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Highland Tank LLC

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Product Guide Specification for

Model INF-AGI-20, In-Floor GreaseStopper Automatic Grease Interceptor

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat, SectionFormat,* and *PageFormat,* as described in *The Project Resource Manual—CSI Manual of Practice, Fifth Edition.*

This section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all “Specifier Notes” after editing this section.

Section numbers are from *MasterFormat 1995 Edition*, with section numbers from *MasterFormat 2004 Edition* in parentheses. Delete version not required.

Specifier Notes: This section covers Highland Tank In-floor, automatic grease removal device. Highland Tank Model INF-AGI-20 GreaseStopper® GRD. Consult Highland Tank & Manufacturing Company, Inc. for assistance in editing this section for the specific application.

**TECHNICAL SPECIFICATION FOR**

**PREPARED BY: Highland Tank**

**22 13 19.26 GREASE REMOVAL DEVICES**

PART 1 GENERAL

1.1 SECTION INCLUDES

A. In-Floor Automatic Grease Removal Devices

1.2 RELATED REQUIREMENTS

Specifier Notes: Edit the following list of related sections as required. Delete related sections not required. List other sections with work directly related to this section.

1. Section 03300 (03 30 00) – Cast-in-Place Concrete: Concrete for surface pad.

1.3 SUBMITTALS

Specifier Notes: Edit submittal requirements as required. Delete submittals not required.

A. Comply with Section 01330 (01 33 00) – Submittal Procedures.

B. Product Data: Submit manufacturer’s product data, including installation instructions.

C. Manufacturer’s Certification: Submit manufacturer’s certification that the automatic grease removal devices comply with specified requirements and are suitable for intended application.

D. Warranty Documentation: Submit manufacturer’s standard warranty.

1.4 QUALITY ASSURANCE

A. Manufacturer’s Qualifications: Manufacturer regularly engaged, for past 10 years, in manufacture of indoor automatic grease removal devices of similar type to that specified.

B. Installer's Qualifications:

1. Installer regularly engaged, for past 5 years, in installation of aboveground, indoor grease removal devices of similar type to that specified.

2. Employ persons trained for installation of automatic grease removal devices.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle in-floor automatic grease removal devices in accordance with manufacturer’s instructions.

B. Protect in-floor automatic grease removal devices during delivery, storage, handling, and installation to prevent damage.

1.6 WARRANTY

A. Warranty Period: 1 year.

1. Warrant grease removal devices against failure due to corrosion when used as originally intended.

PART 2 PRODUCTS

2.1 MANUFACTURER

1. Highland Tank LLC

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2.2 IN-FLOOR AUTOMATIC GREASE REMOVAL DEVICES (GRD)

A. In-Floor Stainless Steel Automatic Grease Removal Device: Highland Tank Model INF-AGI-20 GreaseStopper® Automatic Grease Interceptor. GRD shall be furnished with integrated strainer basket, and electrically powered, direct driven Diskimmer grease skimmer to remove fats, oil, and grease automatically from tank without any operator assistance. The sizing and construction of this GRD is consistent with industry protocols for complying with the sewer pretreatment regulations, therefore an GRD of smaller volume is not permissible.

1. Conformance: UL Listed 1D42 Waste Disposer; stainless steel construction. Provide certification documentation showing criteria under which the system was tested.

 2. Maximum Flow Rate: \_\_\_\_ gal./min. Flow direction shall be as indicated on
 Drawings.

3. Nominal RD Capacity: [\_\_\_\_ gallons.] [As indicated on the Drawings.]

4. Nominal Inside Length: [\_\_\_\_ feet \_\_\_\_ inches.] [As indicated on the Drawings.]

5. Nominal Inside Width: [\_\_\_ feet \_\_\_ inches.] [As indicated on the Drawings.]

6. Nominal Inside Height: [\_\_\_ feet \_\_\_ inches.] [As indicated on the Drawings.]

7. Nominal Grease Holding Capacity: [\_\_\_\_\_ pounds] [As indicated on the Drawings.]

8. Access Hatches:

a. Quantity \_3\_

c. Lid: Gasket and quick release stainless steel clamps.

9. Threaded NPT Fittings:

a. Vent: 2-Inch Diameter: \_1\_.

b. Immersion Heaters: \_\_\_-Inch Diameter: \_1\_.

c. All fittings located as indicated on the Drawings.

10. Plain End Connections:

 a. Influent connection \_\_\_\_ inch, with plain end (PE)

 b. Effluent connection \_\_\_\_ inch, with plain end (PE)

1. APPLICATION – The Grease Removal Device shall be designed for gravity separation of fats, oils, and grease along with food scraps and solids from wastewater discharged from institutional and commercial kitchens. The GRD shall be designed to remove grease automatically, collecting it neatly in an adjacent storage container from which it can be disposed and recycled with other grease by a rendering firm.
2. PERFORMANCE REQUIREMENTS - Grease Removal Device shall be designed to prevent large amounts of pipe-clogging fats, oil, and grease (FOG) and solid waste materials from entering the sanitary sewer system. The GRD shall be designed to recover nearly 100% of free-floating FOG discharged from the facilities kitchen. The free fats, oil, and grease (FOG) concentration in the effluent from the GRD shall not exceed 100 mg/l (100 PPM) to satisfy sanitary sewer pretreatment requirements.
3. DESIGN CRITERIA - Grease Removal Device shall be a UL Listed 1D42 Waste Disposer. Provide certification documentation showing criteria under which the system was tested.
4. GENERAL DESCRIPTION – Grease Removal Device shall be a Stainless Steel In-Floor GRD with fully removable and vapor-tight, stainless steel lids with gaskets and quick release stainless steel clamps, to allow access for inspection and maintenance. The GRD shall be a pre-packaged, pre-engineered, ready to install unit consisting of:

1. One inlet connection 3” inch plain end for no hub connection to prevent inlet lines from becoming clogged with grease buildup. Inlet shall contain an internal flow control device.

2. A pre-settling chamber with easily removable internal stainless steel screen basket to separate and contains food scraps and solids. Internal capacity of screen basket shall be \_\_\_ cu. ft. Screen basket shall be fully removable with stainless steel lid with quick release clamps for proper dispensing of collected solids.

3. A non-clogging stationary under flow baffle to:

 a. Reduce horizontal velocity and flow turbulence.

 b. Distribute the flow equally over the GRDs cross sectional area.

 c. Completely isolates all inlet turbulence from the grease separation/storage compartment.

 d. Promote the separation of settleable solids from wastewater.

4. A grease separation/storage chamber containing:

 a. Thermostatically controlled electric immersion heater(s), with 1500 watt, 115
 volt, 60 HZ AC heating element, to elevate the temperature in the GRD to an
 average 120º F for maintaining the contained grease in a liquid state for
 skimming purposes.

b. An electrically powered, direct driven, Diskimmer(s) grease skimmer to remove
 fats, oil, and grease automatically from tank without any operator assistance.
 Diskimmer shall have\_ \_\_inch oleophilic and hydrophobic, stress-relieved
 HDPE skimming wheel to operate at a minimum skimming rate of 20 lbs./hour.
 Grease is skimmed to discharge sump tube to discharge to an internal plastic
 5 gallon grease container fitted with a high level alarm to alert personnel of
 required maintenance.

5. Diskimmer shall be equipped with a:

 a. Removable stainless steel scraper bar(s) with two HDPE scraper blades with
 stainless steel nuts, bolts, and washers.

 b. 3/4” stainless steel disc shaft(s) and bracket(s) with two (2) bronze bearings

 per shaft.

 c. Stainless steel shaft.

6. Diskimmer shall be powered by completely enclosed, heavy-duty gear motor, 115
 volt, 60 HZ AC.

7. A multi-event digital timer/controller shall be supplied for heater(s) and Diskimmer(s)
 operation. Controller shall contain one (1) digital 24-hour clock timer, with multiple
 on/off cycles and multiple day cycles, 115 volt, 60 HZ, AC in a NEMA 3R splash-proof
 enclosure. Controller shall be mounted to the unit and hard wired by the installation
 contractor. An internal effluent downcomer at the outlet end of the GRD, to allow for
 discharge from the bottom of the grease separation/storage chamber only.

8. An outlet connection 3” plain end for no hub connection.

9. Identification plates: Plates to be affixed in prominent location and be durable and
 legible throughout equipment life.

 10 . In-Floor GRDs shall be supplied with:

a. A gasketed hinged vapor-tight aluminum deckplate cover with a drainage
 channel to allow surface water to drain into GRD.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine excavation to receive in-floor automatic grease removal device.

B. Notify Architect of conditions that would adversely affect installation.

C. Do not begin installation until unacceptable conditions are corrected.

3.2 PREPARATION

A. Before placing in-floor Grease Removal Device in building:

1. Visually inspect GRD for damage.

2. Notify Architect of damage to GRDs.

3.3 INSTALLATION

A. Install in-floor Grease Removal Device in accordance with manufacturer’s instructions and local plumbing codes.

B. Install in-floor GRD at locations and to elevations indicated on the Drawings.

C. GRD Handling:

1. Ensure equipment to handle GRDs is of adequate size to lift and lower GRDs without dragging, dropping, or damaging unit.

2. Carefully lift and lower GRDs with straps.

3. Do not use chains or cables around GRD shell.

D. Plugs:

1. Remove plugs at unused GRD openings, add pipe compound, and reinstall plugs in unused openings.

2. Do not cross-thread or damage GRD fittings when replacing plugs or installing GRD piping.

M. Before placing Indoor Grease Removal Device into operation:

1. Final Inspection: Visually inspect GRD and pipe connections.

2. Follow manufactures start up instruction for proper operation of unit

3.4 PROTECTION

A. Protect installed Grease Removal Device from damage during construction.