ATTACHMENT 1 – TECHNICAL REQUIREMENTS

Funding for any agreement resulting from this Notice of Funding Opportunity (NOFO) will be paid entirely from National Electric Vehicle Infrastructure (NEVI) Formula funds. All applicable requirements of Title 23 United States Code (U.S.C.) and 2 Code of Federal Regulations (CFR) Part 200 apply to the administration of these funds, which include, but are not limited to: 23 CFR 680, the Davis-Bacon Act, the Americans with Disabilities Act of 1990 (ADA), Title VI of the Civil Rights Act of 1964, the National Environmental Policy Act of 1969 (NEPA), and the Build America, Buy America (BABA) Act. Electric vehicle (EV) chargers funded under any agreement resulting from this NOFO will be covered by the Build America, Buy America Implementation Plan to Enhance Buy America for Electric Vehicle (EV) Chargers. The Awardee must also comply with all other standards and requirements required by federal, state, and local laws.

In addition to the above, Awardees must comply with the following technical requirements.

1	ADDITIONAL PROJECT SITE REQUIREMENTS	
1.1	Distance from AFC	The Project site shall be within a maximum driving distance of 1 mile from the Alternative Fuel Corridor (AFC). The measurement of the distance shall begin from the end of the nearest interstate off-ramp to the charging station and conclude at the entrance of the charging station.
1.2	Access to Restrooms	The Project site shall include a publicly accessible, ADA-compliant restroom located at the Project site or within 500-feet from the charging station. The restrooms must be reachable via sidewalks or pavement. ~~These restrooms must remain open to the public whenever the charging site is operational, 24 hours per day, 7 days per week, throughout the year.~~
1.3	Access to Food and Drink	The Project site shall have access to food and drink ~~24 hours per day, 7 days per week, throughout the year~~. Vending machines, restaurants, or a convenience store providing access to food and drink shall be included in the Project site or within 500-feet from the charging station.
1.4	Site Accessibility	The Project site shall be accessible to the public and reachable from a public road 24 hours per day, 7 days per week, throughout the year. Access to the Project site must have adequate traffic control measures, such as signage, signals, striping, etc. These sites may be situated on private property.
1.5	ADA Compliance	All site facilities, amenities, or other Project features shall be ADA compliant and located within 500-feet of the chargers. The Project site shall adhere to ADA requirements, incorporating a minimum of one ADA-compliant parking space equipped with access to EV charging infrastructure. The ADA parking space shall adhere to the requirements specified by the US Access Board.

1	ADDITIONAL PROJECT SITE REQUIREMENTS	
1.6	Site Signage	The Project site shall have clear signage that indicates the site's location and the locations of the charging ports within the site. Signage offering directional guidance to the charging site shall also be deployed along the roadway, following Iowa DOT standards, as applicable. Applicant is responsible for obtaining all permits and approvals related to signage.
1.7	Safety Lighting	The Project site shall provide lighting to illuminate all EV chargers and corresponding parking spaces. Lighting levels and requirements shall be consistent with existing jurisdictional and zoning requirements.
1.8	Cell Phone Service	The Awardee shall make certain that there is adequate cell phone service available at the Project site. This may include an open access Wi-Fi hotspot.
1.9	Security Cameras or On-Site Staff	The Awardee shall ensure security through either security cameras or on-site staff. The security cameras shall fully cover the Project site, including the EV chargers, EV infrastructure equipment, and parking area. High-definition, color cameras shall be used and footage from the cameras shall be stored for at least 30 days, complying with cybersecurity and data management requirements. As an alternative to security cameras, on-site staff shall be present and available at the site 24 hours per day, 7 days per week, throughout the year.
1.10	Trash Cans	The Project site shall have trash and recycling receptacles available to site users. The trash and recycling receptables shall be emptied and maintained on a regular basis to prevent overflow of contents.
1.11	Snow Removal	The Awardee shall provide snow removal service at the Project site when snow accumulates above 1 inch.
1.12	Physical Security	All EV chargers, electrical infrastructure, and other equipment at the Project site shall be physically secured to prevent unauthorized access and it must be protected from being hit by vehicles from inside and outside of the site.

2	ADDITIONAL CHARGER REQUIREMENTS AND SPECIFICATIONS	
2.1	Range of Operating Temperature	EV chargers shall be capable of operating at ~~full power over~~ an ambient temperature range of minus 22 degrees to 122 degrees Fahrenheit.
2.2	Charger Locks and Tamper Prevention	The EV chargers shall incorporate security features to deter tampering. Tamper proof fasteners and locking mechanisms must be present on all EV charging cabinets, doors, and related infrastructure. Tamper proof tape should also be placed on the EV Charging Stations' access panels.
2.3	Range of Output Current	All charging ports shall be able to provide output currents up to at least 350 amps of direct current (ADC).
2.4	Weather Resistance	The EV chargers shall be constructed to withstand harsh weather conditions, such as snow, heavy rains, extreme temperatures, and high winds. All above-ground structures, cabinets, and enclosures shall be designed in accordance with local building code standards, and EV charger enclosures shall have a minimum rating of IP54 or equivalent.
2.5	Output Current Limit	The output current may be the lower of 350 ADC or the current required to reach 150 kW based on the output voltage. The EVSE shall be capable of outputting at least one voltage and current combination that reaches 150 kW. This is satisfied by operating at any point along the line in Figure 1 below. ~~(see Figure 1 below). All charging ports shall be capable of providing a continuous power output of at least 150 kW simultaneously from each charging port at the charging station. EV charging infrastructure shall be capable of providing DC output voltages within the entire range of 250–920 volts (VDC).~~ Figure 1: Required Operating Output

2	ADDITIONAL CHARGER REQUIREMENTS AND SPECIFICATIONS	
2.6	**NACS Connectors**	~~Each~~ The direct current fast charging (DCFC) charger(s) ~~port~~ must be capable of charging any North American Charging Standard (NACS) compliant vehicle. ~~and each DCFC port must have at least one permanently attached NACS connector in addition to the required Combined Charging System (CCS) Type 1 connector~~. A minimum of 4 permanently attached NACS connectors and 4 permanently attached CCS1 connectors are required at the Project site.
2.7	Minimum Power Supply	The utility feed to the Project site shall have a minimum power capacity of at least 150 kW per port, and the ESVE shall have an input power rating of at least 150 kW per port.
2.8	**NEVI Port Power Sharing**	The Project site shall have a minimum of 4 NEVI compliant charging ports. Additional charging ports that do not meet the NEVI requirements are allowed, but these additional non-NEVI ports are ineligible for NEVI funding. Power sharing between the NEVI ports and the non-NEVI ports is allowed as long as the 150 kW continuous and simultaneous power requirements for the NEVI ports are met. The full cost of the utility upgrades to support all charging ports is an eligible expense. The cost of any equipment that supports only the non-NEVI ports are an ineligible expense. The cost eligibility of any shared equipment that supports both the NEVI and non-NEVI ports shall be prorated based on the proportion of the power rating of the equipment that can supply the NEVI ports simultaneously. If the site contains both NEVI ports and non-NEVI ports, signage shall be provided to clearly identify the NEVI ports.

3	CYBERSECURITY AND DATA MANAGEMENT REQUIREMENTS	
3.1	Cybersecurity and Data Management Plan	The Awardee shall develop a written cybersecurity plan. The plan shall adhere to the National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF). The plan shall outline cybersecurity best practices to be used through all phases of the Project and include the EV charging and supporting infrastructure. The plan shall include security and privacy measures to be implemented, a description of how the entire system will be safeguarded against cyberattacks, and a description of how data will be securely stored, transmitted, and protected from unauthorized access, modification, or destruction. In addition, the document will detail the expected threat surface and specify the NIST 800-53 controls to be implemented for risk reduction. The plan shall establish roles for Project governance and oversight. The plan shall include approach to data segmentation to physically or logically isolate the EV charging station(s) from all other IT, OT, and IoT devices that may be present.
3.2	Cybersecurity Event Management Team (CEMT)	The Awardee shall establish a CEMT made of Awardee staff members who will be responsible for responding to any cybersecurity events that may occur during any phase of the Project. The Awardee shall develop a Cybersecurity Event Management Plan that outlines the processes that will be followed in response to an event, including notifying the CEMT of an event. Incident response plans shall be aligned to NIST SP 800-61, Computer Security Incident Handling Guide.
3.3	Data Segmentation	Data networks used by the charging network shall be segmented to minimize the risk of unintended damage, unauthorized access, data loss, lack of service, privacy breaches, or other issues resulting from unprotected connections.
3.4	Cybersecurity Operations	Cybersecurity operations shall adhere to and maintain certification for System and Organization Controls (SOC 2) and conduct an annual SOC 2 audit. The SOC 2 shall be conducted by an independent third party. The SOC 2 shall be provided to Iowa DOT on an annual basis.
3.5	Risk Assessment Schedule	The Awardee shall provide a schedule for regular risk assessments and process reviews. Risk assessment read-out reports shall be provided to Iowa DOT twice per year. A baseline risk assessment shall be part of Task 3 of the Scope of Work and Deliverables and shall include penetration testing. Risk assessments shall include vulnerability scans using the MITRE or Cybersecurity and Infrastructure Security Agency (CISA) Common Vulnerability and Exposures (CVE) database and a report summarizing results and actions for mitigating new or existing vulnerabilities. Regularly scheduled security patching shall be provided by qualified personnel.
3.6	Cybersecurity Event Notification	The Awardee shall inform Iowa DOT of any cybersecurity event that requires notification to any person under federal or state law, including data breaches or incidents affecting an electric utility, within 24 hours of the Awardee's discovery of the event. Notifications shall be aligned with practices defined in NIST SP 800-61, Computer Security Incident Handling Guide.
3.7	Multi-Factor Authentication	Multi-Factor Authentication must be used when accessing the EV charging network or related Charging Station Management Systems (CSMS).

4	O& M REQUIREMENTS	
4.1	Monthly Preventative Maintenance	The Awardee shall perform monthly preventative maintenance on the EV charging infrastructure. This shall include checking for damage and vandalism and replacing any damaged or deteriorated cables or connectors. EV Charging stations must be checked regularly for tampering (e.g., card skimmers, damage near or around the internal access panel).
4.2	Customer Service	The Awardee shall provide a customer service phone line. The Awardee shall also provide a website or text message number to report problems or issues with the EV chargers or Project site. These shall be available 24 hours a day, 7 days a week, and posted clearly and visibly at the charging stations. All contact methods must connect the customer to the Awardee and must provide access for users that have limited English proficiency and for people with disabilities.

5	EMERGENCY MANAGEMENT REQUIREMENTS	
5.1	Emergency Management Plan	The Awardee shall develop an emergency management plan outlining actions the Awardee will take in the event of a natural disaster or other declared emergency. The Emergency Management Plan shall be aligned and referenced to practices defined in 3.2, Cybersecurity Event Management Team (CEMT), and 3.6, Cybersecurity Event Notification.

6	TRAINING REQUIREMENTS	
6.1	Annual Safety Training	The Awardee shall provide annual safety training to all on-site staff, staff operating and maintaining the EV charging infrastructure, and local emergency personnel. The training shall address subjects like electrical safety, shutdown procedures, and firefighting techniques relevant to EVs and/or EV charging emergencies.
6.2	Qualified Workforce Training and Technician Documentation	The Awardee shall verify that the workforce installing, maintaining, and operating chargers has appropriate licenses, certifications, and training to verify that charger installation and maintenance is performed safely by a qualified and increasingly diverse workforce of licensed technicians and other laborers. Further, the Awardee shall verify that all electricians installing, operating, or maintaining EV charging infrastructure have obtained certification from the Electric Vehicle Infrastructure Training Program (EVITP). For projects requiring more than one electrician, the Awardee shall verify that at least one electrician meets the requirements above, and at least one electrician is enrolled in an electrical registered apprenticeship program. The Awardee shall verify that all other onsite, non-electrical workers directly involved in the installation, operation, and maintenance of chargers have graduated from a registered apprenticeship program or have appropriate licenses, certifications, and training, as required by the State. Workforce training is encouraged to target recruiting, training, and hiring individuals from disadvantaged communities.
6.3	Annual Cybersecurity Training	The Awardee shall conduct annual cybersecurity training for all staff members working on the Project. This shall include job specific cybersecurity awareness training to all staff operating and maintaining the EV charging infrastructure.

7	COMMUNITY ENGAGEMENT	
7.1	Community Engagement Outcomes Report	The Awardee must supply any relevant information regarding community engagement to support Iowa DOT's development of the Community Engagement Outcomes Report per 23 CFR 680.112 (d).