

**Approval of Payments for Installation of Certain Remote Monitoring Sensors by the Department**

**§ 10.1-611.1. Soil and Water Conservation District Dam Maintenance, Repair, and Rehabilitation Fund established; Department to manage; Board to expend moneys; regulations.**

A. There is hereby created in the state treasury a special nonreverting fund to be known as the Soil and Water Conservation District Dam Maintenance, Repair, and Rehabilitation Fund, hereafter referred to as "the Fund." The Fund shall be comprised of moneys appropriated to the Fund by the General Assembly and any other moneys designated for deposit to the Fund from any source, public or private. The Fund shall be established on the books of the Comptroller and the moneys shall be paid into the state treasury and credited to the Fund. Interest earned on moneys in the Fund shall remain in the Fund and be credited to it. Any moneys remaining in the Fund, including interest thereon, at the end of each fiscal year shall not revert to the general fund but shall remain in the Fund. Moneys in the Fund shall be used solely for (i) the maintenance and repair of any dams owned by soil and water conservation districts and (ii) the rehabilitation and major repair of Class I and Class II dams owned by soil and water conservation districts, in order to bring such dams into compliance with regulations promulgated pursuant to Article 2 (§10.1-604 et seq.) of Chapter 6 of this title. Expenditures from the Fund made under clause (ii) of this subsection may include, but are not limited to, the following repairs to the infrastructure of a dam: increasing the height of a dam, modifying the spillway, and reducing wave erosion of a dam's inside face. Expenditures and disbursements from the Fund shall be made by the State Treasurer on warrants issued by the Comptroller upon written request signed by the Director of the Department of Conservation and Recreation.

B. The Fund shall be administered and managed by the Department of Conservation and Recreation, subject to the right of the Board, following consultation with the Department of Conservation and Recreation, to direct the distribution of moneys in the Fund to particular soil and water conservation districts.

C. The Board is authorized to promulgate regulations for the proper administration of the Fund. Such regulations may include, but are not limited to, the type and amount of financial assistance, the terms and conditions of the assistance, and project eligibility criteria.

**Chapter 2 of the 2022 Special Session 1 Acts of Assembly; Item 374**

A.1. Out of the amounts appropriated for Financial Assistance to Virginia Soil and Water Conservation Districts, \$11,347,091 the first year and \$10,947,091 the second year from the general fund shall be provided to soil and water conservation districts for administrative and operational support. These funds shall be distributed upon approval by the Virginia Soil and Water Conservation Board to the districts in accordance with the Board's established financial allocation policy. Of this amount, \$9,965,091 the first year and \$9,565,091 the second year from the general fund shall be distributed to the districts for core administrative and operational expenses (personnel, training, travel, rent, utilities, office support, and equipment) based on identified budget projections and in accordance with the Board's financial allocation policy; \$468,000 the first year and \$468,000 the second year from the general fund shall be distributed at a rate of \$4,500 per dam for maintenance; \$500,000 the first year and \$500,000 the second year from the general fund for small dam repairs of known or suspected deficiencies; \$400,000 the first year from the general fund for the purchase and installation of remote

Virginia Soil and Water Conservation Board

March 23, 2023

Agenda Item K

monitoring equipment for District-owned dams; and \$170,000 the first year and \$170,000 the second year to the department to provide district support in accordance with Board policy, including, but not limited to, services related to auditing, bonding, contracts, and training. The amount appropriated for small dam repairs of known or suspected deficiencies and the purchase and installation of remote monitoring equipment is authorized for transfer to the Soil and Water Conservation District Dam Maintenance, Repair, and Rehabilitation Fund.

Background:

In accordance with previous Board approved motions, the Department procures all remote monitoring equipment for District owned dams but reimburses individual Districts for the costs associated with installing the equipment. This process has been effective and efficient for the equipment that utilizes cellular communications.

There are approximately 21 dams that will not be able to utilize cellular based equipment for the remote monitoring equipment. Equipment for these dams will need to rely on satellite-based communications. In order to ensure the equipment works correctly, a specialized installation contractor is required. The contractor must be familiar with the satellite receiver and must be able to adjust the receiver in the field in order to receive the best possible signal. The Department is requesting authorization from the Board to procure the necessary equipment and to be able to pay for the installation of the equipment. There will be cost savings and efficiencies if the Department is responsible for coordinating the installation of this equipment .

Action taken by Board on December 7, 2022:

The Virginia Soil and Water Conservation Board (Board) approves funding for ten (10) projects in the amount of \$1,170,803.00 as presented and recommended by the Department. For FY2023, the Board also approves allocating \$165,005.23 for contingency funds and \$50,000 for emergency project funds.

Additionally, the Board directs the Department to reimburse Soil and Water Conservation Districts for all eligible costs associated with the installation of the remote monitoring equipment as provided for in Chapter 2 of the 2022 Special Session 1 Acts of Assembly. The funding for the reimbursements shall be provided from the Soil and Water Conservation District Dam Maintenance, Repair, and Rehabilitation Fund.

Further, the Board authorizes the Piedmont Soil and Water Conservation District to utilize any remaining funds from projects ID#21-09 and SDR22004 for use towards project ID#21-10 Bush River #5 (INV#147039) wave berm project.

Recommended motion:

The Virginia Soil and Water Conservation Board authorizes the Department to procure remote monitoring equipment for all Soil and Water Conservation District-owned dams. Additionally, the Department is authorized to pay for the installation of equipment that relies on satellites for communication. The funding for the installation of this type of equipment shall be provided from the Soil and Water Conservation District Dam Maintenance, Repair, and Rehabilitation Fund.



# SMU Jr

## About the SMU Jr

Downtime on equipment is something none of us want. Having visibility over your equipment's operating status gives you the power to make sound, informed, and timely decisions to optimize your operations.

AMCi-Wireless can help by giving you the information you need to make these decisions and minimize or even prevent downtime in your operations.

The Satellite Monitoring Unit (SMU) Jr gives you important information and alerts you to critical conditions, in many cases giving you the opportunity to respond prior to a failure.

### *Disclaimer*

AMCi warranties SMU Jr hardware for a full three years (36 months) \*

\* Warranty is subject to AMCi published Terms and conditions.  
Contact your AMCi representative to obtain a copy or visit  
[www.amci-wireless.com](http://www.amci-wireless.com)



## Key Features:

- Two-way satellite communication
- Built-in GPS receiver and antenna
- Simple integration with I/O board and terminal blocks
- 4 I/O channels - configure as digital I/O or as analog input
- AMCi-Wireless SatAlarm®-Server
- 24/7 technical support, call center, and asset administration
- First-fault monitoring
- Polycarbonate NEMA-4x/6P lockable enclosure
- Integrated antennas (no coax); no external antennas
- Self-contained, solar-powered

## Product Benefits

- Provides insight into remote operations
- Gap-free coverage
- GPS for precise location information
- Scheduled, event-based, and on-demand reporting
- Programmable over the air - reducing the need to send personnel into the field
- Flexibility to communicate with many sensors and controllers
- Low power consumption for applications that require long battery life

## American Millennium Corporation, Inc.

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# SMU Jr



## SatAlarm® Server Web-Based SCADA:

- Web browser based historian
- Color graphical interface
- User configurable displays
- Customizable dashboard
- Multi data point graphs
- Data tracking
- Integrated Maps
- Equipment configuration
- Device control
- Data conditioning
- Reporting

## External Interfaces:

- Serial: 2 ports; RS-232 and RS-485
- I/O: 4 channel; individually configurable as analog input or digital input/output
  - Analog inputs: 0 – 3.0V, 1.0mV (12-bit) resolution; 4-20mA, 143 Ω loop resistor
  - Digital inputs: -10 – 150VDC safe, pull-up or pull-down
  - Digital outputs: 32VDC safe, 250mA sinking (open drain), or 3VDC, 25µA (push-pull)
- Additional I/O available using Modbus I/O expansion modules

## Programming:

- Reporting (configured over the air):
  - Configurable time-of-day based schedule
  - Configurable interval-based schedule
  - 3 minutes up to once every 3 days
  - By exception; user definable test conditions
- Modbus RTU:
  - 16 configurable commands
  - Data reportable by schedule, interval, threshold test, any change, or pattern match

## GPS:

- Acquisition Time: 27 seconds (warm & cold)
- Accuracy: 2.5 meters (CEP-Horizontal)
- Sensitivity:
  - Acquisition: -147 dBm
  - Tracking: -159 dBm

## Satellite Messaging:

- Two-way, global, IsatData Pro
- From terminal (max per message) - 6400 bytes
- To terminal (max per message) - 10,000 bytes

## Satellite Communication:

- Frequency:
  - From terminal: 1626.6 – 1660.5 MHz
  - To terminal: 1525 – 1559 MHz
- Elevation Angle: 20° to 90° for communications link
- Maximum EIRP: 7.0 dBW
- Maximum Antenna Gain: 4.5 dBiC

## Power:

- Solar Power: 12VDC, 5W, 7Ah

## Certifications/ Compliance:

- Satellite - Inmarsat
- Other - C-Tick, CE, FCC, IC, Anatel, RoHS(?)

## Environmental:

- Operating Temperature: -20°C to +50°C
- Storage Temperature: -40°C to +85°C
- Humidity: 90%RH @ 85°C; meets SAE J1455
- Dust and Water Ingress: IP66/Nema-6P (with door screws installed)

## Enclosure:

- Polycarbonate
- Nema-4x/6P (with door screws installed)
- 1x ½-inch pass-thru cord grip
- Lockable

## Physical:

- 16.0 x 10.5 x 9.3 in. (40.6 x 26.7 x 23.6 cm)
- 13.9 lbs. (6.3 kg)

## Warranty:

- 3 year standard limited warranty

## American Millennium Corporation, Inc.

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American Millennium Corporation,



Budgetary Quotation

American Millennium Corporation, Inc.  
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Date	Budgetary Quote #
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Quote Prepared For

Charles T. Wilson, P.E.  
VA DCR-Division of Soil and Water Conservation  
600 East Main Street, 24th Floor  
Richmond VA 23219  
United States

Expires	Ship Via	Sales Rep	Note			
1/11/2023	Fedex Ground	Mobley, Grant				
Qty	Product Description		Unit Price	Extended	Tax Rate	Serial
	AMCi Contact Information  Grant Mobley VP Operations gmobley@amci-wireless.com Cell: 303-378-9766  American Millennium Corporation, Inc. 255 Pennbright Dr. Suite 240 Houston, TX 77090 DUNS: 01-000-8709 TIN: 85-0273340 CAGE Code: 6Q9M6  *** Base Items ***					
21	Standard SMU with IDP terminal, 12V-10W-20Ah, 14x12 Enclosure		2,443.14	51,305.94		
21	20W/30W Solar Panel Upgrade		259.23	5,443.83		
21	Activation, Programming, and Application for IDP Terminal		219.67	4,613.07		
21	Reference Volume		312.00	6,552.00		
21	Pressure transmitter, titanium, freeze-resistant, 4-20mA *add Vented Cable specifying length *Pressure range TBD		1,257.78	26,413.38		
4,000	Sensor vented cable, specify length		3.04	12,160.00		
21	Shipping estimated at \$125 per system 1. SMU unit 2. Pressure transducer and cable		125.00	2,625.00		
21	Installation Costs including mast, grounding, and equipment installation -travel costs listed on separate line item		3,360.00	70,560.00		
252	Satellite Airtime and SatAlarm Server 2 kB Application Plan Monthly Includes base airtime fee E-mail notifications SMS text messaging service 24/7 level 1 tech support Secure access to SatAlarm Server website * Hourly I/O Reports		76.47	19,270.44		

**American Millennium Corporation,****Budgetary Quotation**

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Qty	Product Description	Unit Price	Extended	Tax Rate	Serial
21	<p>*** NOTES ***</p> <p>MP-11 reference volumes to be installed into SMU units prior to shipment. Shipment will be split. Customer to provide shipping address for each system.</p> <p>This quote is only for the items listed. If radio repeaters or other additional equipment is determined to be necessary, additional quotes will be provided. Initial ground study indicates all sites will have sufficient satellite view.</p> <p>Customer Contact:  Charles T. Wilson, P.E.  District Dam Engineer  VA DCR-Division of Soil and Water Conservation  600 East Main Street, 24th Floor  Richmond, VA 23219  Tel: 804/371-6233  Mobile: 804/837-9975</p> <p>*** END NOTES ***</p> <p>Travel Expenses  *Note travel expenses are an estimate and are subject to change</p>	1,800.00	37,800.00		
	Subtotal Shipping Cost (Fedex Ground) Total				236,743.66 0.00 \$236,743.66