Environment

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NO_X and VOC Emissions from Construction Activities and Air Conformity Applicability Calvert Cliffs Unit 3 Rev. 1

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Calvert Cliffs 3 Nuclear Project LLC ("CC3") and UniStar Nuclear Operating Services, LLC ("UNO") (Co-Applicants) are proposing to construct and operate a new nuclear power unit on the existing Calvert Cliffs Nuclear Power Plant (CCNPP) site. The new unit will be designated as CCNPP Unit 3 (CC3), and will have a gross electric generation capacity of about 1,710 megawatts.

Pursuant to the General Conformity Requirements under 40 CFR 93.150 et seq, the Nuclear Regulatory Commission (NRC) as the lead federal agency is required to make a conformity determination with regard to the proposed construction and operation of CC3. The General Conformity Rule applies only in locations designated in 40 CFR Part 81 as maintenance or nonattainment areas for any criteria air pollutant. As shown in Figure 1-1, the CC3 project site in Calvert County, Maryland is located within the Washington, DC-MD-VA moderate nonattainment area for the 8-hour ambient ozone standard. As such, construction-related emissions of ozone precursors, i.e., oxides of nitrogen (NO_X) and volatile organic compounds (VOC) from both direct and indirect project-related emissions have been evaluated to determine if annual emissions of these pollutants during the years of construction are above the applicable tonnage thresholds for applicability of General Conformity requirements. The applicable de minimis thresholds are 100 tons per year of NO_X and 50 tons per year of VOC emissions per 40 CFR 93.153.

Note that <u>operation</u> of CC3 will not result in significant generation of NO_x emissions, or significant releases of VOCs. Typical sources of NO_x during operation of CC3 will include vehicle operations (mobile sources) and periodic operation of diesel generators that are used to provide backup power (stationary sources). Potential emissions of NO_x and VOCs from CC3 stationary source operations will also be subject to restrictions imposed under the Certificate of Public Convenience and Necessity (CPCN) issued by Maryland Public Service Commission for CCNPP Unit 3 effective June 26, 2009. The CPCN constitutes the issuance of the Air Quality Minor New Source Review Permit to Construct, and a Major Prevention of Significant Deterioration (PSD) permit that was based on review by the Power Plant Research Program (PPRP) and the Maryland Department of the Environment (MDE). Potential NO_x and VOC emissions from operations will be below de minimis threshold values listed in 40 CFR 93.153(b). Mobile source emissions from operations were estimated by proportioning the worst case year of on-road emission during construction by the ratio of operational employees to the number of construction workers. Permitted emissions from the CC3 stationary sources are 24 tpy of NO_x and 4 tpy of VOC but these emissions are specifically excluded from the requirements for a conformity determination per the exclusion found in 40 CFR 93.153(d) for major new sources subject to PSD.

This report documents the NO_x and VOC emissions associated with the construction of CC3 for purposes of determining applicability to the federal Clean Air Act General Conformity Rule. An earlier version of this report was submitted to NRC to satisfy the commitment by CC3 and UNO pursuant to CC-09-0002 (dated October 2, 2009) to provide updated construction emissions by December 11, 2009. Prior to the December 2009 submittal, estimates of construction-related emissions were provided in the CPCN Technical Reports filed with the Maryland Public Service Commission (PSC) in November 2007 and later amended in August 2008. These CPCN reports only evaluated onsite NO_x and VOC emissions related to construction and did not address indirect emissions from activities outside the construction site that are required by EPA in a formal conformity applicability analysis. Indirect activities included in this analysis are employee commuting, commercial deliveries, and emissions from materials delivered by barge to the on-site dock. Moreover, the construction equipment schedule and timeline has been revised since the previous filings.

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This document updates the version of this report filed with the NRC in December 2009 to specifically address NRC's request for a more detailed breakout of safety-related construction emissions as defined pursuant to 40 CFR Part 50.10. This request was verbally communicated in a conference call with UniStar and NRC on December 18, 2009.

1.1 Content of the Report

This report consists of four sections and two appendices. Section 2.1 presents the estimated direct and indirect VOC and NO_X emissions from construction of the project. Section 2.2 provides estimates of the indirect emissions associated with CC3 operations. Section 3 describes the methodology for the emission inventory. Technical references are provided in section 4. Appendix A contains the projected construction equipment details and hours of use for each year of construction Appendix B contains detailed emissions calculations for the direct construction equipment and indirect emissions.

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Figure 1-1 Washington, DC-MD-VA and Baltimore, MD 8-hr Ozone Nonattainment Regions

★ Location of CC3

2.0 Emissions Evaluation Approach

The evaluation of the construction and pre-construction emissions is the aggregate of Non-road and Onroad emissions associated with the construction of CC3. Non-road emissions are estimated using NONROAD 2008 model and on-road emissions are estimated using MOBILE 6.2 model. AECOM incorporated these two models and applied them mathematically to determine the emissions.

Bechtel North American Power Corporation (Bechtel) is UniStar's current project/construction engineering firm. Bechtel has developed an overall equipment list for construction of CC3 (see Appendix A). This assumption was cross-checked with actual construction schedules from two comparably-sized projects.

In determining the construction emissions as defined in 40 CFR Part 50.2 and Part 50.10, UniStar has developed a "Resource Utilization" approach in consultation with Bechtel. In this approach, construction emission are measured only from the operations associated with Safety –related structures, systems, or components (SSCs) in addition to the onsite activities and are based on the labor distribution throughout the period of construction.

Labor utilization is characterized as being associated with the Nuclear Island, the Turbine Island or the Balance of plant. The assumption is that equipment utilization will be proportional to the predicted labor utilization and that SSC utilization can be defined as that portion of the total devoted to the Nuclear Island. Based upon the schedule, the period of safety-related construction is predicted to be 68 months beginning January 2012. The calculated distribution of resource utilization during that time is distributed as follows:

	2012	2013	2014	2015	2016	2017
Nuclear Island	72.2%	60.5%	58.4%	80.9%	85.1%	100%
Turbine Island	0.10%	13.8%	13.7%	16.1%	14.9%	0%
Balance of Plant	27.7%	25.6%	27.9%	3.0%	0%	0%
	100%	100%	100%	100%	100%	100%

Table 2-1Resource Utilization

Emissions from equipment associated with safety-related activities are estimated separately from the overall emissions estimate. These are Tables B-1a and B-1b in Appendix B.

3.0 Emissions Estimates

3.1 Construction/Pre-Construction Emissions

Tables 3-1 and 3-2 present the total VOC and NO_x emissions estimates over the construction of the project. These are broken up into separate tables for the two ozone nonattainment regions which are affected. As seen in Figure 1-1, CC3 is located in the Washington DC-MD-VA nonattainment area, but is also close to the Baltimore nonattainment area. Indirect emissions from employee commuting, commercial deliveries and barge deliveries are expected to be generated in both nonattainment areas.

At the request of NRC, Table 3-3 presents a breakout of safety-related construction emissions as defined under 10 CFR Part 50 – Domestic Licensing for Production and Utilization Facilities. The definition of construction under 10 CFR 50.2 reads as follows:

Construction or *constructing* means, for the purposes of §50.55(e), the analysis, design, manufacture, fabrication, quality assurance, placement, erection, installation, modification, inspection, or testing of a facility or activity which is subject to the regulations in this part and consulting services related to the facility or activity that are safety related.

Additional delineation of construction versus "pre-construction" activities is found under 10 CFR 50.10(a)(1) and (2) under limited work authorization. These are paraphrased below.

(1) Activities constituting construction are the driving of piles, subsurface preparation, placement of backfill, concrete, or permanent retaining walls within an excavation, installation of foundations, or in-place assembly, erection, fabrication, or testing, which are for: safety-related structures, systems, or components (SSCs)

(2) Construction does not include: Site exploration, preparation of a site for construction of a facility, including clearing of the site, grading, installation of drainage, erosion and other environmental mitigation measures, and construction of temporary roads and borrow areas; excavation; erection of support buildings building of service facilities

The level of detail to precisely breakout preconstruction and construction activities as defined by NRC is unknown at this time. Emissions reported in Table 3-3 are based on estimated equipment types expected to perform safety-related construction activities as defined in 10 CFR 50. For example groups excluded are direct or indirect emissions from motor vehicles (except concrete trucks), site preparation equipment and dredging equipment. Equipment groups included are earthmoving, compacting, cranes, forklifts, concrete/aggregate equipment, air compressors, manlifts, welding equipment, generating equipment, small capitol equipment and concrete equipment.

The equipment groups included in construction-related activities are shown in Appendix B combined with the non-safety related equipment and also separately. Since the labor (and resource) utilization is not assigned to any specific equipment, a breakdown of emissions by equipment group is not possible. Therefore, the resource utilization of the nuclear island was applied to the <u>total</u> estimated emissions from the safety-related construction equipment for the estimates provided in Table 3-3.

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							Exceeds							Exceeds
	Off-Road	Off-Road	On-Road		:		Conformity	Off-Road	Off-Road	On-Road				Conformity
	Diesel	Gasoline	Vehicles	Marine	Boiler	voc	Threshold	Diesel	Gasoline	Vehicles	Marine	Boiler	NOx	Threshold
Year	voc	VOC	VOC	VOC	VOC	(Tons)	(Yes/No)	NOx	NOx	NOx	NOx	NOx	(Tons)	(Yes/No)
2010	2.6	1.6	3.9	0	0	8.2	No	36.4	0.12	4.0	0	0	40.5	No
2011	9.9	5.2	17.3	0.34	0	32.7	No	138.1	0.5	20.6	6.8	0	166.0	Yes
2012	3.3	1.1	19.9	0.11	0.02	24.4	No	48.1	0.4	24.3	2.1	1.5	76.5	No
2013	9.9	3.8	26.8	0.11	0.05	40.7	No	150.9	1.8	34.4	2.1	4.6	193.8	Yes
2014	12.4	4.8	29.5	0.11	0.05	46.8	No	188.8	2.4	43.1	2.1	4.6	241.0	Yes
2015	12.7	4.8	25.8	0.11	0.05	43.4	No	193.0	2.4	39.8	2.1	4.6	242.0	Yes
2016	11.3	4.6	21.2	0.11	0.03	37.3	No	170.9	2.3	29.3	2.1	3.1	207.8	Yes
2017	6.7	4.5	10.0	0	0	21.2	No	101.3	2.2	14.5	0	0	118.0	Yes
2018	1.3	1.3	3.5	0	0	6.2	No	19.4	0.9	4.1	0	0	24.4	No

Table 3-1 CC3 Total Construction Emissions within the Washington DC-MD-VA Ozone Nonattainment Area

Includes activities not defined as construction under 10 CFR 50.

Table 3-2 CC3 Total Construction Emissions within Baltimore Nonattainment Area

							Exceeds							Exceeds
	Off-Road	Off-Road	On-Road				Conformity	Off-Road	Off-Road	On-Road				Conformity
	Diesel	Gasoline	Vehicles	Marine	Boiler	voc	Threshold	Diesel	Gasoline	Vehicles	Marine	Boiler	NOx	Threshold
Year	VOC	VOC	VOC	VOC	VOC	(Tons)	(Yes/No)	NOx	ŅOx	NOx	NOx	NOx	(Tons)	(Yes/No)
2010	0	0	0.3	0	0	0.35	No	0	0	0.27	0	. 0	0.27	No
2011	0	0	1.5	0	0	1.48	No	. 0	0	1.1	0	0	1.1	No
2012	0	0	2.1	0.35	0	2.49	No	0	0	2.1	6.8	0	8.9	No
2013	0	0	2.7	0.35	0	3.06	No	0	0	2.5	6.8	0	9.3	No
2014	0	0	2.9	0.35	0	3.20	No	0	0	2.4	6.8	0	9.2	No
2015	0	0	2.4	0.35	0	2.71	No	0	0	1.8	6.8	0	8.6	No
2016	0	0	1.8	0.35	0	2.18	No	0	0	1.3	6.8	0	8.2	No
2017	0	. 0	0.8	0	0	0.82	No	0	0	0.6	0	0	0.6	No
2018	0	0	0.3	0	0	0.27	No	0	0	0.19	0	0	0.19	No

Includes activities not defined as construction under 10 CFR 50.

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	Off-Road	Off-Road	On-Road				10 CFR 50	10 CFR 50	Exceeds Conformity		
	Diesel	Gasoline	Vehicles	Marine	Boiler	Total VOC	Construction	Construction	Threshold		
Year	voc	voc	voc	voc	voc	(Tons)	Resource Utilization	Emissions VOC (Tons)	(Yes/No)		
2010	0	0	0	0	0	0	0.0%	0	No		
2011	0	0	0	0	0	0	0.0%	0	No		
2012	1.5	0.77	0,19	0	0	2.5	72.2%	1.8	No		
2013	8.8	3.25	0.37	0	0	12.5	60.5%	7.5	No		
2014	11.1	4.25	0.36	0	0	15.7	58.4%	9.2	No		
2015	11.4	4.22	0.34	0	0	16.0	80.9%	12.9	No		
2016	10.6	4.05	0.31	0	0	14.9	85.1%	12.7	No		
2017	6.6	3.92	0	0	0	10.6	100.0%	10.6	No		
2018	1.3	1.02	0	0	0	2.35	0.0%	0.00	No		
	1	1									
	Off-Road	Off-Road	On-Road				10 CFR 50	10 CFR 50	Exceeds Conformity		
	Diesel	Gasoline	Vehicles	Marine	Boiler	Total NOx	Construction	Construction	Threshold		
Year	NOx	NOx	NOx	NOx	NOx	(Tons)	Resource Utilization	Emissions NOx (Tons)	(Yes/No)		
2010	0	0	0	0	0	0	0.0%	0	No		
2011	0	0	0	0	0	0	0.0%	0	No		
2012	22.3	0.41	3.1	0	0	25.8	72.2%	18.6	No		
2013	132.2	1.83	5.5	0	0	139.5	60.5%	84.4	No		
2014	167.1	2.41	4.7	0	0	174.2	58.4%	101.7	Yes		
2015	171.3	2.40	4.1	0	0	177.8	80.9%	143.9	Yes		
2016	157.7	2.34	3.4	0	0	163.4	85.1%	139.1	Yes		
2017	100.1	2.23	0	0	0	102.4	100.0%	102.4	Yes		
			-	1					No		

Table 3-3 CC3 10 CFR 50 Construction Emissions within the Washington DC-MD-VA Ozone Nonattainment Area

As stated previously, the emissions in Table 3-3 represent the best estimate of "construction" emissions as defined by 10 CFR Part 50 and an estimate of associated resource (labor) utilization. Construction of the reactor and cooling tower are not expected to start in great capacity until the middle of 2012. A detailed plan of construction has not yet been developed in order to specify the start of construction of individual equipment. For example, backfilling and soil compaction are considered construction so the entire group of operating earthmoving and compacting equipment is included in the emissions estimate. Other equipment groups included are compaction, cranes, forklifts, manlifts, welding equipment, concrete equipment, air compressors, pipelaying, cable laying, winches, generation equipment, and small capital equipment. This list is presented in Appendix B, Table B-1b.

Based on the NRC definition of construction and estimated resource utilization by UniStar, Table 3-3 shows that the exceedances of the conformity threshold for NO_X for the years 2014 through 2017. Only non-safety related construction activities are expected to take place in 2010, 2011, and 2018

3.2 Operational Emissions

As noted in Section 1, the operational emissions from CC3 stationary sources required a permit under the PSD program. As such, these emissions are specifically excluded from the requirements for a conformity determination per the exclusion found in 40 CFR 93.153(d).

The only other emissions of NOx and VOC from CC3 operations are indirect emissions associated with vehicular emissions from employee traffic. As stated in the Phase II traffic study prepared in June 2009 (Reference 10), 363 permanent employees are expected once CC3 begins operations resulting in at most 363 additional round trips. This is very similar to the 379 round trips estimated for the construction workforce in 2018 but well below the estimated number of peak daily round trips during construction of 3,000.

Using similar assumptions as with the construction workforce, emissions from indirect operational employee commuting are expected to be only 1.4 tons/yr of NO_X and 2.0 tons/yr of VOC in the Washington DC nonattainment area and 0.2 tons/yr of NO_X and 0.3 tons/yr of VOC in the Baltimore nonattainment area. These levels are well below the respective applicability thresholds of 100 tons/yr and 50 tons/yr.

4.0 Emission Estimation Methodology

Bechtel North American Power Corporation (Bechtel), UniStar's current project/construction engineering firm, was responsible for developing an estimate of fuel-burning equipment (non-road and on-road) needed to construct the proposed Unit 3. Bechtel provided an equipment schedule with equipment sizes and estimated annual hours of operation and as previously mentioned in Section2, this list was then used to develop a safety-related construction list of equipment. Emissions calculations based on this equipment along with indirect NO_X and VOC emissions are presented in Appendix B.

4.1 Emissions from Non-Road Equipment

Emissions from non-road equipment (mobile, portable, and stationary fuel-burning equipment) were estimated using EPA's NONROAD2008 model and methodology. Bechtel provided a study of engines with horsepower and annual hours of operation for construction of CC3. Similar to the previously submitted construction emissions from 2008, AECOM developed a spreadsheet -based approach to estimate non-road engine emissions based on the NONROAD model guidance and NONROAD model data files. This allows the emissions estimates to be thoroughly checked and allows transparency to how emissions are developed.

Applicable engine tiers for this analysis are based on the estimated usage dates and the phase-in years for engine size ranges given in Table 1 of Reference 2 for diesel engines and Tables 1 through 7 of Reference 3 for gasoline engines. The applicable SCC codes for equipment were chosen (based on engine duty and fuel type) from the list in Appendix A of Reference 4. This cross reference allowed AECOM to match equipment from Bechtel's list to the NONROAD data files which contain the steady state pollutant emission factors and load factors. Note that this methodology is slightly different than that submitted in 2008, because the NONROAD 2008 data file used here has the transient adjustment factor (TAF) built into the steady state emission factor.

The Equation involved in determining the non-road construction emissions is as follows (from Page 1 of Reference 4):

EF_{adi} = EFss * DF.....Equation 1

 EF_{adj} = Final emission factor used in model after adjustments to account for transient operation and deterioration (g/hp-hr)

EFss = NONROAD 2008 steady state emission factor (g/hp-hr)

DF = Deterioration factor

The deterioration factor (DF) is a function of the technology type and age of the engine.

The NONROAD methodology addresses the effects of deterioration in the engines by multiplying the steady state emission factor for each category of engine by deterioration factor (DF). The following equation (from p 19 of Reference 2 and p 3 of Reference 5) is used to calculate DF as a function of engine age

DF	= :	1 + A	1 * ((Age f	factor) ^b	for	' Age l	Factor	≤ 1	1Equation 2
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DF = 1 + A for Age Factor > 1.....Equation 3

Where Age factor = fraction of median life expended = (cumulative hours * load factor) / median life at full load, in hours.

A = constants for a given pollutant / technology type

b ≤ 1, for most engines or 0.5 for 2-stroke engines less than 25 Hp

Deterioration is capped at the end of an engine's median life (age factor = 1), under the assumption that an engine deteriorated to a point where any increased deterioration is offset by maintenance. For this analysis, all age factors were set to 1 ("fully deteriorated") in order to simplify the calculations.

Annual non-road emissions were estimated using the following equation from Page 1 of Reference 4

 $E_{Sta} = EF_{adj} * HP * Hours * Load Factor * \frac{Ton}{2000 \, lb} * \frac{lb}{453.6 \, g}$ Equation 4

 E_{Sta} = Annual stationary source emissions in tons EF_{adj} = Final adjusted emission factor (g/hp-hr) HP = Rated horsepower hp Hours = Annual operating hours of the equipment Load Factor = fraction of available rated power

The load factor is an adjustment included in the model to avoid grossly over counting emissions. It is the average fraction of the rated power of an engine that is expected to be actually used in annual operation. This factor takes into account idling, partial load operation, and transient operation. For instance, a 100 hp diesel powered crane has a load factor of 0.43 from the NONROAD data table based on the SCC code. This means that in normal operation, the crane is expected to use an average of 43 hp for every available 100 hp capacity. These factors are based on surveys of equipment users.

One final adjustment that is special to VOC is the conversion from total hydrocarbons (HC). The NONROAD model steady state emission factors are all in terms of HC. This is so the model has a common basis to output emissions in terms of VOC, total organic gasses (TOG), or non-methane hydrocarbons (NMHC). Reference 6 gives the conversion from HC to VOC as 1.053 for diesel engines, 1.034 for 2-stroke gasoline engines, and 0.933 for 4-stroke gasoline engines.

4.2 On-Road Vehicles

Estimation of on-road vehicular emissions was calculated with EPA's MOBILE6.2 Vehicle Emission Modeling Software. MOBILE6.2 is an emission factor model for predicting gram of emissions (VOC, and NO_x) per mile as well as other criteria and air toxic emissions from cars, trucks, and motorcycles. The MOVES model (as a replacement for Mobile 6.2) is currently under development by EPA but has not been finalized at the time of this report.

Mobile 6.2 gives emission rates in terms of grams per vehicle mile traveled. To obtain miles traveled for on-site vehicles, the estimated hours of vehicle use was multiplied by an estimated annual speed in mile/hr. Specific vehicle categories from Mobile6.2 for on-site vehicles are given in Appendix B. For employee commuting, the estimated annual number of construction employees was multiplied by a factor of 1.3 (for estimating carpooling) to get a number of vehicles. This assumption is consistent with the Phase II traffic study prepared in June 2009. Employees are assumed to have a typical daily commute which is constant for 312 working days per calendar year and have vehicles which fall into the LDGV category. The geographic breakdown was assumed to be 10% from St. Mary's County to the south and west (an attainment area for ozone), 25% from the Baltimore nonattainment area to the north, and the rest from the Washington DC-MD-VA ozone nonattainment area. The number of commercial deliveries was determined based on the expected goods to be delivered to the site during construction by truck. For this analysis, commercial deliveries are assumed to be in the HDDV8b category. Thirty percent of the commercial deliveries were assumed to come from the Baltimore nonattainment area with the balance from the Washington DC-MD-VA nonattainment area.

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For indirect emissions from employee commuting and commercial deliveries, AECOM assumed a 15 year time span for the vehicle population as a reasonable estimation of typical vehicle ownership. That is, beginning in 2010, the emissions model used a vehicle population mix from model years 1995-2010. This progressively increased by one year until 2018.

Fuel consumption for these vehicles is gasoline and transportation diesel as noted in Appendix B. Emissions from on-road vehicles are estimated using Equation 1.

 $E_{Mob} = VMT * EF * \frac{Ton}{2000 \, lb} * \frac{lb}{453.6 \, g}$. Equation 5

E_{Mob} = On-road vehicle emissions in tons per year

VMT = Vehicle miles travelled in a year

EF = Mobile 6.2 emission factor for on road vehicles in grams/mile.

4.3 Marine Equipment

The current Calvert Cliffs Nuclear Plant has an existing barge dock on-site which UniStar plans to use for receipt of some equipment by delivery. Additionally, UniStar will be dredging some off-shore areas during the CC3 construction period. Emissions from marine equipment used in these activities are included in this emissions inventory. Ancillary on-shore equipment (such as dump trucks or cranes) related to dredging and barge deliveries are accounted for in the non-road category.

US EPA has released a final report in April 2009 describing the methodologies used for the preparation of port-related emission inventory. This report is identified as reference number 8. Equations involved in determining the emissions from the marine sources are:

 $E_{Mar} = EF_{Pol} * HP * Hours * Load Factor * \frac{kWh}{1.341 HP-hr} * \frac{Ton}{2000 lb} * \frac{lb}{453.6 g}$Equation 6

Where

 E_{Mar} = Annual marine emissions in tons EF_{pol} = Emission factor in (g/kW-hr) HP = Rated horse power (hp) Hours = Annual operating hours Load Factor = Fraction of available operating rated power

Emission factors, load factors, and guidance on typical engine sizes are taken from the referenced port inventory document. All of the marine dredging operations for this project occur during 2011 for barge dock preparation. Deliveries of materials by barge are assumed to begin in 2012 after dredging is completed. The dredging operations are expected to occur from October through December 2011, 10 hours per day, 6 days per week. Dredging is assumed to be performed by crane and dredged materials will be disposed of on-site. Deliveries of materials by barge are expected to originate at Harve de Grace, MD which is in the Baltimore nonattainment area. By ship, the distance is approximately 75 nautical miles (nm) with 18 nm assumed to occur within the state maritime zone boundaries of Calvert County and 57 nm occurring within the maritime zone boundaries of the Baltimore nonattainment area. Transportation emissions from barge deliveries were divided accordingly.

4.4 Boiler

The proposed concrete batch plant will require a small boiler (~ 20 MMBtu/hr) for the winter months to ensure the concrete does not freeze and to maintain consistency in batch preparation. The boiler is assumed to only use distillate oil for fuel. Emission factors for the boiler were taken from EPA's AP-42 document for fuel oil combustion. When operated, the boiler was assumed to operate at maximum capacity.

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5.0 References

- 1. EPA's "MOBILE6.2 Vehicle Emission Modeling Software"
- 2. EPA's "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling---Compression-Ignition" NR-009c April 2004, EPA420-P-04-009.
- EPA's "Exhaust Emission Factors for Nonroad Engine Modeling: Spark Ignition" NR-010e December 2005, EPA420-R-05-019.
- EPA's "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling" NR-005c April 2004, EPA420-P-04-005
- 5. EPA's "Nonroad Spark-Ignition Engine Emission Deterioration Factors" NR-011c December 2005, EPA420-R-05-023.
- EPA's "Conversion Factors for Hydrocarbon Emission Components" NR-002c December 2005, EPA420-R-05-015
- 7. EPA's "NONROAD08 Model (nonroad engines, equipment, and vehicles)"
- 8. US EPA / ICF International "Current Methodologies in Preparing Mobile Source Port-Related Emission inventories" Final Report April 2009.
- 9. EPA's AP-42 Compilation of Emission Factors, Section 3.1 Fuel Oil Combustion, 9/98
- Traffic Impact Study at the Calvert Cliffs Nuclear Power Plant Draft Final Report, KLD Engineering, June 13, 2009 Rev. 1

Appendix A

Construction Schedule

Table A-1 Construction Equipment List / Hours of Operation

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CONSTRUCTION EQUIPMENT & VEHICLES Based on categories from Mobile 6.2 and NONROAD2008	Sec	Ę	ž Š Š				Vay Aug	April 1 Jul - Jul	Dec ct- Dep Gran	Var Aug Jul- Jul- Jul- Jul- Jul- Jul- Jul- Jul-	Dec Sep G	Jap Dovice Bandar
AUTOMOTIVE	<u>)(2]</u> (2]	1	19.42			10.11.82.28.7.1 s		这个了。""你们的你们,你们不是你 没有的人				
Light-Duty Gasoline Vehicle	G	263		Contractor and Contractor of the Contractor	187	624	1,497	1,497	1,497	1,497	1,497	1,372
Light-Duty Gasoline Truck 2	G	292	1,404	5,616	4,212	4,680	9,360	9,360	9,360	9,360	9,360	8,580
Light-Duty Gasoline Truck 2	G	292				3,900	14,040	14,976	• 16,848	18,720	17,940	7,800
Light-Duty Gasoline Truck 4	G	325				2,184	10,296	11,232	11,232	11,232	6,864	7,488
Light-Duty Gasoline Truck 3	G	225	i		468	1,872	3,744	3,744	3,744	3,744	3,744	3,432
Light-Duty Gasoline Truck 4	G	200	129-20-20		936	1,872	7,956	9,360	9,360 S	7,800	4,992	2,184
Heavy-Duty Diesel Vehicle 8A	D	350	524-96 (0.45-5)		2,246	7,300	15,724	15,724	15,724	15,537	10,296	5,990
Harris Duty Datast) (shists 20		000	ļ		I	1972	7.863	11 222	11.222		11.044	1 492
Heavy-Duty Delsei Venicle 2B		230				1,6/2		11,232	11,232	11,252	11,044	7,722
Heavy-Duty Deisel Vehicle 6	D	350				1,123	6,177	8,985	8,985	8,985	7,300	1,872
Light-Duty Diesel Truck 1 and 2	- <u>-</u>	210	┝──┦		/48	1,123	7,113	11,232	11,232	11,232	7,802	3,330
Light-Duty Diesel Truck 1 and 2	Ð	210				1,497	7,113	8,985	8,985	8,985	5,616	1,497
Heavy-Duty Diesel Vehicle 8B	D .	350	╞──┤		234	1,872	7,020	8,424 8,424	<u> </u>	8,424 8,424	8,424 5,616	3,978
Light-Duty Diesel Truck 1 and 2	D	222			388	1,497	4,492	4,492	4,922	4,922	4,922	1,872
Heavy-Duty Diesel Vehicle 8B	D	350				2,246	6,240	8,985	8,985	8,985	7,826	2,620
TRAILERS		350			312 7-07-06-06-07-0	2,490	12,324	12,040	12,040	12,040	14,770	
Heavy-Duty Diesel Vehicle 5	D	483				PROFESSION CONTRACTOR	1,684	4,492	4,492	2,620	748	THE REAL OF THE OTHER REAL PROPERTY AND THE REAL PROPERTY AND THE REAL PROPERTY AND THE REAL PROPERTY AND THE R
HENSUMNEL CARRIERS	D	F#1	936	7,488	3,744	5,928	35,888	53,352	56,160	56,160	26,208	12,792
Diesel Commercial Bus	D	290						28,080	40,524	23,712	19344	2808
Light-Duty Diesel Truck 1 and 2	D	20	R. Galatra La		CALIFORNIA AND AND AND AND AND AND AND AND AND AN	5,928	16,692	18,720	18,720	18,720	6,240	
Light-Duty Diesel Truck 1 and 2	D	195	- THE REAL PROPERTY		and a many constraint of the second se	561	1,591	2,246	2,246	2,246	2,246	842
Heavy-Duty Diesel Vehicle 3	D	300	#98.357700.000		La contra la contra da	62	374	374	374	374	374	218
EAR I HMOVING Sweeper/Scrubber	D	85	160000485890065	ne sin an order to be a subscription of the second s	846/30235/38 6 08	156	936	936	936	936	936	858
Crawler Tractor	D	105				312	4,992	5,616	5,616	5,616	3,588	625
Crawler Tractor	D	210	!			1,404	7,332	7,800	7,488	3,666	3,588	312
Excavator	D	30	!			312	4,056	4,056	4,056	2,496	468	
Excavator	- D	268	 }			936	6,864	7,488	7,488	6,084	936	
Excavator	D	404				312	1,872	1,872	1,872	1,248	150	
Crawler Tractor	D	426			187	1,123	2,246	2,246	2,246	2,246	1,872	1248
Grader Tractor/Loader/Backhoe		135				1,248	5,865	6,739	6,739	3,739	1,310	1,248
Tractor/Loader/Backhoe	D	174				1,684	8,049	8,049	6,739	6,739	1,872	
Skid Steer Loader	P	100	i			312	4,056	4,056	3,744	3,744	624	f
Tractor/Loader/Backhoe	D	349			i	312	4,056	4,056	3,744	3,744	312	ii
Tractor/Loader/Backhoe	D	224			016	312	3,900	5,616	4,524	3,744	312	ļ
Off-Highway Track	Ð	115	l í		330	748	5,491	5,990	5,990	5,616	374	[]
PIPEL'AYING / TRENCHING EQUIPMENT	2010			And Anna Anna Anna Anna Anna Anna Anna A			02 290	197			469	an a
COMPACTION	96798	51 (2005)	38824.3	Martin al Martin Association	314 2012/2013	100	93 200 See 1				400 	
Plate Compactor	D	339				748	1,555	2,995	2,995	2,995	2,496	
Plate Compactor	U	185	SAME			2,240	7,488	/,488	/,488	0,304	2,143	
Crane	D	510		· · · · · · · · · · · · · · · · · · ·		1,497	5,990	5,990	5,990	5,990		
Crane Crane	D	340				1,622	9,734	9,734 25.958	9,734 22.464	9,734	4,056	· · · · · · · · · · · · · · · · · · ·
Crane	D	340				811	7,300	9,734	9,734	9,734	6,489	
Crane Crane		340 600	├ - 1	i		811	17,035 4.056	24,336 9,734	24,336 9,734	24,336 9,734	6,489	;
Crane	D	600				1,662	9,734	9,734	9,734	9,734	4,056	
Crane	D	500	┟───┤			3,744	20,592	. 22,464	22,464	22,464	16,848	1.747
Crane	Ď	174	Ĺ		873	2,620	9,609	10,483	10,483	10,483 -	10,046	2,184
Crane	<u> </u>	215	Ï		873	2,620	13,104	31,449	47,174	48,484	21,403	2,184
Crane	Ď	250			013	873	4,368	10,483	10,483	10,483	9,172	1,310
FORKLIFT	242	142	博花 山 - 1444			740	0.724	13.478	13.478	13 478	· 13 104	5 241
Crane	B	290				624	5,616	7,488	7,488	7,488	3,744	2,184
Forklift	G	52				3,369	17,596	22,464	22,464	22,464	22,089	9,734
Forklift	U	113				8.424	33,696	33,696	33,696	33,696	11,232	468
	D					7 956	40,248	44.928	44,928	44,928	17,784	2,808
Forklift	D	110				1,550	The second s	CONTRACTOR OF A DESCRIPTION OF A DESCRIPTION	Contract of the second state of the second	when it is not set to an and the set of the	and the second se	The stand of the s
Forklift CONCRETE //AGGREGATE	D D	110 80	S ama A				2.096	5.390	4.192	1.497		
Forklift CONCRETE///AGGREGATE Pump Heavy-Duty Diesel Vehicle 8B	D D D D D	110 80 350			624		2,096 624 312	5,390 936	4,192	1,497		
Forklift CONCRETE///AGGREGATE Pump Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 6		110 80 350 350	9	in the second	624 624	936	2,096 624 312 3,900	5,390 936 4,212 780	4,192 5,616	1,497 1,482		
Forklift CONCRETE //AGGREGATE Pump Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 6 AIR/COMPRESSORS		110 80 350 350 400			624 624	936 780	2,096 624 312 3,900 1,170	5,390 936 4,212 780	4,192 5,616	1,497 1,482		
Forklift CONCRETE ///AGGREGATE Pump Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 6 Air Compressor Air Compressor Air Compressor		110 80 350 350 400 80 115			624 624 1.248	936 780 3,744	2,096 624 312 3,900 1 1,170 1 7,956 6,650	5,390 936 4,212 780 9,360 9,360	4,192 5,616 9,360 9,360	1,497 1,482 9,360 9,360	9,204 9,204	4.056 3.744
Forklift CONCRETE ///AGGREGATE Pump Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 6 Air Compressor Air Compressor Air Compressor Air Compressor Air Compressor	D D D D D D D D D D D D D D D D D D D	110 80 350 350 400 80 115 275			624 624 1,248	936 780 3,744 1,248 624	2,096 624 312 3,900 1 1,170 7,956 6,552 8,112	5,390 936 4,212 780 9,360 9,360 9,360 11,232	4,192 5,616 9,360 9,360 11,232	1,497 1,482 9,360 9,360 11,232	9,204 8,892 10,920	4,056 3,744 4,368
Forklift CONCRETE ///AGGREGATE Pump Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 6 Air Compressor		110 80 350 350 400 80 115 275 275			624 624 1,248	936 780 3,744 1,248 624 624	2,096 624 312 3,900 1 1,170 7,956 6,552 8,112 8,112	5,390 936 4,212 780 9,360 9,360 11,232 11,232 11,232	4,192 5,616 9,360 9,360 11,232 11,232	1,497 1,482 9,360 9,360 11,232 11,232 11,232	9,204 8,892 10,920 10,920	4.056 3.744 4.368 4.368
Forklift CONCRETE ///AGGREGATE Pump Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 6 Air Compressor Air		110 80 350 350 400 80 115 275 275 310			624 624 1,248	936 780 3,744 1,248 624 624 624 624	2,096 624 312 3,900 1,170 7,956 6,552 8,112 8,112 5,616	5,390 936 4,212 780 9,360 9,360 11,232 11,232 11,232 7,488	4,192 5,616 9,360 9,360 11,232 11,232 7,488	1,497 1,497 1,482 9,360 9,360 9,360 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,448 12,4	9,204 8,892 10,920 10,920 7,488 7,488	4.056 3.744 4.368 4.368 3.120
Forklift CONCRETE///AGGREGATE CONCRETE///AGGREGATE Pump Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 6B Heavy-Duty Diesel Vehicle 6 AIR COMPRESSORS Air Compressor Air Compressor Air Compressor Air Compressor Air Compressor CIASS:25:CABLE!LAYING/ PULLING EQUIPMENT CUASS:25:CABLE!LAYING/ PULLING EQUIPMENT COMPREST		110 80 350 350 400 80 115 275 275 310 80 30			624 624 1.248	936 780 3,744 1,248 624 624 624 624	2,096 624 312 3,900 1,170 7,956 6,552 8,112 8,112 5,616 2,496	5,390 936 4,212 780 9,360 9,360 11,232 11,232 11,232 7,488 4,492	4,192 5,616 9,360 9,360 11,232 11,232 11,232 4,492	1,497 1,497 1,482 9,360 9,360 9,360 11,232 11,232 11,232 11,232 7,488 4,492	9,204 8,892 10,920 10,920 7,488 4,492	4.056 3.744 4.368 4.368 3.120 624
Forklift CONCRETE///AGGREGATE CONCRETE///AGGREGATE Pump Heavy-Duty Diesel Vehicle 8B Heavy-Duty Diesel Vehicle 6 AIR/COMPRESSORS Air Compressor Air Compressor Air Compressor Air Compressor CIASS/25/CABLELAYING/ PULLING EQUIPMENT Other Construction Equipment Other Construction Equipment Other Construction Equipment Other Construction Equipment		110 80 350 350 400 115 275 275 310 275 310 275 30 30 30 30			624 624 21125 1.248	936 780 3,744 1,248 624 624 624	2,096 624 312 3,900 1,170 7,956 6,552 8,112 8,112 5,616 2,496 2,496 2,496 2,496 2,496	5,390 936 4,212 780 9,360 9,360 11,232 11,232 11,232 7,488 4,492 4,492 4,492 4,492 4,492	4,192 5,616 9,360 9,360 11,232 11,232 11,232 4,492 4,492 4,492 4,492 4,492 4,492	1,497 1,497 1,482 9,360 9,360 9,360 11,232 11,232 11,232 7,488 4,492 4,492 4,492 4,492	9,204 8,892 10,920 10,920 7,488 4,492 4,492 4,492 4,492 4,492	4,056 3,744 4,368 4,368 3,120 624 624 624
Forklift CONCRETE///AGGREGATE CONCRETE///AGGREGATE Pump Heavy-Duty Diesel Vehicle 88 Heavy-Duty Diesel Vehicle 88 Heavy-Duty Diesel Vehicle 6 AIR COMPRESSORS Air Compressor Air Compressor Air Compressor Air Compressor CIASS:25:CABLE:LAYING/ PULLING EQUIPMENT Other Construction Equipment Other Construction Equipment Other Construction Equipment WINCHES/AND_TUGGERS%		110 80 350 350 400 400 400 400 400 400 400 400 275 310 30 30 30 30			624 624 1.248	936 780 3,744 1,248 624 624 624 624	2,096 624 312 3,900 1,170 7,956 6,552 8,112 8,112 5,616 2,496 2,496 2,496 2,496	5,390 936 4,212 780 9,360 9,360 11,232 11,232 7,488 4,492 4,492 4,492 4,492 4,492 4,492	4,192 5,616 9,360 9,360 11,232 11,232 11,232 4,492 4,492 4,492 4,492	1,497 1,497 1,482 9,360 9,360 9,360 11,232 11,232 11,232 7,488 4,492 4,492 4,492 4,492	9,204 8,892 10,920 10,920 7,488 4,492 4,492 4,492 4,492 4,492	4,056 3,744 4,368 4,368 3,120 624 624 624 624
Forklift CONCRETE///AGGREGATE CONCRETE///AGGREGATE Pump Heavy-Duty Diesel Vehicle 88 Heavy-Duty Diesel Vehicle 6 AIR COMPRESSORS Air Compressor Air Compressor Air Compressor CIASS/25/CABLE/LAYING / PULLING EQUIPMENT Other Construction Equipment		110 80 350 350 400 115 275 275 310 30 30 30 30 30			624 624 1.248	936 780 3,744 1,248 624 624 624 624	2,096 624 312 3,900 1,170 7,956 6,552 8,112 8,112 5,616 2,496 2,496 2,496 2,496 2,496	5,390 936 4,212 780 9,360 9,360 11,232 11,232 11,232 7,488 4,492 4,492 4,492 4,492 2,246	4,192 5,616 9,360 9,360 11,232 11,232 11,232 7,488 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492	1,497 1,497 1,482 9,360 9,360 11,232 11,232 11,232 11,232 11,232 11,232 11,232 14,292 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 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4,492 4,492 4,492 4,492 4,492 4,492 4,492 4	9,204 8,892 10,920 10,920 7,488 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 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4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,492 4,49	4,056 3,744 4,368 4,368 3,120 624 624 624 624
Forklift CONCRETE///AGGREGATE CONCRETE///AGGREGATE CONCRETE///AGGREGATE Pump Heavy-Duty Diesel Vehicle 88 Heavy-Duty Diesel Vehicle 6 AIR (COMPRESSORS Air Compressor Air Compressor Air Compressor CIASS/25/CABLE/UAYING/ PULLING EQUIPMENT Other Construction Equipment WINCHES/MON_TUGGERS%		110 80 350 350 400 80 115 275 275 310 30 30 30 30 30 30 26			624 624 1.248	936 780 3,744 1,248 624 624 624 624 624 624 624 624 624 624	2,096 624 312 3,900 1,170 7,956 6,552 8,112 8,112 8,112 5,616 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496	5,390 936 4,212 780 9,360 9,360 11,232 1,232 1,232 7,488 4,492 4,492 4,492 4,492 2,246 8,249 2,246	4,192 5,616 9,360 11,232 11,232 11,232 11,232 4,492 4,492 4,492 4,492 4,492 4,492 4,492 14,976	1,497 1,482 9,360 9,360 11,232 11,232 11,232 11,232 11,232 11,232 14,492 4,492 4,492 4,492 6,177 6,177 14,976	9,204 8,892 10,920 10,920 7,488 4,492 4,492 4,492 4,492 4,492 11,107	4.056 3.744 4.368 4.368 3.120 624 624 624 624 624
Forklift CONCRETE///AGGREGATE CONCRETE///AGGREGATE CONCRETE///AGGREGATE Pump Heavy-Duty Diesel Vehicle 88 Heavy-Duty Diesel Vehicle 6 AIR (COMPRESSORS) AIR Compressor Air Compressor Air Compressor CIASS/25/CABLE/LAYING// PULLING EQUIPMENT Other Construction Equipment WINCHES/MONTUGERS%		110 80 350 350 400 400 80 115 275 275 275 310 30 30 30 30 30 30 30 26 35 40 400 400 400 400 400 400 400 400 400			624 624 1.248	936 780 3,744 1,248 624 624 624 624 624 624 624 624 624 624	2,096 624 312 3,900 3 1,170 5 6,552 6 6,552 6 8,112 8,112 7 8,112 5,616 7 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,496 2,	5,390 936 4,212 780 9,360 11,232 11,232 11,232 1,232 7,488 4,492 4,492 4,492 2,246 14,976 14,976 14,976	4,192 5,616 9,360 9,360 11,232 11,232 11,232 4,492 4,492 4,492 4,492 4,492 14,976 14,976 14,976	1,497 1,497 1,482 9,360 9,360 11,232 11,232 11,232 11,232 11,232 11,232 11,232 11,232 1,488 4,492 4,492 4,492 4,492 4,492 14,976 14,976 14,976 14,976 14,976	9,204 8,892 10,920 10,920 7,488 4,492 4,492 4,492 4,492 4,492 11,107 11,107 11,107 11,107	4,056 3,744 4,368 4,368 3,120 624 624 624 624 624 624

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Table A-1 Construction Equipment List / Hours of Operation

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CONSTRUCTION EQUIPMENT & VEHICLES	Is/Diesel	DRSEPO	:1-10 w-10 ec-10	8-11 8-11 8-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 11-11 111	n-12 n-12 n-12 ay-12 ay-12	1-12 19-12 21-12 21-12 20-12	n-13 b-13 ar-13 p-13 ar-13 h-13 h-13 b-13 b-13 b-13 b-13 b-13 b-13 b-13 b	nn-14 20-14 20-14 20-14 20-14 20-14 20-14 20-14 20-14	III-15 80-15 81-15 81-15 81-15 11-15 11-15 11-15 81-15 80-15 80-15 80-15	10-16 20-16 21-16 21-16 21-16 21-16 21-16 21-16 21-16 21-16 21-16 20-16 20-16 20-16 20-16 20-16	nn-17 30-17 30-17 30-17 30-17 11-17 11-17 11-17 11-17 11-17 11-17 11-17 20-17 20-17	n-18 86-18 86-18 80-18 81-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 91-18 9100000000000000000000000000000
Based on categories from Mobile 6.2 and NONROAD2008	8	Ĭ	فالخلة	<u>ᇦᇛᇕᇼᇾᇾ</u>	위피회적 회 것						L REISISISISISISISIONSIO	
Generator	D	150	655	2,620	1,310	3,057	15,069	15,724	15,724	15,724	14,414	5,241
Generator	D	86				436	4,804	5,241	5,241	5,241	5,241	3,057
Generator		200					6,552	7,862	7,862	7,862	7,862	3,712
Generator	D	143				2,839	12,876	13,104	13,104	13,104	13,104	6,115
Generator	D	143				8 798	8,299 52,603	81,806	83.088	23.328	37,440	20,592
MANLIFTS / SCISSORLIFTS		14				0,120	52,000					
Aerial Lift	D	28					748	17,971	22,464	22,464	6,552	//-
Aerial Lift	0	65 48				· · ·	2,995	11,980	11,232	11,232	10,670	2,246
Aerial Lift	D	48					1,497	4,492	4,492	4,492	4,492	1,123
Aerial Lift	D	78				749	5616	3,931	23,774	33,508	17,305	1,872
Aerial Lift	D	70				748	5,616	6,739	6,739	6,739	6,739	
Aerial Lift	D	28						2,246	2,246	2,246	2,246	1,497
Aerial Lift	D	32		· · · · · · · · · · · · · · · · · · ·			2,246	6,739	6,739	6,739	4.492	2,995
SMALL CAPITAL EQUIPMENT		/5			•2. 4 T		1,777	7,774				s -
Plate Compactor	D	8			936	9,594	33,696	33,696	33,696	33,696	33,696	11,636
Plate Compactor	D	15	ļ	· · · · · · · · · · · · · · · · · · ·		2,340	12,636	16,848	16,848	22.464	21,762	1,254
Plate Compactor	Ğ	7				4,212	21,762	30,654	29,688	30,888	39,520	12,402
Generator	D	11				5,850	34,866	49,842	50,544	50,544	47,502	19,656
Chipper/Stump Grinder	G	<u>11</u> 3		ł		468	5,616	2,106	5,616	5,616	5,616	3,276
Cement & Mortar Mixer	Ğ	13				936	7,020	8,424	8,424	8,424	8,424	3,978
Pump	G	6				2,808	16,380	22,464	22,464	22,464	19,332 5.616	9,360
Pump	D	15		¦ ł		468	5,148	5,616	5,616	5,616	5,616	3,276
Concrete/Industrial Saw	D	65		[702	7,020	8,424	8,424	8,424	8,424	3,978
Snowblower Tampor/Rammer	G	11				2 808	5,148	22.464	22.464	22,464	19.332	9,360
Tamper/Rammer	D	3		í í		2,808	14,508	22,464	22,464	22,464	19,332	9,360
Cement & Mortar Mixer	G	6			1,404	4,914	16,146	16,848	16,848	11,700	9,360	ļ ļ-
Concrete Equipment	G	3			1,404	5,148	23,868	33,462	33,696	33,696	27,378	<u>}</u>
Pump	D	24		I		4,914	16,614	30,654	39,688	30,888	30,450	12,402
CONCRETE BATCH PLANT					· · · · · · · · · · · · · · · · · · ·	5 A.A.					📲 : 🗇 : 동도 😳 🐺 - 도교가 해준 공 - 그런지 - 카페이드 가	
Conceptor	n			1		6 240	12.480	12 480	12 480	7 280	1	1 1
Generator Oil-Fired Boiler	D					6,240 1,040	12,480 2,080 1,040	12,480 2,080 1,040	12,480 2,080 1,040	7,280 2,080		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe	D D D	80				6,240 1,040 6,240	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 24,880	12,480 2,080 1,040 12,480 74 890	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesol Vehicle 8B SITE PREPARATION	D D D D	80 350				6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesol Vehicle 8B SITE PREPARATION All Terrain Vehicle/MC	D D D D D	80 350	2,340	9,360	2,340	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heary-Duty Diesel Vehicle 8B SITE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw		80 350 10 124 3	2,340 1,560 11,700	9,360 6,240 35,100	2.340 1,560	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heary-Duty Diesel Vehicle 8B SITE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder		80 350 10 124 3 75	2,340 1,560 11,700 1,560	9,360 6,240 35,100 4,680	2,340 1,560	6,240 1,040 6,240 37,440	12,480 2,080 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B SITE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Nic Compressor		80 350 10 124 3 75 354 55	2,340 1,560 11,700 1,560 4,680 2,340	9,360 6,240 35,100 4,580 9,360	2,340 1,560 4,580	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heary-Duty Diesel Vehicle 8B SITE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor	D D D D D G G D D D D D D D D D D D	80 350 10 124 3 75 354 55 96	2,340 1,560 11,700 1,560 4,680 2,340 1,560	9,360 6,240 35,100 4,680 18,720* 9,360 6,240	2,340 1,560 4,680	6,240 1,040 6,240 37,440	12,480 2,080 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehide 8B SITE PREPARATION All Terrain Vehide/MC Tractor/Loader/Backhoe Chain Saw Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor	D D D D D D G G D D D D D D D D D D D D	80 350 10 124 3 75 354 55 96 145	2,340 1,560 11,700 1,560 4,680 2,340 1,560 2,340	9,360 6,240 35,100 4,680 18,720* 9,360 6,240 9,360 9,360	2,340 1,560 4,680	6,240 1,040 6,240 37,440	12,480 2,080 12,480 74,880	12,480 2,080 1.040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehide 8B SITE PREPARATION All Terrain Vehide/MC Tractor/Loader/Backhoe Chain Saw Chains Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Executator	D D D D D C C C D D D D D D D D D D D D	80 350 10 124 3 75 354 55 96 145 308 250	2,340 1,560 11,700 1,560 2,340 1,560 2,340 4,680 4,680	9,360 6,240 35,100 4,680 18,720* 9,360 6,240 9,360 9,360 18,720 18,720	2,340 1,560 4,680	6,240 1,040 6,240 37,440	12,480 2,080 12,480 74,880	12,480 2,080 1.040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehide 8B SITE PREPARATION All Terrain Vehide/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator		80 350 10 124 3 75 354 55 96 145 308 250 380	2,340 1,560 11,700 1,560 2,340 1,560 2,340 4,680 4,680 4,680 6,240	9,360 6,240 35,100 4,680 18,720* 9,360 6,240 9,360 18,720 18,720 24,960	2,340 1,560 4,680	6,240 1,040 6,240 37,440	12,480 2,080 12,480 74,880	12,480 2,080 1.040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B STIE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor All Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Exc		80 350 10 124 3 75 354 55 55 96 145 308 250 380 513 380 513	2,340 1,560 11,700 1,560 2,340 1,560 2,340 1,560 2,340 4,680 6,240 4,680 6,240	9,360 6,240 35,100 4,680 9,360 6,240 9,360 18,720 18,720 18,720 18,720 18,720 18,720 18,720 24,960 18,720 18,720	2,340 1,560 4,680	6,240 1,040 6,240 37,440 	12,480 2,080 12,480 74,880	12,480 2,080 1.040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B STIE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor All Compressor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Excavator Generator		80 350 10 124 3 75 354 55 96 145 308 250 380 513 258 80	2,340 1,560 11,700 1,550 4,680 2,340 4,680 4,680 4,680 4,680 1,560 3,120	9,360 6,240 35,100 4,680 9,360 6,240 9,360 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,740 10,7	2,340 1,560 4,680 3,120	6,240 1,040 6,240 37,440	12,480 2,080 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B SITE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Excavator Generator Grader Grad		80 350 10 124 3 75 354 55 96 145 308 250 380 513 258 80 259 400	2,340 1,560 1,560 2,340 2,340 4,680 4,680 4,680 4,680 1,550 3,120 3,120 3,120	9,360 6,240 35,100 4,680 18,720 9,360 6,240 9,360 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 19,720 19,720 19,720 19,720 19,720 19,720 19,720 19,720 19,720 19,720 19,720 19,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,720 10,7	2,340 1,560 4,680 3,120 2,340	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B SITE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 8A		80 350 10 124 3 75 354 55 354 55 308 250 380 250 380 513 258 80 259 400	2,340 1,560 11,700 2,340 1,550 2,340 4,680 4,680 4,680 4,680 4,680 1,556 6,240 4,680 1,556 2,340 2,340 2,340	9,360 6,240 35,100 4,680 9,360 9,360 9,360 18,720 18,720 24,960 18,720 24,960 18,720 18,720 24,960 18,720 18,720 18,720 1,2,480 1,160 9,360 9,360	2,340 1,560 4,680 3,120 2,340 2,340	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B SITE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Generator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 3		80 350 10 124 3 75 354 55 96 145 308 250 380 380 380 380 513 258 80 259 400 400 205	2,340 1,560 11,700 1,550 2,340 4,680 2,340 4,680 4,680 4,680 1,550 3,120 3,120 1,550 3,120 1,550 3,120 1,550	9,360 6,240 35,100 4,580 9,360 6,240 9,360 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 12,4960 18,720 12,480 4,160 9,360 9,360 9,360 9,360 9,360 9,360	2,340 1,560 4,680 3,120 2,340 2,340 2,340 1,560	6,240 1,040 6,240 37,440	12,480 2,080 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B SITE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Generator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Truck 1 and 2 Boiler		80 350 10 124 3 75 354 55 96 145 308 250 380 513 258 80 259 400 200 366 6	2,340 1,560 11,700 2,340 4,680 2,340 4,680 4,680 4,680 4,680 1,550 3,120 1,550 3,120 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550	9,360 6,240 35,100 4,680 18,720 9,360 6,240 9,360 18,720 18,720 24,960 18,720 24,960 18,720 12,480 4,160 9,360 9,360 9,360 9,360 9,360	2,340 1,560 4,580 3,120 2,340 2,340 2,340 1,560 11,700 3,900	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B SITE PREPARATION AI Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Generator Gene	D D D D D D D D D D D D D D D D D D D	80 350 10 124 3 354 355 96 513 250 380 259 513 258 80 259 400 200 365 6 6	2,340 1,560 11,700 2,340 4,680 2,340 4,680 4,680 4,680 1,550 3,120 1,550 3,120 1,550 2,340 2,340 2,340 2,340 2,340	9,360 6,240 35,100 4,680 18,720 9,360 6,240 9,360 18,720 18,720 18,720 18,720 18,720 18,720 12,480 4,160 9,360 9,360 6,240 4,160 9,360 6,240 4,68,000 9,360 6,240	2,340 1,560 4,580 3,120 2,340 2,340 1,560 11,700 3,900	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B SITE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Generator Gen	D D D D D D D D D D D D D D D D D D D	80 350 124 3 55 354 55 96 145 308 259 400 259 400 200 265 80 259 400 200 66 168 181	2,340 1,560 11,700 2,340 2,340 4,680 4,680 4,680 4,680 4,680 1,550 3,120 1,550 2,340 2,340 2,340 1,550 2,340 1,560 1,560 1,560 1,560 1,560 1,560 1,560 2,340 2,340 2,340 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560	9,360 6,240 35,100 4,580 18,720 9,350 6,240 9,360 18,720 18,720 18,720 24,960 18,720 6,240 18,720 6,240 18,720 6,240 18,720 6,240 18,720 6,240 18,720 6,240 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 10,2480 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 10,240 1	2,340 1,560 4,580 3,120 2,340 2,340 1,560 11,700 3,900	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 12,480 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Git-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B STIE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Tract 1 and 2 Roller Rubber Tre Loader Scraper Tractor/Loader/Backhoe	D D D D D D D D D D D D D D D D D D D	80 350 124 3 55 354 55 96 145 308 259 400 259 400 200 265 80 259 400 200 66 168 181 189	2,340 1,550 11,700 1,556 2,340 2,340 4,680 4,680 4,680 4,680 3,120 1,550 3,120 1,550 2,340 2,340 2,340 2,340 2,340 3,120 1,560 1,560 2,340	9,360 6,240 35,100 4,580 18,720* 9,360 6,240 9,360 18,720 18,720 24,960 18,720 6,240 9,360 6,240 9,360 6,240 9,360 9,360 9,360 9,360 6,240 9,360 6,240 9,360 6,240 5,200 4,160 6,240	2,340 1,560 4,580 3,120 2,340 2,340 1,560 11,700 3,900	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Git-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B Stric PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chipper/Stump Grinder Plate Compactor All Compressor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle	D D D D D D D D D D D D D D D D D D D	80 350 124 3 55 96 145 55 96 250 380 250 380 259 400 400 400 400 365 6 168 181 175 168 189 189 9450	2,340 1,560 11,700 2,340 2,340 4,680 2,340 4,680 4,680 4,680 4,680 1,560 3,120 1,560 3,120 1,560 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 3,120 2,340 3,120 2,340 3,120 2,340 3,120 2,340 3,120 2,340 3,120 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340	9,360 6,240 35,100 4,680 9,360 6,240 9,360 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 19,360 1	2,340 1,560 4,680 3,120 2,340 2,340 1,560 11,700 3,900	6,240 1,040 6,240 37,440	12,480 1,040 1,040 12,480 74,880	12,480 2,080 1,040 1,040 1,040 74,880	12,480 2,080 12,480 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B SiTE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chipper/Stump Grinder Plate Compactor All Compressor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 3 Light-Duty Diesel Vehicle 3	D D D D D D D D D D D D D D D D D D D	80 350 124 3 75 354 55 96 145 250 380 250 380 259 400 400 400 400 365 6 168 181 75 189 450 200 4 4	2,340 1,560 11,700 2,340 2,340 4,680 4,680 4,680 4,680 4,680 4,680 4,680 1,560 3,120 1,560 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,560 2,340 2,340 2,340 1,560 3,120	9,360 6,240 35,100 4,680 18,720* 9,360 6,240 9,360 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 9,360 6,240 12,480 9,360 9,360 9,360 9,360 6,240 4,160 9,360 6,240 4,160 6,240 5,200 4,160 6,240 2,080 12,480	2,340 1,560 4,680 3,120 2,340 2,340 1,560 11,700 3,900	6,240 1,040 6,240 37,440 	12,480 1,040 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 12,480 12,480 74,880	7,280 2,080 7,280 43,680		
Generator Git-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B Strie PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Excavator Grader Heavy-Duty Diesel Vehicle 3 He	D D D D D D D D D D D D D D D D D D D	80 350 124 3 75 354 355 96 145 308 250 259 80 200 200 200 200 400 400 400 200 200 80 200 200 400 400 400 400 200 4 365 4 55 4 55 4 55 4 55 55 55 55 55 55 55	2,340 1,560 11,700 2,340 2,340 4,680 4,680 4,680 4,680 4,680 4,680 1,560 1,550 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,550 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340	9,360 6,240 18,720' 9,360 4,680 9,360 9,360 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,	2,340 1,560 4,680 3,120 2,340 1,560 11,700 3,900 4,680 17,160	6,240 1,040 6,240 37,440	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880			
Generator Git-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B Stre PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor All Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Generator Grader Heavy-Duty Diesel Vehicle 3 Excavator Fractor/Loader/Backhoe Tractor/Loader/Backhoe Tractor/Loader/Backhoe Tractor/Loader/Backhoe Tractor/Loader/Backhoe Tractor/Loader/Backhoe Tractor Dif-Higway Truck Off-Higway Truck Dif-Ligway Truck Dif-Ligway Truck Dif Diesel CoupPMENT	D D D D D D D D D D D D D D D D D D D	80 350 10 124 3 75 354 355 96 145 308 250 80 259 400 200 200 200 200 200 168 181 175 189 450 200 4 325 469	2,340 1,560 11,700 2,340 2,340 4,680 4,680 4,680 4,680 4,680 4,680 1,560 3,120 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,560 2,340 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 2,340 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560	9,360 6,240 35,100 4,680 18,720* 9,360 6,240 9,360 18,720 18,720 18,720 24,960 18,720 6,240 9,360 9,360 9,360 9,360 9,360 9,360 9,360 6,240 4,160 5,200 4,160 6,240 2,080 12,480 9,360 6,240 5,200 2,080 12,480 9,360	2,340 1,560 4,680 3,120 2,340 2,340 1,560 11,700 3,900 4,680 17,160		12,480 1,040 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 1,040 74,880 1			
Generator Generator Git-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B STIE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Excavator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehi	D D D D D D D D D D D D D D D D D D D	80 350 10 124 3 75 354 355 96 145 308 250 513 258 80 259 400 400 200 365 6 168 181 75 189 455 200 200 200 200 200 200 200 2	2,340 1,560 11,700 2,340 2,340 2,340 4,680 4,680 4,680 4,680 1,550 2,340 4,680 1,550 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,550 2,340 1,550 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,550 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,350 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340	9,360 6,240 35,100 4,680 18,720 9,360 6,240 9,360 18,720 18,720 18,720 18,720 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 6,240 4,160 6,240 2,080 12,480 9,360 6,240 2,080 12,480 9,360 6,240 2,080 12,480 9,360 68,640	2,340 1,560 4,680 3,120 2,340 2,340 1,560 11,700 3,900 4,680 17,160			12,480 2,080 1,040 12,480 74,880	12,480 1,040 12,480 1,040 74,880 1			
Generator Git-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B STE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Ali Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Generator Grader Heavy-Duty Diesel Vehicle 3 Heav	D D D D D D D D D D D D D D D D D D D	80 350 10 124 3 75 354 355 96 145 308 259 400 205 380 513 258 80 259 400 200 40 200	2,340 1,560 11,700 2,340 2,340 2,340 4,680 4,680 4,680 4,680 4,680 4,680 1,550 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,560 11,700 2,340 2,340 1,560 11,700 2,340 2,340 1,560 2,340 1,560 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,550 7,80 1,500 1,500 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,560 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,34	9,360 6,240 35,100 4,680 18,720 9,360 9,360 18,720 18,720 24,960 18,720 6,240 9,360 18,720 6,240 9,360 9,360 9,360 9,360 9,360 9,360 9,360 6,240 4,160 6,240 2,080 12,480 9,360 6,240 2,080 12,480 9,360 5,200 2,080 12,480 9,360 6,240 2,080 12,480 9,360 68,640	2,340 1,560 4,680 3,120 2,340 2,340 2,340 1,560 11,700 3,900 4,680 17,160		12,480 1,040 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880		7,280 2,080 7,280 43,680		
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B Strie PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 4 Heavy-Duty Diesel Vehicle 5 Heavy-Duty	D D D D D D D D D D D D D D D D D D D	80 350 10 124 3 75 354 355 96 145 3308 250 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 380 255 400 200 400 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 455 200 4	2,340 1,560 11,700 2,340 2,340 1,550 2,340 4,680 4,680 4,680 4,680 4,680 1,550 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,560 11,700 2,340 1,560 11,700 2,340 1,560 11,700 2,340 1,560 2,340 1,560 2,340 2,340 2,340 1,560 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,560 1,	9,360 6,240 35,100 4,580 18,720* 9,360 6,240 9,360 18,720 18,720 18,720 18,720 9,360 6,240 9,360 18,720 5,240 9,360 9,360 9,360 9,360 6,240 46,800 9,360 6,240 4,160 5,200 4,160 5,200 4,160 5,200 4,160 5,200 4,160 5,200 4,160 5,200 12,480 9,360 68,640 720 14,440 720	2,340 1,560 4,680 3,120 2,340 2,340 2,340 1,560 11,700 3,900 4,680 17,160							
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B StrE PREPARATION AI Terrain Vehicle/MC Tractor/Loader/Backhoe Chain Saw Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Excavator Excavator Generator Generator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 3 Light-Duty Diesel Vehicle 3 Light-Duty Diesel Vehicle 3 Light-Duty Diesel Vehicle 3 Light-Duty Diesel Vehicle 3 Cracler Scraper Tractor/Loader/Backhoe Trencher Grinder Pump Off-Higway Tuck Off-Higway Tuck DREDGING AND RELATED EQUIPMENT Excavator Pump Off-Higway Tuck Off-Higway Tuck Plate Compactor Plate Co	D D D D D D D D D D D D D D D D D D D	80 350 10 124 3 3 55 96 145 3308 259 450 259 400 200 365 513 258 400 200 365 6 181 175 189 450 200 450 200 455 200 469 99 99 99 99 99 99 99 99 99	2,340 1,550 11,700 1,550 2,340 2,340 4,680 4,680 4,680 4,680 3,120 1,550 3,120 1,550 11,700 2,340 2,340 2,340 2,340 2,340 3,120 1,550 11,700 2,340 3,120 1,550 11,700 2,340 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 1,550 2,340 1,550 2,340 1,550 2,340 1,550 2,340 1,550 2,340 1,550 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,	9,360 6,240 35,100 4,580 18,720 9,360 6,240 9,360 18,720 18,720 18,720 18,720 12,4960 4,160 9,360 6,240 9,360 6,240 4,160 9,360 6,240 4,160 9,360 6,240 4,160 9,360 6,240 4,160 9,360 6,240 5,200 4,160 5,200 4,160 5,200 4,160 5,200 1,2,480 9,360 6,8,640 720 720 720 720 720 720 720	2,340 1,560 4,680 3,120 2,340 2,340 2,340 1,560 11,700 3,900 4,680 17,160							
Generator Git-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B STIE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chipper/Stump Ginder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Generator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Truck 1 and 2 Roller Tractor/Loader/Backhoe Tractor/L	D D D D D D D D D D D D D D D D D D D	80 350 10 124 3 354 55 96 145 308 250 308 259 258 80 259 258 80 259 258 80 259 258 80 259 200 200 200 200 200 200 200 20	2,340 1,550 11,700 1,550 2,340 2,340 4,680 2,340 4,680 3,120 1,550 3,120 1,550 3,120 1,550 1,550 1,550 1,550 1,550 1,550 2,340 2,340 3,120 3,120 3,120 3,120 1,550	9,360 6,240 35,100 4,680 18,720* 9,360 6,240 9,360 18,720 18,720 18,720 18,720 18,720 18,720 6,240 9,360 6,240 9,360 9,360 6,240 9,360 6,240 9,360 6,240 9,360 6,240 9,360 6,240 9,360 6,240 9,360 6,240 9,360 6,240 2,080 12,480 9,360 68,640 720 720 720 720 720 1,440 4,320	2,340 1,560 4,580 3,120 2,340 2,340 2,340 1,560 11,700 3,900 4,680 17,160		12,480 2,080 1,040 12,480 74,880	12,480 2,080 1,040 12,480 74,880				
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 8B SiTE PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chipper/Stump Grinder Plate Compactor Air Compressor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Excavator Grader Heavy-Duty Diesel Vehicle 3 Heavy-Duty Diesel Vehicle 8 Heavy-Duty Diesel 7 Heavy-Duty Diese	D D D D D D D D D D D D D D D D D D D	80 350 10 124 3 75 96 250 308 259 259 259 259 258 300 259 259 259 200 200 200 200 200 200 200 20	2,340 1,560 2,340 1,550 2,340 1,550 2,340 4,680 4,680 4,680 3,120 1,550 3,120 1,550 3,120 1,550 3,120 2,340 2,340 2,340 2,340 3,120 2,340 3,120 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560 2,560	9,360 6,240 35,100 4,680 18,720* 9,360 6,240 9,360 18,720 18,720 18,720 24,960 18,720 6,240 12,480 4,160 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 9,360 6,240 12,480 9,360 12,480 9,360 12,480 9,360 12,480 9,360 12,480 9,360 12,480	2,340 1,560 4,680 3,120 2,340 2,340 1,560 11,700 3,900 4,680 17,160		12,480 1,040 1,040 1,040 74,880					
Generator Oil-Fired Boiler Tractor/Loader/Backhoe Heavy-Duty Diesel Vehicle 3B Site PREPARATION All Terrain Vehicle/MC Tractor/Loader/Backhoe Chipper/Stump Grinder Plate Compactor Crawler Tractor Crawler Tractor Crawler Tractor Crawler Tractor Excavator Excavator Excavator Grader Theorement Grader Backhoe Tractor/Loader/Backhoe Tractor/Loader	D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D D	80 350 10 124 3 75 56 96 145 308 259 80 259 80 259 80 259 80 259 80 259 80 259 80 259 80 259 80 259 6 6 145 308 250 200 200 200 200 200 200 200	2,340 1,560 11,700 2,340 2,340 4,680 4,680 4,680 4,680 4,680 4,680 1,560 3,120 1,560 3,120 1,560 2,340 2,340 2,340 2,340 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 2,340 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,560 2,340 1,710 2,340 1,560 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 2,340 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710 1,710	9,360 6,240 35,100 4,680 18,720* 9,360 6,240 9,360 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 18,720 9,360 9,360 6,240 6,240 6,240 2,080 12,480 9,360 9,360 12,480 9,360 12,480 9,360 12,480 12,480 12,480 12,480 720 <th>2,340 1,560 4,680 3,120 2,340 1,560 11,700 3,900 4,680 17,160</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	2,340 1,560 4,680 3,120 2,340 1,560 11,700 3,900 4,680 17,160							

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Appendix B

Emissions Calculations

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Table B-1a Diesel Non-Road Engine Emissions

Fillingentesterarybesediate		Fuel	Engine. Technology	Equipment										BSEC 2	EFFee)/a	(hn-hr)(2)*	Load	Age	ΰΛ	б Ө	Deter	oration tor ³	Adjus (a/ho	ted)EF htt)/d
NONROADclassification	SCC ¹	Туре	Туре	Horsepower	2010	2011	2012	2013	2014	2015	2016	2017	2018	Ib/hn-hr	HC	NOx	Factor	(Factor ³	HC	NOT	HIG	NOX	HC	NOX
					hrs	hrs	ehrs.	hrs	hrs	hrsie	hrs	hrs	hrs	ing sec	X • • • •			20.000						Ornat.
carimoving Sweeper/Scrubber	2270003030	Diesel	T3	85	0	0	156	936	936	936	936	936	858	0.408	0.18	3	0.43	1	0.027	0.008	1.027	1.008	0.185	3.024
Crawler Tractor	2270002069	Diesel	T3	105	0	0	312	4992	5616	5616	5616	3588	625	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Crawler Tractor	2270002069	Diesel	T3	210	0	0	1404	7332	7800	7488	5304	3588	312	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Crawler Tractor	2270002069	Diesel	13 T4	307	0	0	312	4056	/800	4056	2496	1092	0	0.3/1	0.1/	2.61	0.59		0.027	0.008	1.02/	1.008	0.175	2.631
Excavator	2270002036	Diesel	T3	268	0	0	936	6864	7488	7488	6084	936	0	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Excavator	2270002036	Diesel	T4	321	0	0	312	4056	4056	3744	2340	156	0	0.371	0.13	2.5	0.59	1	0.027	0.008	1.027	1.008	0.134	2.520
Excavator	2270002036	Diesel	T4	404	0	0	312	1872	1872	1872	1248	. 0	0	0.371	0.13	2.5	0.59	1	0.027	0.008	1.027	1.008	0.134	2.520
Grader	22/0002069	Diesel	14 T3	426	0	0	1248	5865	2246 5990	4992	2246	2995	1248	0.371	0.13	2.5	0.59	· 1 1	0.027	0.008	1.02/	1.008	0.134	2.520
Tractor/Loader/Backhoe	2270002040	Diesel	T3	80	0	0	1497	5990	6739	6739	3739	1310	0	0.481	0.42	3.64	0.21	.1	0.027	0.008	1.027	1.008	0.431	3.669
Tractor/Loader/Backhoe	2270002066	Diesel	T3	174	0	0	1684	8049	8049	6739	673 9	1872	0	0.433	0.42	3.03	0.21	1	0.027	0.008	1.027	1.008	0.431	3.054
Skid Steer Loader	2270002072	Diesel	<u>T4</u>	75	0	0	312	4056	4056	3744	3744	· 624	0	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Tractor/Loader/Backhoe	2270002066	Diesel	13 T4	349	0	0	312	5304 4056	4056	3744	3744	312	0	0.433	0.42	2.5	0.21	1 1	0.027	0.008	1.027	1.008	0.134	2.520
Tractor/Loader/Backhoe	2270002066	Diesel	T3	224	0	ŏ	312	3900	5616	4524	3744	312	Ő	0.433	0.42	3.03	0.21	1	0.027	0.008	1.027	1.008	0.431	3.054
Off-Higway Truck	2270002051	Diesel	T4	302	0	0	3432	16380	22464	22464	14040	2184	0	0.371	0.13	2.5	0.59	1	0.027	0.008	1.027	1.008	0.134	2.520
Off-Highway Tractor	2270002075	Diesel	T3	115	0	0	748	5491	5990	5990	5616	374	- 0	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Compaction	007000000		$\sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{i$	000			740	1555	0005	0005	2005	2400		0.007	0.10	25	0.40	<u> 1868-186</u>	0.007		1 007	1 000	0 124	2 5 20
Plate Compactor	2270002009	Diesel	14 T3	185	0		2246	7488	2995	2995 7488	6364	2496	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Cranes					Trees.							100	SCIENCE	144.3	25.263.78		1000000	1944-754	Sectors.		The Association	1345-54E A		
Crane	2270002045	Diesel	T4	510	0	0	1497	5990	5990	5990	5990	0	0 -	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	T4	340	0	0	1622	9734	9734	9734	9734	4056	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	T4	330	0	0	0	17971	25958	22464	7488	0	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	22/0002045	Diesel	14 T4	340	0	0	0	17035	9/34 24336	24336	24336	14601	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	T4	600	0	0	811	4056	9734	9734	9734	6489	ŏ	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	T4	600	0	0	1662	9734	9734	9734	9734	4056	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	T4	500	0	0	3744	20592	22464	22464	22464	16848	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crahe	2270002045	Diesel	13 T2	152	0		3/02	13104 9609	15724	15724	15/24	14851	2184	0.367	0.18	2.5	0.43	1	0.027	0.008	1.02/	1.008	0.185	2.520
Crane	2270002045	Diesel	T3	215	0	0	3493	13104	31449	47174	48484	21403	2184	0.367	0.18	2.5	0.43	. 1	0.027	0.008	1.027	1.008	0.185	2.520
Crane	2270002045	Diesel	T3	250	Ŏ	Ŏ	3493	9609	10483	10483	10483	9609	0	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Crane	2270002045	Diesel	Т3	250	0	0	. 873	4368	10483	10483	10483	9172	1310	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Forklift		22.2.4	<u> 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.</u>	<u> </u>	267.98			2.5.11	<u>- 1804</u>	<u></u>		<u> 1995</u>	139338		1000 M			<u>Cardel</u>			1.00-	1.000	9.105	
Forklift	2270003020	Diesel	T3	142	0	0	748 624	9734	13478	13478	13478	3744	2184	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Forklift	2270002045	Diesel	T3	89	0	0	748	9734	13478	13478	13478	11232	0	0.412	0.19	3.13	0.59	1	0.027	0.008	1.027	1.008	0.195	3.155
Forklift	2270003020	Diesel	T3	113	0	0	8424	33696	33696	33696	33696	15912	468	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Forklift	2270003020	Diesel	T3	110	0	0	7956	40248	44928	44928	44928	17784	2808	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Manlift// Scossorlifts		22.22			<u></u>			710	47074	00101		0550	200		0.10			ALC: NOT	0.007	0.000	1 007	1.000	0.104	2.004
Aerial Lift	2270003010	Diesel	14 T4	28	0	0	0	<u>/48</u> 374	1/971	22464	15724	9360	0	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	48	0	ŏ	0	2995	11232	11232	11232	10670	2246	0.481	0.13	• 3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	48	0	0	Ō	1497	4492	4492	4492	4492	1123	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	78	0	0	0	0	3931	23774	33508	17305	1872	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	70	0	0	748	5616	6739	6739	6739	6720	0	0.481	0.13	3	0.21		0.027	0.008	1.027	1.008	0.134	3.024
Aenal Lift	2270003010	Diesel	14 T4	28	0	0	/48 0	0	2246	2246	2246	2246	1497	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	32	Ŏ	0	0	2246	6739	6739	6739	6739	3183	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Welding Equipment	and the second		C. Starting and		27.7 4 .80	产有关			Ser. Star		5 A.M	23,23	12-4-6	17 - A.A.A.		K O kryst	A		0		Contract of			1. S. 10
Welder	2270006025	Diesel	T4	26	0	0	3744	14976	14976	14976	14976	11107	0	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Welder	2270006025	Diesel	T4	35	0	0	1996	14976	14976	14976	14976	11107	0	0.481	0.13	3	0.21		0.027	0.008	1.027	1.008	0.134	3.024
weider	22/0006025	Diesel	14	48	U	U U	2995	149/6	149/6	149/6	149/6	11232	3/4	0.461	0.13	3	0.21	(6) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	0.027	10.008	1.027	11.008	U.134	3.024
Pump	2270002039	Diesel	T4	80	0	0	0	2096	5390	4192	1497	0	0	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024
Air/Compressors	14 S	1.000					Real Bi				2333	7 2 G A							4 F (2)					Carlo Carlo
Air Compressor	2270006015	Diesel	T3	80	0	0	4992	7956	9360	9360	9360	9204	4056	0.408	0.3672	4.7	0.43	1	0.027	0.008	1.027	1.008	0.377	4.738
Air Compressor	2270006015	Diesel	T3	115	0	0 ·	1248	6552	9360	9360	9360	8892	3744	0.367	0.1836	2.5	0.43	1	0.027	0.008	1.027	1.008	0.189	2.520
Air Compressor	2270006015	Diesel	T3 T2	275	0	0	624	8112	11232	11232	11232	10920	4368	0.367	0.1836	2.5	0.43	1	0.027	0.008	1.027	1.008	0.189	2.520
Air Compressor	2270006015	Diesel	13 T4	310	0	0	624	5616	7488	7488	7488	7488	3120	0.367	0.1314	2.5	0.43	1 1	0.027	0.008	1.027	1.008	0.135	2.520
Pipelaving//Trenching/Equipment			in the sector wa		CHE COLOR						,400		100					13630	2.027				327620	
Trencher	2270002030	Diesel	T4	51	0	0	935	373	187	0	0	468	0	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024
Class)25 Cable Laying/Pulling Equ.		a sector		2 Constant	1907 N		1. 1. 198	<u> (1979)</u>	1 Section	3 10	2. A. C.	888 V		10 7 0.						- 2° h		A	<u> (1. 18</u>	
Other Construction Equipment	2270002081	Diesel	T4	-30	0	0	0	2496	4492	4492	4492	4492	624	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024
Other Construction Equipment	2270002081	Diesel	T4	30	0	0	.0	2496	4492	4492	4492	4492	624	0.412	0.13	3	0.59		0.027	0.008	1.027	1.008	0.134	3.024
Other Construction Equipment	22/0002081	Diesel	14	30	0	<u> </u>	L U	2496	4492	4492	4492	4492	624	0.412	0.13	3	0.59	1	0.027	0.008	L_1.027	1 1.008	v.134	3.024

Table B-1a Diesel Non-Road Engine Emissions

Failloment/esteanty/based/on	VOC	VOC			VOC	VOC.	VOC	VOC	VOC	NOx ⁶	NOx .	NOx	NOx	NOx	NOx	NOx	NOx.	NOx
NONROAD classification	2010	2011	2012	2012	2014	12015	2016	2017	2018	2010	2011	2012	2013	2014	2015	2016	22017	2018
	2010	20.01	-2012	2013	620146	2013	2010	2011	2010		STREES.				6.000	Sec. 1		
Eartmoving	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.02	0.11	0.11	0.11	0.11	0.11	0.10
Crawler Tractor	0.00	0.00	0.00	0.07	0.08	0.01	0.08	0.05	0.01	0.00	0.00	0.02	0.90	1.01	1.01	1.01	0.64	0.10
Crawler Tractor	0.00	0.00	0.04	0.21	0.22	0.21	0.15	0.10	0.01	0.00	0.00	0.50	2.63	2.80	2.69	1.91	1.29	0.11
Crawler Tractor	0.00	0.00	0.05	0.27	0.29	0.27	0.13	0.04	0.00	0.00	0.00	0.74	3.85	4.10	3.93	1.93	0.57	0.00
Excavator	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.24	0.24	0.24	0.15	0.03	0.00
Excavator	0.00	0.00	0.03	0.25	0.27	0.27	0.22	0.03	0.00	0.00	0.00	0.43	3.15	3.43	3.43	2.79	0.43	0.00
Excavator	0.00	0.00	0.01	0.12	0.12	0.11	0.07	0.00	0.00	0.00	0.00	0.21	1.24	1.24	1.24	0.83	0.00	0.00
Crawler Tractor	0.00	0.00	0.05	0.09	0.09	0.09	0.00	0.07	0.00	0.00	0.00	0.91	1.57	1.57	1.57	1.57	1.31	0.00
Grader	0.00	0.00	0.02	0.11	0.11	0.09	0.05	0.05	0.02	0.00	0.00	0.29	1.35	1.38	1.15	0.69	0.69	0.29
Tractor/Loader/Backhoe	0.00	0.00	0.01	0.05	0.06	0.06	0.03	0.01	0.00	0.00	0.00	0.10	0.41	0.46	0.46	0.25	0.09	0.00
Tractor/Loader/Backhoe	0.00	0.00	0.03	0.15	0.15	0.12	0.12	0.03	0.00	0.00	0.00	0.21	0.99	0.99	0.83	0.83	0.23	0.00
Skid Steer Loader	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.21	0.21	0.20	0.20	0.03	0.00
Tractor/Loader/Backhoe	0.00	0.00	0.00	0.05	0.05	0.04	0.04	0.00	0.00	0.00	0.00	0.06	0.83	0.83	0.76	0.76	0.06	0.00
Tractor/Loader/Backhoe	0.00	0.00	0.01	0.09	0.13	0.11	0.09	0.01	0.00	0.00	0.00	0.05	0.62	0.89	0.72	0.59	0.05	0.00
Off-Higway Truck	0.00	0.00	0.09	0.45	0.62	0.62	0.39	0.06	0.00	0.00	. 0.00	1.70	8.11	11.12	11.12	6.95	1.08	0.00
Off-Highway Tractor	0.00	0.00	0.01	0.08	0.09	0.09	0.09	0.01	0.00	0.00	0.00	0.15	1.08	1.18	1.18	1.11	0.07	0.00
Compaction			0.00		0.07					0.00	0.00	0.00	0.00	1.01	1.01		1.01	
Plate Compactor	0.00	0.00	0.02	0.04	0.07	0.0/	0.0/	0.06	0.00	0.00	0.00	0.30	1.65	1.21	1.21	1 41	0.61	0.00
Cranes	0.00	0.00	0.04	0.13	0.13	0.10	<u></u>	0.00	0.00	0.00	0.00	0.00		1.05		<u> </u>		
Crane	0.00	0.00	0.05	0.20	0.20	0.20	0.20	0.00	0.00	0.00	0.00	0.91	3.65	3.65	3.65	3.65	0.00	0.00
Crane	0.00	0.00	0.04	0.22	0.22	0.22	0.22	0.09	0.00	0.00	0.00	0.66	3.95	3.95	3.95	3.95	1.65	0.00
Crane	0.00	0.00	0.00	0.40	0.57	0.49	0.16	0.00	0.00	0.00	0.00	0.00	7.08	10.23	8.85	2.95	0.00	0.00
Crane	0.00	0.00	0.02	0.17	0.22	0.22	0.22	0.15	0.00	0.00	0.00	0.33	2.96	3.95	3.95	3.95	2.64	0.00
Crane	0.00	0.00	0.00	0.39	0.55	0.55	0.55	0.33	0.00	0.00	0.00	0.00	0.92	9.88	9.88	9.88	5.93	0.00
Crane	0.00	0.00	0.07	0.39	0.39	0.39	0.39	0.20	0.00	0.00	0.00	1.19	6.98	6.98	6.98	6.98	2.91	0.00
Crane	0.00	0.00	0.12	0.69	0.75	0.75	0.75	0.56	0.00	0.00	0.00	2.24	12.30	13.42	13.42	13.42	10.06	0.00
Crane	0.00	0.00	0.02	0.18	0.22	0.22	0.22	0.21	0.02	0.00	0.00	0.32	2.38	2.85	2.85	2.85	2.70	0.32
Crane	0.00	0.00	0.06	0.15	0.17	0.17	0.17	0.16	0.04	0.00	0.00	0.73	2.00	2.18	2.18	2.18	2.09	0.45
Crane	0.00	0.00	0.07	0.26	0.62	0.94	0.96	0.42	0.04	0.00	0.00	0.90	2.37	3.13	3 13	3 13	2.50	0.56
Crane	0.00	0.00	0.02	0.10	0.24	0.24	0.24	0.21	0.00	0.00	0.00	0.26	1.30	3.13	3.13	3.13	2.74	0.39
Forklift																· ·		
Forklift	0.00	0.00	0.01	0.18	0.26	0.26	0.26	0.25	0.10	0.00	0.00	0.18	2.37	3.27	3.27	3.27	3.18	1.27
Crane	0.00	0.00	0.02	0.15	0.20	0.20	0.20	0.10	0.06	0.00	0.00	0.22	1.95	2.59	2.59	2.59	1.30	0.76
Forklift	0.00	0.00	0.01	0.12	0.16	0.16	0.16	0.13	0.00	0.00	0.00	0.14	1.78	2.46	2.46	2.46	2.05	0.00
Forklift	0.00	0.00	0.13	0.51	0.51	0.51	0.51	0.24	0.01	0.00	0.00	1.63	7.58	8.46	8.46	8.46	3.08	0.09
Forkille	0.00	0.00	0.12	0.55	0.00	0.00	0.00	0.20	0.04	0.00	0.00	1.50	1 1.50	0.40	0.40	0.40	0.00	0.55
Aerial Lift	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.35	0.44	0.44	0.13	0.00
Aerial Lift	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.02	0.00	0.00	0.00	0.00	0.02	0.55	0.72	0.72	0.43	0.00
Aerial Lift	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.10.	0.38	0.38	0.38	0.36	0.08
Aerial Lift	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.15	0.15	0.15	0.15	0.04
Aerial Lift	0.00	0.00	0.00	0.00	0.01	0.06	0.09	0.04	0.00	0.00	0.00	0.00	0.00	0.33	0.33	0.33	0.94	0.00
Aerial Lift	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.04	0.29	0.35	0.35	0.35	0.35	0.00
Aerial Lift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.03
Aerial Lift	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.15	0.15	0.15	0.15	0.07
Welding Equipment										· · · · · · · · · · · · · · · · · · ·								
Welder	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.07	0.27	0.27	0.27	0.27	0.20	0.00
Welder	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.10	0.50	0.50	0.50	0.50	0.38	0.00
Concrete / Aggregate	0.00	0.00	0.00		0.02	0.02								1	,			
Pump	0.00	0.00	0.00	0.02	0.04	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.33	0.85	0.66	0.24	0.00	0.00
Air Compressors			[<i></i>					
Air Compressor	0.00	0.00	0.08	0.12	0.14	0.14	0.14	0.14	0.06	0.00	0.00	0.90	1.43	1.68	1.68	1.68	1.65	0.73
Air Compressor	0.00	0.00	0.01	0.07	0.10	0.10	0.10	0.10	0.04	0.00	0.00	0.17	0.90	1.29	1.29	1.29	1.22	0.51
Air Compressor	0.00	0.00	0.02	0.21	0.29	0.29	0.29	0.28	0.11	0.00	0.00	0.20	2.00	3.69	3.69	3.69	3.59	1.43
Air Compressor	0.00	0.00	0.02	0.12	0.16	0.16	0.16	0.16	0.07	0.00	0.00	0.23	2.08	2.77	2.77	2.77	2.77	1.16
Pipelaying / Trenching Equipment			<u> </u>	<u> </u>							<u> </u>							
Trencher	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.04	0.02	0.00	0.00	0.05	0.00
Class 25 Cable Laying/Pulling Equ.					· · ·			-	<u></u>									
Other Construction Equipment	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.15	0.27	0.27	0.27	0.27	0.04
Other Construction Equipment	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.15	0.27	0.27	0.27	0.27	0.04
Other Construction Equipment	0.00	00.00	1 0.00	0.01	1 0.01	U.U1	L 0.01	0.01	0.00	0.00	0.00	0.00	0.15	0.2/	0.27	0.2/	U.2/	0.04



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Table B-1a Diesel Non-Road Engine Emissions

Winches and Tuggers		174 - Y - Y -					A. 8 8.		1.5.46				称" ""飞鸟,	S	1		2 18 1 24	S 87 8		A of the first				
Other Construction Equipment	2270002081	Diesel	T4	140	0	0	0	0	2246	6739	6177	2246	0	0.371	0.13	2.5	0.59	1	0.027	0.008	1.027	1.008	0.134	2.520
Generation Equipment	1						Sec. Sec.					5.5						5. 80		÷.				
Generator	2270006005	Diesel	T3	150	655	2620	4367	15069	15724	15724	15724	14414	5241	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Generator	2270006005	Diesel	T3	86	0	0	436	4804	5241	5241	5241	5241	3057	0.408	0.18	3	0.43	1	0.027	0.008	1.027	1.008	0.185	3.024
Generator	2270006005	Diesel	T4	345	0	0	0	4804	5241	5241	5241	5241	3057	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Generator	2270006005	Diesel	T4	200	0	0	0	6552	7862	7862	7862	7862	3712	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Generator	2270006005	Diesel	T3	143	0	0	2839	12876	13104	13104	13104	13104	6115	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Generator	2270006005	Diesel	T3	143	0	0	873	8299	10483	10483	10483	10483	4804	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Generator	2270006005	Diesel	T4	14	0	0	8798	52603	81806	83088	23328	37440	20592	0.408	0.13	4.44	0.43	1.	0.027	0.008	1.027	1.008	0.134	4.476
Small Capital Equipment		4			1.1	Constra					2.00	1.1.1			- CP			*** g*** g ***	e 7					
Plate Compactor	2270002009	Diesel		8	0	0	10530	33696	33696	33693	33696	33696	11636	0.408	0.13	4.3	0.43	1	0.027	0.008	1.027	1.008	0.134	4.334
Plate Compactor	2270002009	Diesel	T4	15	0	0	2340	12636	16848	16848	16848	16848	7254	0.408	0.13	4.44	0.43	1	0.027	0.008	1.027	1.008	0.134	4.476
Plate Compactor	2270002009	Diesel	T4	19	0	0	2808	16380	22464	22464	22464	21762	12870	0.408	0.13	4.44	0.43	1	0.027	0.008	1.027	1.008	0.134	4.476
Generator	2270006005	Diesel	T4	11	0	0	5850	34866	49842	50544	50544	47502	19656	0.408	0.13	4.44	0.43	1	0.027	0.008	1.027	1.008	0.134	4.476
Pump	2270006010	Diesel	T4	7	0	0	468	5148	5616	5616	5616	5616	3276	0.408	0.5508	4.3	0.43	1	0.027	0.008	1.027	1.008	0.566	4.334
Pump	2270006010	 Diesel 	T4	15	0	0	468	5148	5616	5616	5616	5616	3276	0.408	0.438	4.4399	0.43	1	0.027	0.008	1.027	1.008	0.450	4.475
Concrete Saw	2270002039	Diesel	T4	65	0	0	702	7020	8424	8424	8424	8424	3978	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024
Tamper/Rammer	2270002006	Diesel	T4	3	0	0	2808	14508	22464	22464	22464	19332	9360	0.408	0.13	4.3	0.43	1	0.027	0.008	1.027	1.008	0.134	4.334
Tamper/Rammer	2270002006	Diesel	T4	3	0	0	2808	14508	22464	22464	22464	19332	9360	0.408	0.13	4.3	0.43	1	0.027	0.008	1.027	1.008	0.134	4.334
Pump	2270006010	Diesel	T4	24	0	0	4914	16614	30654	39688	30888	30450	12402	0.408	0.438	4.4399	0.43	1	0.027	0.008	1.027	1.008	0.450	4.475
Concrete Batch Plant	S. 19 8 8 8	Section 20	N. W. K. K.	NC136 7	7. 4. 1.	1. 9.6	458 2.2	1. 16	St. 134 14.		14. 24	11:118-2	6.562	1. 12		10.00	1.00	te tor	10 40 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5				1171.0	Ser Serie
Generator	2270002081	Diesel	T4	470	0	0	6240	12480	12480	12480	7280	0	0	0.371	0.13	2.5	0.59	1	0.027	0.008	1.027	1.008	0.134	2.520
Tractor/Loader/Backhoe	2270002066	Diesel	Т3	80	0	0	6240	12480	12480	12480	7280	0	0	0.481	0.42	3.64	0.21	1	0.027	0.008	1.027	1.008	0.431	3.669
Site Preparation					1.1	21 S IX		5	Takin a				1005	1. 1	1. A.		10.0			きの大	1			17 C 18 - 4
All Terrain Vehicle/MC	2270001030	Diesel	T4	10	2340	9360	2340	0	0	0	0	0	0	0.408	0.5508	4.3	0.42	1	0.027	0.008	1.027	1.008	0.566	4.334
Tractor/Loader/Backhoe	2270002066	Diesel	T3	124	1560	6240	1560	0	0	0	0	0	0	0.433	0.42	3.03	0.21	1	0.027	0.008	1.027	1.008	0.431	3.054
Chipper/Stump Grinder	2270004066	Diesel	T4	75	1560	4680	0	0	0	0	0	0	0	0.408	0.1314	3	0.43	1	0.027	0.008	1.027	1.008	0.135	3.024
Plate Compactor	2270002009	Diesel	Т3	354	4680	18720	4680	0	0	0	0	0	0	0.367	0.17	2.5	0.43	1	0.027	0.008	1.027	1.008	0.175	2.520
Air Compressor	2270006015	Diesel	T4	55	2340	9360	0	0	0	0 .	0	0	0	0.408	0.1314	3	0.43	1	0.027	0.008	1.027	1.008	0.135	3.024
Crawler Tractor	2270002069	Diesel	T3	96	1560	6240	0	0	0	0	0	-0-	0	0.412	0.19	3.13	0.59	1	0.027	0.008	1.027	1.008	0.195	3.155
Crawler Tractor	2270002069	Diesel	T3	145	2340	9360	0	0	0	0	0	0	0	0.371	0.19	2.61	0.59	1.	0.027	0.008	1.027	1.008	0.195	2.631
Crawler Tractor	2270002069	Diesel	T3	308	4680	18720	0	0	0	0	0	·O	0	0.371	0.17	2.61	0.59	1	0.027	0.008	1.027	1.008	0.175	2.631
Excavator	2270002036	. Diesel	T3	250	4680	18720	0	0	0	0	0	0	0	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Excavator	2270002036	Diesel	T3	380	6240	24960	0	0	0	0	0	0	- 0	0.371	0.17	2.61	0.59	1	0.027	0.008	1.027	1.008	0.175	2.631
Excavator	2270002036	Diesel	Т3	513	4680	18720	0	0'	0	0	0	0	0	0.371	0.17	2.61	0.59	1	0.027	0.008	1.027	1.008	0.175	2.631
Excavator	2270002036	Diesel	T3	258	1560	6240	0	0	0 .	0	0	0	0	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Generator	2270006005	Diesel	T3	80	3120	12480	3120	0	0	0	0	0	0	0.408	0.18	3	0.43	1	0.027	0.008	1.027	1.008	0.185	3.024
Grader	2270002048	Diesel	· T3	259	1560	4160	0	0	0	0	0	0	0	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Rubber Tire Loader	2270002060	Diesel	T3	168	2340	6240	0	0	0	0	0	0	0	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Scraper	2270002018	Diesel	T3	181	3120	5200	0	0	0	0	0	0	0	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
I ractor/Loader/Backhoe	2270002066	Diesel	14	/5	1560	4160		0	0	0	0	0	0	0.481	0.13	3	0.21		0.027	0.008	1.02/	1.008	0.134	3.024
I ractor/Loader/Backhoe	22/0002066	Diesel	13	189	2340	6240	0	0	0	0	0		0	0.433	0.42	3.03	0.21		0.027	0.008	1.02/	1.008	0.431	3.054
	22/0002030	Diesel	13	450	1560	0	0	0	0	0	0	0	0	0.3/1	0.1000	2.61	0.59		0.027	0.008	1.02/	1.008	0.1/5	2.031
Grinder	22/0004066	Diesel	13	200	2240	2080	0	0	0	0	0	<u> </u>	0	0.30/	0.1030	2.0	0.43		0.02/	0.008	1.02/	1.008	0.109	2.520
	22/00/2051	Diesel	13	325	2340	9360	4080	0	0		0	0	0	0.3/1	0.17	2.01	0.59		0.02/	0.008	1.02/	1.000	0.175	2.031
	22/0002051	Diesei	13	409	1/160	00040	1/160	0	0	U	0		U	0.3/1	0.17	2.01	0.59	1.225/.6	0.02/	0.008	1.02/	1.008	0.1/5	2.031
		5	To	0.45	<u></u>	700						<u>اللغ ت</u> لغ	A 8	0.071	0.17	0.01		1.8.1.1		0.000	1 007	1.000	0.175	0.604
Excavator	22/0002036	Diesel	13	345	0	/20	0	0	0	0	0	0	0	0.3/1	0.1/	2.01	0.59		0.027	0.008	1.02/	1.008	0.1/5	2.03
Excavator	22/0002036	Diesel	13	24/	0	1440	0		0		0		0	0.3/1	0.19	2.01	0.59		0.027	0.008	1.02/	1.008	0.195	2.031
I ractor/Loader/Backhoe	22/0002066	Diesel	13	200	0	1440			0	0	0	0	0	0.433	0.42	3.03	0.21	1	0.027	0.008	1.02/	1.008	0.431	3.034
I racior/Loader/Backnoe	22/0002000	Diesel	14 T2	00	0	720	0	0	0		0	0	0	0.401	0.13	3	0.21		0.027	0.008	1.027	1.008	0.134	3.024
riale compactor	22/0002009	Diesel	13 To	39	0	1/20	0	0	0		0	0	0	0.400	0.10	25	0.43		0.027	0.000	1.02/	1.000	0.100	2.024
Vialle Moldor	2270006005	Diesel	13	300	0	1440	- <u>U</u>	0	0		0			0.307	0.17	2.5	0.43	1	0.027	0.008	1.02/	1.000	0.175	3.024
Other Construction Equipment	2270000020	Diesel	14 T2	5/9	0	720	<u> </u>	0	0	0	- 0		0	0.401	0.13	261	0.50		0.027	0.000	1.02/	1.000	0.134	2 631
All Torrain Vahiele/MC	2270002001	Diesel	T/	10	0	2160	0	0	0	0	0	0	0	0.408	0.5508	43	0.39	1	0.027	0.008	1.027	1.000	0.566	4.334
	2270001030	Diesei	14	10	<u> </u>	2100	<u> </u>			- <u> </u>				0.400	0.0000		0.42	¹ ·	0.021	0.000	1.027	1.000	0.000	7.004
						+	<u> </u>																	<u> </u>
IVIAL (1005)				-		1		L.,			L		·	L				1	L					لــــــــــــــــــــــــــــــــــــــ

NOTES:

Note 1: SCC code based on Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", April 2004, EPA-420-P-04-005.

Note 2: Brake-specific fuel consumption, zero hour steady state emission factor (EFss; g/hp-hr), and load factor are from NMIM/NONROAD08 model factors dated April 5, 2009.

EFss from NMIM/NONROAD08 have transient adjustment factors built in.

- Note 3: Age factor and Deterioration factors calculated using Equation 4 from *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling Compression-Ignition*, April 2004, EPA-420-P-04-009. Age Factor = LF * cumulative hours / median life (where Age factor is capped at 1. For this calculation, age factor is assumed to be 1 for simplification purposes). Deterioration Factor = 1 + (A * Age Factor^b), where b = 1 for desel engines and A is taken from Table A4 from source
- Note 4: Adjusted Emission Factors for HC and NOx are calculated using Equation 1 from, "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling Compression-Ignition", April 2004, EPA-420-P-04-009. Adjusted EF = Efss * TAF * DF (as stated in Note 2, EFss have TAFs built in)

Note 5: Annual VOC Emissions are calculated using the following calculation (1.053 * Adj. HC emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb) 1.053 is the ratio of VOC to HC from *Conversion Factors for Hydrocarbon Components*, December 2005, EPA-420-P-05-015.

Note 6: Annual NOx Emissions are calculated using the following calculation (Adj. NOx emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)

															2				a
Winches and Tuggers															4.55				
Other Construction Equipment	0.00	0.00	0.00	0.00	0.03	0.09	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.52	1.55	1.42	0.52	0.00	-
Generation Equipment						·	·			<u>.</u>	<u>من خ</u> ب								
Generator	0.01	0.04	0.06	0.21	0.22	0.22	0.22	0.20	0.07	0.12	0.47	0.78	2.70	2.82	2.82	2.82	2.58	0.94	
Generator	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.02	0.00	0.00	0.05	0.59	0.65	0.65	0.65	0.65	0.38	
Generator	0.00	0.00	0.00	0.11	0.12	0.12	0.12	0.12	0.07	0.00	0.00	0.00	1.98	2.10	2.16	2.16	2.16	1.26	
Generator	0.00	0.00	0.00	0.09	0.10	0.10	0.10	0.10	0.05	0.00	0.00	. 0.00	1.5/	1.88	1.88	1.88	1.88	0.89	
Generator	0.00	0.00	0.04	0.17	0.17	0.17	0.17	0.17	0.08	0.00	0.00	0.40	2.20	1.70	2.24	2.24	2.24	0.02	
Generator	0.00	0.00	0.01	0.11	0.14	0.14	0.14	0.14	0.00	0.00	0.00	0.15	1.42	1./9	1./9	1./9	1./9	0.62	
Generator	0.00	0.00_	0.01	0.05	0.08	0.08	0.02	0.03	0.02	0.00	0.00	0.20	1.00	2.43	2.4/	0.09		0.01	
Small Capital Equipment														0.55	0.55		0.55		
Plate Compactor	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.17	0.55	0.55	0.55	0.55	0.55	0.19	
Plate Compactor	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.07	0.40	0.54	0.54	0.54	0.54	0.23	
Plate Compactor	0.00	0.00	0.00	0.02	0.03	0.03	0.03	0.03	0.02	0.00	0.00	0.11	0.66	0.91	0.91	0.91	0.88	0.52	
Generator	0.00	0.00	0.00	0.03	0.04	0.04	0.04	0.03	0.01	0.00	0.00	0.14	0.81	1.10	1.18	1.18	1.11	0.46	
Pump	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.07	0.00	0.00	0.08	0.08	0.05	
Pump	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.01	0.16	1.00	1.00	0.18	0.18	0.10	
Concrete Saw	0.00	0.00	0.00	0.04	0.05	0.05	0.05	0.05	0.02	0.00	0.00	0.09	0.90	1.08	1.08	1.08	1.08	0.51	
Tamper/Rammer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.14	0.14	0.14	0.12	0.06	
Tamper/Rammer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.14	0.14	0.14	0.12	0.06	
Pump	0.00	0.00	0.03	0.09	0.17	0.21	0.1/	0.16	0.07	0.00	0.00	0.25	0.85	1.56	2.02	1.5/	1.55	0.63	
Concrete Batch Plant			<u></u>	فسيني المستح		· · *		<u> </u>					·	<u> </u>					
Generator	0.00	0.00	0.27	0.54	0.54	0.54	0.31	0.00	0.00	0.00	0.00	4.81	9.61	9.61	9.61	5.61	0.00	0.00	
Tractor/Loader/Backhoe	0.00	0.00	0.05	0.10	0.10	0.10	0.06	0.00	0.00	0.00	0.00	0.42	0.85	0.85	0.85	0.49	0.00	0.00	1
Site Preparation					in the second		2. 5		<u></u>		<u> </u>								
All Terrain Vehicle/MC	0.01	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.19	0.05	0.00	0.00	0.00	0.00	0.00	0.00	
Tractor/Loader/Backhoe	0.02	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.55	0.14	0.00	0.00	0.00	0.00	0.00	0.00	
Chipper/Stump Grinder	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.50	0.00	. 0.00	0.00	0.00	0.00	0.00	0.00	
Plate Compactor	0.14	0.58	0.14	0.00	0.00	0.00	0.00	0.00	0.00	1.98	7.92	1.98	0.00	0.00	0.00	0.00	0.00	0.00	
Air Compressor	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Crawler Tractor	0.02	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Crawler Tractor	0.05	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	2.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Crawler Tractor	0.17	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.47	9.87	0.00	0.00	. 0.00	0.00	0.00	0.00	0.00	
Excavator	0.16	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	8.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Excavator	0.28	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.06	16.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Excavator	0.29	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.11	16.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Excavator	0.05	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	2.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Generator	0.02	0.09	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.36	1.43	0.36	0.00	0.00	0.00	0.00	0.00	0.00	
Grader	0.05	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	1.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rubber Tire Loader	0.05	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Scraper	0.08	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tractor/Loader/Backhoe	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tractor/Loader/Backhoe	0.05	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Trencher	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Grinder	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Higway Truck	0.09	0.36	0.18	0.00	0.00	0.00	0.00	0.00	0.00	1.30	5.20	2.60	0.00	0.00	0.00	0.00	0.00	0.00	
Off-Higway Truck	0.96	3.85	0.96	0.00	0.00	0.00	0.00	0.00	0.00	13.77	55.08	13.77	0.00	0.00	0.00	0.00	0.00	0.00	
· · · · · · · · · · · · · · · · · · ·			· .				·					````	· .	·		×			
Excavator	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	i
Excavator	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Tractor/Loader/Backhoe	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4
Tractor/Loader/Backhoe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Plate Compactor	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4
Crane	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4
Welder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Construction Equipment	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4
All Terrain Vehicle/MC	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	-																		
TOTAL (Tons)	2.62	9.93	3.29	9.94	12.37	12.67	11.33	6.71	1.34	36.38	138.12	48.12	150.85	188.77	193.03	170.90	101.31	19.44	Total construction sum
	0	0	1.33	7.53	9.46	9.64	8.69	4.52	0.40	0.00	0	19.57	113.57	143.57	146.30	130.88	68.53	5.32	10 CFR 50 construction total

NOTES:

Note 1: SCC code based on Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", April 2004, EPA-420-P-04-005.

Note 2: Brake-specific fuel consumption, zero hour steady state emission factor (EFss; g/hp-hr), and load factor are from NMIM/NONROAD08 model factors dated April 5, 2009.

EFss from NMIM/NONROAD08 have transient adjustment factors built in.

Note 3: Age factor and Deterioration factors calculated using Equation 4 from *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition*, April 2004, EPA-420-P-04-009. Age Factor = LF * cumulative hours / median life (where Age factor is capped at 1. For this calculation, age factor is assumed to be 1 for simplification purposes).

Deterioration Factor = 1 + (A * Age Factor^b), where b = 1 for desel engines and A is taken from Table A4 from source

Note 4: Adjusted Emission Factors for HC and NOx are calculated using Equation 1 from, "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition", April 2004, EPA-420-P-04-009. Adjusted EF = Efss * TAF * DF (as stated in Note 2, EFss have TAFs built in)

Note 5: Annual VOC Emissions are calculated using the following calculation (1.053 * Adj. HC emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb) 1.053 is the ratio of VOC to HC from "Conversion Factors for Hydrocarbon Components", December 2005, EPA-420-P-05-015.

Note 6: Annual NOx Emissions are calculated using the following calculation (Adj. NOx emission factor (g/hp-hr) horsepower hours operated / load factor) / (2000 lb/ton 453.6 g/lb)

AECOM

Table B-1a Diesel Non-Road Engine Emissions



Table B-1b Diesel Non-Road Engine Emissions included in safety-related construction

		122.2	Engine									5.555	SAE TA	-	-	THE OWNER					Deterio	oration	Adjus	ed EF
Equipmenteategorybasedon	SCC ¹	Fuel	Technology	Equipment Horsenower	2010	2011	2012	2012	201/1	2015	2016	2017	2018	JBSFC ²	MEEss (g	/hp:hr)'s &	Ecolor Eactor	Age	A CAN A		fact	or	st(g/np	UU/(U)
TIONTOADCIASSIICation		, jhe	C. C	. Io. Jopowel	hrs	hrs	hrs	hrs	hrs	hrs	thrs	hrs)	hrsi	lb/hp-hr-	HC	NOx	2	Factor ³	HC	NOX	HC	NOx	HC	NOx
Eartmoving	817 (P. 184)			202033			1000 P		328°, N			3.622				2453.28	1. S. C. P.	ani an						
Crawler Tractor	2270002069	Diesel	T3	105	0	0	312	4992	5616	5616	5616	3588	625	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Crawler Tractor	2270002069	Diesel	13 T2	210	0	0	1404	7332	7800	7488	3666	3588	0	0.3/1	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Excavator	2270002009	Diesel	T3	30	0	0	312	4056	4056	4056	2496	468	0	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024
Excavator	2270002036	Diesel	T3	268	0	0	936	6864	7488	7488	6084	936	0	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Excavator	2270002036	Diesel	<u>T4</u>	321	0	0	312	4056	4056	3744	2340	156	0	0.371	0.13	2.5	0.59	1	0.027	0.008	1.027	1.008	0.134	2.520
Excavator	2270002036	Diesel	14 	404	0	0	312	18/2	2246	2246	2246	1872	0	0.3/1	0.13	2.5	0.59	1	0.027	0.008	1.027	1.008	0.134	2.520
Grader	2270002069	Diesel	T3	135	0	0	1248	5865	5990	4992	2995	2995	1248	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Tractor/Loader/Backhoe	2270002066	Diesel	T3	80	0	0	1497	5990	6739	6739	3739	1310	0	0.481	0.42	3.64	0.21	1	0.027	0.008	1.027	1.008	0.431	3.669
Tractor/Loader/Backhoe	2270002066	Diesel	T3	174	0	0	1684	8049	8049	6739	6739	1872	0	0.433	0.42	3.03	0.21	1	0.027	0.008	1.027	1.008	0.431	3.054
Skid Steer Loader	2270002072	Diesel	14 T2	/5	0	0	312	4056	4056	3/44	3/44	624 312	0	0.481	0.13	3 03	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Tractor/Loader/Backhoe	2270002066	Diesel		349	0	0	312	4056	4056	3744	3744	312	0	0.433	0.13	2.5	0.21	1	0.027	0.008	1.027	1.008	0.134	2.520
Tractor/Loader/Backhoe	2270002066	Diesel	T3	224	0	0	312	3900	5616	4524	3744	312	0	0.433	0.42	3.03	0.21	1	0.027	0.008	1.027	1.008	0.431	3.054
Off-Highway Tractor	2270002075	Diesel	T3	115	0	0	748	5491	5990	5990	5616	374	0	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Compaction			1921 (M. 1922) T.	000			740	1575	2005	2005	2005	2400	<u> 20.000</u>	0.967	0.10	25	0.42	<u>90997998</u>	0.027		1.027	1,009	0.124	2 5 2 0
Plate Compactor	22/00/2009	Diesel	14 T3	185	0	0	2246	7488	2995	2995 7488	2995 6364	2490	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Cranes	2210002003		13		1 Y North			1400	1,100	19.40 W	Mer Cal		Too See	1000 A								26200	STATION I	718.724
Crane	2270002045	Diesel	T4	510	0	0	1497	5990	5990	5990	5990	0	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	T4	340	0	0	1622	9734	9734	9734	9734	4056	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	<u>T4</u>	330	0	0	0	17971	25958	22464	7488	0	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Urane Crane	22/00/2045	Diesel	14 T4	340	0	0	0	17035	24336	24336	24336	14601	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	T4	600	0	0	811	4056	9734	9734	9734	6489	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	T4	600	0	0	1662	9734	9734	9734	9734	4056	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	T4	500	0	0	3744	20592	22464	22464	22464	16848	0	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Crane	2270002045	Diesel	13 T2	152	0	0	1/47	13104 9609	15724	15724	10483	14851	1/4/ 2184	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Crane	2270002045	Diesel	T3	215	0	0	3493	13104	31449	47174	48484	21403	2184	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Crane	2270002045	Diesel	T3	250	0	0	3493	9609	10483	10483	10483	9609	0	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Crane	2270002045	Diesel	T3	250	0	0	873	4368	10483	10483	10483	9172	1310	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Forklift	007000000	Direct		140	لكيك		740	0724	12470	12470	12470	12104	5241	0.971	0.10	2.61	0.50	1	0.027	0.000	1 027	1 008	0 1 95	2 621
Forklitt	2270003020	Diesel	13 T3	290	0	0	624	9734 5616	7488	7488	7488	3744	2184	0.3/1	0.19	2.01	0.59	1	0.027	0.008	1.027	1.008	0.195	2.520
Forklift	2270003020	Diesel	T3	89	0	0	748	9734	13478	13478	13478	11232	0	0.412	0.19	3.13	0.59	1	0.027	0.008	1.027	1.008	0.195	3.155
Forklift	2270003020	. Diesel	T3	113	0	0	8424	33696	33696	33696	33696	15912	468	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Forklift	2270003020	Diesel	T3	110	0	0	7956	40248	44928	44928	44928	17784	2808	0.371	0.19	2.61	0.59	1	0.027	0.008	1.027	1.008	0.195	2.631
Manlift!/Scossorlifts	0070000010	Discol	74 T4	200			0	740	17071	22464	22464	6552	0	0.491	0.12	2	0.21	1	0.027	0.002	1 027	1 008	0.134	3 024
Aerial Lift	2270003010	Diesel	14 T4	28 65	0	0	0	374	11980	15724	15724	9360	0	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	48	0	Ŏ	Ŏ	2995	11232	11232	11232	10670	2246	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	48	0	0	0	1497	4492	4492	4492	4492	1123	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	78	0	0	0	0	3931	23774	33508	17305	1872	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	14 T4	70	0	0	748 748	5616	6739	6739	6739	6739	0	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	28	0	0	0	0	2246	2246	2246	2246	1497	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Aerial Lift	2270003010	Diesel	T4	32	0	0	0	2246	6739	6739	6739	6739	3183	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Welding Equipment			Service and			23,223			<u> 1601</u>		2.2.30		25.90		<u>200400</u>				0.007		1.007	1.000	2.2	
Welder	2270006025	Diesel	T4	26	0	0	3744	14976	14976	14976	14976	11107	0	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
weider	2270006025	Diesel	T4	48	0	0	2995	14976	14976	14976	14976	11232	374	0.481	0.13	3	0.21	1	0.027	0.008	1.027	1.008	0.134	3.024
Concrete / Aggregate					4					4.43	1.0	N 1233				10.00		943 ag # 2		5.78 8	a series	AND THESE		
Pump	2270002039	Diesel	<u>T</u> 4	80	0	0	0	2096	5390	4192	1497	0	0	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024
Air.Compressors			36.04 CV22	1 Acres	10.15	1 Sec.	distant.		M.6/1			S. S. S.										<u>X : 1</u>		
Air Compressor	2270006015	Diesel	T3	80	0	Ó	4992	7956	9360	9360	9360	9204	4056	0.408	0.3672	4.7	0.43	1	0.027	0.008	1.027	1.008	0.377	4.738
Air Compressor	2270006015	Diesel	13 T2	115 275		0	1248	8112	9360	9360	9360	8892	3/44	0.367	0.1836	2.5	0.43	1	0.027	0.008	1.027	1.008	0.189	2.520
Air Compressor	2270006015	Diesel	T3	275	0	0	624	8112	11232	11232	11232	10920	4368	0.367	0.1836	2.5	0.43	1	0.027	0.008	1.027	1.008	0.189	2.520
Air Compressor	2270006015	Diesel	T4	310	0	0	624	5616	7488	7488	7488	7488	3120	0.367	0.1314	2.5	0.43	1	0.027	0.008	1.027	1.008	0.135	2.520
Pipelaying // Trenching Equipment		582. SALES	A State State		No. 16	N. S. L.				Conversion of the			34.54	2000	100 - 10 - 10 - 10 - 10 - 10 - 10 - 10			Se 22	te en si		200 A		8-3-890	
Trencher	2270002030	Diesel	T4	51	0	0	935	373	187	0	0	468	0	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024
Class 25 Cable Laying/Pulling Equ.	007000000		<u> </u>	<u> </u>				0400		4400	<u> 1100</u>	4400	<u></u>	0.410	0.12	2.4+44	0.50	206 N 65	0.007	0.000	1 027	1 009	0.124	3 024
Other Construction Equipment	22/0002081	Diesel	14 TA	30	0		0	2496	4492	4492	4492	4492	624	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024
Other Construction Equipment	2270002081	Diesel	T4	30	0	0	0	2496	4492	4492	4492	4492	624	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024

Table B-1b Diesel Non-Road Engine Emissions inc

	VOC ⁵	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	NOx ⁶	NOx	NOx	NOx	NOx	NOx	NOx	NOx	NOx
Equipment category based on NONBOAD classification	tons	tons	tons	stons	tons	tons	tons	stons -	tons	tons	tons	Etons	lons	tons	tons	lons	tons	tons
Territoria on accordance	2010	2011	2012	2013	2014	2015.	2016	2017	2018	2010	2011	2012	2013	2014	2015	2016	2017	2018
Eartmoving		· · · · · · · · · · · · · · · · · · ·	1. S. S. S.	<u>798</u>					<u></u>	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		8. S.E.		The second s	والع في ا			
Crawler Tractor	0.00	0.00	0.00	0.07	0.08	0.08	0.08	0.05	0.01	0.00	0.00	0.06	0.90	1.01	1.01	1.01	0.64	0.11
Crawler Tractor	0.00	0.00	0.04	0.21	0.22	0.21	0.15	0.10	0.01	0.00	0.00	0.50	2.03	2.00	3.93	1.91	0.57	0.00
Excavator	0.00	0.00	0.00	0.01	0.01	0.01	0.01	.0.00	0.00	0.00	0.00	0.02	0.24	-0.24	0.24	0.15	0.03	0.00
Excavator	0.00	0.00	0.03	0.25	0.27	0.27	0.22	0.03	0.00	0.00	0.00	0.43	3.15	3.43	3.43	2.79	0.43	0.00
Excavator	0.00	0.00	0.01	0.12	0.12	0.11	0.07	0.00	0.00	0.00	0.00	0.16	2.13	2.13	1.97	1.23	0.08	0.00
Excavator	0.00	0.00	0.01	0.07	0.07	0.07	0.05	0.00	0.00	0.00	0.00	0.21	1.24	1.24	1.24	0.83	0.00	0.00
Grader	0.00	0.00	0.03	0.09	0.03	0.09	0.05	0.05	0.00	0.00	0.00	0.29	1.35	1.38	1.15	0.69	0.69	0.29
Tractor/Loader/Backhoe	0.00	0.00	0.01	0.05	0.06	0.06	0.03	0.01	0.00	0.00	0.00	0.10	0.41	0.46	0.46	0.25	0.09	0.00
Tractor/Loader/Backhoe	0.00	0.00	0.03	0.15	0.15	0.12	0.12	0.03	0.00	0.00	0.00	0.21	0.99	0.99	0.83	0.83	0.23	0.00
Skid Steer Loader	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.21	0.21	0.20	0.20	0.03	0.00
Tractor/Loader/Backhoe	0.00	0.00	0.01	0.11	0.12	0.12	0.12	0.01	0.00	0.00	0.00	0.04	0.75	0.83	0.79	0.79	0.04	0.00
Tractor/Loader/Backhoe	0.00	0.00	0.00	0.09	0.03	0.11	0.09	0.00	0.00	0.00	0.00	0.05	0.62	0.89	0.72	0.59	0.05	0.00
Off-Highway Tractor	0.00	0.00	0.01	0.08	0.09	0.09	0.09	0.01	0.00	0.00	0.00	0.15	1.08	1.18	1.18	1.11	0.07	0.00
Compaction	$\mathcal{F}(\mathbb{R})$	12	الم المراجع (مراجع) محمد المستعام	12. Y 12	1	See Cha		12:14:5	2.8	200	1.1.1	* :X.3.		2. 5 6	1.80	a lin		1.0
Plate Compactor	0.00	0.00	0.02	0.04	0.07	0.07	0.07	0.06	0.00	0.00	0.00	0.30	0.63	1.21	1.21	1.21	1.01	0.00
Plate Compactor	0.00	0.00	0.04	0.13	0.13	0.13	0.11	0.05	0.00	0.00	0.00	0.50	1.65	1.65	1.65	1.41	0.61	0.00
Cranes A CARCE ON A CONTRACT CONTRACT	0.00	0.00	0.05	0.20	0.20	0.20	0.20	0.00	0.00	0.00	0.00	0.01	3 65	3.65	3.65	3.65	0.00	0.00
Crane	0.00	0.00	0.05	0.20	0.20	0.20	0.20	0.00	0.00	0.00	0.00	0.66	3.95	3.95	3.95	3.95	1.65	0.00
Crane	0.00	0.00	0.00	0.40	0.57	0.49	0.16	0.00	0.00	0.00	0.00	0.00	7.08	10.23	8.85	2.95	0.00	0.00
Crane	0.00	0.00	0.02	0.17	0.22	0.22	0.22	0.15	0.00	0.00	0.00	0.33	2.96	3.95	3.95	3.95	2.64	0.00
Crane	0.00	0.00	0.00	0.39	0.55	0.55	0.55	0.33	0.00	0.00	0.00	0.00	6.92	9.88	9.88	9.88	5.93	0.00
Crane	0.00	0.00	0.03	0.16	0.39	0.39	0.39	0.26	0.00	0.00	0.00	0.58	2.91	6.98	6.98	6.98	4.65	0.00
Crane	0.00	0.00	0.07	0.39	0.39	0.39	0.39	0.16	0.00	0.00	0.00	2.24	12.30	13.42	13.42	13.42	10.06	0.00
Crane	0.00	0.00	0.02	0.18	0.22	0.22	0.22	0.21	0.02	0.00	0.00	0.32	2.38	2.85	2.85	2.85	2.70	0.32
Crane	0.00	0.00	0.06	0.15	0.17	0.17	0.17	0.16	0.04	0.00	0.00	0.73	2.00	2.18	. 2.18	2.18	2.09	0.45
Crane	0.00	0.00	0.07	0.26	0.62	0.94	0.96	0.42	0.04	0.00	0.00	0.90	3.37	8.08	12.11	12.45	5.50	0.56
Crane	0.00	0.00	0.08	0.22	0.24	0.24	0.24	0.22	0.00	0.00	0.00	1.04	2.87	3.13	3.13	3.13	2.8/	0.00
Crane	0.00	0.00	0.02	0.10	0.24	0.24	0.24	0.21	0.03	0.00	0.00	0.20	1.30	3.13	3.13	3.13	2.14	0.35
Forklift	0.00	0.00	0.01	0.18	0.26	0.26	0.26	0.25	0.10	0.00	0.00	0.18	2.37	3.27	3.27	3.27	3.18	1.27
Crane	0.00	0.00	0.02	0.15	0.20	0.20	0.20	0.10	0.06	0.00	0.00	0.22	1.95	2.59	2.59	2.59	1.30	0.76
Forklift	0.00	0.00	0.01	0.12	0.16	0.16	0.16	0.13	0.00	0.00	0.00	0.14	1.78	2.46	2.46	2.46	2.05	0.00
Forklift	0.00	0.00	0.13	0.51	0.51	0.51	0.51	0.24	0.01	0.00	0.00	1.63	6.51	6.51	6.51	6.51	3.08	0.09
H-Orklitt	0:00	0.00	0.12	0.59	0.00	0.00	0.00	0.20	0.04	0.00	0.00	1.30	7.30	0.40	0.40	0.40	3.35	0.55
Aprial Lift	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.35	0.44	0.44	0.13	0.00
Aerial Lift	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.02	0.00	0.00	0.00	0.00	0.02	0.55	0.72	0.72	0.43	0.00
Aerial Lift	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.10	0.38	0.38	0.38	0.36	0.08
Aerial Lift	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.15	0.15	0.15	0.15	0.04
Aerial Lift	0.00	0.00	0.00	0.00	0.01	0.06	0.09	0.04	0.00	0.00	0.00	0.00	0.00	0.33	0.33	0.33	0.94	0.10
Aerial Lift	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.04	0.29	0.35	0.35	0.35	0.35	0.00
Aerial Lift	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.03
Aerial Lift	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.15	0.15	0.15	0.15	0.07
Welding Equipment			1. 3 k 4 5			······	2. 1 1 1 1 1	35	<u> </u>			·						
Welder	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.07	0.27	0.27	0.27	0.27	0.20	0.00
Welder	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.05	0.50	0.50	0.50	0.50	0.38	0.00
Concrete / Aggregate	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.00		0.00		1.1.2.3.4	0.00	. 4		1.5.5.5	
Pump	0.00	0.00	0.00	0.02	0.04	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.33	0.85	0.66	0.24	0.00	0.00
Air Compressors			2	1.1.2.58		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			· · · ·				Na					2.1.14
Air Compressor	0.00	0.00	0.08	0.12	0.14	0.14	0.14	0.14	0.06	0.00	0.00	0.90	1.43	1.68	1.68	1.68	1.65	0.73
Air Compressor	0.00	0.00	0.01	0.07	0.10	0.10	0.10	0.10	0.04	0.00	0.00	0.17	0.90	1.29	1.29	1.29	1.22	0.51
Air Compressor	0.00	0.00	0.02	0.21	0.29	0.29	0.29	0.28	0.11	0.00	0.00	0.20	2.66	3.69	3.69	3.69	3.59	1.43
Air Compressor	0.00	0.00	0.02	0.12	0.16	0.16	0.16	0.16	0.07	0.00	0.00	0.20	2.08	2.77	2.77	2.77	2.77	1.16
Pipelaving / Trenching Equipment	5.00 10.8,5,5	0.00					1				2.30 (*							
Trencher	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.04	0.02	0.00	0.00	0.05	0.00
Class 25 Cable Laying/Pulling Equ.								·				As	đ	2	1		198	1
Other Construction Equipment	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.15	0.27	0.27	0.27	0.27	0.04
Other Construction Equipment	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.15	0.27	0.27	0.27	0.27	0.04
Other Construction Equipment	0.00	0.00	1 0.00	1 0.01	1 0.01	1 0.01	1 0.01	1 0.01	1 0.00	0.00	0.00	0.00	0.15	0.27	0.27	0.2/	0.2/	U.U4



Table B-1b Diesel Non-Road Engine Emissions included in safety-related construction

Winches and Tuggers																				·				
Other Construction Equipment	2270002081	Diesel	T4	140	0	0	0	0	2246	6739	6177	2246	0	0.371	0.13	2.5	0.59	1	0.027	0.008	1.027	1.008	0.134	2.520
Generation Equipment													·		2			· .	<u> </u>				-	
Generator	2270006005	Diesel	T3	150	655	2620	4367	15069	15724	15724	15724	14414	5241	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Generator	2270006005	Diesel	T3	86	0	0	436	4804	5241	5241	5241	5241	3057	0.408	0.18	3	0.43	1_	0.027	0.008	1.027	1.008	0.185	3.024
Generator	2270006005	Diesel	T4	345	0	0	0	4804	5241	5241	5241	5241	3057	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Generator	2270006005	Diesel	T4	200	0	0	0	6552	7862	7862	7862	7862	3712	0.367	0.13	2.5	0.43	1	0.027	0.008	1.027	1.008	0.134	2.520
Generator	2270006005	Diesel	Т3	143	0	0	2839	12876	13104	13104	13104	13104	6115	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Generator	2270006005	Diesel	T3	143	0	0	873	8299	10483	10483	10483	10483	4804	0.367	0.18	2.5	0.43	1	0.027	0.008	1.027	1.008	0.185	2.520
Generator	2270006005	Diesel	T4	14	0	0	8798	52603	81806	83088	23328	37440	20592	0.408	0.13	4.44	0.43	1	0.027	0.008	1.027	1.008	0.134	4.476
Small Capital Equipment				3 ž		· .							• • • •						. N			***	· · · · ·	
Plate Compactor	2270002009	Diesel	T4	8	0	0	10530	33696	33696	33693	33696	33696	11636	0.408	0.13	4.3	0.43	1	0.027	0.008	1.027	1.008	0.134	4.334
Plate Compactor	2270002009	Diesel	T4	15	0	0	2340	12636	16848	16848	16848	16848	7254	0.408	0.13	4.44	0.43	1	0.027	0.008	1.027	1.008	0.134	4.476
Plate Compactor	2270002009	Diesel	T4	19	0	0	2808	16380	22464	22464	22464	21762	12870	0.408	0.13	4.44	0.43	1	0.027	0.008	1.027	1.008	0.134	4.476
Generator	2270006005	Diesel	T4	11	0	0	5850	34866	49842	50544	50544	47502	19656	0.408	0.13	4.44	0.43	1	0.027	0.008	1.027	1.008	0.134	4.476
Pump	2270006010	Diesel	T4	7	0	0	468	5148	5616	5616	5616	5616	3276	0.408	0.5508	4.3	0.43	1	0.027	0.008	1.027	1.008	0.566	4.334
Pump	2270006010	Diesel	T4	15	0	0	468	5148	5616	5616	5616	5616	3276	0.408	0.438	4.4399	0.43	1	0.027	0.008	1.027	1.008	0.450	4.475
Concrete Saw	2270002039	Diesel	T4	65	0	0	702	7020	8424	8424	8424	8424	3978	0.412	0.13	3	0.59	1	0.027	0.008	1.027	1.008	0.134	3.024
Tamper/Rammer	2270002006	Diesel	T4	3	0	0	2808	14508	22464	22464	22464	19332	9360	0.408	0.13	4.3	0.43	1	0.027	0.008	1.027	1.008	0.134	4.334
Tamper/Rammer	2270002006	Diesel	T4	3	0	0	2808	14508	22464	22464	22464	19332	9360	0.408	0.13	4.3	0.43	1	0.027	0.008	1.027	1.008	0.134	4.334
Pump	2270006010	Diesel	T4	24	0	0	4914	16614	30654	39688	30888	30450	12402	0.408	0.438	4.4399	0.43	1	0.027	0.008	1.027	1.008	0.450	4.475
•																								
TOTAL (Tons)	-																			·	-			

NOTES:

Note 1: SCC code based on Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", April 2004, EPA-420-P-04-005.

Note 2: Brake-specific fuel consumption, zero hour steady state emission factor (EFss; g/hp-hr), and load factor are from NMIM/NONROAD08 model factors dated April 5, 2009.

EFss from NMIM/NONROAD08 have transient adjustment factors built in.

Note 3: Age factor and Deterioration factors calculated using Equation 4 from "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition", April 2004, EPA-420-P-04-009. Age Factor = LF * cumulative hours / median life (where Age factor is capped at 1. For this calculation, age factor is assumed to be 1 for simplification purposes).

Deterioration Factor = 1 + (A * Age Factor^b), where b = 1 for desel engines and A is taken from Table A4 from source

Note 4: Adjusted Emission Factors for HC and NOx are calculated using Equation 1 from, "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition", April 2004, EPA-420-P-04-009. Adjusted EF = Efss * TAF * DF (as stated in Note 2, EFss have TAFs built in)

Note 5: Annual VOC Emissions are calculated using the following calculation (1.053 * Adj. HC emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb) 1.053 is the ratio of VOC to HC from *Conversion Factors for Hydrocarbon Components*, December 2005, EPA-420-P-05-015.

Note 6: Annual NOx Emissions are calculated using the following calculation (Adj. NOx emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)

Table B-1b Diesel Non-Road Engine Emissions inc

har a factor of Terrara		<u> </u>									-	1 1						
winches and luggers					<u> </u>										4.55			
Other Construction Equipment	0.00	0.00	0.00	0.00	0.03	0.09	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.52	1.55	1.42	0.52	0.00
Generation Equipment						-											·	
Generator	0.01	0.04	0.06	0.21	0.22	0.22	0.22	0.20	0.07	0.12	0.47	0.78	2.70	2.82	2.82	2.82	2.58	0.94
Generator	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.02	0.00	0.00	0.05	0.59	0.65	0.65	0.65	0.65	0.38
Generator	0.00	0.00	0.00	0.11	0.12	0.12	0.12	0.12	0.07	0.00	0.00	0.00	1.98	2.16	2.16	2.16	2.16	1.26
Generator	0.00	0.00	0.00	0.09	0.10	0.10	0.10	0.10	0.05	0.00	0.00	0.00	1.57	1.88	1.88	1.88	1.88	0.89
Generator	0.00	0.00	0.04	0.17	0.17	0.17	0.17	0.17	0.08	0.00	0.00	0.48	2.20	2.24	2.24	2.24	2.24	1.04
Generator	0.00	0.00	0.01	0.11	0.14	0.14	0.14	0.14	0.06	0.00	0.00	0.15	1.42	1.79	1.79	1.79	1.79	0.82
Generator	0.00	0.00	0.01	0.05	0.08	0.08	0.02	0.03	0.02	0.00	0.00	0.26	1.56	2.43	2.47	0.69	1.11	0.61
Small Capital Equipment			<u> </u>		· · · · · ·					`								
Plate Compactor	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.17	0.55	0.55	0.55	0.55	0.55	0.19
Plate Compactor	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.07	0.40	0.54	0.54	0.54	0.54	0.23
Plate Compactor	0.00	0.00	0.00	0.02	0.03	0.03	0.03	0.03	0.02	0.00	0.00	0.11	0.66	0.91	0.91	0.91	0.88	0.52
Generator	0.00	0.00	0.00	0.03	0.04	0.04	0.04	0.03	0.01	0.00	0.00	0.14	0.81	1.16	1.18	1.18	1.11	0.46
Pump	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.07	0.08	0.08	0.08	0.08	0.05
Pump	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.01	0.16	0.18	0.18	0.18	0.18	0.10
Concrete Saw	0.00	0.00	0.00	0.04	0.05	0.05	0.05	0.05	0.02	0.00	0.00	0.09	0.90	1.08	1.08	1.08	1.08	0.51
Tamper/Rammer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.14	0.14	0.14	0.12	0.06
Tamper/Rammer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.14	0.14	0.14	0.12	0.06
Pump	0.00	0.00	0.03	0.09	0.17	0.21	0.17	0.16	0.07	0.00	0.00	0.25	0.85	1.56	2.02	1.57	1.55	0.63
TOTAL (Tons)	0.01	0.04	1.54	8.84	11.10	11.40	10.56	6.64	1.33	0.12	0.47	22.28	132.17	167.08	171.34	157.73	100.12	19.34

NOTES:

Note 1: SCC code based on Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", April 2004, EPA-420-P-04-005.

Note 2: Brake-specific fuel consumption, zero hour steady state emission factor (EFss; g/np-hr), and load factor are from NMIM/NONROAD08 model factors dated April 5, 2009. EFss from NMIM/NONROAD08 have transient adjustment factors built in.

Note 3: Age factor and Deterioration factors calculated using Equation 4 from "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition", April 2004, EPA-420-P-04-009. Age Factor = LF * cumulative hours / median life (where Age factor is capped at 1. For this calculation, age factor is assumed to be 1 for simplification purposes).

Deterioration Factor = 1 + (A * Age Factor^b), where b = 1 for desel engines and A is taken from Table A4 from source

Note 4: Adjusted Emission Factors for HC and NOx are calculated using Equation 1 from, *Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition*, April 2004, EPA-420-P-04-009. Adjusted EF = Efss * TAF * DF (as stated in Note 2, EFss have TAFs built in)

Note 5: Annual VOC Emissions are calculated using the following calculation (1.053 * Adj. HC emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb) 1.053 is the ratio of VOC to HC from *Conversion Factors for Hydrocarbon Components*, December 2005, EPA-420-P-05-015.

Note 6: Annual NOx Emissions are calculated using the following calculation (Adj. NOx emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)



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Table B-2a Gasoline Non-Road Engine Emissions

Equipment category	coc 1	Fuel	Engine Technology	Equipment										BSFC ²	EFss.(g	/hp=hr) ²⁾	Load	,Age	"A	18	Deterio fact	oration or ^{3*}	Adjust (g/hp	ed EF
NONROAD classification	SUC	Туре	Туре	Horsepower	2010 hrs	2011 hrs	2012 hrs	-2013 hrs	2014 .hrs	2015 hrs	2016 hrs	2017 hrs	2018 hrs	lb/hp=hr	HC	Nox	Factor 2	Factor ³	HC	Nox	HG	Nox	HC	ŇOX
Forklift	2265003020	Gasoline	G4G⊺252	52	0	0	3369	17596	22464	22464	22464	22089	9/34	0.484	0.27	0.69	0.3	1	0.64	0.15	1.640	1.150	0.443	0.79
) A1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	0005000010	0	0407050	75			0	1407		4400	4400	4402	2005	0.494	0.07	0.60	0.46		0.64	0.15	1 640	1 150	0.442	0.70
Aerial Lift	2265003010	Gasoline	G4G1252	/5		0	0	1497	4492	4492	4492	4492	2995	0.484	0.27	0.69	0.40		0.04	0.15	1.040	1.130	0.443	<u> 0.79</u>
Plate Compactor	2260002000	Gasolino	G4NI2O2	7	0	0	4212	21762	30654	29688	30888	39520	12402	0.74	4 16	2 77	0.55	1	1 095	0	2 095	1 000	9	2 770
Chipper/Stump Grinder	2265004066	Gasoline	1 4N1	11	0	0	468	2106	2106	2106	2106	1754	0	0.693	3.91	5.25	0.78	1	1.095	0	2.095	1.000	8	5.250
Lawn Mower	2265004011	Gasoline	G4N1O2	3	0	0	936	5616	5616	5616	5616	5616	3276	0.781	6.51	2.446	0.78	1	1.753	0	2.753	1.000	18	2.446
Cement & Mortar Mixer	2260002042	Gasoline	G4N2O2	13	0	0	936	7020	8424	8424	8424	8424	3978	0.74	4.16	2.77	0.33	1	1.095	0	2.095	1.000	9	2.770
Pump	2265006010	Gasoline	G4GT25	6	0	0	2808	16380	22464	22464	22464	19332	9360	0.605	3.85	8.43	0.69	1	1.095	0	2.095	1.000	8	8.430
Snowblower	2265004036	Gasoline	G4N2O	11	0	0	468	5148	5616	5616	5616	5616	3276	0.94	5.2	3.5	0.35	1	1.095	0	2.095	1.000	11	3.500
Cement & Mortar Mixer	2260002042	Gasoline	G4N2O2	6	0	0	6318	16146	16848	16848	11700	9360	0	0.74	4.16	2.77	0.33	1	1.095	0	2.095	1.000	9	2.770
Cement & Mortar Mixer	2260002042	Gasoline	G4N2O2	8	0	0	6318	16146	16848	16848	11700	9360	0	0.74	4.16	2.77	0.33	1	1.095	0	2.095	1.000	9	2.770
Concrete Equipment	2260002039	Gasoline	G4N1O2	3	0	0	5850	23868	33462	33696	33696	2/3/8	0	0.921	6.13	2.446	0.63	1	1.753	0	2.753	1.000	17	2.446
	· · · · · · · · · · · · · · · · · · ·		0.01/17.0									·,			17.00								<u></u>	
Chain Saw	2260004021	Gasoline	G2H52	3	11/00	35100	0	0	0	0	0	0	0	0.608	47.98	0.91	0.59	1	0.266	0	1.266	1.000	61	0.910
Roller	2265002015	Gasoline	G4N102	6	2340	9360	3900	0	0	0	0	0	0	0.781	6.51	2.446	0.62	1	1.095	0	2.095	1.000	14	2.446
Pump	2265006010	Gasoline	G4GT25	4	3120	12480	0	0		0	0	0		0.605	3.85	8.43	0.69	1	1.753	0	2.753	1.000	11	8.430
																L				<u> </u>				
TOTAL (Tons)																								

NOTES:

Note 1: SCC code based on Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", April 2004, EPA-420-P-04-005.

Note 2: Brake-specific fuel consumption, zero hour steady state emission factor (EFss; g/hp-hr), and load factor are from NMIM/NONROAD08 model factors dated April 5, 2009. Except forklift, aerial lift and cement/concrete equipment. EFss from NMIM/NONROAD08 have transient adjustment factors built in.

Forklift, aerial lift, and concrete/cement equipment values are from Tables 1-7 of "Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition", December2005, EPA420-R-05R-019

Note 3: Age factor and Deterioration factors calculated using Equation 4 from "Nonroad Spark-Ignition Engine Emission Deterioration Factors", December 2005, EPA-420-R-05-023.

Age Factor = LF * cumulative hours / median life {where Age factor is capped at 1. For this calculation, age factor is assumed to be 1 for simplification purposes}.

Deterioration Factor = 1 + (A * Age Factor'b), where b = 1 for 2-stroke engines =0.5 for 4-stroke engines and A is taken from Tables 1-7 from source

Note 4: Adjusted Emission Factors for HC and NOx are calculated using Equation 1 from, "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition", April 2004, EPA-420-P-04-009. Adjusted EF = Efss * TAF * DF (as stated in Note 2, EFss have TAFs built in)

(VOC/HC * Adj. HC emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb) Note 5: Annual VOC Emissions are calculated using the following calculation

VOC/HR is the ratio of VOC to HC from "Conversion Factors for Hydrocarbon Components", December 2005, EPA-420-P-05-015. 0.933 for 4-stoke engines and 1.034 for 2-stroke engines (Adj. NOx emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)

Note 6: Annual NOx Emissions are calculated using the following calculation

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Table B-2a Gasoline NorRoad Engine Emissions

	VOC 5	VOC	VOC	VOC	VOC	VOC	VOC	VOC	VOC	ŃOx ⁶	NOx	NOx	NOx	NOx	NOx	NOx	NOx	NOx	
Equipment category	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	
NONROAD classification	2010	20111	2012	2013 .	2014	2015	2016	2017	2018	2010	-2011	2012	2013	2014	2015	2016	2017	2018	
			· •					-											
Forklift	0.00	0.00	0.02	0.13	0.16	0.16	0.16	0.16	0.07	0.00	0.00	0.05	0.24	0.31	0.31	0.31	0.30	0.13	
Aerial Lift	0.00	0.00	0.00	0.02	0.07	0.07	0.07	0.07	0.05	0.00	0.00	0.00	0.05	0.14	0.14	0.14	0.14	0.09	
Plate Compactor	0.00	0.00	0.15	0.75	1.06	1.02	1.07	1.36	0.43	0.00	0.00	0.05	0.26	0.36	0.35	0.36	0.46	0.15	. í
Chipper/Stump Grinder	0.00	0.00	0.03	0.15	0.15	0.15	0.15	0.13	0.00	0.00	0.00	0.02	0.10	0.10	0.10	0.10	0.09	0.00	
Lawn Mower	0.00	0.00	0.04	0.24	0.24	0.24	0.24	0.24	0.14	0.00	0.00	0.01	0.04	0.04	0.04	0.04	0.04	0.02	
Cement & Mortar Mixer	0.00	0.00	0.04	0.27	0.32	0.32	0.32	0.32	0.15	0.00	0.00	0.01	0.09	0.11	0.11	0.11	0.11	0.05	
Pump	0.00	0.00	0.10	0.56	0.77	0.77	0.77	0.66	0.32	0.00	0.00	0.11	0.63	0.86	0.86	0.86	0.74	0.36	
Snowblower	0.00	0.00	0.02	0.22	0.24	0.24	0.24	0.24	0.14	0.00	0.00	0.01	0.08	0.08	0.08	0.08	0.08	0.05	
Cement & Mortar Mixer	0.00	0.00	0.11	0.29	0.30	0.30	0.21	0.17	0.00	0.00	0.00	0.04	0.10	0.10	0.10	0.07	0.06	0.00	
Cement & Mortar Mixer	0.00	0.00	0.15	0.38	0.40	0.40	0.28	0.22	0.00	0.00	0.00	0.05	0.13	0.14	0.14	0.09	0.08	0.00	
Concrete Equipment	0.00	0.00	0.19	0.78	1.10	1.11	1.11	0.90	0.00	0.00	0.00	0.03	0.12	0.17	0.17	0.17	0.14	0.00	
				· ,		s													
Chain Saw	1.43	4.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Roller	0.12	0.49	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.04	0.00	0.00	0.00	0.00	0.00	0.00	
Pump	0.09	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL (Tons)	1.65	5.17	1.05	3.80	4.82	4.79	4.62	4.48	1.30	0.12	0.48	0.41	1.83	2.41	2.40	2.34	2.23	0.85	Total construction
	0	0	0.02	0.15	0.23	0.23	0.23	0.23	0.12	0.00	0	0.05	0.29	0.44	0.44	0.44	0.44	0.22	10 CFR 50 construc

NOTES:

Note 1: SCC code based on Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", April 2004, EPA-420-P-04-005.

Note 2: Brake-specific fuel consumption, zero hour steady state emission factor (EFss; g/hp-hr), and load factor are from NMIM/NONROAD08 model factors dated April 5, 2009. Except forklift, aerial lift and cement/concrete equipment. EFss from NMIM/NONROAD08 have transient adjustment factors built in.

Forklift, aerial lift, and concrete/cement equipment values are from Tables 1-7 of "Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition", December2005, EPA420-R-05R-019

Note 3: Age factor and Deterioration factors calculated using Equation 4 from "Nonroad Spark-Ignition Engine Emission Deterioration Factors", December 2005, EPA-420-R-05-023.

Age Factor = LF * cumulative hours / median life {where Age factor is capped at 1. For this calculation, age factor is assumed to be 1 for simplification purposes}.

Deterioration Factor = 1 + (A * Age Factor'b), where b = 1 for 2-stroke engines =0.5 for 4-stroke engines and A is taken from Tables 1-7 from source

Note 4: Adjusted Emission Factors for HC and NOx are calculated using Equation 1 from, "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition", April 2004, EPA-420-P-04-009. Adjusted EF = Efss * TAF * DF (as stated in Note 2, EFss have TAFs built in)

Note 5: Annual VOC Emissions are calculated using the follow (VOC/HC * Adj. HC emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)

VOC/HR is the ratio of VOC to HC from "Conversion Factors for Hydrocarbon Components", December 2005, EPA-420-P-05-015. 0.933 for 4-stoke engines and 1.034 for 2-stroke engines

Note 6: Annual NOx Emissions are calculated using the followi (Adj. NOx emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)

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Table B-2b Gasoline Non-Road Engine Emissions included in safety-related construction

Equipment category	1	Fuel	Engine Technology	Equipment										BSFC ²	EFss (g	/hp:hr) ²	-Load	Age		₩3 5 - +22	Deterio fact	oration lor: ³	/Adjust (g/hp	ed)EF hr) ⁴
Dasedion NONROAD classification	SCC	Туре	Туре	Horsepower	2010 hrs	2011. hrs	2012 hrs	2013 hrs	-2014* hrs	2015, hrs	2016 hrs	2017 hrs	2018 hrs	lb/hp-hr-	НС	NOx	Factor 2	Factor ³	HC	NOx	HC	NOx	HC	NOx
																			4	. •				
Forklift	2265003020	Gasoline	G4GT252 ·	52	0	0	3369	17596	22464	22464	22464	22089	9734	0.484	0.27	0.69	0.3	1	0.64	0.15	1.640	1.150	0.443	0.79
																		. 1						
Aerial Lift	2265003010	Gasoline	G4GT252	75	0	0	0	1497	4492	4492	4492	4492	2995	0.484	0.27	0.69	0.46	1	0.64	0.15	1.640	1.150	0.443	0.79
								-									1.1.1							,
Plate Compactor	2260002009	Gasoline	G4N2O2	. 7	0	0	4212	21762	30654	29688	30888	39520	12402	0.74	4.16	2.77	0.55	1	1.095	0	2.095	1.000	9	2.770
Cement & Mortar Mixer	2260002042	Gasoline	G4N2O2	11	0	0	468	2106	2106	2106	2106	1754	0	0.74	4.16	2.77	0.33	1	1.095	0	2.095	1.000	9	2.770
Cement & Mortar Mixer	2260002042	Gasoline	G4N2O2	13	0	0	936	7020	8424	8424	8424	8424	3978	0.74	4.16	2.77	0.33	1	1.095	0	2.095	1.000	9	2.770
Pump	2265006010	Gasoline	G4GT25	6	0	0	2808	16380	22464	22464	22464	19332	9360	0.605	3.85	8.43	0.69	1	1.095	0	2.095	1.000	8	8.430
Cement & Mortar Mixer	2260002042	Gasoline	G4N2O2	6	0	0	6318	16146	16848	16848	11700	9360	0	0.74	4.16	2.77	0.33	1	1.095	0	2.095	1.000	9	2.770
Cement & Mortar Mixer	2260002042	Gasoline	G4N2O2	8	0	0	6318	16146	16848	16848	11700	9360	0	0.74	4.16	2.77	0.33	1	1.095	0	2.095	1.000	9	2.770
Concrete Equipment	2260002039	Gasoline	G4N1O2	3	0	0	5850	23868	33462	33696	33696	27378	0	0.921	6.13	2.446	0.63	1	1.753	0	2.753	1.000	17	2.446
TOTAL (Tons)																								

NOTES:

Note 1: SCC code based on Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", April 2004, EPA-420-P-04-005.

Note 2: Brake-specific fuel consumption, zero hour steady state emission factor (EFss; g/hp-hr), and load factor are from NMIM/NONROAD08 model factors dated April 5, 2009. Except forklift, aerial lift and cement/concrete equipment. EFss from NMIM/NONROAD08 have transient adjustment factors built in.

Forklift, aerial lift, and concrete/cement equipment values are from Tables 1-7 of "Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition", December2005, EPA420-R-05R-019

Note 3: Age factor and Deterioration factors calculated using Equation 4 from "Nonroad Spark-Ignition Engine Emission Deterioration Factors", December 2005, EPA-420-R-05-023.

Age Factor = LF * cumulative hours / median life {where Age factor is capped at 1. For this calculation, age factor is assumed to be 1 for simplification purposes}.

Deterioration Factor = 1 + (A * Age Factor^b), where b = 1 for 2-stroke engines = 0.5 for 4-stroke engines and A is taken from Tables 1-7 from source

Note 4: Adjusted Emission Factors for HC and NOx are calculated using Equation 1 from, "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition", April 2004, EPA-420-P-04-009. Adjusted EF = Efss * TAF * DF (as stated in Note 2, EFss have TAFs built in)

Note 5: Annual VOC Emissions are calculated using the following calculation (VOC/HC * Adj. HC emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)

VOC/HR is the ratio of VOC to HC from "Conversion Factors for Hydrocarbon Components", December 2005, EPA-420-P-05-015. 0.933 for 4-stoke engines and 1.034 for 2-stroke engines

Note 6: Annual NOx Emissions are calculated using the following calculation

(Adj. NOx emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)

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Table B-2b Gasoline NorRoad Engine Emissions

TOTAL (Tons)	0.00	0.00	0.77	3.25	4.25	4.22	4.05	3.92	1.02	0.00	0.00	0.34	1.64	2.21	2.20	2.14	2.05	0.78	Total construction
															-				
	0.00																		
Concrete Equipment	0.00	0.00	0.19	0.78	1.10	1.11	1.11	0.90	0.00	0.00	0.00	0.03	0.12	0.17	0.17	0.17	0.14	0.00	
Cement & Mortar Mixer	0.00	0.00	0.15	0.38	0.40	0.40	0.28	0.22	0.00	0.00	0.00	0.05	0.13	0.14	0.14	0.09	0.08	0.00	· .
Cement & Mortar Mixer	0.00	0.00	0.11	0.29	0.30	0.30	0.21	0.17	0.00	0.00	0.00	0.04	0.10	0.10	0.10	0.07	0.06	0.00	
Pump	0.00	0.00	0.10	0.56	0.77	0.77	0.77	0.66	0.32	0.00	0.00	0.11	0.63	0.86	0.86	0.86	0.74	0.36	
Cement & Mortar Mixer	0.00	0.00	0.04	0.27	0.32	0.32	0.32	0.32	0.15	0.00	0.00	0.01	0.09	0.11	0.11	0.11	0.11	0.05	
Cement & Mortar Mixer	0.00	0.00	0.02	0.07	0.07	0.07	0.07	0.06	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.00	
Plate Compactor	0.00	0.00	0.15	0.75	1.06	1.02	1.07	1.36	0.43	0.00	0.00	0.05	0.26	0.36	0.35	0.36	0.46	0.15	
									6										
Aerial Lift	0.00	0.00	0.00	0.02	0.07	0.07	0.07	0.07	0.05	0.00	0.00	0.00	0.05	0.14	0.14	0.14	0.14	0.09	
5 m						<u>.</u>													
Forklift	0.00	0.00	0.02	0.13	0.16	0.16	0.16	0.16	0.07	0.00	0.00	0.05	0.24	0.31	0.31	0.31	0.30	0.13	
- 						· · · · · · · · · · · · · · · · · · ·				<u></u>									
	2010.	2011	2012	2013	2014	-2015	2010	2017	2010	2010	2011	2012	20132	2014 4	2013	2010	2011/	2010.	
NONBOAD classification	2010	2011	2012	20112	2014	2015	2016	2017	2018	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Equipment category	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons	-tons	tons	tons	tons	tons	tons	
	VOC				VOC	VOC	VOC .	VOC	VOC	NOx	NOx	. NOX	NOX	NOX .	NOX	NOx	NOx		

NOTES:

Note 1: SCC code based on Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", April 2004, EPA-420-P-04-005.

Note 2: Brake-specific fuel consumption, zero hour steady state emission factor (EFss; g/hp-hr), and load factor are from NMIM/NONROAD08 model factors dated April 5, 2009. Except forklift, aerial lift and cement/concrete equipment. EFss from NMIM/NONROAD08 have transient adjustment factors built in.

Forklift, aerial lift, and concrete/cement equipment values are from Tables 1-7 of "Exhaust Emission Factors for Nonroad Engine Modeling: Spark-Ignition", December2005, EPA420-R-05R-019

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Deterioration Factor = 1 + (A * Age Factor^b), where b = 1 for 2-stroke engines =0.5 for 4-stroke engines and A is taken from Tables 1-7 from source

Note 4: Adjusted Emission Factors for HC and NOx are calculated using Equation 1 from, "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling - Compression-Ignition", April 2004, EPA-420-P-04-009. Adjusted EF = Efss * TAF * DF (as stated in Note 2, EFss have TAFs built in)

Note 5: Annual VOC Emissions are calculated using the follow (VOC/HC * Adj. HC emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)

VOC/HR is the ratio of VOC to HC from "Conversion Factors for Hydrocarbon Components", December 2005, EPA-420-P-05-015. 0.933 for 4-stoke engines and 1.034 for 2-stroke engines

Note 6: Annual NOx Emissions are calculated using the followi (Adj. NOx emission factor (g/hp-hr) * horsepower * hours operated * load factor) / (2000 lb/ton * 453.6 g/lb)

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Table B-3a On-Road Vehicle Emissions 2010

A CONTRACT AND A CONTRACT	Fuel		S. 4. 1.34	2010 Total	Avg.	Vehicular,		lle 6.2* , -	2010 Er	nissions
Vehicle Classification	Tuer	Vehicle	SCC 🗇	operated *	A CONTRACTOR	Miles Trav	EFs (a/mi) 🥍 🖉	(to	ns) ²
	Iype	Class '	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	🗶 hrs	ow mph 🕵	VMT	>voc	NOx	- voc	NOx
Automotive		17 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	S. T. V. 2014 J. 13	1. S.	1994 - Sec.	1 . S. & O. C. &	States of the second		12 - A 16 8	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -
Light-Duty Gasoline Vehicle	Gasoline	LDGV	2201011	0	30.0	0	0.737	0.568	0.00	0.00
Light Duty	a to the second state of the	1	1.18 3.18 1.19	.	100	1. A. C.	1	2.4.284	1. S.	×#.
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	1404	20.0	28.080	0.785	0.731	0.02	0.02
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	0	20.0	0	0 785	0.731	0.00	0.00
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	0	20.0	0	1.421	1.375	0.00	0.00
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	0	20.0	Ő	1 421	1 375	0.00	· 0.00
Light-Duty Gasoline Truck 3	Gasoline	LDGT3	2201040	0	20.0	0	1 363	1 07	0.00	0.00
Light-Duty Gasoline Truck 4	Gasoline		2201040	0	20.0	0	1 421	1 375	0.00	0.00
Trucke Heavy Duty		PRIMUGUABLE	2 7	Contraction Contraction	1.5	515 - 0 C &	Takt & Alexan	7.00°C	2010130	2000
Heavy, Duty Diesel Vehicle 84	Diecel		2230074	0	15.0	0	0 411	7 776	0.00	0.00
Heavy-Duty Diesel Vehicle 2B	Diesel	HDDV2b	2230074	0	15.0	0	0.168	2 664	0.00	0.00
Heavy-Duty Deisel Vehicle 20	Diesel	HDDVE	2230073	0	15.0	0	0.100	5 169	0.00	0.00
Heavy-Duty Deisel Vehicle 2B	Diesel	100112	2230060	0	15.0	0	0.024	2 664	0.00	0.00
Heavy-Duty Deisel Vehicle 2B	Diesel	100112	2230060	0	15.0	0	0.168	2.004	0.00	0.00
Heavy-Duty Desel Vehicle 2B	Diesel	HDDV8b	2230074	<u> </u>	15.0	0	0.100	0.388	0.00	0.00
Heavy-Duty Diesel Vehicle 0D	Diesel		2230074	0	15.0	0	0.492	0.399	0.00	0.00
Heavy-Duty Diesel Vehicle 00	Diesel		2230060	0	15.0	0	0.495	2.500	0.00	0.00
Heavy-Duty Deisel Vehicle 2B	Diesel		2230060	0	15.0	0	0.100	0.004	0.00	0.00
Heavy-Duty Diesel Vehicle 86	Diesel		2230074	0	15.0	0	0.493	5.300	0.00	0.00
	Diesei		2230073	382	15.0	U 3. 4. 1. 1. 1. 1.	0.402	0.444	0.00	0.00
Hoovy, Duty Diosol Vahiela 5	Diecol		2230072	0	20	0	0.252	1 0/3	0.00	0.00
Personnal Carrier	Diesei		ZZOUUTZ	1992 1	2.0	5	0.2.02	4.045	0.00	0.00
Light Duty Diagol Truck 1 and 2	Diegol		2020060	026	20.0	19 700	0 507	0 705	0.05	0.00
Dissel Commercial Rus	Diesel		2230000	930	20.0	10,720	2.367	2.723	0.05	0.00
Light Duty Dissel Truck 1 and 2	Diesel		2230075	0	35.0	0	0.29	0.705	0.00	0.00
Eight-Duty Dieser Huck Tano 2	Diesei		2230000	U 1965	20.0	U	2.067	2.123	0.00	0.00
Light Duty Discal Truck 1 and 2	Diesel		2220060	<u>.</u>	20.0	« ··· · · · · · · · · · · · · · · · · ·	0.507	0 705	0.00	0.00
Light-Duty Dieser Huck Tand 2	Diesel		2230060	0	30.0	0	2.567	2.725	0.00	0.00
Heavy-Duty Diesel Venicle 3	Diesei	HUUV3	2230072	U	20.0	U	0.18	2.831	0.00	0.00
Concrete / Aggregate As A State And	Sector Sector		0000074	AN 112 A 122 A	15.0	9	0.400	0.000		0.00
Heavy-Duty Diesel Venicle 8B	Dieset	HDDV8D	2230074	0	15.0	0	0.493	9.388	0.00	0.00
Heavy-Duty Diesel Venicle 8B	Diesel	HDDV8D	2230074	0	15.0	0	0.493	9.388	0.00	0.00
Heavy-Duty Delsel Venicle 6	Dieseł		2230073	. U	15.0	0	0.324	5.169	0.00	0.00
	n de la companya de la compa		0000074		State and	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	<u> </u>	4	1. A (B	1
Heavy-Duty Diesel venicle 88	Diesei	HUUV8D	2230074	0	10.0	U	0.493	9.388	0.00	0.00
Site Preparation	1998-1997-1992 1999-1997 - 1992 1999 - 1997 - 1997		0000070	0040	05.0	50 500			1.752 Arres 1.8	2 S 12 P
Heavy-Duty Diesel Venicle 3	Diesei	HDDV3	2230072	2340	25.0	58,500	0.18	2.831	0.01	0.18
Heavy-Duty Diesel Venicle 8A	Diesei	HDDV8a	2230074	2340	20.0	46,800	0.411	1.//6	0.02	0.40
Heavy-Duty Diesel Venicle 3	Diesei		2230072	1560	25.0	39,000	0.18	2.831	0.01	0.12
Light-Duty Diesel Truck 1 and 2	Diesei	LUDI12	2230060	11700	30.0	351,000	2.587	2.725	1.00	1.05
	Fuel		Sec. Sec.	Number of	Round-	Vehicular •	•Mob	lle 6.25	2010 Er	nissions
Description	Type	Vehicle .	SCC	Vehicles ³	Distance	Miles Trav	🕈 EFs (g/mi) ¹ 🖄 🐩	***** (to	ns)² ీీ
	1,440	Class Class	1.41 4 1.	Care to the state	miles	VMT 🔬	· voc	NOX	VOC	NOx
Employee Commute/ Delivery		1. A	1.200		in the said	A	74. X 2	15 40	1.x. no 4 - 1	1. 6 6 6 1.
Light-Duty Gasoline Vehicle in DC NA Area	Gasoline	LDGV	2201011	275	40.0	3432000	0.737	0.568	2.79	2.15
Heavy-Duty Diesel Vehicle 8B in DC NA Area	Diesel	HDDV8b	2230074	0	100.0	0	0.493	9.388	0.00	0.00
· · · · · · · · · · · · · · · · · · ·						1				
				DC	NA Area on	road vehicle to	otal (direct	& indirect)	3.91	3.99
Employee Commute/ Delivery	a	Carlos Carlos	Sec. Sec. 3	and a second	C (25.3)	A. South State	() D. () So : 56		S. Star Sec.	19. 18 18. 18
within the second se	an shi an an an an 1999.	te encoder das Educations Keine	(c) 1. K. 3(3/397) A. 1.	and a second state of the second	CONTRACTOR AND THE	14 10 ST 14 16 1 16 16 16 16 16 16 16 16 16 16 16 1	activity of the sole	Conceller and souther	1. S. S. S. S. S. P. (7	10. CA: 175 Ben.W.

Employee Commuter Delivery		ಲ್ಲಿ ಸಂಕರ್ಷಗಳ ಮಾಡಿದ್ದ ಮಾಡಿದಿಗಳು		(BPA) ACT RECORD and	(1) 化肥皂的 建金子子	2. 10	4500 Star 2010	ter as in	Note: 37, 131, 5, 9, 17	R. CA. ISBAN
Light-Duty Gasoline Vehicle in Balt. NA Area	Gasoline	LDGV	2201011	69	20.0	430560	0.737	0.568	0.35	0.27
Heavy-Duty Diesel Vehicle 8B in Balt. NA Area	Diesel	HDDV8b	2230074	0	50.0	0	0.493	9.388	0.00	0.00
					Balt	limore NA Area	a onroad ve	ehicle total	0.35	0.27

Notes

Note 1: U.S. Environmental Protection Agency "Mobile Source Emission Factor Model". Values generated by simulating the model at the project conditions Note 2: Annual Emissions are calculated using the following calculation (VMT (miles) * Emission factor (g/mi)) / (2000 lb/ton * 453.6 g/lb) Note 3: Number of vehicles is daily vehicles for employee commuting and annual number of trips for commerical deliveries

Summary of 2010 Onroad Emissions	No. 4	
	2010 Emis	ssions (tons)
1. The second stand the month of the second s	G'∽VOC' ്∽	NOx 🙀
Total Onroad DC NA Area Emissions(Report in Table 3-1)	3.91	3.99
Baltimore Onroad NA Area Emissions (Reported in Table 3-2)	0.35	0.27
Onroad DC NA Area Construction Emissions (Reported in Table 3-3)	0.00	0.00

Table B-3b On-Road Vehicle Emissions 2011

Vehcle Classification	Fuel	Véhicle	SCC	+ 2011 Total	Avg. Speed	Vehicular Miles Trav	Mob FEs (ile_6.2 a/mi) ¹	2011 En	nissions (ns)
	Туре	Class	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	hrs 15	mph	VMT 🛹	VOC	NOx	VOC	NOx
Automotive	24. N. N. N. N.	5 19 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			N. 886.818	Sec. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8.	8.	NY 667 (888. S	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	2018 N.S.
Light-Duty Gasoline Vehicle	Gasoline	LDGV	2201011	0	30.0	0	0.743	0.571	0.00	0.00
Light Duty	to the second second		والمرجود ويرتجن	Bar Store at	Sec. Brook	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	51. N. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	Service States	A Charles	S
Light Duty Gosolino Truck 2	Gasoline	1 DGT2	2201020	5616	20.0	112 320	0.827	0 715	0.10	0.00
Light-Duty Gasoline Truck 2	Gasoline	LDG12	2201020	0	20.0	112,320	0.027	0.715	0.10	0.03
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	0	20.0	0	1 499	1 1 1 9 2	0.00	0.00
Light Duty Gaseline Truck 4	Gasoline		2201040	<u> </u>	20.0	<u> </u>	1.400	1.102	0.00	0.00
Light-Duty Gasoline Truck 4	Gasoline		2201040		20.0		1.400	1 1 1 1 2	0.00	0.00
Light-Duty Gasoline Truck 5	Gasoline	LDG13	2201040	- v	20.0	0	1.400	1.102	0.00	0.00
	Gasonne	LDG14	2201040	NAL AND AND A	20.0	U	1.400	1.102	0.00	0.00
I FUCKS - Heavy Duty	Disasi Disasi		0000074		150	Brázil Addinesztin	0.00	0.500	0.00	0.00
Heavy-Duty Diesel Venicle 8A	Diesel	HUDV8a	2230074	0	15.0	0	0.39	6.593	0.00	0.00
Heavy-Duty Delsel Venicle 2B	Diesei	HUDV20	2230071	<u> </u>	15.0	0	0.156	2.238	0.00	0.00
Heavy-Duty Deisel Venicle 6	Diesel	HDDV6	2230073	0	15.0	0	0.304	4.409	0.00	0.00
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	0	15.0	0	0.156	2.238	0.00	0.00
Heavy-Duty Deisel Vehicle 2B	Diesel	LD0112	2230060	0	15.0	0	0.156	2.238	0.00	0.00
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV86	2230074	0	15.0	0	0.467	8.081	0.00	0.00
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV86	2230074	0	15.0	0	0.467	8.081	0.00	0.00
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	0	15.0	0	0.156	2.238	0.00	0.00
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	· 0	15.0	0	0.467	8.081	0.00	0.00
Heavy-Duty Diesel Vehicle 7	Diesel	HDDV7	2230073	0	15.0	0	0.376	5.501	0.00	0.00
Trailers				but it is a			16-10 14-10	1. 252.23	\$P\$ 14-13-12-13-32	1. S.M.
Heavy-Duty Diesel Vehicle 5	Diesel	HDDV5	2230072	0	2.0	0	0.241	3.562	0.00	0.00
Personnel Carrier			4 • • • • • • • • • • • • • • • • • • •	56 Store 1965	1. A. A. A. A. T. A.	the second	2 N 10 2	1. A. 2. A. A.	1	1
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	7488	20.0	149,760	2.595	2.727	0.43	0.45
Diesel Commercial Bus	Diesel	HDDBT	2230075	0	35.0	0	0.278	11.752	0.00	0.00
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	0	20.0	0	2.595	2.727	0.00	0.00
Emergency Vehicles		a de la compañía de l	Sec. 19				te Sile and the	199	A. 14.	18.8 3
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	0	30.0	0	2.595	2.727	0.00	0.00
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	0	20.0	· 0	0.168	2.329	0.00	0.00
Concrete / Aggregate	3 . 8 . 1 . 1 . W.	<u></u>		1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	TABET !!	2	1. 1. 2 3.	S. 8. 67	1. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	29784
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	0	15.0	0	0.467	.8.081	0.00	0.00
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	0	15.0	0	0.467	8.081	0.00	0.00
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	0	15.0	0	0.304	4.409	0.00	0.00
Concrete Batch Plant	COLLESS	and a second	and the second	18 - C - C - C - C - C - C - C - C - C -	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1 18 1 1 1 2 A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.1.2	1 4 m	galy . The	54.65 X X X
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	0	10.0	0	0.467	8.081	0.00	0.00
Site Preparation	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		- Charter	1. Y. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	1. 1. 4. N. S.	1. I.M. 1. 1. 1. 1. 1. 1.	ser in The State	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	57.190	1. S. S. S.
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	9360	25.0	234.000	0.168	2.329	0.04	0.60
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	9360	20.0	187,200	0.39	6.593	0.08	1.36
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	6240	25.0	156.000	0.168	2,329	0.03	0.40
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	46800	30.0	1 404 000	2 595	2 727	4.02	4 22
Dredding Equipment		10380 A.P. 0	1. 10 AL	W. A. B. Same A.	16				49, S	89322
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	18000	30.0	540000	0.39	6 593	0.23	3.92
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	4320	45.0	194400	1 488	1 182	0.32	0.25
Light-Duty Gasoline Truck 2	Gasoline		2201020	4920	45.0	194400	0.827	0.715	0.02	0.15
Heavy-Duty Diesel Vehicle 3	Diesel		2230072	720	30.0	21600	0.027	2 320	0.10	0.15
Heavy-Duty Dieser Venicle 5	Diesei	HUDVS	2230072	120	30.0	21000	0.100	2.325	0.00	0.00
	an a	CALCULATION OF STREET	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3899. 	18 - 1 - 10 - 10 - 10		1999 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 -		(Chankaim)	
and the second	Fuel		1 · · · · ·	Number of	Hound-trip	venicular	S MOD	IIE 6.2	2010 Er	nissions .
Description	* Type	Vehicle	SCC	Vehicles ***	Distance	Miles I rav	i → EFs (g/mi)	to (to	<u>ns)"</u>
	CALL AND	Class	1. 2 V 1 AN		miles	NMT 🥂	NOC	NOx	VOC	NOx
Employee Commute/ Delivery	the We Take to	1. 1. F. A. C. A.	Star We K	1000	State An	Part States	99	Sec. Bert	改称201213	A STREET
Light-Duty Gasoline Vehicle in DC NA Area	Gasoline	LDGV	2201011	1161	40.0	14489280	0.743	0.571	11.87	9.12
Heavy-Duty Diesel Vehicte 8B in DC NA Area	Diesel	HDDV8b	2230074	0	100.0	0	0.168	2.329	0.00	0.00
					DC NA Area o	nroad vehicle	total (direc	t & Indirect)	17.30	20.63
							,,			
Employee Commute/ Delivery			in the stand	2	1. Six Spreed	(4) CA. (44)	249 53 53	Car S Cartala	1. N. N. A. J	10-2128
Linkt Duty Canaling Vahials in Dalt MA Area	Casalina	LIDOV	0001011	2000	00.0	1000000	0.740	0.571	4 40	4 4 4

Employee Commute/ Delivery	17 E. C. S.		and the second second	Real Contraction of the	1 San States	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	e - 1 288	A States	1. A.	2 V 79 8 4 6 8
Light-Duty Gasoline Vehicle in Balt. NA Area	Gasoline	LDGV	2201011	290	20.0	1809600	0.743	0.571	1.48	1.14
Heavy-Duty Diesel Vehicle 8B in Balt. NA Area	Diesel	HDDV8b	2230074	0	50.0	0	0.168	2.329	0.00	0.00
Baltimore NA Area onroad vehicle total										

 Notes

 Note 1: U.S. Environmental Protection Agency "Mobile Source Emission Factor Model". Values generated by simulatin g the model at the project conditions Note 2: Annual Emissions are calculated using the following calculation Note 3: Number of vehicles is daily vehicles for employee commuting and annual number of trips for commerical deliveries
 (VMT (miles) * Emission factor (g/mi)) / (2000 lb/ton * 453.6 g/lb)

Summary of 2011 Onroad Emissions	and an and a state	sts Z
	2011 Emi:	ssions (tons)
The second s	VOC 2	🗟 🔍 NOX 👐 🛵
Total Onroad DC NA Area Emissions(Report in Table 3-1)	17.30	20.63
Baltimore Onroad NA Area Emissions (Reported in Table 3-2)	1.48	1.14
Onroad DC NA Area Construction Emissions (Reported in Table 3-3)	0.00	0.00

Table B-3c On-Road Vehicle Emissions 2012

		14 C. S.		2012 Total	Avg.	Vehicular	s Mobi	le 6.2. 🛷	2012 En	nissions
Description	ruei	Vehicle	SCC	operated		Miles Trav	🐔 🗆 EFs (d	a/mi) ¹ . 🖉	to 🖓 👘	ns)
	si ype	Class .	1. 4. 11. 1. 1	8 hrs	🔆 mph 🛬	VMT	нс	NOX	HC HC	NOX
Automotive	1. See 1.		金子 网络拉拉	2	19 (A)	1	234323	$\mathcal{M}_{\mathcal{G}}(\mathcal{G}) \subset \mathcal{K}^{*}$	Star 1	C 75 / 4 - 1
Light-Duty Gasoline Vehicle	Gasoline	LDGV	2201011	811	30.0	24,330	0.612	0.47	0.02	0.01
Light Duty	できごがえく	$(1, 2) \in \mathcal{M}_{2}$	2 Nord S. 2	X	· · · · · · ·	1 O	-0.5		345 C.	Car Mars
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	8892	20.0	177.840	0.666	0.611	0.13	0.12
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	3900	20.0	78.000	0.666	0.611	0.06	0.05
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	3432	20.0	68.640	1.243	1.234	0.09	0.09
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	2184	20.0	43,680	1,243	1.234	0.06	0.06
Light-Duty Gasoline Truck 3	Gasoline	LDGT3	2201040	2340	20.0	46.800	1,187	0.961	0.06	0.05
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	2808	20.0	56,160	1,243	1.234	0.08	0.08
Trucks -Heavy Duty	S. S	MARY STARTS	9. 8 mar 1 25	8	0	0 .	0 S	5-75-10 M	855 598	STAR
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	9546	15.0	143,190	0.36	5.588	0.06	0.88
Heavy-Duty Deisel Vehicle 28	Diesel	HDDV2b	2230071	1872	15.0	28.080	0 146	1 874	0.00	0.06
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	1123	15.0	16 845	0.282	3 754	0.00	0.00
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	1871	15.0	28.065	0.146	1.874	0.00	0.06
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	1497	15.0	22,455	0.146	1.874	0.00	0.05
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	2106	15.0	31 590	0.429	6.98	0.00	0.24
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	2106	15.0	31,590	0.429	6.98	0.01	0.24
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	1885	15.0	28,275	0.146	1.874	0.00	0.06
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	2246	15.0	33,690	0.429	6.98	0.02	0.26
Heavy-Duty Diesel Vehicle 7	Diesel	HDDV7	2230073	2808	15.0	42,120	0.349	4,705	0.02	0.22
Trallers	10000	1348	28. 3. 5. 5. 5. 5.		0.***	1 0 · · · ·	*2 0	10.7	COLUMN D	5 2 2 2 3 3
Heavy-Duty Diesel Vehicle 5	Diesel	HDDV5	2230072		2.0	0	0.232	3 132	0.00	0.00
Personnel Carrier	an gerande		0 H.N. R. (1970)	Sec. 1	500	Y2 0 41 #	0.0	S-0**	1. C. M. M.	1.1.2017-
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	9672	20.0	193,440	2.595	2.727	0.55	0.58
Diesel Commercial Bus	Diesel	HDDBT	2230075		35.0	0	0.264	10 469	0.00	0.00
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	5928	20.0	118,560	2 595	2 727	0.34	0.36
Emergency Vehicles		a da barra a		127 3 Con 1		7-10-0-1-4			259. S. S. S.	6 (TH) 2
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	561	30.0	16,830	2 595	2 727	0.05	0.05
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	62	20.0	1,240	0.155	1.871	0.00	0.00
Concrete / Aggregate				18:33 7.27.2	*0	0.3	0 *	S. C. OF# (2	
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	624	15.0	9,360	0.429	6.98	0.00	0.07
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	1560	15.0	23 400	0.429	6.98	0.00	0.07
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	0	15.0	0	0.282	3 754	0.00	0.00
Concrete Batch Plant	State of the			Martin Contraction	103 K.	Con Bearing States		10.10101	0.00	5
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	37440	10.0	374 400	0 429	6 98	0.18	2.88
Site Preparation		1020004		9 do 1 1 do 1 do 1 do 1			* 0	0.00 N	10.76.741.7	5 . M. 1452
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	2340	25.0	58 500	0 155	1 871	0.01	0 12
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	2340	20.0	46 800	0.36	5 588	0.02	0.29
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	1560	25.0	39,000	0 155	1.871	0.01	0.08
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	11700	30.0	351.000	2,595	2,727	1.00	1.06
										1100
CONTRACTOR STATES	4	and and the second		Number of a	Bound-	Vehicular	Mobi	le 6.2	2010 En	issions ^(*)
Description	Fuel	Vabicia	Scc	Vahialaa 3	Distance	Miles Trav	EF- (1	12:5 * **
	Туре	Close		Vernues	milee	VMT	VOC		VOC	NOV
Employee Commute/ Dollyeen	and Consumer 2015 Additional Charles	01233	an senan asa Asir Colorada asir	Rational Action of the second seco		The state of the second	100 C		TUU SALA	NOA.
Light Duty Caseline Vehicle in DC NA Area	Conolino	LDCV	2201011	2000	40.0	25050940	0.610	0.47	10.01	10.00
Light-Duty Gasoline Vehicle in DC NA Area	Dianal		2201011	2008	40.0	20009840	0.012	0.47	0.10	12.98
Heavy-Duty Dieser Venicle 8B in DC NA Area	Diesei	. HUUV80	2230074	3930	100.0	393000	0.429	6.98	0.19	3.02
		<u> </u>	1	1	NA Area	nand wahinta t	tol/diract	l 9. indino -**	10.00	04.00
		L		DC	INA Area On	ruau venicie il	Juli (Ulrect	a noirect)	19.90	24.20
Employee Commute/ Delivery	S. C. S. S. M.	1. S.	15 65 3 3 4	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1. A. A.	Art Varth	Sec. Oak	Sec. S.	10	1. N. W.
Light-Duty Gasoline Vehicle in Balt. NA Area	Gasoline	LDGV	2201011	502	20.0	3132480	0.612	0.47	2.11	1.62
Heavy-Duty Diesel Vehicle 8B in Balt. NA Area	Diesel	HDDV8b	2230074	1179	50.0	58950	0.429	6.98	0.03	0.45
				-	Bal	timore NA Are	a onroad ve	hicle total	2.14	2.08

Notes Note 1: U.S. Environmental Protection Agency "Mobile Source Emission Factor Model". Values generated by simulating the model at the project conditions Note 2: Annual Emissions are calculated using the following calculation Note 3: Number of vehicles is daily vehicles for employee commuting and annual number of trips for commerical deliveries

Summary of 2012 Onroad Emissions	ALC: NO.	
	2012 Emi	ssions (tons) 🦾 /
	VOC	NOx 👋
Total Onroad DC NA Area Emissions(Report in Table 3-1)	19.90	24.28
Baltimore Onroad NA Area Emissions (Reported in Table 3-2)	2.14	2.08
Onroad DC NA Area Construction Emissions (Reported in Table 3-3)	0.19	3.13

Table B-3d On-Road Vehicle Emissions 2013

	W. Oak	(1	2013 Total	Average	Vehicular 🔬	Criteria	ollutants	2013 En	nissions
Description	Fuel	Vehicle	SCC	operated	Speed	Miles Trav	EFs (g/mi) ¹	: *: (to	ns)
	s i ype	Class		n hrs 🖗 🚅	🖉 mph 🖄	VMT 🔬	HC	NOxia	HC	NOx
Automotive					Sec. 1	CONTRACTOR	之来之后的		888° 6.7. *.	M. Take P
Light-Duty Gasoline Vehicle	Gasoline	LDGV	2201011	1,497	30.0	44,910	0.563	0.428	0.03	0.02
Light Duty	的同意是自己的		N. H. H. L. H. S.	MARCH MARK	and the second s	不可能的 为	金融教会会			建了。他帮 家
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	9360	20.0	187,200	0.624	0.554	0.13	0.11
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	14040	20.0	280,800	0.624	0.554	0.19	0.17
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	14664	20.0	293,280	1.175	1.158	0.38	0.37
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	10296	20.0	205,920	1.175	1.158	0.27	0.26
Light-Duty Gasoline Truck 3	Gasoline	LDGT3	2201040	3744	20.0	74,880	1.12	0.9	0.09	0.07
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	7956	20.0	159,120	1.175	1.158	0.21	0.20
Trucks -Heavy Duty	的。我们就是是这些		5 4 9	制度在注意的	Se of Maria		5,874,52	1.2 1. 1.	民族的名志。	然後# 安白省語
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	15724	15.0	235,860	0.345	4.764	0.09	1.24
Heavy-Duty Deisel Vehicle 2B	Diesel	HDDV2b	2230071	7862	15.0	117,930	·0.14	1.601	0.02	0.21
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	6177	15.0	92,655	0.268	3.237	0.03	0.33
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	7113	15.0	106,695	0.14	1.601	0.02	0.19
Heavy-Duty Delsel Venicle 2B	Diesel	LDD112	2230060	/113	15.0	105,695	0.14	1.601	0.02	0.19
Heavy-Duty Diesel Venicle 8B	Diesei	HDDV8b	2230074	7020	15.0	105,300	0.41	6.028	0.05	0.70
Heavy-Duty Diesel Venicle 8B	Diesei	HDUV8D	2230074	/020	15.0	105,300	0.41	6.028	. 0.05	0.70
Heavy-Duty Deisel Vehicle 2B	Diesel		2230060	4492	15.0	67,380	0.14	1.601	0.01	0.12
Heavy-Duty Diesel Vehicle 8B	Diesei		2230074	6240	15.0	93,600	0.41	6.028	0.04	0.62
Heavy-Duty Diesel venicle /	Diesei		2230073	12324	15.0	184,800	0.331	4.004	0.07	0.83
Irallers	Diseal		0000070	1604		0.000	0.005	0.700	0.00	0.01
Reavy-Duty Diesel Venicle 5	Diesei		2230072	1004	2.0	3,300	0.225	2.192	0.00	0.01
Personnel Carrier	Disad		000000	05000	00.0	717 700	0.505	0 707	0.05	0.10
Light-Duty Diesel Truck Tano 2	Diesel		2230060	30000	20.0	/1/,/60	2.395	2.121	2.00	2.10
Light Duty Diggol Truck 1 and 2	Diesel		2230073	16692	35.0	222.940	2 505	9.20	0.00	1.00
Emergency Vehicles	Diesei	LUDITZ 1 Million March 19	2230000	10032	20.0	333,040	2.050	C.I.C.I 8 (19) 18 (19) 18	0.55	1.00
Linergency venicles	Diesel	I DDT12	2230060	1591	30.0	47 730	2 595	2 727	0.14	∩ 14
Heavy-Duty Diesel Vehicte 3	Diesel	HDDV3	2230072	374	20.0	7 480	0.148	1 556	0.00	0.14
Concrete / Angregate	510001	No. A		Maria de Carlos de C	10.0 107 100	1100	01596-04**	1.000	0.00	0.01 * 182
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	936	15.0	14 040	0 41	6 028	0.01	0.09
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	3900	15.0	58,500	0.41	6.028	0.03	0.39
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	0	15.0	0	0.268	3.237	0.00	0.00
Concrete Batch Plant	REAL PROPERTY	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Sec. 5 145	建立 之间的 100	1. A. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	Sec. 3. 1. 2	A. 1 2. 2	8-3-3-3-8 ⁻ [14.239 CON	2-2347
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	74880	10.0	748,800	0.41	6.028	0.34	4.98
Site Preparation	Strade Sec.		18.332 C.C.	3	M. Carlos	1.1.1.2019.00	143-1415	1.21.55	A Private State	1. (19.17 A.M.)
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	· 0	25.0	0	0.148	1.556	0.00	0.00
Heavy-Duty Diesel Vehicte 8A	Diesel	HDDV8a	2230074	. 0	20.0	0	0.345	4.764	0.00	0.00
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	0	25.0	0	0.148	1.556	0.00	0.00
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	0	30.0	0	2.595	2.727	0.00	0.00
See State Strate States & States	Evel State	$\mathbf{y} \in \mathbf{y}$		Number of the	Round-	😪 Vehicular 🧭	Mob	lle 6.2 🖉 🔧	2010 En	nissions
Description	Tuel	Vehicle	SCC	Vehicles ³	Distance	Miles Trav	EFs (g/mi) ¹	t (to	ns) ²
i i se	Type	Class		10 C - 10 - 20 C - 20 G	miles 🜌	VMT	VOC	NOX	VOC	NOx
Employee Commute/ Delivery	1993 - M. M.			19 - ANE 11 - AN	0	いと記念を設い	to be the set	State of the		2. 84 6. 64
Light-Duty Gasoline Vehicle in DC NA Area	Gasoline	LDGV	2201011	2769	40.0	34557120	0.563	0.428	21.45	16.30
Heavy-Duty Diesel Vehicle 8B in DC NA Area	Diesel	HDDV8b	2230074	4400	100.0	440000	0.41	6.028	0.20	2.92
				DC	NA Area on	road vehicle to	otal (direct	& indirect)	26.84	34.35
Employee Commute/ Delivery	Cale a Steven A	MATE MARK	C. C. Shares	Sec. 33.28	E Ward St.	S. Sur Star	N. Mary W	Miller Carlos	States.	Sec. A. A.
Light-Duty Gasoline Vehicle in Balt. NA Area	Gasoline	LDGV	2201011	692	20.0	4318080	0.563	0.428	2.68	2.04
Heavy-Duty Diesel Vehicle 8B in Balt. NA Area	Diesel	HDDV8b .	2230074	1320	50.0	66000	0.41	6.028	0.03	0.44
					Bal	imore NA Area	a onroad v	ehicle total	2.71	2.48

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Notes Note 1: U.S. Environmental Protection Agency "Mobile Source Emission Factor Model". Values generated by simulating the model at the project conditions Note 2: Annual Emissions are calculated using the following calculation Note 3: Number of vehicles is daily vehicles for employee commuting and annual number of trips for commerical deliveries

Summary of 2013 Onroad Emissions	a daalayee boral	
	2013 Emi	ssions (tons)
and the second	VOC S	NOx NOx
Total Onroad DC NA Area Emissions(Report in Table 3-1)	26.84	34.35
Baltimore Onroad NA Area Emissions (Reported in Table 3-2)	2.71	2.48
Onroad DC NA Area Construction Emissions (Reported in Table 3-3)	0.37	5.46

Table B-3e On-Road Vehicle Emissions 2014

Description	Fuel	Vohiolo		2014 Total	Average/	Vehicular,	Criteria	ollutants	× 2014 En	nissions
Lescription 4	Туре	Close		superateur	Specus	S WHICS III AV	Name Cost	g/mi)astess	TO LO MA	13)決めなどで
	Aller and a strategy and a second strategy and a se	See Class	12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 12.00 - 1	64. T. III S. S. IS. I.		STATES VILLAR S	22822 C 0 26222	COCINUX SER	SEATIONES ACOUNTS AND	ASS NUX (40)
Light Duty Gaseline Vehicle	Gacolino		2201011	1 407	20.0	44.010	0.52	0.201	0.02	0.02
	Gasoline	LDGV	2201011	1,497	30.0	44,910	0.52	0.391	0.03	0.02
Light Duty Caseline Truck 2	Gacolino		2201020	0260	20.0	197 200	0.500	0.507	0.10	0.10
Light Duty Gaseline Truck 2	Gasoline		2201020	14076	20.0	200 520	0.590	0.507	0.12	0.10
Light Duty Caseline Truck 2	Gasoline		2201020	14970	20.0	299,520	1 1 1 2	1.000	0.13	0.17
Light Duty Casoline Truck 4	Gasoline		2201040	11000	20.0	233,520	1.113	1.052	0.37	0.30
Light Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	2744	20.0	74 890	1.06	1.092	0.20	0.27
Light-Duty Gasoline Truck 3	Gasoline		2201040	0260	20.0	197 200	1.00	1 002	0.09	0.07
Trucke Heavy Duty	Clasuine	10014 2010 2010 202	2201040	9000 94. Milliansky slavn	20.0	07,200 09158009320	TITIO (STATISTICS)	1.002 AR AR BOOK	0.20	V.2.0
Heavy-Duty Diesel Vehicle 84	Diesel		2230074	15724	15.0	235,860	0 332	3 008	0.00	1 04
Heavy-Duty Diesel Vehicle 0A	Diesel	HDDV2b	2230071	11232	15.0	168 480	0.002	1 384	0.02	0.26
Heavy-Duty Deisel Vehicle 20	Diesel	HDDV6	2230073	8985	15.0	134 775	0.100	2 774	0.02	0.20
Heavy-Duty Deisel Vehicle 3	Diesel	100112	2230060	11232	15.0	168,480	0.133	1 384	0.04	0.26
Heavy-Duty Deisel Vehicle 2B	Diesel	1 DDT12	2230060	8985	15.0	134 775	0.133	1.384	0.02	0.20
Heavy Duty Desel Vehicle 88	Diesel	HDDV8b	2230074	8424	15.0	126 360	0.392	5 122	0.02	0.21
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	8424	15.0	126,360	0.392	5 122	0.05	0.71
Heavy-Duty Deisel Vehicle 2B	Diesel	I DDT12	2230060	4492	15.0	67,380	0.133	1.384	0.01	0.10
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	8985	15.0	134 775	0.392	5 122	0.06	0.76
Heavy-Duty Diesel Vehicle 7	Diesel	HDDV7	2230073	12048	15.0	180,720	0.312	3.454	0.06	0.69
Trailers	L MENT LANG	12 6 46 49 1	S. S. S.		9.000	C. M.	-0-0,8 ⁻⁰ -0846	2.49113.673		0.00
Heavy-Duty Diesel Vehicle 5	Diesel	HDDV5	2230072	4492	2.0	8,984	0.213	2,491	0.00	0.02
Personnel Carrier	X CARACTER		というはない	Service Paralette	統立語法法が合		STATES.	国际家和国	1.0	n Star fra
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	53352	20.0	1.067.040	2.595	2.727	3.05	3.21
Diesel Commercial Bus	Diesel	HDDBT	2230075	28080	35.0	982,800	0.253	8.118	0.27	8.79
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	18720	20.0	374,400	2.595	2.727	1.07	1.13
Emergency Vehicles							21.96.965		1993 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 - 1994 -	
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	2246	30.0	67,380	2.595	2.727	0.19	0.20
Heavy-Duty Diesel Vehicle 3	Dieseł	HDDV3	2230072	374	20.0	7,480	0.142	1,309	0.00	0.01
Concrete / Aggregate										4.40 AZ
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	936	15.0	14,040	0.392	5.122	0.01	0.08
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	4212	15.0	63,180	0.392	5.122	0.03	0.36
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	0	15.0	0	0.254	2.774	0.00	0.00
Concrete Batch Plant	14252 Co			Later Aller	2012233444	日本語語	1.22.13	Safe Ella	633.00	医水水管管
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	74880	10.0	748,800	0.392	5.122	0.32	4.23
Site Preparation	行行軍部隊的行	的研究和主义的	在这些增长这次		的现在分词是	是大會的這個的影響	。將該的政		國於海洋	
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	0	25.0	0	0.142	1.309	0.00	0.00
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	0	20.0	0	0.332	3.998	0.00	0.00
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	0	25.0	0	0.142	1.309	0.00	0.00
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	0	30.0	0	2.595	2.727	0.00	0.00
	Fuel			Number of	Round-	Vehicular	Mob	lle 6.2	2010 En	nissions
Description	Туре	Vehicle	SCC	Vehicles ³	Distance	Miles Trav	EFs (g/mi)	(to	ns) ²
and the second	1 A 1	Class		Martin State	miles 🗟	NMT AGA	w voc iw	NOx 🔐	S VOC ∂.	NOx
Employee Commute//Delivery	注意的" 这	济学系的联系		新在 一个第二人类的	和研究的影響		的历史的新闻	法 考虑		Sec. 1.
Light-Duty Gasoline Vehicle in DC NA Area	Gasoline	LDGV	2201011	3167	40.0	39524160	0.52	0.391	22.66	17.04
Heavy-Duty Diesel Vehicle 8B in DC NA Area	Diesel	HDDV8b	2230074	2940	100.0	294000	0.392	5.122	0.13	1.66
				DC	NA Area on	road vehicle to	otal (direct	& indirect)	29.47	43.09
Employee Commute//Dellvery	RES SALE VILLA	Rouge and the second	a tha sa taka sa	AND CONTRACTORS	1966 - Sector A. P. P.	1. ACREMENTAN	Maderitation Tableton	Sec. Bard	28 43 23 4 -	249-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
Light-Duty Gasoline Vehicle in Balt NA Area	Gasoline	IDGV	2201011	792	20.0	4942080	0.52	0.391	2.83	2 13
Heavy-Duty Diesel Vehicle 8B in Balt NA Area	Diesel	HDDV8h	2230074	882	50.0	44100	0.392	5 122	0.02	0.25
Houry buy blood tonicio bb in ball IVA Alea	010001	100100	22000,4	002	Pat	timore NA Are	oproad w	abicle total	2.85	2.28

Notes

Note 1: U.S. Environmental Protection Agency "Mobile Source Emission Factor Model". Values generated by simulating the model at the project conditions Note 2: Annual Emissions are calculated using the following calculation Note 3: Number of vehicles is daily vehicles for employee commuting and annual number of trips for commerical deliveries

Summarviot 2014 Oproad Emissions	F. Friedle & State	Call Contract Contractor			
	2014 Emissions (tons)				
and the second	voc	NOX			
Total Onroad DC NA Area Emissions(Report in Table 3-1)	29.47	43.09			
Baltimore Onroad NA Area Emissions (Reported in Table 3-2)	2.85	2.38			
Onroad DC NA Area Construction Emissions (Reported in Table 3-3)	0.36	4.66			

Table B-3f On-Road Vehicle Emissions 2015

Description	Fuel	Vehicle	SCC	2015 Total operated	Average Speed	Vehicular Miles Trav	Criteria EFs	Pollutants (g/ml) ¹	2015 Er (to	nissions ons)
	Type	Class		hrs	mph	VMT	HC	NOx	HC	NOx
Automotive		$\left(e_{1}^{(1)} \right) = \left(\frac{1}{2} \left(e_{1}^{(1)} + e_{2}^{(1)} \right) + e_{2}^{(1)} \right) = \left(e_{1}^{(1)} + e_{2}^{(1)} \right) + \left(e_{2}^{(1)} + e_{2}^{$		1X.		11 T				
Light-Duty Gasoline Vehicle	Gasoline	LDGV	2201011	1,497	30.0	44,910	0.483	0.359	0.02	0.02
Light Duty				1990 - Alexandre Ale	1.1.1			1		1997 a. 19
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	9360	20.0	187,200	0.561	0.468	0.12	0.10
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	16848	20.0	336,960	0.561	0.468	0.21	0.17
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	14976	20.0	299,520	1.056	1.033	0.35	0.34
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	11232	20.0	224,640	1.056	1.033	0.26	0.26
Light-Duty Gasoline Truck 3	Gasoline	LDGT3	2201040	3744	20.0	74,880	1.004	0.802	0.08	0.07
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	9360	20.0	187,200	1.056	1.033	0.22	0.21
Trucks -Heavy Duty		计读句 的复数			1. See 4. 1					
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	15724	15.0	235,860	0.316	3.425	0.08	0.89
Heavy-Duty Deisel Vehicle 2B	Diesel	HDDV2b	2230071	11232	15.0	168,480	0.128	1.188	0.02	0.22
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	8985	15.0	134,775	0.241	2.397	0.04	0.36
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	11232	15.0	168,480	0.128	1.188	0.02	0.22
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	8985	15.0	134,775	0.128	1.188	0.02	0.18
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	8424	15.0	126,360	0.37	4.455	0.05	0.62
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	8424	15.0	126,360	0.37	4.455	0.05	0.62
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	4922	15.0	73,830	0.128	1.188	0.01	0.10
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	8985	15.0	134,775	0.37	4.455	0.05	0.66
Heavy-Duty Diesel Vehicle 7	Diesel	HDDV7	2230073	12048	15.0	180,720	0.297	2.983	0.06	0.59
Trailers							1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	• N	3	
Heavy-Duty Diesel Vehicle 5	Diesel	HDDV5	2230072	4492	2.0	8,984	0.204	2.183	0.00	0.02
Personnel Carrier		5-00 S.M. C.S.		22 St. 199			1993 (A. 194		122 7.100	6.6.4
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	56160	20.0	1.123.200	2.595	2.727	3.21	3.38
Diesel Commercial Bus	Diesel	HDDBT	2230075	40524	35.0	1,418,340	0.25	7.082	0.39	11.07
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	18720	20.0	374,400	2.595	2.727	1.07	1.13
Emergency Vehicles				We and the second se	1.1.2		1940 y 194	1	Sec. Sec.	
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	2246	30.0	67.380	2.595	2.727	0.19	0.20
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	374	20.0	7,480	0.137	1.095	0.00	0.01
Concrete / Aggregate		iga sur specie								
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	0	15.0	0	0.37	4,455	0.00	0.00
Heavy-Duty Diesel Vehicle 88	Diesel	HDDV8b	2230074	5616	15.0	84.240	0.37	4.455	0.03	0.41
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	0	15.0	0	0.241	2.397	0.00	0.00
Concrete Batch Plant	10.11			1 · .						1
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	74880	10.0	748,800	0.37	4,455	0.31	3.68
Site Preparation								1		
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	0	25.0	0	0.137	1.095	0.00	0.00
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	0	20.0	0	0.316	3 425	0.00	0.00
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	0	25.0	0	0.137	1.095	0.00	0.00
I ight-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	1 <u> </u>	30.0	n n	2 595	2 727	0.00	0.00
Eight Duty Blood Hudet Fund E	210001	200112				l – Ť – I	2.000	1 2.727	0.00	1 0.00
Description	Fuel	Vobiolo	202	Number of	Round-	Vehicular Miles Trav	Mot	oile 6.2	2010 Er	nissions
	Туре	Cloce		venicies	miloc	VMT	VOC			
	n a reactive and a second	V1033			i innes	A LAI I				
Employee Commute/ Delivery			0001011	>	40.0	05470040	U 0.400		10.00	
Light-Duty Gasoline Vehicle in DC NA Area	Gasoline	LDGV	2201011	2838	40.0	35418240	0.483	0.359	18.86	14.02
Heavy-Duty Diesel Vehicle 88 in DC NA Area	Diesel	HDUV8b	22300/4	500	100.0	50000	0.37	4,455	0.02	0.25
· · · · · · · · · · · · · · · · · · ·	I		l	LDC	NA Area on	i road vehicle te	otal (direct	t & indirect)	25.76	39.78
									T	
Employee Commute/ Delivery	~ .			<u> </u>	nahirus).		haal daad		Bart Corton	
I I I I I I I I I I I I I I I I I I I	(jasolioe)	113GV	2201011	I /10	1 20.0	add()d()()	1 0483	1 0359	236	1 175

	Linployee Commute Dentery	The second se	204 B	2 S. Ø. G. S. M. M. S.	23	 Abstraction and a strategy of the particular strategy of the p		an and the state of the state o	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Span	
Light-Duty dasoline vehicle in Balt. NA Area Gasoline EDGV 2201011 710 20.0 4430400 0.465 0.339 2.30 1.75	Light-Duty Gasoline Vehicle in Balt. NA Area	Gasoline	LDGV	2201011	710	20.0	4430400	0.483	0.359	2.36	1.75
Heavy-Duty Diesel Vehicle 8B in Balt. NA Area Diesel HDDV8b 2230074 150 50.0 7500 0.37 4.455 0.00 0.04	Heavy-Duty Diesel Vehicle 8B in Balt. NA Area	Diesel	HDDV8b	2230074	150	50.0	7500	0.37	4.455	0.00	0.04
Baltimore NA Area onroad vehicle total 2.36 1.79	Baltimore NA Area onroad vehicle total										

Notes Note 1: U.S. Environmental Protection Agency "Mobile Source Emission Factor Model". Values generated by simulating the model at the project conditions Note 2: Annual Emissions are calculated using the following calculation Note 3: Number of vehicles is daily vehicles for employee commuting and annual number of trips for commerical deliveries

Summary of 2015 Onroad Emissions	Sector Mary	
- 영상 이 나는 가슴은 것이 가지 않는 것이 같은 것이 말했다.	2015 Emi	ssions (tons)
	VOC	NOx
Total Onroad DC NA Area Emissions(Report in Table 3-1)	25.76	39.78
Baltimore Onroad NA Area Emissions (Reported in Table 3-2)	2.36	1.79
Onroad DC NA Area Construction Emissions (Reported in Table 3-3)	0.34	4.09

Table B-3g On-Road Vehicle Emissions 2016

Description	Fuel	Vehicle	SCC	2016 Total	Average Speed	Vehicular Miles Trav	Criteria Pollutants EFs (g/ml) ¹		₹2016 En (10	nissions ns)	
	Туре	Class	1 a 6 a 1	hrs	mph	< VMT	HC	NOx	нс	NOx	
Automotive				*		1. AP 3 4 1 4 1			Garage y		
Light-Duty Gasoline Vehicle	Gasoline	LDGV	2201011	1 497	30.0	44,910	0.453	0.33	0.02	0.02	
Light Duty addenine remeie	<u>Cluboliilo</u>			*•*			0.100	0.00		0.02	
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	9360	20.0	187,200	0.536	0.431	0.11	0.09	
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	18720	20.0	374,400	0.536	0.431	0.22	0.00	
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	14976	20.0	299 520	0.997	0.97	0.33	0.32	
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	11232	20.0	224 640	0.997	0.97	0.25	0.24	
Light-Duty Gasoline Truck 3	Gasoline	LDGT3	2201040	3744	20.0	74 880	0.947	0.752	0.08	0.06	
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	7800	20.0	156,000	0.997	0.97	0.17	0.00	
Trucks -Heavy Duty	Gasonino		LEGIGIG	51				-			
Heavy-Duty Diesel Vehicle 84	Diesel	HDDV8a	2230074	15537	15.0	233 055	0.308	2 973	0.08	0.76	
Heavy-Duty Diesel Vehicle 28	Diesel	HDDV2b	2230071	11232	15.0	168 480	0.000	1 019	0.00	0.19	
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	8985	15.0	134 775	0.124	2 073	0.02	0.10	
Heavy-Duty Deisel Vehicle 0	Diesel	LDDT12	2230060	11232	15.0	168.480	0.202	1 019	0.00	0.01	
Heavy-Duty Deisel Vehicle 28	Diesel	100712	2230060	8985	15.0	134 775	0.124	1.019	0.02	0.15	
Heavy-Duty Desel Vehicle 88	Diesel	HDDV8b	2230074	8424	15.0	126 360	0.359	3.942	0.02	0.55	
Heavy-Duty Diesel Vehicle 88	Diesel	HDDV8b	2230074	8424	15.0	126,360	0.359	3 942	0.05	0.55	
Heavy Duty Diesel Vehicle 05	Diesel		2230060	4922	15.0	73,830	0.000	1 019	0.00	0.00	
Heavy-Duty Desel Vehicle 88	Diesel	HDDV8b	2230074	8985	15.0	134 775	0.359	3.942	0.05	0.59	
Heavy-Duty Diesel Vehicle 05	Diesel		2230073	12048	15.0	180 720	0.335	2.587	0.05	0.53	
Trailare	Diedei	. 110017	2200010	12040	- 19.0	100,720	0.200	2.007	0.00	0.52	
Heave-Duty Diesel Vehicle 5	Diesel	HDDV5	2230072	2620	20	5 240	0 198	1 957	0.00	0.01	
Perconnel Carrier	Diesei	10040	2200012	2020	2	0,240	0.130	1.507	0.00	0.01	
Light Duty Dissel Truck 1 and 2	Diesel	LDDT12	2230060	56160	20.0	1 123 200	2 505	2 727	3.21	3 39	
Diesel Commercial Bus	Diesel	HDDBT	2230075	23712	35.0	829 920	0.247	6 117	0.23	5.60	
Light Duty Diosol Truck 1 and 2	Diesel		2230060	18720	20.0	374 400	2 595	2 727	1.07	1 1 2	
Emergency Vehicles	Diesei	LODTIZ	2200000	10720	20.0	074,400	2.000	L.ILI	1.07	1.10	
Light Duty Diopol Truck 1 and 2	Diocol	LDDT12	2220060	2246	30.0	67.280	2 505	2 727	0.10	0.20	
Honyar Duty Diesel Huck Tallo 2	Diesel		2230072	2240	20.0	7 490	0.133	0.027	0.15	0.20	
Concrete / Aggregate	Diesei	10000	2230072	5/4	20.0	7,400	0.100	0.527	0.00	0.01	
Hoavy, Duty Diosol Vahiela 88	Diocol		2230074	h	15.0	0	0.350	3 942	0.00	0.00	
Heavy-Duty Diesel Vehicle 60	Diesel		2230074	1492	15.0	22.220	0.353	2.042	0.00	0.00	
Heavy-Duty Diesel Vehicle 65	Diesei		2230074	0 1402	15.0	22,230	0.309	2.072	0.01	0.10	
Concrete Botch Blant	Diesei	HDDV0	2230073	, , , , , , , , , , , , , , , , , , ,	15.0		0.232	2.073	0.00	0.00	
Honvy Duty Diocol Vohiolo 98	Diocol		2220074	74880	10.0	748 800	0 350	3 0 4 2	0.20	3.25	
Site Properation	Dieser	1100000	2230074	74000	10.0	740,000	0.555	0.542	0.00	5.25	
Heavy Duty Dissel Vehicle 2	Diacal		2220072	<u> </u>	25.0	<u> </u>	0.122	0.027	0.00	0.00	
Heavy-Duty Diesel Vehicle 84	Diesel	HDDV82	2230072	0	20.0	0	0.100	2 973	0.00	0.00	
Hoavy Duty Diesel Vehicle 3	Diesel		2230074	0	25.0	0	0.300	0.027	0.00	0.00	
Light-Duty Diesel Truck 1 and 2	Diesel	10073	2230060	0	20.0	0	2 595	2 727	0.00	0.00	
Light-Duty Dieser Huck Fand 2	Diesei	LUDITA	2200000		50.0	V	2.000	2.121	0.00	0.00	
			1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	Number of	Round	Vebicular	Moh	le 6 2	2010 Er	nlecione	
Description	Fuel	Vahiala	222	Valide 3	Dietance	Miloe Trav	EE- /		2010 21	113310113	
Lescription ,	Туре	Class	500	venicles	Distance	WIIICS TTAV	EFS (g/mi)			
		Class			miles	VIVII	VUC	NUX	VUL	NUX	
Employee Commute/ Delivery			0004044	0050	40.0	00050000	0.450	0.00	11.00		
Light-Duty Gasoline Vehicle in DC NA Area	Gasoline	LDGV	2201011	2352	40.0	29352960	0.453	0.33	14.66	10.68	
Heavy-Duty Diesel Vehicle 8B in DC NA Area	Diesel	HDDV86	2230074	/0	100.0	7000	0.359	3.942	0.00	0.03	
	L		ł	L		L		0.1-17			
<u></u>		L		DC	NA Area on	road vehicle to	otal (direct	& Indirect)	21.25	29.33	
Employee Commute/ Delivery			1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 - 1947 -	5.00	1.557 6.5	Ast March		S. S. Oak	State Sugar		
Light-Duty Gasoline Vehicle in Balt, NA Area	Gasoline	LDGV	2201011	588	20.0	3669120	0,453	0.33	1.83	1,33	
Heavy-Duty Diesel Vehicle 8B in Balt. NA Area	Diesel	HDDV8b	2230074	21	50.0	1050	0.359	3.942	0.00	0.00	
	•			•	Bal	limore NA Are	a onroad v	ehicle total	1.83	1.34	

Notes

Note 1: U.S. Environmental Protection Agency "Mobile Source Emission Factor Model". Values generated by simulating the model at the project conditions

Note 2: Annual Emissions are calculated using the following calculation Note 3: Number of vehicles is daily vehicles for employee commuting and annual number of trips for commerical deliveries

Summary of 2016 Onroad Emissions	an in the	11. e
	2016 Emi:	ssions (tons)
	VOC	NOx.
Total Onroad DC NA Area Emissions(Report in Table 3-1)	21.25	29.33
Baltimore Onroad NA Area Emissions (Reported in Table 3-2)	1.83	1.34
Onroad DC NA Area Construction Emissions (Reported in Table 3-3)	0.31	3.35

Table B-3h On-Road Vehicle Emissions 2017

19 - 24월 11월 46일(24) - 2014년 21일(24) 12일(24) 12일(24) 12일(24) 12 - 24월 11월 46일(24) - 26일(24) 12 - 26일(24) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26) 12 - 26	Walter and State May	NO GOTO CIMA A PRO	17. 20. A. 18. 18. 19.	0017 Total	Avorage	Vobiculor	Critoria	Pollutante	30017 En	
Departmetion	× Fuel	A	err.	2017 Total	Cheed	- Venicular	Cinteria		2017 EH	
Description	Туре	venicie ,	5 300 C	operated	Speed	Miles Irav	ELS (g/mi)	₩¢(IO	ns) (r
and the second states of the		Class at	4. VL 4. 55		mph	VMT 🔅	_≪ HC ∕∕ (NOX	HC	NOX
Automotive			State of the second		State of the state of the	a state a sta	10 21 24	نغثيثيث	and the second s	للشقشت
Light-Duty Gasoline Vehicle	Gasoline	LDGV	2201011	1,497	30.0	44,910	0.428	0.306	0.02	0.02
Light Duty			100 A. C. C.	14 A C C C C C		STONE STONE	134 N. 1. 1.	1012 2 20 1	at B . sale .	276 5
Light-Duty Gasoline Truck 2	Gasoline	LDG12	2201020	9360	20.0	187,200	0.514	0.404	0.11	0.08
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	17940	20.0	358,800	0.514	0.404	0.20	0.16
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	14976	20.0	299,520	0.946	0.92	0.31	0.30
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	6864	20.0	137,280	0.946	0.92	0.14	0.14
Light-Duty Gasoline Truck 3	Gasoline	LDGT3	2201040	3744	20.0	74,880	0.896	0.712	0.07	0.06
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	4992	20.0	99,840	0.946	0.92	0.10	0.10
Trucks -Heavy Duty	Carl Starte				1. S. 12	Sec. 3. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	1. A. S. S. A.	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		· · · · · · · · · · · · · · · · · · ·
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	10296	15.0	154,440	0.301	2.578	0.05	0.44
Heavy-Duty Deisel Vehicle 2B	Diesel	HDDV2b	2230071	11044	15.0	165,660	0.121	0.891	0.02	0.16
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	7300	15.0	109,500	0.225	1.817	0.03	0.22
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	7862	15.0	117,930	0.121	0.891	0.02	0.12
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	5616	15.0	84,240	0.121	0.891	0.01	0.08
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	8424	15.0	126,360	0.349	3.401	0.05	0.47
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	5616	15.0	84,240	0.349	3.401	0.03	0.32
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	4922	15.0	73.830	0.121	0.891	0.01	0.07
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	7826	15.0	117.390	0.349	3.401	0.05	0.44
Heavy-Duty Diesel Vehicle 7	Diesel	HDDV7	2230073	14976	15.0	224,640	0.278	2.261	0.07	0.56
Trailers	B. S.L. Ward		2	AN ALL ALL ALL ALL ALL ALL ALL ALL ALL A	1.10	5	A 38 9	2 2 22	N3 . K	NO WALLAR
Heavy-Duty Diesel Vehicle 5	Diesel	HDDV5	2230072	748	2.0	1,496	0.193	1.757	0.00	0.00
Personnel Carrier	19 19 19 19 19 19 19 19 19 19 19 19 19 1	1. 18 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1		AND THE STREET	80.577 Sec.53	1. C.	1. S	State of the	Spill & State
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	26208	20.0	524,160	2.595	2.727	1.50	1.58
Diesel Commercial Bus	Diesel	HDDBT	2230075	19344	35.0	677.040	0.24	5.21	0.18	3.89
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	6240	20.0	124.800	2.595	2.727	0.36	0.38
Emergency Vehicles		and all get the second		Mr. S. Beck of all of	1	************	1.768.25	19.9.9.46	1. A. C. A. C.	1. (1998) 3 40)
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	2246	30.0	67,380	2 595	2 727	0.19	0.20
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	374	20.0	7 480	0.131	0 794	0.00	0.01
Concrete / Addregate	1 . A		1045 1040	2 45 2		Same a second a second	87 N N	1.1.1.1.1.1	181 3.0	To State
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	0	15.0	0	0.349	3 401	0.00	0.00
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	- <u></u>	15.0	ň	0.349	3 401	0.00	0.00
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	<u> </u>	15.0	ň	0.225	1 817	0.00	0.00
Concrete Batch Plant			LLOUDIO	S. S. S. S. S. S.	10.0	Server To Take A	6.2.CO	1.5.2 5 2.805	5.00 5 0 0 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	0.00
Heavy-Duty Diesel Vehicle 8B	Diesel		2230074	n n	10.0	<u> </u>	0.340	3 401	0.00	0.00.
Site Proparation		1100 400	2200014	an control a	10.0	100.60 2-00.7.3	0.343	0.401	0.00 300	97 24 6 ABT - 5
Heavy-Duty Diocol Vohiolo 3	Diecel		2230072	0	25.0	n	0 191	0.704	0.00	0.00
Heavy-Duty Diesel Vehicle 3	Diesel		2230072	<u> </u>	20.0	0	0.101	2.578	0.00	0.00
Heavy-Duty Diesel Vehicle 3	Diesel		2230072	0	25.0	0	0.301	0.704	0.00	0.00
Light-Duty Diesel Truck 1 and 2	Diesel	10010	2230060	<u> </u>	20.0	0	2.505	2 727	0.00	0.00
	Diesei		2230000	······································	30.0	<u> </u>	2.333	2.727	0.00	0.00
	alate and the second sec	North Active	an a	Number of	Dound	1 Vobley leves	2	1062	≈*0040°E÷	- trata and a
Description	Fuel	Vablala	- ecc *		Distance				2010 EI	2
Description	Туре	venicie		venicies	Distance	MILES I FAV	EFS (<u>g/mi)</u>	(to)	ns)
		Class		GA CARE CONSTR	miles	VM Ise		NOX	VOC	NOX
Employee Commute/ Delivery		and the second second		St. Santa St.		· · · · · · · · · · · · · ·	A Sec and	St. Sugar A	1211	1. 4. Dec 2.
Light-Duty Gasoline Vehicle in DC NA Area	Gasoline	LDGV	2201011	1108	40.0	13827840	0.428	0.306	6.52	4.66
Heavy-Duty Diesel Vehicle 8B in DC NA Area	Dieset	HDDV8b	2230074	0	100.0	0	0.349	3.401	0.00	0.00
				L				I		
				DC	NA Area on	road vehicle to	otal (direct	& indirect)	10.05	14.46
Employee Commute/ Delivery	the states t	1. A.				W. S. Barth	A. 22.	S. S. A. Car	and a series	1. 2. 1
Light-Duty Gasoline Vehicle in Balt. NA Area	Gasoline	LDGV	2201011	277	20.0	1728480	0.428	0.306	0.82	0.58
Heavy, Duty Diecel Vehicle 8B in Balt, NA Area	Diesel		2220074	0	50.0	0	0.240	2 401	0.00	0.00

Notes

Note 1: U.S. Environmental Protection Agency "Mobile Source Emission Factor Model". Values generated by simulating the model at the project conditions Note 2: Annual Emissions are calculated using the following calculation Note 3: Number of vehicles is daily vehicles for employee commuting and annual number of trips for commerical deliveries

Baltimore NA Area onroad vehicle total

0.82

0.58

· · · · · · · · · · · · · · · · · · ·		
Summary of 2017 Onroad Emissions	and the second state	States Stre
	2017 Emis	ssions (tons)
and the second secon	VOC	NOx
Total Onroad DC NA Area Emissions(Report in Table 3-1)	10.05	14.46
Baltimore Onroad NA Area Emissions (Reported in Table 3-2)	0.82	0.58
Onroad DC NA Area Construction Emissions (Reported in Table 3-3)	0.00	0.00

Table B-31 On-Road Vehicle Emissions 2018

Description	Fuel	Vehicle	SCC	2018 operating	Average Speed	Vehicular Miles Trav	Mob EFs (ile 6.2 a/ml) ¹	2018 Er (to	nissions (ns)
	Туре	Class		hrs	mph	VMT	HC	NOx	НС	NOx
Automotive		1 A A		2.5		1 A.				
Light-Duty Gasoline Vehicle	Gasoline	LDGV	2201011	1,372	30.0	41,160	0.407	0.285	0.02	0.01
Light Duty		· .		a			e. 19 70 -			
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	8580	20.0	171.600	0.494	0.381	0.09	0.07
Light-Duty Gasoline Truck 2	Gasoline	LDGT2	2201020	7800	20.0	156,000	0.494	0.381	0.08	0.07
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	7488	20.0	149,760	0.891	0.866	0.15	0.14
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	0	20.0	Ó	0.891	0.866	0.00	0.00
Light-Duty Gasoline Truck 3	Gasoline	LDGT3	2201040	3432	20.0	68.640	0.843	0.669	0.06	0.05
Light-Duty Gasoline Truck 4	Gasoline	LDGT4	2201040	2184	20.0	43,680	0.891	0.866	0.04	0.04
Trucks -Heavy Duty									en filter.	
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	5990	15.0	89,850	0.295	2,183	0.03	0.22
Heavy-Duty Deisel Vehicle 2B	Diesel	HDDV2b	2230071	4492	15.0	67,380	0.115	0.754	0.01	0.06
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	1872	15.0	28,080	0.217	1.577	0.01	0.05
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	3556	15.0	53,340	0.115	0.754	0.01	0.04
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	1497	15.0	22,455	0.115	0.754	0.00	0.02
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	3978	15.0	59,670	0.341	2.843	0.02	0.19
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	1872	15.0	28,080	0.341	2.843	0.01	0.09
Heavy-Duty Deisel Vehicle 2B	Diesel	LDDT12	2230060	1872	15.0	28,080	0.115	0.754	0.00	0.02
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	2620	15.0	39,300	0.341	2,843	0.01	0.12
Heavy-Duty Diesel Vehicle 7	Diesel	HDDV7	2230073	2808	15.0	42,120	0.268	1,968	0.01	0.09
Trailers										<u> </u>
Heavy-Duty Diesel Vehicle 5	Diesel	HDDV5	2230072	0	2.0	0	0.181	1.533	0.00	0.00
Personnel Carrier									0.00	
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	12792	20.0	255 840	2 595	2 727	0.73	0.77
Diesel Commercial Bus	Diesel	HDDBT	2230075	2808	35.0	98,280	0.236	4 4 1	0.03	0.77
Light-Duty Diesel Truck 1 and 2	Diesel	LODT12	2230060	0 .	20.0	0	2 595	2 727	0.00	0.00
Emergency Vehicles	2.000.			· · · · · · · · · · · · · · · · · · ·	1 20.0	Ť	2.000		0.00	
Light-Duty Diesel Truck 1 and 2	Diesel	LDDT12	2230060	842	30.0	25 260	2 595	2 727	0.07	0.08
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	218	20.0	4 360	0.127	0.682	0.07	0.00
Concrete / Aggregate	210001	110010	LEGGOTE	2.0		1,000	0.127		0.00	
Heavy-Duty Diesel Vehicle 88	Diesel	HDDV8b	2230074	0	15.0	0	0.341	2 843	0.00	0.00
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	0	15.0	0	0.341	2 843	0.00	0.00
Heavy-Duty Deisel Vehicle 6	Diesel	HDDV6	2230073	ů – – –	15.0	0	0.017	1 577	0.00	0.00
Concrete Batch Plant	2.000.		2200070		1 10.0	Ť	0.217		0.00	0.00
Heavy-Duty Diesel Vehicle 8B	Diesel	HDDV8b	2230074	0	10.0	0	0.341	2 843	0.00	0.00
Site Preparation	010001	1100100	ELOUDIN	, v	10.0		0.041		2	0.00
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	0	25.0	0	0 127	0.682	0.00	0.00
Heavy-Duty Diesel Vehicle 8A	Diesel	HDDV8a	2230074	Ő	20.0	0	0.295	2,183	0.00	0.00
Heavy-Duty Diesel Vehicle 3	Diesel	HDDV3	2230072	0	25.0	õ	0.127	0.682	0.00	0.00
Light-Duty Diesel Truck 1 and 2	Diesel	LODT12	2230060	ŏ	30.0	ő	2 595	2 727	0.00	0.00
	0.000	200712	LLOUDUU			· · · · · · · · · · · · · · · · · · ·	2.000		0.00	0.00
	1. 1. <u>1.</u> 1. 1. 1.			Number of	Round-	Vehicular	Mob	ile 6.2	2010 Er	nissions
Description	Fuel	Vehicle	SCC	Vehicles ³	Distance	Miles Trav	FFe (a/mi) 1	10	ne) ²
	Туре	Class		Veniores	miles	VMT	VOC		VOC .	
Employee Committe/ Dellyery		0,000		ka ana a	1	3.5	1			
Light Duty Gasoline Vehicle in DC NA Area	Gasolino	LDGV	2201011	370	1 40.0	4720020	0.407	0.205	2 1 2	1 40
Hoavy Duby Diasel Vehicle III DO IVA Area	Diacol		2201011	3/9	40.0	4/29920	0.407	0.200	2.12	1.49
neavy-buty bieser vehicle ob in bo NA Area	Diesei		22300/4	· · · · ·	100.0	· ·	0.341	2.043	0.00	+ ^{0.00}
						road vebicie tr	tal (direct	& Indiraci)	3.52	4 00
		L					an junicel	a maneoty	0.52	1 4.03
Employee Commute/ Delivery	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.		· •		Sec. Sec. Sec.	1810,000,000		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	a to a second	হিচেন্ড মণ্ড
Light-Duty Gasoline Vehicle in Balt. NA Area	Gasoline	LDGV	2201011	95	20.0	592800	0.407	0.285	0.27	0.19
Heavy-Duty Diesel Vehicle 8B in Balt. NA Area	Diesel	HDDV8b	2230074	0	50.0	0	0.341	2.843	0.00	0.00
					Bal	timore NA Area	a onroad v	ehicle total	0.27	0.19

Notes Note 1: U.S. Environmental Protection Agency "Mobile Source Emission Factor Model". Values generated by simulating the model at the project conditions Note 2: Annual Emissions are calculated using the following calculation Note 3: Number of vehicles is daily vehicles for employee commuting and annual number of trips for commerical deliveries

Summary of 2018 Onroad Emissions		
	2018 Emis	sions (tons)
	VOC	NOx
Total Onroad DC NA Area Emissions(Report in Table 3-1)	3.52	4.09
Baltimore Onroad NA Area Emissions (Reported in Table 3-2)	0.27	0.19
Onroad DC NA Area Construction Emissions (Reported in Table 3-3)	0.00	0.00

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Table B-4 Marine Engine Emissions

	Fuel	Equipment Horsepower							Load	Emissio	n Factor	Corre	ction.	VOC:	VOC tons	VOC tons	VOC tons	VOC	VOC	NOx.	NOx tons	NOx tons	NOx, tons	NOx tons	NOx tons
Description	Type	hp	2011 hrs	2012 hrs	2013 hrs	2014 hrs	2015) hrs	2016 hrs		HC (voc)	NOx:	HC	NOx	2011)	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
Barge - in DC-MD-VA nonattainment area	Diesel	2400	0	135	135	135	135	135	0.79	0.50	9.8	1.00	1.00	0.00	0.11	0.11	0.11	0.11	0.11	0.00	2.06	2.06	2.06	2.06	2.06
Barge Auxiliary - in DC-MD-VA NA area	Diesel	205	0	135	135	135	135	135	0.56	0.27	6.8	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.09	0.09	0.09
TugBoat - for degding activity	Diesel	1200	720	0	0	0	0	0	0.79	0.50	9.8	1.00	1.00	0.28	0.00	0.00	0.00	0.00	0.00	5.50	0.00	0.00	0.00	0.00	0.00
TugBoat Auxiliary - for dredging activity	Diesel	100	720	0	0	0	0	0	0.56	0.27	6.8	1.00	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00
18' Boat - for dredging activity	Gasoline	225	720	0	0	0	0	0	0.79	0.50	9.8	1.00	1.00	0.05	0.00	0.00	0.00	0.00	0.00	1.03	0.00	0.00	0.00	0.00	0.00
											TOTAL D	C area	(Tons)	0.34	0.11	0.11	0.11	0.11	0.11	6.75	2.15	2.15	2.15	2.15	2.15
							•																		

Description	Fuel	Equipment Horsepower							Load	Emissio (a/kV	n Factor V-hr) ²	Corre Fac	tor ^{3 1}	VOC. tons	tons	tons	tons	VOC tons	VOC tons	NOx: tons	NOx tons	NOx tons	NOx tons	tons	NOx tons
Description	Туре	, hp	2011 hrs	2012 hrs	2013 hrs	2014 hrs	2015 hrs	2016 hrs	Factor	HC (voc)	NOx	HC	NOx	2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
Barge - in Baltimore nonattainment area	Diesel	2400	0	430	430	430	430	430	0.79	0.50	9.8	1.00	1.00	0.00	0.34	0.34	0.34	0.34	0.34	0.00	6.57	6.57	6.57	6.57	6.57
Barge Auxiliary - in Baltimore NA area	Diesel	205	0	430	430	430	430	430	0.56	0.27	6.8	1.00	1.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.28	0.28	0.28	0.28	0.28
										TOTA	L Baltimo	re area	(Tons)	0.00	0.35	0.35	0.35	0.35	0.35	0.00	6.84	6.84	6.84	6.84	6.84

NOTES:

Note 1: EPA Load Factors for Harbor Crafts from Table 3-3 of " USEPA Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories Final Report" April 2009

Note 2: Harbor Craft Emission Factors from Table 3-8 of " USEPA Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories Final Report" April 2009

Note 3: Harbor Craft Fuel Correction Factors from Offroad Diesel Fuel from Table 3-9 of USEPA Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories Final Report April 2009

Note 4: Annual Emissions are calculated using the following equation from Section 3.0 Harbor Craft of * USEPA Current Methodologies in Preparing Mobile Source Port-Related Emission Inventories Final Report* April 2009 (Emission factor (g/kW-hr) * horsepower * hours operated * load factor*correction factor) / (1.341 hp-hr/kWh*2000 lb/ton * 453.59 g/lb)

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Table B-5 Boiler Emissions

	2010 hrs	2011 hrs	2012 hrs	2013 hrs	2014 hrs	-2015 hrs	2016 hrs	2017 hrs	2018 hrs
Concrete Batch Plant									
Auxiliary Oil-fired Boiler	0	0	1040	3120	3120	3120	2080	0	0
NOx emissions (tons)	0	0	1.54	4.62	4.62	4.62	3.08	0	0
VOC emissions (tons)	0	0	0.02	0.05	0.05	0.05	0.03	0	0

Boiler Heat Input Rating Typical Distillate Oil HHV 20 MMBtu/hr (assumed) 0.135 MMBtu/gallon

NOx emission factor VOC emission factor 20 lb/1,000 gallons 0.2 lb/1,000 gallons AP-42 Section 1.3 9/98, Table 1.3-1 AP-42 Section 1.3 9/98, Table 1.3-3