



## Fleet Elementary School

### Community Newsletter (February 2018)

This is the February update on the status and progress of construction for the project. All monthly updates will also be posted to the project website and can be accessed via the following link:

<https://www.apsva.us/design-and-construction/new-elementary-school-jefferson-site/>

Waterproofing of the garage foundation walls is ongoing. The waterproofing material is being attached to the steel & wood structure supporting the excavation, which will remain in place serving as the formwork for the outside wall of the garage foundation when the concrete walls are poured.

Footing and foundation installation at the lowest level of the garage excavation is in full swing. Concrete construction of the 2-level underground garage will be ongoing for approximately 3 months.

In order to expedite installation of footings and foundations, a mobile crane has been set up within the excavation to transport reinforcing bar, concrete formwork, and the concrete itself to various locations within the building footprint as needed.

It was originally envisioned that a single tower crane would be erected for transportation of materials around the site, but in order to prevent any part of the crane and boom from swinging over adjacent properties, it was decided to move forward with mobile cranes instead. It is likely that another mobile crane will be brought to the site in the near future, as multiple mobile cranes will likely be required in order to serve the entire building footprint since the mobile cranes don't have the reach that a tower crane would.

Geothermal well field construction is substantially complete. Currently all wells in both the well field north of the garage excavation (under the bus loop) and in the well field south of the garage excavation are bored, circulating piping is installed, and wells are grouted.

As a reminder, each well field, north and south, consists of approximately 36 wells (for a total of 72), in 6 circuits of 12 wells each. Each vertical well will be drilled to a depth of approximately 560 feet. The wells are of a closed loop type, meaning that we do not circulate ground water within our geothermal piping. Instead, the circulating fluid within the wells is contained in piping and the piping is encased in grout. Heat exchange between the geothermal fluid contained within the pipe and the surrounding earth is through the grout. The geothermal wells are part of the geothermal heating and cooling system for the school, and will contribute greatly to the project's net-zero energy goals by reducing energy use for heating and cooling.

The ongoing activity related to the geothermal system is installation of the horizontal piping that connects the piping in the wells with the building. This work is nearing completion at the north field and has recently commenced at the south field.

Although the bus loop had previously been excavated to grade, installation of the horizontal piping for the north geothermal well field below the bus loop dictated some additional final grading be done. Once weather allows, final grading will be completed which will allow for placement of stone to stabilize the subgrade so that the loop can continue to serve as an access road for construction vehicles within the site during construction.

Construction of improvements to the west side sidewalk at S. Old Glebe Rd have just recently commenced with the setting of 2 new curb inlet structures at the northern end of the street. This work will be ongoing well into the month of March. The goal of the sidewalk improvements is to provide a clear 4-foot-wide path on the west side sidewalk from the 1<sup>st</sup> Road S. intersection to the northernmost extent of the project. Currently, there are utility poles right in the middle of the sidewalk at several locations. While the project does not have sufficient funds to move the poles out of the sidewalk (which is a very expensive operation) the county has approved installation of sidewalk nubs around the poles that will result in the

4-foot-wide clear access path. This work will require that portions of the sidewalk and parking lane on the west side of the street be closed while the work is taking place. Notice to adjacent neighbors has been provided with details of the work scope and schedule.



**ONGOING WATERPROOFING OF GARAGE FOUNDATION WALLS**



**WATERPROOFING DETAIL SHOWING EXTENSION OF WEEPHOLES THROUGH FUTURE GARAGE FOUNDATION WALLS**



**EXCAVATION FOR GARAGE FOOTINGS**



**INSTALLATION OF REINFORCING STEEL BAR (REBAR) FOR GARAGE FOOTINGS**



**INSTALLED REBAR AT FOUNDATION WALLS PRIOR TO PLACEMENT OF FORMWORK**



**POURED FOOTINGS AT LOWEST GARAGE LEVEL**



**POURED GARAGE COLUMN FOOTINGS**



**POURED GARAGE COLUMNS**



**MOBILE CRANE**



**GEOHERMAL HORIZONTAL PIPING INSTALLATION**



**NEW CURB INLET STRUCTURES FOR SOUTH OLD GLEBE ROAD SIDEWALK IMPROVEMENT  
WORK**

Please contact me with any questions you may have regarding this update.

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