

Installation, Operation, Inspection, Maintenance and Cleaning Manual

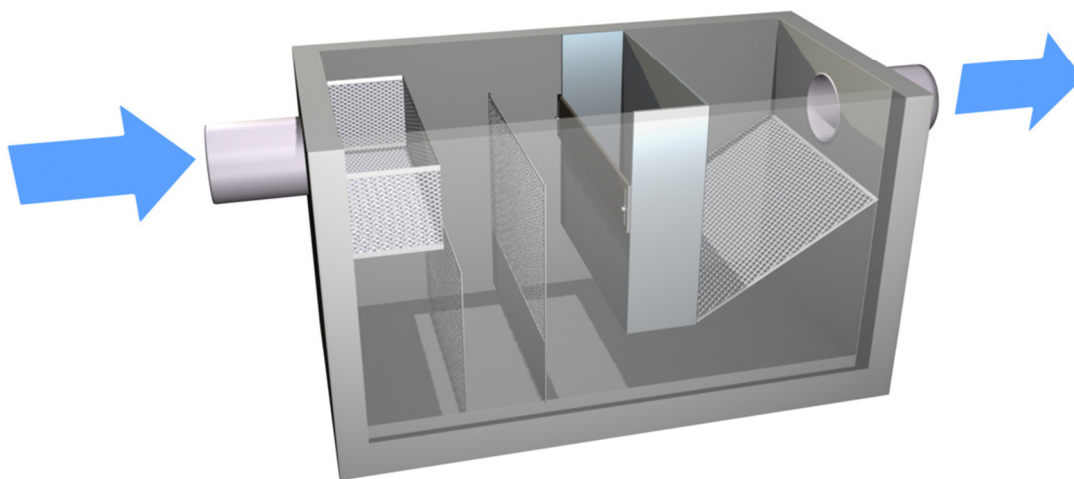
(Models 333, 646, 846, 856, 866, 956, 1056, 1246, 1266, 1856, 2056, & 2466)

(HP Models 640, 840, 950, 1050, 1260, 2050, 2460)

Note* This manual is for all types of CrystalStream devices.

Contact CST for details on special models.

CrystalStream™ Technologies Stormwater Treatment Device



CrystalStream Technologies 880-B Royal Park Drive Monroe, GA 30656

**READ THE FOLLOWING INFORMATION, INSTRUCTIONS AND WARNINGS
CAREFULLY BEFORE INSPECTING, PERFORMING MAINTENANCE OR
CLEANING THIS DEVICE**

This manual is intended to explain the specifics of our system, and to review the common aspects of the existing regulations and safety procedures. It is the responsibility of all personnel to familiarize themselves with, understand, and comply with all applicable local, state and federal laws, before attempting to inspect, maintain, or clean the CrystalStream unit.

Table of Contents

- 1.1 General Purpose
- 1.2 Unit Description
- 1.3 Unit Operation
- 1.4 Installation

- 2.1 Safety Overview
- 2.2 OSHA Requirements
- 2.3 Inspection Safety
- 2.4 Cleaning and Maintenance Safety
- 2.5 Public Safety

- 3.1 Inspection Overview
- 3.2 Inspection Procedures

- 4.1 Cleaning Overview
- 4.2 Cleaning Procedures – Non Traffic Application
- 4.3 Cleaning Procedures – Traffic Application
- 4.4 Cleaning Equipment
- 4.5 Disposal & Documentation
- 4.6 Hazardous Waste Procedures

- 5.1 Maintenance Overview

All precautions and procedures in this manual are current at the time of printing and are subject to change based on new processes and procedures. CrystalStream Technologies takes no responsibility and will be held harmless for any injuries, fines, penalties or other losses that occur involving any procedures in this manual or other non-addressed actions. The unit's performance is based on the procedures being followed and lack of performance due to non-compliance with these measures will be the responsibility of the owner.

1.1 General Purpose

The CrystalStream storm water treatment device is designed to treat the gross pollutants found in urban storm water run-off and protect downstream waterways from these pollutants. Additionally, the CrystalStream unit provides spill protection for oil and other hydrocarbon products.

1.2 Unit Description

The base unit is a pre-cast concrete rectangular structure constructed in various dimensions based on the model purchased. The base unit is poured with walls of 6" reinforced concrete tested to 4,000 psi. Deeper installations may require thicker walls. A riser of the same construction is used if needed to bring the top of the unit to grade. The internal components will vary based on the application and pollutants targeted. At most the unit will have components consisting of a trash basket, mesh lining, baffles, spill protection reservoir, adjustable weir plate and fiber mesh screen. All of these components are constructed out of aluminum. The fiber mesh screen itself is ¾" coconut fiber. The internal placement of the components will vary based on the individual nature of the site and hydraulic gradient but the basic configuration is shown on the cover of this manual. This is also a standard cut sheet drawing included in Appendix 1. The top of the unit can be either a tread plate double access lid or aluminum hatch in non-traffic applications or a standard grate and frame/manhole ring and cover in traffic areas.

1.3 Unit Operation

The unit is installed with all components in place ready to operate and based on proper installation; the owner has no responsibilities to make the unit operational. Due to the nature of construction **THE UNIT MUST BE INSPECTED WHEN THE SITE IS TURNED OVER TO THE OWNER/END-USER.** (See Section 3.1 through Section 3.3 for inspections) **IF IT IS NOT CLEAN AT THAT TIME, IT MUST BE CLEANED AND LEFT UNDAMAGED AND READY TO OPERATE.** (See Section 4.1 for cleaning.) Please read this entire manual before any inspection or cleaning operations. Your personal safety is important. **Call CrystalStream at 1-800-748-6945 if you are unsure about any procedure.**

Prior to the site being turned over to the owner, CrystalStream Technologies recommends that the pipe system leading to the unit be flushed and jetted, to make certain that any residual sediment is cleaned from the pipes. When sediment is allowed to accumulate in the pipes, it slowly moves to the unit during rainfall events. The larger the rainfall event, the more sediment is moved. The CrystalStream storm water treatment device is extremely effective at trapping sediment. When sediment is left in the pipes and moves to the unit, it can necessitate a shorter than average cleaning schedule which translates into higher cleaning costs for the owner. Cleaning and jetting the pipes assures the owner that the unit he receives is in proper working order, and free of sediment.

1.4 Installation

The unit is installed during the construction phase with the excavation, pipe attachment, and backfill completed by the contractor on site. A stable roadway must be provided for delivery of the CrystalStream unit by a local precaster. When requested, CrystalStream Technologies (CST) will provide the contractor with the measurements he will need to excavate the hole. A 6" depth of crushed stone should be placed under the unit to assist in leveling and to provide uniform base support. After placement, the contractor will backfill the device as necessary and attach the pipes. Proper construction methods during the backfill and pipe attachment are essential to the operation and cleaning of the CrystalStream unit.

Contractors Please Note:

Call CrystalStream at 1-800-748-6945 if you are unsure about any procedure.

- The pipes must be placed at the correct invert for the unit to achieve the proper removal rates.
- The pipes must be installed flush with the interior walls of the unit to provide for proper cleaning access.
- The pipes must be mudded in on both the inlet and outlet connections. Failure to properly mud the pipes can result in the water undermining the soil surrounding the unit.
- A stable roadway must be maintained to facilitate inspection and cleaning of this unit. This roadway must be, at a minimum, constructed of gravel or crushed stone on a stable base, and must be capable of supporting a cleaning truck weight of approximately 15,000 pounds.

2.1 Safety Overview

The CrystalStream unit is designed to be cleaned and maintained in an efficient safe manner by qualified professionals trained to service in-ground vaults and to handle the equipment necessary for removing the pollutants targeted.

The CrystalStream unit can be cleaned using common equipment and methods including cleaning from the surface using a vacuum truck and trash netting system. Experience with these types of devices had shown that a confined space entry cleaning yields a quicker, more thorough and less cost intensive result.

This manual is intended to explain the specifics of our system, and to review the common aspects of the existing regulations and safety procedures. It is the responsibility of all personnel to familiarize themselves with, understand, and comply with all applicable local, state and federal laws, before attempting to inspect, maintain, or clean the CrystalStream unit.

ALWAYS FOLLOW ALL OSHA REQUIREMENTS WHEN ENTERING A CONFINED SPACE. CRYSTALSTREAM TECHNOLOGIES RECOMMENDS THAT CLEANING BE ACCOMPLISHED BY A “BUDDY SYSTEM” AND THAT BOTH WORKMEN BE CONFINED SPACE ENTRY RESCUE AND CONFINED SPACE AWARENESS TRAINED.

<p>CAUTION! Any inspection or maintenance work performed in a traffic area must meet the DOT guidelines for roadway work and additional safety procedure will be necessary.</p>

2.2 OSHA Requirements

2.2.1 Definition of A Confined space

A confined space has limited or restricted means of entry or exit. It is large enough for an employee to enter and perform assigned work. The confined space is not designed for continuous occupancy. Confined space openings are limited primarily by size or location. The atmosphere in a confined space may be hazardous due to low oxygen levels, flammable or explosive concentrations of gases, vapors or dust , or toxic levels of gases and vapors.

NOTE: Never enter a CrystalStream unit when there has been an obvious gasoline spill or other flammable/hazardous material. This manual is for routine cleaning of storm water debris and sediment. Any unusual occurrences or hazardous materials should be left to properly trained and equipped individuals.

2.2.2 Entry without permit/attendant

Confined spaces may be entered without the need for a written permit or attendant provided that the space can be maintained in a safe condition for entry by mechanical ventilation alone. All spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. Any employee required or permitted to pre-check or enter an enclosed/confined space shall have successfully completed, as a minimum, the training as required. Please consult the current regulations regarding permits and entry requirements.

2.2.3 Testing the Atmosphere

Before entering a confined space, testing should be completed for oxygen, then for flammable or combustible gases and vapors and finally for toxic gases and vapors. Some gases and vapors are heavier than air and will settle to the bottom of a confined space. Other gases are lighter than air and will be found around the top of the confined space. Testing should be done in all areas (top, middle, bottom) with testing instruments that are calibrated in accordance with the manufacturer's recommendations to determine what atmospheric conditions are present.

NOTE: The test for oxygen is performed first because most combustible gas meters are oxygen dependent and will not provide reliable reading in an oxygen deficient atmosphere. Testing for combustible gases are tested for next because the threat of fire or explosion is both more immediate and more life threatening than exposure to toxic gases and vapors. If testing reveals oxygen deficiency or the presence of toxic gases or vapors, the space must be ventilated and retested before the worker may enter.

Detector tubes, alarm only gas monitors and explosion meters are examples of monitoring equipment that may be used. If there are no non-atmospheric hazards present and if the pre-entry tests show there are no dangerous air contamination and/or oxygen deficiency within the space and there is no reason to believe that any is likely to develop, entry into and work within may proceed.

2.2.4 Ventilation

Ventilation by a blower or fan may be necessary to remove harmful gases and vapors from a confined space. We recommend that a ventilating hose run to the bottom of the unit to blow out all harmful gases or vapors. The air intake should be placed in an area that will draw in fresh air only. Ventilation should be continuous where possible because in many confined spaces the hazardous atmosphere will accumulate again when the flow of air is stopped. Periodic testing must be conducted to ensure that the atmosphere inside the confined space is safe.

2.2.5 Respirators

Respirators are devices that protect workers from breathing unsafe levels of toxic particles, gases and vapors. Two basic types of respirators are air purifying, which filter dangerous substances from the air and air – supplying which deliver a supply of safe breathing air from a tank or an uncontaminated area nearby.

2.2.6 Manholes

CrystalStream devices located in traffic areas use a manhole as the point of entry into the unit. Manholes may present a variety of hazards if proper care is not taken. When covers are removed manholes can become a trap into which workers can fall. It can also become a hazard to others if the manhole cover is not replaced when the work has been completed

2.3 Inspection Safety

Always place cones around the CrystalStream unit and the vehicle to keep people out of the working zone.

In traffic areas, follow all DOT regulations for roadwork.

Follow all OSHA requirements if entering the unit.

The tread plate lids can be very heavy. Follow appropriate safety measures when lifting the lid to avoid back injury.

Remember, snakes and other creatures like dark, cool spaces. Use appropriate caution to remove creatures from the unit.

Always lock all non-traffic lids, using the locking bar and locks provided.

Always replace the manhole cover and the metal grating when completing the inspection.

Follow all procedures outlined in Section 3.2.

2.4 Cleaning & Maintenance Safety

Always place cones around the CrystalStream unit and the vehicle to keep people out of the working zone.

In traffic areas, follow all DOT regulations for roadwork.

Follow all OSHA requirements if entering the unit.

The tread plate style lids can be very heavy. Follow appropriate safety measures when lifting the lid to avoid back injury.

Always lock all non-traffic lids, using the locking bar and locks provided.

Always replace the manhole cover and the metal grating when completing the inspection.

Remember, snakes and other creatures like dark, cool spaces. Use appropriate caution to remove creatures from the unit.

Follow all procedures outlined in Section 3.2.

2.5 Public Safety

Before inspecting or cleaning the unit, clear the zone of unnecessary personnel. Put up cones and warning tape to keep people out of the work area. Use of physical barriers is important to protect both the workers and the public from injury.

Follow all Department of Transportation requirements when working in traffic areas. Consult your local DOT guidelines to determine what precautions are required.

Always replace the manhole cover and/or grates when inspection or maintenance is performed on the CrystalStream unit with a traffic lid.

3.1 Inspection Overview

The unit is designed and specified in most applications to comply with the non-point source mandates of the Clean Water Act and the NPDES regulations. Most regulations state that any BMP (Best Management Practice) needs to be inspected every 90 days and cleaned and maintained as needed. Many local regulations have similar requirements and all federal, state and local requirements must be met. CrystalStream Technologies recommends visual inspection on a 30-day cycle as well as sediment depth inspection during the construction phase. The unit inspection is done to determine the operational status of the unit and determine if a cleaning cycle is necessary as well as to meet any jurisdictional ordinance requirements. All inspections must be documented (Appendix 2). When construction has been completed and the site has stabilized, the CST unit should be inspected every 90 days and cleaned when there is 1” of sediment in front of the oil reservoir. There will typically be much more sediment trapped in the front chamber of the device, but the area under the reservoir is critical to keep relatively clear of sediment to control horizontal velocities.

3.2 Inspection Procedures

As per the following:

- 3.2.1 The unit should be visually inspected from the surface to determine the integrity of access points. Look for broken hinges or broken or missing handles. A qualified welder should repair any broken hinges immediately. Inspect bolts on lid angle iron and look for loose red heads on angle iron. Replace red heads as needed. Re-paint the tread plate lids, with a rust resistant paint as necessary.
- 3.2.2 The access should be opened and secured properly.
- 3.2.3 A visual inspection should be made of the trash basket at the front of the unit to determine capacity and type of material trapped.
- 3.2.4 A visual inspection should be made of the water surface in the front of the unit to determine oil sheen or blanket.
- 3.2.5 A visual inspection should be made of the oil and hydrocarbon reservoir to determine amount of oil/water trapped and the historical high-water level in the unit.
- 3.2.6 A visual inspection of the water surface in the rear of the unit should be made and any pollutants noted.
- 3.2.7 Inspect the aluminum mesh in the trash basket. Replace as needed.
- 3.2.8 Inspect the basket frame for cracks or damage. Repair as needed.
- 3.2.9 A visual inspection should be made of the pipe connections to the unit and any material decay or improper installation noted. Pipes should be cut flush with the interior wall of the unit and properly mudded in. **If upon inspection it is noted that the pipes are not cut flush, or are not mudded in, contact the contractor and require that he correct this immediately.**
- 3.2.10 Inspect baffles to ensure that they are properly seated into the brackets. Also note if there is any damage to baffles (bowing). Reseat baffles if necessary.
- 3.2.11 Inspect oil reservoir for cracks or damage. Check the welds around the oil reservoir for wear or damage and note any repair work necessary. A qualified welder must perform all repair work to the welds on the oil reservoir during the routine cleaning.
- 3.2.12 Inspect the riser for cracks in the concrete walls. Repair as required during the routine cleaning.
- 3.2.13 A silt gauge should be used to determine sediment depth as shown in Appendix 1. Check the silt/sediment level behind the trash basket and in front of the oil reservoir
- 3.2.14 The access for cleaning should be evaluated and documented. The truck cleaning these units requires a stable roadway capable of withstanding 15,000 pounds.
- 3.2.15 Any changes in the area tributary that are evident should be noted.
- 3.2.16 Replace the access point covers carefully.
- 3.2.17 Note the condition of the area surrounding the unit on the inspection report. (Example: grass, dirt, rocks, sink holes) Report any hazardous conditions to the appropriate supervisor.
- 3.2.18 For Hybrid Polisher (HP) devices, a lifting device capable of safely hoisting 400 pounds is needed to remove the media boxes. See Section 4.2 (Cleaning Procedures – Surface Cleaning) for details on how to lift the boxes. With the media box on a stable flat surface, use waterproof gloves to remove the filters and inspect them for clogging or exhausted media. Replace the filters in their original order.
- 3.2.19 An inspection report should be completed, with a copy staying on site and a copy being sent to the local jurisdiction.

The inspection procedures for the traffic units are similar to those for the non- traffic units with the exception of the sediment depth evaluations as shown in Appendix 1 and an inspection of the grate and frame and manhole ring and cover. Proper precautions should be taken in Traffic situations as specified in the Safety section of this manual.

NOTE: When there has been an obvious gasoline spill or other flammable/hazardous material in the unit, immediate notification should be given to the owner and jurisdictional authorities. This manual is for routine cleaning of storm water debris and any unusual occurrences should be left to properly trained and equipped individuals.

4.1 **Cleaning Overview**

The cleaning of the unit is the essential element to the operational success of the CrystalStream Device. The pollutant removal capacity of the device will eventually cause the equipment to fail without proper maintenance and additionally not achieve the goals of the installation. The cleaning cycle is dependant on a number of factors including pollutant load, rainfall, time of year, basin changes, upstream mitigation tactics and installation. Based on the variety of factors, a cleaning schedule can be consistent or vary widely on the same device. This highlights the importance of the inspection process in the overall maintenance and integrity of the unit. The cleaning is generally done with a two-person crew and a vacuum pump system. The duration of the maintenance will depend on a number of factors but can typically be done in about 2.5 hours with properly trained individuals.

4.2 **Cleaning Procedures – Surface Cleaning**

If the cleaning of the unit is to be preformed from the surface, the operator should expect a longer cleaning time and the potential for additional disposal charges. The front chamber of the unit will contain the trash and debris in the trash basket, any floating hydrocarbons that have not been skimmed into the oil/hydrocarbon reservoir and accumulated sediment on the bottom of the unit.

Cleaning procedures are as per the following:

- 4.2.1 The unit should be visually inspected from the surface to determine the integrity of the tread plate lid, Aluminum Hatch or other access.
- 4.2.2 A visual inspection of the unit should be done to evaluate structural integrity and determine if any impacted material is present in the device. If there has been a hazardous spill see Section 4.6

NOTE: When there has been an obvious gasoline spill or other flammable/hazardous material in the unit, immediate notification should be given to the owner and jurisdictional authorities. This manual is for routine cleaning of storm water debris and any unusual occurrences should be left to properly trained and equipped individuals.

- 4.2.3 The Trash Basket should be cleaned by either using a trash netting system or vacuum truck. If cleaning using a netting system, this material can be disposed of in trash bags in the normal manner.
- 4.2.4 The surface oil/hydrocarbon separation zone in the front chamber should be removed either with sorbants or with a vacuum truck.
- 4.2.5 The stormwater contained in the area between the surface water and the sediment accumulation can be decanted to minimize the amount of disposal required. Any downstream discharge needs to be after the surface cleaning and only down to the level of the bottom of the oil/hydrocarbon reservoir or the top of the sediment accumulation. Any pollutants discharged downstream are the responsibility of the cleaning operator.
- 4.2.6 The oil/hydrocarbon reservoir needs to be evacuated by the vacuum equipment.
- 4.2.7 The sediment accumulated in the front and rear chamber can be removed by the vacuum equipment. The fiber filter can be tilted up to provide access to the chamber floor.
- 4.2.8 The unit should be pressure-washed down to remove any pollution attached to the baffles, walls or hydrocarbon reservoir.

- 4.2.9 For Hybrid Polisher (HP) devices, a lifting device capable of safely hoisting 400 pounds is needed to remove the media boxes. Carefully hook the media box handle in the center and slowly lift the box out of the water. Allow the box to drain so that the weight of the media box is reduced prior to lifting the box further. Once the box has drained, continue lifting the media box until it is clear of the device, and place the media box on a waterproof tarp for media filter inspection or replacement. Note the order of the filters and replace them in the correct order. Lower filters protect the upper filters from unwanted materials and clogging.
- 4.2.10 Inspect the frame and seals that support the media boxes to be sure that they are intact before lowering the media boxes back into the device. **If the frames or seals are damaged, this is a CONFINED SPACE ENTRY activity and all proper precautions as explained in Section 4.3 must be followed.** If you are unqualified to do confined space entry, replace the media boxes as carefully and safely as possible, and contact CST immediately. Do not enter the device.
- 4.2.11 All parts should be inspected for wear and tear and documented.
- 4.2.12 Replace all manholes, grates and access point covers properly.
- 4.2.13 A maintenance report (Appendix 2) should be completed, with a copy staying on site and a copy being sent to the local jurisdiction.

4.3 Cleaning Procedures – Confined Space Entry

The cleaning procedures are similar for confined space entries except that the OSHA guideline apply and need to be followed. The confined space entry allows the crew to do a better job of cleaning the unit and allows for the time needed and disposal cost to be reduced.

CAUTION! Any inspection done in a traffic area must meet the DOT guidelines for roadway work and additional safety procedure will be necessary.

CAUTION ! All OSHA confined space requirements should be met while cleaning this unit.

- 4.3.1 The unit should be visually inspected from the surface to determine the integrity of the tread plate lid.
 - 4.3.2 A visual inspection of the unit should be done to evaluate structural integrity and determine if any impacted material is present in the device. If there has been a hazardous spill see section 4.6
- NOTE:** When there has been an obvious gasoline spill or other flammable/hazardous material in the unit, immediate notification should be given to the owner and jurisdictional authorities. This manual is for routine cleaning of storm water debris and any unusual occurrences should be left to properly trained and equipped individuals.
- 4.3.3 A ladder should be inserted on the front side of the unit between the baffles and a sorbant blanket laid on the surface of the water to collect any free oil floating on the surface.
 - 4.3.4 In most units, the trash basket and baffles can be removed to allow easier access to the bottom of the unit.
 - 4.3.5 Inspect the aluminum mesh in the trash basket. Replace as needed.
 - 4.3.6 The Trash Basket should be cleaned and directly disposed of in garbage bags.
 - 4.3.7 The stormwater contained in the area between the surface water and the sediment accumulation can be decanted to minimize the amount of disposal required. Any downstream discharge needs to be after the surface cleaning and only down to the level of the bottom of the oil/hydrocarbon reservoir or the top of the sediment accumulation. Any pollutants discharged downstream are the responsibility of the cleaning operator.

- 4.3.8 The coconut fiber filter frame should be removed to facilitate cleaning in the rear chamber.
- 4.3.9 For Hybrid Polisher (HP) devices, a lifting device capable of safely hoisting 400 pounds is needed to remove the media boxes. Carefully hook the media box handle in the center and slowly lift the box out of the water. Allow the box to drain so that the weight of the media box is reduced prior to lifting the box further. Once the box has drained, continue lifting the media box until it is clear of the device, and place the media box on a waterproof tarp for media filter inspection or replacement. Note the order of the filters and replace them in the correct order. Lower filters protect the upper filters from unwanted materials and clogging.
- 4.3.10 The unit should be pressure washed down to remove any pollution attached to the baffles, walls or hydrocarbon reservoir.
- 4.3.11 The ladder can be used to get on to the unit floor and remove the rest of the water and sediment from the bottom of the unit.
- 4.3.12 The walls should be wiped down in the front with a sorbant blanket.
- 4.3.13 Inspect the frame and seals that support the media boxes to be sure that they are intact before lowering the media boxes back into the device.
- 4.3.14 For CrystalClean Separators, the coconut fiber mesh should be replaced in the frame and the frame assembly returned to the unit. For HP devices, place the media filters into the media boxes in their original order, and lower the boxes back on the supporting frames.
- 4.3.15 All parts should be inspected for wear and tear and documented.
- 4.3.16 Remove all equipment from the unit. Replace the manhole covers, grates and any other access opening covers.
- 4.3.17 A maintenance report (Appendix 2) should be completed, with a copy staying on site and a copy being sent to the local jurisdiction.

4.4 Cleaning Equipment

The equipment needed to clean the CrystalStream unit is:

- Vacuum truck 750 gallon
- Pressure Washer
- Submersible Pump
- Generator
- Sorbant Pads (Mycelx™), Imbiber Beads™, or similar products.
- 16-25 Ft. Ladder
- Gloves
- Waterproof gloves
- Waterproof tarp
- Coconut Fiber Mesh (Rolanka Industries)
- For HP Media devices, media filter pads
- Trash Bags
- CrystalStream Lid Hooks
- Sediment/Silt Gauge
- Rubber boots
- Testing equipment to meet OSHA confined space entry requirements
- Cones
- Barricades
- Caution Tape
- Hardhat

- Waterproof silicon caulk
- Aluminum mesh (for trash basket)
- Flat shovel
- 20' electrical cord
- 5 gallon bucket w/rope
- First Aid kit containing eye wash
- Tripod safety harness recovery apparatus

Call CrystalStream at 1-800-748-6945 if you have questions.

4.5 Documentation and Disposal

The cleaning of the unit should be documented and the contents of the unit estimated and recorded in a log for inspections. This documentation should meet Federal, State and Local Guidelines.

The disposal of the trash, debris, water and sediment should be done at an approved facility and the proper permits should be obtained to transport the material. Sediment and water should be disposed of in accordance with all applicable state and local regulations. Sediment should be removed to a landfill and liquids to a decanting facility.

4.6 Hazardous Waste Procedure

The presence of any hazardous material inside the unit should prompt an immediate call to the jurisdiction and an appropriate hazardous response team. This material is not part of the standard cleaning of the device and should be treated with the proper care afforded such spills as per Federal, State and Local guidelines.

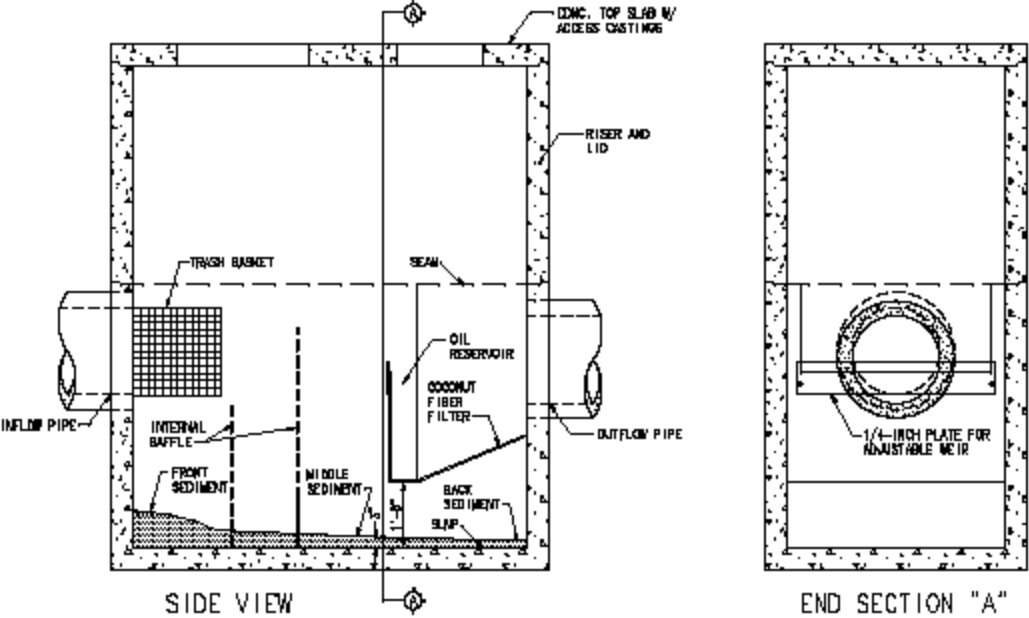
5.1 Maintenance Overview

All of the components in the unit should be inspected at every cleaning to determine wear or damage. If any components are damaged, please contact CrystalStream Technologies for an evaluation of the damage and a maintenance or repair estimate.

APPENDIX 1

Manufactured by: Practical Best Management – 1-800-748-8946 www.crystalstream.com

APPENDIX "A"



CRYSTALSTREAM WATER QUALITY VAULT

Protected by U.S. Patent No's: 5,797,161; 6,936,163; 6,939,461; 5,951,607; 5,984,783; 7,011,743, 7,037,436

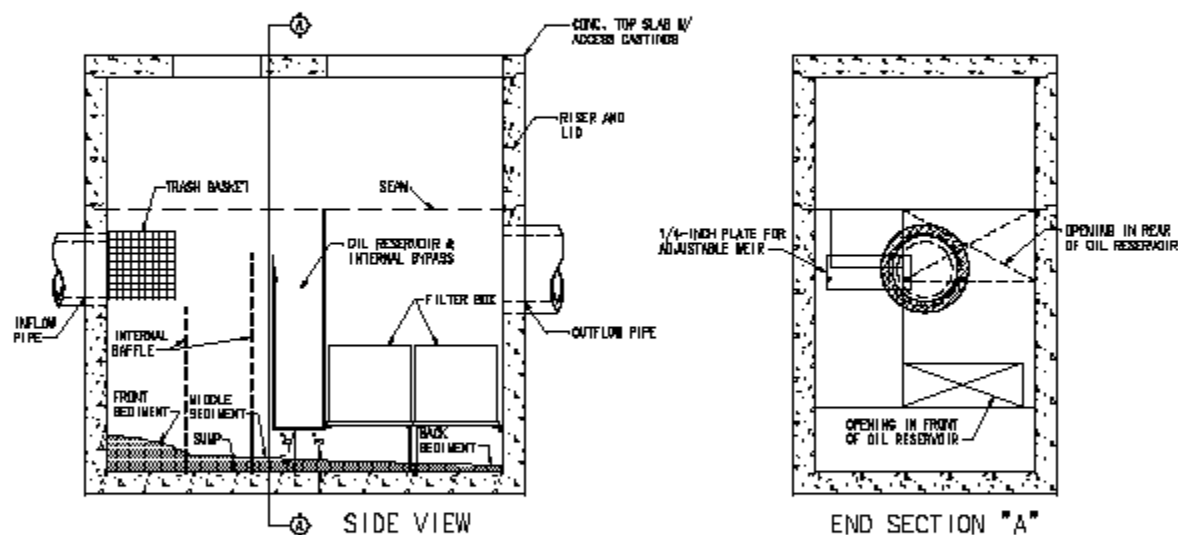
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TYPICAL LAYOUT
APPENDIX "A"



APPENDIX "A"

Manufactured by: Practical Best Management - 1-800-748-8945 www.crystalstream.com

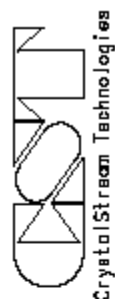


CRYSTALSTREAM HYBRID POLISHER WATER QUALITY VAULT

Protected by U.S. Patent No's: 5,797,161; 5,936,163; 6,939,461; 6,951,607; 6,994,783; 7,011,743; 7,037,436

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TYPICAL HP LAYOUT
APPENDIX "A"



APPENDIX 2



Inspection Date _____ Job Number _____

Job Name _____

Job Address _____

Inspector's Name _____

Grading Permit # _____ TCLP # _____

Lat: _____ Long: _____

Traffic ☐

Hatch ☐

Steel Lid ☐

Size _____

Time _____

Disposal Fee (Y/N) _____

Volume (Gal.) _____

Maintenance Cleaning Checklist

Water Level	Oil Bucket Level	Sediment Level	Trash Conditions
<input type="checkbox"/> low	<input type="checkbox"/> low	<input type="checkbox"/> little	<input type="checkbox"/> minimal
<input type="checkbox"/> normal	<input type="checkbox"/> typical	<input type="checkbox"/> typical	<input type="checkbox"/> typical
<input type="checkbox"/> above outlet	<input type="checkbox"/> high	<input type="checkbox"/> excessive	<input type="checkbox"/> unacceptably high
Recommendations: This unit appears to need maintenance on a <input type="checkbox"/> shorter <input type="checkbox"/> longer <input type="checkbox"/> unchanged schedule.			

This report is a complete and accurate description of conditions found at the time of inspection and all work performed on this device

Inspector's Signature: _____

Date: _____

Inspection Data

Sediment: inlet side	Inches
Sediment: outlet side	Inches

Water in unit at inspection	Inches
Fluid in bucket at inspection	Inches

Items Maintained

Comments

Lid: inspect bolts, eyehooks, hinges	
Trash Rack: inspect aluminum mesh	
Baffle Plates: inspect for damage	
Oil Bucket: Leaks / Sheen	
Surroundings: check grass/plantings	
Coconut Fiber / Flapper	

Additional Comments



Inspection Date _____ Job Number _____
 Job Name _____
 Job Address _____
 Inspector's Name _____
 Grading Permit # _____ TCLP # _____
 Lat: _____ Long: _____

Traffic	<input type="checkbox"/>
Hatch	<input type="checkbox"/>
Steel Lid	<input type="checkbox"/>
Size	_____
Time	_____
Disposal Fee (Y/N)	_____
Volume (Gal.)	_____

Maintenance Inspections Checklist

Water Level	Oil Bucket Level	Sediment Level	Trash Conditions
<input type="checkbox"/> low <input type="checkbox"/> normal <input type="checkbox"/> above outlet	<input type="checkbox"/> low <input type="checkbox"/> typical <input type="checkbox"/> high	<input type="checkbox"/> little <input type="checkbox"/> typical <input type="checkbox"/> excessive	<input type="checkbox"/> minimal <input type="checkbox"/> typical <input type="checkbox"/> unacceptably high
Recommendations: This unit appears to need maintenance on a <input type="checkbox"/> shorter <input type="checkbox"/> longer <input type="checkbox"/> unchanged schedule.			

This report is a complete and accurate description of conditions found at the time of inspection and all work performed on this device

Inspector's Signature: _____

Date: _____

Inspection Data

Sediment: inlet side	Inches
Sediment: outlet side	Inches

Water in unit at inspection	Inches
Fluid in bucket at inspection	Inches

Items Maintained

Comments

Lid: inspect bolts, eyehooks, hinges	
Trash Rack: inspect aluminum mesh	
Baffle Plates: inspect for damage	
Oil Bucket: Leaks / Sheen	
Surroundings: check grass/plantings	
Coconut Fiber / Flapper	

Additional Comments