

**Issue Statement**

**Village of North Hudson**

**Regular Board of Trustees**

**September 1, 2020**

**Submitted by: Patrick Moos**

**TOPIC :** Sanitary Sewer Control Panel

**BACKGROUND/CURRENT INFORMATION :**

The Village has received two bids for the control panel at the East Bank lift station, the bids are as follows:

TPC: \$24,971.00

B&M Technical Service: \$18,004.00

**Recommendation :**

Recommend to have B&M Technologies install new control panel for East Bank Sanitary Sewer lift station, with cost not to exceed \$19,500.00. Funding will come from the 201 account.



# B & M TECHNICAL SERVICE, INC.

PO Box 48 | 364 Industrial Drive Coloma, WI 54930  
 Office 715-228-7604 | Fax 715-228-3418  
 bmtchservice.com

Date: 8/13/20

To: Village of North Hudson  
 Attn: Patrick Moos  
 Re: Eastbank Lift Station

B&M Contact: Jesse Claffin  
 Email: jesse@bmtchservice.com  
 Direct: 715-459-7003

We are pleased to provide the following base bid:

Qty.	Description:	Net Each	Net Extension
1	Duplex Pump UL Listed Control Panel: 3 HP, 230 VAC, 1 Phase, 13.3 FLA Enclosure: NEMA4X 48"x36"x12" 304 SS, Dead Front, 18" Legs, Insulated Backup, NEMA Motor Starters, Control Breaker, Emergency Breaker, Breaker Interlock, Main Breaker, Motor Breaker, Receptacle, Alarm Horn, Alarm Light, Alarm Silence, Power Supply, Elapsed Time Meters, Ground Fault Receptacle, Intrinsic Barrier, Intrinsic Relays, Level Lights, NEMA HOAs, Phase Monitor, Run Lights, Panel Heater, Run Lights, Heater, Surge Arrestor, Thermal Terminals, TD Relays, 12x12" subpanel space for telemetry.  Crouse Hinds AR1041-S22 Generator Receptacle included - VERIFY end user compatibility on order. Price may change if some other setup is required.  Single Phase Capacitor Kit included - will require factory cap kit details and wiring diagram on order.		
<b>Total \$</b>			<b>18,004.00</b>

Estimated Delivery:	8-12 weeks	Installation/Start-up:	Incl.
Installation Manuals:	Incl.	Service Contract:	Not Incl.
Operation Manuals:	Incl.	Downpayment Due:	Not Req.
Sales Tax:	Not Incl.	Payment Terms:	Net 30
Estimated Freight:	Not Incl.	Quote Expiration:	30 Days

Additions or deductions to base bid: No conduit or concrete work included. If required added on a time and materials basis.

Exceptions and Special Notes:

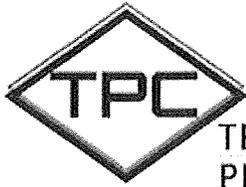
Clarification Notes:

Unless otherwise noted any other equipment/services is not included and to be supplied by others.

To accept quote, please sign below and return to B&M Technical Service, Inc.

Quoted by \_\_\_\_\_  
 Katie Gruber, Project Manager  
 katie@bmtchservice.com  
 Direct: 608-547-9433

Accepted by \_\_\_\_\_  
 Village of North Hudson



**TELEMETRY &  
PROCESS CONTROLS, INC.**

7250 Hudson Blvd. Suite 160, Oakdale, MN 55128  
p (651) 430-0435 f (651) 430-0783

August 17, 2020

Village of North Hudson Public Works Department  
400 Seventh Street North  
Hudson, WI 54016

Attention: Patrick Moos – Director of Public Works

Thank you for the opportunity to provide the following updated proposal to replace the existing lift station control panel and wet well level sensors.

**Eastbank Ct. N. / Galahad Rd. N. / Wisconsin St. N.  
Lift Station Replacement Control System Proposal  
Duplex Pump Control and Alarm / Monitoring Panel  
with primary & redundant wet well level sensors**

Item / Quantity / Description

- A 1 Nema 3R automatic motor control & alarm / monitoring panel for operation on 120 / 240 VAC, single phase, 3 wire, 60 cycle incoming service. To provide automatic wet well level responsive, motor control for 2 – 3 HP submersible pumps operating in a “pump-down” mode with monitoring and alarm logic. The Nema 3R, free-standing, painted steel, control panel assembly is approximately 60” high, 30” wide, 12” deep (that includes a 36” high, 30” wide, 12” deep enclosure mounted on a 24” high, 12” deep leg kit). The enclosure includes a hinged, pad-lockable door with interior print pocket, a hinged inner door (for dead-front access to operator related components) and a component sub-panel.
- To include:
- a) Incoming utility power main circuit breaker, 60-amp, service entrance rated, On/Off operator accessible from the front of the inner door
  - b) Incoming emergency power (from the portable generator) main circuit breaker, 60 amp, On / Off operator accessible from the front of the inner door
  - c) Interlock mechanism for the main & emergency power circuit breaker, (only allows one breaker to be turned on at a time), accessible from the front of the inner door
  - d) Emergency power generator receptacle with cap, 60-Amp rated, (identical to the existing), mounted on the side of the enclosure
  - e) Incoming power & motor ground lugs
  - f) Power distribution terminal blocks
  - g) 120 / 240 VAC, single phase incoming power surge suppressor
  - h) 2 - Combination motor circuit breaker / full-voltage, non-reversing rated motor starter with adjustable overload trip setting and inner door mounted overload reset pushbutton
  - i) 2 - 120 VAC circuit breaker (control power, GFCI receptacle)
  - j) 120 VAC GFCI duplex convenience receptacle, inner door mounted
  - k) Thermostatically controlled, enclosure interior condensation & low temp. protective heater
  - l) 2 - “Hand-Off-Auto” pump selector switch, inner door mounted
  - m) 2 – Pump “Run” indication light, LED type, inner door mounted
  - n) 120 VAC / 24VDC Power supply

[www.tpcusa.com](http://www.tpcusa.com)

**SCADA & Telemetry for Utilities & Industry**

- o) Operator Interface Terminal (OIT) / Programmable Logic Controller (PLC), inner door mounted, for operation in conjunction with Item B submersible level transmitter. Includes a user-friendly, color touchscreen operator interface display (high resolution, rear-lit LCD) with user-interface keypad that provides:
  - Primary wet well level responsive pump control & abnormal level alarm
  - Large digit wet well level display in "Feet & tenths"
  - Independently adjustable On / Off pump control & abnormal level alarm set-points
  - Automatic pump alternation on successive starts with pump lead/lag sequence selection override
  - Pump motor elapsed run time indication in hours & tenths
  - Pump start counters
  - Alarm logging with date / time stamping
- p) Intrinsic safety barrier (to render the primary wet well level-sensing submersible level transducer "explosion-proof")
- q) Redundant wet well level responsive dual float switch pump control & high level alarm (high level common pump staggered-on start / high level alarm (HLA) & low level common pump stop float switches) with inner door mounted LED indicating light & reset pushbutton (showing that the system is operating in the redundant control / HLA mode & the primary control / HLA has been locked out; requiring manual reset to restore primary system operation)
- r) Two channel intrinsic safety barrier (to render the high wet well level pump start / alarm & low wet well level pump stop float switches "explosion-proof")
- s) Control & alarm interface relay logic
- t) Common station status light with green impact resistant lens, LED, side or top of enclosure mounted
- u) Common station alarm light with red impact resistant lens, LED, side or top of enclosure mounted ("flashing" upon an alarm occurrence, "steady on" following audible alarm silence before the alarm condition clears)
- v) Audible alarm & silence pushbutton, enclosure side mounted
- w) 2 – Sets of single-phase start and run capacitors for the existing Gorman-Rupp submersible pump motors
- x) 2 – Sets of motor winding / seal failure sensing pump protectors for the existing Gorman-Rupp submersible pump motors
- y) Terminal blocks for external connections
- z) Color-coded & numbered control wiring
- aa) Misc. panel components, wire, wire duct, nameplates, labels, etc.
- bb) UL698A "Enclosed Construction" serialized Industrial Control Panel label
- cc) Fully documented, assembled, wired and pre-shipment tested

B 1 Submersible level transducer with 40' self-suspended signal / breather cable\*

C 2 Direct-acting, self-suspended, non-mercury, float switch level sensor with 40' cable\*

\*for direct connection to Item A, by the installing electrician

D 1 Lot of job site start-up & operator instruction services for the Lift Station control system, following installation by an electrician

Items A – D \$16,240 F.O.B. TPC, Inc., freight allowed to the Village of North Hudson, WI

Proposal Notes:

TPC's pricing includes:

- Submittal documentation for record (via e-mail link)
- Shipment of the equipment to the jobsite
- Operation & Maintenance Manual (via e-mail link)
- TPC field start-up & operator instruction services
- 1 Year Warranty
- Net 30-day terms

TPC's pricing does not include:

- o Taxes
- o Control system installation (optionally available – see below)

Optional Proposal Price Adders and Deduct:

1. Add \$7,480 for TPC's Wisconsin licensed electrical contractor to disconnect the existing control system, install and wire Items A – C, with the Item A control panel being mounted on the concrete slab, where the existing panel is currently located. This adder includes the electrical contractor providing and installing another conduit from the wet well to the Item A control panel, that will be specifically for the Item B and C intrinsically safe, wet well level sensor circuits. The existing installation, using one conduit for the pump motor cables and the wet well level transmitter, is not in accordance with today's lift station electrical wiring practices.

As discussed, we plan to accomplish the replacement of the existing lift station control system in one day. Once the electrician has removed the existing lift station control panel and level transmitter, these materials will be turned over to the Village. The Village of North Hudson, WI will provide the services of a suction pump & tank truck with operator, to handle the in-flow to this lift station's wet well, while the lift station control system is being replaced.

2. Add an additional \$9,557 to the above option #1, for TPC's electrical contractor to alternately install the new Item A control panel on a new concrete slab, (that is located a safe distance from the wet well's top access, hatch cover, if possible,) that has two, new, conduits (separated at least a foot apart, one (1) for the intrinsically-safe Item B and C level sensor cables and one (1) that the existing pump cables would be re-routed through). With the selection of this option, the new lift station control system, Items A through C, can be installed and inter-wired prior to the existing lift station pump control panel needing to be shutdown (so the utility power can be disconnected from the old panel, connected to the new panel, and the pump cables can be re-routed to the new panel).

As such, the lift station control system changeover "downtime" will be greatly minimized and the "upgrade" of this lift station's new, "redundant", automatic wet well level-responsive pump control and alarm / monitoring system installation should reliably service the Village for many years to come.

3. Add \$2,551 for the Item A control panel to include a Sensaphone Sentinel cellular alarm system telephone alarm dialer and status notification system with integral antenna, that TPC has configured for this application. It has twelve (12) universal input channels, plus integral power failure sensing and voice telephone alarm notification, optional temperature sensing and voice telephone alarm notification.

This option includes:

- An Item A, sub-panel mounted, fused, simplex receptacle for the Sentinel's 120 VAC plug-in power supply.
  - One year of cellular service (AT&T or Verizon) and secured internet access to the Sensaphone Sentinel alarm log and program configuration
4. Add \$794 for the Item A control panel to include two sets of pump motor ground fault sensors with inner door mounted fault reset pushbuttons, providing automatic ground fault motor shutdown, requiring manual reset to restore pump operation.
  5. Add \$102 for the Item A control panel to include U.L. approved, foil-faced foam sheet insulation of the enclosure interior, to minimize the operation of the condensation and low temperature protective heater.
  6. Add \$355 for the Item A control panel to include incoming power under & over voltage protection with adjustable voltage setting, trip delay, pump on-delay & staggered pump start following normal power restoration.
  7. Deduct \$1,610 to delete the Item A, subitem o, primary wet well level-responsive pump control and abnormal level alarm system and add two (2) additional Item C float switch level sensors, each with 40' cable, for suspension from the existing hanger located at the top edge of the wet well. With a total of four (4) float switches, the bottom one could be designated as "Both Pumps Off", the next one above it would be designated as "Lead Pump On", the next one above it could be

designated as "Lag Pump On", and the one suspended at the highest elevation in the wet well could be designated as "High Level Alarm". This system would provide intrinsically-safe, two pump lead / lag control with high wet well level alarm and automatic pump alternation on successive pump starts.

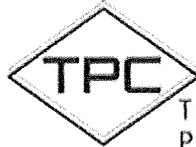
8. If the Option #7 deduct is of interest, add \$96 for the Item A control panel to include an inner door mounted, elapsed run time meter (RTM), six digit, hours & tenths, for each pump motor; whereas in Item A, this information is displayed on the OIT.

TPC, Inc., located in Oakdale, MN is only a twenty-minute drive from the Village of North Hudson. We are not only a control system manufacturer, we are also a control system service organization with a field service staff that currently includes twelve technicians. Several of your adjacent communities have water and wastewater control and monitoring systems that are serviced by us.

Following your review, please let us know if you have any questions.

Sincerely,

*Dave Gardeen*



TELEMETRY &  
PROCESS CONTROLS, INC.

City of North Hudson, WI

Eastbank Ct. N. / Galahad Rd. N. / Wisconsin St. N.

Lift Station Replacement Control System Proposal  
Duplex Pump Control and Alarm / Monitoring Panel  
with primary & redundant wet well level sensors

**Accepted by:**

The proposal and terms & conditions herein are acknowledged and accepted:

\_\_\_\_\_  
Name/Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Purchase Order No.

Please advise whether any of the optional proposal price adders or deduct want to be included.

**Terms and Conditions**

ACCEPTANCE: This proposal is an invitation for an offer and will become a binding contract when accepted.

LIMITATION OF PROPOSAL: The prices and terms quoted in this proposal are subject to acceptance by the Purchaser within a period of (30) calendar days from the date herein.

EXCLUSIONS: This proposal is based solely and completely on specifications submitted to Telemetry and Process Controls, Inc. (TPC) at the time of the writing of the proposal. General plans and specification not actually submitted shall not apply. This proposal, together with all annexed specifications, when accepted, shall be the complete agreement between the parties; and any alternations or unusual and undisclosed conditions or deviations from the above specifications involving extra costs shall be agreed upon in writing by both parties and shall become an additional charge over and above the proposal price set forth herein. Delays or impossibility of performance by TPC because of strikes, accidents, or other reasons beyond the control of TPC shall relieve us from all liability herein.

SHIPMENT: Time of shipment shall be as stated in the proposal after receipt of order and acceptance and final approval of all drawings and submittal.

TERMS OF PAYMENT: Terms are Net 30 days, based on rated credit. Otherwise, alternate arrangements must be made. These terms and conditions have control over any terms presented by Buyer, through a purchase order or otherwise.

We reserve the right to cancel the contract or cease work if payments thereon are not received when due. 1.5% per month shall be charged on all unpaid balances.

TAXES: The Purchaser shall pay any local, state or federal sales, excise or use tax imposed on the equipment in addition to the prices quoted.

WARRANTY LIMITATION: There are no warranties that extend beyond the warranties herein after expressed.

WARRANTIES: All work shall be done in a workmanlike manner according to standard practices. We warrant performance against defects in materials and workmanship for a period of twelve (12) months from the date of shipment from TPC. We agree to pass on to the Purchaser such warranties, if any, as may be extended by the manufacturer for material supplied. Labor for replacing defective materials shall not be provided by us unless it is specifically spelled out in the proposal. We shall not be responsible for materials damaged, lost or stolen after delivery, through no fault of ours, or for failure to deliver and perform because of reasons beyond our control.

EXCLUSIVE REMEDIES: Remedies are limited to the repair or replacement at FOB point of delivery. Consequential damages are excluded. In no event shall TPC be responsible for consequential damages of any such defective material or workmanship including, but not limited to, the Purchaser's loss of material or profits, increased expenses of operation, downtime or reconstruction of the work, and in no event shall TPC's obligation under this warranty exceed the original contract price of the defective item. It is agreed that any action for breach of express or implied warranty shall be initiated within fifteen (15) months of the date of shipment by TPC and only those defects that are documented to have occurred within twelve (12) months from the date of the equipment's installation and start-up will be covered by the warranty.

DISCLAIMER: TPC will not be responsible for damage to equipment or materials through improper installation, storage, improper services, or through attempts to operate it in excess of its rated capacity or recommended use, intentional or otherwise, by parties other than TPC or its authorized representatives.

CONDITIONS OF SALE: Prices quoted are those now in effect. Seller reserves the right to bill at the prices in effect at the time of shipment if the proposal is not accepted in writing within thirty (30) days, unless a longer term of validity is in writing on the proposal.

#### LIMITATIONS OF LIABILITY

A. Neither Seller nor its suppliers of any tier will be liable to Purchaser, whether in contract, in tort (including negligence and strict liability), under any warranty or otherwise, for any special, indirect, incidental, or consequential loss or damage whatsoever, or for loss of or to the plant, loss of use of equipment or power system, cost of capital, loss of profits or revenue or the loss of use thereof, cost of environmental damage or clean-up, or claims of customers of Purchaser. The remedies set forth herein are exclusive, and the total cumulative liability of seller and its suppliers under any purchase order or any act or omission in connection therewith or related thereto, whether in contract, in tort (including negligence and strict liability), under any warranty, or otherwise, will be limited to the price of the contract.

B. The provisions of this Article shall survive termination, cancellation or expiration of the purchase order and shall apply, notwithstanding any other provisions of this Agreement or any related document thereto, to the fullest extent permitted by law. Prior to the transfer of any equipment or material furnished or for which work is furnished hereunder from the project site (except temporarily for repair work or permanently for disposal), or the transfer of any interest therein or in the plant, Purchaser shall obtain for Seller written assurances from the transferee of limitation of and protection against liability following the proposed transfer at least equivalent to that afforded seller and its suppliers under the purchase order.