CEDAR GROVE

7343 E. Marginal Way S., Seattle, WA 98108
877-764-5748 | CEDAR-GROVE.COM

July 11, 2013

Puget Sound Clean Air Agency
Attn: Steve Van Slyke
1904 Third Avenue, Suite 105
Seattle, WA 98101

RE: NOC for Maple Valley Grinding and Tipping Building

Dear Mr. Van Slyke:

Cedar Grove Composting- Maple Valley facility has a biofilter dedicated to the grinding building operation and one for the tipping or receiving building. No changes are being made to the currently permitted receiving building biofilter. The request is to update the CFM design rating for the receiving building biofilter and expand the grinding building biofilter to take some of the air load out of the tipping building biofilter and move it to an increased size grinding building biofilter.

We have enclosed and copy of a Notice Of Construction (NOC) for the expansion of the existing grinding building biofilter. We are requesting an applicability determination to decide if the addition of this venting can be implemented without a change to the existing NOC or require a new NOC. The attachments include the following:

1) NOC

2) CH2MHill 70% design drawings

PSCAA Regulation 6.03(a) requires that an approval order be obtained before making a "substantial alteration" to control equipment installed on an existing source. We believe the correction to the receiving building biofilter rating and the expansion of the grinding building biofilter is not a "substantial alteration" of the biofilter, which is the control equipment on the grinding building. In addition PSCAA 6.03(b)(10) allows a source to request a determination, based on the information in an NOC application, that no approval order is required because the change to the control equipment would have a "de minimis impact on air quality and does not pose a threat to human health and the environment."

Please contact us if additional information is required in order to make a determination of applicability.

Sincerely,

Jerry Bartlett

Jerry Bartlett
Chief Environmental and Sustainability Officer
Cedar Grove Composting

pscleanair.org
Puget Sound Clean Air Agency

PUGET SOUND CLEAN AIR AGENCY
1904 3rd Ave Ste 105
Seattle WA 98101-3317
(206) 689-4052 Fax: (206) 343-7522 www.pscleanair.org

NOTICE OF CONSTRUCTION AND APPLICATION FOR APPROVAL

Incomplete applications delay Agency review, so please fill out your application thoroughly. Instructions for filling out the application are available on the NOC Permit Application Instructions webpage.

GENERAL EQUIPMENT FORM — FORM P

AGENCY USE ONLY Date: 7/11/13 Reg No.: 25994 NOC No.: 10649

Type of business: (check)
☐ new
☒ existing

Status of equipment (check):
☐ new ☒ altered
☐ existing ☐ relocation

Applicant Name & Mailing Address: Cedar Grove Composting
7343 E. Marginal Way S.
Seattle, WA 98108
Phone No.: 206-832-3000
Fax No.:
Email Address: JerryB@EmeraldNW.com

Company (or owner) name & mailing address:
Cedar Grove Composting
7343 E. Marginal Way S. Seattle, WA 98108

Nature of Business / Type of Process:
Composting

Installation address (Include city & zip code):
17825 Cedar Grove Rd.
Maple Valley, WA 98038

PROCESS EQUIPMENT AND CONTROL EQUIPMENT

Process Equipment		Air Pollution Control Equipment	
# Units	Equipment Type	# Units	Equipment Type
2	Building 5 - Grinder And Tipping	2	Bio Filters

7/11/13 PAID AMOUNT $1,150.00 CK. NO. 74570 RCPT. NO. 106385

☐ Attach a process flow diagram

☒ Attach a project description

PREPARER'S CERTIFICATION STATEMENT

I, the undersigned, certify that the information contained in this application and the accompanying forms, plans, and supplemental data described herein is to the best of my knowledge, accurate and complete.

Signature: Jerry Bartlett Date: 7-5-2013

Type or print name: Jerry Bartlett Title: CSEO Phone: 206-832-3005

Prepared by (signature and title):

Your application will not be processed unless you mail a $1,150 filing fee payment *along with this application*. Additional fees may apply after application review. An Environmental Checklist form and additional equipment specific forms may also be needed. These forms are available on the Agency's Regulatory Forms webpage. See the NOC Permit Application Instructions webpage for instructions on filling out the permit application. To pay by credit card, check here ☐ and an accounting technician will contact you.

Cedar Grove New Grinding Building Biofilter Collection System Details

PREPARED FOR: Cedar Grove Composting

PREPARED BY: CH2M HILL

COPIES: Todd Williams/CH2M HILL/RIC
Stacia Dugan/CH2M HILL/SEA

DATE: August 29, 2013

Introduction

This memo is intended to provide concept level details on the planned new biofilter for the Cedar Grove Tipping building and Grinding building, including exhaust air flow collection details.

The existing fan on the south-east corner of the original tipping building supplies approximately 14,000 cfm of exhaust from the tipping building to the south biofilter. A second exhaust fan on the west of the tipping building exhausts approximately 16,000 cfm from the other end of the tipping building. CH2M HILL provided a redesigned larger biofilter to the west of the tipping building that is 50′ wide by 90′ long. The existing 16,000 cfm fan will be replaced with one larger 35,300 cfm capacity fan to increase the exhaust flow from both the tipping building and the grinding building. The following is the basis of the airflow calculations and sizing.

	Volume (CF)	Airflow Req'd for 4 AC/HR	Existing Airflow CFM	New Airflow CFM	Increase in Airflow CFM
Tipping Building	515,000	34,300	30,000	34,300	4,300
Grinding Building	224,900	15,000	-	15,000	15,000
TOTAL	739,900	49,300	30,000	49,300	19,300

The new biofilter has an area of 4500 SF and a volume at 6′ of depth of 27,000 CF. The empty bed residence time is therefore (27,000/35,300) X 60 or 46 seconds which is adequate.

Figure 1 shows the site layout plan showing the collection ducting locations. A 24″ diameter HDPE collection duct will be installed along the south wall of the grinding building and a collection point installed approximately one quarter of the width of the building and three quarters down the length of the building from the grinder end. An open

collection inlet will be hung from the roof infrastructure to draw exhaust from the building and minimize releases through the westernmost door. A flow control damper will be placed on this line to allow closing it off when the grinding operation is not in use and exhaust is not required. A second HDPE collection duct 48" in diameter will be installed in the front end of the tipping building nearer to the grinder. The open ended duct will be hung from the roof infrastructure to draw exhaust from this end of the building. A flow control damper will be placed on this line as well.

We are evaluating the possibility of using a variable frequency driven motor to allow increase of the fan speed as the biofilter media ages and compacts. This will allow for maintaining the required airflow from the two buildings even as the system backpressure increases as the media ages.

SHEET KEYNOTES

1. HDPE COLLECTION HEADER, HUNG FROM CEILING
2. 48" DIAMETER ADS N12 HDPE STORM PIPE
3. 12" DIAMETER SDR 17 HDPE PIPE
4. NEW BIOFILTER FAN - 35,300 CFM
5. HDPE COLLECTION HEADER, HUNG FROM CEILING
6. FLOW CONTROL DAMPER

0 20 40 60
Scale In Feet

SITE LAYOUT PLAN
1"=20'-0"

NO.	DATE	REVISION	BY	APVD
DSGN	TO WILLIAMS	DR	CHK	JC HALEC

CH2MHILL®

CIVIL

NEW GRINDING BUILDING BIOFILTER
CEDAR GROVE COMPOSTING FACILITY
MAPLE VALLEY, WA

SITE LAYOUT PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2012
PROJ	427521
DWG	C-2001
SHEET	of

FILENAME: [illegible] PLOT DATE: 2013\08\29 PLOT TIME: 11:02:54 AM

SHEET KEYNOTES

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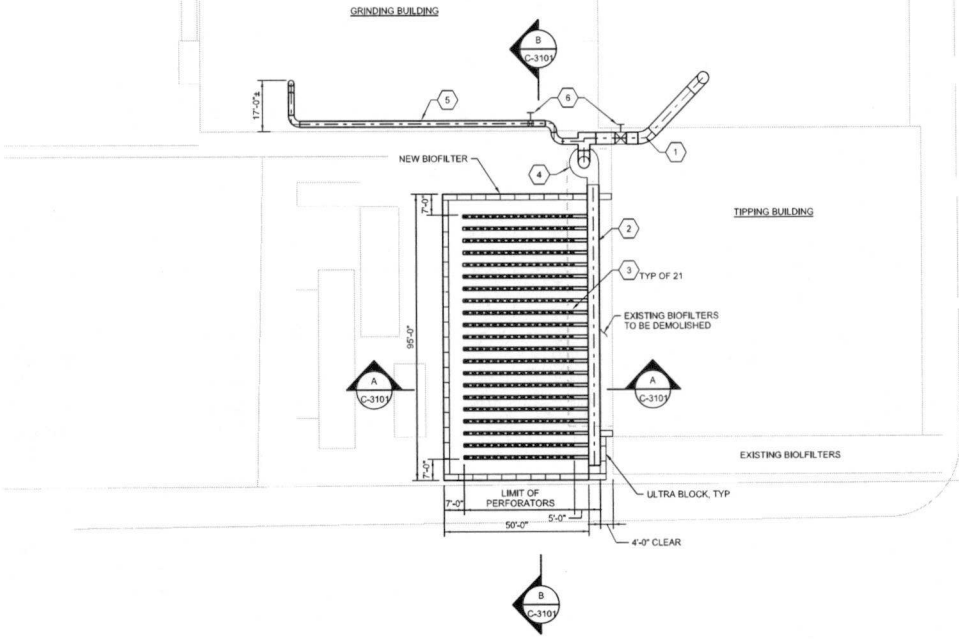

0 20 40 60
Scale In Feet

SITE LAYOUT PLAN
1"=20'-0"

N

NO.	DATE	BY	APVD
DSGN	TO WILLIAMS	DR	CHK
	JC HALEC		APVD

REVISION

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NEW GRINDING BUILDING BIOFILTER
CEDAR GROVE COMPOSTING FACILITY
MAPLE VALLEY, WA

SITE LAYOUT PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

DATE	AUGUST 2012
PROJ	427528
DWG	C-2002
SHEET	of

FILENAME: [illegible] PLOT DATE: 2013\08\29 PLOT TIME: 11:03:44 AM

Cedar Grove New Grinding Building Biofilter Collection System Details

PREPARED FOR: Cedar Grove Composting

PREPARED BY: CH2M HILL

COPIES: Todd Williams/CH2M HILL/RIC
Stacia Dugan/CH2M HILL/SEA

DATE: February 6, 2014

1.1 Introduction

This memo is intended to provide concept level details on the planned new biofilter for the Cedar Grove tipping building and grinding building, including exhaust air flow collection details. The plan also includes potential modifications to the existing tipping building biofilter. This is a second version of the proposed design incorporating suggestions provided by PSCAA.

1.2 Design Parameters

The existing fan on the south-east corner of the original tipping building provides approximately 14,000 acfm of exhaust from the tipping building to the south biofilter, or current tipping building biofilter. Cedar Grove is considering minor modifications to the design of this biofilter, including modifying the design of the laterals or potentially installing an aeration system similar to the type used in the GORE™ system. The existing fan will be replaced with a new fan capable of moving 18,000 acfm of air. Cedar Grove is also evaluating the possibility of using a variable frequency driven motor, oversized by about 10 percent, to allow increase of the fan speed (pressure) as the biofilter media ages and compacts. This will allow for maintaining the required airflow from the two buildings even as the system backpressure increases as the media ages.

The exhaust fan on the grinding building exhausts approximately 16,000 acfm. CH2M HILL is proposing a redesigned, larger biofilter to the south west side of the tipping building where the grinding building biofilter is currently located that will be approximately 50' wide by 95' long. The existing 16,000 cfm fan will be replaced with one larger 32,300 cfm capacity fan to increase the exhaust flow from both the tipping building and the grinding building. Cedar Grove is also considering purchasing a variable speed fan, oversized by up to 12 percent, to allow increase of the fan speed (pressure) as the biofilter media ages and compacts. This will allow for maintaining the required airflow from the two buildings even as the system backpressure increases as the media ages.

In addition there will be at least two air intake locations to the biofilter. One intake (~ 16,000 acfm) will be located on the south side of the grinding building. Figure 1 shows the site layout plan showing the collection ducting locations. A 24" diameter HDPE collection duct will be installed along the south wall of the grinding building and a collection point installed approximately one quarter of the width of the building and three quarters down the length of the building from the grinder end. An open collection inlet will be hung from the roof infrastructure to draw exhaust from the building and minimize fugitive releases through the westernmost door. A flow control damper will be placed

on this line to allow closing it off when the grinding operation is not in use and exhaust is not required.

The second intake (~16,300 acfm) will be located on the tipping building extension. A second HDPE collection duct 48" in diameter will be installed in the tipping building extension, nearer to the grinder. The open ended duct will be hung from the roof infrastructure to draw exhaust from this end of the building. A flow control damper will be placed on this line as well.

To provide added flexibility in the exhaust capture system, or if it appears that the tipping building biofilter requires more residence time (decreased velocity), a third intake may be added on the west side of the tipping building approximately 50 feet north of the south west corner of the tipping building. This would allow 2000 acfm to 4,000 acfm of the flow rate to the tipping building biofilter to be directed to the new biofilter. The following is the basis of the airflow calculations and sizing.

TABLE 1
Airflow requirements

Biofiler	Volume (CF)	Airflow Req'd for 4 AC/HR	Existing Airflow CFM	New Airflow CFM	Increase in Airflow CFM
Tipping Building	515,000	34,300	14,000	34,300	20,300
Grinding Building	224,900	15,000	16,000	16,000	0
TOTAL	739,900	49,300	30,000	50,300	20,300

The new biofilter has an area of ~4750 SF and a depth of 6' for a total media volume off 28,500 CF. The empty bed residence time is therefore (28,500/32,300) X 60 or 53 seconds, which is adequate.

1.3 Biofilter Media and Placement Recommendations

Cedar Grove is planning on using the same media mix used for the other biofilter media replacements, except they are also considering replacing the top one (1) foot of the media with just hog fuel and no overs in order to aid with weed control.

A biofilter media to be used is composed of a 50/50 blend of Hog Fuel and 1 inch overs screened to eliminate most of the fines. The precise blend was determined from sampling and analysis performed at Soil Control labs on particle size gradation, porosity, and percentage of inerts. The particle size gradation is one of the most important parameters used to determine the best media blend to provide adequate porosity and longevity of the media. The target media particle size gradation and the selected media characteristics are shown in Table 2 below.

Table 2

Biofilter Media Particle Size Gradation

Particle Size	Target Percent
<3/8"	0-10 percent
3/8" – 1.0"	20-40 percent
1.0"– 3.0"	40-60 percent
>3.0"	0-20 percent

The hog fuel in the selected media is further defined as 50 percent urban wood and 50 percent overs, ground and then screened. The overs and the 1" screen overs are materials produced by Cedar Grove's compost operation. Cedar Grove's specifications for urban wood are provided below.

Acceptable Clean Wood

1. Urban wood derived from clean discarded unpainted or treated pallets, wooden crates, and lumber.
2. Woody debris from land-clearing or forest lands thinning activities; handled and processed to substantially exclude dirt, clay, rocks, and other entrained non-combustible materials.
3. Processed or "engineered" wood construction and fabrication products containing bonding agents/adhesives. Such products include fiberboard, oriented-strand board, plywood, "gluelam" or "microlam", particle board, and similar partially synthetic wood-based materials.
4. Urban wood from trimming of trees, bushes, and the like. The presence of leafy, conifer needles, or other foliage shall not exceed 15 percent by weight, in any Delivered load of Clean Wood.
5. Certain non-toxic paints or treatments may be determined acceptable on Clean Wood but on a case-by-case and prior to attempted delivery basis only.

Materials Expressly Prohibited from Clean Wood

1. Wood treated or exposed to preservatives, chemicals, and paint. Includes that with CCA, "Sun Wood", or creosote treatment regimes, railroad ties or timbers, and painted demolition wood.
2. Pre-primed construction materials; "Chep" pallets.
3. Materials exposed to and contaminated by sea or brackish water.
4. Fiber residual "sludges" such as those from pulp/paper manufacturing or water treatment.

It is recommended that, if needed, water be added to raise the moisture content of the blend to approximately 50 percent before placing the media.

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0 20 40 60
Scale In Feet

SITE LAYOUT PLAN

1"=20'-0"

NO.	DATE	BY	APVD
DSGN	TO WILLIAMS	DR	JC HALEC
	REVISION	CHK	APVD

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SITE LAYOUT PLAN

NEW GRINDING BUILDING BIOFILTER
CEDAR GROVE COMPOSTING FACILITY
MAPLE VALLEY, WA

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	AUGUST 2012
PROJ	427521
DWG	C-2001
SHEET	of

FILENAME: [illegible] PLOT DATE: 20130829 PLOT TIME: 11:02:54 AM

SHEET KEYNOTES

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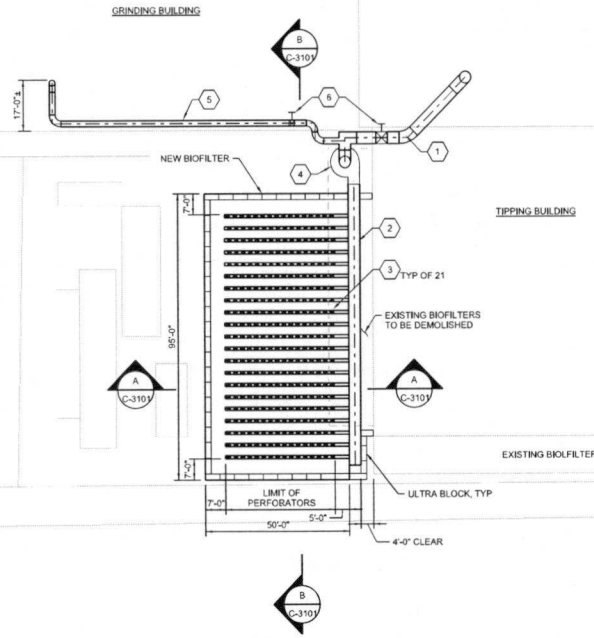

0 20 40 60
Scale In Feet

SITE LAYOUT PLAN

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NO.	DESIGN	DATE	DR	REVISION	CHK	APVD	BY	APVD
	TO WILLIAMS		JC HALEC		GHK			

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SITE LAYOUT PLAN

NEW GRINDING BUILDING BIOFILTER
CEDAR GROVE COMPOSTING FACILITY
MAPLE VALLEY, WA

VERIFY SCALE
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0 1"

DATE	AUGUST 2012
PROJ	427520
DWG	C-2002
SHEET	of

FILENAME: [illegible] PLOT DATE: 2013\08\29 PLOT TIME: 11:03:44 AM

Cedar Grove New Grinding Building Biofilter Collection System Details

PREPARED FOR: Cedar Grove Composting

PREPARED BY: CH2M HILL

COPIES: Todd Williams/CH2M HILL/RIC
Stacia Dugan/CH2M HILL/SEA

DATE: August 29, 2013

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0 20 40 60
Scale In Feet

SITE LAYOUT PLAN

1"=20'-0"

CH2MHILL

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SITE LAYOUT PLAN

NEW GRINDING BUILDING BIOFILTER
CEDAR GROVE COMPOSTING FACILITY
MAPLE VALLEY, WA

NO.	DATE	BY	CHK	APVD
DSGN	TO WILLIAMS	DR	JC HALEC	APVD

REVISION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2012
PROJ	427521
DWG	C-2001
SHEET	of

FILENAME: 6A200_Dxtpm PLOT DATE: 2013\08\29 PLOT TIME: 11:02:54 AM

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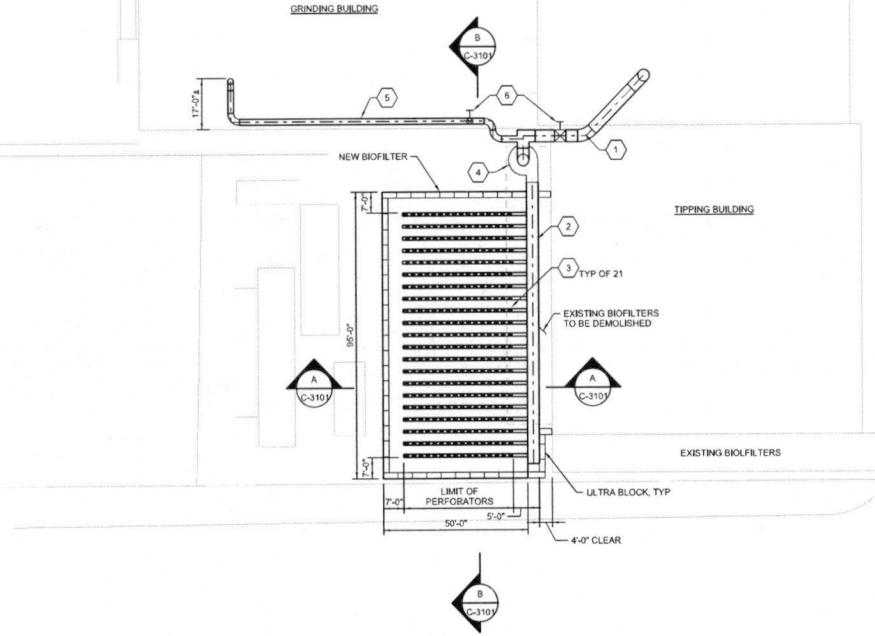

0 20 40 60
Scale in Feet

SITE LAYOUT PLAN
1"=20'-0"

NO.	DATE	REVISION	BY	APVD
DSGN	TO WILLIAMS	DR JC HALEC	CHK	APVD

NEW GRINDING BUILDING BIOFILTER
CEDAR GROVE COMPOSTING FACILITY
MAPLE VALLEY, WA

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SITE LAYOUT PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2012
PROJ	427521
DWG	C-2002
SHEET	of

FILENAME: [illegible] PLOT DATE: 20130829 PLOT TIME: 11:03:44 AM

0 20 40 60
Scale In Feet

SITE LAYOUT PLAN

1"=20'-0"

GENERAL SHEET NOTES

1.

SHEET KEY NOTES

1. HEADER FROM GRINDER BUILDING, BOOSTER FAN AND DETAILS ELSEWHERE
2. 48" DIAMETER ADS N12 HDPE STORM PIPE
3. 12" DIAMETER SDR 17 HDPE PIPE

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
		TO WILLIAMS	JC HALEC				

REVISION

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NEW GRINDING BUILDING BIOFILTER
CEDAR GROVE COMPOSTING FACILITY
MAPLE VALLEY, WA

SITE LAYOUT PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

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PROJ	422623
DWG	C-2001
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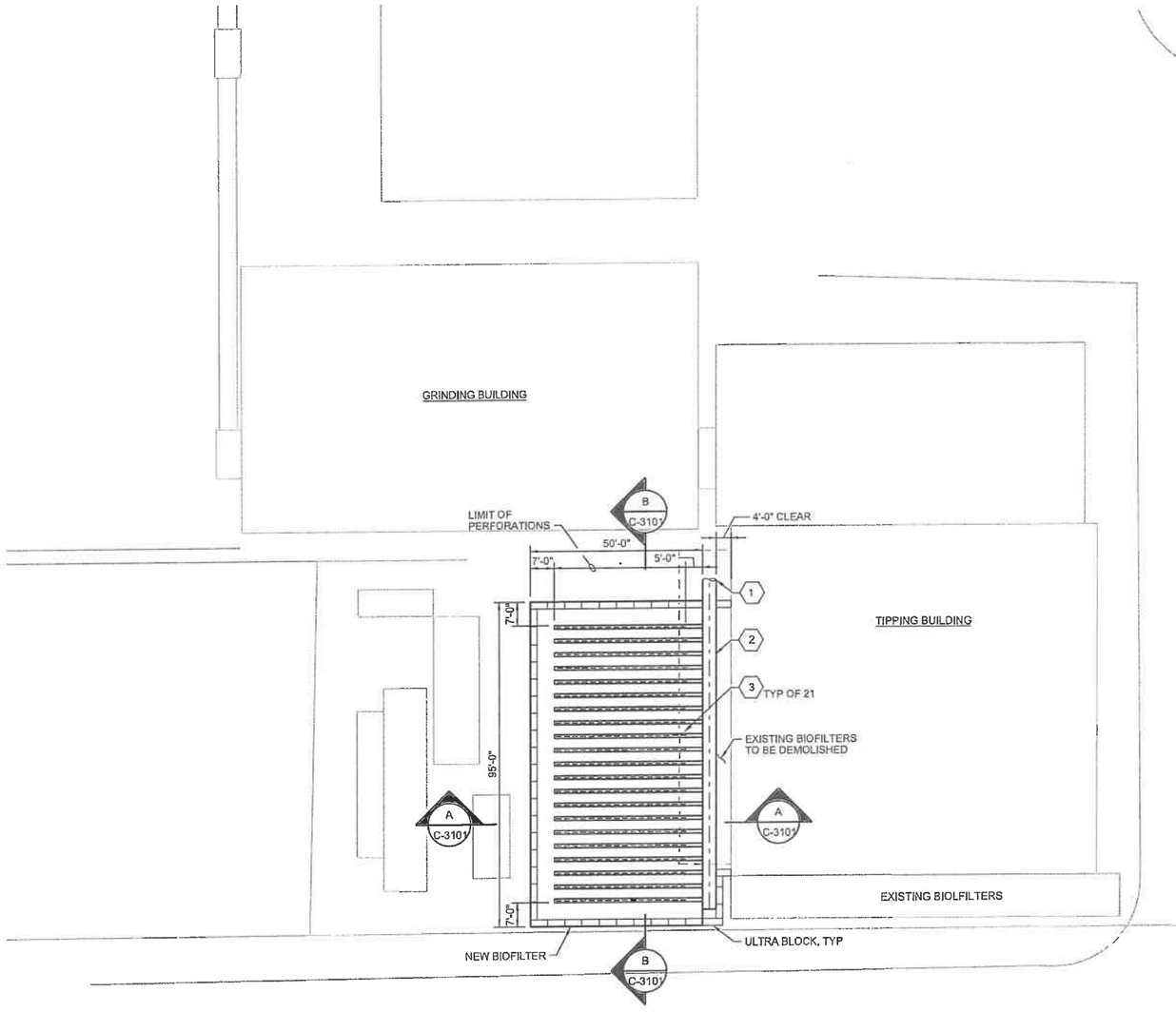

0 20 40 60
Scale In Feet

SITE LAYOUT PLAN

1"=20'-0"

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GENERAL SHEET NOTES

1. .

SHEET KEY NOTES

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NO.	DATE	REVISION	BY	APVD
DSGN	TO WILLIAMS	DR	CHK	APVD
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NEW GRINDING BUILDING BIOFILTER
CEDAR GROVE COMPOSTING FACILITY
MAPLE VALLEY, WA

SITE LAYOUT PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2012
PROJ	422563
DWG	C-2002
SHEET	of

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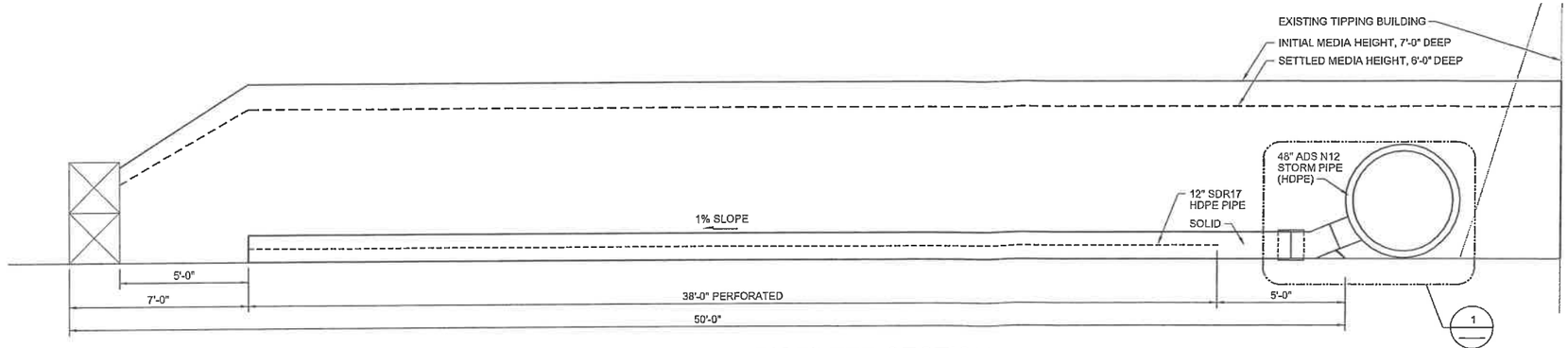
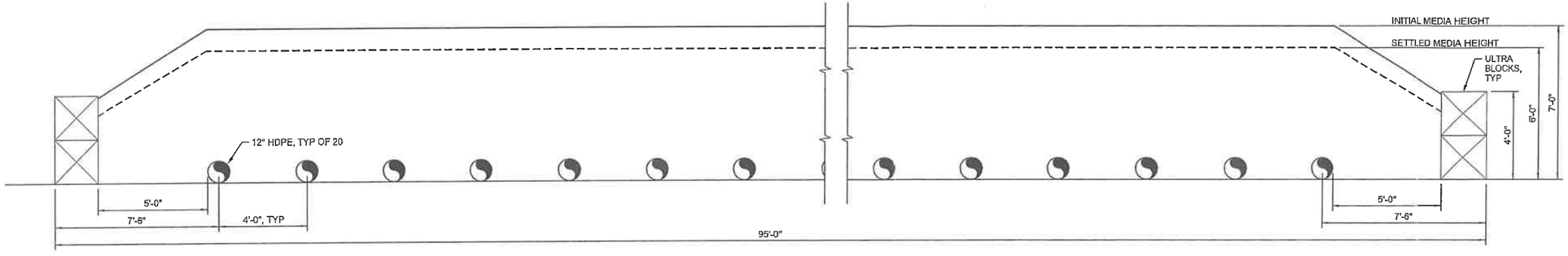


A BIOFILTER SECTION

3/8"=1'-0"

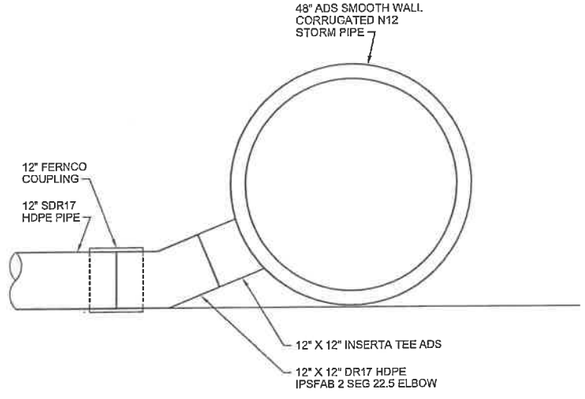
C-2001



B BIOFILTER SECTION

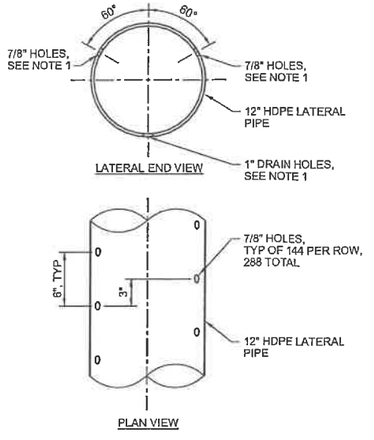
3/8"=1'-0"

C-2001



1 DETAIL

3/4"=1'-0"



NOTES:

1. DRILL RWO ROWS OF HOLES 120° APART AS SHOWN. TWO HOLES PER FOOT (6" SPACING) ON EACH ROW. STAGGER PLACEMENT OF HOLES BY 3" AS SHOWN IN PLAN VIEW.
2. PLACE THREE 1" ID HOLES AT 1'-0" APART ON BOTTOM OF EACH LATERAL AT FAR END.

2 DETAIL

1 1/2"=1'-0"

NO.	DATE	REVISION	BY	APVD
DSGN	TO WILLIAMS	DR	JC HALEC	APVD
		CHK		

NEW GRINDING BUILDING BIOFILTER
CEDAR GROVE COMPOSTING FACILITY
MAPLE VALLEY, WA

CH2MHILL®

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BIOFILTER SECTIONS AND DETAILS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	AUGUST 2012
PROJ	427628
DWG	C-3101
SHEET	of

FILENAME: [illegible] PLOT DATE: 2013\04\10 PLOT TIME: 5:38:38 PM