



Groundwater Management Associates, Inc.
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Greenville, North Carolina 27834
Telephone: (252) 758-3310
www.gma-nc.com

June 15, 2022

Mr. Ashley B. Cox, Jr., LG
GeoEnvironmental Project Engineer
NCDOT, Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

Re: Completion of Monitoring Well Abandonment and Replacement
U6020, NC56 (East C Street), AT SR1215 (West Lyon Station Road), Butner, Granville Co, NC

Dear Mr. Cox,

Groundwater Management Associates, Inc. (GMA) completed the abandonment of an existing monitoring well (MW4) and replacement with a new well (MW4R) outside of the proposed roadwork area for NCDOT U-6020 (Figure 1). GMA completed the following tasks:

- Contact NC811 to locate public utilities in the area one week before the start of work.
- Coordinate/meet with a private utility locator to clear the proposed work area for the replacement well (MW4R) on May 18, 2022.
- Coordinate and supervise the abandonment of existing well MW4 and installation of replacement well MW4R (Figure 1) with a licensed NC well contractor on May 19, 2022.

A copy of the well abandonment record (MW4) and monitoring well construction record (MW4R) are attached for your records. GMA is concurrently submitting a copy of the well abandonment record (MW4), monitoring well construction record (MW4R), and survey data to the North Carolina Department of Environmental Quality (NCDEQ), Division of Waste Management (DWM), Underground Storage Tank (UST) Section and the responsible party for UST Incident #3839 (The Depot). We will copy NCDOT on all the correspondence.

GMA appreciates the opportunity to provide consulting services to the NCDOT. If you have any questions, please call me at (252) 758-3310.

Sincerely,
Groundwater Management Associates, Inc.



Katie T. Hackney, PG
Senior Hydrogeologist

Enclosures: 1) Map of replacement well location – (Figure 1)
2) Copy of Well Abandonment Record – MW4
3) Copy of Well Construction Record – MW4R

cc: Mr. Adlai Woodlief/Woodlief Properties – Property Owner/MW Owner
Mr. Sean Patrick – NCDEQ, DWM, UST Section - RRO
Mr. John J. Wise, PE – GMA-Apex
Mr. John L. Pilipchuk, LG, PE – NCDOT, State Geotechnical Engineer
Mr. Ethan J. Caldwell, PE, LG – NCDOT, GeoEnvironmental Supervisor









Z:\GMA\1644XX-NCDOT Geotech\164402-Depot MW replace\Letter Report\U6020_GEO_GEWELL_Letter Report_MW Abandon_Replace_Butner_GranvilleCo_202200615.docx

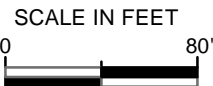
THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.

THIS PRODUCT IS FOR REFERENCE AND ILLUSTRATION PURPOSES ONLY AND IS ONLY AS ACCURATE AS THE SOURCE DATA FROM WHICH IT WAS COMPILED.



LEGEND

-  ABANDONED_WELLS
-  MONITORING_WELLS
-  SITE
-  INACTIVE_WSW
-  ACTIVE_WSW_POTABLE
-  ROADS
-  FORMER_UNDERGROUND_STORAGE_TANKS
-  PARCELS



File: DRAWINGS/1644XX/164402/
FINAL MW_20220615

SITE MAP

Date: 06/15/2022

Project No. 164402

NCDOT U6020, BUTNER, GRANVILLE CO., NC

Figure 1

WELL ABANDONMENT RECORD

1. Well Contractor Information:

Gerald R. Eister

Well Contractor Name (or well owner personally abandoning well on his/her property)

2394-A

NC Well Contractor Certification Number

Bridger Drilling Enterprises, Inc.

Company Name

2. Well Construction Permit #:

List all applicable well construction permits (i.e. UIC, County, State, Variance, etc.) if known

3. Well use (check well use):

Water Supply Well:

- | | |
|--|--|
| <input type="checkbox"/> Agricultural | <input type="checkbox"/> Municipal/Public |
| <input type="checkbox"/> Geothermal (Heating/Cooling Supply) | <input type="checkbox"/> Residential Water Supply (single) |
| <input type="checkbox"/> Industrial/Commercial | <input type="checkbox"/> Residential Water Supply (shared) |
| <input type="checkbox"/> Irrigation | |

Non-Water Supply Well:

- Monitoring Recovery

Injection Well:

- | | |
|--|---|
| <input type="checkbox"/> Aquifer Recharge | <input type="checkbox"/> Groundwater Remediation |
| <input type="checkbox"/> Aquifer Storage and Recovery | <input type="checkbox"/> Salinity Barrier |
| <input type="checkbox"/> Aquifer Test | <input type="checkbox"/> Stormwater Drainage |
| <input type="checkbox"/> Experimental Technology | <input type="checkbox"/> Subsidence Control |
| <input type="checkbox"/> Geothermal (Closed Loop) | <input type="checkbox"/> Tracer |
| <input type="checkbox"/> Geothermal (Heating/Cooling Return) | <input type="checkbox"/> Other (explain under 7g) |

4. Date well(s) abandoned: 5/19/2022

5a. Well location:

A.S Woodlief

Facility/Owner Name

Facility ID# (if applicable)

1509 NC Hwy 56 Butner, NC 27509

Physical Address, City, and Zip

Granville

County

Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:

(if well field, one lat/long is sufficient)

36.14990532 N 78.72681745 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

Attach well construction record(s) if available. For multiple injection or non-water supply wells ONLY with the same construction/abandonment, you can submit one form.

6a. Well ID#: MW4

6b. Total well depth: 18 (ft.)

6c. Borehole diameter: _____ (in.)

6d. Water level below ground surface: 8 (ft.)

6e. Outer casing length (if known): _____ (ft.)

6f. Inner casing/tubing length (if known): 3.75 (ft.)

6g. Screen length (if known): 13.15 (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. For Geoprobe/DPT or Closed-Loop Geothermal Wells having the same well construction/depth, only 1 GW-30 is needed. Indicate TOTAL NUMBER of wells abandoned: _____

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: chlorine powder

7d. Amount of disinfectant used: 2lbs.

7e. Sealing materials used (check all that apply):

- | | |
|---|---|
| <input checked="" type="checkbox"/> Neat Cement Grout | <input type="checkbox"/> Bentonite Chips or Pellets |
| <input type="checkbox"/> Sand Cement Grout | <input type="checkbox"/> Dry Clay |
| <input type="checkbox"/> Concrete Grout | <input type="checkbox"/> Drill Cuttings |
| <input type="checkbox"/> Specialty Grout | <input type="checkbox"/> Gravel |
| <input checked="" type="checkbox"/> Bentonite Slurry | <input type="checkbox"/> Other (explain under 7g) |

7f. For each material selected above, provide a amount of materials used:

94lbs. grout

20lbs. bentonite

7g. Provide a brief description of the abandonment procedure:

tremie bottom to surface

8. Certification:

Gerald Eister
Signature of Certified Well Contractor or Well Owner

5/24/2022

Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:

You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

WELL CONSTRUCTION RECORD (GW-1)

1. Well Contractor Information:

Well Contractor Name _____

NC Well Contractor Certification Number _____

Company Name _____

2. Well Construction Permit #: _____
 List all applicable well construction permits (i.e. UIC, County, State, Variance, etc.)

3. Well Use (check well use):

Water Supply Well:

Agricultural Municipal/Public

Geothermal (Heating/Cooling Supply) Residential Water Supply (single)

Industrial/Commercial Residential Water Supply (shared)

Irrigation Wells > 100,000 GPD

Non-Water Supply Well:

Monitoring Recovery

Injection Well:

Aquifer Recharge Groundwater Remediation

Aquifer Storage and Recovery Salinity Barrier

Aquifer Test Stormwater Drainage

Experimental Technology Subsidence Control

Geothermal (Closed Loop) Tracer

Geothermal (Heating/Cooling Return) Other (explain under #21 Remarks)

4. Date Well(s) Completed: _____ **Well ID#** _____

5a. Well Location:

Facility/Owner Name _____ Facility ID# (if applicable) _____

Physical Address, City, and Zip _____

County _____ Parcel Identification No. (PIN) _____

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
 (if well field, one lat/long is sufficient)

_____ N _____ W

6. Is(are) the well(s): Permanent or Temporary

7. Is this a repair to an existing well: Yes or No
 If this is a repair, fill out known well construction information and explain the nature of the repair under #21 remarks section or on the back of this form.

8. For Geoprobe/DPT or Closed-Loop Geothermal Wells having the same construction, only 1 GW-1 is needed. Indicate TOTAL NUMBER of wells drilled: _____

9. Total well depth below land surface: _____ (ft.)
 For multiple wells list all depths if different (example- 3@200' and 2@100')

10. Static water level below top of casing: _____ (ft.)
 If water level is above casing, use "+"

11. Borehole diameter: _____ (in.)

12. Well construction method: _____
 (i.e. auger, rotary, cable, direct push, etc.)

FOR WATER SUPPLY WELLS ONLY:

13a. Yield (gpm) _____ **Method of test:** _____

13b. Disinfection type: _____ **Amount:** _____

For Internal Use Only:

14. WATER ZONES					
FROM	TO	DESCRIPTION			
ft.	ft.				
ft.	ft.				
15. OUTER CASING (for multi-cased wells) OR LINER (if applicable)					
FROM	TO	DIAMETER	THICKNESS	MATERIAL	
ft.	ft.	in.			
ft.	ft.	in.			
16. INNER CASING OR TUBING (geothermal closed-loop)					
FROM	TO	DIAMETER	THICKNESS	MATERIAL	
ft.	ft.	in.			
ft.	ft.	in.			
17. SCREEN					
FROM	TO	DIAMETER	SLOT SIZE	THICKNESS	MATERIAL
ft.	ft.	in.			
ft.	ft.	in.			
18. GROUT					
FROM	TO	MATERIAL	EMPLACEMENT METHOD & AMOUNT		
ft.	ft.				
ft.	ft.				
ft.	ft.				
19. SAND/GRAVEL PACK (if applicable)					
FROM	TO	MATERIAL	EMPLACEMENT METHOD		
ft.	ft.				
ft.	ft.				
20. DRILLING LOG (attach additional sheets if necessary)					
FROM	TO	DESCRIPTION (color, hardness, soil/rock type, grain size, etc.)			
ft.	ft.				
ft.	ft.				
ft.	ft.				
ft.	ft.				
ft.	ft.				
ft.	ft.				
21. REMARKS					

22. Certification:

Signature of Certified Well Contractor: Gerald Easter Date: _____

By signing this form, I hereby certify that the well(s) was (were) constructed in accordance with 15A NCAC 02C .0100 or 15A NCAC 02C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

23. Site diagram or additional well details:
 You may use the back of this page to provide additional well construction info (add 'See Over' in Remarks Box). You may also attach additional pages if necessary.

24. SUBMITTAL INSTRUCTIONS
Submit this GW-1 within 30 days of well completion per the following:

24a. For All Wells: Original form to Division of Water Resources (DWR), Information Processing Unit, 1617 MSC, Raleigh, NC 27699-1617

24b. For Injection Wells: Copy to DWR, Underground Injection Control (IUC) Program, 1636 MSC, Raleigh, NC 27699-1636

24c. For Water Supply and Open-Loop Geothermal Return Wells: Copy to the county environmental health department of the county where installed

24d. For Water Wells producing over 100,000 GPD: Copy to DWR, CCPCUA Permit Program, 1611 MSC, Raleigh, NC 27699-1611