

**Riverdale Assisted Living Center  
Monitoring and Maintenance Plan for Water Detention Facility**

This long-term Monitoring and Maintenance (M&M) Plan shall be implemented at Riverdale Assisted Living to ensure that the storm water management system functions as designed. This Monitoring and Maintenance Plan is intended to cover all on-site drainage structures. The Property Owner, Josh Yeates/K. Delyn Yeates, possesses the primary responsibility for overseeing and implementing the M&M Plan and designating a person who will be responsible for the proper operation and maintenance of the storm water structures. In case of transfer of property ownership, future property owners shall be notified of the presence of the storm water management system and the requirements for proper implementation of the M&M Plan.

DB

**M&M Plan Implementation Manager Contact Information:**

Josh YEATES Property Manager

(801) 497-6802

**Property Address:**

1580 West Ritter Drive  
Riverdale, UT 84405



\*W2867737\*

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**Components of the Monitoring and Maintenance Plan include:**

- Removal of all trash and litter debris from entire site, particularly parking areas, service areas, landscaped areas, and drainage basin areas;
- Pavement sweeping of driveways, parking areas and service areas;
- Removal of sediment and pollutants trapped in swales, catch basins, and basins;
- Prohibitions on high-phosphorous content fertilizers;
- Prohibitions on the use of road salt for winter deicing purposes;
- Routine Inspection and Maintenance for the OSR 065 Stormceptor per the owner's manual.

**Storm Water Runoff Quality:**

The storm water management system protects and enhances the storm water runoff water quality through the removal of sediment and pollutants, and source control significantly reduces the amount of pollutants entering the system. Preventive maintenance of the system will include a comprehensive source reduction program of regular sweeping and litter removal, prohibitions on the use of pesticides, and maintenance of trash areas. These measures are described below.

**Drainage System:**

Storm water runoff is collected in catch basins with sediment sump and conveyed via a storm drain pipe first to the aboveground detention area, through an OSR 065 Stormceptor system, to end in a gravel linear sump that is wrapped with filter fabric. The catch basin sump provides

water quality treatment by collecting large sediment particulates, the Stormceptor system removes further sediments, solids, oils and grease from runoff prior to discharge to the subsurface detention facility. Maintenance and cleaning of the catch basin, sump, and Stormceptor will assure continuous adequate performance.

**Maintenance Program:**

The Property Manager and maintenance staff will conduct the monitoring and maintenance program set forth in this document. The Manager will ensure that inspections and record keeping are timely and accurate and that cleaning and maintenance are performed at least on a bi-annual basis. Inspection & Maintenance Log Forms (attached) shall include the date and the amount of the last significant storm event in excess of 1" of rain in a 24-hour period, physical conditions of the structures, depth of sediment in structures, evidence of overtopping or debris blockage and maintenance required of each structure. Records of maintenance will be kept on file at the Property Manger's office and copies of Inspection & Maintenance Log sheets indicating all work and inspections will be available to Riverdale City upon request.

All storm water management structures will be inspected two times per year, with cleaning typically occurring in April and October and possibly more often, as site conditions warrant. Concurrent with inspection and cleaning, all litter shall be picked up and removed from the parking areas, service areas, and landscaped areas.

**Quarterly Inspections:**

1. Inspect catch basin inlet grates and remove any debris monthly or as determined to be reasonable based on experience with the installed systems to ensure that the catch basin is working in its intended fashion and that it is free of debris; quarterly, inspect catch basin sumps and bottom of drain manholes; if depth of sediment in sumps exceeds 50% capacity, sediment must be removed. Excessive sediment shall be removed and properly disposed.

**Bi-Annual Inspections (performed in April and October):**

1. Inspect sediment depth once per year or more frequently if depth of sediment exceeds 6-inches (one third of the 18" depth catch basin sump collection volume). Accumulated sediment must be removed if the depth of sediment exceeds 6-inches (one third of the 18" depth catch basin sump collection volume) during inspection. Excessive sediment shall be removed and properly disposed.
2. Inspect subsurface system for standing water. If standing water is observed for longer than 72 hours, a pump should be placed in the basin and the water discharged from the site. After a system is dewatered, it should be observed by a Professional Engineer. A Professional Engineer should provide an opinion as to why the system is not draining and provide recommendations to restore capacity to the system. Note: When the subsurface system is first constructed, this inspection should occur after every major storm for the first 3 months. A major storm shall be any storm that produces 1-inch or more of rain.

Thereafter, inspect as necessary to ensure that the filter is draining properly. Clean and flush as required and remove accumulated sediment if it exceeds a depth of 6 inches.

3. Inspect Catch Basin Grate and remove any litter, or debris.
4. Inspect all vegetated areas and remove litter and debris as necessary. Inspect basin slopes and embankments early in the spring to identify active or potential erosion problems. Replace with gravel for any exposed bare areas. Where rill erosion is evident, armor the area with an appropriate lining or divert erosive flows to on-site areas able to withstand the concentrated flows.
5. Inspection of trash and recycling enclosures for spillage and scattered litter must be performed on a regular basis to prevent the spread of pollutants into the storm water management system.
6. Inspect Stormceptor chamber for sediment buildup. Accumulated sediment should be removed once 15% (approximately 8") of the unit's total storage capacity is reached for optimum performance. Removal of sediments and oil is performed from the surface via vacuum truck.

**Pavement Sweeping Program:**

Long-term management practices include monthly sweeping of driveways and parking areas. The sweeping program will remove sand and contaminants directly from paved surfaces before they become mobilized during rain events and transported to the drainage system. Pavement sweeping is a highly effective source control measure for reducing pollutant loading in storm water. All sweepings will be disposed of in a legal manner.

**Winter Maintenance Program:**

Ensure that drainage structures are not blocked by ice, snow, debris or trash during winter months. Sand shall be the primary agent used for driveway and parking lot safety during ice and snow conditions.

**Fertilizer Use:**

Only slow-release organic low-phosphorous fertilizers will be used in the park-strip landscaped area in order to limit the amount of nutrients that could enter the storm water system.

**Stormceptor:**

Refer to the owner's manual located at the site below for additional detailed maintenance and procedures related to the Stormceptor water quality unit.

[http://www.imbriumsystems.com/Portals/0/documents/sc/technical\\_docs/Stormceptor%20Owners%20Manual.pdf](http://www.imbriumsystems.com/Portals/0/documents/sc/technical_docs/Stormceptor%20Owners%20Manual.pdf)

**Maintenance Schedule:**

The following is a general maintenance schedule that can be used as a reference by the Property Manager. This schedule includes the maintenance action to be taken and when the action is to occur.

Site Component	Action to be Taken	Timeline for Completion
Catch Basins/Manholes	Monthly inspections with Quarterly cleaning, removal of sediments, oils, and floatables	Monthly Inspection, Quarterly Cleaning
Water Quality (Stormceptor)	Cleaning, removal of sediments, oils, and floatables	April October Clean after all oil spill events
Pavement Areas	Sweeping of paved areas, disposal of sweepings in a legal manner; removal of trash and litter from pavement	Monthly
Drainage Basin Areas	Removal of wind-blown trash and litter from entire property	April October
Subsurface Infiltration Basins	Inspect for accumulated sediment	April October
Subsurface Infiltration Basins	Inspect for standing water for periods in excess of 72 hours and for accumulated sediment	After each storm greater than 1" for 3 months after construction. Then biannually in April and October

**Illicit Discharge Compliance Statement:**

There shall be no illicit discharges to the storm water management system. The Property Manager is responsible for implementing the Monitoring and Maintenance Plan and overseeing activities at the facility to prevent illicit discharges to the drainage system from occurring.

It is strictly prohibited to discharge any products or substances onto the ground surface or into any drainage structures, such as catch basin inlets, manholes, or drainage outlets.

Should a spill occur, immediate action steps must be implemented to contain the spill. Cordon off the area, clean it up immediately and dispose of it properly to prevent an illicit discharge to the storm water management system.

**Drainage Operation and Maintenance Log**

Site Maintenance Supervisor: \_\_\_\_\_ Date: \_\_\_\_\_

Routine     Response to Rainfall Event \_\_\_\_\_ in     Other \_\_\_\_\_

BMP	Frequency	Date Performed	Comments
Catch Basins and Drain Manholes	Immediate Oil/Hazardous Material Removal		
Pavement Areas (parking, driveways, service areas)	Monthly Sweeping Trash & Litter Removal as necessary		
Landscaped & Vegetated Areas	Maintain as necessary		
Subsurface Systems (Gravel sump, Stormceptor)	Bi-Annual Inspections		

Inspection Form

**\*Inspect detention basins and subsurface infiltration systems after each 1" rainfall for the first 3 months after construction.**

Riverdale Living, LLC

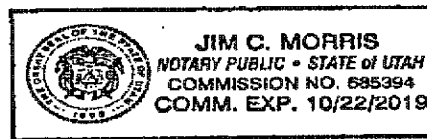
*K. Delyn Yeates*  
K. Delyn Yeates, Manager

LIMITED LIABILITY COMPANY ACKNOWLEDGMENT

STATE OF UTAH)  
COUNTY OF Davis)

On the 12th day of July, 2017, before me, the undersigned Notary Public, personally appeared K. Delyn Yeates, known to me to be the member(s) or designated agents of the limited liability company that executed the above and acknowledged to be the free and voluntary act and deed of the limited liability company, by authority of statute, its articles of organization or its operating agreement, for the uses and purposes therein mentioned, and an oath stated that they are authorized to execute said instrument freely and voluntarily for the purposes and use herein mentioned on behalf of the limited liability company.

*J. C. Morris*  
\_\_\_\_\_  
NOTARY PUBLIC



My Commission Expires: 10-22-19

Residing at: Davis County

Exhibit "A"

**BOUNDARY DESCRIPTION**

PART OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER AND THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 13, TOWNSHIP 6 NORTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT, SAID POINT LIES N89°53'37"W ALONG THE 1/4 SECTION LINE 467.48 FEET AND S00°06'23"W 20.89 FEET FROM THE CENTER OF SECTION 13; THENCE THE FOLLOWING THREE (3) COURSES: (1) THENCE N60°08'26"W 208.12 FEET; (2) ALONG A CURVE TURNING TO THE RIGHT WITH AN ARC LENGTH OF 50.61 FEET, A RADIUS OF 60.00 FEET, A CHORD BEARING OF N35°58'39"W, AND A CHORD LENGTH OF 46.12 FEET; AND (3) ALONG A REVERSE CURVE TURNING TO THE LEFT WITH AN ARC LENGTH OF 71.43 FEET, A RADIUS OF 154.00 FEET, A CHORD BEARING OF N25°06'05"W, AND A CHORD LENGTH OF 70.79 FEET; THENCE N29°28'35"E 229.60 FEET; THENCE S58°32'30"E 114.56 FEET; THENCE S28°24'35"E 195.44 FEET; THENCE S29°20'16"W 281.25 FEET TO THE POINT OF BEGINNING.

CONTAINING 85858 SQUARE FEET AND 1.971 ACRES

08-588-0001 (08-106-0008) ✓ Spgr

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