



November 1, 2018

TO: LOCSO Board of Directors
FROM: Rob Miller, PE, District Engineer
SUBJECT: **Agenda Item 12A – 11/1/2018 Board Meeting**
Test Well for Basin Management Plan Program C, Site A
Adjacent to Los Osos Middle School

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DESCRIPTION

Section 10.4 of the Basin Plan describes Basin Infrastructure Program C as a production shift in the lower aquifer from the Western Area to the Central Area. As discussed in a public workshop on August 30, 2018, the District is pursuing one addition lower aquifer well to the east of South Bay Boulevard. Four alternative sites are under consideration as described below. Site A (Los Osos Middle School) may be suitable, but additional subsurface field testing must be performed to confirm that adequate water production can be achieved. Staff is recommending that the Board contract with Cleath Harris Geologists (CHG) to prepare bid documents for the proposed test well and bring back construction bids for Board consideration.

STAFF RECOMMENDATION

Staff recommends that the Board authorize staff to prepare bid documents and secure construction bids for subsequent Board approval for the installation of a temporary test well at Site A (adjacent to Los Osos Middle School). Staff further recommends that the Board authorize staff to retain CHG in an amount not to exceed \$9,500.

DISCUSSION

Section 10.4 of the Basin Plan describes Infrastructure Program C as follows:

Program C includes a set of infrastructure improvements that would allow the Purveyors to shift some groundwater production within the Lower Aquifer from the Western Area to the Central Area. Since groundwater production from the Central Area induces less seawater intrusion than the same amount of production from the Western Area, this landward shift increases the Sustainable Yield of the Basin. Program C consists of three wells located on the eastern side of the Central Area, an upgrade to GSWC's water main located along Los Osos Valley Road and pipelines to connect each of the expansion wells to that main.

The three wells in Program C would be located to prevent or minimize impacts to private wells already producing groundwater from the Central Area. That is expected to be possible because the new wells would penetrate the Lower Aquifer, whereas existing domestic wells are concentrated in the Upper Aquifer.

In general, the three wells (Expansion Wells 1, 2, and 3) were intended to be located to the west of Los Osos Creek, and in the central portion of the Basin.

Golden State Water Company (GSWC) previously completed Expansion Well No. 1 at its Los Olivos tank site. CHG recently prepared a draft supplemental evaluation of the current status of the basin entitled "Los Osos Basin Plan Metric Trends Review and Infrastructure Program C Evaluation" dated August 17, 2018. The document concludes that with current water demands no additional Program C Expansion Wells are required. However, the report notes that other factors including reliability, drought impacts and recycled water distribution support the installation of one additional Expansion Well.

The District is currently considering four alternative sites for a second Expansion Well. The sites are shown on Figure 1 on the following page. In its community workshop in August 2018, the District received substantial public input in opposition to Well Sites B and C, and subsequent input from the public has been in general opposition to Site D. At this time, Site A (Los Osos Middle School) appears to be the least challenging location from the perspective of community acceptance. However, the lower aquifer is expected to have a reduced thickness at Site A compared to the three other sites, and water production may therefore be insufficient to warrant an investment in a municipal supply well. A minimum annual volume of 100 acre-feet per year should be available to justify a permanent well.

Initial geologic review indicates that Site A may produce the minimum volume required. However, only a physical test hole drilled to the required depth of 300 feet can confirm this assumption before additional funds are invested. Staff recommends that a test well be constructed at Site A and analyzed prior to environmental review or additional discussion of alternatives. The attached proposal from CHG includes the preparation of bidding documents for the proposed test well. If possible, the 5-inch diameter casing will remain in place for future monitoring. If not, the casing will be removed and the temporarily well will be backfilled as required by State guidelines.

Staff is recommending that the District contract with CHG as noted in the attached proposal (Attachment A) in an amount not to exceed \$9,500. Firm bids from well drillers would be brought back for Board action, though the cost is expected to be in the range of \$50,000. CHG may also require some hourly assistance from the District Engineer to address the exact siting of the test hole, discussions with the School District and County, and any permits that may be required.

FINANCIAL IMPACT

The proposed contract with CHG includes an hourly fee that will not exceed \$9,500. The District Engineer will provide supporting services as necessary, and firm bids will be brought back to the Board prior to entering into a contract with a drilling company for the Site A test.

Attachment

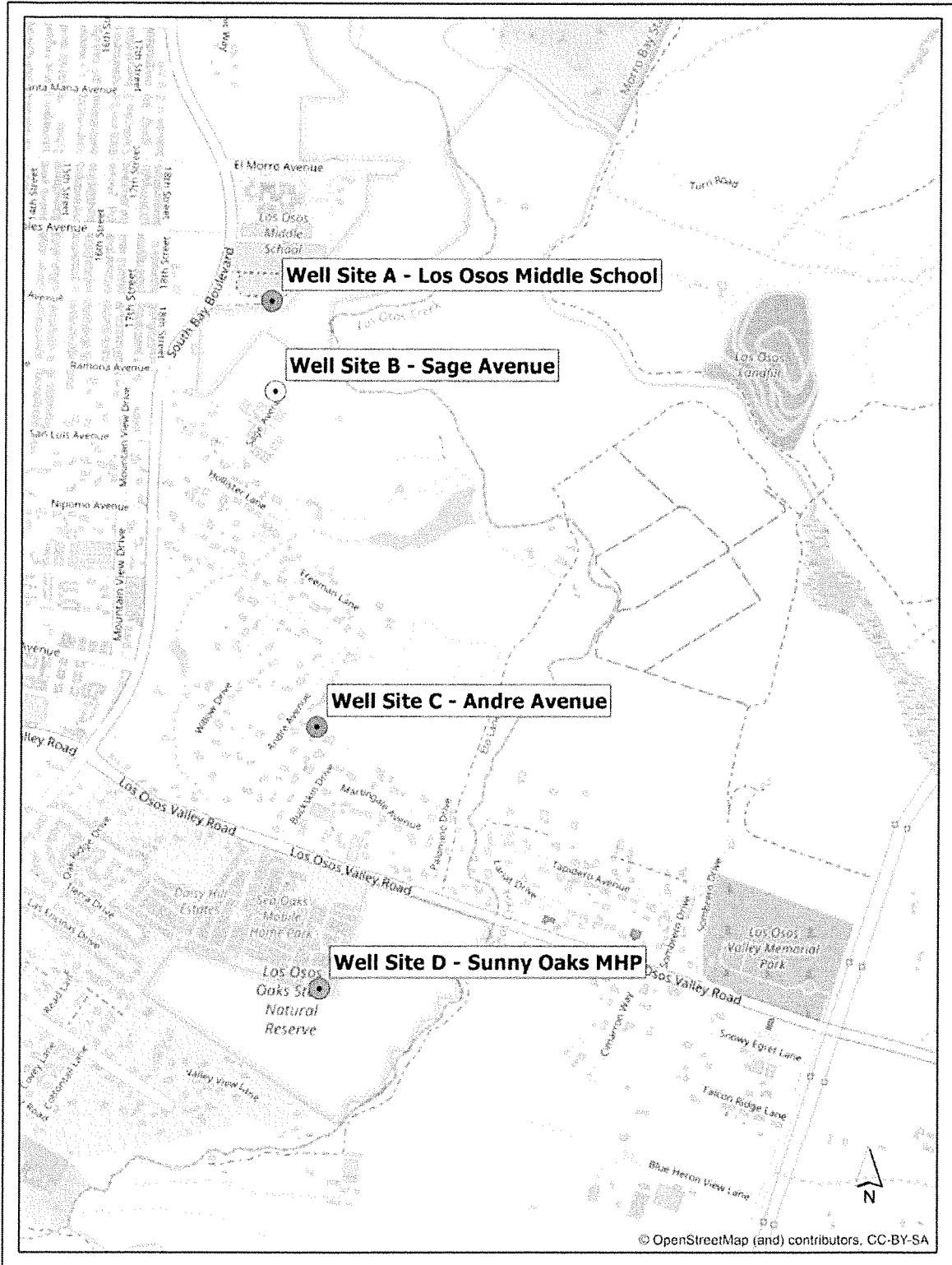


Figure 1

Cleath-Harris Geologists, Inc.
71 Zaca Lane, Suite 140
San Luis Obispo, California 93401
(805) 543-1413



September 28, 2018

Mr. Robert S. Miller, P.E.
District Engineer
Los Osos Community Services District
2122 9th Street, Suite 102
Los Osos, CA 93402

**SUBJECT: Proposal for Hydrogeologic Services for Expansion Well Program C Test Well,
Los Osos, California.**

Dear Mr. Miller:

Cleath-Harris Geologists (CHG) proposes to provide hydrogeologic services to assist with completing a 5-inch diameter, PVC test well at Program C Expansion Well Site A (Los Osos Middle School). The purpose of the test well would be to evaluate the potential capacity and water quality of a future municipal supply well at Site A. The test well would then convert to a lower aquifer monitoring well for the basin groundwater monitoring program. This proposal presents a scope of work and estimated cost for these services.

SCOPE OF WORK

The tasks that CHG will perform include the following:

- Stake proposed well location(s) and obtain GPS coordinates. The anticipated location is at the east end of the dirt parking lot for the school play fields.
- Provide specification and bid sheet for soliciting bids from drillers (5-inch diameter PVC well completed to a depth of 300 feet). Attend pre-bid site meeting (optional) and pre-construction meeting with selected driller, as needed.
- Coordinate drilling rig mobilization and on-site activities.
- Log test hole, interpret geophysical logs.
- Provide final design and well construction monitoring. If test hole results are considered unsatisfactory (insufficient aquifer thickness), no well would be completed.
- Coordinate well development and testing, including 12-hour pumping test and pneumatic slug test. Collect water samples and submit to analytical laboratory for water quality analyses (general minerals, general physical and inorganic constituents).
- Provide report documenting well construction and testing, including interpretation of test results. Estimate discharge capacity and water quality for a full-diameter production well at the site.



ESTIMATED COSTS

CHG proposes to perform the above scope of work on an hourly rate plus expenses basis in accordance with the attached terms of fees and conditions and hourly rate schedule. The estimated cost for professional services is **\$9,500**. Laboratory analytical cost for water quality testing is estimated at \$500. Drilling contractor cost for the test well is estimated at \$40,000, including geophysics and test pumping. Total project costs are estimated at \$50,000.

This proposal is for professional hydrogeologic services only. Los Osos CSD may contract directly with the driller and analytical laboratory for services. CHG will provide services in a timely manner to expedite the project, subject to County well permit application approval and drilling contractor availability.

SCHEDULE OF HOURLY RATES

| | |
|--|--------|
| Principal Hydrogeologist | \$ 160 |
| Senior Hydrogeologist | \$ 150 |
| Project Geologist | \$ 130 |
| Staff Geologist II | \$ 120 |
| GIS Specialist/Environmental Scientist | \$ 120 |
| Staff Geologist I | \$ 110 |

EXPENSES

Mileage \$0.54/mile
Other expenses at cost plus 10 percent handling.

AGREEMENT

If the above described work scope and fees and conditions are acceptable, this proposal will serve as the basis for agreement with your signature affixed below.

Cleath-Harris Geologists, Inc.

Spencer J. Harris
Vice President



SCHEDULE OF FEES AND CONDITIONS

- Invoices will be submitted monthly. The invoice is due and payable upon receipt.
- In order to defray carrying charges resulting from delayed payments, simple interest at the rate of ten percent (10%) per annum (but not to exceed the maximum rate allowed by law) will be added to the unpaid balance of each invoice. The interest period shall commence 30 days after date of original invoice and shall terminate upon date of payment. Payments will be first credited to interest and then to principle. No interest charge would be added during the initial 30 day period following date of invoice.
- The fee for services will be based on current hourly rates for specific classifications and expenses. Hourly rates and expenses included in the attached schedule are reevaluated on January 1 and July 1 of each year.
- Documents including tracings, maps, and other original documents as instruments of service are and shall remain properties of the consultant except where by law or precedent these documents become public property.
- If any portion of the work is terminated by the client, then the provisions of this Schedule of Fees and Conditions in regard to compensation and payment shall apply insofar as possible to that portion of the work not terminated or abandoned. If said termination occurs prior to completion of any phase of the project, the fee for services performed during such phase shall be based on the consultant's reasonable estimate of the portion of such phase completed prior to said termination, plus a reasonable amount to reimburse consultant for termination costs.
- If either party becomes involved in litigation arising out of this contract or the performance thereof, the court in such litigation shall award reasonable costs and expenses, including attorney's fees, to the party justly entitled thereto. In awarding attorney's fees the court shall not be bound by any court fee schedule, but shall, if it is in the interest of justice to do so, award the full amount of costs, expenses, and attorney's fees paid or incurred in good faith.
- All of the terms, conditions and provisions hereof shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns, provided, however, that no assignment of the contract shall be made without written consent of the parties to the agreement.