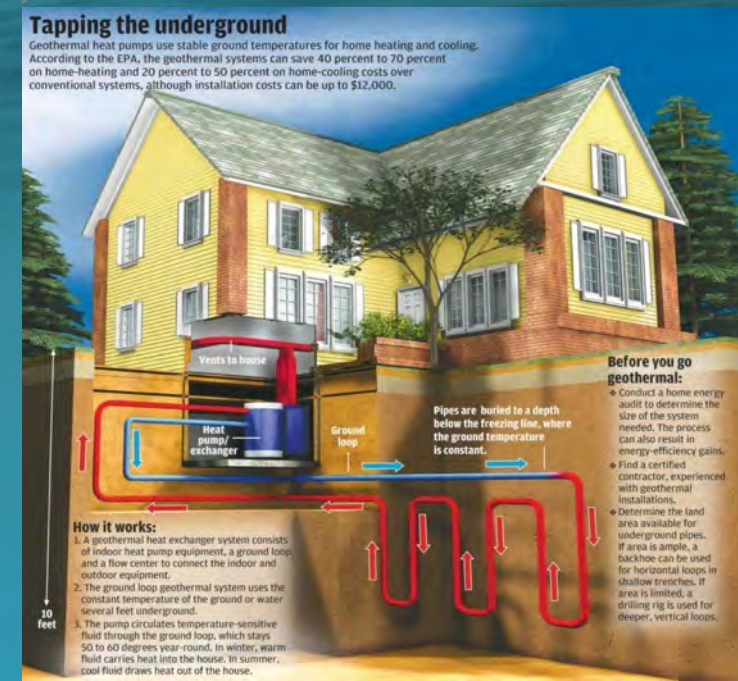


Kane County Health Department Environmental Health Programs

Permitting of Closed Loop Wells

Erin Rauscher, MPH, LEHP
Environmental Health Supervisor
Well & Septic Program Manager

March 21, 2023



Kane County Health Department Environmental Health Services

- Well and Septic System Program (permitting, complaints, inspections)
- Food Program (plan reviews, routine inspections, complaint investigations)
- Non-Community Well Program (sanitary surveys, inspections, sampling)
- Lead Program (inspections, investigations, prevention)
- Tanning Facilities (inspections)
- Vector Program (West Nile Virus Testing & Prevention, Surveillance, tick identification)
- Daycares (DCFS Environmental Surveys)
- Property Maintenance (Open Burning regulation)
- Review Zoning Petitions for Zoning Board of Appeals

KCHD Environmental Health Program

Private Onsite Sewage Disposal & Private Well Programs

- In late November, 2019, the Kane County Health Department (KCHD) successfully achieved national reaccreditation through the Public Health Accreditation Board (PHAB), extending its accreditation status for another five years.
- KCHD follows IDPH Well Code section on closed loop wells and local ordinance.
- Over 60% of Kane County is served by private water wells.
- Numerous communities are considered “unsewered” meaning they do not have access to a public sewer system.

Current & Past Closed Loop Well Projects

- Currently in 2023 have one on going closed loop well project located at Dundee Middle School in West Dundee, IL
- In 2022, we issued two closed loop well permits. One permit was for a church and another for a private residence.
- Serosun Farms Project
 - unincorporated Hampshire:
 - Luxury community based on sustainable practices
 - Homes built with geothermal wells
 - Equestrian facilities and local farming on site



What is Kane County's Role in Geothermal?

- 1) Permit application process - What is required in the submission review to KCHD?
- 2) KCHD review – What are we looking for on the plan?
Residential and commercial examples
unincorporated vs. incorporated
- 3) Inspection visit and authority of the health department
- 4) What parts do we inspect? Post installation record requirements

Kane County Permitting Process

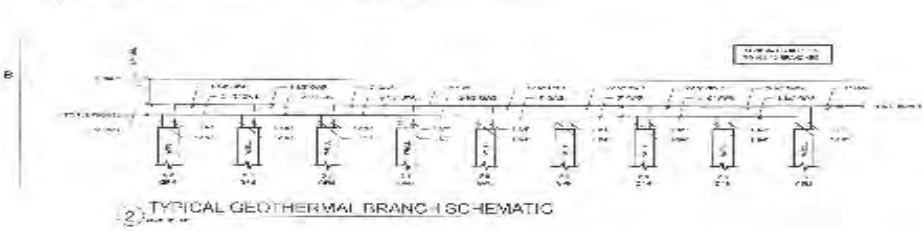
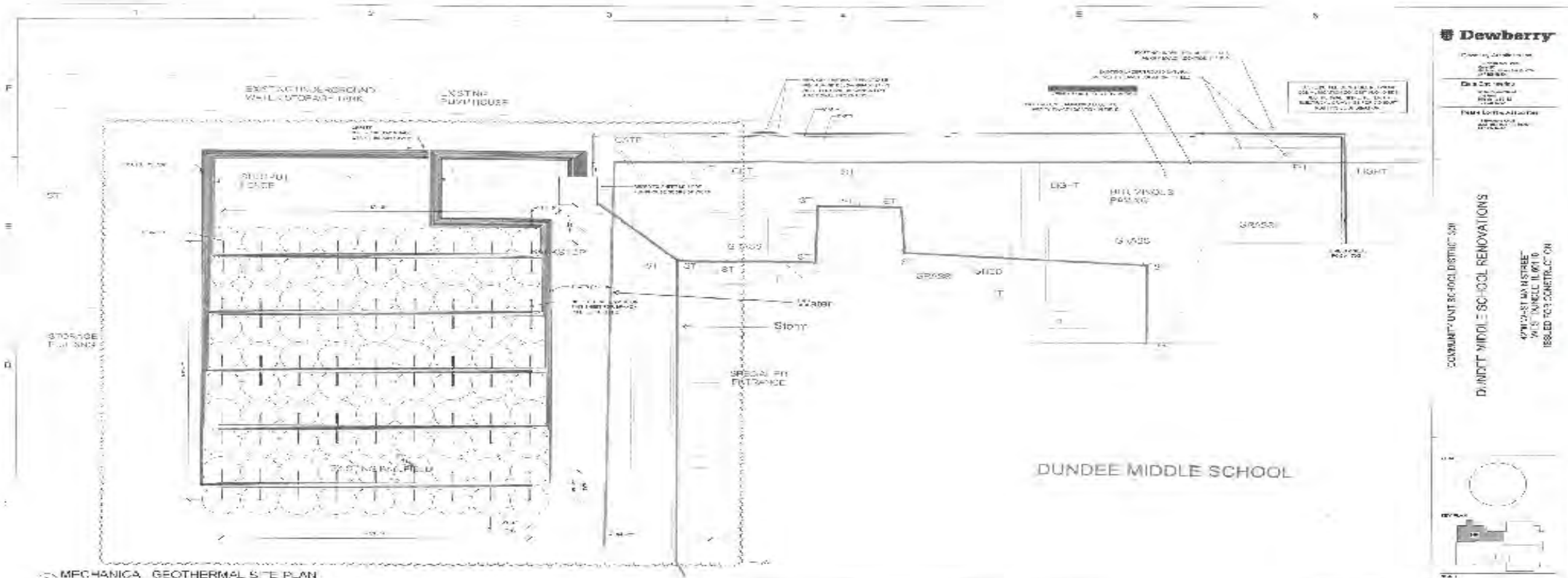
- Important to have complete permit application requirements.
 - 1.) Fully filled out permit application.
 - 2.) Site plan diagram showing all setbacks, borehole locations, existing wells, existing septic systems, public utilities, etc..
 - 3.) Payment made to Kane County Health Department –we issue the permits.

Construct, Deepen or Modify Geothermal Wells (1st ten) \$100.00

Additional Geothermal Wells \$10.00 Each

Inspection Fee (Paid at time of permit fee) \$180.00

Diagram - Commercial



- ### GENERAL GEOTHERMAL NOTES
1. ALWAYS USE QUALITY DRILLING SERVICES WITH PROPER OPERATIONS.
 2. VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE ANY DRILLING OPERATIONS.
 3. USE QUALITY DRILLING FLUIDS AND MUDS.
 4. MAINTAIN PROPER RECORDS OF ALL DRILLING OPERATIONS.
 5. VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE ANY DRILLING OPERATIONS.
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 10. VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE ANY DRILLING OPERATIONS.

- ### GEOTHERMAL DESIGN CRITERIA
- DESIGN:**
- USE QUALITY DRILLING SERVICES WITH PROPER OPERATIONS.
 - VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE ANY DRILLING OPERATIONS.
 - VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE ANY DRILLING OPERATIONS.
 - VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE ANY DRILLING OPERATIONS.
- INSTALL:**
- VERIFY THE LOCATION OF ALL EXISTING UTILITIES BEFORE ANY DRILLING OPERATIONS.
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Dewberry

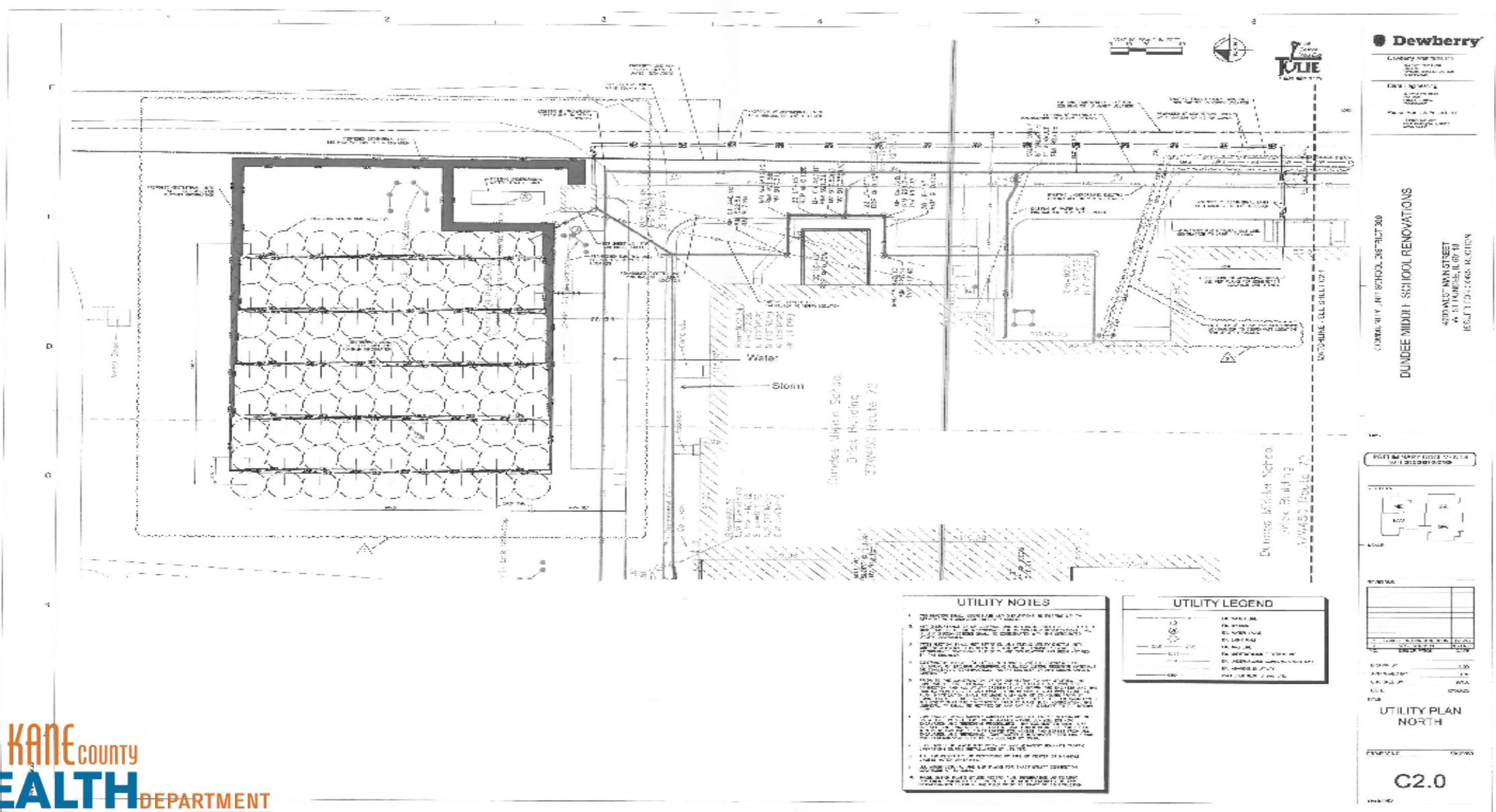
10000 10th Avenue
 Suite 100
 Denver, CO 80202
 Phone: (303) 733-1000
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 www.dewberry.com

PROJECT: COMMUNITY UNIT SCHOOL DISTRICT 501
 DUNDIE MIDDLE SCHOOL RENOVATIONS
 APPROXIMATE SQUARE FEET: 20,000
 ISSUED FOR CONSTRUCTION

MECHANICAL SITE PLAN
 M1.0

0084-0072-23

Diagram- Commercial



Kane County Authority

- We are the only agency in Kane County authorized to give the required Illinois Dept. of Public Health approval for a closed loop well system's construction, modification or sealing.
- During construction of the closed loop well we primarily communicate with the driller to schedule site inspections and timeframes.
- What we inspect at the site (not always all in one day or same day):
 - grouting
 - drilling
 - materials in compliance
- Policy of health department is to inspect/visit every job site.

After the well is completed

- We provide an inspection report to the well driller.
- The licensed contractor is required to make an official drill log and submit it to KCHD.
- KCHD submits all paperwork to the Illinois State Water Survey after the well is completed (permit, inspection reports, drill log, site plan).
- Records are kept on file, KCHD well records go back to 1992. Department's intention is to keep all records.

Collaboration with Municipalities

- We want to know going forward what type of improvements we can make in our collaborative partnerships ~ what information do you need?
- When in doubt if a permit has been issued or not, contact the health dept.
- If there isn't a permit from KCHD, please contact us and issue stop order to contractor or company.
- We confirm with local municipality and request in writing no objection to issuing closed loop well permits. Your approval matters!!
- When we give an approval do you want to know? Do you need copies of the permits? Request to accompany on a site visit?

Current Site 2023 Dundee Middle School







Kane County contact information

- Well Program (permits, inspection, drill starts):
 - Erin Rauscher (847) 888 – 6450
 - Rauschererin@co.kane.il.us

Kane County Health Dept.
1750 Grandstand Place
Elgin, IL 60123
630-208-3801