Draft Engineering Evaluation Report

Smart Demolition and Excavation Inc, Plant #25146
1310 Wallace Avenue, San Francisco, CA 94124
Application #31552

Background

Smart Demolition and Excavation Inc has requested Permits to Operate a trommel screen and waste material stockpiles.

The equipment in this application is currently in operation. The startup date of the sources in this application is January 2022. Back and late fees have been assessed to the sources in the application.

Project Description

Hauling companies and general contractors bring construction and demolition (C&D) materials to the site. Once the material is dumped in the processing area, the site processes the materials and pulls out any materials that can be reused or recycled. The residuals are loaded into a haul truck and taken to a Registered Landfill. Throughout the day, the plant conducts dust control and cleaning to prevent any dirt track out. The facility closes at 4:30pm and at 4pm the plant starts cleaning up the sidewalk and the perimeter areas to prepare for the next day.

Loads are inspected at the entrance. Skidsteers are used to move material into the stockpiles once the customers drop off the materials. Material sorting is done manually and with a 226B and 226C Skidsteer after determining which stockpile the material will be placed. Any mixed material that requires to be separated will be processed through the trommel screen using a 924G Wheel Loader. Excavators move the material from the stockpile to the transfer trucks.

Screening Operation

The facility originally requested a permit for a trommel screen powered by a 75 bhp diesel engine as part of this application. The applicant revised the proposal and has installed an electric engine to power the trommel screen. The material from the stockpiles will be screened before being transported offsite. The trommel screen does not have any conveyors feeding or exiting the screen. Mixed material is loaded at the top of the trommel screen using a wheel loader. As the trommel screen shakes, different sized material goes through the screen mesh and falls to the ground. All separated material is then transported to a stockpile with a Skidsteer.

The trommel screen is portable and can be towed to another location.

Sources of Air Pollution

This project will generate particulate emissions from vehicle traffic traveling to and from the site (delivering saleable product and picking up processed material), screening operations, and stockpiles.

The applicant has stated the current maximum throughput for the plant is 25 tons per day and 7,200 tons per year. The San Francisco Department of Public Health (SFDPH) has been designated as the Local Enforcement Agency (LEA) by CalRecycle for this operation. The LEA has issued a Small Volume Solid Waste Facility permit for this site which limits the throughput to 25 tons/day. SFDPH exempts small volume facilities from CEQA review. The applicant has indicated that an application will be submitted to the SFDPH to increase the throughput to 87.2 tons per day. The site was issued a Medium Volume Solid Waste Facility permit, which also addressed any requirements of CEQA.

The sources of air pollution from this operation are as follows and will be assigned the following source numbers.

S-1 Stockpiling Operation With Stockpiles of Waste Material Including Construction and Demolition Debris, Drywall, Metal, Wood, Concrete, Soil, Cardboard, Carpet, Asphalt, Plastic, Brick, and Residuals
S-3 Screened Material Stockpiling Operation With Stockpiles of Waste Material Including Construction and Demolition Debris, Drywall, Metal, Wood, Concrete, Soil, Cardboard, Carpet, Asphalt, Plastic, Brick, and Residuals
S-6 Portable Trommel Screen Powered by Electric IC Engine
A-1 Water Sprays Serving S-1, S-3 and S-6

Criteria Pollutant Emission Calculations
Although the sources in this application are existing, no District permits were issued to these sources, so all sources will be treated as new for NSR purposes.

The proposed potential to emit for each operation are summarized in Tables 1-3. Calculation assumptions are explained below.

TABLE 1
Criteria Pollutant Emissions (S-1)

Source	PM_{10}	$PM_{2.5}$
Material Handling (lb/day)	0.05	0.01
Material Handling (lb/year)	15	2
Paved Roads (lb/day)	0.06	0.01
Paved Roads (lb/year)	17	4
Total (lb/day)	0.1	0.02
Total (lb/year)	32	6
Total (tons/year)	0.016	0.003

TABLE 2
Criteria Pollutant Emissions (S-6)

Source	PM_{10}	$PM_{2.5}$
Material Handling (lb/day)	0.1	0.02
Material Handling (lb/year)	30	4
Screening (lb/day)	0.6	0.3
Screening (lb/year)	181	90
Total (lb/day)	0.7	0.3
Total (lb/year)	211	94
Total (tons/year)	0.106	0.047

TABLE 3
Criteria Pollutant Emissions (S-3)

Source	PM_{10}	$PM_{2.5}$
Material Handling (lb/day)	0.1	0.02
Material Handling (lb/year)	30	4
Total (tons/year)	0.015	0.002

Emission Calculation and Basis

Particulate emissions are expected from vehicle traffic, screening, and stockpile operations. Unless noted, $PM_{2.5}$ will be assumed to be equal to PM_{10} as worst case scenario.

The estimated schedule of operation is approximately 4 hours per day, 4 days per week, 52 weeks per year for a total estimated operation of approximately 832 hours per year.

The applicant has provided the following throughputs for each material processed. All stockpiles are 10 feet high. The maximum stockpile storage time is 48 hours.

The applicant has stated the plant does not accept contaminated soil, green waste, or asbestos containing material. The operation does accept concrete, brick, and asphalt but it is not processed. It is hauled to a larger facility for processing.

The operation has two dirt piles. One “dirty dirt” stockpile and one “clean dirt” stockpile. The facility inspects the incoming loads and if the load is a “dirty dirt” load, it will not be sent to the trommel screen. It will go directly to the “dirty dirt” stockpile. Dirty dirt is mixed with brick and concrete and cannot be processed by the trommel screen.

TABLE 4
Proposed Throughput Values

Material	**Daily (tons)**	**Annual (tons)**
Drywall	4.7	1363
Metal (80% scrap steel, 10% aluminum, 10% copper)	5.2	1491
Wood	3.7	1065
Concrete	6.7	1917
Clean Dirt/Soil	8.9	2577

Cardboard	1.8	533
Carpet	1.5	426
Dirty Dirt	7.2	2066
Asphalt	4.3	1235
Plastic	2.6	746
Brick	7.3	2109
Residuals (non-recyclable materials such as painted wood, roofing material, doors, plastic bags, styrofoam particle boards, flooring material, insulation)	33.3	9585
Total	87.2	25112

The applicant has applied for an updated Solid Waste Facility permit from the LEA to be designated a Medium Volume Solid Waste Facility to process up to 87.2 tons per day. The applicant originally indicated the LEA would grant approval of 120 tons/day and provided throughput values for each material based on this value. The LEA only granted 87.2 tons/day and the 120 tons/day throughout values were ratioed by 87.2/120. The emission calculations will be based upon this worst case throughput.

Particulate Matter Emissions

Stockpile Material Handling

The material is received in the drop off area. It is then scooped up by a frontend loader and fed into the screen. The material is screened by the screen and overs and unders are dropped onto the floor. The material is then scooped up by another frontend loader and placed into transfer truck container in the building that is then removed from site when full.

The particulate matter emission factor for handling of the material is from AP42 Section 13.2.4 Aggregate Handling and Storage Piles Table 13.2.4-1 November 2006.

The following equation may be used for estimation of particulate emissions during a batch drop of aggregate materials, such as adding material to stockpile or removing it from a stockpile and dropping it into a truck. Lacking any more appropriate data, this equation will be used to estimate particulate emissions due to the batch drop of unprocessed material as the material is moves through each processing stage. The specific number of drop transfers are discussed below for the different types of materials being processed. The equation is appropriate for material silt contents ranging from 0.44%-19%. From Table 13.2.4-1, silt content for miscellaneous landfill fill materials are about 12%.

$E = k*(0.0032)*[(U/5)^{1.3}]/[(M/2)^{1.4}]$

Where
E = emission factor (lb/ton)
k = particle size multiplier = 0.35, for PM_{10}
k = particle size multiplier = 0.053, for $PM_{2.5}$
U = mean wind speed (mph) = 10
M = material moisture content (%) = 5% (minimum expected throughout all processing steps)

$E\ (PM_{10}) = 0.35*(0.0032)*[(10/5)^{1.3}]/[(5/2)^{1.4}] = 0.0005907$ lb/ton
$E\ (PM_{2.5}) = 0.053*(0.0032)*[(10/5)^{1.3}]/[(5/2)^{1.4}] = 0.00008946$ lb/ton

There are 12 different stockpiles of materials. Each step below will occur at each of the 12 stockpiles.

Truck Unloading to Stockpile Transfer Operation (S-1)
Daily Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 87.2 tons/day = 0.05 lb/day
Daily Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 87.2 tons/day = 0.01 lb/day
Annual Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 25,112 tons/year = 14.8 lb/year
Annual Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 25,112 tons/year = 2.2 lb/year

Stockpile to Screen Transfer Operation (S-6)
Daily Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 87.2 tons/day = 0.05 lb/day
Daily Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 87.2 tons/day = 0.01 lb/day
Annual Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 25,112 tons/year = 14.8 lb/year
Annual Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 25,112 tons/year = 2.2 lb/year

Screen to Floor Drop Point (S-6)
Daily Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 87.2 tons/day = 0.05 lb/day
Daily Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 87.2 tons/day = 0.01 lb/day
Annual Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 25,112 tons/year = 14.8 lb/year
Annual Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 25,112 tons/year = 2.2 lb/year

Screened Material to Finished Stockpile Transfer Operation (S-3)
Daily Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 87.2 tons/day = 0.05 lb/day
Daily Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 87.2 tons/day = 0.01 lb/day
Annual Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 25,112 tons/year = 14.8 lb/year
Annual Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 25,112 tons/year = 2.2 lb/year

Final Product to Truck Transfer Operation (S-3)
Daily Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 87.2 tons/day = 0.05 lb/day
Daily Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 87.2 tons/day = 0.01 lb/day
Annual Potential to Emit (PM_{10}) = 0.0005907 lb/ton x 25,112 tons/year = 14.8 lb/year
Annual Potential to Emit ($PM_{2.5}$) = 0.00008946 lb/ton x 25,112 tons/year = 2.2 lb/year

Total Material Handling Operation
Daily Potential to Emit (PM_{10}) = 0.05 lb/day x 5 = 0.3 lb/day
Daily Potential to Emit ($PM_{2.5}$) = 0.01 lb/day x 5 = 0.04 lb/day
Annual Potential to Emit (PM_{10}) = 20.4 lb/year x 5 = 74.2 lb/year = 0.0371 tons/year
Annual Potential to Emit ($PM_{2.5}$) = 3.1 lb/year x 5 = 11.2 lb/year = 0.0056 tons/year

Vehicle Traffic Emissions
The fugitive emission factors due to vehicle traffic are calculated for paved roads. There are no emissions from unpaved roads in this application.

Paved Roads

The customer vehicles turn into the entrance of the facility. The customer vehicles then travel on a paved road inside the facility by backing into the yard, onto the scale, and once unloading is completed, the vehicles drive forward and leave the same way they came in. It has been determined that Wallace Rd and Van Dyke Ave are public roads and any road dust generated on those roads will not be included in this application.

The emission factor for vehicle traffic on paved roads is calculated based on paved road vehicles miles travelled estimated by the applicant and using the following equation found in EPA's AP-42 Chapter 13.2.1 Paved Roads, January 2011. Assume 70% abatement efficiency for use of water sprays.

$E_{ext} = [k(sL)^{0.91}(W)^{1.02}](1 - P/4N)$

Where

E_{ext} = Emission factor, pounds per vehicle miles traveled (lbs/VMT)
k = particle size multiplier (lbs/VMT) = 0.0022, for PM10 from Table 13.2.1-1
k = particle size multiplier (lbs/VMT) = 0.00054, for PM2.5 from Table 13.2.1-1
sL = road surface silt loading (g/m^2) = 7.4, mean value for municipal solid waste landfills from Table 13.2.1-3
W = average weight of vehicles (tons), estimate provided by applicant
P = number of days with at least 0.01 in. of precipitation in the averaging period
= 60 days, estimated from Graph of Probability of 0.01" Precipitation for Richmond obtained from the Western Regional Climate Center Website (www.wrcc.dri.edu)
N = number of days in the averaging period = 365 for annual

$E_{paved} = [0.0022(7.4)^{0.91}(W)^{1.02}](1 - 60/4(365))$ lbs-PM_{10}/VMT

$E_{paved} = [0.00054(7.4)^{0.91}(W)^{1.02}](1 - 60/4(365))$ lbs-$PM_{2.5}$/VMT

<u>Vehicle Weights (W)</u>

Wheel Loader = 12.5 tons
Skid Steer = 3.615 tons
Excavator = 9 tons
Customer Vehicles = 3.25 tons

<u>Vehicle Miles Travelled (VMT)</u>

Wheel Loader = 0.09 miles/day x 288 days/year = 27 VMT/year
Skid Steer = 0.07 miles/day x 288 days/year = 19 VMT/year
Excavator = 0.003 miles/day x 288 days/year = 0.8 VMT/year
Customer Vehicles = 0.06 miles/day x 70 vehicles/day x 288 days/year = 1145 VMT/year

Wheel Loader

EF_{paved} (PM_{10}) = $[0.0022(7.4)^{0.91}(12.5)^{1.02}](1 - 60/4(365)) = 0.171$ lbs/VMT
EF_{paved} ($PM_{2.5}$) = $[0.00054(7.4)^{0.91}(12.5)^{1.02}](1 - 60/4(365)) = 0.042$ lbs/VMT

Skid Steer

EF_{paved} (PM_{10}) = $[0.0022(7.4)^{0.91}(3.615)^{1.02}](1 - 60/4(365)) = 0.048$ lbs/VMT
EF_{paved} ($PM_{2.5}$) = $[0.00054(7.4)^{0.91}(3.615)^{1.02}](1 - 60/4(365)) = 0.012$ lbs/VMT

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Excavator

EF_{paved} (PM_{10}) = $[0.0022(7.4)^{0.91}(9)^{1.02}](1 – 60/4(365)) = 0.123$ lbs/VMT

EF_{paved} ($PM_{2.5}$) = $[0.00054(7.4)^{0.91}(9)^{1.02}](1 – 60/4(365)) = 0.030$ lbs/VMT

Customer Vehicles

EF_{paved} (PM_{10}) = $[0.0022(7.4)^{0.91}(3.25)^{1.02}](1 – 60/4(365)) = 0.043$ lbs/VMT

EF_{paved} ($PM_{2.5}$) = $[0.00054(7.4)^{0.91}(3.25)^{1.02}](1 – 60/4(365)) = 0.011$ lbs/VMT

Wheel Loader

Daily Potential to Emit (PM_{10}) = EF_{paved} x VMT x (1 – abatement eff)
= 0.171 lbs/VMT x 0.09 miles/day x (1 – 0.7)
= 0.005 lb/day

Daily Potential to Emit ($PM_{2.5}$) = EF_{paved} x VMT x (1 – abatement eff)
= 0.042 lbs/VMT x 0.09 miles/day x (1 – 0.7)
= 0.001 lb/day

Annual Potential to Emit (PM_{10}) = EF_{paved} x VMT x (1 – abatement eff)
= 0.171 lbs/VMT x 27 miles/year x (1 – 0.7)
= 1.4 lb/year
= 0.0007 tons/year

Annual Potential to Emit ($PM_{2.5}$) = EF_{paved} x VMT x (1 – abatement eff)
= 0.042 lbs/VMT x 27 miles/year x (1 – 0.7)
= 0.3 lb/year
= 0.0002 tons/year

Skid Steer

Daily Potential to Emit (PM_{10}) = EF_{paved} x VMT x (1 – abatement eff)
= 0.048 lbs/VMT x 0.06 miles/day x (1 – 0.7)
= 0.0009 lb/day

Daily Potential to Emit ($PM_{2.5}$) = EF_{paved} x VMT x (1 – abatement eff)
= 0.012 lbs/VMT x 0.06 miles/day x (1 – 0.7)
= 0.0002 lb/day

Annual Potential to Emit (PM_{10}) = EF_{paved} x VMT x (1 – abatement eff)
= 0.048 lbs/VMT x 19 miles/year x (1 – 0.7)
= 0.3 lb/year
= 0.0001 tons/year

Annual Potential to Emit ($PM_{2.5}$) = EF_{paved} x VMT x (1 – abatement eff)
= 0.012 lbs/VMT x 19 miles/year x (1 – 0.7)
= 0.1 lb/year
= 0.00003 tons/year

Excavator

Daily Potential to Emit (PM_{10}) = EF_{paved} x VMT x (1 – abatement eff)
= 0.123 lbs/VMT x 0.003 miles/day x (1 – 0.7)
= 0.0001 lb/day

Daily Potential to Emit ($PM_{2.5}$) = EF_{paved} x VMT x (1 – abatement eff)
= 0.030 lbs/VMT x 0.003 miles/day x (1 – 0.7)
= 0.00003 lb/day

Annual Potential to Emit (PM_{10}) = EF_{paved} x VMT x (1 – abatement eff)
= 0.123 lbs/VMT x 0.8 miles/year x (1 – 0.7)
= 0.03 lb/year
= 0.00001 tons/year

Annual Potential to Emit ($PM_{2.5}$) = EF_{paved} x VMT x (1 – abatement eff)
= 0.030 lbs/VMT x 0.8 miles/year x (1 – 0.7)
= 0.007 lb/year
= 0.000004 tons/year

Customer Vehicles

Daily Potential to Emit (PM_{10}) = EF_{paved} x VMT x (1 – abatement eff)
= 0.043 lbs/VMT x 3.9 miles/day x (1 – 0.7)
= 0.05 lb/day

Daily Potential to Emit ($PM_{2.5}$) = EF_{paved} x VMT x (1 – abatement eff)
= 0.011 lbs/VMT x 3.9 miles/day x (1 – 0.7)
= 0.01 lb/day

Annual Potential to Emit (PM_{10}) = EF_{paved} x VMT x (1 – abatement eff)
= 0.043 lbs/VMT x 1145 miles/year x (1 – 0.7)
= 15 lb/year
= 0.008 tons/year

Annual Potential to Emit ($PM_{2.5}$) = EF_{paved} x VMT x (1 – abatement eff)
= 0.011 lbs/VMT x 1145 miles/year x (1 – 0.7)
= 3.7 lb/year
= 0.002 tons/year

Total Daily Potential to Emit (PM_{10}) = 0.06 lb/day
Total Daily Potential to Emit ($PM_{2.5}$) = 0.01 lb/day
Total Annual Potential to Emit (PM_{10}) = 17 lb/year
= 0.008 tons/year
Total Annual Potential to Emit ($PM_{2.5}$) = 4 lb/year
= 0.002 tons/year

<u>Trommel Screen Emissions (S-6)</u>

The particulate emission factor for the trommel screen is from AP-42 section 10.3 Plywood Veneer and Layout Operations Table 10.3-1 for log debarking, assuming 60% of

emissions are PM_{10} with a 50% fraction of $PM_{2.5}$. Water suppression will be assumed to provide 50% abatement of particulate emissions.

EF (PM_{10}) = 0.024 lb-TSP/ton x 0.60 lb-PM_{10}/lb-TSP = 0.0144 lb/ton
EF (PM_{10}) = 0.024 lb-TSP/ton x 0.60 lb-PM_{10}/lb-TSP x 0.5 lb-PM_{10}/lb-$PM_{2.5}$
= 0.0072 lb/ton

Daily Potential to Emit (PM_{10}) = EF x throughput x (1 – abatement eff)
= 0.0144 lb/ton x 87.2 tons/day x (1 – 0.5)
= 0.6 lb/day

Annual Potential to Emit (PM_{10}) = EF x throughput x (1 – abatement eff)
= 0.0144 lb/ton x 25,112 tons/year x (1 – 0.5)
= 181 lb/year
= 0.09 tons/year

Daily Potential to Emit ($PM_{2.5}$) = EF x throughput x (1 – abatement eff)
= 0.0072 lb/ton x 87.2 tons/day x (1 – 0.5)
= 0.3 lb/day

Annual Potential to Emit ($PM_{2.5}$) = EF x throughput x (1 – abatement eff)
= 0.0072 lb/ton x 25,112 tons/year x (1 – 0.5)
= 90 lb/year
= 0.045 tons/year

Cumulative Increase
The District tracks increases in emissions from each facility. These cumulative emissions were reset on April 5, 1991 for all facilities. This is a new facility with no pre-existing cumulative emissions.

TABLE 5
Cumulative Emission Increase Inventory (tons/year)

Pollutant	Proposed Equipment	Post-Project
PM_{10}	0.0371 + 0.008 + 0.09	0.135
$PM_{2.5}$	0.0056 + 0.002 + 0.045	0.053
POC	0	0
NO_x	0	0
SO_2	0	0
CO	0	0

Statement of Compliance

Regulation 2, Rule 1: California Environmental Quality Act (CEQA) Requirements
District Regulation 2, Rule 1, Section 310 specifies that all proposed new and modified sources subject to District permit requirements must be reviewed in accordance with the California Environmental Quality Act (CEQA) requirements, except for ministerial projects or projects exempt from CEQA under Section 2-1-312. The engineering review for this

project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 11.13, Tub Grinders. Therefore, this application is considered to be ministerial and is exempt from CEQA review.

The Air District has determined that the issuance of this Authority to Construct is exempt from CEQA because the Air District's approval was "ministerial" and therefore exempt from CEQA under CEQA § 21080(b)(1). The Air District has also determined that the issuance of this Authority to Construct is exempt from CEQA per District Regulation 2-1-312.11 "Permit applications for a proposed new or modified source or sources or for process changes which will satisfy the "No Net Emission Increase" provisions of District Regulation 2, Rule 2, and for which there is no possibility that the project may have any significant environmental effect in connection with any environmental media or resources other than air quality." The Air District's action was also exempt under the "common sense" exemption. (Guidelines § 15061(b)(3)).

Reasons for Exemption: The Air District regulatory requirements that governed the approval of this project involved objective numerical standards, which did not allow for or require any subjective judgment or discretion to interpret or apply; and the Air District was legally compelled to approve the project where it complied with such standards. Also, the project did not trigger Best Available Control Technology (BACT) or BACT for toxic air contaminants. Thus, the Air District's action was ministerial. In addition, the applicant has provided emission offsets for the permitted precursor organic compounds and nitrogen oxides emissions increase and has included in its permit application CEQA-related information (CEQA Appendix H) that demonstrates with certainty that the project has no potential for resulting in any significant environmental impacts. Thus, approval of the project also qualifies for the "Common Sense" exemption.

The site is split into two parcels of land. The east side parcel is where the material handling operation is performed. The west side parcel is where the trommel screen is located and where material separation occurs. The LEA only regulates the east side parcel. The west side parcel is considered recycling which the LEA does not regulate. Therefore, CEQA has only been addressed for the east side parcel.

The applicant has provided a Certificate of Occupancy for the west side parcel. Per the Certificate's Description of Construction, the City and County of San Francisco Department of Building Inspection stated that the project is a "Change of Use from a junk yard to concrete and dirt storage. To comply with CEQA "Categorical Exemption Determination" and the Air Quality."

Per the Certificate, "the construction described above has been completed and, effective as of the date the building permit application was filed, conforms both to the Ordinances of the City and County of San Francisco and to the Laws of the State of California." Therefore, the City determined that CEQA was satisfied. In this case, the City determined that a CEQA categorical exemption was applicable.

As the CEQA lead agency, the City and County of San Francisco Department of Building Inspection has determined that the facility is categorically exempt from CEQA and has authorized the facility's operation on the west side parcel of their property as described.

Therefore, CEQA has been satisfied for this operation. The applicant has also completed CEQA Appendix H form for this application.

Regulation 2, Rule 1: School Public Notice Requirements
The public notification requirements of Regulation 2-1-412 apply to modifications which result in an increase in toxic air contaminant or hazardous air contaminant emission at facilities within 1,000 feet of the boundary of a K-12 school. The Applicant has reported no K-12 school within that radius of this facility, and the District's database confirms that there is no K-12 school within one mile from the facility. The facility is located within an Overburden Community as defined by Regulation 2-1-243. Since a HRA is required for this application, the public notice requirements do apply to this operation. A 30-day public comment period will be completed prior to issuance of the permit for this operation.

Regulation 2, Rule 2: Best Available Control Technology (BACT) Requirements
As shown in Table 1, the emissions do not exceed 10 pounds/day for any source. Therefore, BACT is not required.

Regulation 2, Rule 2: Offsets
The cumulative emission increases for this site and this application are summarized below.

TABLE 6
Offsets Calculation (tons per year)

Pollutant	Current Balance tons/year	Application Increases tons/year	New Balance tons/year	Offset Ratio	Offsets Required tons/year
PM_{10}	0	0.135	0.135	NA	0
$PM_{2.5}$	0	0.053	0.053	NA	0
POC	0	0	0	NA	0
NO_X	0	0	0	NA	0
SO_2	0	0	0	NA	0
CO	0	0	0	NA	0

NOx and POC
Since NOx and POC emissions from this site are less than 10 tons/year, offsets are not required for the proposed application.

PM_{10} and SO_2
Since PM_{10} and SO_2 emissions from this site are less than 100 tons/year, offsets are not required for the proposed application.

Regulation 2, Rule 2: Prevention of Significant Deterioration (PSD)
Regulations 2-2-304 through 308 apply to PSD facilities. Sites belonging to one of the 28 PSD source categories listed in section 169(I) of the federal Clean Air Act have a PSD threshold of 100 tons/year for each regulated air pollutant and must include fugitive emissions when making a PSD major facility determination. However, sites that fall within unlisted categories (such as composting and landfill facilities) have a PSD major facility

threshold of 250 tons/year for each regulated air pollutant and may exclude fugitive emissions when making this major facility determination. The maximum permitted/potential site-wide emissions will be less than 250 tons/year for each regulated air pollutant (POC, NOx, CO, PM_{10}, and SO_2). Therefore, this site is not a PSD major facility and is not subject to the PSD requirements in Sections 304-308.

Regulation 2, Rule 2: Major Modification of a Major Facility
Section 2-2-221 defines Major Modification as any modification that will cause an increase of the facility's emissions by the following amounts or more:

POC: 40 tons per year
NOx: 40 tons per year
SO2: 40 tons per year
PM10: 15 tons per year
CO: 100 tons per year

The increase in emissions in this application are not greater than the major modification thresholds. Therefore, this application is not a Major Modification.

Regulation 2, Rule 5: Permits – New Source Review of Toxic Air Contaminants - Health Risk Assessment Requirements
The District's regulation concerning toxic air contaminant emissions is codified in Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants (TAC). All TAC emissions from new and modified sources are subject to health risk assessment (HRA), if the emissions of any individual TAC exceed either the acute or chronic emission thresholds defined in Table 2-5-1. If a health risk assessment is triggered, related projects permitted within the previous five years must also be considered in the analysis.

Particulate emissions have been assessed to the received material stockpiles and screened material stockpiles. Since these particulate emissions are small, the corresponding stockpile TAC emissions would be negligible. We have assessed TAC emissions to the trommel screen operation.

<u>S-6 Engine</u>
The original HRA request included an existing diesel engine S-6. The applicant has revised the proposal to remove the diesel engine and run the screen on electricity. The diesel engine S-6 was removed from the HRA.

<u>S-6 Screen</u>
The trommel screen will separate the contamination from soil and concrete. TAC emissions will be assessed to the screening of dirt and concrete. The dirt TAC emission factors will be assumed to be the same as the road dust emission factors. The concrete TAC emissions factors were taken from San Joaquin Valley APCD for concrete batch cement emission factors. These factors were compared to A/N 24095 and the worst case value was used for each compound.

Dirt TAC Emission Summary

Compounds	mg/kg	lb/hr	lb/yr	Acute lb/hr	Chronic lb/yr
Ammonia	ND → 10	9.66E-07	1.11E-03	1.4E+00	7.7E+03
Arsenic	2.7	1.45E-07	1.67E-04	8.8E-05	1.6E-03
Beryllium	ND → 0.25	2.42E-08	2.79E-05	NA	3.4E-02
Cadmium	ND → 1	9.66E-08	1.11E-04	NA	1.9E-02
Chromium	28	2.70E-06	3.12E-03	NA	5.1E-04
Hexavalent Chromium	ND → 0.1	9.66E-09	1.11E-05	NA	5.1E-04
Cobalt	7.4	7.15E-07	8.25E-04	NA	1.1E-02
Copper	41	3.96E-06	4.57E-03	4.4E-02	NA
Lead	80	7.73E-06	8.91E-03	NA	2.9E-01
Mercury	0.24	2.32E-08	2.67E-05	2.7E-04	2.1E-01
Nickel	32	3.09E-06	3.57E-03	8.8E-05	3.1E-01
Selenium	ND → 1.5	1.45E-07	1.67E-04	NA	8.0E+00
Silica (assume CS4)	11	1.06E-06	1.23E-03	NA	1.2E+02
Sulfate	2600	2.51E-04	2.90E-01	5.3E-02	NA
Vanadium	42	4.06E-06	4.68E-03	1.3E-02	NA

Concrete TAC Emission Summary

Compounds	lb/hr	lb/yr	Acute lb/hr	Chronic lb/yr
Arsenic	4.42E-07	5.06E-04	NA	NA
Beryllium	2.01E-08	2.30E-05	8.80E-05	1.60E-03
Cadmium	2.01E-08	2.30E-05	NA	NA
Hexavalent Chromium	1.01E-07	1.15E-04	NA	3.40E-02
Lead	2.41E-07	2.76E-04	NA	1.10E-02
Manganese	8.04E-06	9.20E-03	4.40E-02	NA
Mercury	5.03E-07	5.75E-04	2.70E-04	2.10E-01
Nickel	2.01E-08	2.30E-05	NA	2.90E-01
Selenium	1.85E-06	2.12E-03	2.70E-04	2.10E-01
Silica CS4	5.90E-04	6.75E-01	NA	1.20E+02

Road Dust

The applicant performed road dust sampling and testing on the paved road. No volatile organic compounds were detected. The following summarizes the test results and calculated emissions, based on TSP road dust emissions of 83 lbs/year and 0.07 lbs/hour. This site has only paved roads.

Vehicle Miles Traveled (VMT)

Wheel Loader = 27 VMT/year, 0.09 VMT/day
Skid Steer = 19 VMT/year, 0.06 VMT/day
Excavator = 0.8 VMT/year, 0.003 VMT/day
Customer Vehicles = 1145 VMT/year, 3.9 VMT/day

A pathway map has been included showing where each type of vehicle travels. The customer vehicles travel down Van Dyke and into the facility entrance. The customer

vehicles weigh in, drops off their load inside the facility area, and weighs again to leave the facility.

Total Paved Fugitive Road Dust TAC Emission Summary

Compounds	mg/kg	lb/hr	lb/yr	Acute lb/hr	Chronic lb/yr
Ammonia	ND → 10	7.05E-07	8.30E-04	1.4E+00	7.7E+03
Arsenic	2.7	1.90E-07	2.24E-04	8.8E-05	1.6E-03
Beryllium	ND → 0.25	1.76E-08	2.08E-05	NA	3.4E-02
Cadmium	ND → 1	7.05E-08	8.30E-05	NA	1.9E-02
Chromium	28	1.97E-06	2.32E-03	NA	5.1E-04
Hexavalent Chromium	ND → 0.1	7.05E-09	8.30E-06	NA	5.1E-04
Cobalt	7.4	5.21E-07	6.14E-04	NA	1.1E-02
Copper	41	2.89E-06	3.40E-03	4.4E-02	NA
Lead	80	5.64E-06	6.64E-03	NA	2.9E-01
Mercury	0.24	1.69E-08	1.99E-05	2.7E-04	2.1E-01
Nickel	32	2.25E-06	2.66E-03	8.8E-05	3.1E-01
Selenium	ND → 1.5	1.06E-07	1.25E-04	NA	8.0E+00
Silica (assume CS4)	11	7.75E-07	9.13E-04	NA	1.2E+02
Sulfate	2600	1.83E-04	2.16E-01	5.3E-02	NA
Vanadium	42	2.96E-06	3.49E-03	1.3E-02	NA

Wheel Loader Paved Fugitive Road Dust TAC Emission Summary

Compounds	mg/kg	lb/hr	lb/yr
Ammonia	ND → 10	5.79E-08	6.94E-05
Arsenic	2.7	1.56E-08	1.87E-05
Beryllium	ND → 0.25	1.45E-09	1.74E-06
Cadmium	ND → 1	5.79E-09	6.94E-06
Chromium	28	1.62E-07	1.94E-04
Hexavalent Chromium	ND → 0.1	5.79E-10	6.94E-07
Cobalt	7.4	4.28E-08	5.14E-05
Copper	41	2.37E-07	2.85E-04
Lead	80	4.63E-07	5.55E-04
Mercury	0.24	1.39E-09	1.67E-06
Nickel	32	1.85E-07	2.22E-04
Selenium	ND → 1.5	8.68E-09	1.04E-05
Silica (assume CS4)	11	6.36E-08	7.64E-05
Sulfate	2600	1.50E-05	1.80E-02
Vanadium	42	2.43E-07	2.92E-04

Skid Steer Paved Fugitive Road Dust TAC Emission Summary

Compounds	mg/kg	lb/hr	lb/yr
Ammonia	ND → 10	1.09E-08	1.38E-05
Arsenic	2.7	2.94E-09	3.72E-06
Beryllium	ND → 0.25	2.72E-10	3.45E-07
Cadmium	ND → 1	1.09E-09	1.38E-06

Chromium	28	3.05E-08	3.86E-05
Hexavalent Chromium	ND → 0.1	1.09E-10	1.38E-07
Cobalt	7.4	8.05E-09	1.02E-05
Copper	41	4.46E-08	5.65E-05
Lead	80	8.70E-08	1.10E-04
Mercury	0.24	2.61E-10	3.31E-07
Nickel	32	3.48E-08	4.41E-05
Selenium	ND → 1.5	1.63E-09	2.07E-06
Silica (assume CS4)	11	1.20E-08	1.52E-05
Sulfate	2600	2.83E-06	3.58E-03
Vanadium	42	5.44E-10	6.89E-07

Excavator Paved Fugitive Road Dust TAC Emission Summary

Compounds	mg/kg	lb/hr	lb/yr
Ammonia	ND → 10	1.38E-09	1.47E-06
Arsenic	2.7	3.72E-10	3.97E-07
Beryllium	ND → 0.25	3.45E-11	3.68E-08
Cadmium	ND → 1	1.38E-10	1.47E-07
Chromium	28	3.86E-09	4.12E-06
Hexavalent Chromium	ND → 0.1	1.38E-11	1.47E-08
Cobalt	7.4	1.02E-09	1.09E-06
Copper	41	5.66E-09	6.03E-06
Lead	80	1.10E-08	1.18E-05
Mercury	0.24	3.31E-11	3.53E-08
Nickel	32	4.41E-09	4.71E-06
Selenium	ND → 1.5	2.07E-10	2.21E-07
Silica (assume CS4)	11	1.52E-09	1.62E-06
Sulfate	2600	3.59E-07	3.83E-04
Vanadium	42	5.79E-09	6.18E-06

Customer Vehicle Paved Fugitive Road Dust TAC Emission Summary

Compounds	mg/kg	lb/hr	lb/yr
Ammonia	ND → 10	6.34E-07	7.45E-04
Arsenic	2.7	1.71E-07	2.01E-04
Beryllium	ND → 0.25	1.59E-08	1.86E-05
Cadmium	ND → 1	6.34E-08	7.45E-05
Chromium	28	1.78E-06	2.09E-03
Hexavalent Chromium	ND → 0.1	6.34E-09	7.45E-06
Cobalt	7.4	4.70E-07	5.52E-04
Copper	41	2.60E-06	3.06E-03
Lead	80	5.08E-06	5.96E-03
Mercury	0.24	1.52E-08	1.79E-05
Nickel	32	2.03E-06	2.39E-03

Selenium	ND → 1.5	9.52E-08	1.12E-04
Silica (assume CS4)	11	6.98E-07	8.20E-04
Sulfate	2600	1.65E-04	1.94E-01
Vanadium	42	2.66E-06	3.13E-03

Chromium emissions exceed the chronic risk screen trigger level. For any non-detect readings, half of the detection limit was used as the concentration value. All TAC emissions were included in the HRA.

The facility is located within an Overburden Community as defined by Regulation 2-1-243.

TABLE 9
Source Risk for Total Project

Receptor	Cancer Risk	Hazard Index	
		Chronic	Acute
Resident	0.042	0.0012	NA
Worker	0.10	0.0089	NA
PMI 1-hour	NA	NA	0.024

Project health risks are less than the Regulation 2-5-302 limits of 6 in a million cancer risk, 1.0 chronic HI, and 1.0 acute HI. Therefore, this project will satisfy all toxic NSR requirements.

Major Facility Review, Regulation 2, Rule 6
40 CFR Part 70, State Operating Permit Programs (Title V)
This facility is not subject to MFR Permit requirements pursuant to Regulation 2-6-301, because it does not have the potential to emit more than 100 tons per year of any regulated air pollutant and it is not major for HAPs.

Regulation 6, Rule 1: Particulate Matter – General Requirements

Material Handling
The facility is expected to comply with Regulation 6-1-311 General Operations based on the calculated emission levels shown below. The process rate for all operations (25,112 tons/year x year/52 weeks x week/4 days x day/4 hours = 30.2 ton/hr = 27,381 kg/hr) will exceed 25,000 kg/hr. This equates to an emission rate not to exceed 18.1 kg/hour or 40.0 lbs/hr.

Material processing operations and maximum emission rates are listed below. As a worst case estimate of hourly emissions, the District will assume 4 hours of processing for the sources below.

Source	Emission
S-1	0.05 lb/day = 0.0125 lb/hr
S-6	(0.1 + 0.6) lb/day = 0.175 lb/hr
S-3	0.1 lb/day = 0.025 lb/hr

Emissions from each source above will not exceed 40 pounds/hour. Therefore, the sources in this project comply with the requirements of Regulation 6-1-311.

Regulation 6, Rule 6: Particulate Matter – Prohibition of Trackout
This composting operation is subject to and expected to comply with the trackout requirements of Regulation 6-6. The fugitive dust emissions from trackout are required to be cleaned twice a day as imposed in the condition.

Permit Conditions

Permit Condition # 100732

1. The owner/operator shall ensure that the amount of material processed in S-1, S-3, and S-6 does not exceed any of the following: 87.2 tons per day or 25,112 tons during any consecutive rolling 12-month period. Concrete, brick, and asphalt material shall not be processed through S-6. (Basis: Cumulative Increase)

2. The owner/operator shall ensure that the vehicle fleet used for delivery, pick-up, processing, on-site transport, or other handling of feed stock and related materials or any related operations complies with the following limitations:
   a. The vehicle weight shall not exceed any of the following: Wheel Loader = 12.5 tons, Skid Steer = 3.615 tons, Excavator = 9 tons, Customer Vehicles (average) = 3.25 tons.
   b. The distance traveled by the vehicle fleet on paved roads shall not exceed any of the following: Wheel Loader = 27 miles during any consecutive 12-month period, Skid Steer = 19 miles during any consecutive 12-month period, Excavator = 0.8 miles during any consecutive 12-month period, Customer Vehicles = 1145 miles during any consecutive 12-month period

   (Basis: Cumulative Increase)

3. The owner/operator shall ensure that all material handling operations associated with S-1, S-3, and S-6 are abated by water sprays (A-1) as necessary to comply with Part 5. Dry, dusty material shall be wetted down before being loaded, unloaded, stockpiled, mixed, turned, or screened. The owner/operator shall apply water spray to stockpiled material at least two times per day during active use on dry days or as necessary to comply with Part 7. (Basis: Regulations 1-301 and 6-1-305)

4. The owner/operator shall ensure that all paved roadways, access areas, staging areas, and graded areas associated with this operation are maintained in a wetted condition by using water sprays, or as necessary to comply with Part 5. (Basis: Regulations 1-301 and 6-1-305)

5. The owner/operator shall ensure that visible dust emissions from any operation of this facility do not exceed Ringelmann 0.5 or result in fallout on adjacent property in such quantities as to cause a public nuisance per Regulation 1-301. To ensure compliance with this part, the owner/operator shall visually observe all material handling operations and roadways associated with these sources and shall

immediately initiate corrective actions, if any visible dust emissions are detected that persist for longer than 3 minutes in an hour. (Basis: Regulations 1-301, 6-1-301 and 6-1-305)

6. The owner/operator shall maintain a dust mitigation plan that identifies all watering application locations and schedules and any other dust mitigation measures that will be employed on a routine basis. The owner/operator shall implement this dust mitigation plan during all hours of operation and shall identify and record any instances when the plan was not followed or when additional measures were necessary to control dust. (Regulations 1-301 and 6-1-305)

7. If these sources receive more than 2 violation notices for "public nuisance" from the District in any consecutive 12-month period, the owner/operator of the facility shall implement any control measures that the District, after discussion with the operator, deems necessary and appropriate within the time period specified by the District. If requested by the District, the owner/operator shall submit to the District an application to modify the permit to operate and/or these permit conditions within 30 days of notification. (Basis: Regulations 1-301)

8. The owner/operator shall ensure that all roadways associated with this facility are maintained in a clean or wetted condition by watering at least two times per day during active use on dry days and as necessary to comply with Part 5. (Basis: Cumulative Increase, Reg 1-301, 6-1-305, and 6-6-501)

9. The owner/operator shall identify all vehicles that will make up the vehicle fleet and shall calculate the vehicle weight and load weight. The owner/operator shall maintain maps of all vehicle fleet travel routes on paved roads. The owner/operator shall maintain records of the type and number of vehicles delivering feed stock and picking up product and shall maintain records of on-site vehicle fleet trips. The owner/operator shall use this data and the map information to calculate and record the vehicle miles traveled (VMT) on paved roads by the vehicle fleet. The VMT data shall be summed for each consecutive rolling 12-month period. (Basis: Cumulative Increase)

10. The owner/operator shall keep a dated record of the amount of material received. The owner/operator shall calculate and record the total amount of material throughput on a daily basis and the total amount of material throughput for each consecutive rolling 12-month period. The owner/operator shall keep a dated record of the time material remains in each stockpile. All records shall be kept in a District approved logbook for at least 5-years from the date of entry, and records shall be made available for inspection by District staff upon request. (Basis: Recordkeeping)

Recommendations

The District has reviewed the material contained in the permit application for the proposed project and has made a preliminary determination that the project is expected to comply with all applicable requirements of District, state, and federal air quality-related regulations. The preliminary recommendation is to issue a Permit to Operate for the equipment listed below. However, the proposed source is in an Overburdened Community area (as defined

in District Regulation 2-1-243) and a HRA was required which triggers the public notification requirements of District Regulation 2-1-412. After the comments are received and reviewed, the District will make a final determination on the permit.

I recommend that the District initiate a public notice and consider any comments received prior to taking any final action on issuance of an Authority to Construct for the following sources:

S-1 Stockpiling Operation With Stockpiles of Waste Material Including Construction and Demolition Debris, Drywall, Metal, Wood, Concrete, Soil, Cardboard, and Carpet
S-3 Screened Material Stockpiling Operation With Stockpiles of Waste Material Including Construction and Demolition Debris, Drywall, Metal, Wood, Concrete, Soil, Cardboard, and Carpet
S-6 Portable Trommel Screen Powered by Electric IC Engine
A-1 Water Sprays Serving S-1, S-3, and S-6

Stanley Tom

_ _____ ___7/31/2025___
Stanley Tom, P.E. Date
Principal Air Quality Engineer