

BOARD OF COUNTY COMMISSIONERS • COLUMBIA COUNTY

AGENDA ITEM REQUEST FORM

The Board of County Commissioners meets the 1st and 3rd Thursday of each month at 5:30 p.m. in the Columbia County School Board Administrative Complex Auditorium, 372 West Duval Street, Lake City, Florida 32055. All agenda items are due in the Board's office one week prior to the meeting date.

Today's Date: November 10, 2015

Meeting Date: November 19, 2015

Name: Kevin Kirby

Department: Operations

Division Manager's Signature: _____

1. Nature and purpose of agenda item: Approve task order for \$70,000 from North Professional Services, Inc. to perform complete study of HVAC/Chillers at courthouse.

Attach any correspondence information, documents and forms for action i.e., contract agreements, quotes, memorandums, etc.

2. Fiscal impact on current budget.

Is this a budgeted item? N/A

Yes Account No. _____

☒ **No Please list the proposed budget amendment to fund this request**

Budget Amendment Number: BA _____

FROM _____ **TO** _____ **AMOUNT** _____

For Use of County Manger Only:

☐ **Consent Item**

☒ **Discussion Item**

NORTH FLORIDA PROFESSIONAL SERVICES, INC.

Experience. *OnaCtly*. Commitment



November 6, 2015

Mr. Kevin Kirby
Operations Manager for Columbia County
PO Box 1529
Lake City, FL, 32056

SUBJECT: Columbia County Courthouse HVAC and Chillers, Lake City, FL

Mr. Kirby,

This letter is in reference to the meeting held on October 22, 2015 regarding the issues with the HVAC system at the Columbia County Courthouse. In attendance at the meeting were representatives from Columbia County, North Florida Professional Services, Florida Power and Light, Johnson Controls and Coburn and Associates. Several items and concerns with the current HVAC system were discussed.

The first concern and the biggest issue appears to be the fact that the existing chillers have to be manually manipulated. In cooler weather, the chillers are manipulated for hours to keep them from shutting down due to low oil pressure. By design, the existing chillers do not have oil pumps and need differential refrigerant pressure to develop oil pressure. This is not accomplished quickly when the cooling tower water is cold. Therefore when the oil pressure does not build quickly enough, the chillers shut down. The issue would be eliminated by installing new centrifugal chillers eliminating the oil pressure problem.

The second concern is that the chillers appear to be oversized. The oversized chillers are operating at part load and are not operating efficiently. Previously, one of the chillers was converted to R143a which reduced the chiller's capacity to about 65-70% of its original capacity. The converted chiller appears to handle the load of the building on most days supporting the theory that the original chillers were oversized. Chillers are most efficient when they operate closer to the full capacity of the chiller. The anticipated efficiency of a new chiller properly sized should be at least 20% more efficient than the existing chillers. The existing second chiller is still using R22 refrigerant which is being phased out and expensive to replace. The existing chillers have a life expectancy of 15 years and were built in 1999. The existing chillers are almost 17 years old and are nearing the end of their useful life. During the meeting, the general consensus was that at least one of the chillers should be replaced as soon as possible. The estimated purchased and installed cost of a new chiller is between \$200,000 and \$220,000.

The third concern was high humidity in the Public Defender's office with the possibility of the same concern in a few other isolated areas of the building. This air side issue is being caused by unconditioned outside air being introduced into the building. This issue needs to be investigated throughout the building. High humidity is correctable and may also represent energy saving opportunities after correction.

Several ideas were introduced for issues that might be candidates for additional energy saving projects which also may qualify for the FPL rebate program. Briefly discussed were items such as demand control ventilation or energy recovery ventilators along with a new and/or expanded control system. In the final analysis report, these items will be studied and addressed.

It was decided during the meeting that a complete study of the building needed to take place which included a complete load analysis. With this information, the chiller(s) could then be sized. The replacement of at least one of the existing chillers needs to happen as soon as possible. The existing control system would then be analyzed, both in terms of the physical system and its operation sequencing. Finally, study all energy saving and/or rebate projects which will determine both the project costs and the return time for each project. The repair and/or modifications needed after the chiller replacement will be addressed in the final analysis report to the Courtty Commission and will give a timeline for projects that need to be handled now and those that can be handled at a future time.


The completed final analysis report can be completed by mid-January 2016. After review and decision making and project design and bidding time, it would be another eight weeks, mid-March 2016, to let a contract for the work. Based on the discussions at our meeting, it is believed some of the issues can be addressed by a chiller replacement. The lead time for chiller delivery is between 8 and 10 weeks. By letting the contract in mid-March 2016 and the delivery of the chiller taking 8 to 10 weeks for delivery, the chiller replacement would start by June 2016. This is a very risky time to begin a chiller replacement due to the hot weather. The Courthouse and Annex would run the risk of no A/C in the hot months. The correction for this can be made by scheduling the chiller lead time and contractor bid time to run concurrent with the engineering time rather than in sequence. The chiller replacement would be finished prior to the hotter months. The additional projects that may be identified can be scheduled as funds become available and can be addressed individually.

PROPOSED SCHEDULE

November 16 - December 12	-Complete the load study and size the new chiller. Study the issues that the existing chillers are having with morning start up. Some issues with chiller control may be able to be addressed (or modified) during this time period.
December 15	-County to place a direct purchase order for the chiller. Should have a new chiller on site by Feb 15
December 15 - January 15	-Complete Bid documents for the chiller replacement and mechanical work
January 15- February 15	-Receive bids for the chiller replacement
January 15- February 15	-Completion of the Final Analysis Report. It will also depict all options for consideration by the County.
February 22	-Let the contract for the chiller replacement. Immediately give contractor a Notice to Proceed with a construction time 4 weeks.
March 22	-Completion of the chiller installation
April 1	-Bid documents for any additional work as determined by the County based on the Final Analysis Report.

If you need additional information or have questions, please contact me at your earliest convenience.

Thank you,


Gregory G. Bailey, PE

**TASK ORDER FOR ENGINEERING SERVICES
HVAC Analysis for the Columbia County Courthouse**

This agreement made this _____ day of _____, 2015 by and between Columbia County, herein referred to as the COUNTY, and North Florida Professional Services, Inc., herein after referred to as the CONSULTANT:

The COUNTY intends to investigate and remediate problems with the HVAC system at the Columbia County Courthouse, herein after referred to as the PROJECT.

The CONSULTANT intends to perform a load study for the current system, size a new chiller, assess issues with the current chiller control, prepare bid documents and performing construction administration for the chiller replacement, and provide a comprehensive building analysis report.

PROJECT deliverables include:

1. Provide a load study report for the current system.
2. Provide size required for the new chiller
3. Provide construction documents for bidding and construction.
4. Provide bid administration with responses to general contractor's requests for information and issue addenda as needed for the chiller replacement.
5. Provide construction administration with review of general contractor's submittals, requests for information, pay requests, and change order proposals, on-site field reviews as needed and review of the contractor's close-out documentation.

The CONSULTANT intends to provide the above listed services on an hourly fee basis with a not to exceed amount of seventy thousand dollars (\$70,000). This Task Order constitutes a project agreement for the above mentioned scope of services and fee. All in accordance with the Continuing Services Agreement between COUNTY and CONSULTANT.

IN WITNESS THEREOF, Columbia County, Florida, through its Board of County Commissioners has caused this instrument to be executed on the day and year first shown above.

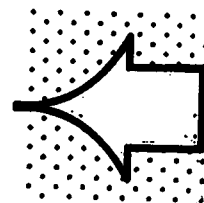
**BOARD OF COUNTY COMMISSIONERS
COLUMBIA COUNTY, FLORIDA**

Attest:

Clerk

BY: _____

Chairman



IN WITNESS WHEREOF, North Florida Professional Services, Inc., as CONSULTANT herein, has caused this Task Order to be executed in its name by its proper officers duly authorized to sign and execute instruments on its behalf on the day and year first shown above.

NORTH FLORIDA PROFESSIONAL SERVICES, INC.

BY: _____

Gregory G. Bailey, P.E.
President