MARYLAND DEPARTMENT OF ENVIRONMENT
AIR AND RADIATION ADMINISTRATION

FACT SHEET AND TENTATIVE DETERMINATION
TOLSON & ASSOCIATES, LLC

PROPOSED INSTALLATION OF 200 TON PER HOUR CRUSHING AND SCREENING OPERATION POWERED BY FIVE (5) DIESEL ENGINES

I. INTRODUCTION

The Maryland Department of the Environment (the "Department") received an application from Tolson & Associates, LLC on November 15, 2018 for a Permit to Construct for the installation of one (1) concrete crushing and screening operation, rated at 200 tons per hour, powered with five (5) engines. The proposed installation will be located at 1451 Capitol Raceway Road, Crofton, Maryland 21114.

A notice was placed in The Capital Gazette on January 19, 2019 and January 22, 2019 announcing a scheduled informational meeting to discuss the permit to construct application. The informational meeting was held on January 24, 2019 at 7 PM at the Nantucket Elementary School located at 2350 Nantucket Drive, Crofton, Maryland 21114.

As required by law, all public notices were also provided to elected officials in all State, county, and municipality legislative districts located within a one mile radius of the facility's property boundary.

The Department has reviewed the application and has made a tentative determination that the proposed facility is expected to comply with all applicable air quality regulations. A public hearing has been scheduled for May 22, 2019 at 7 pm at Nantucket Elementary School located at 2350 Nantucket Drive, Crofton, MD 21114 to provide interested parties an opportunity to comment on the Department's tentative determination and draft permit conditions, and/or to present other pertinent concerns about the proposed facility. Notices concerning the date, time and location of the public hearing will be published in the legal section of a newspaper with circulation in general area of the proposed facility. Interested parties may also submit written comments.

If the Department does not receive any comments that are adverse to the tentative determination, the tentative determination will automatically become a final determination. If adverse comments are received, the Department will review the comments, and will then make a final determination with regard to issuance or denial of the permit. A notice of final determination will be published in a newspaper of general circulation in the affected area. The final determination may be subject to judicial review pursuant to Section 1-601 of the Environment Article, Annotated Code of Maryland.

II. CURRENT STATUS AND PROPOSED INSTALLATION

A. Current Status

Tolson Rubble Landfill currently operates as a rubble, construction and demolition debris recycling facility. The facility currently does not operate any equipment or processes requiring air quality permits.

B. Proposed Installation

Tolson & Associates, LLC is proposing to install one (1) concrete crushing and screening operation, rated at 200 tons per hour, powered with five (5) engines This new plant will consist of the following equipment:

- One (1) primary jaw crusher (Metso LT106);
- One (1) secondary cone crusher (Metso LT1213);
- One (1) Metso, 2-deck, 5'x16' scalping screen;
- One (1) Metso, 2-deck, 18'x5' screen;
- Seventeen (17) conveyors;
- Two (2) Tier III, 100 hp diesel engines
- One (1) Tier IVi, 252 hp diesel mobile generator;
- One (1) Tier IIIB/Tier IVi, 415 hp diesel engine
- One (1) Tier II, 300 hp diesel engine;
- Three (3) feeders; and
- One (1) hopper.

The proposed plant will be equipped with wet suppression systems to control fugitive dust.

III. APPLICABLE REGULATIONS

The proposed installation is subject to all applicable Federal and State air quality control regulations, including, but not limited to the following:

(a) All applicable terms, provisions, emissions standards, testing, monitoring, record keeping, and reporting requirements included in federal New Source Performance Standards (NSPS) promulgated under 40 CFR 60, Subpart A (General Provisions) and Subpart OOO for Nonmetallic Mineral Processing Plants.

(b) COMAR 26.11.02.19C & D, which require that the Permittee submit to the Department annual certifications of emissions, and that the Permittee maintain sufficient records to support the emissions information presented in the submittals.

(c) COMAR 26.11.06.03C and D, which requires that the Permittee take reasonable precautions to prevent particulate matter from unconfined sources

and materials handling and construction operations from becoming airborne.

(d) COMAR 26.11.06.08 and 09, which generally prohibit the discharge of emissions beyond the property line in such a manner that a nuisance or air pollution is created.

(e) COMAR 26.11.09.05E(2), Emissions During Idle Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at idle, greater than 10 percent opacity.

(f) COMAR 26.11.09.05E(3), Emissions During Operating Mode: The Permittee may not cause or permit the discharge of emissions from any engine, operating at other than idle conditions, greater than 40 percent opacity.

(g) COMAR 26.11.09.07A(2), which limits the sulfur content of distillate fuel oils to not more than 0.3 percent by weight.

(h) COMAR 26.11.15.05, which requires that the Permittee implement "Best Available Control Technology for Toxics" (T – BACT) to control emissions of toxic air pollutants.

(i) COMAR 26.11.15.06, which prohibits the discharge of toxic air pollutants to the extent that such emissions will unreasonably endanger human health.

IV. GENERAL AIR QUALITY

The U.S. Environmental Protection Agency (EPA) has established primary and secondary National Ambient Air Quality Standards (NAAQS) for six (6) criteria pollutants, i.e., sulfur dioxide, particulate matter, carbon monoxide, nitrogen dioxide, ozone, and lead. The primary standards were established to protect public health, and the secondary standards were developed to protect against non-health effects such as damage to property and vegetation.

The Department utilizes a statewide air monitoring network, operated in accordance with EPA guidelines, to measure the concentrations of criteria pollutants in Maryland's ambient air. The measurements are used to project statewide ambient air quality, and currently indicate that Anne Arundel County complies with the NAAQS for particulate matter, carbon monoxide, nitrogen dioxide, and lead.

Ground level ozone continues to present a problem for the entire Baltimore metropolitan area, which is classified as a non-attainment area for ozone. The primary contributors to the formation of ozone are emissions of oxides of nitrogen, primarily from combustion equipment, and emissions of Volatile Organic Compounds (VOC) such as paint solvents and gasoline vapors. Anne Arundel County is included in the non-attainment area for ozone.

With regard to toxic air pollutants (TAPs), screening levels (i.e., acceptable ambient concentrations for toxic air pollutants) are generally established at 1/100 of allowed worker exposure levels (TLVs)[1]. The Department has also developed additional screening levels for carcinogenic compounds. The additional screening levels are established such that continuous exposure to the subject TAP at the screening level for a period of 70 years is expected to cause an increase in lifetime cancer risk of no more than 1 in 100,000.

V. COMPLIANCE DEMONSTRATION AND ANALYSIS

The proposed installation must comply with all State imposed emissions limitations and screening levels, as well as the NAAQS. The Department has conducted an engineering and air quality review of the application. The emissions were projected based on U.S. EPA emission factors for crushing and screening plants and U.S. EPA engine tier emissions limits for diesel engines. The conservative U.S. EPA's SCREEN3 model was used to project the maximum ground level concentrations from the proposed facility, which were then compared to the screening levels and the NAAQS.

A. **Estimated Emissions** - The maximum emissions of air pollutants of concern from the proposed installation are listed in Table I.

B. **Compliance with National Ambient Air Quality Standards -** The maximum ground level concentrations for nitrogen dioxide, sulfur dioxide, carbon monoxide, and particulate matter based on the emissions from the proposed installation are listed in column 2 of Table II. The combined impact of the projected contribution from the proposed installation and the ambient background concentration for each pollutant shown in column 3 of Table II is less than the NAAQS for each pollutant shown in column 4. Projected emissions of oxides of nitrogen and volatile organic compounds from the proposed installation are each less than their respective major source thresholds of 25 tons per year and will not significantly impact the ground level ozone concentration in the area.

C. **Compliance with Air Toxics Regulations** – The toxic air pollutant of concern that would be emitted from this installation is listed in column 1 of Table III. The predicted maximum off-site ambient concentration of crystalline silica is shown in column 4 of Table III, and is less than the corresponding screening level for crystalline silica shown in column 2.

VI. TENTATIVE DETERMINATION

[1] TLVs are threshold limit values (exposure limits) established for toxic materials by the American Conference of Governmental Industrial Hygienists (ACGIH). Some TLVs are established for short-term exposure (TLV – STEL), and some are established for longer-term exposure (TLV – TWA), where TWA is an acronym for time-weight average.

Based on the above information, the Department has concluded that the proposed installation will comply with all applicable Federal and State air quality control requirements. In accordance with the Administrative Procedure Act, Department has made a tentative determination to issue the Permit to Construct.

Enclosed with the tentative determination is a copy of the draft Permit to Construct.

TABLE I
PROJECTED MAXIMUM EMISSIONS FROM THE PROPOSED INSTALLATION

POLLUTANT	PROJECTED MAXIMUM EMISSIONS FROM PROPOSED INSTALLATION*	
	(lbs/day) @ 10 hr/day	(tons/year)
Nitrogen Dioxide (NO_2)	76	22.7
Sulfur Dioxide (SO_2)	29	8.6
Carbon Monoxide (CO)	121	30.4
Volatile Organic Compounds (VOC)	20	6.1
Particulate Matter (PM_{10})	62.4	18.7

*The plant is limited to operating no more than 6000 hours per year.

TABLE II
PROJECTED IMPACT OF EMISSIONS OF CRITERIA POLLUTANTS FROM THE PROPOSED INSTALLATION ON AMBIENT AIR QUALITY

POLLUTANTS	**MAXIMUM OFF-SITE GROUND LEVEL CONCENTRATIONS CAUSED BY EMISSIONS FROM PROPOSED PROCESS ($\mu g/m^3$)**	**BACKGROUND AMBIENT AIR CONCENTRATIONS ($\mu g/m^3$)***	**NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) ($\mu g/m^3$)**
Nitrogen Dioxide (NO_2)	annual avg.→ 21.97	annual avg.→ 30.01	annual avg.→ 100
Carbon Monoxide (CO)	8-hour max→ 255.23 1-hour max → 364.61	8-hr max.→ 1031 1-hr max.→ 687	8-hr max.→ 10,000 1-hr max.→ 40,000
Sulfur Dioxide (SO_2)	24-hour avg. →41.88 annual avg. →8.38	24-hour avg.→ 2.62 annual avg.→0.87	24-hour avg.→ 366 annual avg.→ 78.5

Particulate Matter (PM_{10})	24-hr max → 97.60	24-hr max.→ 30	24-hr max.→ 150

*Background concentrations were obtained from Maryland air monitoring stations as follows:

NO_2, and CO → North Laurel Monitoring Station in Howard County
SO_2 → Powder Mill Rd, Laurel Monitoring Station in Prince George's County
PM_{10} → Glen Burnie Monitoring Station in Anne Arundel County

TABLE III
PREDICTED MAXIMUM OFF-SITE AMBIENT CONCENTRATIONS FOR TOXIC AIR POLLUTANTS EMITTED FROM THE PROPOSED INSTALLATION

TOXIC AIR POLLUTANTS	SCREENING LEVELS (μg/m^3)	PROJECTED WORST-CASE FACILITY-WIDE EMISSIONS (lbs/hr)	PREDICTED MAXIMUM OFF-SITE GROUND LEVEL CONCENTRATIONS (μg/m^3)
Crystalline Silica	1-hour→ None 8-hour→ 0.25 Annual→ None	0.0036	1-hour→ None 8-hour→ 0.146 Annual→ None

The values represent maximum facility-wide emissions of toxic air pollutants during any 1-hour period of facility operation.

The values are based on worst-case emissions from the proposed facility and were predicted by EPA's SCREEN3 model, which provides conservative estimations concerning the impact of pollutants on ambient air quality.