Birch Solar 1, LLC
Case No. 20-1605-EL-BGN

Exhibit X
Sound Report

February 12, 2021

DICKINSON WRIGHT PLLC

Birch Solar Project - Pre-Construction Sound Report

Prepared for:
Birch Solar I, LLC

Prepared by:
Stantec Consulting Services Inc.

February 12, 2020

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Abbreviations

AC	Alternating Current
Birch Solar	Birch Solar 1, LLC
dB	Decibel
dB(A) or dBA	Decibel (A-weighted)
dB(C) or dbC	Decibel (C-weighted)
DC	Direct Current
GA	Ground Attenuation
Hz	Hertz
L_{eq}	Equivalent continuous sound level
MW	Megawatt
OHSA	Occupational Safety and Health Administration
OPSB	Ohio Power Siting Board
NSA	Noise sensitive area
Project	Birch Solar Project
PV	Photovoltaic
SLM	Sound Level Meter

1.0 Executive Summary

Birch Solar 1, LLC (Birch Solar) is proposing to construct and operate the Birch Solar Project (Project). The Project would occupy a 1,410-acre portion of the 2,345-acre Project area, located mostly on farmlands just southwest of Lima, Ohio with portions placed within Shawnee Township in Allen County and Logan Township in Auglaize County. The Project would consist of an east-west tracking solar panel system and associated facilities, with a nameplate capacity of 300 megawatts alternating current. The power generated by the Project would be transmitted via an overhead generation tie-line (gen-tie) that connects to the existing AEP Lima Substation, which connects into the regional transmission grid. The major components of the Project would include solar modules, inverters, access roads, and perimeter fencing. Photovoltaic (PV) solar modules would be connected to a single-axis tracking system, which would be attached to steel piles driven into the ground. Birch Solar retained the services of Stantec Consulting Services Inc. (Stantec) to conduct a pre-construction ambient sound survey and predictive operational sound assessment for the Project.

From November 13 to 20, 2020, Stantec completed a pre-construction ambient sound survey of the substation and solar array areas for the Project to quantify the existing acoustical environment. Work was completed in accordance with the Ohio Administrative Code 4906-4-08(A)(3).

Sound analyses were completed for the inverter/transformer stations and the substation transformers based on information provided by the equipment manufacturers. The maximum sound impact from the operating Project at the nearest non-participating residence to a solar inverter was calculated to be 44.0 dBA. The expected total sound at this same receptor, including ambient, is expected to be 48.5 dBA. The study confirms that sound levels from the proposed Project, including ambient, do not exceed the 51.6 dBA limit calculated by adding 5 dBA to the average nighttime ambient sound level, determined during pre-construction measurements.

2.0 Site Description

The proposed Project is in the Shawnee Township in Allen County and Logan Township in Auglaize County, Ohio. The Project substation will be located approximately 3,000 feet south of West Breese Road on the west side of Sellers Road. The nearest residence to the Project substation is approximately 1,100 feet to the north. The inverter stations will be dispersed throughout the Project arrays. The nearest non-participating residence to a proposed inverter is approximately 450 feet. Aerial imagery, land ownership records and field surveys were utilized to identify noise sensitive areas (NSA), including residences, schools, churches, hospitals and other sensitive areas located near the Project.

Based upon the Ohio Administrative Code sound assessment protocols and the identified sensitive areas, Stantec proposed five baseline sound monitoring locations for analysis. Monitoring points chosen were near the proposed solar array in areas where residences were determined to potentially be most affected by the Project operation, while providing observations across the entire Project area. Figure 1 displays the Project components and the monitoring site locations.

Project infrastructure will consist of solar panels producing direct current (DC) voltage which must be changed to alternating current (AC) voltage through a series of inverters. Approximately 95 inverters will be installed throughout the Project area. A manufacturer specification sheet of an inverter which is used for the basis of the preliminary Project design is provided in Appendix B. The nearest non-participating NSA to an inverter is approximately 450 feet. Per the manufacturer's specifications, the maximum sound level from each inverter station is 79 decibels (A-weighted) (dBA) at one meter (approximately three feet).

The Project substation will include two step-up transformers. The transformers are generally expected to run during the times that the solar array will be generating power (daylight hours). The substation transformers will be energized during the nighttime but will produce minimal sound. The sound specifications of the substation transformer indicate a sound level of approximately 85 dBA at one meter (approximately three feet).[1] The nearest NSA has been determined to be approximately 1,100 feet from the Project substation.

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[1] National Electric Manufacturers Association, *NEMA TR 1-2013 Transformers, Step Voltage Regulators and Reactors*

3.0 Sound Level Description and Regulations

Sound is caused by vibrations that generate waves of minute pressure fluctuations in the surrounding air. Sound levels are typically measured using a logarithmic decibel (dB) scale. Human hearing varies in sensitivity for different sound frequencies. The ear is most sensitive to sound frequencies between 800 and 8,000 Hz and is least sensitive to sound frequencies below 400 Hz or above 12,500 Hz. Consequently, several different frequency weighting schemes have been used to approximate the way the human ear responds to sound levels. The decibel (A-weighted) or dBA scale is the most widely used for regulatory requirements, such as the Occupational Safety and Health Administration (OSHA) as it discriminates against low frequencies, like the response of the human ear. The decibel (C-weighted) sound level (dBC) does not discriminate against low frequencies. Unweighted sound levels are generally reported as dB or dBZ.

For context, a soft whisper has a sound level of approximately 30 dBA, while a normal conversation is approximately 60 dBA. Common household appliances range in sound pressure levels from 40 dBA (refrigerator hum) to 60 dBA (air conditioner)[2].

State and local sound regulations were reviewed. No regulations directly applicable to a solar facility were identified for Shawnee Township, Allen County, Logan Township, or Auglaize County, Ohio. Wind energy projects in Ohio are required to comply with Chapter 4906-4-09 of the Ohio Administrative Code which states that the facility be operated so that the facility noise contribution does not result in noise levels at any non-participating sensitive receptor within one mile of the project boundary to exceed the project area ambient nighttime average sound level (L_{eq}) by five 5 A-weighted decibels (dBA). During daytime operation only (seven a.m. to ten p.m.), the facility may be operated at the greater of: the project area ambient nighttime L_{eq} plus five dBA; or the validly measured ambient L_{eq} plus five dBA at the location of the sensitive receptor.

Solar energy facilities operate by converting solar radiation into electricity. The Project will only produce electricity between sunrise and sunset. After sunset, the site no longer receives solar radiation and the inverters will only operate in stand-by mode, producing minimal sound. The substation transformer will be energized but not in operation. Sunrise and sunset times on the longest day of the year (June 20) will be approximately 6:05 am to 9:11 pm. The majority of the operation of the solar facility, and therefore the sound production, will occur during the daytime hours.

[2] Centers for Disease Control and Prevention. 2019. What Noises Cause Hearing Loss? https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html

4.0 Measurement Methodology

Ambient sound measurements were made at five noise monitoring areas: ML-C, ML-NW, ML-SW, ML-SE and ML-STATION. The ML-STATION location was selected in the vicinity of the proposed substation; the others were selected for their proximity to the proposed solar arrays and inverters in the central, northwest, southwest and southeast portions of the Project area. Locations are shown on Figure 1 and are further described in Section 5.

A Larson Davis SoundAdvisor 831C Sound Level Meter (SLM) equipped with a PCB Piezotronics Type 1 preamplifier, microphone, and environmental protection kit was used to measure the octave band and broadband ambient sound pressure levels in the selected locations. The microphones were mounted on tripods approximately five feet off the ground and were equipped with windscreens. The meters logged data every 10 minutes along with one second time history.

The meter meets Type 1 American National Standards Institute (ANSI) S1.4-1983(R2006) standards for sound meters and was calibrated and certified accurate to standards set by the National Institute of Standards and Technology within the previous 12 months of the stound study. Equipment was calibrated in the field before and after the survey with the manufacturer's calibrator which meets the standards of IES 942 Class 1L and ANSI/Acoustical Society of America S1.40-2006 (R2016).

The microphone for the sound meter was mounted on a tripod roughly five feet about the ground and there were no large reflective surfaces in the area to affect measured sound levels. Ground-level wind speeds were continuously measured at one location (ML-STATION) during the sound monitoring period.

5.0 Monitoring Locations, Results, and Observations of Existing Sound Levels

Five locations were selected for ambient sound measurements as representative of the nearby receptors. A continuous programmable unattended sound meter with a solar panel for power was set up at each location from November 13 to 20, 2020. Each meter collected data continuously and logged data every ten minutes. A description and photograph of each follows:

ML-C

Latitude 40.681267, Longitude -84.203229

ML-C is representative of the north central portion of the Project area which is mixed residential and agricultural. This area will have solar arrays and inverters. It is located on South Wapakoneta Road, south of West Breese Road.

ML-NW

Latitude 40.679012, Longitude -84.222275

ML-NW is representative of the northwestern portion of the Project area which is more agricultural with some residences. This area will have solar arrays and inverters. It is located on South Kemp Road, south of West Breese Road.

ML-SW

Latitude 40.663367, Longitude -84.216872

ML-SW is representative of the southwestern portion of the Project area which is more agricultural with some residences. This area will have solar arrays and inverters. It is located on West Hume Road, west of South Wapakoneta Road.

ML-SE

Latitude 40.671281, Longitude -84.175369

ML-SE is representative of the southeastern portion of the Project area which is more agricultural with some residences. This area will have solar arrays and inverters. It is located on Zerkle Road, between Seller Road and Beeler Road.

ML-STATION

Latitude 40.679379, Longitude -84.193934

ML-STATION is representative of the southwestern portion of the Project area which is more agricultural with some residences. To the north of West Breese road, it is residential. This area will have the project electrical substation as well as solar arrays and inverters. It is located on Sellers Road, south of West Breese Road. This location also was monitored for wind speed.

Table 5.1 and 5.2 summarize the results of the sound measurement readings near the solar array inverters at each monitoring location.

TABLE 5.1 AVERAGED AMBIENT SOUND LEVEL MEASUREMENTS

Location	L_{eq} (dBA)	L_{eq} (dBA, daytime)	L_{eq} (dBA, nighttime)	Total Valid Measurement Periods
ML-C	52.3	52.9	51.2	860
ML-NW	45.7	46.7	43.9	995
ML-SW	51.0	52.8	48.6	1,089
ML-SE	44.0	44.4	43.4	942
ML-STATION	47.7	49.0	46.0	1,085

6.0 Assessment of Sound Impacts During Construction

Construction activities related to the development of the Project will occur over a period of approximately 12 to 18 months and is expected to be completed and operational by the second quarter of 2023. Construction will occur in phases, starting with site preparation activities, such as vegetation clearing and access road construction. Construction of the Project substation along with the trenching and installation of the underground electrical collection system will likely be occurring concurrently with the solar array installation activities. The construction process is progressive in nature; therefore, several locations will see activity during the same time period, with installation activities then progressing to other array sites.

Construction activities will be conducted during daylight hours (7am to 7pm). Heavy construction equipment including, but not limited to, backhoes, bulldozers and haul trucks may be present and operational at different points during the first phase of the construction period. The second phase of construction at each array site will include impact drivers to set piles for the tracking system. Noise levels from equipment will vary by type, age of equipment and overall condition. Sound levels associated with the type of equipment expected to be used will vary from approximately 79 to 90 dBA at 50 feet. At times, construction activities will be audible to nearby sensitive receptors; however, not all equipment will be operating at the same time, and activities will be spread throughout the Project area and temporary in duration. To limit construction impact sound, construction activity will be limited to the hours of 7 a.m. to 7 p.m., or dusk if sunset occurs after 7 p.m.

A summary of representative noise levels associated with typical construction equipment is provided in Table 6.1. Potential noise levels are provided at distances of 300 feet and 1,000 feet.

Table 6.1 Typical Construction Equipment Noise Levels

Equipment	Typical Noise Levels Approximately 50 Feet from Source (dBA)	Typical Noise Levels Approximately 300 Feet from Source (dBA)	Typical Noise Levels Approximately 1,000 Feet from Source (dBA)
Bulldozer	85	69	59
Haul Truck	84	68	58
Mounted Impact Driver	90	74	64
Backhoe	80	65	54

A summary of expected construction activities and expected sound levels is provided below. Because the use of the equipment described will not be continuous over the site during the construction period and activities will be limited to the daytime hours between 7 a.m. to 7 p.m. when ambient when sound levels are higher, coupled with the Project setbacks from residences and roadways, it is not expected that sound impacts from equipment used during construction of the Project will be significant.

<u>Operation of Earth Moving Equipment</u>

During construction of the Project, it is anticipated that dump trucks, bulldozers, and backhoes will be utilized for the limited clearing and grading of the land. These equipment types each could result in sound levels of 85 A-weighted decibels (dBA) at a distance of approximately 50 feet. This sound can be compared to standard tractor noise during planting and harvest which is the current use of the Facility Area. Using the same methods for calculation as the construction equipment, a tractor generates sound levels of approximately 84 dBA at 50 feet. The sound for Project construction equipment is diminished to approximately 69 dBA at 300 feet from the source.

The sound generated by this equipment will be short-term in nature and reflects the maximum sound levels anticipated.

<u>Driving of Piles for Tracker Installation</u>

Installation of the trackers for the Project will be completed using pile-driving as previously described. The impact pile driver used to install the posts of the trackers will result in sound levels ranging from 90 dBA to 74 dBA at distances of 50 feet to 300 feet. The sound generated by this equipment will be short-term in nature and reflects the maximum sound levels anticipated.

<u>Installation of Solar Modules</u>

Mobile cranes and flatbed trucks are the only equipment that is anticipated for use when installing the solar modules onto the trackers. Predicted maximum sound levels from this equipment are expected to range from 85 dBA to 69 dBA at distances of 50 feet to 300 feet. The sound generated by this equipment will be short-term in nature and reflects the maximum sound levels anticipated.

<u>Truck Traffic</u>

The use of dump trucks and flatbed trucks and the predicted sound levels within the Facility during construction are outlined in the sections above. The sound generated by this equipment will be short-term in nature and reflects the maximum sound levels anticipated.

<u>Installation of Equipment</u>

Installation of equipment for the Project will primarily be related to the use of mobile cranes and flatbed trucks as detailed in the erection of structures activities detailed above.

<u>Mitigation Measures</u>

During construction of the Project, the following mitigation measures will be employed:

- Construction vehicles and equipment will be maintained in proper operating condition and equipped with manufacturers' standard noise control devices. Defective exhaust mufflers will be promptly replaced.
- Contractors will be required to comply with federal limits on truck and equipment noise.

- Contractors and their staff will be required to drive delivery vehicles responsibly.

In summary, while noise from construction activities may be heard at off-site locations, the sound will vary over time and be temporary in nature. Construction will occur mostly in the daytime hours and will generate sounds that are familiar to residents due to other construction, industrial and agricultural activities in the area. The overall noise impact on nearby sensitive receptors during construction of the Project is not expected to be significant.

7.0 Predicted Operational Sound Analysis Methods

Approximately 95 inverters will be installed within the Project area. Per the manufacturer's specifications, the maximum sound pressure level from each inverter is less than 79 dBA at a distance of one meter (approximately three feet). For this analysis a sound power level of 87.1 dBA was utilized. A tonal penalty of 5 dBA was added to each octave band resulting in an overall sound pressure level of 92.1 dBA for each inverter. The inverters will convert electricity when the sun is shining; therefore, they will only operate in stand-by mode between sunset and sunrise.

Sound attenuates between the source and the receptor due to a variety of factors, including but not limited to, atmospheric absorption, interaction with the ground, and attenuation due to vegetation and ground cover. Sound impact is also dependent on the distance between the sound source and each receptor. Locations of the inverters and substation are based on the current layout of the Project provided by Lightsource bp. A total of 1,287 receptors were identified using the methods described in Section 2.0. Elevations for the inverters, substation and receptors were calculated within the model, using the National Elevation Dataset acquired from the U.S. Geological Survey.

Sound results were calculated using the Decibel Module of WindPro Modelling software by EMD International, which utilizes conservative ISO 9613-2 algorithms to estimate sound propagation and atmospheric absorption. The parameters and assumptions made in developing the estimates include the following:

- All inverters and substation were considered as running at all times.
- An inverter sound power level of 92.1 dBA was used.
- A ground attenuation factor of 0.5 (on a scale of 0.0 representing hard ground to 1.0 representing porous ground) was modelled.
- Meteorological conditions used were conducive to sound propagation (10 degrees Celsius and 70 percent relative humidity).

8.0 Predicted Operational Sound Results

A sound analysis was completed for the invertor stations and the Project substation operating at full load. Coordinates (UTM Zone 16) of the inverter locations are included in Appendix B. An analysis of the impacts from the inverters and substation is provided in tabular format in Appendix C. Sound contours are displayed in Figure 2; the figure displays the overall expected sound levels due to the operation of the solar array and substation, with a ground attenuation of 0.5.

The total sound (operational with ambient) expected at receptors within approximately one mile of the array was assessed for compliance with the Ohio Administrative Code noise limits. The Administrative Code states that the facility is to be operated so that the noise contribution due to the project operation does not result in noise levels at any non-participating sensitive receptor within one mile of the project boundary to exceed the project area ambient nighttime average sound level (L_{eq}) by five 5 dBA. During daytime operation only (seven a.m. to ten p.m.), the facility may be operated at the greater of: the project area ambient nighttime L_{eq} plus five dBA; or the validly measured ambient L_{eq} plus five dBA at the location of the sensitive receptor. The inverters will only operate when the sun is shining; therefore, sound will occur only during daylight hours so measuring against the nighttime ambient sound levels is a conservative estimate as nighttime ambient sound levels are generally less than daytime.

The ambient data measured at the proposed Project site and described in Section 5 (Table 5.1) was utilized, along with the predicted operational sound, to determine the total sound expected at receptors. The average ambient nighttime sound level recorded at the Project site during the November 2020, was 46.6 dBA. To demonstrate compliance to the Ohio Administrative Code, 5 dBA was added, equaling 51.6 dBA as a conservative limit of total sound at nearby residences.

Table 8.1 lists the two nearest identified residences and the expected total Project operational sound with existing ambient sound.

Table 8.1 Expected Sound Levels at Near Residences

Receptor	Operational Expected Sound (dBA)	Average Ambient Nighttime L_{eq} Sound (dBA)	Total Expected Sound (dBA)
R-0144	45.9	46.6	49.3
R-0110	44.0	46.6	48.5

Results demonstrate that the maximum expected daytime sound from Project operation and ambient sound is 49.3 dBA at nearby residences. Nighttime noise will be substantially less, as all equipment will be operating in stand-by mode, only.

9.0 Summary

From November 13 to 20, 2020, Stantec completed a pre-construction ambient sound survey of the substation and solar array areas for the Project to quantify the existing acoustical environment.

Ambient sound measurements were made at noise monitoring areas ML-C, ML-NW, ML-SW, ML-SE and ML-STATION in the vicinity of residences, which are located nearest the proposed inverter and substation locations. A continuous programmable unattended sound meter with a solar panel for power was set up at each location.

A predictive operational sound analysis was completed for the Project, considering 95 inverters and a substation with two transformers in full operation. The maximum operational sound impact at a residence is predicted to be 45.9 dBA. Considering the average nighttime ambient sound measured at the site, a total maximum sound level expected at the nearest residence is 49.3 dBA. The 49.3 dBA total sound level is below the maximum limit described in the Ohio Administrative Code of 51.6 dBA, calculated by adding 5 dBA to the average measured nighttime ambient sound level of 46.6 dBA. The facility will operate converting power during daytime hours, only. Sound from the inverters and substation will be minimal during the nighttime hours, due to equipment operating in stand-by mode.

Figures

Figure 1 – Sound Monitoring Locations

Figure 2 – Expected Operational Sound Study Results

Figure 1

Sound Monitoring Locations

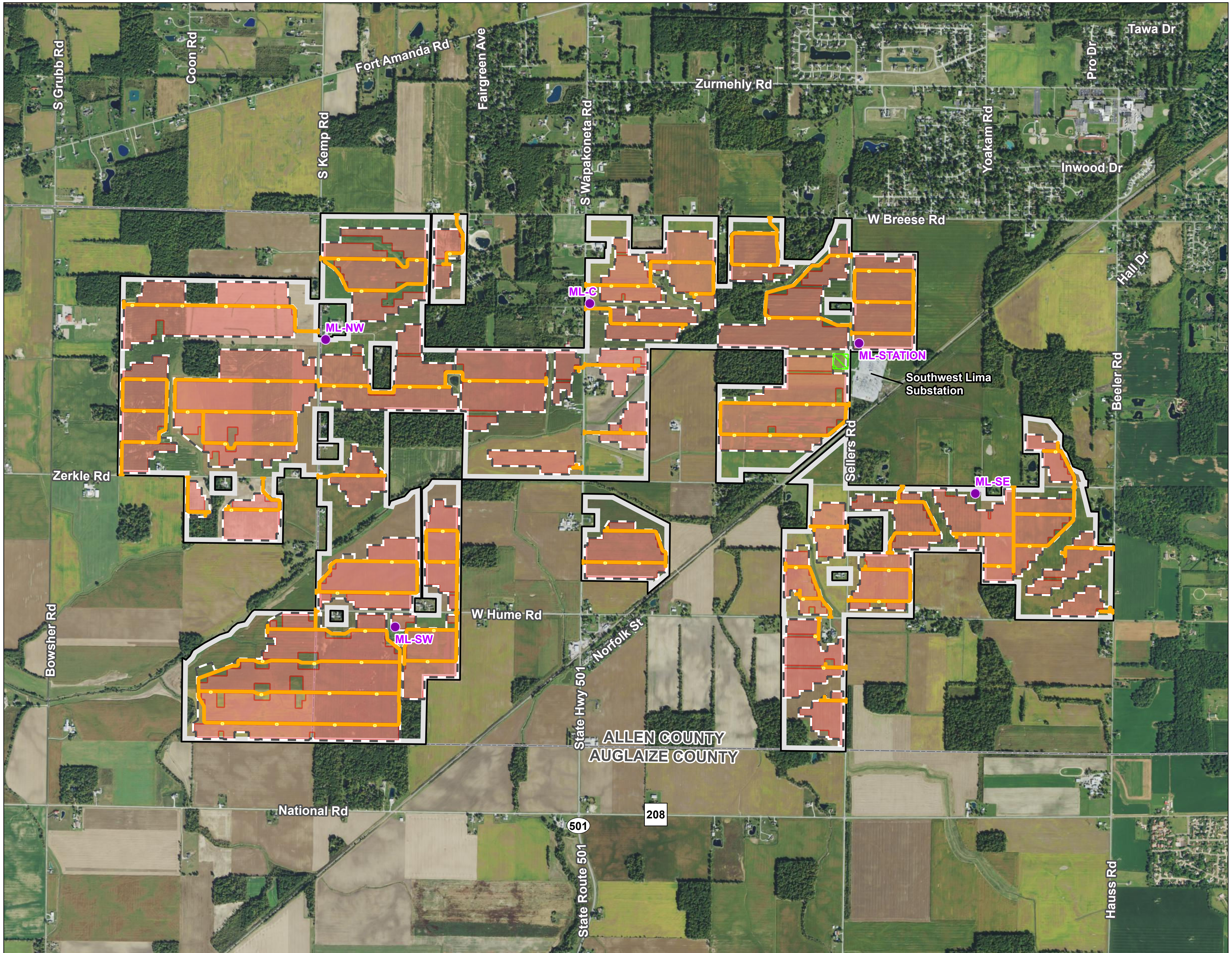


Figure No.

1

Title

Project Site Layout Map

Client/Project 2028113238

Birch Solar 1, LLC

Birch Solar Project

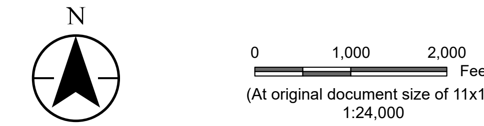
Project Location

Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-02-04

TR by JB on 2021-02-09

IR by CMB on 2021-02-11



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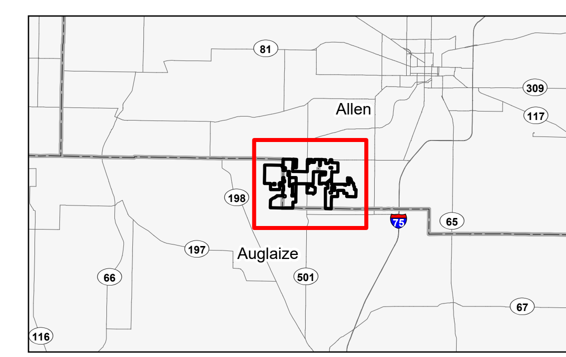
Legend

- Project Area
- Solar Array
- Inverter
- Substation
- Fence
- Access Road
- Sound Study Monitoring Location



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet

2. Data Sources: Stantec, Lightsource, USGS, NADS

3. Orthophotography: 2019 NAIP

Stantec

Figure 2

Expected Sound Study Results

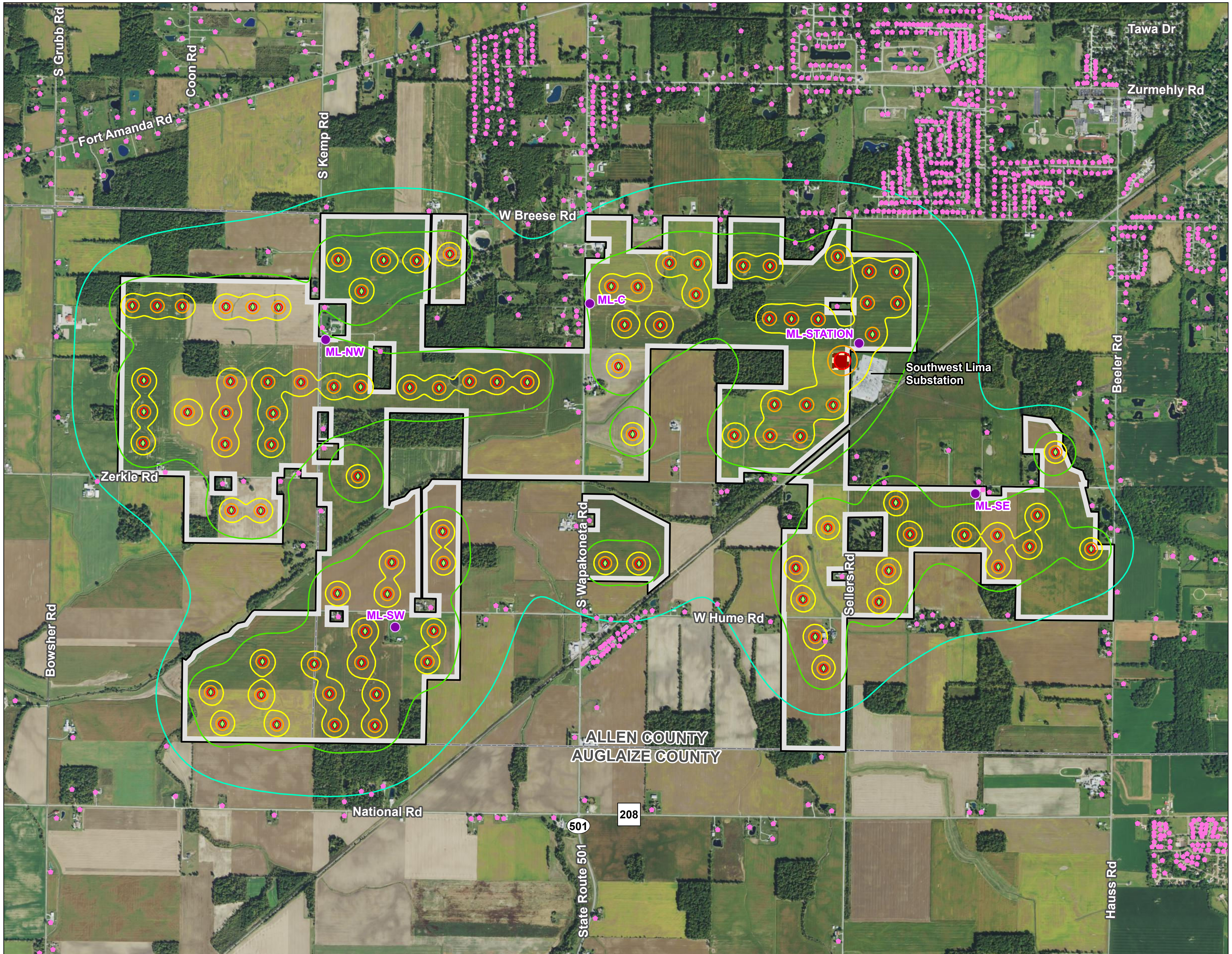


Figure No.
2

Title
Operational Sound Modeling Results

Client/Project 2028113238
Birch Solar 1, LLC
Birch Solar Project

Project Location
Allen and Auglaize Counties, Ohio

Prepared by JLH on 2021-02-04
TR by JB on 2021-02-09
IR by CMB on 2021-02-11

N

0 1,000 2,000
Feet
(At original document size of 11x17)
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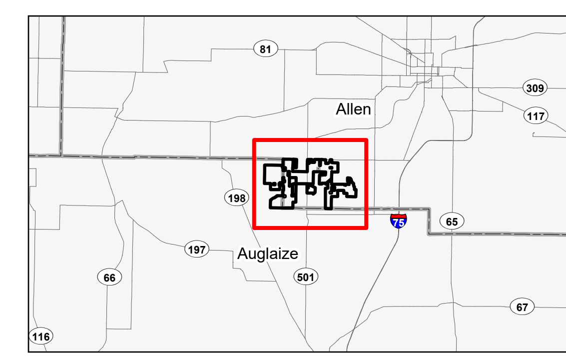
Legend
- Project Area
- Substation
- Inverter
- Sensitive Receptor
- Sound Study Monitoring Location

Predicted Project Noise Level (dBA) - 0.5 GA
- 35
- 40
- 45
- 50
- 55

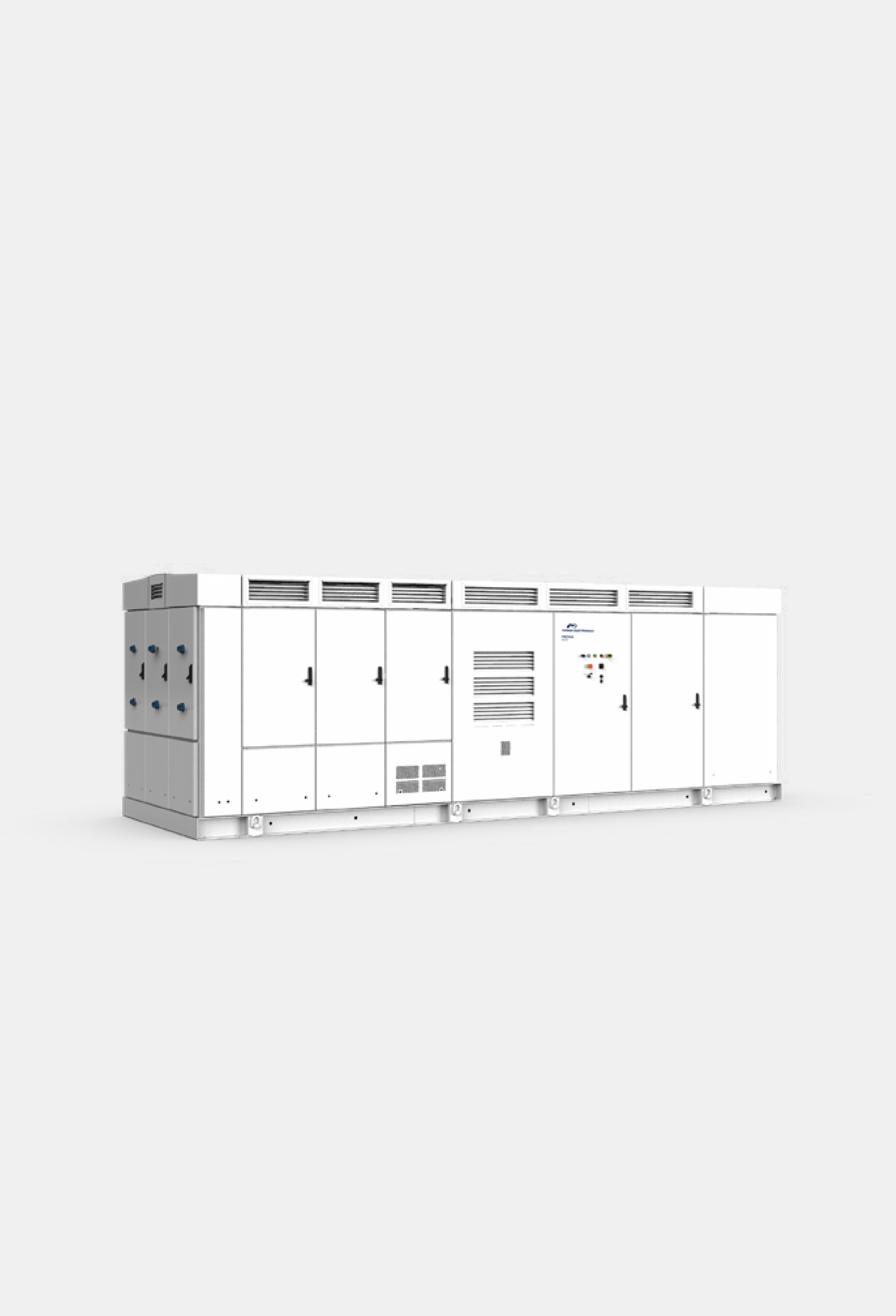


Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Lightsource, USGS, NADS
3. Orthophotography: 2019 NAIP

Stantec

Appendix A

Acoustic Sound Specifications – Inverters



HEM

UTILITY SCALE MV CENTRAL STRING INVERTER

FIELD REPLACEABLE UNITS

OUTDOOR DURABILITY

NEMA 3R / IP54

ICOOL 3

ACTIVE HEATING

3 LEVEL TOPOLOGY

ECON MODE

NEW RATINGS

THE INNOVATIVE MEDIUM VOLTAGE CENTRAL STRING INVERTER

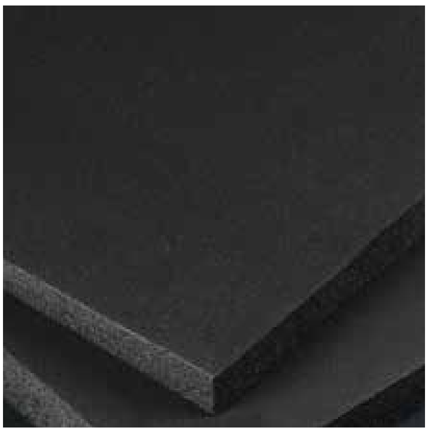
The Power Electronics HEM medium voltage inverter is designed for utility scale solar applications, that require the advantages of a central inverter solution but also the modularity of a string architecture. The HEM can reach up to a nominal power of 3.6MVA, and offers a wide MPPT window. It also has the added advantage of having an integrated medium voltage transformer and switchgear.

Its architecture, composed of six field replaceable units (FRU), is designed to provide the highest availability and optimize yield production. Its use in Utility Scale PV plants provides considerable savings in CAPEX, since having an integrated MV transformer and switchgear reduces the need of additional connections between the LV and MV sides.

Thanks to the Power Electronics iCOOL3 cooling system, the HEM is able to provide IP54 degree of protection with an air cooling system, and as a result reducing OPEX costs.

ROBUST DESIGN

Polymeric Painting



Closed-Cell Insulation

Galvanized Steel | Stainless Steel (Optional)

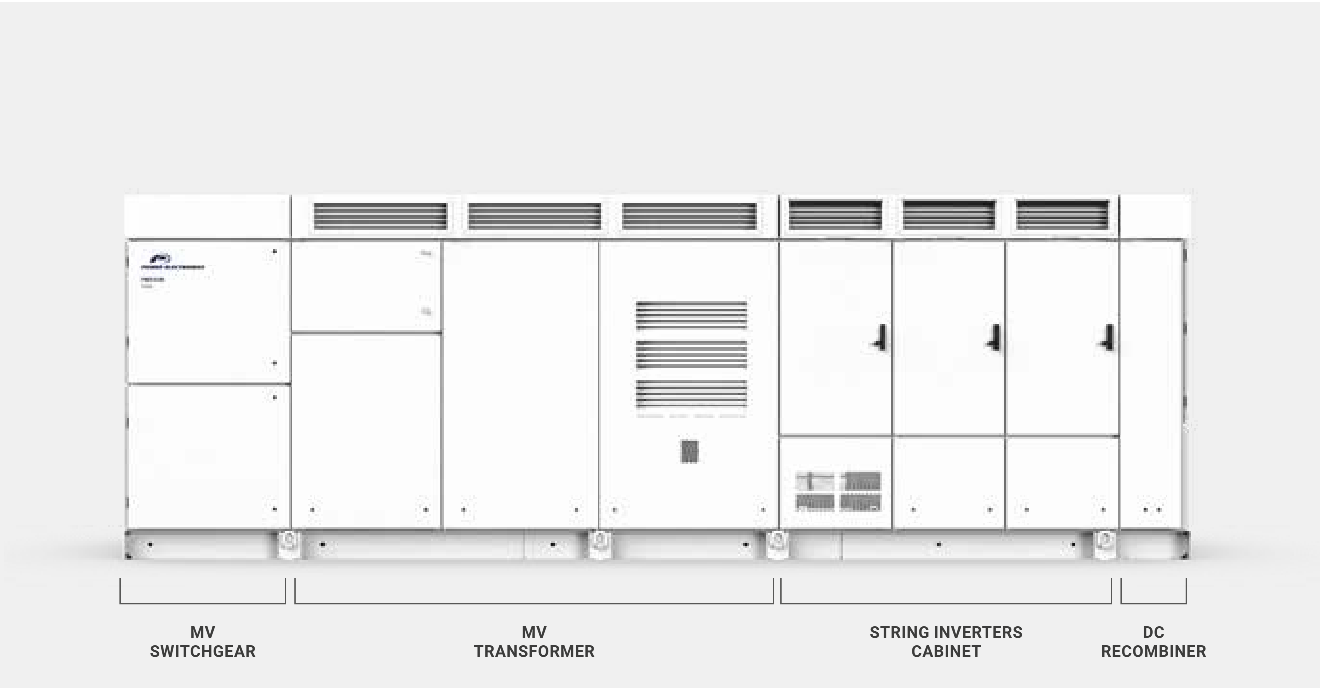
HEM inverter modules have a design life of greater than 30 years of operation in harsh environments and extreme weather conditions. HEM units are tested and ready to withstand conditions from the frozen Siberian tundra to the Californian Death Valley, featuring:

- Totally sealed electronics cabinet protects electronics against dust and moisture.
- Conformal coating on electronic boards shields PCBs from harsh atmospheres.
- Temperature and humidity controlled active heating prevents internal water condensation.
- C4 degree of protection according to ISO 12944. Up to C5-M optional.
- Closed-Cell insulation panel isolates the cabinet from solar heat gains.
- Roof cover designed to dissipate solar radiation, reduce heat build-up and avoid water leakages.
- The solid HEM structure avoids the need of additional external structures.
- Random units selected to pass a Factory Water Tightness Test ensuring product quality.
- NEMA 3R / IP54.

REAL TURN-KEY SOLUTION - EASY TO SERVICE

With the HEM, Power Electronics offers a real turn-key solution, including the MV transformer and switchgear fully assembled and tested at the factory. The HEM is a compact turn-key solution that will reduce site design, installation and connection costs.

By providing full front access the HEM series simplifies the maintenance tasks, reducing the MTTR (and achieving a lower OPEX). The total access allows a fast swap of the FRUs without the need of qualified technical personnel.



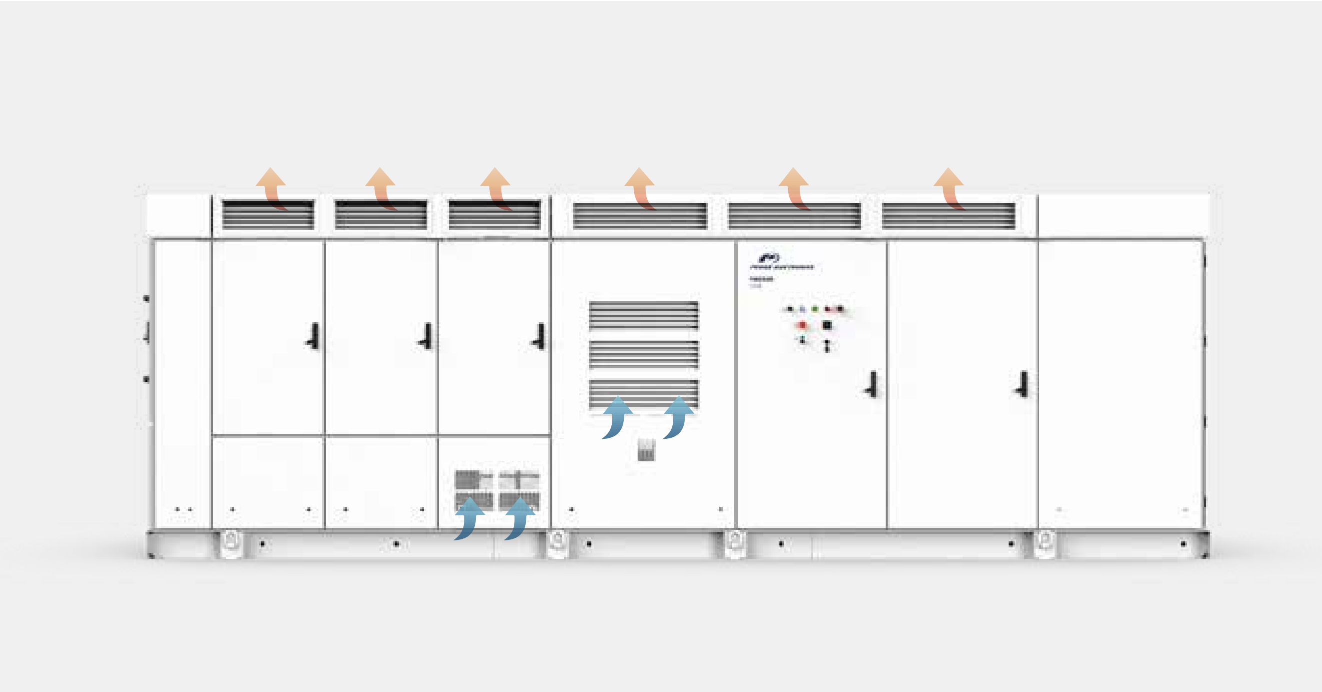
STRING CONCEPT POWER STAGES

The HEM combines the advantages of a central inverter with the modularity of the string inverters. Its power stages are designed to be easily replaceable on the field without the need of advanced technical service personnel, providing a safe, reliable and fast Plug&Play assembly system.

Following the modular philosophy of the Freesun series, the HEM is composed of 6 FRUs (field replaceable units), where all the power stages are physically joined in the DC side and therefore, in the event of a fault, the faulty module is taken off-line and its power is distributed evenly among the remaining functioning FRUs.

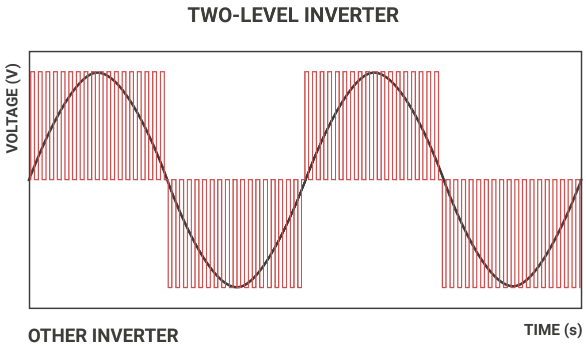
INNOVATIVE COOLING SYSTEM

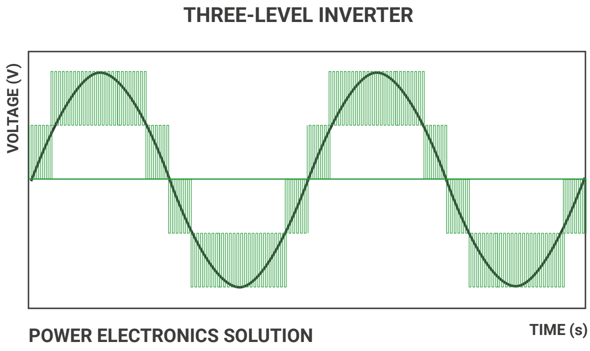
Based on more than 3 years of experience with our MV Variable Speed Drive, the iCOOL3 is the first air-cooling system allowing IP54 degree of protection in an outdoor solar inverter. iCOOL3 delivers a constant stream of clean air to the FRUs and the MV transformer, being the most effective way of reaching up to IP54 degree of protection, without having to maintain cumbersome dust filters or having to use liquid-cooling systems, avoiding the commonly known inconveniences of it (complex maintenance, risk of leaks, higher number of components...), therefore resulting in an OPEX cost reduction.



MULTILEVEL TOPOLOGY

The multilevel IGBT topology is the most efficient approach to manage high DC link voltages and makes the difference in the 1,500 Vdc design. Power Electronics has many years of power design in both inverters and MV drives and the HEM design is the result of our experience with 3 level topologies. The 3 level IGBT topology reduces stage losses, increases inverter efficiency and minimizes total harmonic distortion.





VAR AT NIGHT

At night, the HEM inverter can shift to reactive power compensation mode. The inverter can respond to an external dynamic signal, a Power Plant Controller command or pre-set reactive power level (kVAr).

ACTIVE HEATING

At night, when the unit is not actively exporting power, the inverter can import a small amount of power to keep the inverter internal ambient temperature above -20°C, without using external resistors.

This autonomous heating system is the most efficient and homogeneous way to prevent condensation, increasing the inverters availability and reducing maintenance. **PATENTED**

ECON MODE

This innovative control mode allows increasing the efficiency of the MV transformer up to 25%, reducing the power consumption of the plant and therefore providing considerable savings. Available as an optional kit, this feature has a payback time of less than a few years, therefore resulting in the increase of the plant lifetime overall revenue.

EASY TO MONITOR

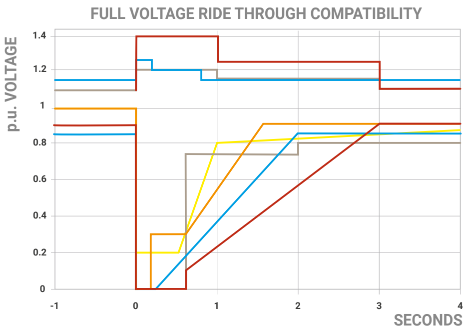
The Freesun app is the easiest way to monitor the status of our inverters. All our inverters come with built-in wifi, allowing remote connectivity to any smart device for detailed updates and information without the need to open cabinet doors.

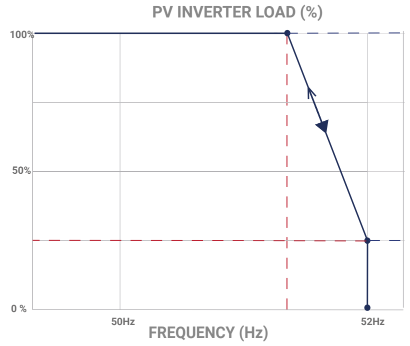
The app user-friendly interface allows quick and easy access to critical information (energy registers, production and events).

AVAILABLE INFORMATION	Grid and PV field data. Inverter and Power module data (Voltages, currents, power, temperatures, I/O status...). Weather conditions. Alarms and warnings events. Energy registers. Others.
FEATURES	Easy Wireless connection. Comprehensive interface. Real time data. Save and copy settings.
LANGUAGE	English, Spanish.
SYSTEM REQUIREMENTS	iOS or Android devices.
SETTINGS CONTROL	Yes.

DYNAMIC GRID SUPPORT

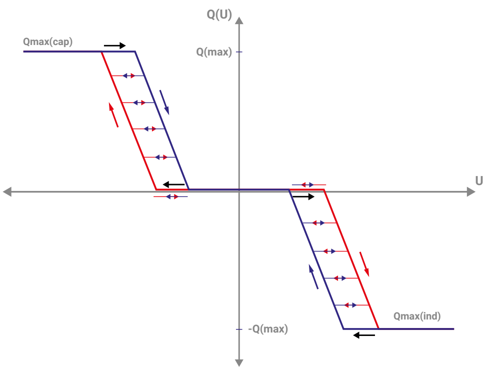
HEM firmware includes the latest utility interactive features (LVRT, OVRT, FRS, FRT, Anti-islanding, active and reactive power curtailment...), and can be configured to meet specific utility requirements.

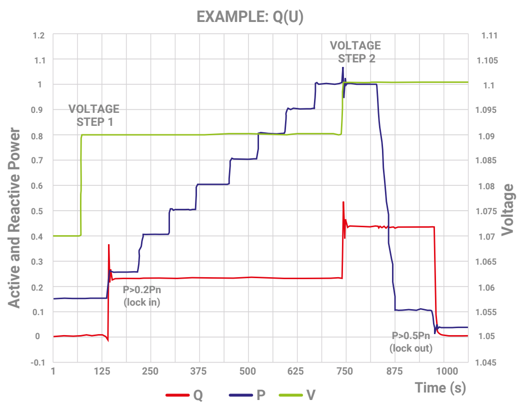




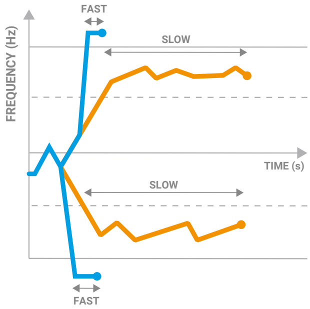
Low Voltage Ride Through (LVRT or ZVRT). Inverters can withstand any voltage dip or profile required by the local utility. The inverter can immediately feed the fault with full reactive current, as long as the protection limits are not exceeded.

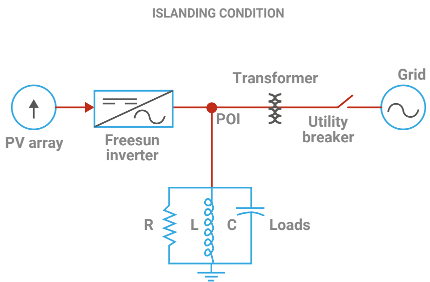
Frequency Regulation System (FRS). Frequency droop algorithm curtails the active power along a preset characteristic curve supporting grid stabilization.





Q(V) curve. It is a dynamic voltage control function which provides reactive power in order to maintain the voltage as close as possible to its nominal value.



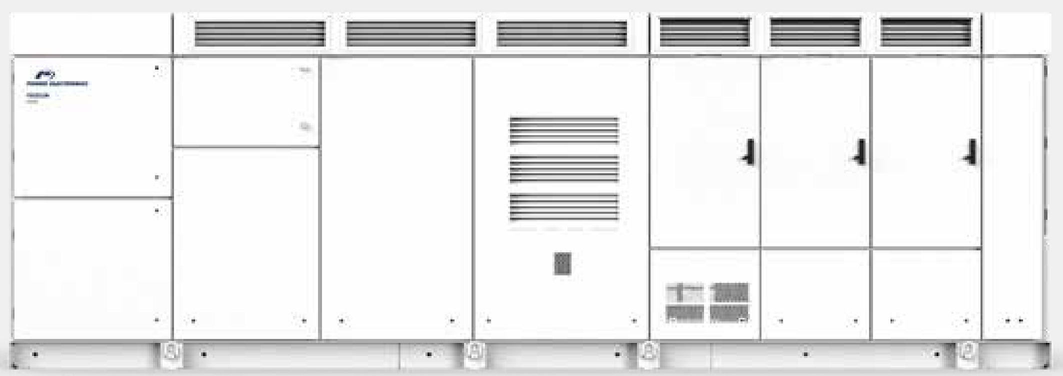


Frequency Ride Through (FRT). Freesun solar inverters have flexible frequency protection settings and can be easily adjusted to comply with future requirements.

Anti-islanding. This protection combines passive and active methods that eliminates nuisance tripping and reduces grid distortion according to IEC 62116 and IEEE1547.

FRONT VIEW

BACK VIEW



TECHNICAL CHARACTERISTICS HEM

REFERENCE		FS3510M
OUTPUT	AC Output Power (kVA/kW) @50°C [1]	3510
	AC Output Power (kVA/kW) @40°C [1]	3630
	Operating Grid Voltage (VAC) [2]	34.5kV ±10%
	Operating Grid Frequency (Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) [3]	0.5 leading … 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC)	934V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs [2]	Up to 36
	Number of Freemaq DC/DC inputs [4]	Up to 6
	Max. DC continuous current (A) [4]	3970
	Max. DC short circuit current (A) [4]	6000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98% including MV transformer (preliminary)
	CEC (η)	98% including MV transformer (preliminary)
	Max. Power Consumption (KVA)	20
CABINET	Dimensions [WxDxH] (ft)	21.7 x 7 x 7
	Dimensions [WxDxH] (m)	6.6 x 2.2 x 2.2
	Weight (lb)	30865
	Weight (kg)	14000
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP54
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level) [5]	2000m
	Noise level [6]	< 79 dBA
CONTROL INTERFACE	Interface	Graphic Display
	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	MV Switchgear (configurable)
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL 1741, CSA 22.2 No.107.1-01, UL 62109-1, IEC 62109-1, IEC 62109-2
	Compliance	NEC 2014 / NEC 2017 (optional)
	Utility interconnect	IEEE 1547.1-2005 / UL 1741 SA-Sept. 2016

[1] Values at 1.00•Vac nom and cos Φ= 1. Consult Power Electronics for derating curves.
[2] Consult Power Electronics for other configurations.
[3] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[4] Consult Power Electronics for Freemaq DC/DC connection configurations.
[5] Consult Power Electronics for other altitudes.
[6] Readings taken 1 meter from the back of the unit.

TECHNICAL CHARACTERISTICS

HEM

REFERENCE		FS3430M
OUTPUT	AC Output Power (kVA/kW) @50°C [1]	3430
	AC Output Power (kVA/kW) @40°C [1]	3550
	Operating Grid Voltage (VAC) [2]	34.5kV ±10%
	Operating Grid Frequency (Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) [3]	0.5 leading … 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC)	913V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs [2]	Up to 36
	Number of Freemaq DC/DC inputs [4]	Up to 6
	Max. DC continuous current (A) [4]	3970
	Max. DC short circuit current (A) [4]	6000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98% including MV transformer (preliminary)
	CEC (η)	98% including MV transformer (preliminary)
	Max. Power Consumption (KVA)	20
CABINET	Dimensions [WxDxH] (ft)	21.7 x 7 x 7
	Dimensions [WxDxH] (m)	6.6 x 2.2 x 2.2
	Weight (lb)	30865
	Weight (kg)	14000
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP54
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level) [5]	2000m
	Noise level [6]	< 79 dBA
CONTROL INTERFACE	Interface	Graphic Display
	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	MV Switchgear (configurable)
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL 1741, CSA 22.2 No.107.1-01, UL 62109-1, IEC 62109-1, IEC 62109-2
	Compliance	NEC 2014 / NEC 2017 (optional)
	Utility interconnect	IEEE 1547.1-2005 / UL 1741 SA-Sept. 2016

[1] Values at 1.00•Vac nom and cos Φ= 1. Consult Power Electronics for derating curves.
[2] Consult Power Electronics for other configurations.
[3] Consult P-Q charts available: $Q(kVAr)=\sqrt{S(kVA)^2-P(kW)^2}$.
[4] Consult Power Electronics for Freemaq DC/DC connection configurations.
[5] Consult Power Electronics for other altitudes.
[6] Readings taken 1 meter from the back of the unit.

TECHNICAL CHARACTERISTICS HEM

REFERENCE		FS3350M
OUTPUT	AC Output Power (kVA/kW) @50°C [1]	3350
	AC Output Power (kVA/kW) @40°C [1]	3465
	Operating Grid Voltage (VAC) [2]	34.5kV ±10%
	Operating Grid Frequency (Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) [3]	0.5 leading … 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC)	891V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs [2]	Up to 36
	Number of Freemaq DC/DC inputs [4]	Up to 6
	Max. DC continuous current (A) [4]	3970
	Max. DC short circuit current (A) [4]	6000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98% including MV transformer (preliminary)
	CEC (η)	97.5% including MV transformer (preliminary)
	Max. Power Consumption (KVA)	20
CABINET	Dimensions [WxDxH] (ft)	21.7 x 7 x 7
	Dimensions [WxDxH] (m)	6.6 x 2.2 x 2.2
	Weight (lb)	30865
	Weight (kg)	14000
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP54
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level) [5]	2000m
	Noise level [6]	< 79 dBA
CONTROL INTERFACE	Interface	Graphic Display
	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	MV Switchgear (configurable)
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL 1741, CSA 22.2 No.107.1-01, UL 62109-1, IEC 62109-1, IEC 62109-2
	Compliance	NEC 2014 / NEC 2017 (optional)
	Utility interconnect	IEEE 1547.1-2005 / UL 1741 SA-Sept. 2016

[1] Values at 1.00•Vac nom and cos Φ= 1. Consult Power Electronics for derating curves.
[2] Consult Power Electronics for other configurations.
[3] Consult P-Q charts available: $Q(kVAr)=\sqrt{S(kVA)^2-P(kW)^2}$.
[4] Consult Power Electronics for Freemaq DC/DC connection configurations.
[5] Consult Power Electronics for other altitudes.
[6] Readings taken 1 meter from the back of the unit.

TECHNICAL CHARACTERISTICS HEM

REFERENCE		FS3270M
OUTPUT	AC Output Power (kVA/kW) @50°C [1]	3270
	AC Output Power (kVA/kW) @40°C [1]	3380
	Operating Grid Voltage (VAC) [2]	34.5kV ±10%
	Operating Grid Frequency (Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) [3]	0.5 leading … 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC)	870V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs [2]	Up to 36
	Number of Freemaq DC/DC inputs [4]	Up to 6
	Max. DC continuous current (A) [4]	3970
	Max. DC short circuit current (A) [4]	6000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98% including MV transformer (preliminary)
	CEC (η)	98% including MV transformer (preliminary)
	Max. Power Consumption (KVA)	20
CABINET	Dimensions [WxDxH] (ft)	21.7 x 7 x 7
	Dimensions [WxDxH] (m)	6.6 x 2.2 x 2.2
	Weight (lb)	30865
	Weight (kg)	14000
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP54
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level) [5]	2000m
	Noise level [6]	< 79 dBA
CONTROL INTERFACE	Interface	Graphic Display
	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	MV Switchgear (configurable)
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL 1741, CSA 22.2 No.107.1-01, UL 62109-1, IEC 62109-1, IEC 62109-2
	Compliance	NEC 2014 / NEC 2017 (optional)
	Utility interconnect	IEEE 1547.1-2005 / UL 1741 SA-Sept. 2016

[1] Values at 1.00•Vac nom and cos Φ= 1. Consult Power Electronics for derating curves.
[2] Consult Power Electronics for other configurations.
[3] Consult P-Q charts available: $Q(kVAr)=\sqrt{S(kVA)^2-P(kW)^2}$.
[4] Consult Power Electronics for Freemaq DC/DC connection configurations.
[5] Consult Power Electronics for other altitudes.
[6] Readings taken 1 meter from the back of the unit.

TECHNICAL CHARACTERISTICS HEM

REFERENCE		FS3190M
OUTPUT	AC Output Power (kVA/kW) @50°C [1]	3190
	AC Output Power (kVA/kW) @40°C [1]	3300
	Operating Grid Voltage (VAC) [2]	34.5kV ±10%
	Operating Grid Frequency (Hz)	50Hz/60Hz
	Current Harmonic Distortion (THDi)	< 3% per IEEE519
	Power Factor (cosine phi) [3]	0.5 leading … 0.5 lagging adjustable / Reactive Power injection at night
INPUT	MPPt @full power (VDC)	849V-1310V
	Maximum DC voltage	1500V
	Number of PV inputs [2]	Up to 36
	Number of Freemaq DC/DC inputs [4]	Up to 6
	Max. DC continuous current (A) [4]	3970
	Max. DC short circuit current (A) [4]	6000
EFFICIENCY & AUXILIARY SUPPLY	Efficiency (Max) (η)	98% including MV transformer (preliminary)
	CEC (η)	98% including MV transformer (preliminary)
	Max. Power Consumption (KVA)	20
CABINET	Dimensions [WxDxH] (ft)	21.7 x 7 x 7
	Dimensions [WxDxH] (m)	6.6 x 2.2 x 2.2
	Weight (lb)	30865
	Weight (kg)	14000
	Type of ventilation	Forced air cooling
ENVIRONMENT	Degree of protection	NEMA 3R - IP54
	Permissible Ambient Temperature	-35°C to +60°C / >50°C Active Power derating
	Relative Humidity	4% to 100% non condensing
	Max. Altitude (above sea level) [5]	2000m
	Noise level [6]	< 79 dBA
CONTROL INTERFACE	Interface	Graphic Display
	Communication protocol	Modbus TCP
	Plant Controller Communication	Optional
	Keyed ON/OFF switch	Standard
PROTECTIONS	Ground Fault Protection	GFDI and Isolation monitoring device
	General AC Protection	MV Switchgear (configurable)
	General DC Protection	Fuses
	Overvoltage Protection	AC, DC Inverter and auxiliary supply type 2
CERTIFICATIONS	Safety	UL 1741, CSA 22.2 No.107.1-01, UL 62109-1, IEC 62109-1, IEC 62109-2
	Compliance	NEC 2014 / NEC 2017 (optional)
	Utility interconnect	IEEE 1547.1-2005 / UL 1741 SA-Sept. 2016

[1] Values at 1.00•Vac nom and cos Φ= 1. Consult Power Electronics for derating curves.
[2] Consult Power Electronics for other configurations.
[3] Consult P-Q charts available: $Q(kVAr)=\sqrt{(S(kVA)^2-P(kW)^2)}$.
[4] Consult Power Electronics for Freemaq DC/DC connection configurations.
[5] Consult Power Electronics for other altitudes.
[6] Readings taken 1 meter from the back of the unit.

Appendix B

Project Inverter Locations (UTM 16 Coordinates)

Appendix B
Birch Solar Project - Inverter Locations

Inverter ID	X (UTM 16)	Y (UTM 16)
I-001	737,266	4,506,382
I-002	737,483	4,506,390
I-003	734,820	4,506,553
I-004	737,667	4,506,397
I-005	735,175	4,504,508
I-006	734,931	4,504,499
I-007	734,579	4,504,485
I-008	734,248	4,504,472
I-009	734,475	4,504,660
I-010	735,176	4,504,699
I-011	734,889	4,504,688
I-012	734,168	4,504,660
I-013	737,881	4,504,996
I-014	734,787	4,504,864
I-015	735,074	4,504,886
I-016	735,475	4,504,912
I-017	734,473	4,504,863
I-018	737,820	4,505,185
I-019	735,086	4,505,078
I-020	735,503	4,505,103
I-021	738,196	4,505,416
I-022	737,735	4,505,408
I-023	735,210	4,505,312
I-024	734,906	4,505,300
I-025	738,246	4,505,609
I-026	737,681	4,505,597
I-027	738,910	4,505,667
I-028	736,728	4,505,574
I-029	736,522	4,505,566
I-030	735,541	4,505,517
I-031	735,227	4,505,505
I-032	739,468	4,505,804
I-033	739,093	4,505,799
I-034	738,895	4,505,857
I-035	738,695	4,505,849
I-036	738,364	4,505,836
I-037	735,526	4,505,708
I-038	737,863	4,505,851
I-039	739,132	4,505,992
I-040	734,415	4,505,777

Inverter ID	X (UTM 16)	Y (UTM 16)
I-041	734,236	4,505,770
I-042	738,268	4,506,024
I-043	734,994	4,506,016
I-044	739,221	4,506,381
I-045	734,459	4,506,181
I-046	734,177	4,506,170
I-047	733,679	4,506,150
I-048	736,649	4,506,358
I-049	734,460	4,506,372
I-050	734,173	4,506,361
I-051	733,940	4,506,352
I-052	733,675	4,506,341
I-053	737,858	4,506,596
I-054	737,695	4,506,590
I-055	737,500	4,506,582
I-056	735,459	4,506,578
I-057	735,281	4,506,571
I-058	734,983	4,506,560
I-059	734,618	4,506,569
I-060	735,994	4,506,640
I-061	734,418	4,506,562
I-062	735,809	4,506,633
I-063	735,641	4,506,627
I-064	734,190	4,506,553
I-065	733,665	4,506,532
I-066	736,541	4,506,765
I-067	738,074	4,507,038
I-068	736,783	4,507,027
I-069	736,566	4,507,019
I-070	737,740	4,507,113
I-071	737,577	4,507,107
I-072	737,442	4,507,102
I-073	734,460	4,507,017
I-074	734,303	4,507,011
I-075	734,140	4,507,004
I-076	733,875	4,506,994
I-077	733,723	4,506,988
I-078	733,571	4,506,982
I-079	738,216	4,507,235
I-080	738,032	4,507,228

Appendix B
Birch Solar Project - Inverter Locations

Inverter ID	X (UTM 16)	Y (UTM 16)
I-081	736,990	4,507,224
I-082	734,958	4,507,140
I-083	736,635	4,507,255
I-084	736,473	4,507,248
I-085	738,201	4,507,425
I-086	738,033	4,507,419
I-087	737,430	4,507,421
I-088	737,268	4,507,415

Inverter ID	X (UTM 16)	Y (UTM 16)
I-089	736,991	4,507,415
I-090	736,817	4,507,408
I-091	735,284	4,507,344
I-092	735,084	4,507,336
I-093	734,808	4,507,325
I-094	737,839	4,507,500
I-095	735,482	4,507,394

Appendix C

Receptor Locations (UTM 16 Coordinates) and Sound Model Results

Appendix C   Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0001	733,813	4,508,186	28.8
R-0002	733,794	4,508,120	29.2
R-0003	740,630	4,506,715	24.8
R-0004	740,826	4,506,707	23.9
R-0005	732,079	4,507,632	24.3
R-0006	732,192	4,507,674	24.7
R-0007	732,757	4,507,852	26.7
R-0008	732,652	4,507,827	26.3
R-0009	740,681	4,507,091	24.0
R-0010	740,563	4,507,094	24.5
R-0011	740,825	4,506,786	23.8
R-0012	740,682	4,507,151	23.9
R-0013	739,568	4,506,308	34.3
R-0014	732,032	4,505,821	25.1
R-0015	739,516	4,506,705	32.2
R-0016	739,541	4,506,618	32.7
R-0017	740,432	4,507,086	25.1
R-0018	739,990	4,506,721	28.5
R-0019	739,821	4,506,643	30.0
R-0020	739,556	4,506,571	32.9
R-0021	732,256	4,505,923	26.3
R-0022	739,622	4,505,928	36.9
R-0023	732,806	4,505,945	29.7
R-0024	739,626	4,506,232	33.9
R-0025	731,966	4,505,843	24.8
R-0026	732,891	4,507,839	27.4
R-0027	733,038	4,507,698	28.9
R-0028	733,102	4,507,519	30.3
R-0029	732,831	4,507,907	26.9
R-0030	733,166	4,507,646	29.9
R-0031	733,033	4,507,881	27.9
R-0032	732,787	4,507,863	26.8
R-0033	732,887	4,507,898	27.1
R-0034	732,701	4,507,946	26.1
R-0035	732,674	4,507,836	26.4
R-0036	732,369	4,507,720	25.4
R-0037	732,647	4,507,750	26.6
R-0038	732,626	4,507,818	26.3
R-0039	732,575	4,507,863	25.9
R-0040	732,400	4,507,626	25.8

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0041	732,495	4,507,761	25.8
R-0042	732,467	4,507,751	25.7
R-0043	732,326	4,507,705	25.2
R-0044	732,281	4,507,705	25.0
R-0045	732,449	4,507,654	25.9
R-0046	732,140	4,507,730	24.3
R-0047	732,272	4,507,624	25.2
R-0048	732,228	4,507,590	25.0
R-0049	732,137	4,507,654	24.5
R-0050	732,041	4,507,619	24.1
R-0051	732,272	4,507,779	24.8
R-0052	733,900	4,508,214	28.9
R-0053	733,960	4,508,234	28.9
R-0054	734,023	4,508,282	28.7
R-0055	734,070	4,508,288	28.8
R-0056	734,223	4,508,260	29.2
R-0057	734,348	4,508,366	28.8
R-0058	734,467	4,508,408	28.7
R-0059	734,611	4,508,448	28.7
R-0060	734,712	4,508,401	29.1
R-0061	734,794	4,508,521	28.5
R-0062	735,070	4,508,073	31.8
R-0063	735,019	4,508,330	29.8
R-0064	735,052	4,508,519	28.7
R-0065	735,124	4,508,551	28.5
R-0066	735,207	4,508,574	28.4
R-0067	735,285	4,508,599	28.3
R-0068	735,325	4,508,504	28.9
R-0069	735,466	4,508,649	28.1
R-0070	735,580	4,508,445	29.3
R-0071	735,578	4,508,405	29.5
R-0072	735,581	4,508,367	29.7
R-0073	735,577	4,508,337	29.9
R-0074	735,594	4,508,296	30.2
R-0075	735,590	4,508,257	30.4
R-0076	735,591	4,508,220	30.6
R-0077	735,593	4,508,182	30.9
R-0078	735,597	4,508,148	31.1
R-0079	735,589	4,508,091	31.5
R-0080	735,609	4,507,822	33.8

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0081	735,639	4,507,596	36.5
R-0082	735,425	4,507,004	38.4
R-0083	735,858	4,507,145	36.6
R-0084	736,213	4,506,982	38.2
R-0085	736,288	4,506,964	39.0
R-0086	736,285	4,507,012	39.0
R-0087	736,270	4,507,058	38.8
R-0088	736,189	4,507,059	37.9
R-0089	736,270	4,507,090	38.9
R-0090	736,195	4,507,157	37.9
R-0091	736,192	4,507,296	37.4
R-0092	736,380	4,507,435	38.8
R-0093	736,280	4,507,456	37.2
R-0094	736,271	4,507,690	34.8
R-0095	736,317	4,507,708	34.9
R-0096	736,313	4,507,740	34.6
R-0097	736,517	4,507,742	35.6
R-0098	736,662	4,507,708	36.9
R-0099	736,691	4,507,712	36.9
R-0100	736,600	4,507,655	37.2
R-0101	736,716	4,507,668	37.8
R-0102	737,145	4,507,734	37.6
R-0103	737,116	4,507,689	38.3
R-0104	737,389	4,508,406	30.9
R-0105	737,054	4,508,481	30.2
R-0106	737,519	4,508,042	34.0
R-0107	737,541	4,507,877	35.8
R-0108	737,576	4,507,572	40.1
R-0109	737,678	4,507,545	40.9
R-0110	737,850	4,507,199	44.0
R-0111	739,018	4,507,744	30.4
R-0112	739,507	4,507,697	27.8
R-0113	739,501	4,507,523	28.4
R-0114	739,506	4,507,487	28.5
R-0115	739,602	4,507,424	28.2
R-0116	739,597	4,507,370	28.4
R-0117	739,604	4,507,316	28.5
R-0118	739,599	4,507,209	28.9
R-0119	739,349	4,506,745	33.1
R-0120	739,344	4,506,809	32.5

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0121	738,799	4,506,482	35.7
R-0122	738,764	4,506,178	38.0
R-0123	738,792	4,506,132	38.6
R-0124	738,571	4,506,360	36.7
R-0125	738,191	4,506,144	40.7
R-0126	738,010	4,506,161	39.2
R-0127	738,016	4,506,295	39.4
R-0128	739,084	4,506,194	39.3
R-0129	738,832	4,506,119	38.9
R-0130	739,460	4,506,070	37.1
R-0131	739,580	4,505,939	37.8
R-0132	739,640	4,505,553	34.2
R-0133	739,601	4,505,235	31.1
R-0134	739,575	4,505,308	31.9
R-0135	739,611	4,505,178	30.6
R-0136	739,883	4,505,288	29.5
R-0137	739,706	4,504,998	28.8
R-0138	739,623	4,504,914	28.7
R-0139	738,982	4,505,379	36.4
R-0140	738,462	4,505,345	37.6
R-0141	738,650	4,505,305	35.9
R-0142	738,139	4,505,830	40.8
R-0143	737,964	4,505,561	40.2
R-0144	737,882	4,505,163	45.9
R-0145	737,544	4,505,265	38.3
R-0146	737,627	4,505,907	39.0
R-0147	737,523	4,506,134	39.5
R-0148	737,444	4,506,126	39.2
R-0149	737,239	4,506,044	37.5
R-0150	737,205	4,506,037	37.2
R-0151	736,412	4,505,822	36.7
R-0152	736,335	4,505,785	36.4
R-0153	735,091	4,506,783	40.0
R-0154	735,478	4,505,245	41.5
R-0155	735,243	4,504,146	35.3
R-0156	735,175	4,504,094	34.9
R-0157	735,112	4,504,108	35.3
R-0158	735,013	4,504,040	34.6
R-0159	733,915	4,504,322	34.5
R-0160	734,683	4,505,580	38.3

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0161	734,780	4,505,797	38.6
R-0162	734,632	4,506,020	39.9
R-0163	734,779	4,506,179	39.9
R-0164	734,768	4,506,295	40.6
R-0165	734,731	4,506,910	39.9
R-0166	734,739	4,507,033	40.1
R-0167	734,676	4,507,139	40.2
R-0168	734,378	4,507,353	37.6
R-0169	734,525	4,505,964	40.5
R-0170	734,301	4,505,953	41.4
R-0171	734,174	4,505,931	41.0
R-0172	733,413	4,505,906	35.0
R-0173	733,154	4,506,284	33.8
R-0174	734,661	4,507,553	36.9
R-0175	734,719	4,507,643	35.9
R-0176	735,342	4,507,651	37.0
R-0177	736,313	4,506,476	37.7
R-0178	736,365	4,506,629	38.9
R-0179	733,823	4,505,983	39.0
R-0180	734,919	4,505,160	42.3
R-0181	733,345	4,504,344	29.1
R-0182	732,983	4,504,550	27.4
R-0183	733,355	4,504,030	28.0
R-0184	733,499	4,504,020	28.8
R-0185	733,410	4,503,910	27.8
R-0186	733,251	4,503,521	25.4
R-0187	733,270	4,503,851	26.8
R-0188	733,268	4,503,215	24.3
R-0189	733,290	4,503,052	23.7
R-0190	733,294	4,502,974	23.5
R-0191	733,210	4,503,026	23.4
R-0192	734,748	4,502,791	25.0
R-0193	736,573	4,503,410	26.0
R-0194	738,078	4,503,069	23.3
R-0195	738,112	4,502,967	22.9
R-0196	738,154	4,503,002	23.0
R-0197	738,061	4,503,207	23.9
R-0198	738,154	4,503,213	23.8
R-0199	738,056	4,503,347	24.4
R-0200	737,974	4,504,137	28.5

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0201	737,830	4,504,167	28.8
R-0202	737,623	4,504,040	28.0
R-0203	737,625	4,503,948	27.5
R-0204	737,482	4,504,012	27.8
R-0205	737,288	4,503,986	27.7
R-0206	736,881	4,504,086	28.2
R-0207	736,472	4,504,123	29.0
R-0208	736,289	4,504,009	29.0
R-0209	735,985	4,503,988	29.9
R-0210	735,946	4,503,991	30.1
R-0211	735,838	4,503,984	30.5
R-0212	735,787	4,503,976	30.7
R-0213	735,017	4,503,954	33.5
R-0214	734,591	4,503,936	33.3
R-0215	734,273	4,503,978	33.1
R-0216	733,986	4,504,020	32.1
R-0217	738,811	4,504,171	27.2
R-0218	738,883	4,504,175	27.0
R-0219	739,609	4,504,320	25.7
R-0220	739,609	4,504,391	26.0
R-0221	739,835	4,504,155	24.3
R-0222	739,936	4,504,166	24.1
R-0223	739,937	4,504,142	24.0
R-0224	739,938	4,504,106	23.9
R-0225	739,939	4,504,085	23.8
R-0226	739,941	4,504,049	23.6
R-0227	739,931	4,504,018	23.6
R-0228	739,968	4,504,021	23.5
R-0229	739,984	4,504,021	23.4
R-0230	740,039	4,504,020	23.3
R-0231	740,037	4,504,056	23.4
R-0232	739,979	4,504,068	23.6
R-0233	739,978	4,504,090	23.7
R-0234	740,001	4,504,090	23.6
R-0235	739,976	4,504,126	23.8
R-0236	739,968	4,504,159	24.0
R-0237	740,005	4,504,159	23.8
R-0238	740,010	4,504,138	23.8
R-0239	740,030	4,504,107	23.6
R-0240	739,945	4,503,967	23.3

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0241	739,950	4,503,903	23.1
R-0242	739,951	4,503,873	23.0
R-0243	739,954	4,503,844	22.9
R-0244	740,016	4,503,863	22.8
R-0245	739,997	4,503,939	23.1
R-0246	740,082	4,503,972	23.0
R-0247	740,082	4,503,937	22.9
R-0248	740,109	4,503,914	22.7
R-0249	740,130	4,503,899	22.6
R-0250	740,208	4,503,927	22.5
R-0251	740,177	4,503,937	22.6
R-0252	740,148	4,503,946	22.7
R-0253	740,123	4,503,968	22.9
R-0254	740,145	4,503,986	22.8
R-0255	740,177	4,503,968	22.7
R-0256	740,212	4,503,969	22.6
R-0257	740,253	4,503,956	22.4
R-0258	740,401	4,504,020	22.2
R-0259	740,365	4,504,012	22.3
R-0260	740,329	4,504,015	22.4
R-0261	740,270	4,504,015	22.6
R-0262	740,227	4,504,012	22.7
R-0263	740,192	4,504,015	22.8
R-0264	740,176	4,504,041	22.9
R-0265	740,207	4,504,046	22.9
R-0266	740,239	4,504,043	22.8
R-0267	740,275	4,504,049	22.7
R-0268	740,344	4,504,056	22.5
R-0269	740,373	4,504,053	22.4
R-0270	740,406	4,504,053	22.3
R-0271	740,459	4,504,059	22.1
R-0272	740,456	4,504,098	22.3
R-0273	740,457	4,504,127	22.3
R-0274	740,450	4,504,163	22.5
R-0275	740,456	4,504,208	22.6
R-0276	740,687	4,504,227	21.9
R-0277	740,401	4,504,103	22.4
R-0278	740,393	4,504,133	22.6
R-0279	740,396	4,504,155	22.6
R-0280	740,396	4,504,185	22.7

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0281	740,353	4,504,205	22.9
R-0282	740,340	4,504,148	22.8
R-0283	740,325	4,504,101	22.7
R-0284	740,295	4,504,101	22.8
R-0285	740,297	4,504,128	22.8
R-0286	740,305	4,504,152	22.9
R-0287	740,311	4,504,179	23.0
R-0288	740,289	4,504,201	23.1
R-0289	740,265	4,504,201	23.2
R-0290	740,254	4,504,170	23.1
R-0291	740,251	4,504,146	23.0
R-0292	740,248	4,504,119	23.0
R-0293	740,231	4,504,097	22.9
R-0294	740,220	4,504,121	23.1
R-0295	740,221	4,504,144	23.1
R-0296	740,226	4,504,170	23.2
R-0297	740,176	4,504,090	23.1
R-0298	740,175	4,504,116	23.2
R-0299	740,172	4,504,142	23.3
R-0300	740,163	4,504,166	23.4
R-0301	740,177	4,504,191	23.4
R-0302	740,207	4,504,199	23.3
R-0303	739,960	4,504,233	24.3
R-0304	740,512	4,504,270	22.6
R-0305	740,550	4,504,271	22.4
R-0306	740,511	4,504,320	22.7
R-0307	740,548	4,504,320	22.6
R-0308	740,498	4,504,357	22.9
R-0309	740,557	4,504,360	22.7
R-0310	740,498	4,504,393	23.0
R-0311	740,554	4,504,419	22.8
R-0312	740,807	4,504,346	21.8
R-0313	740,840	4,504,473	22.0
R-0314	740,902	4,504,481	21.8
R-0315	740,896	4,504,502	21.8
R-0316	740,895	4,504,526	21.9
R-0317	740,894	4,504,548	21.9
R-0318	740,894	4,504,568	22.0
R-0319	740,893	4,504,589	22.0
R-0320	740,891	4,504,611	22.1

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0321	740,995	4,504,603	21.7
R-0322	740,979	4,504,600	21.7
R-0323	740,960	4,504,609	21.8
R-0324	740,938	4,504,603	21.9
R-0325	740,933	4,504,579	21.9
R-0326	740,943	4,504,558	21.8
R-0327	740,939	4,504,533	21.7
R-0328	740,939	4,504,515	21.7
R-0329	740,844	4,504,563	22.2
R-0330	740,845	4,504,589	22.2
R-0331	740,701	4,504,596	22.8
R-0332	740,742	4,504,594	22.6
R-0333	739,677	4,504,683	27.2
R-0334	739,883	4,505,404	30.2
R-0335	740,146	4,505,440	28.1
R-0336	740,119	4,505,331	27.9
R-0337	740,061	4,505,289	28.2
R-0338	740,434	4,505,373	26.0
R-0339	740,500	4,505,370	25.6
R-0340	740,459	4,505,439	26.0
R-0341	740,494	4,505,440	25.7
R-0342	740,530	4,505,454	25.6
R-0343	740,574	4,505,443	25.3
R-0344	740,636	4,505,390	24.8
R-0345	740,598	4,505,389	25.0
R-0346	740,616	4,505,446	25.0
R-0347	740,688	4,505,450	24.7
R-0348	740,819	4,505,450	24.0
R-0349	740,858	4,505,445	23.8
R-0350	740,938	4,505,467	23.4
R-0351	741,045	4,505,470	22.9
R-0352	740,885	4,505,401	23.6
R-0353	740,885	4,505,365	23.5
R-0354	740,886	4,505,332	23.5
R-0355	740,887	4,505,301	23.4
R-0356	740,888	4,505,263	23.4
R-0357	740,920	4,505,152	23.0
R-0358	740,744	4,505,066	23.7
R-0359	740,967	4,504,889	22.4
R-0360	740,497	4,504,929	24.5

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0361	740,792	4,505,514	24.2
R-0362	740,902	4,505,551	23.7
R-0363	740,799	4,505,591	24.2
R-0364	740,860	4,505,608	23.9
R-0365	740,804	4,505,634	24.3
R-0366	740,769	4,505,661	24.5
R-0367	740,757	4,505,721	24.6
R-0368	740,526	4,505,530	25.7
R-0369	740,392	4,505,646	26.8
R-0370	740,226	4,505,779	28.2
R-0371	740,078	4,505,785	29.6
R-0372	739,966	4,505,789	30.9
R-0373	740,467	4,505,955	26.5
R-0374	740,641	4,505,904	25.4
R-0375	740,674	4,505,904	25.2
R-0376	740,654	4,505,990	25.3
R-0377	740,671	4,506,025	25.2
R-0378	740,631	4,506,111	25.4
R-0379	740,874	4,505,916	24.1
R-0380	740,852	4,505,954	24.2
R-0381	740,792	4,505,953	24.5
R-0382	741,128	4,506,292	22.8
R-0383	741,107	4,506,294	22.9
R-0384	741,076	4,506,289	23.0
R-0385	741,045	4,506,289	23.2
R-0386	741,014	4,506,288	23.3
R-0387	740,984	4,506,286	23.5
R-0388	740,954	4,506,285	23.6
R-0389	740,922	4,506,284	23.8
R-0390	740,892	4,506,280	23.9
R-0391	740,859	4,506,281	24.1
R-0392	740,834	4,506,278	24.2
R-0393	741,100	4,506,344	22.9
R-0394	741,098	4,506,374	22.9
R-0395	741,038	4,506,463	23.1
R-0396	741,035	4,506,435	23.2
R-0397	741,041	4,506,402	23.1
R-0398	741,041	4,506,371	23.2
R-0399	741,044	4,506,345	23.2
R-0400	740,967	4,506,337	23.5

Appendix C   Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0401	740,965	4,506,370	23.5
R-0402	740,964	4,506,402	23.5
R-0403	740,963	4,506,432	23.5
R-0404	740,963	4,506,460	23.5
R-0405	740,882	4,506,461	23.9
R-0406	740,903	4,506,431	23.8
R-0407	740,905	4,506,403	23.8
R-0408	740,903	4,506,369	23.8
R-0409	740,905	4,506,341	23.8
R-0410	740,840	4,506,333	24.2
R-0411	740,839	4,506,366	24.1
R-0412	740,836	4,506,396	24.1
R-0413	740,838	4,506,433	24.1
R-0414	740,841	4,506,462	24.1
R-0415	740,822	4,506,496	24.1
R-0416	740,819	4,506,586	24.1
R-0417	741,024	4,506,513	23.2
R-0418	740,975	4,506,512	23.4
R-0419	740,940	4,506,512	23.5
R-0420	740,904	4,506,513	23.7
R-0421	740,888	4,506,559	23.8
R-0422	740,920	4,506,566	23.6
R-0423	740,961	4,506,567	23.4
R-0424	740,999	4,506,568	23.2
R-0425	740,973	4,506,622	23.3
R-0426	740,932	4,506,623	23.5
R-0427	740,891	4,506,619	23.7
R-0428	740,849	4,506,628	23.9
R-0429	738,526	4,505,357	37.1
R-0430	738,584	4,505,291	36.1
R-0431	738,432	4,505,297	37.4
R-0432	737,216	4,505,354	35.1
R-0433	736,823	4,505,296	35.6
R-0434	736,780	4,505,285	35.7
R-0435	736,735	4,505,247	35.3
R-0436	736,697	4,505,227	35.1
R-0437	736,670	4,505,187	34.6
R-0438	736,652	4,505,171	34.4
R-0439	736,620	4,505,146	34.1
R-0440	736,588	4,505,116	33.8
R-0441	736,568	4,505,096	33.7
R-0442	736,547	4,505,078	33.5
R-0443	736,534	4,505,065	33.4
R-0444	736,519	4,505,055	33.3
R-0445	736,486	4,505,024	33.1
R-0446	736,471	4,505,023	33.1
R-0447	736,444	4,504,986	32.9
R-0448	736,432	4,504,970	32.8
R-0449	736,417	4,504,952	32.7
R-0450	736,481	4,504,964	32.7
R-0451	736,505	4,504,970	32.7
R-0452	736,528	4,505,009	33.0
R-0453	736,538	4,505,018	33.0
R-0454	736,558	4,505,037	33.2
R-0455	736,569	4,505,051	33.3
R-0456	736,594	4,505,073	33.4
R-0457	736,633	4,505,072	33.4
R-0458	736,637	4,505,112	33.8
R-0459	736,664	4,505,131	34.0
R-0460	736,688	4,505,156	34.2
R-0461	736,704	4,505,169	34.3
R-0462	736,748	4,505,195	34.6
R-0463	736,574	4,505,230	35.2
R-0464	736,487	4,505,233	35.1
R-0465	736,414	4,505,188	34.4
R-0466	736,409	4,505,159	34.2
R-0467	736,412	4,505,272	35.4
R-0468	735,933	4,505,258	35.8
R-0469	735,872	4,505,277	36.4
R-0470	735,816	4,505,190	37.0
R-0471	733,120	4,506,774	33.6
R-0472	732,141	4,507,788	24.2
R-0473	732,137	4,507,838	24.0
R-0474	732,303	4,507,993	24.3
R-0475	732,423	4,507,939	25.0
R-0476	733,106	4,507,854	28.4
R-0477	733,189	4,507,880	28.6
R-0478	733,337	4,507,909	29.1
R-0479	733,482	4,507,979	29.2
R-0480	733,560	4,508,006	29.3

Appendix C   Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0481	733,673	4,508,037	29.4
R-0482	733,614	4,508,182	28.3
R-0483	733,515	4,508,157	28.2
R-0484	733,422	4,508,122	28.1
R-0485	733,228	4,508,137	27.4
R-0486	733,148	4,507,977	27.9
R-0487	733,095	4,507,968	27.7
R-0488	733,104	4,508,019	27.5
R-0489	733,084	4,508,084	27.1
R-0490	733,088	4,508,140	26.9
R-0491	732,928	4,508,152	26.2
R-0492	733,091	4,508,213	26.5
R-0493	732,945	4,508,240	25.9
R-0494	732,942	4,508,312	25.6
R-0495	733,089	4,508,319	26.0
R-0496	733,618	4,508,406	27.1
R-0497	733,767	4,508,433	27.3
R-0498	733,689	4,508,524	26.7
R-0499	733,790	4,508,622	26.4
R-0500	733,705	4,508,711	25.8
R-0501	733,913	4,508,552	27.0
R-0502	733,989	4,508,671	26.6
R-0503	733,898	4,508,731	26.1
R-0504	733,859	4,508,806	25.7
R-0505	734,129	4,508,747	26.4
R-0506	734,501	4,508,681	27.3
R-0507	734,588	4,508,637	27.6
R-0508	734,541	4,508,581	27.9
R-0509	734,606	4,508,979	25.9
R-0510	734,609	4,509,021	25.8
R-0511	734,955	4,508,973	26.3
R-0512	734,946	4,508,575	28.3
R-0513	734,923	4,508,462	28.9
R-0514	735,202	4,508,641	28.1
R-0515	735,566	4,508,696	27.9
R-0516	735,852	4,508,913	27.0
R-0517	735,565	4,508,650	28.2
R-0518	735,571	4,508,610	28.4
R-0519	735,574	4,508,564	28.6
R-0520	735,576	4,508,523	28.8

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0521	735,578	4,508,479	29.1
R-0522	735,724	4,508,083	31.5
R-0523	735,662	4,508,138	31.2
R-0524	735,669	4,508,180	30.9
R-0525	735,669	4,508,217	30.6
R-0526	735,663	4,508,280	30.2
R-0527	735,695	4,508,297	30.1
R-0528	735,653	4,508,336	29.9
R-0529	735,651	4,508,383	29.6
R-0530	735,645	4,508,409	29.5
R-0531	735,649	4,508,447	29.3
R-0532	735,648	4,508,492	29.0
R-0533	735,636	4,508,527	28.8
R-0534	735,632	4,508,573	28.6
R-0535	735,634	4,508,611	28.4
R-0536	735,629	4,508,660	28.1
R-0537	735,629	4,508,713	27.9
R-0538	735,664	4,508,727	27.8
R-0539	735,694	4,508,728	27.8
R-0540	735,696	4,508,681	28.0
R-0541	735,696	4,508,647	28.2
R-0542	735,703	4,508,611	28.4
R-0543	735,690	4,508,578	28.6
R-0544	735,709	4,508,552	28.7
R-0545	735,709	4,508,510	28.9
R-0546	735,715	4,508,466	29.2
R-0547	735,720	4,508,416	29.5
R-0548	735,723	4,508,382	29.6
R-0549	735,720	4,508,350	29.8
R-0550	735,736	4,508,292	30.2
R-0551	735,753	4,508,222	30.6
R-0552	735,757	4,508,183	30.8
R-0553	735,749	4,508,144	31.1
R-0554	735,823	4,508,085	31.4
R-0555	735,837	4,508,150	31.0
R-0556	735,825	4,508,217	30.6
R-0557	735,809	4,508,319	30.0
R-0558	735,804	4,508,353	29.8
R-0559	735,796	4,508,392	29.6
R-0560	735,805	4,508,443	29.3

Appendix C   Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0561	735,796	4,508,496	29.0
R-0562	735,786	4,508,529	28.9
R-0563	735,776	4,508,577	28.6
R-0564	735,773	4,508,613	28.4
R-0565	735,773	4,508,642	28.3
R-0566	735,764	4,508,709	27.9
R-0567	735,750	4,508,750	27.7
R-0568	735,784	4,508,767	27.7
R-0569	735,817	4,508,774	27.6
R-0570	735,847	4,508,720	27.9
R-0571	735,848	4,508,681	28.1
R-0572	735,851	4,508,648	28.3
R-0573	735,855	4,508,612	28.5
R-0574	735,856	4,508,582	28.6
R-0575	735,875	4,508,520	28.9
R-0576	735,922	4,508,585	28.6
R-0577	735,926	4,508,618	28.5
R-0578	735,920	4,508,657	28.3
R-0579	735,916	4,508,690	28.1
R-0580	735,915	4,508,722	27.9
R-0581	735,916	4,508,756	27.8
R-0582	735,913	4,508,803	27.6
R-0583	735,998	4,508,117	31.3
R-0584	736,002	4,508,210	30.7
R-0585	736,144	4,508,162	31.2
R-0586	736,156	4,508,226	30.8
R-0587	736,194	4,508,125	31.5
R-0588	736,249	4,508,311	30.4
R-0589	736,232	4,508,343	30.2
R-0590	736,233	4,508,377	30.0
R-0591	736,235	4,508,638	28.6
R-0592	736,678	4,509,141	26.4
R-0593	737,009	4,508,990	27.2
R-0594	736,756	4,509,012	27.0
R-0595	736,680	4,509,030	26.9
R-0596	736,287	4,508,879	27.4
R-0597	736,279	4,508,804	27.8
R-0598	736,342	4,508,732	28.2
R-0599	736,364	4,508,641	28.7
R-0600	735,800	4,507,872	32.9

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0601	735,745	4,507,742	34.1
R-0602	736,035	4,507,756	33.6
R-0603	736,157	4,507,757	33.8
R-0604	736,214	4,507,728	34.2
R-0605	736,252	4,507,795	33.9
R-0606	733,356	4,507,764	30.1
R-0607	736,836	4,509,021	27.0
R-0608	737,552	4,509,149	26.3
R-0609	737,564	4,509,050	26.8
R-0610	737,559	4,508,975	27.2
R-0611	737,584	4,508,902	27.6
R-0612	737,542	4,508,886	27.7
R-0613	737,505	4,508,838	28.0
R-0614	737,499	4,508,799	28.3
R-0615	737,499	4,508,757	28.5
R-0616	737,506	4,508,715	28.8
R-0617	737,504	4,508,680	29.0
R-0618	736,307	4,507,842	33.7
R-0619	736,247	4,507,893	33.1
R-0620	736,317	4,507,924	33.1
R-0621	736,316	4,507,978	32.7
R-0622	736,304	4,508,059	32.1
R-0623	736,248	4,508,051	32.0
R-0624	736,259	4,508,094	31.8
R-0625	736,338	4,508,096	31.9
R-0626	736,319	4,508,132	31.6
R-0627	736,312	4,508,171	31.4
R-0628	736,309	4,508,197	31.2
R-0629	736,307	4,508,230	31.0
R-0630	736,308	4,508,261	30.8
R-0631	736,306	4,508,299	30.5
R-0632	736,304	4,508,331	30.4
R-0633	736,303	4,508,366	30.1
R-0634	736,302	4,508,397	30.0
R-0635	736,300	4,508,429	29.8
R-0636	736,306	4,508,456	29.6
R-0637	736,362	4,508,451	29.7
R-0638	736,368	4,508,413	29.9
R-0639	736,368	4,508,369	30.2
R-0640	736,371	4,508,336	30.4

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0641	736,373	4,508,305	30.6
R-0642	736,374	4,508,266	30.9
R-0643	736,376	4,508,223	31.1
R-0644	736,442	4,508,223	31.3
R-0645	736,447	4,508,269	31.0
R-0646	736,439	4,508,305	30.7
R-0647	736,438	4,508,363	30.3
R-0648	736,436	4,508,411	30.0
R-0649	736,438	4,508,463	29.7
R-0650	736,520	4,508,414	30.1
R-0651	736,610	4,508,436	30.1
R-0652	736,699	4,508,460	30.1
R-0653	736,753	4,508,464	30.1
R-0654	736,703	4,508,391	30.5
R-0655	736,786	4,508,464	30.1
R-0656	736,819	4,508,470	30.1
R-0657	736,851	4,508,472	30.1
R-0658	736,929	4,508,473	30.2
R-0659	736,971	4,508,292	31.5
R-0660	737,268	4,508,489	30.3
R-0661	737,490	4,508,500	30.2
R-0662	737,596	4,508,493	30.2
R-0663	737,618	4,508,435	30.6
R-0664	737,655	4,508,495	30.2
R-0665	737,688	4,508,502	30.1
R-0666	737,724	4,508,500	30.1
R-0667	737,802	4,508,505	30.0
R-0668	737,587	4,508,236	32.2
R-0669	737,855	4,508,506	29.9
R-0670	737,906	4,508,511	29.8
R-0671	738,065	4,508,379	30.6
R-0672	738,098	4,508,384	30.5
R-0673	738,269	4,508,512	29.2
R-0674	738,302	4,508,509	29.1
R-0675	738,337	4,508,536	28.8
R-0676	738,390	4,508,543	28.7
R-0677	738,434	4,508,545	28.5
R-0678	736,288	4,508,518	29.3
R-0679	736,320	4,508,508	29.4
R-0680	736,389	4,508,520	29.4

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0681	736,542	4,508,521	29.5
R-0682	736,724	4,508,589	29.3
R-0683	736,981	4,508,562	29.7
R-0684	737,088	4,508,551	29.8
R-0685	737,132	4,508,573	29.7
R-0686	737,181	4,508,840	28.1
R-0687	737,222	4,508,582	29.6
R-0688	737,285	4,508,629	29.3
R-0689	737,373	4,508,624	29.4
R-0690	737,436	4,508,628	29.3
R-0691	737,512	4,508,635	29.3
R-0692	737,515	4,508,586	29.6
R-0693	737,563	4,508,575	29.7
R-0694	737,602	4,508,575	29.6
R-0695	737,652	4,508,579	29.6
R-0696	737,688	4,508,584	29.5
R-0697	737,728	4,508,582	29.5
R-0698	737,770	4,508,582	29.5
R-0699	737,810	4,508,581	29.5
R-0700	737,854	4,508,583	29.4
R-0701	737,847	4,508,660	28.9
R-0702	737,812	4,508,657	29.0
R-0703	737,768	4,508,659	29.0
R-0704	737,732	4,508,660	29.0
R-0705	737,689	4,508,658	29.0
R-0706	737,645	4,508,656	29.1
R-0707	737,613	4,508,655	29.1
R-0708	737,576	4,508,755	28.5
R-0709	737,597	4,508,820	28.1
R-0710	737,648	4,508,774	28.3
R-0711	737,687	4,508,769	28.4
R-0712	737,726	4,508,772	28.3
R-0713	737,761	4,508,774	28.3
R-0714	737,799	4,508,783	28.2
R-0715	737,933	4,508,661	28.8
R-0716	737,927	4,508,719	28.4
R-0717	737,928	4,508,758	28.2
R-0718	737,924	4,508,811	27.9
R-0719	737,891	4,508,853	27.7
R-0720	737,788	4,508,856	27.8

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0721	737,744	4,508,854	27.8
R-0722	737,694	4,508,846	27.9
R-0723	737,651	4,508,843	27.9
R-0724	737,662	4,508,911	27.5
R-0725	737,739	4,508,914	27.5
R-0726	737,809	4,508,915	27.4
R-0727	737,889	4,508,915	27.3
R-0728	737,895	4,509,009	26.8
R-0729	737,892	4,509,049	26.6
R-0730	737,884	4,509,153	26.1
R-0731	737,881	4,509,211	25.8
R-0732	737,809	4,509,187	26.0
R-0733	737,812	4,509,156	26.1
R-0734	737,809	4,509,121	26.3
R-0735	737,813	4,509,066	26.6
R-0736	737,817	4,509,023	26.8
R-0737	737,813	4,508,984	27.0
R-0738	737,734	4,509,001	27.0
R-0739	737,660	4,509,000	27.1
R-0740	737,666	4,509,101	26.5
R-0741	737,682	4,509,191	26.1
R-0742	737,526	4,509,233	25.9
R-0743	738,054	4,509,206	25.6
R-0744	738,002	4,509,127	26.1
R-0745	738,052	4,509,014	26.6
R-0746	738,193	4,509,044	26.2
R-0747	738,011	4,508,925	27.1
R-0748	738,043	4,508,927	27.1
R-0749	738,070	4,508,930	27.0
R-0750	738,123	4,508,933	26.9
R-0751	738,149	4,508,931	26.9
R-0752	738,176	4,508,932	26.9
R-0753	738,200	4,508,934	26.8
R-0754	738,226	4,508,934	26.8
R-0755	738,253	4,508,935	26.7
R-0756	738,277	4,508,936	26.7
R-0757	738,304	4,508,937	26.6
R-0758	738,330	4,508,941	26.5
R-0759	738,381	4,508,937	26.5
R-0760	738,409	4,508,945	26.4

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0761	738,435	4,508,938	26.4
R-0762	738,459	4,508,941	26.3
R-0763	738,486	4,508,946	26.2
R-0764	738,511	4,508,943	26.2
R-0765	738,539	4,508,946	26.1
R-0766	738,575	4,508,942	26.0
R-0767	737,981	4,508,875	27.4
R-0768	738,011	4,508,878	27.4
R-0769	738,068	4,508,878	27.3
R-0770	738,100	4,508,880	27.3
R-0771	738,153	4,508,882	27.2
R-0772	738,188	4,508,884	27.1
R-0773	738,246	4,508,887	27.0
R-0774	738,276	4,508,890	26.9
R-0775	738,334	4,508,891	26.8
R-0776	738,367	4,508,886	26.8
R-0777	738,422	4,508,892	26.6
R-0778	738,457	4,508,891	26.5
R-0779	738,460	4,508,868	26.7
R-0780	738,463	4,508,843	26.8
R-0781	738,464	4,508,816	26.9
R-0782	738,464	4,508,791	27.1
R-0783	738,464	4,508,765	27.2
R-0784	738,454	4,508,737	27.4
R-0785	738,405	4,508,721	27.6
R-0786	738,398	4,508,759	27.4
R-0787	738,394	4,508,799	27.2
R-0788	738,075	4,508,805	27.7
R-0789	738,009	4,508,794	27.9
R-0790	738,012	4,508,710	28.4
R-0791	738,157	4,508,753	27.9
R-0792	738,248	4,508,759	27.7
R-0793	738,126	4,508,667	28.5
R-0794	738,207	4,508,668	28.3
R-0795	738,249	4,508,670	28.2
R-0796	738,290	4,508,672	28.1
R-0797	738,510	4,508,764	27.1
R-0798	738,512	4,508,793	26.9
R-0799	738,510	4,508,819	26.8
R-0800	738,510	4,508,845	26.7

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0801	738,509	4,508,870	26.5
R-0802	738,511	4,508,897	26.4
R-0803	738,543	4,508,898	26.3
R-0804	738,546	4,508,871	26.5
R-0805	738,551	4,508,845	26.6
R-0806	738,555	4,508,821	26.7
R-0807	738,548	4,508,791	26.9
R-0808	738,601	4,508,811	26.6
R-0809	738,595	4,508,832	26.5
R-0810	738,596	4,508,855	26.4
R-0811	738,594	4,508,881	26.3
R-0812	738,639	4,508,829	26.4
R-0813	738,645	4,508,860	26.3
R-0814	738,638	4,508,885	26.2
R-0815	738,640	4,508,914	26.0
R-0816	738,641	4,508,944	25.9
R-0817	738,746	4,508,890	25.9
R-0818	738,452	4,508,662	27.8
R-0819	738,474	4,508,686	27.6
R-0820	738,496	4,508,701	27.5
R-0821	738,534	4,508,717	27.3
R-0822	738,544	4,508,682	27.4
R-0823	738,581	4,508,667	27.4
R-0824	738,604	4,508,683	27.3
R-0825	738,607	4,508,714	27.1
R-0826	738,588	4,508,738	27.0
R-0827	738,647	4,508,772	26.7
R-0828	738,651	4,508,729	26.9
R-0829	738,647	4,508,700	27.1
R-0830	738,654	4,508,673	27.2
R-0831	738,653	4,508,644	27.3
R-0832	738,650	4,508,608	27.5
R-0833	738,611	4,508,600	27.7
R-0834	738,578	4,508,605	27.8
R-0835	738,535	4,508,593	28.0
R-0836	738,626	4,508,998	25.7
R-0837	738,625	4,509,038	25.5
R-0838	738,584	4,509,032	25.6
R-0839	738,545	4,509,031	25.7
R-0840	738,506	4,509,029	25.8

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0841	738,463	4,509,027	25.9
R-0842	738,423	4,509,025	25.9
R-0843	738,385	4,509,023	26.0
R-0844	738,329	4,509,030	26.1
R-0845	738,318	4,509,091	25.8
R-0846	738,317	4,509,125	25.6
R-0847	738,383	4,509,091	25.7
R-0848	738,424	4,509,092	25.6
R-0849	738,461	4,509,097	25.5
R-0850	738,503	4,509,095	25.5
R-0851	738,542	4,509,097	25.4
R-0852	738,619	4,509,092	25.2
R-0853	738,693	4,509,095	25.1
R-0854	738,742	4,509,080	25.0
R-0855	738,801	4,509,065	25.0
R-0856	738,929	4,509,013	24.9
R-0857	738,901	4,509,012	25.0
R-0858	738,873	4,509,009	25.0
R-0859	738,844	4,509,006	25.1
R-0860	738,812	4,508,999	25.2
R-0861	738,786	4,509,006	25.3
R-0862	738,759	4,509,011	25.3
R-0863	738,731	4,509,015	25.3
R-0864	738,697	4,509,030	25.4
R-0865	738,699	4,508,997	25.5
R-0866	739,327	4,508,495	25.8
R-0867	739,552	4,508,524	24.9
R-0868	739,476	4,508,631	24.8
R-0869	739,452	4,508,631	24.8
R-0870	739,429	4,508,631	24.9
R-0871	739,399	4,508,630	25.0
R-0872	739,433	4,508,679	24.7
R-0873	739,402	4,508,713	24.7
R-0874	739,342	4,508,766	24.7
R-0875	739,342	4,508,751	24.8
R-0876	739,346	4,508,726	24.8
R-0877	739,343	4,508,698	24.9
R-0878	739,343	4,508,667	25.1
R-0879	739,352	4,508,632	25.2
R-0880	739,290	4,508,795	24.7

Appendix C   Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0881	739,288	4,508,765	24.9
R-0882	739,289	4,508,733	25.0
R-0883	739,290	4,508,713	25.1
R-0884	739,295	4,508,669	25.2
R-0885	739,298	4,508,634	25.3
R-0886	739,277	4,508,631	25.4
R-0887	739,240	4,508,626	25.6
R-0888	738,840	4,508,541	27.3
R-0889	738,773	4,508,541	27.5
R-0890	738,720	4,508,542	27.7
R-0891	738,727	4,508,493	27.9
R-0892	738,800	4,508,472	27.8
R-0893	738,728	4,508,434	28.2
R-0894	738,828	4,508,398	28.1
R-0895	738,790	4,508,320	28.6
R-0896	738,737	4,508,254	29.2
R-0897	738,739	4,508,206	29.5
R-0898	738,813	4,508,208	29.2
R-0899	738,758	4,508,148	29.8
R-0900	738,759	4,508,113	30.0
R-0901	738,808	4,508,123	29.7
R-0902	738,858	4,508,123	29.4
R-0903	738,899	4,508,128	29.2
R-0904	738,940	4,508,136	28.9
R-0905	738,979	4,508,131	28.8
R-0906	739,015	4,508,137	28.6
R-0907	739,073	4,508,142	28.3
R-0908	739,112	4,508,144	28.1
R-0909	739,152	4,508,147	27.9
R-0910	739,186	4,508,148	27.7
R-0911	739,230	4,508,150	27.5
R-0912	739,268	4,508,150	27.3
R-0913	739,310	4,508,153	27.1
R-0914	739,356	4,508,152	26.9
R-0915	739,396	4,508,156	26.8
R-0916	739,431	4,508,161	26.6
R-0917	739,425	4,508,183	26.5
R-0918	739,442	4,508,190	26.4
R-0919	739,469	4,508,169	26.4
R-0920	739,466	4,508,099	26.7

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0921	739,431	4,508,094	26.8
R-0922	739,393	4,508,086	27.0
R-0923	739,353	4,508,088	27.2
R-0924	739,317	4,508,087	27.4
R-0925	739,256	4,508,088	27.6
R-0926	739,215	4,508,089	27.8
R-0927	739,236	4,508,018	28.0
R-0928	739,296	4,507,944	28.0
R-0929	739,182	4,507,959	28.5
R-0930	739,149	4,507,952	28.7
R-0931	739,170	4,507,913	28.8
R-0932	739,100	4,507,897	29.2
R-0933	739,080	4,507,918	29.2
R-0934	739,086	4,507,960	29.0
R-0935	739,052	4,507,957	29.2
R-0936	739,007	4,507,955	29.5
R-0937	739,005	4,507,918	29.7
R-0938	739,010	4,507,894	29.7
R-0939	739,015	4,507,858	29.9
R-0940	739,016	4,507,816	30.1
R-0941	739,066	4,507,811	29.8
R-0942	739,119	4,507,805	29.5
R-0943	739,185	4,507,829	29.0
R-0944	739,233	4,507,834	28.7
R-0945	738,958	4,507,813	30.4
R-0946	738,956	4,507,855	30.2
R-0947	738,954	4,507,892	30.1
R-0948	738,956	4,507,924	29.9
R-0949	738,950	4,507,959	29.8
R-0950	738,945	4,507,992	29.6
R-0951	738,971	4,508,017	29.4
R-0952	738,997	4,508,008	29.3
R-0953	739,028	4,508,011	29.1
R-0954	739,055	4,508,012	28.9
R-0955	739,081	4,508,012	28.8
R-0956	739,104	4,508,013	28.7
R-0957	739,164	4,508,020	28.4
R-0958	739,155	4,508,087	28.1
R-0959	739,117	4,508,086	28.3
R-0960	739,076	4,508,084	28.5

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-0961	739,018	4,508,075	28.8
R-0962	738,978	4,508,069	29.1
R-0963	738,945	4,508,066	29.3
R-0964	738,909	4,508,050	29.5
R-0965	738,880	4,508,058	29.6
R-0966	738,888	4,508,023	29.8
R-0967	738,891	4,507,983	30.0
R-0968	738,893	4,507,952	30.1
R-0969	738,895	4,507,912	30.3
R-0970	738,898	4,507,880	30.5
R-0971	738,900	4,507,850	30.6
R-0972	738,905	4,507,806	30.8
R-0973	738,774	4,507,799	31.8
R-0974	738,772	4,507,839	31.6
R-0975	738,773	4,507,875	31.3
R-0976	738,769	4,507,931	31.0
R-0977	738,769	4,507,973	30.8
R-0978	738,766	4,508,016	30.5
R-0979	738,768	4,508,066	30.2
R-0980	738,803	4,508,062	30.0
R-0981	738,829	4,508,062	29.9
R-0982	738,829	4,508,021	30.1
R-0983	738,827	4,507,980	30.4
R-0984	738,828	4,507,946	30.6
R-0985	738,831	4,507,914	30.7
R-0986	738,832	4,507,874	30.9
R-0987	738,835	4,507,843	31.1
R-0988	738,831	4,507,801	31.4
R-0989	738,662	4,508,040	31.0
R-0990	738,664	4,508,012	31.1
R-0991	738,666	4,507,984	31.3
R-0992	738,667	4,507,949	31.6
R-0993	738,668	4,507,918	31.8
R-0994	738,672	4,507,888	32.0
R-0995	738,672	4,507,857	32.2
R-0996	738,687	4,507,813	32.4
R-0997	738,646	4,507,815	32.7
R-0998	738,590	4,507,809	33.2
R-0999	738,553	4,507,808	33.5
R-1000	738,522	4,507,809	33.7

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-1001	738,489	4,507,806	34.0
R-1002	738,460	4,507,806	34.3
R-1003	738,419	4,507,804	34.6
R-1004	738,415	4,507,860	34.0
R-1005	738,446	4,507,864	33.8
R-1006	738,482	4,507,869	33.5
R-1007	738,512	4,507,863	33.3
R-1008	738,551	4,507,872	32.9
R-1009	738,598	4,507,878	32.6
R-1010	738,609	4,507,904	32.3
R-1011	738,604	4,507,932	32.1
R-1012	738,603	4,507,969	31.8
R-1013	738,609	4,508,004	31.5
R-1014	738,605	4,508,038	31.3
R-1015	738,400	4,507,981	32.9
R-1016	738,436	4,507,984	32.7
R-1017	738,468	4,507,991	32.4
R-1018	738,498	4,507,988	32.3
R-1019	738,547	4,508,000	31.9
R-1020	738,555	4,507,970	32.1
R-1021	738,553	4,507,920	32.5
R-1022	738,510	4,507,918	32.8
R-1023	738,471	4,507,926	33.0
R-1024	738,443	4,507,916	33.3
R-1025	738,412	4,507,913	33.5
R-1026	737,627	4,507,943	35.1
R-1027	737,615	4,507,758	37.4
R-1028	737,650	4,507,759	37.5
R-1029	737,689	4,507,760	37.6
R-1030	737,727	4,507,762	37.6
R-1031	737,796	4,507,782	37.5
R-1032	737,852	4,507,892	35.8
R-1033	737,893	4,507,767	37.8
R-1034	737,936	4,507,783	37.4
R-1035	738,001	4,507,786	37.2
R-1036	738,040	4,507,788	37.1
R-1037	738,070	4,507,792	36.9
R-1038	738,103	4,507,790	36.8
R-1039	738,134	4,507,791	36.7
R-1040	738,165	4,507,793	36.5

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-1041	738,197	4,507,792	36.4
R-1042	738,227	4,507,795	36.1
R-1043	738,257	4,507,794	36.0
R-1044	738,292	4,507,797	35.7
R-1045	738,322	4,507,800	35.4
R-1046	738,360	4,507,799	35.2
R-1047	738,363	4,507,864	34.4
R-1048	738,319	4,507,854	34.8
R-1049	738,290	4,507,853	35.0
R-1050	738,253	4,507,856	35.1
R-1051	738,211	4,507,854	35.4
R-1052	738,177	4,507,845	35.7
R-1053	738,149	4,507,845	35.8
R-1054	738,114	4,507,843	36.0
R-1055	738,088	4,507,842	36.1
R-1056	738,103	4,507,897	35.3
R-1057	738,098	4,507,933	34.8
R-1058	738,091	4,507,964	34.5
R-1059	738,093	4,507,995	34.1
R-1060	738,092	4,508,021	33.8
R-1061	738,149	4,508,028	33.5
R-1062	738,145	4,507,964	34.3
R-1063	738,148	4,507,935	34.6
R-1064	738,151	4,507,906	35.0
R-1065	738,200	4,507,909	34.7
R-1066	738,197	4,507,934	34.4
R-1067	738,192	4,507,970	34.0
R-1068	738,194	4,507,994	33.8
R-1069	738,189	4,508,027	33.4
R-1070	738,182	4,508,055	33.2
R-1071	738,188	4,508,088	32.8
R-1072	738,184	4,508,118	32.5
R-1073	738,180	4,508,151	32.2
R-1074	738,184	4,508,179	31.9
R-1075	738,225	4,508,206	31.6
R-1076	738,229	4,508,171	31.9
R-1077	738,230	4,508,140	32.2
R-1078	738,241	4,508,117	32.3
R-1079	738,240	4,508,080	32.7
R-1080	738,245	4,508,048	33.0

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-1081	738,247	4,508,018	33.3
R-1082	738,242	4,507,991	33.6
R-1083	738,247	4,507,963	33.9
R-1084	738,252	4,507,910	34.5
R-1085	738,291	4,507,914	34.2
R-1086	738,353	4,507,917	33.8
R-1087	738,350	4,507,961	33.4
R-1088	738,344	4,507,995	33.1
R-1089	738,330	4,508,025	32.8
R-1090	738,322	4,508,052	32.6
R-1091	738,318	4,508,080	32.4
R-1092	738,319	4,508,111	32.1
R-1093	738,309	4,508,143	31.9
R-1094	738,304	4,508,173	31.6
R-1095	738,306	4,508,201	31.4
R-1096	738,300	4,508,237	31.1
R-1097	738,302	4,508,266	30.9
R-1098	738,298	4,508,300	30.6
R-1099	738,278	4,508,349	30.3
R-1100	738,310	4,508,351	30.2
R-1101	738,333	4,508,351	30.1
R-1102	738,365	4,508,353	30.0
R-1103	738,393	4,508,347	30.0
R-1104	738,428	4,508,352	29.8
R-1105	738,418	4,508,409	29.4
R-1106	738,369	4,508,302	30.4
R-1107	738,352	4,508,270	30.7
R-1108	738,360	4,508,245	30.8
R-1109	738,355	4,508,213	31.1
R-1110	738,361	4,508,185	31.3
R-1111	738,372	4,508,151	31.5
R-1112	738,418	4,508,153	31.3
R-1113	738,433	4,508,185	31.0
R-1114	738,423	4,508,212	30.8
R-1115	738,422	4,508,244	30.6
R-1116	738,429	4,508,269	30.4
R-1117	738,415	4,508,304	30.2
R-1118	738,386	4,508,038	32.5
R-1119	738,412	4,508,046	32.3
R-1120	738,443	4,508,044	32.1

Appendix C   Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-1121	738,471	4,508,038	32.0
R-1122	738,501	4,508,039	31.9
R-1123	738,543	4,508,063	31.4
R-1124	738,550	4,508,095	31.2
R-1125	738,549	4,508,123	31.0
R-1126	738,497	4,508,104	31.4
R-1127	738,469	4,508,103	31.5
R-1128	738,441	4,508,101	31.6
R-1129	738,410	4,508,100	31.8
R-1130	738,376	4,508,101	31.9
R-1131	738,481	4,508,158	31.0
R-1132	738,485	4,508,184	30.8
R-1133	738,488	4,508,218	30.5
R-1134	738,482	4,508,242	30.4
R-1135	738,481	4,508,269	30.2
R-1136	738,474	4,508,294	30.0
R-1137	738,478	4,508,322	29.8
R-1138	738,471	4,508,350	29.7
R-1139	738,479	4,508,377	29.5
R-1140	738,481	4,508,406	29.3
R-1141	738,495	4,508,467	28.8
R-1142	738,517	4,508,488	28.6
R-1143	738,537	4,508,469	28.7
R-1144	738,563	4,508,467	28.6
R-1145	738,586	4,508,490	28.4
R-1146	738,608	4,508,466	28.5
R-1147	738,637	4,508,461	28.4
R-1148	738,640	4,508,502	28.2
R-1149	738,600	4,508,528	28.1
R-1150	738,570	4,508,522	28.3
R-1151	738,635	4,508,547	27.9
R-1152	738,591	4,508,406	28.9
R-1153	738,532	4,508,405	29.1
R-1154	738,533	4,508,375	29.3
R-1155	738,539	4,508,343	29.5
R-1156	738,535	4,508,310	29.7
R-1157	738,543	4,508,279	29.9
R-1158	738,544	4,508,245	30.1
R-1159	738,536	4,508,213	30.4
R-1160	738,545	4,508,183	30.5
R-1161	738,584	4,508,370	29.1
R-1162	738,586	4,508,340	29.3
R-1163	738,588	4,508,310	29.5
R-1164	738,590	4,508,277	29.7
R-1165	738,596	4,508,249	29.9
R-1166	738,599	4,508,218	30.1
R-1167	738,592	4,508,187	30.3
R-1168	738,595	4,508,154	30.5
R-1169	738,596	4,508,124	30.7
R-1170	738,595	4,508,098	30.9
R-1171	738,659	4,508,114	30.5
R-1172	738,659	4,508,149	30.2
R-1173	738,651	4,508,179	30.1
R-1174	738,655	4,508,209	29.9
R-1175	738,654	4,508,242	29.7
R-1176	738,654	4,508,275	29.5
R-1177	738,652	4,508,302	29.3
R-1178	738,648	4,508,331	29.1
R-1179	738,649	4,508,362	29.0
R-1180	738,647	4,508,398	28.7
R-1181	739,555	4,507,976	26.7
R-1182	739,572	4,508,005	26.5
R-1183	739,577	4,508,034	26.4
R-1184	739,588	4,508,062	26.3
R-1185	739,610	4,508,085	26.1
R-1186	739,631	4,508,030	26.2
R-1187	739,658	4,508,058	26.0
R-1188	739,806	4,507,951	25.7
R-1189	739,911	4,507,900	25.4
R-1190	739,911	4,507,874	25.5
R-1191	739,912	4,507,850	25.5
R-1192	739,863	4,507,841	25.8
R-1193	739,831	4,507,845	25.9
R-1194	739,783	4,507,845	26.1
R-1195	739,745	4,507,841	26.3
R-1196	739,719	4,507,841	26.4
R-1197	739,695	4,507,836	26.5
R-1198	739,668	4,507,838	26.6
R-1199	739,641	4,507,836	26.7
R-1200	739,616	4,507,833	26.9

Appendix C   Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-1201	739,500	4,507,756	27.7
R-1202	739,568	4,507,466	28.2
R-1203	739,602	4,507,466	28.1
R-1204	739,637	4,507,473	27.9
R-1205	739,668	4,507,470	27.7
R-1206	739,695	4,507,493	27.5
R-1207	739,704	4,507,521	27.4
R-1208	739,706	4,507,552	27.3
R-1209	739,706	4,507,596	27.2
R-1210	739,705	4,507,630	27.1
R-1211	739,687	4,507,710	26.9
R-1212	739,631	4,507,719	27.2
R-1213	739,592	4,507,716	27.3
R-1214	739,559	4,507,719	27.5
R-1215	739,550	4,507,764	27.4
R-1216	739,575	4,507,770	27.3
R-1217	739,606	4,507,769	27.1
R-1218	739,635	4,507,771	27.0
R-1219	739,671	4,507,773	26.8
R-1220	739,728	4,507,775	26.5
R-1221	739,962	4,507,782	25.5
R-1222	739,961	4,507,743	25.6
R-1223	739,962	4,507,714	25.7
R-1224	739,964	4,507,683	25.8
R-1225	739,964	4,507,654	25.9
R-1226	739,963	4,507,619	26.0
R-1227	739,965	4,507,573	26.1
R-1228	739,984	4,507,538	26.1
R-1229	740,023	4,507,527	25.9
R-1230	740,061	4,507,524	25.8
R-1231	740,101	4,507,543	25.6
R-1232	740,117	4,507,584	25.4
R-1233	740,119	4,507,622	25.3
R-1234	740,109	4,507,654	25.2
R-1235	740,084	4,507,686	25.3
R-1236	740,051	4,507,710	25.3
R-1237	740,019	4,507,726	25.4
R-1238	740,016	4,507,754	25.4
R-1239	740,018	4,507,784	25.3
R-1240	740,067	4,507,784	25.1

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-1241	740,113	4,507,795	24.9
R-1242	740,119	4,507,737	25.0
R-1243	739,956	4,507,860	25.3
R-1244	740,005	4,507,858	25.1
R-1245	740,236	4,507,673	24.7
R-1246	740,235	4,507,616	24.8
R-1247	740,241	4,507,546	25.0
R-1248	740,180	4,507,535	25.2
R-1249	740,187	4,507,487	25.3
R-1250	740,242	4,507,473	25.1
R-1251	740,219	4,507,404	25.4
R-1252	740,259	4,507,357	25.3
R-1253	740,327	4,507,347	25.0
R-1254	740,322	4,507,410	24.9
R-1255	740,315	4,507,475	24.8
R-1256	740,309	4,507,553	24.7
R-1257	740,310	4,507,608	24.5
R-1258	740,623	4,507,182	24.1
R-1259	740,592	4,507,190	24.2
R-1260	740,555	4,507,187	24.4
R-1261	740,526	4,507,181	24.5
R-1262	740,465	4,507,192	24.8
R-1263	740,478	4,507,227	24.6
R-1264	740,519	4,507,253	24.4
R-1265	740,554	4,507,242	24.3
R-1266	740,585	4,507,244	24.1
R-1267	740,616	4,507,244	24.0
R-1268	740,240	4,507,057	26.1
R-1269	740,232	4,507,172	25.9
R-1270	740,050	4,507,180	26.8
R-1271	740,015	4,507,338	26.5
R-1272	740,096	4,507,301	26.2
R-1273	740,232	4,507,254	25.7
R-1274	737,758	4,507,677	39.3
R-1275	737,674	4,507,648	39.3
R-1276	735,948	4,507,602	34.5
R-1277	736,012	4,507,413	35.6
R-1278	736,233	4,506,886	38.5
R-1279	735,916	4,507,049	37.1
R-1280	733,110	4,507,221	32.2

Appendix C Birch Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-1281	736,391	4,504,502	30.8
R-1282	736,516	4,504,690	31.2
R-1283	736,322	4,506,173	36.2
R-1284	736,919	4,506,163	37.1

Receptor ID	X (UTM 16)	Y (UTM 16)	Expected Sound (dBA)
R-1285	737,896	4,504,460	31.3
R-1286	737,020	4,505,298	34.6
R-1287	740,884	4,506,927	23.4