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May 19, 2022

**Michigan Materials & Aggregate Co
Stoneco of Michigan, Sharon Township, Manchester Site
Demonstration of Need Addendum**

1. Need by Applicant

- **Demand:** Identification for each user and use of the materials proposed to be extracted on the new site-

- Location of each user

Each “user” of our materials is synonymous with our customers who create the demand. Each specific customer that Stoneco can identify in our market area by name and location, including our affiliates, is listed in the attached Table A¹. This is based on the current customer information from the Zeeb Road and Burmeister facilities and will also be the customer base for the proposed Manchester Site. This list is always changing as we get new customers. It does not identify those customers who complete cash sales transactions for which we do not have location information.

- Location of operation which has been the source of supply in the past (if applicable), and whether each of such operations can be extended or expanded.

The proposed Manchester Site, and the volume of natural resources that it will provide, are essential for Stoneco to meet the demand of itself and its customers which has been shown to be approximately 1.5 million tons per year. Stoneco currently is able to meet the demand and needs of itself and its customers with two nearby operations². These include the “Zeeb” Operation located at 2670 S. Zeeb Road in Ann Arbor, MI, and the “Burmeister” operation located at 6068 Steinbach Road, Ann Arbor, MI. Both sites have limited natural resources remaining to be mined, with full production at the Zeeb operation ending in 2023, and Burmeister’s full production now projected to end in 2025 and ending totally in 2027. The ability to expand either site has been carefully considered. Zeeb Road is not able to be expanded, while Burmeister recently received municipal approval for an expansion that is expected to add 3 to 5 years of useful life and at this time, has no room for expansion. Burmeister was previously slated to have full production ending in 2021². The projection for the useful life of these facilities is provided in Table 1².

Table 1: Stoneco of Michigan – Historical and Project Production

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Site Name	Produced Tons	Produced Tons	Produced Tons	Produced Tons	Produced Tons*	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons
455 - Burmeister	704,466	726,634	594,805	697,945	753,135	759,743	775,697	791,987	808,619	825,600	Closed
486 - Zeeb	855,237	954,731	767,901	688,195	514,077	558,742	570,476	Closed	Closed	Closed	Closed
Total	1,559,703	1,681,365	1,362,707	1,386,140	1,267,211	1,318,485	1,346,173	791,987	808,619	825,600	Closed

*Produced through August 2021

- Beginning date when need for materials for each use will commence at new site
 Stoneco will need to begin construction of the Manchester Pit in 2022 to prepare the site for production and support the full demand for the Zeeb facility that is expected to be depleted on or before the year 2024³. This projected depletion schedule is shown in Table 1.
- For each site, what percentage of Cadillac Asphalt’s sand and gravel is supplied by Stoneco controlled companies.
 Approximately 50% of Cadillac Asphalt’s sand and gravel is supplied by Stoneco-controlled companies.
- Type of use
 Types of uses by Stoneco Affiliated companies include sand and gravel for asphaltic concrete at the HMA (hot mix asphalt) locations in Ann Arbor, Rawsonville, Monroe, Romulus and Detroit. All other customers include the uses below. The type of use for each user includes but is not limited to⁴:
 1. Concrete Production. This demand is supported by users listed in Table A including Great Lakes Ready Mix, LLC, Superior Materials, Smyrna Ready Mix Concrete, Hercules Concrete, Doan Companies, Messina Concrete, Inc., Darby Ready Mix, and Florence Cement Company.
 2. Asphaltic Concrete Production & Hot Mix Asphalt. This demand is supported by users listed in Table A including, Cadillac Asphalt, Al’s Asphalt Paving, Co., Ajax Paving Industries, Asphalt Specialist, Inc, Midwest Pavement Contracting and Erie Construction.
 3. General Residential Construction. Various construction companies are identified in Table A where their demand for aggregates is used in residential construction including Bush and Sons Grading & Excavating, Liparoto Construction, and Tanner Excavating.

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4. Highway and County Road Construction & Bridge Construction. The demand supported by users listed in Table A includes E.T. MacKenzie, Dan's Excavating, Angelo Iafrate Construction Co., Todd Alspaugh & Associates, Briskey Brothers Construction, Great Lakes Contracting, and C&D Hughes, Inc.
 5. Septic field Construction. Various excavating companies are identified on Table A create the demand for drain field stone and filter sand used in septic system construction and include Briske Bros., Jim Elliott Excavating, Citidal Excavating, Milan Vault, Inc., and Spiegelberg Excavating.
 6. Examples of uses associated with the specific materials are shown in Table C which the proposed Sharon Township proposed Manchester Site will supply.
- Type of materials to be used
Specific products used by the customers include various MDOT specified products as well as commercial products with no specification or generally accepted specifications⁵. Specific types of uses Stoneco customers consumed are listed in Table C.
 - Number of tons of materials projected to be used each year for the foreseeable future for each use

The volume of our customer demand from 2015 through 2020 averaged 1,494,856 tons of sand and gravel products or 1.5 million tons (rounded) from the customers listed in Table B⁶. We forecasted the next four years in aggregate volume consumption and presented these volumes in Table 2. The forecasted projected future use was calculated by multiplying the previous year's volume by the projected future change in aggregate consumption¹⁰. These projected changes were completed by our marketing research consultant, FMI. The base volume of 1.5 million tons of sand and gravel was used for the year 2021. The foreseeable future consumption volume was calculated by multiplying the previous year's forecasted production volume (tons) by the projected change in volume (%) in future projected volume on all virgin aggregates produced in Southeast Michigan. This is equal to the projected volume (tons) our customers will use in the foreseeable future for each respective year. A summary of these calculations is provided in Table 2:

Table 2: Stoneco Projected Demand – Washtenaw County Facilities

Year	2022	2023	2024	2025
Forecasted Growth in Consumption	1.1%	2.1%	3.5%	2.1%
Customer “user” demand (million tons)*	1.53	1.59	1.65	1.70

*assumes a base value of 1.5 million tons for year 2021

- o **Supply:** For each user and use identified to extent feasible specify each and every other operation that could potentially satisfy in whole or part the need for such use, including operations-

- o Owned or operated by the applicant; and

The proposed Sharon Township Operation and the volume of natural resources that it will provide is essential for Stoneco to meet the demand of itself and its customers which has been shown to be approximately 1.5 million tons per year. Stoneco currently is able to meet the demand and needs of itself and its customers with two nearby operations². These include the “Zeeb” Operation located at 2670 S. Zeeb Road in Ann Arbor, MI, and the “Burmeister” operation located at 6068 Steinbach Road, Ann Arbor, MI. Both sites have limited natural resources remaining to be mined, with full production at the Zeeb operation ending in 2023, and Burmeister’s full production now projected to end in 2025 and ending totally in 2026. The projection for the useful life of these facilities is provided in Table 1².

Table 1: Stoneco of Michigan – Historical and Project Production

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Site Name	Produced Tons	Produced Tons	Produced Tons	Produced Tons	Produced Tons*	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons
455 - Burmeister	704,466	726,634	594,805	697,945	753,135	759,743	775,697	791,987	808,619	825,600	Closed
486 - Zeeb	855,237	954,731	767,901	688,195	514,077	558,742	570,476	Closed	Closed	Closed	Closed
Total	1,559,703	1,681,365	1,362,707	1,386,140	1,267,211	1,318,485	1,346,173	791,987	808,619	825,600	Closed

- o *Produced through August 2021

- o Owned or operated by other persons

Previous submittals from Stoneco to Sharon Township identified other sand and gravel operations within a 25-mile radius and subsequently expanded it to a 60-mile radius of the proposed Manchester Pit⁸. Sharon Township’s planning consultant attempted to do the same⁹. Both attempts at identifying all of the

operations that could potentially satisfy in whole or part, the need for such use, were unsuccessful. The data is inconclusive and it was clear that a complete list of operations, other than those owned by Stoneco, could not be arranged mainly due to incomplete reporting and the fact there is no feasible method of identifying operations owned by other persons.

In addition, even if the number of operations could be identified accurately, it would not be possible to identify the reserve volumes, production capabilities, or specific products that Stoneco customers demand and shown in the attempt to receive trustworthy data from the operations or Townships that would supply a response. Most importantly however, as demonstrated in the FMI report¹¹, available information indicates that existing sources would not be able to fully meet the projected demand in the foreseeable future.

The only meaningful response is that Stoneco has provided data to prove that its operations at Zeeb Road and Burmeister can provide 1.5-million tons of materials until the year 2023 and thereafter, only be able to supply about half of that from the Burmeister operation because the Zeeb Road facility will be closed². Stoneco needs to open another operation prior to 2024 in order to start supplying materials for its customer's demands.

- The approximate volume of materials at an operation already available from all exiting suppliers (owned and operated by the applicant or others) within the feasible delivery area within the market served by the applicant's proposed new site.

As we have repeatedly told the Planning Commission, specific production volumes, reserves, and depletion rates at each of Stoneco's competitor locations is confidential business information that is not generally available and would arguably be in violation of federal anti-trust laws for Stoneco to even request.

Nevertheless, we retained a marketing consultant who has used publicly available economic data, labor statistics, geographic data, census data, construction forecasting, infrastructure funding data, geological and commodity information, and specific market information to provide a reasonable best estimate of the volume of materials already available from identified existing suppliers within the Southeast Michigan 60-mile radius market area of the Manchester Pit proposed location. After considering comments from the Sharon Township's Engineer Consultant, the Market Analysis was revised. This revised report dated March, 2022 concluded (after including the additional counties, accounting for inflation,

and extending the forecast out to 2025) that there is a shortfall of 524,000 tons between the total available MDOT-spec material (within a 60-mile radius of the proposed Manchester Pit) and the amount of MDOT-spec material produced at Zeeb and Burmeister operations, which the Manchester Pit is intended to replace. Stoneco’s legal counsel submitted these facts in a letter to the Sharon Township Board dated March 30, 2022¹⁰.

- The estimate of the future duration of each of such existing operations
As answered in the above items, to the extent feasible, Stoneco has made an attempt to identify all the operations within Townships in the 60-mile radius⁸. Sharon Township’s planning consultant attempted to do the same⁹. Because both attempts include several Townships or municipalities that were non-responsive including Sharon Township, the data is inconclusive as to an estimate of the future duration of each existing operation and it would be purely speculative to do so. As we have repeatedly told the Planning Commission, specific production volumes, reserves, and depletion rates at each of Stoneco’s competitor locations is confidential business information that is not generally available and would arguably be in violation of federal anti-trust laws for Stoneco to even request.

- Whether each of such existing operation can be extended or expanded
As answered in the above items, to the extent feasible, Stoneco has made an attempt to identify all the operations within Townships in the 60-mile radius⁸. Sharon Township’s planning consultant attempted to do the same⁹. Because both attempts include several Townships or municipalities that were non-responsive including Sharon Township, the data is inconclusive as to an estimate of the future duration of each existing operation and it would be purely speculative to do so. As we have repeatedly told the Planning Commission, specific production volumes, reserves and depletion rates at each of Stoneco’s competitor locations are confidential business information that is not generally available and would arguably be in violation of federal anti-trust laws for Stoneco to even request.

2. Need by the Market Served by the Applicant

- **Demand:** Identification for each user and uses that will create the demand for the sand and gravel proposed to be provided from the “natural resources located on the relevant property,” including-
 - Location of each user or use that will demand materials from the subject property.
Each specific user that Stoneco can identify in their market area by name and

location (customer) and their associated address is listed in the attached Table A¹. These users will support the demand for sand and gravel products at the proposed Manchester Pit. This is based on factual information from the current customers supported by the Zeeb Road and Burmeister facilities. Table A contains the customer's name, phone number and address for each user. It also includes HMA locations of the Stoneco affiliates in Ann Arbor, Rawsonville, Monroe, Romulus and Detroit. It is clear from this data that Stoneco will need to support historical customer demand.

We expect this demand to continue based on the market analysis provided by FMI containing in part, specific project information and the most recent USGS commodity projections.

As this question relates to "use" and based on the historical volumes of materials sold from the Zeeb and Burmeister facilities, 55% were sold directly to MDOT projects and the remaining 45% was sold to customers for use on other types of "non-MDOT" projects. Specific uses for the MDOT materials can be found in the MDOT Projects listing for the next five years. A list of specific MDOT projects in the local area for which the Stoneco Washtenaw Operations service includes the Metro Region (Detroit Market) and University Region (Ann Arbor and Surrounding Counties)¹⁰. These project lists identify the type of project (e.g. Bridge Replacement & Preservation), the County, Route Name, Location, the specific type of work and the year in which the project will be constructed creating the use and demand.

Additionally, the most recent USGS projections referenced in the 2022 Sand and Gravel Commodity Summaries:

"Construction sand and gravel production was about 1.0 billion tons in 2021, an increase of 6% compared with that in 2020. Apparent consumption also increased by 6% to 1.0 billion tons. Consumption of construction sand and gravel increased in 2021 because of growth in the private and public construction markets. Usually, commercial and heavy-industrial construction activity, infrastructure funding, labor availability, new single-family housing unit starts, and weather affect growth in construction sand and gravel production and consumption. Long-term increases in construction aggregates demand are influenced by activity in the public and private construction sectors, as well as by construction work related to infrastructure improvements around the Nation. The underlying factors that would support a rise in prices of construction sand and gravel are expected to be present

in 2022, especially in and near metropolitan areas.” In addition, “On November 15, 2021, the Infrastructure Investment and Jobs Act was signed into law. The legislation will reauthorize surface transportation programs for 5 years and invest \$110 billion in additional funding to repair roads and bridges and support major, transformational projects.” (USGS, Mineral Commodity Summaries 2022-Sand and Gravel).

- Beginning date when need for materials for each use or user will commence, and basis for knowledge of such facts. The need for materials by the “users” or customers Stoneco currently supports from its Washtenaw County operations is expected to begin as soon as the mineral resources are depleted from the Burmeister and Zeeb Road locations. This date is projected to be in the year 2023. Users will be gradually transitioned to the Manchester facility as our reserves are depleted. The basis for this knowledge is the total volume of proven reserves located at the Burmeister and Zeeb Road facilities and subtracting the projected sales from those facilities as shown in Table 1 below².

For each user (customer), we cannot provide this information because we cannot predict when each specific customer will need material. However, on an aggregate basis, we can predict with reasonable accuracy, the total volume of demand that would be needed by all customers annually.

Table 1: Stoneco of Michigan – Historical and Project Production

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Site Name	Produced Tons	Produced Tons	Produced Tons	Produced Tons	Produced Tons*	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons	Projected Produced Tons
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○ *Produced through August 2021

- Type of use.

The type of use for each user includes but is not limited to:

1. Concrete Production. This demand is supported by users listed in Table A including Great Lakes Ready Mix, LLC, Superior Materials, Smyrna Ready Mix Concrete, Hercules Concrete, Doan Companies, Messina Concrete, Inc., Darby Ready Mix, and Florence Cement Company.

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2. Asphaltic Concrete Production & Hot Mix Asphalt. This demand is supported by users listed in Table A including, Cadillac Asphalt, Al's Asphalt Paving, Co., Ajax Paving Industries, Asphalt Specialist, Inc, Midwest Pavement Contracting and Erie Construction.
 3. General Residential Construction. Various construction companies are identified in Table A where their demand for aggregates is used in residential construction including Bush and Sons Grading & Excavating, Liparoto Construction, and Tanner Excavating.
 4. Highway and County Road Construction & Bridge Construction. The demand supported by users listed in Table A includes E.T. MacKenzie, Dan's Excavating, Angelo Iafrate Construction Co., Todd Alspaugh & Associates, Briskey Brothers Construction, Great Lakes Contracting, and C&D Hughes, Inc.
 5. Septic field Construction. Various excavating companies are identified on Table A create the demand for drain field stone and filter sand used in septic system construction and include Briske Bros., Jim Elliott Excavating, Citald Excavating, Milan Vault, Inc., and Spiegelberg Excavating.

Examples of uses associated with the specific materials are shown in Table C. Generally, in the market area, all producers make similar products. Of the virgin aggregate used in Southeast Michigan, 36% of the sand and gravel is used for MDOT specified products¹², and the remainder is used for non-MDOT specified products in building construction and specialty products such as filter sand, and cattle bedding, and general fill material.

- o Duration of each use
For each use, the duration is in perpetuity as long as society needs roads, bridges, buildings, homes, septic fields, and anything that would use sand and gravel. The data for Southeast Michigan Building Construction Forecast, Highway Construction Forecast, and nonresidential building projects in the planning and design phase are all positive growth forecasts of 17%, 15%, and 5-7% from 2022 to 2024 respectively¹¹.
- o Type of materials to be demanded

Projected future demand is expected to be similar to past demand for each type of product. The specific material types can be associated with its use. According to our market analysis, MDOT-specified sand and gravel are predominantly used for

asphalt pavement and ready-mixed concrete, and to a lesser extent, for road gravel¹², and the remainder is used for non-MDOT specified products in building construction and specialty products such as filter sand, cattle bedding, and general fill material. Additionally, Stoneco has provided a list of materials that the proposed Sharon Township facility will supply along with their associated uses which are presented in the attached Table C.

- Number of tons of materials projected to be demanded each year for the foreseeable future for each use or user.

Our market analysis predicts the demand each year (tons) for the foreseeable future. This can be broken down into each use based on the reported uses in the readily available USGS commodity summaries for sand and gravel (construction) and crushed stone.

Table 3: Tons of Materials Projected To Be Demanded For Each Use		YEAR					
		% of Total Use	2021	2022	2023	2024	2025
All virgin aggregates 60-mile radius			26,070,000	26,364,289	26,911,054	27,849,980	28,438,540
Sand & Gravel Forecasted Demand 60-mile radius		65%	16,815,150	17,004,966	17,357,630	17,963,237	18,342,858
	portland cement	46%	7,734,969	7,822,285	7,984,510	8,263,089	8,437,715
	road base, coverings and stabilization	21%	3,531,182	3,571,043	3,645,102	3,772,280	3,852,000
	construction fill	13%	2,185,970	2,210,646	2,256,492	2,335,221	2,384,572
	asphaltic concrete, aggregate and other bituminous mixtures	12%	2,017,818	2,040,596	2,082,916	2,155,588	2,201,143
	miscellaneous (non-specified)	4%	672,606	680,199	694,305	718,529	733,714
	Specialty Products (specified)	4%	672,606	680,199	694,305	718,529	733,714
Crushed Stone Forecasted Demand 60-mile radius		36%	9,254,850	9,359,323	9,553,424	9,886,743	10,095,682
	Construction Aggregate	72%	6,663,492	6,738,712	6,878,465	7,118,455	7,268,891
	Cement Manufacturing	16%	1,480,776	1,497,492	1,528,548	1,581,879	1,615,309
	Lime Manufacturing	8%	740,388	748,746	764,274	790,939	807,655
	Agricultural Uses	2%	185,097	187,186	191,068	197,735	201,914
	Miscellaneous	2%	185,097	187,186	191,068	197,735	201,914

We expect this demand to continue based on the market analysis provided by FMI containing in part, specific project information and the most recent USGS commodity projections for 2021 and assuming the percentage of usage for each product will be similar in the future.

- **Supply:** Identification to the extent feasible of-
 - The approximate volume of materials at an operation already available from all existing suppliers (owned and operated by the applicant or others) within the feasible delivery area within the market served by the applicant’s proposed new site.

As we have repeatedly told the Planning Commission, specific production volumes, reserves, and depletion rates at each of Stoneco's competitor locations are confidential business information that is not generally available and would arguably be in violation of federal anti-trust laws for Stoneco to even request.

Nevertheless, our market research shows that Stoneco provided a list of all operations within the 60-mile radius of the proposed Manchester Pit¹⁰. Within the 60-mile radius (feasible market area radius imposed by Sharon Township Ordinance), there are 62 active plants (existing suppliers) producing virgin aggregates. Seven (7) of these are crushed stone quarries; the remaining fifty-five (55) are S&G plants. The proposed Stoneco Sharon Township Operation will produce only sand and gravel, it is not a crushed stone operation. The market analysis dated March 10, 2022, shows that the approximate average annual production of sand and gravel in the 60-mile radius was 16.8-million tons. The locations of these quarries, production, and capacity are provided in the FMI March 10, 2022, Market Analysis on pages 8 through 12.

- The estimate of the future duration of each of such existing operations

As answered in the above items, to the extent feasible, Stoneco has made an attempt to identify all the operations within Townships in the 60-mile radius⁸. Sharon Township's planning consultant attempted to do the same⁹. Because both attempts include several Townships or municipalities that were non-responsive including Sharon Township, the data is inconclusive as to an estimate of the future duration of each existing operation and it would be purely speculative to do so. As we have repeatedly told the Planning Commission, specific production volumes, reserves, and depletion rates at each of Stoneco's competitor locations are confidential business information that is not generally available and would arguably be in violation of federal anti-trust laws for Stoneco to even request.

- Whether each of such existing operation can be extended or expanded

As answered in the above items, to the extent feasible, Stoneco has made an attempt to identify all the operations within Townships in the 60-mile radius⁸. Sharon Township's planning consultant attempted to do the same⁹. Because both attempts include several Townships or municipalities that were non-responsive including Sharon Township, the data is inconclusive as to an estimate of the future duration of each existing operation and it would be purely speculative to do so. As we have repeatedly told the Planning Commission, specific production volumes, reserves, and depletion rates at each of Stoneco's competitor locations are confidential business information that is not generally available and would arguably be in violation of federal anti-trust laws for Stoneco to even request.

REFERENCES TO PREVIOUSLY SUBMITTED DOCUMENTS

¹Previously submitted to Sharon Township in correspondence; from Stoneco in the application narrative dated February 17, 2021 section Part B 3 (page 6); from Natural Resources Management, LLC dated April 5, 2021 Item I on page 3; from Stoneco in the revised application packet submitted May 5, 2021 section C.4.d, Part A1 and A3 pages 6 and 7; from Stoneco revised application response date August 2, 2021 Section 5.12 d. response 1 and f; from Stoneco dated December 23, 2021 item (4)a “*need by applicant 4a.pdf*”.

²Previously submitted to Sharon Township in correspondence dated February 17, 2021 section C.4.d., C.4.e., and C.4.f of the narrative (page 2 and 3); Part A3 (page 5); December 23, 2021 item (3) titled *Table 1: Washtenaw County Extraction Operations*; From Honigman, LLC dated March 30, 2022 page 3, item 4.

³Previously submitted to Sharon Township in correspondence dated February 17, 2021 section C.4.e. of the narrative (page 2); Part B7 (page 7 and 8); and December 23, 2021 item (3) titled *Table 1: Washtenaw County Extraction Operations*.

⁴Previously submitted to Sharon Township in correspondence dated February 17, 2021 section C.4.d., C.4.f.; in correspondence of the narrative (page 2) and Part B 3a. on page 6.

⁵Previously submitted to Sharon Township in correspondence: from Stoneco dated February 17, 2021 section C.4.c. of the narrative (page 2), Part A 1. Page 5, Part B.1 page 5; from Stoneco dated December 23, 2021 item (1) page 1 and in the attached document “*need by applicant 1.pdf*” which is the same as the enclosed Table C of this document.

⁶Previously submitted to Sharon Township; in correspondence from Stoneco dated February 17, 2021, and April 30, 2021 item C.4.d of the application narrative and Part ‘A’ 2, Part ‘B’5 of the application; in correspondence submitted to Sharon Township dated December 23, 2021 item (3) titled *Table 1: Washtenaw County Extraction Operations*

⁷Previously submitted to Sharon Township; in correspondence from Stoneco dated February 17, 2021, and April 30, 2021 item C.4.d of the application narrative and Part ‘A’ 2, Part ‘B’4, and Part ‘B’7 of the application; in correspondence submitted to Sharon Township dated December 23, 2021 item (1) “*need by applicant 4a.pdf*” and (3) titled *Table 1: Washtenaw County Extraction Operations*.

⁸ Previously submitted to Sharon Township; in correspondence from Stoneco dated February 17, 2021, and April 30, 2021 item C.4.e of the application narrative and in the April 30, 2021 Sheet 3, Table 3, Sheet 4, and Exhibit A.

⁹Presented in Correspondence from Carlisle Wortman Associates, Inc. to Sharon Township Planning Commission dated August 23, 2021.

¹⁰ Based on Market Research presented in the Southeast Michigan Aggregates Study by FMI Consulting and dated December 2021 as presented in correspondence to Sharon Township dated December 23, 2021, and contains the project information for all MDOT Regions in the report Appendices. The FMI report was subsequently revised on March 10, 2022, based on comments received from Sharon Township and its consultants. The revised report was submitted to the Sharon Township Board of Trustees in a letter from Honigman LLP dated March 30, 2022. The shortfall in aggregates is discussed on page 9 of the FMI report. Projected future volume increases were calculated for Stoneco’s needs and the needs to the market based on the % change in future volumes for All Virgin Aggregates Produced in Southeast Michigan (tons) shown on page 13 of the FMI revised report.

¹¹Previously submitted to Sharon Township in correspondence dated December 23, 2021 item (1) page 2 in response to the “Need” by the market served by the applicant. The FMI report was subsequently revised on March 10, 2022, based on comments received from Sharon Township and its consultants and specifically addresses the “Need” by the market served by the applicant in the FMI revised report on pages 4 to 28.

¹²Previously submitted to Sharon Township in correspondence dated December 23, 2021 item (1) page 2 in response to the “Need” by the market served by the applicant. The FMI report was subsequently revised on March 10, 2022, based on comments received from Sharon Township and its consultants and specifically addresses the “Need” by the market served by the applicant in the FMI revised report on page 8.

¹³Previously submitted to Sharon Township in correspondence dated December 23, 2021 item (1) page 2 in response to the “Need” by the market served by the applicant. The FMI report was subsequently revised on March 10, 2022, based on comments received from Sharon Township and its consultants and specifically addresses the “Need” by the market served by the applicant in the FMI revised report on pages 13, 15 to 17 and 23 to 28.

¹⁴Previously submitted to Sharon Township in correspondence dated December 23, 2021 item (1) page 2 in response to the “Need” by the market served by the applicant. The FMI report was subsequently revised on March 10, 2022, based on comments received from Sharon Township and its consultants and specifically addresses the “Need” by the market served by the applicant in the FMI revised report page 9.

Stonoco of Michigan - Applicant
 19024 Pleasant Lake Higway, Manchester, Michigan

Table A: Summary Of Users that Create Demand

Customer	Phone	Address	City	Stat	Zip
Cadillac Asphalt LLC Rawsonvil	734-397-2050	2575 S Haggerty Rd Suite 100	Canton	MI	48188
Dan's Excavating	586-254-2040	12955 23 Mile Rd.	Shelby Twsp.	MI	48315
Fonson Company, Inc.	810-231-5188	7644 Whitmore Lake Road	Brighton	MI	48116
Al's Asphalt Paving, Co.	734-946-1880	25500 Brest	Taylor	MI	48180
Best Asphalt, Inc.	734-729-9440	6334 N. Beverly Plaza	Romulus	MI	48174
E.T. MacKenzie Company	517-627-8408	4248 W. Saginaw	Grand Ledge	MI	48837
Messina Concrete Inc.	734-241-8380	725 N Dixie Hwy	Monroe	MI	48162
Miles Trucking & Excavating	734-675-7480	5621 Hoover	Trenton	MI	48183
Ajax Paving Industries, Inc.	248-244-3300	1957 Crooks Rd., Suite A	Troy	MI	48084
Angelo Iafra Construction, C	586-756-1070	26300 Sherwood	Warren	MI	48091
Ellsworth Industries, Inc.	734-260-0360	41960 Ann Arbor Rd.	Plymouth	MI	48170
Metro Transport	810-229-4640	11800 Grand River	Brighton	MI	48116
Lou's Transport	248-332-5687	14860 Linwood St	Detroit	MI	48238
Jackie's Transport, Inc.	248-344-0047	7811 Chubb Road	Northville	MI	48168
Farmer & Underwood Trucking LT	734-485-1740	7401 Rawsonville Road	Belleville	MI	48111
Jack's Lawn Service, Inc.	734-243-3382	15550 Garden Stone Drive	Monroe	MI	48161
Masserant's Feed & Grain, Inc.	734-586-2451	P.O. Box 162	Newport	MI	48166
Doan Companies	734-971-4678	3670 Carpenter Road	Ypsilanti	MI	48197
Bush & Son Grading & Exc., Inc	734-654-8064	38735 Willow Road	New Boston	MI	48164
R J & J Enterprises	313-218-5207	10229 N. Dixie Hwy	South Rockwood	MI	48179
Corby Energy Services, Inc.	(734) 547-9237	P.O. Box 970	Belleville	MI	48112-0970
Brigill Trucking Co., Inc.	734-941-2496	16717 Merriman Rd.	Romulus	MI	48174
Asphalt Specialists, Inc.	248-334-4570	1780 E. Highwood	Pontiac	MI	48340
C & M Sand & Gravel, Inc.	248-437-5640	29715 Costello	New Hudson	MI	48165
C. & D. Hughes, Inc.	517-645-0111	3097 Lansing Road	Charlotte	MI	48813
Darby Ready Mix Concrete Co	517-547-7004	17375 US 12	Cement City	MI	49223
Liparoto Construction, Inc.	734-379-2136	27100 Cahill Rd.	Flat Rock	MI	48134
M & R Redi-Mix Inc.	419-445-7771	P.O. Box 53038	Pettisville	OH	43553
Nagle Paving Company	248-553-0600	39525 West 13 Mile Road Suite 300	Novi	MI	48377
Osburn Industries, Inc.	313-292-4140	5850 Pardee	Taylor	MI	48180
Oscar W. Larson Co.	248-620-0070	10100 Dixie Hwy	Clarkston	MI	48348
Sevenson Environmental Service	716-284-0431	3560 E. Elm	Monroe	MI	48162
T.K.M.S. Inc.	248-334-9035	14860 Linwood ST	Detroit	MI	48238
Todd Alspaugh & Associates	419-476-8126	415 East Stalene Rd	Toledo	OH	43612
Toebe Construction	248-349-7500	28990 Wixom Rd	Wixom	MI	48393
Cadillac - Dix Asphalt Llc	734-397-2050	2575 S Haggerty Rd Suite 100	Canton	MI	48188
Calo & Sons Construction, Inc.	248-468-9200	P.O. Box 702068	Plymouth	MI	48170
Tanner, Inc. dba Tanner Excava	734-424-0046	11877 N. Territorial	Dexter	MI	48130
Trans-Tek Transport, LLC	248-640-7840	25692 Lexington Dr, Unit 6	South Lyon	MI	48178
Aldridge Trucking Co., Inc.	810-232-8911	6090 Belford Rd.	Holly	MI	48442
Briskey Brothers Construction,	517-424-6519	P.O. Box 426	Tecumseh	MI	49286
Elbee Trucking	248-437-4210	331 N. Hagadorn St	South Lyon	MI	48178
Merlo Construction Co, Inc.	248-714-5486	4964 Technical Drive	Milford	MI	48381
Boones Express	248-583-7080	637 Brown Rd	Lake Orion	MI	48359
Jim Elliott Excavating	734-480-0444	6170 Stoney Creek Road	Ypsilanti	MI	48197
Culver Excavating Inc	517-521-3478	3113 Wallace Rd	Webberville	MI	48892
Vanston/O'Brien, Inc.	734-424-0661 EXT 112	8150 Jackson Road	Ann Arbor	MI	48103
Dix Block & Supply	313-928-3310	3250 Dix Ave	Lincoln Park	MI	48146000
G.V. Cement Contracting Co.	734-479-2180	20000 Dix-Toledo	Brownstown	MI	48183
Underwood Nursery, Llc	517-265-2481	4373 N. Adrian Hwy	Adrian	MI	49221
CLM Construction Co.	734-428-1977	7501 Pierce Road	Manchester	MI	48158
Diggitt Contracting Inc.	734-426-1612	8762 Harris Road	Dexter	MI	48130
Krull Construction	734-662-5621	859 South Wager Rd	Ann Arbor	MI	48103
Saladino Construction Co., Inc	734-665-5913	3303 N. Territorial Rd W	Ann Arbor	MI	48105
ABA Muldoon, LLC DBA Rock Conn	734-741-5070	6592 Whitmore Lake Road	Whitmore Lake	MI	48189
Marco & Sons Building co., Inc	734-455-5560	6275 Gotfredson	Plymouth	MI	48170
Taylor Building Supply	313-292-5990	24459 Vanborn Rd	Taylor	MI	48180
Bidigare Contractors, Inc.	248-735-1113	939 S. Mill Street	Plymouth	MI	48170
Ann Arbor Jackson Concrete For	734-475-5952	16347 Seymour Road	Grasslake	MI	49240
John R Tylutki Excavating Inc	517-531-3938	2089 Hendershot Rd	Parma	MI	49269
Citadel Excavating, Inc.	734-434-5411	4321 Pine Drive	Dexter	MI	48130
Miller Bros Const., Inc.	419-445-1015	1613 S Defiance St	Archbold	OH	43502
Clink Landscaping & Nursery	734-495-3779	9403 W. Michigan Ave	Saline	MI	48176
Lenawee County Road Comm	517-265-6971	2461 Treat Hwy	Adrian	MI	49221
Lester Brothers Excavation, In	517-764-7888	5405 E Michigan Ave	Jackson	MI	49201
Maybee Farmers Co-Op Inc	734-587-2135	7751 Bluebush Rd., P.O. Box 188	Maybee	MI	48159
Milan Burial Vault Inc	734-439-1538	10475 N Ann Arbor Rd	Milan	MI	48160
Osborne Concrete Company, Inc	734-941-3008	37500 Northline Road	Romulus	MI	481740000
Dunigan Bros Inc	517-787-4720	911 E South Street	Jackson	MI	49203000
Richard Sisson Trucking Inc.	517-546-4363	4860 Bentley Lake Rd.	Howell	MI	48843
Titanus Cement Wall Co., Inc.	248-478-3303	41115 Jo Drive	Novi	MI	48375
Eagle Excavation, Inc.	810-767-7878	4295 Holiday Drive	Flint	MI	48507
Troy Aggregate Carriers, Inc.	586-446-9200	6075 Elmridge	Sterling Heights	MI	48313
US Sand & Stone Co	810-714-1594	12102 Boldrey Drive	Fenton	MI	48430
Washtenaw Sand & Gravel	734-668-7915	4984 Earhart Rd	Ann Arbor	MI	48105
Superior Materials, LLC	248-788-8000	P.O. Box 2900	Farmington Hills	MI	48333
Niethammer Rock Stop, LLC	734-429-7179	9750 W. Michigan Ave.	Saline	MI	48176

Customer	Phone	Address	City	Stat	Zip
Bailey Excavating	517-750-3030	1073 Toro Drive	Jackson	MI	49201
Barton-Malow Co.	248-436-5000	26500 American Dr	Southfield	MI	48034
Century Cement Co., Inc.	734-284-8770	12600 Sibley Rd.	Riverview	MI	48192
L. D'Agostini & Sons, Inc.	586-781-5800	15801 23 Mile Road	Macomb Twp	MI	48042
Florence Cement Company	586-997-2666	51515 Corridor	Shelby Township	MI	48315
Douglas N. Higgins, Inc.	734-996-9500	3390 Travis Points Rd. Ste.A	Ann Arbor	MI	48108-0000
Mid American Gunite, Inc.	734-586-8868	8475 Port Sunlight	Newport	MI	48166
Midwest Pavement Contracting	248-684-9443	2530 E. Buno Road	Milford	MI	48381
R & R Asphalt	248-529-6005	2800 Childs Lake Road	Milford	MI	48381
Right-Way Asphalt Specialists	734-320-4637	20669 Wasson Rd	Gregory	MI	48137
Ryan Incorporated Central	608-754-2291	P.O. Box 206	Janesville	WI	53547
Waste Management	248-596-3719	P.O.Box 6700	Portland	OR	97228-6700
Environmental Wood Solutions I	248-391-9446	3500 Giddings Road	Orion	MI	48359
Blaze Contracting	313-361-1000	5640 St. Jean	Detroit	MI	48213
Rauhorn Electric	586-992-0400	14140 33 Mile Rd	Bruce Twp	MI	48065
C.M. Smith Sand & Stone LLC	734-854-7701	3972 St Anthony	Temperance	MI	48182
Hard Rock Concrete, Inc.	734-641-3333	38146 Abruzzi Drive	Westland	MI	48185
CB, Inc	248-398-7276	26641 Townley	Madison Heights	MI	48071
Willbee Transit Mix Co., Inc.	517-782-9493	2323 Brooklyn Road	Jackson	MI	49203
TR Transport	734-320-5897	3407 Sheffield Drive	Howell	MI	48855
Conveyed Aggregate Placement L	313-886-7266	280 Moross	Grosse Point Farms	MI	48236
CCI Excavating, LLC	517-513-3321	1550 Falahee Rd	Jackson	MI	49203
HM Environmental Services, Inc	586-469-0041	42826 N. Walnut	Mt. Clemens	MI	48043
M.J. Electric, LLC	906-774-8000	200 West Frank Pipp Drive	Iron Mountain	MI	49801
J. Ranck Electric, Inc.	989-775-7393	1993 Gover Parkway	Mt. Pleasant	MI	48858
Major Contracting Group, Inc	313-532-3212	12300 Greenfield Rd.	Detroit	MI	48227
ProEx, Inc.	810-743-4140	5403 S. Dort Hwy	Flint	MI	48507
Diponio Contracting	586-997-4150	51251 Simone Industrial Dr.	Shelby Township	MI	48316
Rolland Cement, Incorporated	734-777-5515	767 Arboretum Dr.	Saline	MI	48176
KPE Transport Co	517-456-4050	11617 Lima Center Rd	Clinton	MI	49236
Pamar Enterprises, Inc.	586-749-8593	31604 Pamar Court	New Haven	MI	48048
Rockworks, LLC	248-693-0920	1101 Rhodes Rd	Lake Orion	MI	48360
D & D Landscape Supply, LLC	517-540-0015	3575 W. Grand River Ave	Howell	MI	48855
Great Lakes Fusion	989-288-2656	7505 E. M71 Hwy.	Durand	MI	48429
Country Lane Landscaping	734-426-3525	5365 Vaughn Rd	Dexter	MI	48130
Lang Constructors, Inc.	810-743-6702	9145 Corunna Rd.	Flint	MI	48532
VanAssche Construction, Inc.	313-562-7834	37130 Eureka Rd	Romulus	MI	48174
Great Lakes Contracting Soluti	313-962-0400	2300 Edinburgh Rd.	Waterford	MI	48328
Toledo Topsoil & Mulch		5315 Stickney Ave	Toledo	OH	43697
I-75 Aggregates, Inc.	248-328-0780	14415 C.M.I. Drive	Holly	MI	48842
Elemental Designs, LLC dba: Lo	734-426-6600 Ext 202	1885 Baker Road	Dexter	MI	48130
The Hydaker-Wheat Lake Co.	231-832-2258	420 Roth St., Suite B	Reed City	MI	49677
Blue Ribbon Contracting, Inc.	734-955-2200	38210 Huron River Dr	Romulus	MI	48174
Erie Construction, LLC	734-676-8689	22051 Commerce Drive	Woodhaven	MI	48183
Lodi Farms LTD	734-665-5651	2880 S. Wagner Rd	Ann Arbor	MI	48103
Rock Bottom Stone Supply LLC	810-742-7235	4057 S. Dort Hwy	Burton	MI	48529
Midwest Construction, Concrete	734-972-5566	6315 E. Michigan Ave	Saline	MI	48176
Cortis Brothers Trucking & Exc	810-765-1426	6052 Starville Rd	Marine City	MI	48039
Perimeter, LLC	734-424-9280	8385 Jackson Rd	Ann Arbor	MI	48103
Donald Rentschler Farms	734-665-3003	4541 W. Ellsworth Road	Ann Arbor	MI	48103
John Hollowell & Associates,In	734-668-7519	2843 Waters Rd	Ann Arbor	MI	48103
Frleighs Landscape Nursery, I	734-426-5067	8600 Jackson Rd	Dexter	MI	48130
Kevin's Landscaping, Inc.	734-429-9889	9575 Austin Rd	Saline	MI	48176
Dave Evans Sand & Gravel Co.	313-580-8900	4782 John R Road	Troy	MI	48085
Great Lakes Gunite & Construct	248-320-1121	P.O. Box 7219	Sterling Heights	MI	48311
Sommerset Paving	734-929-0641	11734 Whitmore Lake Rd	Whitmore Lake	MI	48189
RBV Contracting, Inc.	313-974-6725	990 Oakman Blvd.	Detroit	MI	48238
Cash Sales - Burmeister		6068 Steinbeck Rd	Ann Arbor	MI	48103
Cash Sales - Zeeb West		2670 S. Zeeb Rd	Ann Arbor	MI	48103
Ed Stahley Construction & Exca	734-260-5293	17701 Troiz Rd	Manchester	MI	48158
Dani's Aggregate	734-379-9100	5700 Ready Rd	S. Rockwood	MI	48179
Tia Marie Trucking, Inc.	248-468-9201	P.O.Box 701134	Plymouth	MI	48170
H & B Poured Walls, LLC	734-854-4777	6363 W. Rauch Rd	Riga	MI	49276
Wm R Curtis, Inc.	248-960-1037	2555 Crumb Rd	Commerce Twp	MI	48390
Superior Lawn Care & Snow Remo	734-913-5296	4197 Carpenter Rd	Ypsilanti	MI	48197
Rathburn Contracting	734-341-2458 Cell	16553 Herman Rd	Manchester	MI	48158
CB Asphalt Maintenance,LLC	734-341-0438	36506 Sibley Rd.	New Boston	MI	48164
Bella's Transport	734-424-3460	6435 N. Territorial Dr	Dexter	MI	48130
Ellsworth Materials	734-260-0360	41960 Ann Arbor Rd.	Plymouth	MI	48170
Lee Industrial Contracting	248-332-4646	631 Cesar E. Chavez Ave	Pontiac	MI	48342
Bordine Nursery LTD	248-651-9000	1835 S. Rochester Rd	Rochester Hills	MI	48307
D & D Water & Sewer	734-368-2375	5700 Sheldon Rd	Canton	MI	48188
Cadillac Ann Arbor - Div# 35	734-662-0491	857 S. Wagner Rd.	Ann Arbor	MI	48174
Cadillac Romulus - Div#42	734-941-0200	13501 S. Huron River Dr.	Romulus	MI	48174
Doug Dysert Poured Walls, LLC	517-782-2200	1750 S. Cooper Street	Jackson	MI	49203
Freeport Supply Company	734-285-2324	20091 Pennsylvania	Brownstown	MI	48193
Great Lakes Superior Walls,LLC	269-751-4101	4555-134TH Ave.	Hamilton	MI	49419
APT Acquisition Construction C	706-277-1012	2680 Abutment Road	Dalton	GA	30021
Kokosing Industrial, Inc.	740-848-4916	6235 Westerville Rd.	Westerville	OH	43081
Panetta's Landscaping, Inc.	734-421-5299	8500 N. Middlebelt Rd.	Westland	MI	48185
JB Contractors, Inc	313-995-8301	2933 Military	Detroit	MI	48209
Great Lakes Environmental Serv	734-550-9199	405 Five Mile Rd.	Whitmore Lake	MI	48189

Customer	Phone	Address	City	Stat	Zip
CONTRACTOR'S OUTLET INC. DBA:	734-663-3372	6985 JACKSON RD.	ANN ARBOR	MI	48103
Dynamic Construction & Brother	313-724-7122	17765 Allen Rd.	Melvindale	MI	48122
Taplin Group, LLC	269-375-9595	5140 W. Michigan Ave.	Kalamazoo	MI	49006
Osborne Trucking	734-941-3008	37500 Northline Road	Romulus	MI	48174
D.E. Excavating LLC	517-998-3478	1302 Seymour Avenue	Jackson	MI	49201
Landfill Drilling & Piping Spe	608-709-2630	772 Lois Drive	Sun Prairie	WI	53590
Grader Farms Inc	586-709-3939	17351 27 Mile Rd	Ray	MI	48096
Great Lakes Ready Mix LLC	989-288-2656	7505 E. M71 Hwy Suite D	Durand	MI	48429
Spiegelberg Excaving, LLC	734-449-5476	9795 Spicer Road	Brighton	MI	48116
Jennifer's Transport LLC	734-270-2022	8457 Willow Road	Milan	MI	48160
State Crushing, Inc.	248-338-3310	2260 Auburn Road	Auburn Hills	MI	48326
Square One Poured Walls, LLC	517-673-1850	7451 West Monroe Rd.	Onsted	MI	49265
Cadillac Asphalt Monroe	734-397-2050	2575 S Haggerty Rd Suite 100	Canton	MI	48188
Greenfield Supply Center, LLC.	248-468-9200	P.O.Box 702068	Plymouth	MI	48170
Lacaria's Ucart Concrete & Sup	313-945-8880	6255 Schaefer Rd.	Dearborn	MI	48154
Waller Trucking LLC	734-507-2626	13150 Rawsonville Rd	Belleville	MI	48111
D'Angelo Bros., Inc.	248-444-3861	30750 W. 8 Mile Rd	Farmington Hills	MI	48336
Farmers Landscape	734-260-9472	3364 Service Rd.	Clinton	MI	49236
AJ's Maintenance & Services DB	734-480-0666	2416 E Michigan Ave.	Ypsilanti	MI	48198
Hercules Concrete, LLC	586-939-7000 Ex 2636	2791 W. Jefferson	Detroit	MI	48216
Johnson's Services, LLC	517-404-5477	5430 S M52	Stockbridge	MI	49285
Continuum Environmental Servic	330-662-4018	4816 Brecksville Rd Suite 15A	Richfield	OH	44286
MBH Investments, LLC DBA: R &	517-749-7141	672 N. M-52	Webberville	MI	48892
Artisan Contracting of Michiga	248-672-0983	1217 Enterprise Dr.	Highland	MI	48357
Local Life Maintenance Group,	734-408-1531	8171 Jackson Rd.	Ann Arbor	MI	48103
R-n-D DIRTWORK LLC	517-795-8359	9353 LEE Rd	JACKSON	MI	49201
SMYRNA READY MIX CONCRETE, LLC	615-355-1028	1136 2ND AVE NORTH	NASHVILLE	TN	37208
NUCAST LLC	313-532-4610	11745 WOODBINE	REDFORD	MI	48239
South Eastern Mulch & Recyclin	810-923-7247	7626 Strawberry Lake Rd	Whitmore Lake	MI	48189
Fiber Optic Management, LLC db	616-988-8731	7020 Southbell Dr SE	Caledonia	MI	49316

TABLE B: Tons Sold by Customer , Stoneco Washtenaw County Operations, 2015 through August 2021

Zeeb & Burmeister								
Customer	2015	2016	2017	2018	2019	2020	Through August 2021	Grand Total
339						102	106	208
455			145					145
(00468)	968	2,003	3,207	379	7,819	11,720	369	26,466
(00469)	331	94		306	53			783
(00474)					491	114		605
(00663)						112		112
(01459)						6,049		6,049
(02665)	213							213
(04091)			56					56
(10000)	157,572	171,664	211,518	173,585	167,333	125,520	60,808	1,068,000
(10010)	4,923	418	12,485	1,613	207	371	474	20,491
(10017)	8,035	36,172	6,098	20,965	25,742	23,619	1,188	121,818
(10019)			278				91	370
(10020)	345		50		249			644
(10022)	40	843	6,513	1,273	628	51	35	9,382
(10026)					183			183
(10031)	47,072	56,285	21,136	79,044	20,191	63,749	15,333	302,810
(10038)						120		120
(10061)	88,497	60,614	48,935	67,033	11,612	57,001	60,885	394,577
(10070)	145	81	293	335	497		93	1,444
(10083)	4,363	2,568	2,249	1,583	3,727			14,491
(10092)	756	1,584	241	52	56			2,687
(10093)	552							552
(10102)	31,878	31,045	21,839	14,607	13,757	41,725	889	155,741
(10110)	50		123	4,252	1,142	848	2,023	8,438
(10117)	534	636	665	409	190	520	343	3,298
(10118)	6,735	20,967	3,950	3,757	6,058	9,683	353	51,503
(10124)	592	13,126	1,271	3,267	4,501	4,971	1,829	29,556
(10125)	7,507	17,992	9,166	7,648	6,257	10,594	4,441	63,605
(10127)	49,555	12,486	4,281	3,528	7,573	6,311	16,184	99,918
(10147)	53	353	261	544	690	1,493	905	4,298
(10149)							50	50
(10161)	4,448	6,145	4,600	5,980	3,162	2,444		26,779
(10165)	444	1,127	215	625	488			2,898
(10168)	4,705	1,464	713	9,664	6,319	4,303	1,174	28,342
(10176)	51		48	441	2,672	1,712	1,021	5,945
(10186)				28	1,185		13	1,226
(10189)	2,239	533	1,133	44,346	34,373	1,945	785	85,355
(10198)	241	1,624	2,478	2,246	1,677	1,813	1,525	11,604
(10205)	242	764	24	1,013	1,940	2,727	1,274	7,985
(10220)				-				-
(10222)					28			28
(10240)		293	-					293
(10248)	1,120	3,501	5,445	3,148	1,869	219	70	15,373
(10250)	246	519		97	301	274		1,436
(10251)		90	737	336	1,418	7,735	24	10,340
(10288)			20		108			129
(10290)						53		53
(10318)						49		49
(10327)				224	2,059	81		2,364
(10361)				96				96
(10363)	730	43			96			868
(10368)	100	806	811					1,717

(10411)	149	200	746					1,096
(10417)						1,051	625	1,677
(10424)							180	180
(10457)	3,569	3,380	4,857	9,766	3,541			25,113
(10473)	24,860	75,387	73,535	60,423	62,310	56,820	22,876	376,211
(10476)	4,101	3,501		225	1,106	1,438		10,370
(10498)	2,772	1,726	303	149	395	966	535	6,846
(10499)	838	770	358	334	602	271	442	3,615
(10503)			5					5
(10515)			37	687				724
(10523)	126							126
(10529)	924	4,735	312	57		125		6,153
(10530)			126	249				374
(10537)							20	20
(10558)	43,330	28,200	14,812	29,721	20,647	11,961	7,739	156,411
(10562)		762						762
(10568)		154	27		196		7,886	8,263
(10578)	35				3			38
(10586)	1,060	1,034	1,477	407	259	291		4,528
(10592)				53				53
(10598)		20						20
(10600)	101,882	102,564	137,114	143,454	156,116	127,378	49,305	817,813
(10606)	37,514	32,440	127,611	78,824	8,949	23,624	19,297	328,260
(10616)		1,582		207	905			2,695
(10625)	742	668	1,177	1,805	1,534	3,007	541	9,473
(10628)	476	1,984						2,460
(10634)	91	376	2,772	569	298	167	93	4,366
(10639)		34		54				87
(10655)	5,812		42					5,854
(10662)				74				74
(10710)			101	225				326
(10720)	364	48			1,379	4,573		6,364
(10723)					1,226			1,226
(10737)	5,915	3,459	6,172	7,476	8,007	6,882	4,149	42,061
(10750)	72	78	197	42	74	63	38	564
(10770)		507						507
(10773)				98	17	19		134
(10776)	96							96
(10780)	51	10,161	248		50	206	150	10,867
(10796)	3,030	4,427	3,574	3,823	3,017	1,801	400	20,071
(10797)				13	224	10		248
(10801)					153			153
(10814)	279	140	96	139	64			717
(10833)	331	2,341	5,524	9,981	8,604	8,024	6,485	41,289
(10837)	811		51	51	102	152	287	1,455
(10842)	26	266	99		528	544	821	2,285
(10856)	22	10	8		32	38		110
(10859)		162	114	209	768	158	15	1,425
(10862)			532	540	56	101		1,228
(10885)	193		276	677	523	27		1,696
(10886)	898	985	46	746	26			2,701
(10894)	7	19	29	108	10	30	43	246
(10897)	156	864	158	124	26	149	84	1,563
(10909)	5,570	1,434	923	1,112	1,145	219	1,409	11,812
(10911)	40	132	179	19	14			384
(10915)						871		871
(10918)		17	165	10	21	57	231	501
(10932)					49			49
(10934)						162	128	289

(10935)	675	710	820	637	893	1,147	463	5,345
(10942)	936	1,474	2,471	1,885	1,786	2,229	1,036	11,818
(10949)	613	873	1,126	252			29	2,892
(10986)	872	1,662	2,542	5,807	5,119	3,303	2,656	21,962
(10992)			97	733		39	131	1,000
(11011)					30	156		186
(11017)					185			185
(11022)			2					2
(11029)	6				22			28
(11041)	36		49					85
(11047)		52						52
(11048)			165					165
(11049)	1,742	897	315	721	44	282	41	4,043
(11062)				6,579	7,820			14,399
(11068)			24					24
(11095)	1,765	2,869	1,254	1,302	248	40		7,477
(11100)	13,430	15,287	29,313	18,548	13,661	433		90,672
(11104)	62	175	1,041	44	119	18		1,459
(11108)	26		49			50		125
(11112)	49	382	490	408	239	509		2,077
(11125)	243							243
(11128)			783	253	155	13		1,204
(11133)	7,643		10,059	10,034	6,498	9,665	4,439	48,337
(11134)	6,304	30,073	16,083	39,030	7,247	24,541	7,089	130,368
(11136)		1,554						1,554
(11143)	25					256		281
(11149)	23			5	532	398	26	985
(11154)					646	1,535	348	2,528
(11155)					25			25
(11163)	501	1,927	198	395		150		3,171
(11172)						184		184
(11174)			272		190	313		775
(11194)	92							92
(11195)	84					45		130
(11201)	211				164			375
(11207)	4,684							4,684
(11218)		-		105	76	859	923	1,963
(11219)	12,234	23,148	28,334	24,509	24,653	44,213	34,359	191,450
(11228)	50	249	746	169	99	468	1,323	3,104
(11229)	655	804	404	508	395	149	197	3,112
(11233)	2,236	3,405	1,952	2,290	1,409	357	153	11,802
(11234)			56			99		155
(11263)	78,335	97,571	93,843	112,251	100,044	107,147	74,613	663,804
(11266)	112	175			42			329
(11315)	22	76						97
(11381)						148		148
(11436)	9,160	7,208	11,514	6,134	2,142	6,303	917	43,378
(12004)	5	43						48
(12006)	116							116
(12064)				15				15
(12141)		80	0	22,939	5,230	7,671	1,409	37,329
(12151)			28					28
(12157)	12,533	1,934	5,290		1,423	23,951	2,396	47,528
(12338)	50	229	201			85	73	637
(12350)					307			307
(12365)	187							187
(12383)	1,503							1,503
(12448)							-	-
(12624)	149	635	305		5,717		2,110	8,915

(12761)	19							19
(12857)						12		12
(12870)	4,855	36	159	4,544	7,621	6	9	17,228
(12884)	417			198	405	2,606		3,626
(12924)		15	120					135
(13134)				377				377
(13136)		15			121			136
(13220)		194						194
(13350)	47							47
(13385)	101		50	419	34	715	236	1,555
(13396)							63	63
(13401)		165						165
(13427)	1,261	835	177					2,272
(13492)		92	242			200		535
(13577)	107							107
(13639)		253						253
(13670)		1,064						1,064
(13745)				10		53		64
(13803)						46	71	118
(13870)		101	1,646	3,495	18		592	5,852
(13884)		162						162
(14006)	1,487							1,487
(14186)		496	149					644
(14196)			26,688		149			26,837
(14210)	11							11
(14212)					14			14
(14213)					50	660	557	1,267
(14295)	291		10		2,836			3,137
(14304)	6,815	7,390	10,453	739	57			25,452
(14397)	200							200
(14417)						15	(15)	-
(14439)	14							14
(14468)	344	54	444		877	89	-	1,809
(14515)						292	60	352
(14516)					11			11
(14542)	1,354	2,855	2,480	1,308	979	2,278	288	11,541
(14592)	73							73
(14606)	20							20
(14634)					6,658	7,938	5,463	20,059
(14750)	25							25
(14817)			408	942	136	83	190	1,760
(14821)				103				103
(14852)		50						50
(14885)	118							118
(14925)	51	50				5		107
(14931)	219	50	69			50		388
(15006)	8,823	3,426	4,112	6,398	10,034	18,889	7,998	59,680
(15089)						39		39
(15111)	41							41
(15152)	41	552	1,036	1,118	1,869	723	80	5,418
(15244)				172	99	55		325
(15257)	272	426	936	41		105		1,779
(15264)		81				60		141
(15270)	4,536	5,419	7,744	10,232	5,234	6,079	2,114	41,357
(15274)				25				25
(15276)		263		1,294	29,591			31,148
(15339)						-		-
(15455)				115				115
(15498)	54	48						102

(15595)		306						306
(15627)	539	100	30				5	674
(15631)		35	98					133
(15660)	1,357							1,357
(15717)	639							639
(15750)		65	200	710	868	300	101	2,243
(15763)	1,619	89						1,708
(15767)	8			18		7		33
(15779)	148		123	24	28	4	72	400
(15797)							69	69
(15811)			25		46	39	27	137
(15817)	2,484		547				46	3,077
(15874)	8				28	18	54	108
(15899)	606	103	255	373	83	234	53	1,708
(15949)	5,402	2,210	1,577	28	8,836		6,272	24,325
(15993)	303	889	776	49	853	3,170		6,040
(15997)	-							-
(16065)	-							-
(16114)	54			701				755
(16145)	54	12	136	36				238
(16150)	1,463	197	849	950	549	7,056	8,819	19,883
(16168)					18,276	396		18,672
(16170)	3,048	4,722	2,317	1,700	3,816	1,000	1,171	17,775
(16193)	147	73	89	55	15	44	15	438
(16220)					6	5	71	83
(16232)	96,290	86,965	100,951	96,623	82,927	65,602		529,358
(16233)	60,318	61,122	73,052	69,450	37,632	31,255		332,829
(16234)					18,441			18,441
(16236)			320		317	237	370	1,244
(16242)	-							-
(16283)	68	342	21					432
(16293)				5	1,342			1,347
(16299)	8							8
(16327)					19			19
(16328)		20						20
(16344)			344					344
(16372)					22			22
(16376)			3,435					3,435
(16428)		28			2			30
(16433)		25			26	221	53	325
(16463)	505	310	320	304	212	478	401	2,530
(16483)						307		307
(16496)	761	728	722	1,433	1,858	1,590	777	7,869
(16497)					205			205
(16498)						129		129
(16503)	64	199	77	348	1,111	390	99	2,289
(16506)			26			101		127
(16545)	488							488
(16564)					278			278
(16568)				661	340	47		1,048
(16582)	90	31	40	146	19	49	269	643
(16611)		51						51
(16649)	238					630	231	1,099
(16659)					410			410
(16660)	19,710	1,073			17			20,800
(16699)	1,015	377	214	141	96	58	60	1,962
(16702)				47		200	152	399
(16723)		13						13
(16745)	84,623	59,284	86,388	82,900	62,657	53,984		429,835

(16777)	807	555	746	54				2,162
(16795)	51							51
(16825)	19,827	19,692	18,819	16,387	343			75,068
(16906)	116	37	13	243	244	116	30	799
(16919)					2,938		249	3,187
(16940)	4,257	665	645			621		6,188
(16942)	558	664	530	627	849	464	483	4,174
(16946)	129	77	137	141	94	290	8	876
(16952)				103	102	306		511
(16953)	53		15	121	281			471
(16954)	18	-	430	136				583
(16973)	143	83	121	112	112	129	34	733
(16982)	65	360	397	364	276	340	175	1,978
(16989)				317	51	115		483
(16996)	72	31		31	237		197	567
(17018)			16	704	210	76	31	1,037
(17019)					60	67	49	176
(17027)	10,416	3,077	3,188	8,269	3,834	9,724	2,331	40,839
(17028)	17,044	15,868	22,003	18,101	15,296	20,476	6,630	115,419
(17032)	138	24	14					176
(17043)	121			313	316			750
(17055)	33	140	63		117	290	11	653
(17064)		56	279					335
(17070)			-					-
(17075)						275	1,595	1,870
(17084)			484	155				638
(17102)	28,442	17,485	8,728	11,126	5,955	11,631	16,737	100,105
(17109)	45,151	47,455	36,603	39,208	32,059			200,476
(17110)	13,447	4,035	31,043	20,763	923	2,493	969	73,673
(17111)					100			100
(17114)		59	198	184	202		76	719
(17117)				105				105
(17145)	350		198	2,050	313	539	750	4,201
(17178)	309		50	1,098	1,540	889	698	4,583
(17190)	8	36	56	139	44	46	17	345
(17199)	52							52
(17215)	4,643	1,695	2,251	1,894	1,300	2,646		14,428
(17220)	15				50	28	11	104
(17251)			169	149	295	27	27	667
(17258)	16,343	3,026	1,914	3,677	1,003	2,430	637	29,029
(17273)	145							145
(17308)	120	26						146
(17317)			1,536	267	204	55	47	2,110
(17324)	-							-
(17338)	5,530							5,530
(17344)	2,348	908		103	247	2,628		6,234
(17348)	93			219				311
(17431)					797			797
(17513)					3,276	666	645	4,587
(17586)					2,508			2,508
(17588)			3,226	4,141	297			7,664
(17594)	366	69						435
(17613)	227	174	198	131				730
(17615)	77,058	87,328	79,395	67,970	71,081	70,331	43,546	496,710
(17616)	58,279	51,891	74,368	22,633	56,852	46,094	35,958	346,075
(17617)	51							51
(17624)				133				133
(17675)				156				156
(17689)			32	84	18	136		269

(17711)		524	65					589
(17762)	2,799	13,907	6,331	6,913	5,298	5,544	1,727	42,519
(17771)	49							49
(17809)	3,149				867			4,016
(17811)	523							523
(17818)	444							444
(17827)			1,065					1,065
(17831)	139	68						206
(17870)		965						965
(17874)		72	58	49				179
(17883)		7,369						7,369
(17884)		47						47
(17886)		149						149
(17889)					58			58
(17893)			27	102				129
(17895)				2,220				2,220
(17949)						815		815
(17964)				9				9
(17971)		14,869						14,869
(17986)				53		53		106
(18003)					20			20
(18015)						27	102	128
(18068)			369	1,243	1,064	977	805	4,457
(18086)				56				56
(18121)			1,240	1,710	178			3,128
(18142)			28		86	121		234
(18172)		149	340					489
(18190)			55					55
(18195)				690			4	694
(18201)			66	44		6		117
(18202)					190			190
(18215)			1,775	2,633	4,160	5,498	2,744	16,810
(18225)			361	3,819	4,040	4,647	2,607	15,475
(18234)					24			24
(18249)			31					31
(18261)					125			125
(18291)				66	267			333
(18302)	8,311	8,258	4,261	6,844	1,677	1,656	1,932	32,940
(18338)	6	24	6					37
(18362)			833	5,316	111		2,714	8,973
(18367)			176	9				185
(18368)			641					641
(18383)			587	2,318	588	626	2,572	6,691
(18435)				25				25
(18458)					234	138		372
(18460)				3,545	343			3,887
(18461)				44	56	312		411
(18463)				1,132	3,199	5,772	2,342	12,444
(18474)					84			84
(18493)				712	1,253	712	535	3,212
(18503)				4				4
(18522)					447	50		497
(18525)				616		105		721
(18535)					111			111
(18536)					312	72		384
(18553)				101				101
(18616)				1,293	6,417	703		8,413
(18619)				872	589	205		1,666
(18620)					459	127	128	714

(18627)				803				803
(18638)					552	433	480	1,465
(18642)					570			570
(18654)					414	485	304	1,204
(18658)					28,777	15,568	11,017	55,362
(18666)					165	28		194
(18674)						143	49	193
(18699)					57			57
(18711)					333			333
(18726)					107	852		959
(18744)						52	205	256
(18745)							71	71
(18755)						115		115
(18783)							516	516
(18801)						156	37	194
(18810)					754	1,407		2,161
(18811)						442	541	982
(18830)						90,611	30,083	120,694
(18835)						434	78	512
(18857)	902	61	848	822		15		2,649
(18863)						57		57
(18907)						776		776
(18913)						2,681	309	2,990
(18917)						32	9	41
(18919)							102	102
(18920)						382	42	423
(18921)						29		29
(18945)						52		52
(19002)						267	55	322
(19016)							2,082	2,082
(19027)						33,451	71,880	105,330
(19055)							46	46
(19060)							250	250
(19130)							109	109
Station			15					15
Grand Total	1,465,591	1,469,332	1,601,509	1,615,127	1,383,324	1,434,269	716,928	9,686,080

Table C: Stoneco Product Use By Material Type To Be Offered at Sharon Township Facility

5/17/2022

Products	2015 (Tons)	2016 (Tons)	2017 (Tons)	2018 (Tons)	2019 (Tons)	2020 (tons)	2021 Through Aug (Tons)	Type of Use
(2002) 1" X 3" Limestone	1,109	2,613	3,470	2,892	2,280	2,252	1,028	road, commercial, residential construction
(2006) MDOT 6AA	1,384	1,429	2,627	4,009	6,286	2,534	1,709	concrete, asphalt, drainage stone
(2023) MDOT 23A	641	696	1,631	776	1,021	621	273	road, commercial, residential construction
(2026) MDOT 26A				47	101			asphalt, concrete
(2045) 6A Gravel	80,632	89,468	97,173	63,765	56,816	64,748	19,995	drainage stone, landscape, commercial, residential, drainfield
(2045.3) 6A Gravel (GS)				3,111				
(2121) MDOT 21AA	3,780	4,398	6,915	13,752	8,968	7,634	2,432	road, commercial, residential construction
(2210) Pea Stone			108,667	119,204	76,271	81,820	62,640	drainage stone, landscape, commercial, residential, drainfield
(2210.2272) CPM					2,750	1,759	698	
(2210.3) Pea Stone	68,647	120,396		7,609				drainage stone, landscape, commercial, residential, drainfield
(2213) 1" X 3" Gravel	5,535	5,246	2,148	5,273	3,703	3,248	3,150	landscape, landfill drainage stone, storm water protection
(2213.1) 1" x 2" Gravel		2,569	6,620	5,778	6,327	11,006	8,443	landscape, landfill drainage stone, storm water protection
(2227) MDOT Class II	299,461	204,030	138,168	205,914	132,899	145,462	23,413	road, commercial, residential construction
(2227.7) Ann Arbor Class II Sand	12,247	40,601	122,624	155,237	80,249	93,626	84,036	Washtenaw County Health Dept. Leach-field
(2234) MDOT 34R Gravel	3,876	6,056	4,263	7,893	11,197	7,063	1,357	road, commercial, residential construction
(2250) Mason Sand			27	3	38	2,803	46	Brick, Block, masonry construction, filter sand
(2255) Oversize Gravel	1,030	143	128					road, commercial, residential construction
(2260) Natural Landscape Boulders			18	41	13		50	residential, commecial site development
(2264) 60/40 6A Gravel (Highland)	2,667	4,162	4,861	7,540	1,906	1,718	1,488	drainage stone, concrete
(2269) Bank Run Sand	3,344	2,827	868	186	67	23		road, commercial, residential construction
(2270) Fill Sand	891	73	48	93				road, commercial, residential construction
(2272) 2NS Sand	632,752	616,432	704,313	721,279	692,415	689,393	365,669	concrete, asphalt, filter sand
(2272.3) Cattle Sand	957		4,516	5,217	1,000	973	321	livestock bedding
(2272.B) MDOT 2NS (B)					4,084	44,026	23,269	concrete, asphalt, filter sand
(2276) MDOT Class III	10,244	2,797	631	549	836	1,348		road, commercial, residential construction
(2276.1) MDOT Class III A					75			road, commercial, residential construction
(2304) 1/2" x 3/8" Crush	7,952	1,047	11,049	723	922	1,034	552	concrete, asphalt
(2318) 5/8 Round Stone			38					filter stone, landscape
(2324) Blend Sand	113,573	80,066	55,406	26,973	936			filter sand, concrete, landfill cell floor
(2330) Fine Crush	43,299	44,137	44,711	28,263	29,364	22,174	18,144	concrete, asphalt
(2348) 20AA	75,250	72,237	77,817	64,252	66,393	33,679	14,155	concrete, asphalt
(2358) 5/8" X 3/8"	48,220	54,260	71,490	46,133	68,931	49,179	27,632	concrete, asphalt
(2370) Mfg Sand	9,950	42,513	42,445	41,103	48,634	51,726	19,119	concrete, asphalt, ballfields, parks, residential drives
(2370.1) Filter Sand			18,228	13,105				filter sand, landscape
(2384) 3/8 X #4	29,277	65,397	58,421	60,295	66,995	74,638	27,116	concrete, asphalt
(2482) Wayne County Class I			51			712		road, commercial, residential construction
(2488) WC Porous Grade B	8,288	5,013	12,136	4,111	11,847	39,069	10,193	leach field, concrete, residential construction
Grand Total	1,465,006	1,468,605	1,601,509	1,615,127	1,383,324	1,434,269	716,928	