

YAKIMA REGIONAL CLEAN AIR AGENCY

Order of Approval Permit Number NSRP-02-DTGEI-24

New Source Review Order of Approval for Reclaimed Asphalt, Concrete, and Bricks Crushing and Screening Operations at DTG Recycle - Yakima

IN THE MATTER OF approving a project which establishes a new air contaminant source at DTG Enterprises Inc. at 41 Rocky Top Road, in Yakima, WA. **THIS ORDER OF APPROVAL IS HEREBY ISSUED TO:**

Applicant/Permittee: DTG Enterprises Inc. Db; DTG Recycle - Yakima
Reclaimed Asphalt, Concrete, and Bricks Crushing and Screening Operations.

Located at: 41 Rocky Top Road
Yakima, WA 98908

Contact: DTG Enterprises Inc.
Attn: Ian Sutton, Director of Engineering
41 Rocky Top Road
Yakima, WA 98908
(425) 529-0854

IN COMPLIANCE WITH THE PROVISIONS OF THE REVISED CODE OF WASHINGTON (RCW), CHAPTER 70A.15 WASHINGTON CLEAN AIR ACT, SECTION, 2210, WASHINGTON ADMINISTRATIVE CODE (WAC) 173-400-110, WAC 173-460-040, and WAC 173-350-400.

ISSUE DATE: , 2024.

THIS ORDER OF APPROVAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

Operation of the equipment must be conducted in compliance with all data and specifications including all additional information submitted subsequent to the New Source Review (NSR) application under which this Order of Approval is issued unless otherwise specified herein. The conditions and limitations of this NSR Order of Approval are attached as follows:

1.0 DESCRIPTION OF THE SOURCE

- 1.1 DTG Enterprises Inc. DbA; DTG Recycle - Yakima, is a subsidiary of East Mountain Investments LLC (EMI) which owns the land. DTG Recycle leases the land from EMI. DTG Recycle -Yakima, hereafter referred to as the Permittee, the Facility, DTG or the Source, is a Limited Purpose Landfill (LPL) located at 41 Rocky Top Road, Yakima, WA, operated by DTG Enterprise, Inc., and permitted by Yakima Regional Clean Air Agency (YRCAA) with an issued Order of Approval number NSRP-03-DTGEI-22.
- 1.2 The current issued Permit number NSRP-03-DTGEI-22 includes a maximum total annual waste acceptance rate of one million cubic yards per year (yd^3/yr) which includes Material Recovery Facility (MRF), but no crushing is allowed in the current permit.
- 1.3 The Permittee submitted a New Source Review (NSR) application on March 25, 2024, to permit a small crushing and screening operation for reclaimed asphalt, concrete, and bricks and be part of the LPL of the MRF Operations. Figure 1 shows the Facility site plan and the proposed location of the crushing and screening operation.
- 1.4 This Order of Approval (Order/Permit) is to permit the crushing and screening operations of only the reclaimed asphalt, concrete and bricks at the Facility, as part of the operations of the MRF at the Facility.
- 1.5 For the purpose of this Order, the terms “crushing operation(s)”, “crushing and screening operation(s)” or “crushing and screening activities” refer specifically to the crushing and screening of reclaimed asphalt, concrete and bricks. This includes the handling and the crushed and uncrushed storage piles, loader, and nonroad diesel engines. It does not include any quarry operations, such as rock crushing and any bedrock material.
- 1.6 This crusher equipment consist of an Astec 2640 jaw crusher, powered by a Caterpillar C7 Tier 3 nonroad diesel engine, and a CEC 5x12 screen, powered by a DEUTZ AG Tier 4 nonroad diesel engine. The equipment also includes four conveyors and a front loader. Figures 2 and 3 depict the Astec 2640 jaw crusher and CEC 5x12 screen equipment, respectively.
- 1.7 Reclaimed asphalt, concrete, and bricks received by the Permittee are dumped and collected near the crusher and screener location. During the crushing operation, materials are loaded into the crusher hopper by front loaders. Steel rebars and other ferrous materials are sorted out before crushing or removed with a magnetic recovery system. Crushed materials are conveyed to the screen, where they are sorted by size. Chunks that are too large are conveyed back to the crusher. Crushed reclaimed asphalt, concrete, and bricks are conveyed to a storage piles and subsequently are sold for reuse.
- 1.8 Air emissions from this crushing operation include fugitive dust emissions from the materials crushing, screen, aggregate handling and storage piles, dump trucks trips receiving and shipping the crushed reclaimed asphalt, concrete, and bricks, and loading operation. These air emissions are in the form of small Particulate Matter (PM_{10} and $\text{PM}_{2.5}$), and Hazardous Air Pollutants (HAPs) and Toxic Air Pollutants (TAPs) in accordance with the Federal Clean Air Act (FCAA) and the Washington Administrative

Code (WAC), respectively.

- 1.9 The Permittee proposed to control fugitive dust emissions from the reclaimed crushing operations by installing and using water spray nozzles at the crusher jaws, the screen, and the conveyors, as required in this Order. In addition, mist water sprayers will be used on the crushed aggregate piles as needed and required to control dust.
- 1.10 The site plan, specifications and any additional information submitted for this reclaimed crushing operations are part of this Order as provided by the Permittee with the NSR application.
- 1.11 Yakima County Planning Department (YCPD) issued a Determination of Non-Significance (DNS) pursuant to the State Environment Policy Act (SEPA) with SEPA number SEP2017-00022/CUP2017-00056, and signed by the County in August 14, 2017. A letter from YCPD dated May 24, 2024, stating that the SEPA determination issued on May 14, 2017 addressed the processing of material, including crushing of concrete and asphalt is included in Appendix A of this Order.
- 1.12 A 15-day Public Notice for this NSR was published on June 12, 2024 in accordance with the Revised Code of Washington (RCW) Chapter, 70A.15.2210 and Section 173-400-171 of the Washington Administrative Act (WAC). A comment period was requested on June 27, 2024. Hence, a 30 days public comment period will be published with this draft Permit.

2.0 DETERMINATION:

In relation to the operation described above, The Yakima Regional Clean Air Agency (YRCAA) determines that the Permittee shall comply with all federal, state and local rules, regulations and laws including but not limited to the following determination:

- 2.1 Establishment of this reclaimed crushing and screening operation for asphalt, concrete and bricks at this Facility is considered a new source of air contaminants requiring a NSR permit pursuant to the RCW 70A.15.2210, WAC 173-400-110 and 173-460-040, thus, this NSR is being processed;
- 2.2 The Facility is located in an area that is in attainment with all state and federal air quality standards for all criteria pollutants;
- 2.3 The Facility is not a major stationary source nor this operation is subject to the Prevention of Significant Deterioration (PSD) permitting requirements of the WAC 173-400-700 through 173-400-750 as of the time of writing this Order;
- 2.4 The Facility is subject to the annual Registration Program pursuant to WAC 173-400-099 and YRCAA Regulation 1, Section 4.01 – Annual Registration Program and it will be classified based on the annual approved YRCAA registration classification;
- 2.5 This crushing operation or any proposed future modification shall be subject to NSR requirements pursuant to WAC 173-400-110 and WAC 173-460-040;

- 2.6 This crushing operation is subject to 40 CFR Part 60, Subpart OOO – Standards of Performance for Nonmetallic Mineral Processing Plants;
- 2.7 This crushing operation is subject to 40 CFR Part 60, Subpart A – General Provisions.
- 2.8 The maximum allowable corresponding air emissions from this operation were calculated as indicated in Appendix B of this Order based on the maximum allowable hours of operation;
- 2.9 The recommended model by the U.S. Environmental Protection Agency (US EPA), AERMOD, was used for modeling the ambient air emissions impact. The model results showed that all potential air emissions for this specific operation of reclaimed asphalt, concrete and bricks will comply with the National Ambient Air Quality Standards (NAAQS) and the Acceptable Source Impact Level (ASIL) of WAC 173-460-150; and
- 2.10 If the Facility operates as specified in this Order, it will be in compliance with air emissions regulation. In addition, the Facility shall comply with all federal, state and local rules, regulations and laws.

THEREFORE, it is hereby ordered that the operation as described above, in the NSR application, and in the submitted plans, specifications and other additional information submitted in reference thereto, is **APPROVED** for operation, **PROVIDED** the specifications and information submitted in relation to the application and the following conditions are met:

3.0 OPERATING APPROVAL CONDITIONS

- 3.1 This Order authorizes the operation of the specified crushing and screening activities for the reclaimed asphalt, concrete and bricks as detailed in this Order. The crushing operation includes the crusher operation, including the jaws, screen, storage piles and its loading and handling, and the self-propelled nonroad diesel engines use (specified in Table 1 below) at the specified location. This operation is located at 41 Rocky Top Road, Yakima, WA, as part of the MRF in the LPL operations, in accordance with the plan and specifications submitted with the NSR application to YRCAA.
- 3.2 The Permittee shall comply with all conditions specified in Order NSRP-03-DTGEI-22 relevant to this reclaimed crushing operation.
- 3.3 This Order authorizes the use and operation of the following equipment in Table 1 below. Some of the equipment, the shown below were already referenced in the issued Order NSRP-03-DTGEI-22. The lists of the units as submitted by the Permittee are as specified in the Table 1 below.

Table 1 – Authorized equipment for this reclaimed crushing operations.

# Units	Unit Type	Manufacturer	Model Number / Serial Number (SN)	Specifications
1	Tracked jaw crusher	Astec	FT2640 / 410041	Rate capacity = 325 tons per hour (tons/hr)
1	Nonroad Diesel engine	Caterpillar	C7 / JTF05169	Tier 3 / 225 hp at 2,200 rpm.
1	Screen plant	CEC Screen it Series II	Screen-It 2 Deck 3-659114X34 # Chassis # 98339 254 5x12	5x12, 2-deck
1	Nonroad Diesel engine	Deutz	D914 L04 / 8938763	29-liter, 72 hp at 2,800 rpm.
4	Conveyors	-	-	-
1	Front loader	Caterpillar	980M	Note: referenced in the issued Order NSRP-03-DTGEI-22

- 3.4 All equipment shown in Table 1 above shall be operated and maintained as per manufacturer’s specifications and certifications as submitted by the Permittee in the NSR application.
- 3.5 Pursuant to RCW 70A.15.2210, WAC 173-400-113 and WAC 173-460-060, Best Available Control Technology (BACT) and toxic-BACT (t-BACT), respectively, are required to control all air emissions from any proposed new facility or modified source. YRCAA finds BACT and t-BACT analysis to be satisfied as follows:
- 3.5.1 Water spray nozzles shall be installed and used at the crusher jaws inlet, conveyors, the crusher and screen, and at all points generating visible emissions, at all times during crushing operations, to minimize release of dust;
 - 3.5.2 Water from the spray nozzles shall be spraying along the complete width of the conveyors and points of transfer in a quantity to suppress dust emissions. thus, multiple nozzles may be required;
 - 3.5.3 Fine mist water sprayers shall be installed and used on all aggregate storage piles, in particular the concrete and the bricks piles, as necessary to minimize any release of dust;
 - 3.5.4 Water shall be applied on the dry materials handling areas as needed to minimize release of dust;
 - 3.5.5 Dust palliative material or water shall be applied on all unpaved roads, unpaved areas and graveled roads used for hauling materials as needed, to minimize airborne dust emissions, to ensure that no visible dust is entrained by moving vehicles;
 - 3.5.6 Paved roads used to haul materials shall be swept as needed to minimize dust emissions;

- 3.5.7 Windbreaks or vegetative cover may be used to reduce fugitive dust emissions;
- 3.5.8 Vehicle speeds on unpaved roads, unpaved areas, and graveled roads used for hauling materials shall be limited to 10 miles per hour (mph). However, if these roads or areas are adequately treated with dust palliative material or water to prevent visible dust from being generated by moving vehicles, the speed limit may be exceeded, provided there are no visible emissions entrained moving vehicles;
- 3.5.9 All nonroad diesel engines used in crushing operations shall use ultra-low sulfur diesel or ultra-low biodiesel with a maximum sulfur content of 15 parts per million (ppm) or 0.0015% sulfur by weight or less;
- 3.5.10 Nonroad engines must be certified and meet the specified EPA Tier standards. An EPA certification, shall be submitted to YRCAA within 90 days of issuance this Order.
- 3.5.11 The Operation and Maintenance (O&M) Plan shall be developed and updated regularly, maintained and implemented by the Permittee, for the reclaimed crushing operations which shall include appropriate training for all operators, follow the specific engines owner's manual for proper maintenance and specific operation hours; and
- 3.5.12 Air emissions shall meet the ASIL value pursuant to WAC 173-460 and the NAAQS of 40 CFR Part 50 at all times and as specified in this Order.
- 3.6 The reclaimed crusher maximum throughput shall not exceed 325 tons/hr and shall not operate more than 520 hours per year (hr/yr). In addition, the total production shall not exceed 169,000 tons per year (tpy) of crushed total reclaimed concrete, asphalt and bricks.
- 3.7 Crushed bricks shall not exceed 20% of the annual crushed material. Therefore, annual crushed bricks shall not exceed a total of 33,800 tons per year.
- 3.8 The Permittee shall manually record the actual number of hours from the non-resettable meter of the crusher prior to crushing of any bricks. Upon the completion of crushing the batch of bricks, the reading from the non-resettable meter must be recorded. This record must be kept at site and be submitted with the registration program and upon request by YRCAA staff.
- 3.9 Crushing operations shall not be conducted beyond daylight hours at any time of the year, and shall be in compliance with all other issued permits.
- 3.10 All nonroad diesel engines used in the crushing operation shall be equipped with a non-resettable hour meter, which shall be operating at all times during crushing operations. These meters must be easily reachable. The hours-meter reading must be submitted in writing to YRCAA within 30 days from issuance of this Order or prior to the start of operation and must be verified by YRCAA staff.

- 3.11 No soil or dusts from the crushing operation shall be allowed beyond the crushing site location to include the property boundary lines. A water tires truck wash will be required if evidence of soil is transported beyond the project site. Thus, the streets connecting to the project site and the surroundings shall be washed / cleaned by water daily when required by evidence of soil transport.
- 3.12 The Permittee shall crush only recycled concrete, asphalt and bricks as specified in this Order including the total quantity.
- 3.13 Currently, the Facility is allowed to accept bricks as part of the LPL operation, but not for crushing. Under this Order, the Facility may crush up to 33,800 tons per year of bricks provided that it obtains the necessary approvals from other appropriate agencies or departments.
- 3.14 The Permittee must develop and implement a site-specific O&M plan for the operation including a Dust Control Plan for the reclaimed crushing operation, within 90 days of the issuance of this Order, if not developed yet. The O&M plan shall be based on manufacturer's recommendations or the facility experience, as part of the BACT and t-BACT.
- 3.15 If an O&M Plan or Dust Control Plan is not developed yet, a plan must be completed within 90 days of the issuance of this Order. If the Permittee needs to make any future modification to the operating procedures, an approval in writing from YRCAA which may require new NSR application, must be issued before such modification takes place. The O&M documents must be updated and implemented to reflect such modification.
- 3.16 The O&M Plan and the Dust Control Plan for the reclaimed crushing operation shall contain at minimum four sections: general information, operation plan (i.e., key operating parameters), maintenance plan and any other additional information for all units involved in the crushing operations, i.e. crusher, screen, conveyors, water spray nozzles, and water sprayers lines and tank.
- 3.17 The Permittee shall perform visual daily inspections when in operation and check that water is flowing properly through the water spray nozzles and sprayers. If the water is not flowing through the nozzles or not available, or not working properly, the Permittee shall stop the operation immediately and fix the spray lines and nozzles before continuing operating, and shall keep record of the event. The Permittee shall report the event to YRCAA office through phone call followed by a letter email within 24 hours.
- 3.18 Crushing operations shall cease when dust suppression materials i.e., water is not available or high winds which makes dust abatement procedures ineffective in controlling dust transport impacts from the Facility to adjoining businesses, property owners or roadways.
- 3.19 There must be no fallout or fugitive dust emissions from this crushing operation beyond the property boundary in a quantity that interferes unreasonably with the use and enjoyment of the property owner upon which the material deposited, or is detrimental to

the health, safety or welfare of any person, or causes damage to any property or business.

- 3.20 Visible emissions from normal operation, except startup and shutdown, of the nonroad diesel engines shall not exceed 10% average opacity as measured by Method 9 of the 40 CFR Part 60, Appendix A.
- 3.21 An initial compliance test shall be conducted upon the startup of the crushing operations. Visible emissions from the crusher shall not exceed twelve percent (12%) opacity during a 30 minutes period, while visible emissions from the screening operations, transfer points and any other source from this crushing operation (excluding truck dumping into any part of this operation and nonroad diesel engines) shall not exceed seven percent (7%) opacity during a 30 minutes period. Compliance for opacity test must be conducted using 40 CFR Part 60, Appendix A, Method 9 by a certified opacity reader. Opacity test must be conducted at ninety percent (90%) of the full load or greater. If visible emissions other than water vapor are observed beyond the specified opacity, the Permittee shall immediately stop the operation creating the emission and take corrective actions as directed in the O&M Plan until the allowable opacity limit is met.
- 3.22 The initial opacity compliance test results shall be submitted to YRCAA within 7 days from conducting the test.
- 3.23 The Facility shall conduct the opacity compliance test specified above at the start of the operation and annually thereafter or whenever needed and a copy the opacity results shall be submitted to YRCAA within 7 days from conducting the test. Records of these inspections must be maintained on-site and made available to YRCAA during inspections and upon request.

4.0 GENERAL APPROVAL CONDITIONS

- 4.1 Establishment of this reclaimed crushing operation must comply with all applicable Federal, State, and Local laws and regulations, including, but not limited to RCW 70A.15.2210, WAC 173-400 (General Regulations for Air Pollution Sources), WAC 173-350 (Solid Waste Handling Standards), and the YRCAA Regulation 1.
- 4.2 All plans, specifications, other information and any further authorizations or approvals or denials in relation to this operation, shall be incorporated herein and made part of YRCAA file.
- 4.3 If, or whenever the Permittee wants to modify the reclaimed crushing operation, expand, install new equipment, another NSR application must be filed with YRCAA. A new Order shall be issued before the changes take place, and BACT and t-BACT requirements must be satisfied pursuant to RCW 70A.15.2210, WAC 173-400-110 and WAC 173-460-040.
- 4.4 Nothing in this Order shall be construed as preventing compliance with any other requirement(s) of laws, regulations including those imposed pursuant to the Federal and State CAA, and rules and regulations thereunder. Any violation(s) of such rules and regulations are subject to enforcement and penalty action in accordance with RCW

70A.15.3150 and YRCAA Regulation 1, Article 5.

- 4.5 This Order may be modified, suspended or revoked in whole or part for cause including, but not limited to, the following:
- 4.5.1 Violation of any terms or conditions of this authorization; or
- 4.5.2 If this authorization has been obtained by misrepresentation or failure to disclose fully all relevant facts.
- 4.6 The provisions of this authorization are severable and, if any provision or application of any provision of this authorization to any circumstance is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.
- 4.7 Deviations from any of these conditions shall be considered violations subject to penalties in accordance with RCW 70A.15.3150 and 3160, WAC 173-400-230 and YRCAA Regulation 1, Article 5, Section 5.02.
- 4.8 The requirements of this Order apply to the Facility owner and/or operator(s) and any contractor or subcontractor performing any activity authorized under this Order. Any person(s), including contractor(s) and subcontractor(s), not in compliance with the applicable Order requirements are in violation of State and Local laws and subject to appropriate civil and criminal penalties. The Facility owner and/or operator, and all contractor(s) or subcontractor(s) are liable for the actions and violations of their employee(s). Any violation committed by a contractor or subcontractor shall be considered a violation by the Facility owner and/or operator, and is also a violation by the contractor and/or any subcontractor(s).
- 4.9 Applicable laws and regulations may be superseded or revised without notice. It is the Permittee's responsibility to stay current with rules and regulations governing their business and therefore is expected to comply with all new rules and regulations immediately upon their effective date. Rules and regulation updates will be incorporated into the existing Permits or upon renewal or modification of said Permits.
- 5.0 EMISSION LIMITS**
- 5.1 The maximum production output of the crushing operation shall not exceed 325 tons per hour for maximum of 520 hours per year. The total production shall not exceed 169,000 tons per year of crushed reclaimed concrete, asphalt and bricks in combination, at the above site as specified in the application and as shown in Appendix B.
- 5.2 Total crushed bricks shall not exceed a total production of 33,800 tons per year, as shown in Appendix B.
- 5.3 Air emissions from this crushing operation shall not exceed any specified allowable limit in Appendix B of this Order.

- 5.4 Visible opacity emissions from the crusher shall not exceed 12%, while visible opacity emissions from the screening operation, transfer points and any other source from this crushing operation (excluding truck dumping into any part of this operation and nonroad diesel engines) shall not exceed 7%, as indicated above.
- 5.5 In addition to the approval conditions and limits specified in this Order, the Permittee shall comply with all other applicable general and specific standards for maximum air emissions as specified in WAC 173-400-040, WAC 173-460, and WAC 173-400-075, including during startup and shutdown.

5.6 Toxic air emissions shall not exceed the ASIL at any time beyond the boundary line of the facility.

5.7 The total annual recyclable waste limits to be processed at the crushing operations shall be within the maximum total annual waste acceptance rate for the Facility and as specified in other issued Permits.

6.0 MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

6.1 This Order, a copy of the O&M Plan and other Orders for this Facility shall be kept on site at all times and shall always be readily available, organized and accessible when requested by the YRCAA's Air Pollution Control Officer (APCO) or his designated staff or during an inspection pursuant to RCW 70A.15.2500. The O&M plan shall be updated to reflect any changes in operating procedures and such changes shall routinely be implemented.

6.2 All required records, including but not limited to, hours of operation for any day when crushing activities are conducted, amount and type of recyclable material fed to the crusher, visible emissions inspections, daily water sprayers inspections during operation, O&M items performed, maintenance procedures including repairs and corrective actions, shall be maintained and kept on site for at least a rolling average of five (5) years and any other regulation, and shall be readily available, organized and accessible to the YRCAA's APCO or his designated staff during inspections or upon request.

6.3 Records and forms for recordkeeping must be designed by the Permittee and shall include at least the date and time of any activity or action taken, and the operator's name.

6.4 The Facility shall submit its annual registration report including the calculation of their total annual air emissions from this crushing operation for Criteria Pollutants, HAPs, TAPs, the number of hours of operation and, the amount and type of crushed material with the required fees to YRCAA as specified in the sent-out annual registration forms on or before the specified date as required by YRCAA Regulation 1, Section 4.01 and WAC 173-400-099. Annual air emissions, hours of operation and amount of crushed material shall be based on any previous calendar year operation.

6.5 The YRCAA staff shall be allowed to enter and inspect the Facility at reasonable times and inspect equipment and/or records specific to the control, and release of any contaminants into the atmosphere, in accordance with RCW 70A.15.2500 and YRCAA

Regulation 1.

- 6.6 Any application form, report, compliance certification, monthly records and the annual registration, submitted to YRCAA pursuant to this Order, must be signed by a responsible official.
- 6.7 This Order and its conditions shall remain in effect in the event of any change in control, ownership or name of the Facility. In the event of any such change, the Permittee shall notify the succeeding owner of all Orders of Approval, and all conditions and shall notify the YRCAA of the change in control, ownership or name by filing an “Ownership or Name Change” form within fifteen (15) days of that change. The form can be obtained from YRCAA website or requested from the agency.
- 6.8 All incoming reclaimed asphalt, concrete and bricks must be inspected, weighed and recorded at the Facility scale. This record must be submitted to YRCAA with the registration program. Records must be kept at the facility for at least a rolling average of five (5) years at the facility and as require by other regulation.
- 6.9 Pursuant to RCW 70A.15.2210, this Order shall be void without full payment of all actual YRCAA fees and cost within thirty days after the issuance date.

You may appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process and applicable requirements is governed by Chapter 43.21B RCW. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB, P.O. Box 40903, Olympia, WA, 98504-0903. Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order to YRCAA in paper form - by mail or in person. E-mail is not accepted.

DATED at the City of Yakima, Washington on this day of , 2024.

PREPARED BY:

ISSUED and REVIEWED BY:

Elizel Reynoso
Engineer Specialist
Yakima Regional Clean Air Agency

Hasan M. Tahat, Ph.D., P.E.
Engineering and Planning Division Supervisor
Yakima Regional Clean Air Agency
for
Marc Thornsby
Air Pollution Control Officer
Yakima Regional Clean Air Agency

REVIEWED BY:

Norman Hepner, P.E.
Nth Degree Engineering Solutions

Appendix A - Yakima County Planning Department (YCPD) letter for Recycling Concrete/Asphalt



DEPARTMENT OF PUBLIC SERVICES

128 North Second Street · Fourth Floor Courthouse · Yakima, Washington 98901
(509) 574-2260 · In-State 1-800-572-7354 · FAX (509) 574-2231 · www.co.yakima.wa.us
LISA FREUND, Director

May 24, 2024

Ian Sutton, P.E.
DTG
22745 29th Dr. SE, Ste 200
Bothell, WA 98021

Re: Recycling Concrete/Asphalt

Mr. Sutton,

Yakima County Code (YCC) Title 19 provides a number of specific mining related definitions that generally describe those particular activities. These definitions are not solely conclusive of all aspects of the activity for which they describe. Under YCC 19.01.070, "Mining" is defined as:

"Mining" means all or any part of the process involved in quarrying, mineral extraction, crushing, asphalt mixing plants, concrete batch plants, or other uses of a similar nature, but does not include petroleum or natural gas exploration or production.

The section of the definition that states "or other uses of a similar nature," is an example of where the County's definition tries to encapsulate as many mining related activities as reasonably practicable. A good example of this can also be seen with the definition of a "Mining site/operation:"

"Mining site/operation" means a tract of land and the operations necessary to excavate, process, stockpile, or remove materials such as sand, gravel, aggregate, rock or other mineral resources. The retail, wholesale, contract purchase, or transfer of mineral products is within the scope of this definition..."

The definition refers to operations necessary to process aggregate or other mineral resources. The word "process" in that definition is not defined, which as a result, has historically meant that processing can include a variety of related or similar activities. In addition, the phrase "other mineral resources," is also intended to be a catch all phrase to include other materials necessary or customary for the mining site operation to process. Recycling of asphalt and concrete has been considered customary as part of a mining site/operation. Furthermore, most if not all asphalt products sold include some

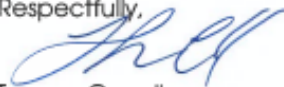
recycled asphalt materials. Unless the specific application requires virgin materials such as an airport runway, mining companies are using a mixture of recycled asphalt and virgin materials in their products.

It has been Yakima County Public Services' view that recycling concrete and asphalt are an integral part of most mining operations and has helped extend the life of most mining sites. Facilities like DTG, which has both a mining site and a Limited Purpose Landfill are better suited to collect, process and recycle concrete and asphalt due to the nature of their operation. As a mine, demolition landfill and recycling facility DTG's facility is a perfect example of how these types of mining/landfill activities can co-exist and how recycling of concrete and asphalt would be considered as "other uses of a similar nature," or "other mineral resources" as defined by Yakima County Code.

It is the Planning Division's determination that the existing environmental reviews for the facility, through previous SEPA processes, addressed the processing of material, including crushing of concrete and asphalt. Processing and crushing are limited to the operational footprint of the property and is not restricted to the landfill disposal limit.

If you have any further questions, please feel free to contact me at 509-574-2300.

Respectfully,



Tommy Carroll
Planning Official/SEPA Responsible Official
Yakima County Public Services

Yakima County ensures full compliance with Title VI of the Civil Rights Act of 1964 by prohibiting discrimination against any person on the basis of race, color, nation origin, or sex in the provision of benefits and services resulting from its federally assisted programs and activities. For questions regarding Yakima County's Title VI Program, you may contact the Title VI Coordinator at 509-574-2300.

If this letter pertains to a meeting and you need special accommodations, please call us at 509-574-2300 by 10:00 a.m. three days prior to the meeting. For TDD users, please use the State's toll free relay service 1-800-833-6388 and ask the operator to dial 509-574-2300.

CRUSHING ACTIVITIES

Actual hours of operation 192 hours/year (8hours/day)*(1day/week)*(24weeks/year)
 Allowable/Potential hours of operation ¹ 520 hours/year (10hours/day)*(1day/week)*(52weeks/year)

¹ Proposed by the Permittee as a restrictions on hours of operation. Therefore, allowable hours of operation will be considered potential (PTE) hours of operation, as per WAC 173-400-030(76).

Crusher maximum rate capacity 325 tons/hour

Actual output per year 62,400 tons/year
 Allowable output per year 169,000 tons/year

Particulate Matter (PM) Emissions

Crushing and screening activities

Emission factors (lb/tons)	Uncontrolled ¹			Controlled ²		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Crushing ³ (1x FT2640 Tracked Jaw Crusher)	0.0054	0.0024	0.0024	0.0012	0.00054	0.0001
Fines screening ³ (1x CEC Screen Plant)	0.3	0.072	0.072	0.0036	0.0022	0.0001
Product transfer points ^{3,4} (4x transfer points)	0.003	0.0011	0.0011	0.00014	0.000046	0.000013
Truck unloading ^{5,6}	0.000016	0.000016	0.000016	0.000016	0.000016	0.000016
Truck loading ^{5,6}	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

¹ Emission factors obtained from AP-42 Section 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing - Table 11.19.2-2 (English Units), Emission Factors for Crushed Stone Processing Operations (lb/ton).

² Emission factors obtained from "Technical Support Document for Stationary and Portable Rock Crushing Operations - General Order of Approval No. 11AQ-GO-01" - Table 1. Emission Factors Comparison; Emission Factor Selected controlled (lb/ton). <https://ecology.wa.gov/getattachment/ee40431-844e-4d78-95c0>.

³ Uncontrolled emission factor for PM₁₀, assumed to be the same for PM_{2.5}.

⁴ One transfer point from crusher to screen plant, plus three transfer points on screen plant, per Permittee's NSR application.

⁵ Emission factor for PM₁₀, assumed to be the same for PM and PM_{2.5}.

⁶ Uncontrolled emission factors used as controlled emission factors for conservative purposes.

Actual emission rate (tons/year)	Uncontrolled			Controlled		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Primary crusher	0.1685	0.0749	0.0749	0.0374	0.0168	0.0031
Screening	9.3600	2.2464	2.2464	0.1123	0.0686	0.0031
Product transfer points (4x)	0.3744	0.1373	0.1373	0.0175	0.0057	0.0016
Truck unloading	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Truck loading hopper	0.0031	0.0031	0.0031	0.0031	0.0031	0.0031

Crushing and screening activities ¹	Uncontrolled			Controlled		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Actual emission rate (tons/year)	11.8878	2.9546	2.9546	0.2050	0.1138	0.0138
Allowable emission rate (tons/year)	32.1961	8.0021	8.0021	0.5553	0.3083	0.0373

¹ A safety factor of 1.2 proposed by the Permittee was applied to address the potential for crushing concrete, asphalt and brick to have higher emission factors than mineral rock during crushing operations.

Aggregate handling and storage piles

Constants and emission factor calculation	PM	PM ₁₀	PM _{2.5}
k ¹	0.74	0.35	0.053
Material moisture content, % (M) ²	5.7		
Average wind speed, mph (U) ²	7.8		
Control efficiency, % ²	80%		
Uncontrolled emission factor (lb/tons) ³	0.000974	0.000461	0.000070

$$E = k(0.0032) \left(\frac{U}{2}\right)^{1.3} \left(\frac{M}{2}\right)^{1.3} \text{ (pound/lb/ton)}$$

¹ Constant from AP42 Section 13.2.4 Aggregate Handling And Storage Piles - Aerodynamic Particle Size Multiplier (k) for Equation 1.

² Per Permittee's NSR application.

³ AP-42 Section 13.2.4 Aggregate Handling And Storage Piles - Equation 1(b) (lb/ton).

Aggregate handling and storage piles ¹	Uncontrolled			Controlled		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Actual emission rate (tons/year)	0.0365	0.0173	0.0026	0.0073	0.0035	0.0005
Allowable emission rate (tons/year)	0.0988	0.0467	0.0071	0.0198	0.0093	0.0014

¹ A safety factor of 1.2 proposed by the Permittee was applied to address the potential for aggregate handling and storage of concrete, asphalt and brick to have higher emission factors than mineral rock.

Loader - work area

Constants and emission factor calculation	PM	PM ₁₀	PM _{2.5}
k, lb/VMT ¹	4.9	1.5	0.15
a ¹	0.7	0.9	0.9
b ¹	0.45	0.45	0.45
Surface silt content, % (s) ²	3.6		
Loader weight, tons ²	22.5		
Loader capacity, tons ²	4.8		
Mean loader weight, tons (W) ²	24.9		
Mean loader speed, mph ²	5		
Actual operation hours, hours/year ²	192		
Vehicle miles traveled, VMT/year	960		
Natural mitigation, % ²	80.82%		
Control efficiency, % ²	80%		
E, Uncontrolled emission factor, lb/VMT ³	5.47	1.32	0.13
Eext, lb/VMT	4.42	1.06	0.11

$$E = k(s/12)^a (W/3)^b \text{ (lb/VMT)}$$

¹ AP-42 Section 13.2.2 Unpaved roads - Table 13.2.2-2 Constants for Equations 1a and 1b; Industrial Roads (Equation 1a).

² Per Permittee's NSR application.

³ AP-42 Section 13.2.2 Unpaved roads - Equation 1(a) (lb/VMT).

Loader - work area	Uncontrolled			Controlled		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Actual emission rate (tons/year)	2.12	0.51	0.05	0.42	0.10	0.01
Allowable emission rate (tons/year)	5.74	1.38	0.14	1.15	0.28	0.03

Haul trucks - paved and unpaved roads ¹

¹ "Worst case scenario" calculations based on maximum allowable amount of concrete, asphalt and brick crushed (169,000 ton/year), that is imported and exported by haul trucks.

Unpaved road - Gravel road and work area

Constants and emission factor calculation	PM	PM ₁₀	PM _{2.5}
k, lb/VMT ¹	4.9	1.5	0.15
a ¹	0.7	0.9	0.9
b ¹	0.45	0.45	0.45
Surface silt content, % (s) ²	3.6		
Haul truck weight, tons	14		
Haul truck capacity, tons ³	7.68		
Mean haul truck weight, tons (W)	17.84		
Unpaved gravel road and work area length, miles ⁴	1.62		
Actual trips required, trips/year	8,125		
Vehicle miles traveled, VMT/year	13,163		
Natural mitigation, % ⁵	80.82%		
Control efficiency, % ²	80%		
E, Uncontrolled emission factor, lb/VMT ⁵	5.47	1.32	0.13
Eext, lb/VMT	4.42	1.06	0.11

$$E = k(s/12)^a(W/3)^b \text{ (lb/VMT)}$$

¹ AP-42 Section 13.2.2 Unpaved roads - Table 13.2.2-2 Constants for Equations 1a and 1b; Industrial Roads (Equation 1a).

² Per Permittee's NSR application.

³ Estimated 32yd³ per dumpster, with a haul density of 0.24tons/yd³

⁴ Gravel road = 0.76 miles one way, work road = 0.10 miles round trip.

⁵ AP-42 Section 13.2.2 Unpaved roads - Equation 1(a) (lb/VMT).

Haul truck - unpaved roads (gravel road and work area)	Uncontrolled			Controlled		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Actual emission rate (tons/year)	29.08	7.00	0.70	5.82	1.40	0.14
Allowable emission rate (tons/year)	78.76	18.95	1.90	15.75	3.79	0.38

Paved road

Constants and emission factor calculation	PM	PM ₁₀	PM _{2.5}
k, lb/VMT ¹	0.011	0.0022	0.00054
Surface silt loading, g/m ² (sL) ²	3.6		
Haul truck weight, tons	14		
Haul truck capacity, tons ³	7.68		
Mean haul truck weight, tons (W)	17.84		
Paved gravel road length, miles ⁴	1.26		
Actual trips required, trips/year	8,125		
Vehicle miles traveled, VMT/year	10,238		
Natural mitigation, % ⁵	95.21%		
Control efficiency, % ²	80%		
E, Uncontrolled emission factor, lb/VMT ⁶	0.67	0.13	0.03
Eext, lb/VMT	0.63	0.13	0.03

$$E = k(sL)^{0.91}(W)^{1.02} \text{ (lb/VMT)}$$

¹ AP-42 Section 13.2.1 Paved roads - Table 13.2.1-1 (Equation 1).

² Per Permittee's NSR application.

³ Estimated 32yd³ per dumpster, with a haul density of 0.24tons/yd³

⁴ Paved road = 0.63 miles one way.

⁵ Natural mitigation factor from AP-42 Section 13.2.1 - Equation 2 (lb/VMT).

⁶ AP-42 Section 13.2.1 Paved roads - Equation 1 (lb/VMT).

Haul truck - Paved roads	Uncontrolled			Controlled		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Actual emission rate (tons/year)	3.25	0.65	0.16	0.65	0.13	0.03
Allowable emission rate (tons/year)	8.80	1.76	0.43	1.76	0.35	0.09

Haul truck total emissions (paved and unpaved roads)	Uncontrolled			Controlled		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Actual emission rate (tons/year)	32.33	7.65	0.86	6.47	1.53	0.17
Allowable emission rate (tons/year)	87.56	20.71	2.33	17.51	4.14	0.47

Total Particulate Matter (PM) Emissions (Crushing and screening activities, aggregate handling and storage piles, loader and haul truck use)

Total PM Emissions	Uncontrolled			Controlled		
	PM	PM ₁₀	PM _{2.5}	PM	PM ₁₀	PM _{2.5}
Total actual emission rate (tons/year)	46.38	11.13	3.87	7.10	1.75	0.20
Total allowable emission rate (tons/year)	125.60	30.14	10.47	19.24	4.74	0.53

New Source Review and Modeling Requirements

	PM	PM ₁₀	PM _{2.5}
Total PTE uncontrolled emission rate (tons/year) ¹	125.60	30.14	10.47
Exemption thresholds (tons/year) ²	1.25	0.75	0.5
NSR required? ³	Yes	Yes	Yes
Emission threshold (tons/year) ³	25	15	10
Modeling required? ⁴	NA ⁴	Yes	Yes

¹ Allowable emission rate will be considered PTE emission rate, by restricting the hours of operation, as per WAC 173-400-030(76), up to 520 hours per year.

² Permitting is required if the total PTE uncontrolled emission rate exceeds the corresponding NSR threshold established in WAC 173-400-100(5)(b).

³ Modeling is required if the total PTE uncontrolled emission rate for Criteria Pollutants, with an applicable NAAQS threshold, is higher than emission thresholds established in WAC 173-400-030(30).

⁴ Total Particulate Matter (PM) does not have an applicable NAAQS thresholds, thus, modeling is not required for this pollutant.

Pollutant	Total PTE controlled rate (lb/hr)	NAAQS	Averaging time	Modeled concentration (µg/m ³)	Background concentration (µg/m ³)	Below NAAQS?
PM ₁₀	1.081	150	24-hr	47.05	64.11	Yes
PM _{2.5}	0.121	35	24-hr	5.28	18.89	Yes
		9	Annual	0.98	5.19	Yes

AERMOD results as Volume Source at 1 lb/hr		
Crushing activities PM emissions, 24-hr	43.51	µg/m ³
Crushing activities PM emissions, year	8.08	µg/m ³

Hazardous Air Pollutants (HAPs) and Toxic Air Pollutants (TAPs) Emissions¹

¹ HAPs and TAPs are emitted only during rock crushing, screening, aggregate handling and storage piles.

² Calculations for crushed concrete and asphalt are performed under a 'worst-case scenario,' assuming that 100% of each material is crushed and then compared to their respective thresholds established in WAC 173-460-150.

³ Calculations for crushed brick are performed based on the assumption that it constitutes 20% of the total crushed material, as proposed by the Permittee.

Silica, crystalline (respirable)¹ from crushed concrete, asphalt and brick.

Recyclable material	% material crushed	Composition	Actual respirable fraction of crystalline silica emissions uncontrolled (tons/year)	Actual respirable silica emission rate uncontrolled (ton/year)	Actual respirable silica emission rate uncontrolled (lb/day)	De Minimis (lb/day) ²	Permitting required?	PTE respirable fraction of crystalline silica emissions controlled (tons/year) ³	PTE respirable silica emission rate controlled (ton/year)	PTE Respirable silica emission rate controlled (lb/day)	SQER (lb/day) ²	Modeling required?
Crushed Concrete	100%	1%	5.93	0.06	0.32	0.011	Yes	0.36	0.004	0.02	0.22	No
Crushed Asphalt	100%	1%	5.93	0.06	0.32		Yes	0.36	0.004	0.02		No
Crushed Brick	20%	40%	1.19	0.47	2.60		Yes	0.07	0.03	0.16		No

¹ Crushed concrete, crushed asphalt and crushed brick are composed of Quartz (silica, crystalline). CAS No. 14808-60-7; Quartz is composed of silica. The respirable fraction of crystalline silica are particles under 10 microns in diameter; i.e. <PM₁₀. For conservative purposes, PM₁₀ and PM_{2.5} were considered as respirable fraction of crystalline silica, which is listed as a TAP in WAC 173-460-150 with CAS No. 7631-86-9. <https://safesilica.eu/wp-content/uploads/2019/09/Safe-Silica-Whitepaper-Feb-2019.pdf>

² WAC 173-460-150. Updated and effective 12/23/19.

³ Allowable emission rate will be considered PTE emission rate, by using a non-resettable hour meter in the crusher generator, as per WAC 173-400-030(76).

Chromium oxide compounds¹ and Manganese compounds from crushed brick

Pollutant	% brick crushed	Composition	Total actual brick emissions uncontrolled (tons/year)	Total actual pollutant emission rate uncontrolled (ton/year)	Total actual pollutant emission rate uncontrolled (lb/day)	De Minimis (lb/day) ²	Permitting required?	Total PTE brick emissions controlled (tons/year)	Total PTE pollutant emission rate controlled (ton/year)	Total PTE pollutant emission rate controlled (lb/day)	SQER (lb/day) ²	Modeling required?
Chromium (III), insoluble	20%	3%	3.57	0.11	0.59	0.019	Yes	0.19	0.01	0.03	0.37	No
Chromium (III), soluble		3%		0.11	0.59	0.00037	Yes		0.01	0.03	0.0074	Yes
Manganese compounds		3%		0.11	0.59	0.0011	Yes		0.01	0.03	0.022	Yes

¹ Brick Safety Data Sheet (SDS) lists Chromium oxide compounds with CAS No. 1308-38-9; which is a the CAS No. for Chromium (III) oxide. HAPs list includes Chromium Compounds, and it includes any unique chemical substance that contains the named chemical as part of the chemical's structure. TAPs list includes Chromium (III), insoluble and soluble particulates. For De Minimis, SQER and ASIL comparative purposes, Chromium (III), insoluble and soluble compounds will be used.

² WAC 173-460-150. Updated and effective 12/23/19.

HAPs and TAPs modeling

Hazardous/Toxic Air Pollutant	Averaging Period	ASIL (µg/m ³) ³	Total PTE pollutant emission rate controlled (lb/day)	Total PTE pollutant emission rate controlled (lb/hr.)	Modeled concentration (µg/m ³)	% ASIL	Exceeds ASIL?
Silica, crystalline (respirable) - Crushed concrete	24-hr	3.0	0.02	0.0008	0.04	1.2%	No
Silica, crystalline (respirable) - Crushed asphalt	24-hr	3.0	0.02	0.0008	0.04	1.2%	No
Silica, crystalline (respirable) - Crushed brick	24-hr	3.0	0.16	0.0065	0.28	9.4%	No
Chromium (III), insoluble	24-hr	5.0	0.03	0.0013	0.06	1.1%	No
Chromium (III), soluble	24-hr	0.10	0.03	0.0013	0.06	55.5%	No
Manganese compounds	24-hr	0.30	0.03	0.0013	0.06	18.5%	No

AERMOD results as Volume Source at 1 lb/hr.

Crushing activities emissions, 24-hr	43.51	µg/m ³
Crushing activities emissions, year	8.08	µg/m ³

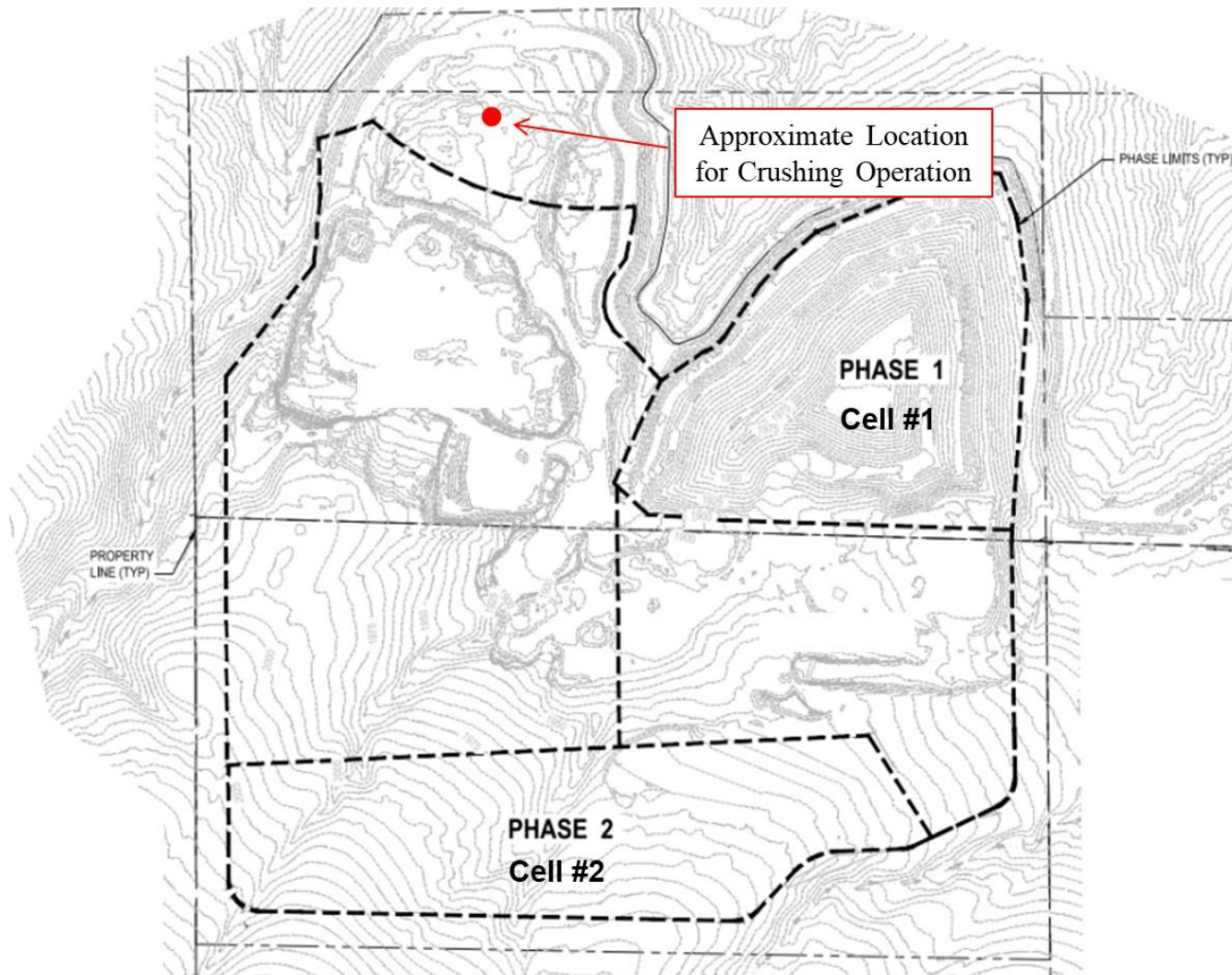


Figure 1: Facility site plan and proposed location of the crushing and screening operation



Figure 2: The Astec 2640 Jaw Crusher.



Figure 3: DTG's CEC 5x12 screen equipment.