



The Navajo Nation
 Department of Water Resources
 TCOB – Engineering Section



REQUEST FOR PROPOSAL
RFP # 17-081719JJ

The Navajo Nation Department of Water Resources (NNDWR) would like to request proposals from GNSS surveying equipment vendors. The proposals are for the purchase of:

- (1) Receiver: Base (total setup: receiver, batteries, chargers, antenna, wooden tripod, external radio with wooden tripod, battery, antenna, etc. and carrying cases for all components.)
- (3) Receivers: Rovers (total setup: receivers, batteries, chargers, antenna, poles, rugged tablets, software, brackets, bipods, etc. and carrying cases for all components)
- (2) Licenses for compatible office software that has field to finish capabilities.

All equipment listed above is to be top of the line equipment with warranties, training, and tech support (all with extended service).

NNDWR and the Navajo Nation Purchasing Department (NNPD) will review all proposals and select the proposal that meets or exceeds the attached specifications.

The proposals are open to all preferred qualified vendors. The proposals will be opened in accordance with the Navajo Business Opportunity Act (5 NNC, Sec.205). All proposals will be due no later than September 29, 2017 at 3:00PM (MDST) and must be received at (NNPD) in Window Rock, AZ.

CONTACT PERSON: Eugene Watson E-mail: ewatson@navajo/nsn.org or Tim Helton
 Navajo Nation Department of Water Resources
 Telephone Number: (928) 729 – 4046/4499

RETURN ALL RESPONSES
EITHER in person, US Postal
Service or UPS/FEDEX.

DELIVER TO: THE NAVAJO NATION
 Purchasing Services Department
 Administration Building 1
 Window Rock Boulevard
 Window Rock, AZ 86515
 Attn: Joanne James
 RFP NO: 17-081719JJ

MAIL TO: THE NAVAJO NATION
 Purchasing Services Department
 Post Office Box 9000
 Window Rock, AZ 86515
 Attn: Joanne James
 RFP NO: 17-081719JJ

(Must identify Bid# & Company Name on the outside of all sealed package/envelope)
 Faxed or e-mailed bids are unacceptable.
 (Please submit 3 copies of your bid)

Proposed GNSS Survey Equipment Specifications

R F P # 1 7 – 0 8 1 7 1 9 J J

GNSS Receivers

PERFORMANCE

Measurements

- Measuring points sooner and faster with HD-GNSS technology
- Increased measurement productivity and traceability with SurePoint electronic tilt compensation
- Worldwide centimeter level positioning using CenterPoint RTX satellite delivered corrections
- Reduced downtime due to loss of radio signal with xFill technology
- Advanced Survey GNSS chips with 440 channels
- Future-proof with GNSS tracking
- Satellite signals tracked simultaneously:
 - GPS: L1C/A, L1C, L2C, L2E, L5
 - GLONASS: L1C/A, L1P, L2C/A, L2P, L3
 - SBAS: L1C/A, L5 (For SBAS satellites that support L5)
 - Galileo: E1, E5a, E5B
 - BeiDou (COMPASS): B1, B2
- CenterPoint RTX, OmniSTAR HP, XP, G2, VBS positioning
- QZSS, WAAS, EGNOS, GAGAN
- Positioning Rates: 1 Hz, 2 Hz, 5 Hz, 10 Hz, and 20 Hz

ACCURACY

Code differential GNSS positioning

Horizontal 0.25 m + 1 ppm RMS

Vertical. 0.50 m + 1 ppm RMS

SBAS differential positioning accuracy2. typically <5 m 3DRMS

Static GNSS surveying

High-Precision Static: Horizontal. 3 mm + 0.1 ppm RMS

Vertical. 3.5 mm + 0.4 ppm RMS

Static and Fast Static Horizontal. 3 mm + 0.5 ppm RMS

Vertical. 5 mm + 0.5 ppm RMS

Real Time Kinematic surveying

Single Baseline <30 km Horizontal. 8 mm + 1 ppm RMS

Vertical. 15 mm + 1 ppm RMS

Network RTK3 Horizontal. 8 mm + 0.5 ppm RMS

Vertical. 15 mm + 0.5 ppm RMS

RTK start-up time for specified precisions4. 2 to 8 seconds

CenterPoint RTX Horizontal. 4 cm

Vertical. 9 cm

RTX convergence time for specified precisions12. 30 minutes or less

RTX QuickStart convergence time for specified precisions12. 5 minutes or less

xFill5 Horizontal. RTK6 + 10 mm/minute RMS

Vertical. RTK6 + 20 mm/minute RMS

Controllers (Rugged Tablets)

SOFTWARE

Microsoft Windows 7 Professional Operating System including:

- Internet Explorer
- Camera software with geo-tagging
- GPS information receiver control software

ACCESSORIES

- Extended battery set
- International AC charging kit
- Capacitive stylus w/tether
- Wrist strap
- Display cleaning microfiber cloth
- Vehicle charger (12 V DC–32 V DC input)
- Screen protectors with cleaning cloth
- Carrying case
- USB to serial adapter
- GPS adapter with SMA port
- External GPS antenna kit w/adapter
- Capacitive touch gloves
- Rugged USB keyboard
- Pole mount
- headset

PHYSICAL SPECIFICATIONS

Size.....10 inches x 7 inches or close

Weight.....3 lbs or less

Screen size.....7 inches

CERTIFICATIONS

FCC, CE, UL 60950, IC (Canada), RoHS compliant. MIL461, RSS 210, CSA, RSS
CSA C22.2, IEC 60950, C-Tick Mark for Australia and New Zealand.

ENVIRONMENTAL SPECIFICATIONS

Temperature:

Operating. –30 °C to 60 °C (–22 °F to 144 °F)

Storage. –40 °C to 70 °C (–40 °F to 158 °F)

Temperature shock. Cycles between –30 °C and 60 °C (–22 °F and 144 °F),
MIL-STD-810G, Method 503.5, Procedure I-C

Water. Survives driving rain and water spray, any direction.
Water Jet 6.3 mm dia. @ 2.5 m–3 m, 12.5 Liter/min,
(Water jet 0.25 in dia. @ 8.2 ft–9.8 ft, 3.3 gallons/min) IEC 60529, IPx5.

Dust. Protected against dust, IEC-60529 IP6x,
dust chamber with under-pressure

Drops. Survives multiple drops of 1.22m (4 ft),
MIL-STD-810G, Method 516.6, Procedure IV, Transit Drop

Humidity. 90% relative humidity with temperatures
between 30 °C and 60 °C (22 °F and 144 °F),
MIL-STD- 810G, Method 507.5, Procedure II

Altitude. 4,572 m (15,000 ft) at 23 °C (73 °F)
to 12,192 m (40,000 ft) at –30 °C (–22 °F),
MIL-STD-810G, Method 500.5, Procedure I, II & III

Vibration. General minimum integrity and loose cargo tests,
MILSTD-810G, Method 514.6, Procedure I & II, Category 5

Solar Exposure. Survives prolonged UVB exposure,
MIL-STD-810G, Method 505.5, Procedure II

Chemical Exposure. Resistant to mild alkaline and acid cleaning solutions,
fuel hydrocarbons, alcohols and common vehicle
and factory machine lubricants

ELECTRICAL SPECIFICATIONS

- Processor: 1.6 GHz, Intel Atom N2600 dual-core processor
- Memory: 4 GB DDR3 DRAM
- Storage: 128 GB SSD
- Display:
 - 7 in, 1024 x 600 hybrid reflective and transmissive
 - Sunlight-readable Gorilla Glass display
 - Capacitive multi-touch interface
- Battery:
 - Smart batteries with LED power indicators.
 - Standard: Two 7.5 V, 3000 mAh, 22 Wh
 - Extended: Two 7.5 V, 6000 mAh, 45 Wh
- I/O: 3.5 mm audio jack, USB Host (2), HDMI, docking station I/O plate, DC input power
- Wireless:
 - Bluetooth 4.0
 - Wi-Fi b/g/n
 - WWAN: Penta-Band GSM 3.75G cellular data
- Camera/GPS/Compass/Accelerometer
 - 5 megapixel camera with LED flash, photo and video recording capable
 - GPS Receiver: 2–4 m accuracy with WAAS/SBAS correction
 - Integrated Electronic Compass

External Radio

Communication.....1 RS-232 port, 115.2 kbps maximum

User Interface.....5 navigation buttons with 2-row, 16-character LCD display; English language support

Power

External:.....11.0 V DC to 16.0 V DC, 15 Amp maximum

During RX:.....1.7 W nominal @ 12.0 V DC

During TX:.....115 W nominal @ 12.0 V DC, 35 W RF output

45 W nominal @ 12.0 V DC, 8 W RF output

25 W nominal @ 12.0 V DC, 2 W RF output

Modem Specs

Link Rate/ Modulation.....19,200 bps/4FSK, 9600 bps/4FSK, 19,200 bps/GMSK,
16,000 bps/GMSK, 9600 bps/GMSK, 8000 bps/GMSK,
4800 bps/GMSK

Link Protocols.....Transparent EOT/EOC/FST, Packet-Switched, TRIMMARK,
TRIMTALK, TT450S (HW), SATEL

Forward Error Correction.....Yes

Radio Specs

Frequency Bands.....IP67 (Dustproof and watertight to depth of 1 m for 30 minutes)

Frequency Control.....Synthesized 6.25 kHz tuning resolution; Frequency stability

± 1 ppm –40 °C to +85 °C (–40 °F to +185 °F)

RF Transmitter Output.....Programmable from 2 W to 35 W (where permitted)

Sensitivity.....–110 dBm BER 10–5

Type Certification.....All models are type accepted and certified for operation in the
U.S., Europe, Australia, New Zealand, Brazil, and Canada.

Mechanical Specifications

Dimensions.....11.9 cm L x 8.6 cm W x 21.3 cm H with handle

(4.7 in L x 3.4 in W x 8.37 in H with handle)

Weight.....1.95 kg (4.3 lb)

Data/Power Connector.....5-pin, #1-shell LEMO

RF Connector.....50 Ohm, TNC female

Request for Taxpayer Identification Number and Certification

**Give Form to the
 requester. Do not
 send to the IRS.**

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶ _____	
	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>	
	5 Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Social security number									
or									
Employer identification number									

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

**NAVAJO NATION CERTIFICATION
Regarding Debarment and
Suspension**

Applicant acknowledges that to the best of his/her knowledge that their company and principal participants on this contract:

- 1. Are not debarred, suspended, or otherwise slated for debarment, ineligible and/or excluded from participation on Federal, State, and Tribal Government contracts etc.
- 2. Are not presently nor have been under criminal indictment or civilly charged by a governmental entity (Federal, State, and Tribal Government) for fraud, forgery, falsification, theft, bribery, destruction of records, receiving stolen property and other criminal offenses in the administration of a government contract.
- 3. Have not been terminated for cause or convenience by a governmental entity in the administration of a government contract (Federal, State, and Tribal Government).
- 4. If the Navajo Nation determines that the Certificate provided herein is not true, it will be grounds to terminate the contract and pursue other legal remedies.

Applicant's Address

Name & Signature of Applicant

Type or Print Name

Signature Date