanent "energized" disconnect shall be located within 5 feet (1524 mm) of trash chute discharge.
		4. If work is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install Recycling System components in accordance with shop drawings, the manufacturer's printed installation instructions and with standards required by authority having jurisdiction
		2. Coordinate recycling equipment with waste chute discharge.
			1. Anchor unit securely in place.
			2. Electrical: Rough-in and final connections under Division 16.
			3. Prevent dust, dirt, moisture, and other foreign matter from entering system components.
			4. Start-Up: Comply with manufacturer's checklist.
		3. Touch-up minor damaged surfaces caused during installation. Replace damaged components as directed by Architect.
	4. FIELD QUALITY CONTROL
		1. Test each item of operational equipment including related safety devices, fire protection equipment and building services.
			1. Start-up and operate in accordance with the manufacturers checklist and instructions.
			2. Where possible, complete test operations prior to installation of shaft enclosure walls and ceilings.
			3. Operate equipment through one complete cycle of use and cleanup.
		2. Test for proper operation and adjust until satisfactory results are obtained.
		3. Preform tests required by the local building authority. File documentation and assist in obtaining operating permits as required.
	5. DEMONSTRATION AND INSTRUCTIONS
		1. Demonstrate and instruct Owner Representatives on unit operation. All associated users of system shall be present at demonstration.
	6. CLEANING
		1. Following completion of enclosure walls and ceilings, clean exposed surfaces of finished components. Remove foreign substances and repair imperfections in finishes, but do not remove UL labels.
	7. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION