# FUGITIVE DUST CONTROL PLAN

## SIMPLOT FEEDERS LIMITED PARTNERSHIP

March 2018

## INTRODUCTION

Washington Administrative Code (WAC) 173-400-040 requires air pollution sources to take “reasonable precautions” to prevent the release of fugitive emissions. This Fugitive Dust Control Plan follows Department of Ecology’s Fugitive Dust Control Guidelines for Beef Cattle Feedlots and Best Management Practices. Those guidelines clarify what constitutes “reasonable precautions” to minimize emissions of fugitive dust from feedlots. The primary mechanism for doing this is to identify best management practices (BMPs) for fugitive dust control and implement these practices according to flexible, site-specific fugitive dust control plans.

## LOCATION

Simplot Feeders is a Confined Animal Feeding Operations (CAFO) located in Walla Walla County, approximately 3.5 miles north of Wallula, Washington. The feedlot was constructed in 1970 and has been in operation since that time. Simplot Feeders purchased the operation in October, 1992. The feedlot and ancillary facilities are found principally on 705 acres within the E ½ of Section 34 and all of Section 35, less a portion of the SE ¼ thereof, within Township 8N. Range 31 E.W. M.


**Figure 1: Facility Location**

## OPERATIONAL CAPACITY

The facility is composed of open air fenced pens which are constructed on dirt and covered with manure to maintain moisture while providing a base for animals. Total pen area is approximately 325 acres or ~177 square feet per animal. The facility has an 80,000 head capacity. Roadways are constructed with pit run gravel. The facility also includes feed preparation and handling equipment and operation areas to support the feeding of up to 80,000 head of cattle. Feedlot conditions are affected by many variables including, but not limited to weather and operations.

## WATER AVIALABILITY

Simplot Feeders has a water right issued by the state of Washington that provides a maximum diversion of 1,500 gallons per minute and a volume restriction of 525 million gallons per year. This is the water right that provides the water for the implementation of the BMP's contained in our plan. This water is available to the feedlot operations from approximately April 1$^{st}$ to October 15$^{th}$

## SITE SPECIFIC FEATURES

There are a number of factors which are taken into consideration for the implementation of BMP's at our cattle feedlot operation:

- Simplot Feeders balances water application in relationship to animal health, which is affected by moisture and ambient air temperature.
- Water application requires balancing effective dust control with control of odors and fly management program.
- Water application must be managed in conjunction with maintaining appropriate floor and mound conditions for cattle.
- Water application at the Simplot Feeders site is complicated by wind conditions, pen size, and the necessity to ensure that the feed bunk area is protected from excessive moisture applications.
- Pens are sized to provide optimum livestock performance while minimizing fugitive dust.
- Water quality concerns created by runoff must be taken into consideration when using water for emission control.
- The sprinkler system's water distribution is affected by operational limitations. These include but are not limited to water pressure and system capacity.
- Feedlot terrain complicates the operation of some BMP's. The feedlot is located in an area where the landscape is rough and uneven. These physical factors affect water application rates and distribution uniformity. With the uneven pen surface, it is difficult to maintain minimal depth of loose manure.

## BEST MANAGEMENT PRACTICES

BMPs are implemented as needed throughout the year pursuant to the Operational Plan described below including a daily adaptive management process.

### PEN MAINTENANCE

Simplot Feeders performs manure removal and pen floor maintenance on a continuous basis throughout the year, and excess manure is removed from the pens as weather and moisture conditions permit. Simplot Feeders use tractors with box scrapers for shaping and grooming the mounds and pen floor. As needed, excess manure is removed to maintain minimal loose manure. At times, cattle carve out wallows in the pen floor. When these occur, they are filled with soil and covered with manure. Feedlot management and personnel monitor pen conditions on a continuous basis. They look for excess manure, wallows, dry areas, and overly wet conditions.

Wood chips may be used as needed in cattle alleys to help minimize fugitive dust emissions.

**CROSS FENCING**

Simplot may use cross fencing in pens that are determined to have the potential to generate fugitive dust emissions that cannot be reasonably minimized through the implementation of other BMPs. The pen will be split with temporary fencing to increase animal density. This increases moisture contribution to the pen from manure and urine.

**SPRINKLER SYSTEM**

Simplot Feeders' Plan includes a computer controlled sprinkler system that applies water to the pen surface to maintain enough moisture to proactively minimize dust from becoming airborne. The system includes full and part circle sprinklers and allows individual sprinkler run times to be adjusted to optimize water application and minimize fugitive dust emissions. Run time for each sprinkler is set based on daily observations of pen conditions and current and predicted weather conditions.

In case of sprinkler system mechanical breakdowns the facility will take the following action as necessary to mitigate the breakdown.

- Increase water truck application
- Run on manual if possible
- Bypass portion of the system with failure and continue operation if possible
- Repair as soon as possible
- Keep a list of parts needed for most common repairs and maintain a reasonable inventory of those parts

Periodically, the Feedlot manager will perform an evaluation of the sprinkler system to determine if the effectiveness of the system can be cost effectively improved. With the aid of dust monitoring reports, daily sprinkler logs, and daily observation notes, feedlot management will determine if the sprinkler systems needs any modifications. The modification may include:

- Use of higher emitting sprinklers in larger pens
- Relocation of sprinklers that are ineffective due to wind direction
- Sprinkle empty pens at a reduced rate
- Use pressure regulators where appropriate to balance pressure at the sprinkler end throughout the system.
- Replacement of all or part of the system to improve coverage and/or reliability.

The system is started approximately April 1, and will be put into service prior to conditions that create the formation of fugitive dust. Sprinkler operation continues until approximately October 15.

The system is shut down for the cold winter months due to the potential for freezing and due to unavailability of water. During those months other BMPs will be implemented as needed.

**WATER TRUCKS**

Simplot Feeders' Plan includes the utilization of water trucks to control roadway and pen dust. The roadways are constructed with pit run gravel providing an effective road base. Water trucks traveling less than 15 miles an hour will apply water to roadways using a splash plate or spray bar to distribute the water. Most of the water trucks have a capacity of 4000 gallons and average a load every 30 minutes barring any unforeseen difficulties. Roadways, dry areas in pens and feed loading areas are watered according to conditions and usage determined by feedlot management visual observations made throughout the day. Whenever weather and operational conditions are such that fugitive dust emissions are likely to be generated, at least one truck starts watering 1-2 hours before feeding operations begin in the morning.

The feedlot runs multiple water trucks as needed to control fugitive dust emissions The number and use of trucks in service on a daily basis is determined by the BMP responsible person at the beginning of each week and each day when conditions have changed. The number of water trucks to be used will depend on visual observations, daily monitoring reports, and current and forecasted weather conditions. Water trucks are available year round when needed to minimize fugitive dust emissions from the feedlot operations. Water trucks may be equipped with a water cannon which can be used to wet dry areas in pens and alleys that the sprinklers do not reach.

Water application by water trucks is recorded on a daily water truck log.

**ROAD TREATMENT**

Simplot Feeders may use dust control treatments such as magnesium chloride in high traffic areas when the feedlot managers determines that the use is more beneficial than increased water truck usage.

**FEED LOADING BMP's**

Simplot Feeders Fugitive Dust Control Plan includes several Best Management Practices implemented to aid in control of fugitive emissions from the feed loading process.

- High moisture rations to eliminate dust from trucks while feeding.
- Adding high moisture feeds first in loading sequence to help minimize dust when mixing dryer feeds.
- Wind break structures are located in feed loading area to help minimize drift.
- Loader operators keep buckets as low as possible while loading trucks and also restrict movement of feed in loading area to reduce fugitive dust emissions.
- Use mineral mixes formulated to help reduce fugitive dust during loading and mixing.
- During excessive winds loader operators will keep buckets in a low position except when loading trucks.

- Water trucks may be used in feed processing and truck loading areas to proactively minimize fugitive dust emissions that are not effectively minimized by the above listed measures.

**MANURE MANAGEMENT**

Manure management historically has not been a source of fugitive dust as Simplot Feeders. If fugitive dust is noted from this operation, Simplot will evaluate and take action to proactively minimize fugitive dust emissions from the handling and storage of manure.

## OPERATIONAL PLAN and ADAPTIVE MANAGEMENT PLAN

In order to provide for proactive minimization of fugitive dust emissions, Simplot will implement the following operational and adaptive management plan. Simplot will designate a responsible person as the BMP RP on the Daily Adaptive Managemnet plan (Appendix D).

**Daily Adaptive Management.** At the beginning of each day the BMP RP will make a plan for BMP application for that day based upon the following considerations:

-Dust monitoring reports from the last night and previous days
-Visual observation of the feedlot
-Current and forecast weather conditions including but not limited to temperature, precipitation, and wind
-Pen floor moisture and general condition of pens determined by physical checking of the site

Based upon these factors and any other relevant conditions, the BMP RP will make a plan for application of BMPs. If any pens are noted as potentially dusty, then the BMP RP physically checks the pens to determine the nature of the problem, and the best course of action to address it. For instance, the pens may need additional sprinkler time or have an area that needs to be covered by a water truck. If a pen has an area that is muddy and an area that is dry then it may need to have scrapers come in and spread the wet material out over the dry area.

The plan will identify how each BMP will be implemented over the following 24 hours to proactively minimize fugitive dust emissions from all feedlot operations. This plan shall be recorded in The Sprinkler Log and Adaptive Management Report (Appendix D), although if there is no change in the plan a notation referencing no change is sufficient. Throughout the day the BMP RP will continue to monitor conditions and adjust this plan as needed.

Before the end of his or her shift, the BMP RP shall review feedlot conditions and identify any pen conditions and weather developments that may result in

the formation of fugitive dust emissions at the feedlot through the night. The BMP RP will make arrangements for BMP application over the night if necessary. The BMPs RP will then sign off on the daily BMP plan and Sprinkler Log and Adaptive Management Report (Appendix D) at the end of the shift with a determination that fugitive emissions have been controlled for the day and appropriate steps have been taken to prepare for the night as needed.

Night shift security personnel will conduct evening observations and may apply BMPs if safe to do so to correct observed dust problems. The night security personnel submit the dust monitoring sheets to the feedlot management. See Appendix B. The night security personnel are also authorized to use water trucks to address any area that they determine need immediate attention and also operate the sprinkler system on manual if needed as long as it can be done in a safe manner. Management is on call so that the night security personnel may notify if there are any system malfunctions that need immediate attention in order to minimize fugitive dust emissions.

Observations and BMP applications will be recorded in the Daily Dust Monitoring Report (Appendix B). Night observations will include the feedlot pens as well as the feed prep area.

The next morning the BMP RP will review the night shift observations and BMP applications from the previous evening. If emissions were observed over the night that meet the 24 hour notification criteria, the then the BMP RP will notify Ecology before the end of their shift as described below.

**TRAINING**

Simplot Feeders will provide training annually for employees with specific responsibilities for implementing BMP's in the FDCP. The training will cover the FDCP BMP's, general dust awareness, monitoring, reporting, and recordkeeping requirements. This training will be provided to maintenance supervisors, night watchmen, water truck drivers, loader operators at the feed prep area and other feedlot employees involved with implementing the FDCP BMP's.

## MONITORING, RECORD KEEPING, AND NOTICE TO ECOLOGY

Simplot Feeders keeps the following records related to the Fugitive Dust Control Plan:

Daily Dust Monitoring Report (Appendix B)
Daily Sprinkler Run Graph (Appendix C)
Sprinkler Adjustment Log and Adaptive Management Report (Appendix D)
Water Truck Logs (Appendix E)

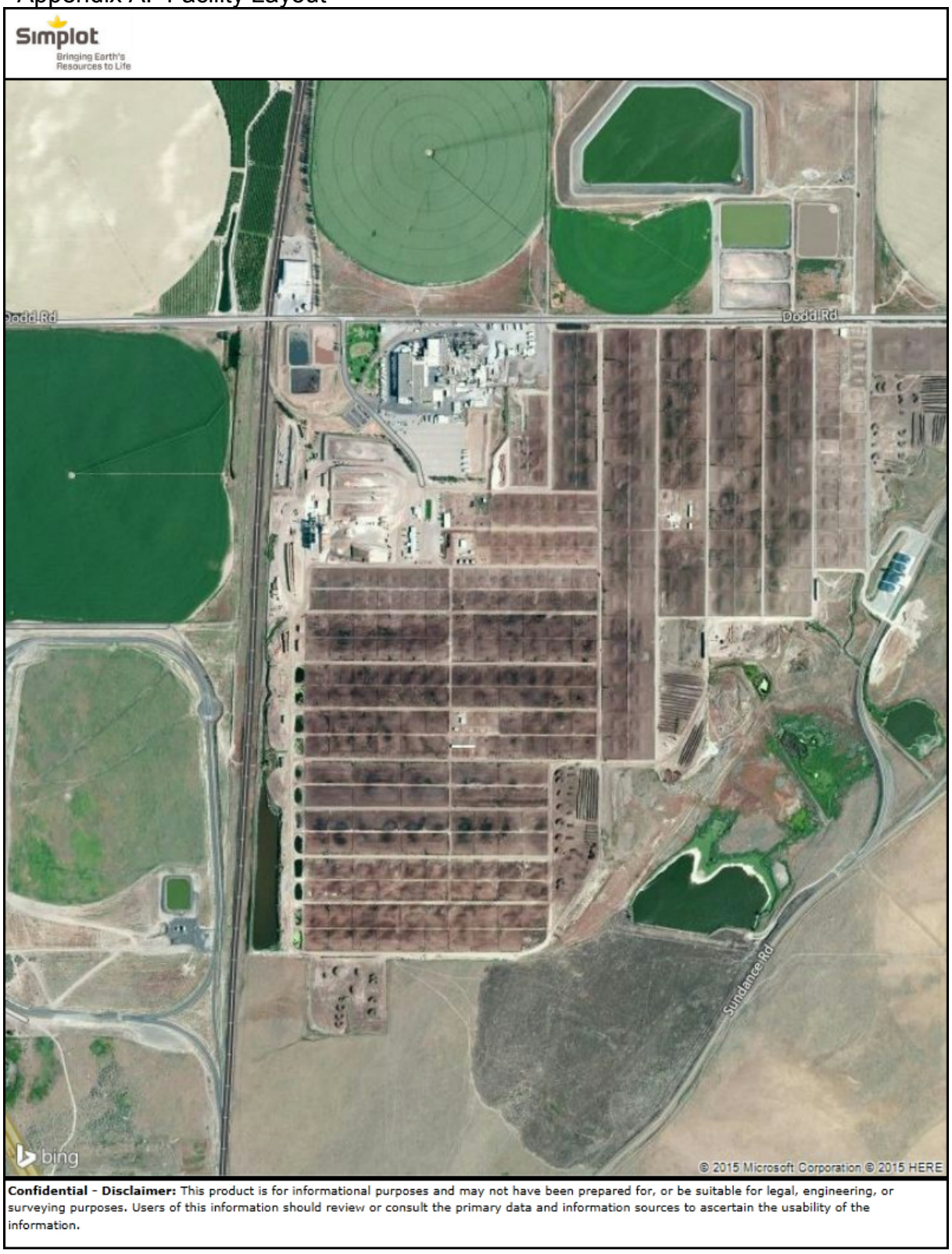
Notations of adaptive management actions in the Sprinkler Adjustment Log and Adaptive Management Report (Appendix D) should be described whenever there is a change. When there is no change in the plan because conditions have generally remained the same as the previous day a simple reference to no change in the daily AMP is sufficient.

Simplot will notify Ecology within 24 hours of operational concerns and non-typical conditions that may affect the ability to minimize fugitive dust.

## CONTACT PERSON

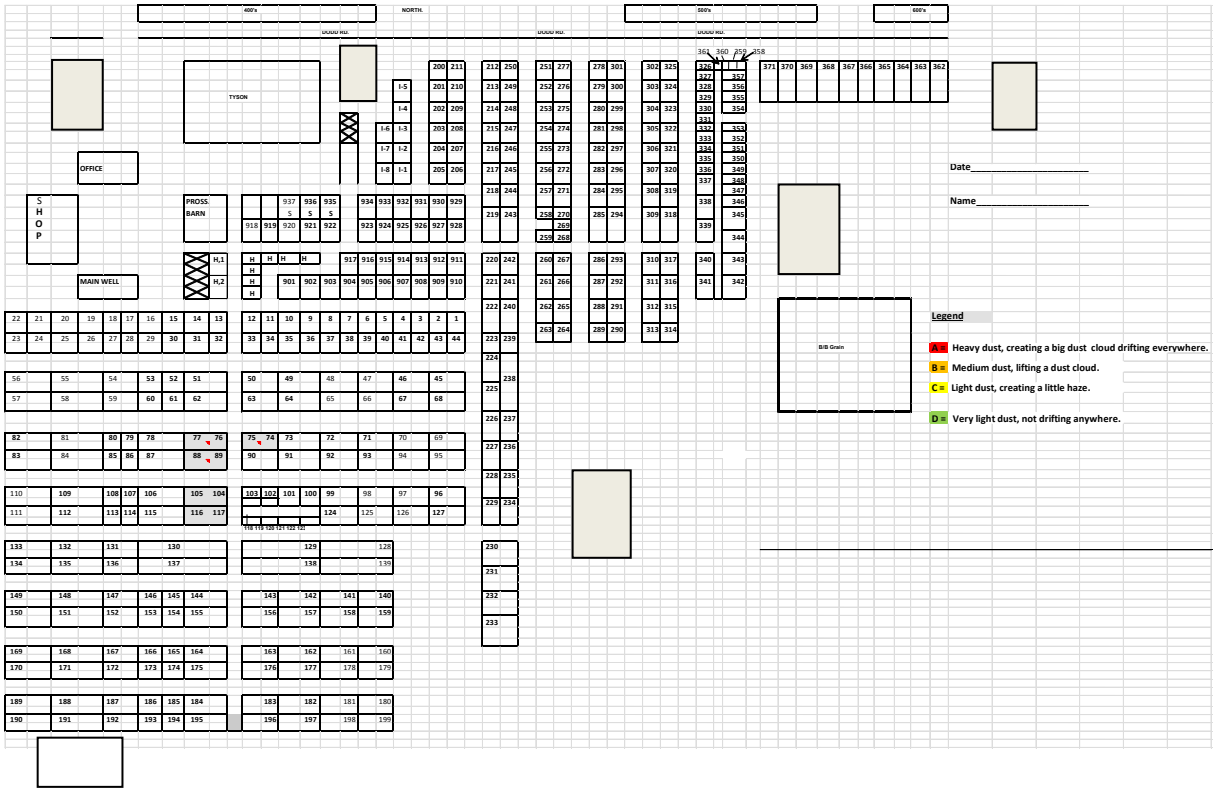
Matt Driscoll
Feedlot Manager
Simplot Feeders Limited Partnership
PO Box 1306
IBP/Dodd Road
Pasco, Washington 99301
Phone – 509/547-8864
Fax – 509/547-8866

Appendix A: Facility Layout

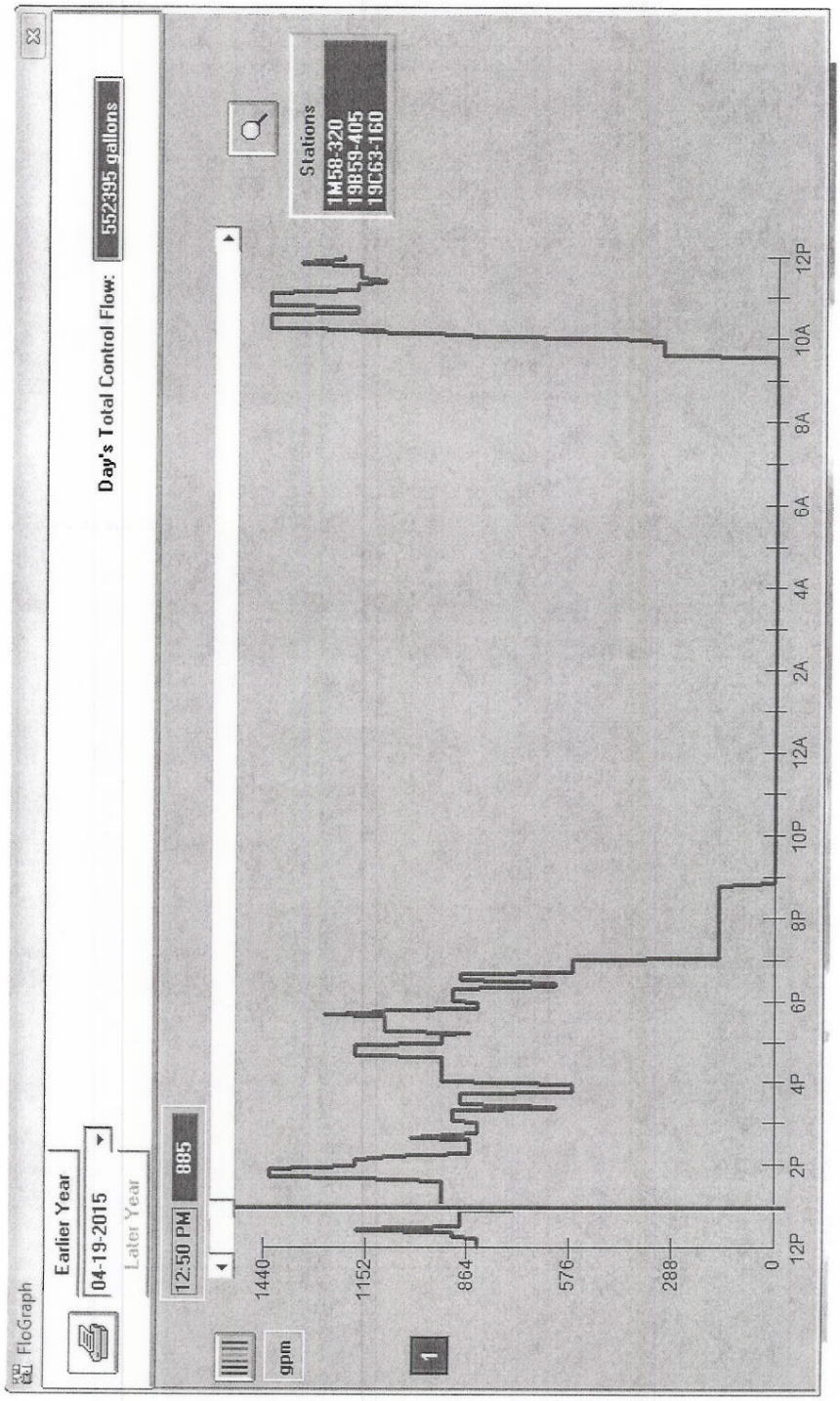



**Confidential - Disclaimer:** This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

## Appendix B: Daily Dust Monitoring Report



Appendix C: Daily Sprinkler Run Graph



Appendix D: Sprinkler Adjustment Log and Adaptive Management Report

Responsible Person:_____

Date: _____ _____ Time: _____

Sprinkler Adjustments

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area R | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| Area R | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Area P | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| Area P | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Area M | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| Area M | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Area D | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| Area D | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Area C | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| Area C | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Area B | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |
| Area B | Station | | | | | | | | | | | | |
| | Time | | | | | | | | | | | | |

Sprinkler Notes: _____

_____

Pump Notes:

Pen Observation Notes:

No. of Water Trucks:

Notes:

Weather:

Temp.

Precipitation Last 24 Hrs. Y N

Appendix E: Water Truck Logs