



REQUEST FOR PROPOSALS
Grand Traverse County Board of Public Works (BPW)
Department of Public Works (DPW) Shop Generator Set

Proposals Due:

3:00 P.M., Friday October 7, 2016

Address Proposals to:

DPW Shop Generator Set Proposal
Grand Traverse County Department of Public Works
Attn: John Divozzo, Director
2650 LaFranier Road
Traverse City, MI 49686
Email: jdivozzo@grand-traverse.org
Phone: 231-995-6039
Fax: 231-929-7226

Proposals must be sealed and signed. They may be mailed or hand delivered.

Address Questions to:

GFA
Jennifer Hodges, P.E. (Engineer)
123 West Front Street
Traverse City, MI 49684
Email: jennifer@gfa.tc
Phone: 231-946-5874
Fax: 231-946-3703

Request to:

Alpine Electric
Mark Griner mgriner@alpineelectric.com
(231) 947-3600

Topline Electric
Blaine Vadeboncoeur blainev@toplineelectric.us
(231) 922-8626

Windemuller Electric
Brandon Elmore belmore@windemuller.us
(231) 935-4800



Scope of Services:

We have been asked by our client, the Board of Public Works/Department of Public Works to provide this request to each of the local electrical contractors and request a proposal to provide for the installation of a permanent 20 kW natural gas generator, automatic transfer switch and associated appurtenances. The existing building has a 3 phase power supply and is equipped with two (2) breakers (1- 225 Amp and 1 – 200 Amp). The proposed generator set shall be single phase to provide emergency power supply to operate their SCADA monitoring system, lighting, doors and accessories. The generator is proposed to be permanently installed at the DPW Maintenance Shop located at 361 East Welch Court, Traverse City, Mi 49684.

The information contained below are the specific qualifications each contractor must meet in order to provide an accurate proposal. A Generator Set and Automatic Transfer Switch specification sheet are provided along with a Circuit Index for reference.

Requirements - General:

- Work must comply with all applicable laws, regulations
- All equipment shall be installed compliant with manufacturer's recommendations.
- Contractor shall be responsible for obtaining all local regulatory permits, completing inspections and payment of all associated fees which include but are not limited to electrical and mechanical.
- Date of completion is to be within 15 days of equipment delivery, as coordinated with the DPW Engineer.
- Provide, in addition to all other equipment factory warranties, a one (1) year full labor and material warranty on all workmanship, material and equipment furnished for this project.
- It is strongly recommended that you make a site visit and perform an evaluation of the existing conditions and proposed scope of work. Coordinate with the DPW for site access:
 - Sam Tyson, DPW Manager (231) 590-2660

Terms of Agreement:

General:

- To hold bid open for 60 consecutive calendar days from the bid due date.
- To enter into and execute a contract with the Grand Traverse County BPW. See attached.

Insurance:

- Contractor will have Worker's Compensation Insurance in limits required by state law and Comprehensive General Liability Insurance coverage in force for all of its operations under this contract

Bonds:

- The Contractor shall include in the proposal price the cost to provide the following:
 - A Maintenance Bond, in the amount of 50 percent of the proposal amount with a corporate surety approved by the Owner, will be required. The maintenance bond shall be in effect for the one (1) year, warranty period beginning from the date of acceptance by the municipality.



- Letter of Surety, licensed to do business in the State of Michigan, stating ability to obtain a Performance Bond and Payment Bond for 100% of the project amount.

Shop Drawings/O&M Submittals:

- Provide four (4) copies of material specification sheets and warranty information to DPW Engineer. Do not proceed until written approval is received.
- Coordinate all work with DPW Engineer

Services/Materials to be Provided:

Contractor shall provide all equipment and materials necessary to complete the work described herein. The Contractor shall provide a detailed summary of the equipment and services to be provided (including manufacturer and model numbers.) The scope of work shall include but shall not be limited to the following:

- Procurement and installation of new generator set/transfer switch and associated components. Refer to attached material specifications. All equipment to be installed compliant with manufacturer recommendations
- Installation of concrete pad for generator set to be located in northwest corner of building. Final location to be coordinated with owner and dimensions as required by equipment manufacturer.
- Installation of Automatic Transfer Switch panel to be placed adjacent to existing load center.
- Provide and install all required or necessary NEC compliant wiring for a complete installation between new automatic transfer panel, generator set and existing load centers for all circuits identified to be generator supplied circuits. (Reference the attached circuit index.)
- Complete MissDig prior to any underground excavation, as applicable.
- Provide and install new natural gas piping from existing building. Contractor shall coordinate with utility company for installation and coordinate with DPW for location. Piping shall be of sufficient size to operate generator and include all labor, excavation, necessary fittings, all appurtenances.
- Provide required circuits for electrically powered accessories.
- Any wall work, coring, patching, etc., shall be included.
- Provide factory and field authorized training and start-up of new generator set/transfer switch.
- Mobilization, site restoration and cleanup.
- Disposal of existing equipment to be removed at the direction of the DPW.
- Coordination of delivery and unloading of new equipment.

Services / Materials Not To Be Included:

- Site accessibility (provided by owner)



Contractors Proposal Form

Bidders are instructed to submit bids for this project on a lump sum basis with adjustments for footage and materials more or less as stated in the Proposal.

All bid items are tax inclusive and include shipping/delivery fees. All work shall be in compliance with specifications, terms identified in the RFP and applicable laws.

Boiler System Removal/Replacement

- 1. Site work including concrete pad and restoration _____
- 2. Generator Set / ATS Installation _____
- 3. Gas, electrical, communication, ventilation piping, conduit and wiring _____
- 4. Startup and Testing _____

Total Lump Sum Fee \$ _____

Bidders Signature

Printed Name:

Business Name:

Address:

MI Contractor License No.:

Telephone:

Email:

Grand Traverse County Board of Public Works reserves the right to accept or reject any or all proposals.

PART 1 - GENERAL

1.01 SCOPE

- A. Grand Traverse County DPW is seeking bids for gen set package which shall operate on Natural Gas Fuel-Gen Set rating and equipment performance shall be as specified herein.
- B. Provide complete factory assembled generator set equipment with digital (microprocessor-based) electronic generator set controls, digital governor, and digital voltage regulator, as well as additional equipment as included in the project drawings.
- C. Provide factory test, startup by the local factory authorized equipment distributor, customer training and on-site testing of the emergency power system by the distributor's full time field service technician.
- D. The generator set manufacturer shall warrant all equipment provided under this section, whether or not is manufactured by the generator set manufacturer, so that there is one source for warranty and product service. Distributor level technicians specifically trained and certified by the manufacturer to support the product and employed by the emergency system supplier shall service the generator sets.
- E. The generator set supplier shall be responsible for complete compliance to all specification performance requirements for the entire on site power supply system, including generator set; Engine HP, Package derate for altitude and temperature, Alternator kW @ 120 Rise, Motor starting kVA, ATS power switching equipment WCR and all features as specified.
- F. Equipment shall have been factory prototype tested, have factory production testing, and on site testing.

1.02 CODES AND STANDARDS

- A. The generator set installation and on-site testing shall conform to the requirements of the following codes and standards, as applicable. The generator set shall include necessary features to meet the requirements of these standards.
 - 1. ANSI S1.13-1971 – Measurement of Sound Pressure Levels in Air
 - 2. IEEE446 – Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
 - 3. NFPA 37 – Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines
 - 4. NFPA 70 – National Electrical Code. Equipment shall be suitable for use in systems in compliance to Article 700, 701, and 702.
- B. The generator set and supplied accessories shall meet the requirements of the following standards:
 - 1. NEMA MG1-1998 part 32. Alternator shall comply with the requirements of this standard.
 - 2. UL2200. The generator set shall be listed to UL2200 or submit to an independent third party certification process to verify compliance as installed.

- C. The control system for the generator set shall comply with the following requirements.
 - 1. EN50082-2, Electromagnetic Compatibility – Generic Immunity Requirements, Part 2: Industrial.
 - 2. EN55011, Limits and Methods of Measurement of Radio Interference Characteristics of Industrial, Scientific and Medical Equipment.
 - 3. FCC Part 15, Subpart B.
- D. The generator set manufacturer shall be certified to ISO 9001 International Quality Standard and shall have third party certification verifying quality assurance in design/development, production, installation, and service, in accordance with ISO 9001.

1.03 RELATED SECTIONS

- A. Section 16360 - Automatic Transfer Switches

1.04 ACCEPTABLE MANUFACTURERS

- A. Base bid from all contractors shall be quoted with specified Cummins Power Generation equipment to allow Grand Traverse County to properly assess bids. Equipment specifications are based on microprocessor-based model C20N6 generator set as manufactured by Cummins Power Generation with alternator model CA115-L14 or approved equal. Equipment by any other suppliers which meets the performance requirements of this equipment specification may be offered as an Alternate to the base bid for County consideration.
- B. Cummins Power Generation equipment is the basis of the spec however Kohler, Generac and Caterpillar (Not Olympian) will be acceptable alternates if meet spec and performance requirements.

1.05 SUBMITTALS

- A. Shop drawings:
 - 1. Outline drawings of assembly.
 - 2. One line diagrams and wiring diagrams for assembly and components.
 - 3. Interconnection wiring diagrams
 - 4. Submit names, experience level, training certifications, and locations for technicians that will be responsible for servicing equipment at this site.
- B. Product data:
 - 1. Technical data for all major components. These shall be marked up to clearly show compliance with specified performance: Engine HP, Alternator kW and Starting kVA, package derate, features and support requirements. Technical data must include an alternator thermal damage curve, description and operating characteristics of the alternator protection device demonstrating alternator protection, and an alternator reactive capability curve. Submittal shall show average sound level in dBA for the package.
 - 2. Certification of the emissions performance of the generator set engine by the engine manufacturer.
- C. Project information:
 - 1. Factory Test, Field Start up test reports and certifications.

- D. Contract closeout information:
 - 1. Operating maintenance data & parts manuals– Two sets required.

1.06 QUALIFICATIONS

- A. The generation set manufacturer shall be certified to ISO 9001 International Quality Standard and shall have third party certification verifying quality assurance in design/development, production, installation, and service, in accordance with ISO 9001.
- B. The equipment manufacturer shall have produced similar equipment for a minimum period of ten years.

1.07 REGULATORY REQUIREMENTS

- A. The generator set shall be UL2200 listed and labeled.
- B. The generator set engine shall comply will all applicable emissions standards at the date of installation.
- C. The engine shall be EPA SI NSPS certified.

1.08 WARRANTY

- A. The manufacturer shall warrant the material and workmanship of the generator set and associated ATS for two (2) years/400 hours –from registered commissioning and start-up.
- B. The generator set distributor shall also be fully authorized for any level of warranty service for the ATS.
- C. The warranty shall be comprehensive. No deductibles shall be allowed for travel time, mileage, service hours, repair parts cost, etc. shall be allowed during the warranty period described in paragraph A above.

PART 2 - PRODUCTS

2.01 GENERATOR SET

- A. Ratings
 - 1. The gen set shall operate at 1800 rpm, direct connected at a voltage of: 120/240, 1-Phase, 3-wire.
 - 2. The complete generator set shall be rated 20 KW at Unity PF standby rating, based on site conditions of: Altitude 1200 Feet, ambient temperatures of 104 degrees F, based on temperature measured at the air inlet closest to the alternator for outdoor housed equipment. No derate shall be allowed due to enclosure.
 - 3. The gen set rating shall be based on emergency/standby service and marked as such per NFPA110.
- B. Performance
 - 1. Voltage regulation shall not exceed one percent for any constant load between no load to full rated load. Random voltage variation with any steady load from no load to full load shall not exceed +/- 1 percent.

2. Frequency regulation shall be isochronous from steady state no load to steady state rated load. Random frequency variation with any steady load from no load to full load shall not exceed plus or minus 0.5%.
3. Generator sets shall be designed to allow operation at full nameplate rated kW load in an ambient 104 F temperature, in the factory enclosure at 1200' Elevation. Ambient temperature shall be as measured at the air inlet to the generator end for enclosed generator sets.
4. The engine-gen set shall be capable of single step load pick up of 100% nameplate kW and power factor, with no derate per derating factors in 2.01B above, with the engine-gen set at operating temperature.
5. Motor starting capability shall be a minimum of 48sKVA in single phase connection while maintaining 90% of nominal voltage. The generator set shall be capable of sustaining a minimum of 90% of rated no load voltage with the specified kVA load at near zero power factor applied to the generator set.
6. The alternator shall produce a clean AC voltage waveform, with not more than 5% total harmonic distortion at full linear load, when measured from line to neutral, and with not more than 3% in any single harmonic, and no 3rd order harmonics or their multiples. Telephone influence factor shall be less than 40.
7. The generator set shall be certified by the engine manufacturer to be suitable for use at the installed location and rating, and shall meet all applicable exhaust emission requirements at the time of commissioning.
8. The generator set shall have a weather protective aluminum enclosure with 8-point average dBA @ 23' under 100% nameplate rated kW load < 67dBA. Maximum dBA at any point shall be < 69dBA. Enclosure shall be tested by the manufacturer per ANSI S1.13. Data documenting performance shall be provided with submittal documentation.

C. Construction

1. The engine-generator set shall be mounted on a heavy-duty steel base to maintain alignment between components. The base shall incorporate a battery tray with hold-down clamps within the rails.
2. All switches, lamps, and meters in the control system shall be oil-tight and dust-tight. There shall be no exposed points in the control (with the door open) that operate in excess of 50 volts.
3. All outdoor equipment shall be enclosed with corrosion-protected materials. The package Exhaust Silencer shall be mounted internally to the enclosure and insulated. Silencer shall not be roof mounted or exposed to weather in a radiator discharge duct. Provide enclosure rain collar and high quality rain cap.

D. Connections

1. Gen set load connection shall be 100 Amp gen set output line circuit breaker, UL, with 80% Thermal-Magnetic trip.
2. Power connections to auxiliary devices shall be made at the devices, with required protection located at a wall-mounted common distribution panel.
3. Generator set control interfaces to other system components shall be made on a common, permanently labeled terminal block assembly.

2.02 ENGINE AND ENGINE EQUIPMENT

- A. The engine shall be cast iron block, 2.4L, Inline Four, radiator and fan cooled. The horsepower rating of the engine at its minimum tolerance level shall be sufficient to drive the alternator and

all connected accessories, specified unit has minimum 40HP at 1800RPM naturally aspirated. No high speed or gear-driven units acceptable. Engine accessories and features shall include:

- B. Complete engine fuel system, including pressure regulator, SS Overbraided fuel flex line, fuel wye strainer, and control valves. Nat Gas requirement for the package shall be < 260-CFH and fuel pressure shall be no more than 7" – 14" Water Column with full package rated operation available at sustained 7" pressure. No packages requiring elevated fuel pressure shall be acceptable.
- C. An electronic governor system shall provide automatic isochronous frequency regulation.
- D. Skid-mounted radiator and cooling system rated for full load operation in 50 degrees C ambient as measured at the generator air inlet, based on 0.5 in H₂O external static head. Radiator shall be sized based on a core temperature which is 10C higher than the rated operation temperature, or prototype tested to verify cooling performance of the engine/radiator/fan operation in a controlled environment. The cooling system shall be filled with a 50/50-ethylene glycol/water mixture by the equipment manufacturer. Rotating parts shall be guarded against accidental contact.
- E. Electric starters capable of three complete cranking cycles without overheating.
- F. Positive displacement, mechanical, full pressure, lubrication oil pump.
- G. Full flow lubrication oil filters with replaceable spin-on canister elements and dipstick oil level indicator.
- H. Replaceable dry element air cleaner with restriction indicator.
- I. SS Overbraided flexible fuel line and Fuel Wye Strainer shall be provided.
- J. Engine mounted battery charging alternator, 50 ampere minimum, and solid-state voltage regulator.
- K. Coolant heater
 1. Engine mounted, thermostatically controlled, coolant heater. Heater shall be 120VAC, 1000W or as required to meet NFPA-110. The coolant heater shall be UL499 listed and labeled.
 2. The coolant heater shall be provided with a DC thermostat, installed at the engine thermostat housing. Installing contractor shall provide an AC power duplex receptacle connection to feed both the coolant heater and the battery charger for the system.
 3. The coolant heater(s) shall be sized as recommended by the engine manufacturer to warm the engine to a minimum of 40C in a 15C ambient, as a minimum, or the temperature required for starting and load pickup requirements of this specification.
 4. Provide all extreme cold weather accessories as recommended by the factory.
- L. Provide vibration isolators, spring/pad type, quantity as recommended by the generator set manufacturer.
- M. Starting and Control Batteries shall be lead acid type, 12 volt DC, sized as recommended by the engine manufacturer for compliance to NFPA110 starting requirements, with battery cables and connectors.

- N. Provide exhaust silencer(s) for each engine of size and type as recommended by the generator set manufacturer and approved by the engine manufacturer to meet specified sound attenuation requirements. Exhaust system shall be installed within the gen set enclosure, with enclosure rain guard and rain cap.
- O. Provide battery charger, rated 3.5A 12VDC minimum, auto-float/equalize type, 120VAC input to be mounted in the gen set enclosure and wired on site by the electrician.

2.03 LOW VOLTAGE AC ALTERNATOR

- A. The AC alternator shall be 4-lead, 1800RPM, 4-pole, oversized with alternator full single phase rating of 25kW at 120 Rise. The AC alternator shall be; synchronous, four pole, 2/3 pitch, brushless, revolving field, drip-proof construction, single pre-lubricated sealed bearing, air cooled by a direct drive centrifugal blower fan, and directly connected to the engine with flexible drive disc. All insulation components shall be Class H insulation, but be rated at class F 120 rise. Alternator shall be provided with protection to prevent damage due to any external fault or overload condition, including short circuit, ground fault, or overload.
- B. The alternator shall be capable of delivering rated 20kW/20kVA output at rated frequency and power factor, at any voltage up to 5 percent above or below rated voltage.
- C. The alternator voltage regulation system shall be digital and provide sufficient excitation for the alternator.

2.04 GENERATOR SET CONTROL AND PROTECTION.

- A. The gen set shall be provided with a programmable microprocessor-based control system that is designed to provide automatic starting, monitoring, protection, and control functions for the generator set. The control system shall be NFPA-110 Compliant. The control shall be mounted on the generator set. The control shall be vibration isolated and prototype tested to verify the durability of all components in the system under the vibration conditions encountered. The generator set mounted control shall include the following features and functions:
 - B. Control Switches
 - 1. Mode Select Switch. RUN/OFF/AUTO.
 - 2. RESET switch. The RESET switch shall be used to clear a fault and allow restarting the generator set after it has shut down for any fault condition.
 - 3. PANEL LAMP switch. Operating the panel lamp switch shall cause the entire panel to be lighted with DC control power. The panel lamps shall automatically be switched off 10 minutes after the switch is operated, or after the switch is operated a second time.
 - C. Generator Set AC Output Metering. The generator set shall be provided with a metering set including the following features and functions:
 - 1. Digital metering set, 0.5% accuracy, to indicate generator RMS voltage and current, frequency, output current, output KW, KW-hours, and power factor. Generator output voltage shall be available in line-to-line and line-to-neutral voltage.
 - D. Generator Set Alarm and Status Display.

1. The generator set control shall be fully NFPA-110 Compliant and indicate the existence of all alarm, shutdown, and status conditions associated with the gen set on an alphanumeric display on the genset. The following alarm, shutdown, and status conditions are required, as a minimum:
 - a. low oil pressure alarm/low oil pressure shutdown
 - b. oil pressure sender failure (alarm)
 - c. low coolant temperature (alarm)
 - d. high coolant temperature alarm/high coolant temperature shutdown
 - e. engine temperature sender failure (alarm)
 - f. low coolant level (alarm or shutdown--selectable)
 - g. fail to crank (shutdown)
 - h. fail to start/overcrank (shutdown)
 - i. overspeed (shutdown)
 - j. low or high DC voltage (alarm)
 - k. weak battery (alarm)
 - l. low or high AC voltage (shutdown)
 - m. under frequency (shutdown)
 - n. over current warning/over current shutdown
 - o. short circuit (shutdown)
 - p. over load (alarm)
 - q. emergency stop (shutdown)
 2. The gen set control shall annunciate all alarm and shutdown conditions from the engine electronic control.
- E. Engine Status Monitoring.
1. The following information shall be available from a digital status panel on the generator set control:
 - a. engine oil pressure (psi or kPA)
 - b. engine coolant temperature (degrees F or C)
 - c. engine oil temperature (degrees F or C)
 - d. engine speed (rpm)
 - e. number of hours of operation (hours)
 - f. number of start attempts
 - g. battery voltage (DC volts)
 2. The control system shall also incorporate a data logging and display provision to allow logging of a minimum of the last 20 warning or shutdown indications on the generator set, the time of the last fault of each type, and the number of faults of each type, and total time of operation at various loads as a percent of the standby rating of the generator set.
- F. Engine Control Functions.
1. The control system provided shall include a cycle cranking system, which allows for user selected crank time, rest time, and # of cycles. Initial settings shall be for 3 cranking periods of 15 seconds each, with 15 second rest period between cranking periods.
 2. The control system shall include an engine governor control, which functions to provide steady state frequency regulation as noted elsewhere in this specification.
 3. The control system shall include time delay start (adjustable 0-300 seconds) and time delay stop (adjustable 0-600 seconds) functions.
 4. The control system shall include sender failure monitoring logic for oil pressure, and engine temperature which is capable of discriminating between failed sender or wiring components, and an actual failure conditions.

G. Alternator Control Functions:

1. The generator set shall include a digital voltage regulation system that is matched and prototype tested by the engine manufacturer with the governing system provided. The system shall include a torque-matching characteristic, which shall reduce output voltage in proportion to frequency below an adjustable frequency threshold.
2. Controls shall be provided to monitor the output current of the generator set and initiate an alarm (over current warning) when load current exceeds 110% of the rated current of the generator set on any phase for more than 60 seconds.
3. Controls shall be provided to individually monitor all phases of the output current for short circuit conditions. The control/protection system shall monitor the current level and voltage.
4. Controls shall be provided to monitor the KW load on the generator set, and initiate an alarm condition (over load) when total load on the generator set exceeds the generator set rating for in excess of 5 seconds. Controls shall include a load shed control, to operate a set of dry contacts (for use in shedding customer load devices) when the generator set is overloaded.
5. An AC over/under voltage monitoring system that responds only to true RMS voltage conditions shall be provided. The system shall initiate shutdown of the generator set when alternator output voltage exceeds 110% of the operator-set voltage level for more than 10 seconds, or with no intentional delay when voltage exceeds 130%. Under voltage shutdown shall occur when the output voltage of the alternator is less than 85% for more than 10 seconds.
6. A battery monitoring system shall be provided which initiates alarms when the DC control and starting voltage is too high or low (12VDC nominal). During engine cranking (starter engaged)-if DC voltage drops too low-for more than two seconds a "weak battery" alarm shall be initiated.

H. Control Interfaces for Remote Monitoring:

1. No field connections for control devices shall be made in the AC power output enclosure. Provide the following features in the control system:
2. Form "C" dry contact set rated 2A @ 30VDC to indicate existence of any alarm or shutdown condition on the generator set.
3. Remote mimic controller shall be provided for installation indoors, which shall allow stop/start and monitoring of actual gen set package parameters in real time. Location to be coordinated with Owner.

2.05 OUTDOOR ENCLOSURE

- A. The generator set shall be provided with an aluminum outdoor enclosure. The total assembly of generator set, enclosure shall be designed to be lifted into place using spreader bars.
 1. Enclosure shall provide ample airflow for generator set operation at rated load in an ambient temperature of 104F. The enclosure shall have access doors as required for easy access to all operating and service functions. All doors shall be lockable. Enclosure roof shall prevent rainwater accumulation. Openings shall be screened to limit access of rodents into the enclosure. All electric power and control connections shall be made within the perimeter of the enclosure.
 2. All sheet metal shall be primed for corrosion protection and finish painted with the manufacturer's standard color using a powder coat paint process, or equal meeting the performance requirements specified below. All surfaces of all metal parts shall be primed and painted.
 3. A factory-mounted exhaust silencer shall be installed inside the enclosure, and insulated as necessary to allow generator set to operate at rated load in the maximum specified ambient

temperature. Exhaust connections to the generator set shall be through seamless flexible connections.

4. The enclosure shall include the following maintenance provisions:
 - a. Flexible coolant and oil drain lines, extended to exterior of the enclosure, with internal drain valves
 - b. External radiator fill provision.

PART 3 - OTHER REQUIREMENTS

3.01 PROTOTYPE TESTING (SUBMIT EVIDENCE OF PROTOTYPE TESTING; MANUFACTURER'S CERTIFICATE ETC.)

3.02 SUBMITTALS. WITHIN 10 DAYS AFTER AWARD OF CONTRACT, PROVIDE SIX SETS OF THE FOLLOWING INFORMATION FOR REVIEW:

- A. Manufacturer's product literature and performance data, sufficient to verify compliance to specified equipment performance requirements.
- B. A paragraph by paragraph specification compliance statement, describing the differences between the specified and the proposed equipment is required for any alternate vendor that is not the base bid unit.
- C. Manufacturer's certification of prototype testing.
- D. Manufacturer's published warranty documents.
- E. Shop drawings showing plan and elevation views with certified overall dimensions, as well as wiring interconnection details.
- F. Interconnection wiring diagrams showing all external connections required; with field wiring terminals marked in a consistent point to point manner
- G. Manufacturer's installation instructions.

3.03 FACTORY TESTING.

- A. The generator set manufacturer shall perform a complete operational test on the generator set prior to shipping from the factory. All testing shall be performed with calibrated metering.
- B. Generator set factory tests on the equipment shall be performed at rated load and rated power factor, as well as 1.0 power factor. Generator sets that have not been factory tested at rated power factor will not be acceptable. Tests shall include: run at full load, maximum power, voltage regulation, transient and steady-state governing, single step load pickup, and function of safety shutdowns.

3.04 INSTALLATION

- A. Equipment shall be installed by the contractor in accordance with final submittals and contract documents. Installation shall comply with applicable state and local codes as required by the authority having jurisdiction. Install equipment in accordance with manufacturer's instructions and instructions included in the listing or labeling of UL listed products.

- B. Installation of equipment shall include sufficient Natural Gas to the gen set location to meet package requirements, plus furnishing and installing all interconnecting wiring between all major equipment provided for the on-site power system. The contractor shall also perform interconnecting wiring between equipment sections (when required), under the supervision of the equipment supplier.
- C. Equipment shall be installed on concrete housekeeping pads. Equipment shall be permanently fastened to the pad in accordance with manufacturer's instructions and seismic requirements of the site.
- D. Equipment shall be initially started and operated by the manufacturer's authorized distributors factory trained full time field service technicians. All protective settings shall be adjusted as instructed by the consulting engineer.
- E. All equipment shall be physically inspected for damage. Scratches and other installation damage shall be repaired prior to final system testing. Equipment shall be thoroughly cleaned to remove all dirt and construction debris prior to initial operation and final testing of the system.
- F. On completion of the installation by the electrical contractor, the generator set supplier shall conduct a site evaluation to verify that the equipment is installed per manufacturer's recommended practice.

3.05 ON-SITE ACCEPTANCE TEST:

- A. The complete installation shall be tested to verify compliance with the performance requirements of this specification following completion of all site work. Testing, adjustments, programming and operator training shall be conducted by the distributor's full time field service technician. The Engineer shall be notified in advance and shall have the option to witness the tests. The generator set manufacturer shall provide a site test specification covering the entire system. Tests shall include:
 - B. Prior to start of active testing, all field connections for wiring, power conductors, and bus bar connections shall be checked for proper tightening torque.
 - C. Installation acceptance tests to be conducted on-site shall include a "cold start" test, a two hour full load (resistive) test, and a one step rated load pickup test in accordance with NFPA 110. Provide a resistive load bank and make temporary connections for full load test.
 - D. Perform a power failure test on the entire installed system. This test shall be conducted by opening the power supply from the utility service, and observing proper operation of the system for at least 2 hours. Coordinate timing and obtain approval for start of test with site personnel.

3.06 SERVICE AND SUPPORT

- A. The generator set supplier shall maintain service parts inventory for the entire power system at a central location which is accessible to the service location 24 hours per day, 365 days per year. The manufacturer of the generator set shall maintain a central parts inventory to support the supplier, covering all the major components of the power system, including engines, alternators,

control systems, and power transfer equipment. Distributor shall stock common parts on technicians' service vehicles.

- B. The generator set shall be serviced by a local service organization that is trained and factory certified in generator set service. The supplier shall maintain an inventory of critical power system replacement parts in the local service location. Service vehicles shall be stocked with critical replacement parts. The service organization shall be on call 24 hours per day, 365 days per year. The service organization shall be physically located within 150 miles of the site.
- C. The manufacturer shall maintain model and serial number records of each generator set provided for at least 20 years.
- D. Distributor shall have an In house Rental Generator Fleet with equipment to back up the customer site if required.
- E. All system start up, Adjustment, programming and operator training shall be furnished by the equipment Distributors full time field service technicians only. No part of required distributor support shall be assigned to Dealer, sales or any third party.

END OF SECTION 16230

PART 1 GENERAL

1.01 SCOPE

- A. SPECIFICATION BASED ON CUMMINS MODEL RSS ATS OR APPROVED EQUAL.
- B. One Automatic Transfer Switch required

1.02 RELATED DOCUMENTS

- A. Drawings and Specification Section 16230 - Generator Set

1.03 SUMMARY

- A. This Section includes transfer switches rated 240VAC Single Phase.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, weights, operating characteristics, furnished specialties, and accessories.
 - 1. Technical data on all major components of all transfer switches and other products described in this section. Data is required for the transfer switch mechanism, control system, cabinet, and protective devices specifically listed for use with each transfer switch. Include steady state and fault current ratings, weights, operating characteristics, furnished specialties and accessories.
 - 2. Single-Line Diagram: Show connections between transfer switch, power sources, and load
- B. Shop Drawings: Dimensioned plans, elevations, sections, and details showing minimum clearances, conductor entry provisions, gutter space, installed features and devices, and material lists for each switch specified.
 - 1. Dimensioned outline drawings of assembly, including elevations, sections, and details including minimal clearances, conductor entry provisions, gutter space, installed features and devices and material lists for each switch specified.
 - 2. Internal electrical wiring and control drawings.
 - 3. Interconnection wiring diagrams, showing recommended conduit runs and point-to-point terminal connections to generator set.
 - 4. Installation and mounting instructions, including information for proper installation of equipment to meet seismic requirements.
- C. Manufacturer and Supplier Qualification Data
 - 1. The transfer switch manufacturer shall be certified to ISO 9001.
 - 2. The manufacturer of this equipment shall have produced similar equipment for a minimum period of 10 years.
 - 3. The generator set manufacturer shall supply, warrant, and service the transfer switches. The supplier shall maintain a full time distributor level service location within 150 miles of the project site.
 - 4. Cummins Model RSS ATS is basis of specification and shall be included in the base bid proposal. All ATS's quoted shall be 240VAC contactor based units. Breaker or breaker component based ATS are not acceptable.

- D. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals. In addition include the following:
 - 1. Features and operating sequences, both automatic and manual.
 - 2. List of all factory settings of relays, timers and protective devices; provide setting and calibration instructions where applicable.
- E. Warranty documents demonstrating compliance with the project's contract requirements.

1.05 QUALITY ASSURANCE

- A. Only approved bidders shall supply equipment provided under this contract.
- B. Manufacturer Qualifications: The equipment supplier shall maintain a service center capable of providing training, parts, maintenance and emergency repairs to equipment, including transfer switch generator sets at the site within a response period of less than two (2) hours from time of notification.
 - 1. The transfer switch shall be serviced by technicians employed by, and specially trained and certified by, the generator set supplier and the supplier shall have a service organization that is factory-certified in both generator set and transfer switch service. The supplier shall maintain an inventory of critical replacement parts at the local service organization, and in service vehicles. The service organization shall be on call 24 hours per day, 365 days per year.
 - 2. Submit names, experience level, training certifications, and locations for technicians that will be responsible for servicing equipment at this site.
 - 3. The manufacturer shall maintain model and serial number records of each transfer switch provided for at least 20 years.
- C. Source Limitations: All transfer switches are to be obtained through one source from a single manufacturer. The generator set manufacturer shall warrant transfer switches to provide a single source of responsibility for products provided.
- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked as suitable for use in emergency, legally required or optional standby use as appropriate for the connected load.
- E. The automatic transfer switch installation and application shall conform to the requirements of the following codes and standards:
 - 1. Transfer switches and enclosures shall be UL 1008 listed and labeled as suitable for use in emergency, legally required, and optional standby applications.
 - 2. NFPA 70, National Electrical Code. Equipment shall be suitable for use in systems in compliance with Articles 700, 701 and 702.
 - 3. Comply with NEMA ICS 10-1993 AC Automatic Transfer Switches
 - 4. IBC 2006 – The transfer switch(es) shall be prototype-tested and third-party certified to comply with the requirements of IBC group III or IV, Category D/F. The equipment shall be shipped with the installation instructions necessary to attain installation compliance
 - 5. IEEE 446 – Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
 - 6. EN55011, Class B Radiated Emissions and Class B Conducted Emissions
 - 7. IEEE 62.41, AC Voltage Surge Immunity
 - 8. IEEE 62.45, AC Voltage Surge Testing

- F. Comply with NFPA 110 – Emergency and Standby Power Systems. The transfer switch shall meet requirements for Level 1 systems, regardless of actual circuit level.
- G. The manufacturer shall warrant the material and workmanship of the transfer switch equipment for a minimum of two years from registered commissioning and start-up.
- H. The warranty shall be comprehensive. No deductibles shall be allowed for travel time, service hours, repair, parts cost, and etc. during the minimum noted warranty period described above.

1.06 PROJECT CONDITIONS

- A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service:
 - 1. Notify Engineer and Owner no fewer than 48 hours in advance of proposed interruption of electrical service.
 - 2. Do not proceed with interruption of electrical service without Engineer/Owner's written permission.
 - 3. Do not energize any new service or distribution equipment without notification and permission of the Engineer/Owner.

1.07 COORDINATION

- A. Size and location of concrete bases and anchor bolt inserts shall be coordinated with Engineer. Concrete, reinforcement and formwork must meet the requirements of the equipment manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cummins Power Generation – Model RSS ATS.
 - 2. Allowable alternates if quoted to meet features, performance and warranty:
 - a) ASCO 3-Series
 - b) GE/Zenith model ZTG
- B. Equipment specifications for this Project are based on automatic transfer switches manufactured by Cummins Power Generation. Alternate for switches manufactured by GE/Zenith or ASCO that meet spec requirements are acceptable, but shall be listed as alternates to the base bid. Alternate proposals must include a line-by-line compliance statement based on this specification.
- C. Transfer switches utilizing molded case circuit breakers or breaker components as the main contactor portion do not meet the requirements of this specification and will not be accepted. Provide contactor based ATS, 240VAC rated units.

2.02 GENERAL TRANSFER-SWITCH PRODUCT REQUIREMENTS

- A. Provide transfer switches in the number and ratings that are shown on the drawings. Indicated Current Ratings: 100 Amp apply as defined in UL 1008 for continuous loading and total system transfer.

- B. Fault-Current Closing and Withstand Ratings (WCR): UL 1008 WCR ratings must be 22K or better.
- C. Solid-State Controls: All settings should be accurate to +/- 2% or better over an operating temperature range of -40 to +140 degrees F.
- D. Electrical Operation: Accomplished by a non-fused, momentarily energized solenoid or electric motor operator mechanism, mechanically and electrically interlocked in both directions.
- E. Switch Characteristics: Designed for continuous-duty repetitive transfer of full-rated current between active power sources.
 - 1. Switches using molded-case switches or circuit breakers, or insulated case circuit breaker components are not acceptable.
 - 2. Transfer switches shall be double-throw, electrically and mechanically interlocked, and mechanically held in the Source 1 and Source 2 positions.
 - 3. Main switch contacts shall be high-pressure silver alloy. Contact assemblies shall have arc chutes for positive arc extinguishing. Arc chutes shall have insulating covers to prevent inter-phase flashover.
 - 4. Contacts shall be operated by a high-speed electrical mechanism that causes contacts to open or close within three electrical cycles from signal.
 - 5. Transfer switch shall be provided with flame retardant transparent covers to allow viewing of switch contact operation but prevent direct contact with components that could be operating at line voltage levels.
 - 7. Transfer switches shall have a full current-rated neutral bar with lugs.
- F. Factory wiring: Transfer switch internal wiring shall be composed of pre-manufactured harnesses that are permanently marked for source and destination. Harnesses shall be connected to the control system by means of locking disconnect plug(s), to allow the control system to be easily disconnected and serviced without disconnecting power from the transfer switch mechanism
- G. Terminals: Terminals shall be pressure type and appropriate for all field wiring. Terminal arrangement and cabinet space must be such that feeder conductors can enter from the top, side or bottom of the switch, at the installer's discretion. Control wiring shall be equipped with suitable lugs, for connection to terminal strips.
- H. Enclosures:
 - 1. The enclosure shall provide wire bend space in compliance to the latest version of NFPA70 regardless of the direction from which the conduit enters the enclosure.
 - 2. Exterior cabinet doors shall provide complete protection for the system's internal components. Doors must have permanently mounted key-type latches. Bolted covers or doors are not acceptable.
 - 3. Transfer switches shall be provided in enclosures that are third party certified for their intended environment per NEMA requirements.
 - a. Transfer switches shall be supplied in NEMA Type 3R dust-proof and/or rain-proof secure enclosure equipped with a lockable control security cover. Coordinate with DPW for lock/key compatibility

2.03 AUTOMATIC TRANSFER SWITCHES

- A. Comply with requirements for Level 1 equipment according to NFPA 110.
- B. Indicated current ratings:
 - 1. Main contacts shall be rated for 240VAC minimum.

2. Transfer switches shall be rated to carry 100% of rated current continuously in the enclosure supplied, in ambient temperatures of -40 to +140 degrees F, relative humidity up to 95% (non-condensing), and altitudes up to 10,000 feet.
- C. Manual Switch Operation: The power transfer mechanism shall include handle for manual operation under no load conditions.
- D. Control: Transfer switch control shall be microprocessor based.
- E. Transfer switches that are designated on the drawings as 3-pole shall be provided with a neutral bus and lugs. The neutral bus shall be sized to carry 100% of the current designated on the switch rating.
- F. Automatic Transfer Switch Control Features
1. Voltage sensing shall be monitored based on the normal voltage at the site. Systems that utilize voltage monitoring based on standard voltage conditions that are not field configurable are not acceptable.
 2. The control system shall be designed and prototype tested for operation in ambient temperatures from -40 to +140 degrees F. It shall be designed and tested to comply with the requirements of the noted voltage and RFI/EMI standards.
 3. The control shall have optically isolated logic inputs, high isolation transformers for AC inputs and relays on all outputs, to provide optimum protection from line voltage surges, RFI and EMI.
- G. Transfer Switch Control Panel: The transfer switch shall have a microprocessor-based control with a sealed membrane panel incorporating pushbuttons for operator-controlled functions, and LED lamps for system status indicators. Panel display and indicating lamps shall include:
1. The indicator panel LEDs shall display:
 - a. Which source the load is connected to (Source 1 or Source 2)
 - b. Which source or sources are available
 - c. When switch is not set for automatic operation
 - d. When the switch is in test/exercise mode
 2. The indicator shall have pushbuttons that allow the operator to activate the following functions:
 - a. Activate pre-programmed test sequence
 - b. Override programmed delays, and immediately go to the next operation
 - c. Reset the control by clearing any faults
 - d. Test all of the LEDs by lighting them simultaneously
 3. The display panel shall be password-protected, and allow the operator to view and make adjustments:
 - a. Set nominal voltage and frequency for the transfer switch
 - b. Adjust voltage and frequency sensor operation set points
 - c. Set up time clock functions
 - d. Enable or disable control functions including program transition
- H. Control Functions: Functions managed by the control shall include:
1. Adjustable time delays:
 - a. Engine start (prevents nuisance genset starts in the event of momentary power fluctuation): 0 to 10 seconds (default 3 sec)
 - b. Transfer normal to emergency (allows genset to stabilize before load is transferred): 0 to 300 seconds (default 3 sec)
 - c. Re-transfer emergency to normal (allows utility to stabilize before load is transferred from genset): 0 to 30 minutes (default 3 sec)

- d. Engine cooldown: 0 to 30 minutes (default 10 min)
- e. Programmed transition: 0 to 10 seconds (default 3 sec)
- 2. Under-voltage sensing: both-phase normal, single-phase emergency source.
 - a. Adjustable Pickup: 90 to 95% of nominal voltage (default 90%)
 - b. Adjustable Dropout: 70 to 90% of nominal voltage (default 90%)
- I. Control features shall include:
 - 1. Genset exerciser: A field-adjustable control shall periodically start the generator, option load/no load exercise and operate the generator for a preset time, then shut down the generator after a preset cool-down period.
- J. Control Interface
 - 1. Unassigned Auxiliary Contacts: Two normally open, 1-pole, double-throw contacts for each switch position, rated 10A at 240 VAC.
- K. Engine Starting Contacts
 - 1. One isolated and normally closed, and one isolated and normally open; rated 10A at 32 VDC minimum.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Set field-adjustable intervals and delays, relays, and engine exerciser clock.

3.02 CONNECTIONS

- A. Wiring to Remote Components: Match type and number of cables and conductors to control and communication requirements of transfer switches as recommended by manufacturer. Increase raceway sizes at no additional cost to Owner if necessary to accommodate required wiring.
- B. Field control connections shall be made on a common terminal block that is clearly and permanently labeled.
- C. Transfer switch shall be provided with AL/CU mechanical lugs sized to accept the full output rating of the switch. Lugs shall be suitable for the number and size of conductors shown on the drawings. Please note that the ATS contactor Lugs are not the same as the entrance breaker lugs and plan cable runs accordingly.

3.03 SOURCE QUALITY CONTROL

- A. Prior to shipping, factory shall test and inspect components, assembled switches, and associated equipment to ensure proper operation.
- B. Factory shall check transfer time and voltage, frequency, and time-delay settings for compliance with specified requirements.
- C. Factory shall perform dielectric strength test complying with NEMA ICS 1.

3.04 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: The supplier of the transfer switch and associated equipment shall inspect, test, and adjust components, assemblies, and equipment installations, including connections, and report results in writing.
- B. Manufacturer's full time field service technician shall perform all tests, inspections and field adjustment/settings, provide all training, and prepare test reports.
- C. After installing equipment and after electrical circuitry has been energized, installer shall test for compliance with requirements.
 - 1. Perform recommended installation tests as recommended in manufacturer's installation and service manuals.
 - 2. After energizing circuits, demonstrate interlocking sequence and operational function for each switch.
 - a. Simulate power failures of normal source to automatic transfer switches and of emergency source with normal source available.
 - b. Verify time-delay settings.
 - c. Verify proper sequence and correct timing of automatic engine starting, transfer time delay, retransfer time delay on restoration of normal power, and engine cool-down and shutdown.
- D. Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, the installing electrical contractor shall perform an infrared scan the ATS and site electrical panels. Remove all access panels so joints and connections are accessible to portable scanner.
 - 1. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each switch 11 months after date of Substantial Completion.
 - 2. Instrument: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 - 3. Record of Infrared Scanning: Prepare a certified report that identifies switches checked and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.05 DEMONSTRATION

- A. After generator set installation, the generator and transfer switch supplier shall conduct a complete operation, basic maintenance, and emergency service seminar covering generator set and transfer switch equipment.
 - 1. The seminar shall include instruction on operation of the transfer equipment, normal testing and exercise, adjustments to the control system, and emergency operation procedures.
 - 2. The class duration shall be at least 1 hour in length, and include practical operation with the installed equipment.

3.06 SERVICE AND SUPPORT

- A. The manufacturer shall supply the Owner with a complete set of the service and maintenance manuals.
- B. ATS distributor shall be fully factory authorized for any level service, repair or updating of the ATS.
- C. Generator technician shall not perform equipment start up, adjustment or training unless they are trained on and certified to perform any level of service maintenance programming or warranty repair in writing from the ATS manufacturer. If they are not certified in writing by the ATS

manufacturer, then only the ATS manufacturer's full time field service technicians shall perform all equipment start up, programming and operator training sessions.

END OF SECTION 16360

GENERATOR CIRCUIT INDEX

CIRCUIT	DESCRIPTION	BREAKER
1	HEAT-SHOP UNIT HEATER	1P20
2	HEAT-OFFICE FURNACE	1P20
3	SCADA SYSTEM	1P20
4	SCADA SYSTEM	1P20
5	TELEMETRY RADIO SYSTEM	1P20
6	SHOP LIGHTING	1P20
7	SHOP LIGHTING	1P20
8	INTRUSION SYSTEM	1P20
9	OFFICE LIGHTING	1P20
10	OUTLETS	1P20
11	GARAGE DOOR OPERATOR	1P20
12	GARAGE DOOR OPERATOR	1P20
13	INTRUSION ALARM SYSTEM	1P20
14	FUTURE	1P20
15	FUTURE	2P30
16	FUTURE	



CONTRACT AGREEMENT
BETWEEN
GRAND TRAVERSE COUNTY
BOARD OF PUBLIC WORKS
AND

(Contractor)

Fund No. _____

Federal I.D. No. _____



GRAND TRAVERSE COUNTY
SERVICE CONTRACT
DEPARTMENT OF PUBLIC WORKS

CONTRACTOR: _____

ADDRESS: _____

FEDERAL I.D. NO: _____

THE GRAND TRAVERSE COUNTY BOARD OF PUBLIC WORKS AND THE CONTRACTOR AGREE AS FOLLOWS:

Section 1. Project Definition:

The Project is defined as being the thorough assessment of the existing DPW Shop building roof, providing a recommended plan for the remediation of leaks, providing a cost to completely install the recommended improvements outlined in the Contractor's recommended plan for roofing improvements.

Section 2. Duration of Contract:

Beginning Date: _____ Ending Date: _____

Section 3. Compensation:

- A. The County agrees to pay the Contractor a sum not to exceed \$_____, (_____ dollars). This amount represents the aggregate compensation to be paid for the entire project contemplated under the terms of this contract.
- B. Payment under this contract shall be made upon receipt and approval by the Director of Public Works of the Contractor's billing statement stating that the work for which payment is requested has been performed in accordance with the project specification attached to and incorporated in this Contract. Also, that all sub-contractors, material and equipment suppliers, and employees, and disposal fees involved in the performance of this Contract have been paid in full.

Section 4. Insurance Documentation:

Documentation of liability and workers compensation insurance are attached to and made a part of this contract.



GENERAL TERMS AND CONDITIONS

Section 1. Cancellation:

Cancellation of this agreement by the County Board of Public Works may be for A) Default by the Contractor, or B) Lack of a further need for the service. Default is defined as the failure of the Contractor to fulfill the obligations of this contract, and in this case, cancellation may be immediate. In the event the County no longer needs the service specified in this contract due to program changes, changes in laws, rules or regulation, relocation of office, or lack of funding, the County may cancel this contract by giving the Contractor written notice of such cancellation thirty (30) days prior to the date of cancellation. If this contract is terminated, the County, may require the Contractor to transfer title and deliver to the County BPW such partially completed reports or other documentation as the Contractor has specifically produced or specifically acquired for the performance of such part of this contract as has been terminated. Payments for completed reports and other documentation delivered to and accepted by the County BPW shall be at the contract price. Payment for partially completed reports and other documentation delivered to and accepted by the County BPW shall be in an amount agreed upon by the Contractor and Director of Public Works.

Section 2. Contractor's Liability:

The Contractor will provide as Rider A of this Contract a full written documentation of public and professional liability, directors and officers, property damage, and workers' compensation insurance insuring, as they may appear, the interests of all parties to this Agreement against any and all claims which may arise out of Contractor operations under the terms of this contract. It is agreed that in the event any carrier of such insurance exercises cancellation, notice will be made immediately to the County Director of Public Works of such cancellation.

Section 3. County's Liability:

Grand Traverse County Board of Public Works, its officers, agents, and employees shall not, in any manner, be liable for any loss or damage to any person or property connected to or resulting from any work done on this project. In addition, the selected Contractor agrees to indemnify, defend, and save harmless the County Board of Public Works, its officers, agents, and employees from any and all claims and losses accruing or resulting from any negligent performance of work as described in this agreement. Further, if any recipient of a contract subcontracts for work, they will enter into a contract with such subcontractor(s) which indemnifies the County Board of Public Works as provided herein.

Section 4. Assignability:

This agreement is not assignable by the Contractor either in whole or in part, without the prior written consent of the Director of Public Works.

Section 5. Officials Not To Benefit:

No member of the County Board of Public Works or any individual employed by the County Department of Public Works shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom, unless the contract or transaction has been approved by 3/4 of the members of the County Board of Public Works and so shown on the minutes of the Board together with a showing that the Board is cognizant of the member's or employee's interest.

Section 6. Nondiscrimination:

The Contractor agrees to comply with all pertinent federal and state regulations and legislation involving civil rights, equal opportunity, and affirmative action including, but not limited to Title VI of the Civil Rights Act of 1964, and Act No. 453, Michigan Public Acts of 1976.

Section 7. Oral Agreements:

This contract is to be considered a complete document between the County and the Contractor and each warrants that there are no mutual oral agreements.

Section 8. Federal State and Local Regulations:

The provisions of this contract shall be construed in accordance with the provisions of State and Federal laws and local ordinances. The Contractor assumes sole liability for any non-compliance of these regulations.

Section 9. Publication Rights:

All property rights, including publication rights, in the interim, draft and final reports and other documentation, including machine readable materials, produced by the Contractor in connection with the work provided for under this contract shall vest in the County. The Contractor shall not publish any of the results of the work without the written permission of the Contracting Officer.

Section 10. Records, Accounts and Audits:

The Contractor shall maintain such records and accounts, including property and personnel records, time sheets, travel vouchers, fringe benefit rates, overhead rates and other necessary documentation to assure a proper accounting of all contract funds for a period of three (3) years. The retention period starts from the date of the Contractor's accepted final report. Such records shall be made available to the County upon request for audit purposes.

Section 11. Signatories:

The signatories warrant that all statements contained herein and riders attached to this contract are complete and accurate and that they are empowered to enter into this contract.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in quadruplicate (4), each of which shall be deemed an original on the date first above written.

CONTRACTOR:

(SEAL)
ATTEST:

NAME: _____
TITLE: _____

BY: _____
NAME: _____
TITLE: _____
ADDRESS: _____

PHONE: _____
FAX: _____

OWNER: GRAND TRAVERSE COUNTY BOARD
OF PUBLIC WORKS

(SEAL)
ATTEST:

NAME: _____
TITLE: _____

BY: _____
NAME: _____
TITLE: _____
ADDRESS: _____

PHONE: _____
FAX: _____