

**GUNNISON COUNTY ENVIRONMENTAL HEALTH BOARD
AGENDA: September 3, 2009**

**Planning Commission Meeting Room, Blackstock Government Center,
Gunnison County 221 N. Wisconsin, Second floor.
All meetings are open to the public.**

Anyone needing special accommodations please contact the Environmental Health Office prior to the meeting.

1:15 p.m. Call to order; determine quorum;

1:20 p.m. Approval of minutes;

1:30 p.m. Unscheduled Citizens;

1:45 p.m. Public Hearing for Eric and Casey Krawczyk, Lot 35 Panoview Park Subdivision, 324 Crocus Road for a denial of a request for amendment to their current Individual Sewage Disposal System (ISDS) Permit. The request for amendment was denied because the proposed system is a new technology type that must be approved through a public hearing process (ISDS Regulation 10-101).

3:45 p.m. Scheduling and planning for next meetings;

4:00 p.m. Adjourn.

GUNNISON COUNTY ENVIRONMENTAL HEALTH BOARD

Meeting Minutes
September 03, 2009

The Gunnison County Environmental Health Board conducted a meeting in the Commissioners' Meeting Room in the Blackstocks Government Center.

Present Were:

Lucinda Lull, Chairperson	Steve Glazer, Vice Chairperson
Cory Bryndal, Board Member	Eddy Balch, Board Member
Richard Stenson, E. H. Official	Crystal Lambert, E.H. Staff
Michelle Spain, Sec. for the Board	

Absent: Larry Parachini, Board Member

01:23p.m. Call to by Lull, a quorum was determined. Eddy Balch introduced by Lull and his qualifications were discussed by Stenson. Balch explained his recent experience with Source Water Protection Consulting. We have 5 (Five) board members at this time. 2 alternates need to be found if possible.

01:20 p.m. Review of minutes for the May 21, 2009 meeting. Motion to approve the minutes with corrections by Bryndal, 2nd Glazer as corrected. Passed. Balch abstained.

Glazer requested an update of the Movie Cabin in Irwin owned by Scarp Ridge LLC.

Stenson referred to his memo dated 08-24-2009.

Environmental Health Memorandum

Date: 8-24-09

To: Rich Wojdakowski, Joanne Williams, David Baumgarten

From: Richard Stenson, E.H. Official

Re: Lack of Sanitation Permits/approvals for the "Movie Cabin" (Scarp Ridge LLC, BP-2008-098) near the Irwin Lodge

Copies: Jocelyn Mullen, PE

I understand that there have been installations of water and wastewater components at the "Movie Cabin" near the Irwin Lodge. The Gunnison County Environmental Health Office believes the development is out of compliance on the following, (and possibly other), issues:

1. There has been no permit issued from the County or from the Water Quality Control Division for a grey water septic system. (If the "Cabin" is associated with the Irwin Lodge, which my office believes it is, wastewater would be regulated by the Water Quality Control Division of the Colorado Department of Public Health and Environment, but still subject to the County standards of the Crested Butte Watershed ISDS district.)

It is my understanding that an unapproved system has been installed **inside** the "Cabin", and near their potable water supply. Such an installation would not be approved if reviewed in accordance with Gunnison County ISDS Regulations. (ISDS Regulations 3-101, 3-102, 3-104, 9-101, 9-102).

2. An incinerator toilet has been installed inside a small structure adjacent to the “Cabin”. My office had communicated with the owners and the Water Quality Control Division District Engineer, to allow the use of a composting or incinerator toilet to be used in the “Movie Cabin”, and not installed in an associated out building. (3-101, 3-123).

3. Wastewater disposal permitting at this site would be reviewed under the designated Crested Butte Watershed ISDS district. Construction and installation of systems should be in accordance with Part 19 of the Regulations.

4. The incinerator toilet, the grey water system and the potable water supply have apparently been installed for a Land Use that was not understood by my office. I had understood that the composting toilet/incinerator toilet was to be utilized only for the small crew working at the location, where there was no kitchen or no plans for commercial use. I have been given reason to believe that the system and the unapproved gray water system have now been intended and installed for a commercial use. I question whether the County Land Use Planning has approved that commercial use, especially when it is apparent that no discussion has occurred between the Environmental Health Office and the Land Use Planning Office regarding the commercial use. (3-112).

My office requests that application and review of the sanitation for the intended and designed use of the “Movie Cabin” occur prior to any further building or land use at the site.

Please contact my office should you have questions.

Richard Stenson, Environmental Health Official

A permit was issued for an incinerator toilet but an inspection was never requested. A grey water system had been installed without a permit. Stenson has requested an inspection from his office.

Glazer has inspected the Movie Cabin from the outside and reported that it had a newly installed kitchen. Glazer requested an update on the status of this violation and action being taken.

Bryndal inquired why a building permit was issued. The occupancy of the structure was discussed. The historic and current use of this parcel was discussed.

Stenson explained that the course of action would follow process and procedure of the current regulations. Notice of violation could be given as the next step. Cease and Desist on Irwin Lodge was discussed. Cease and Desist on Billy Laird was discussed.

Glazer inquired who the Enforcement Team was comprised of. Stenson explained the offices of the Department of Planning.

Glazer requested that Stenson continue pursuing the investigation.

Balch asked if the Town of Crested Butte had approved a permit for the grey water system.

Bryndal asked if the lots in this parcel were clustered.

Glazer requested that the Forest Service be notified to ensure compliance with their regulations.

Stenson announced that the survey regarding new State of Colorado ISDS Regulations was nearing the close of the comment period and explained that he will share the response analysis with the Board once he receives it.

Stenson stated that the new state ISDS specialist, Barbara Dallemund, P.E., is a full time employee of the State.

01:30 p.m. Unscheduled Citizens:

02:07 p.m. **Public Hearing for Eric and Casey Krawczyk, Lot 35 Panoview Park Subdivision, 324 Crocus Road for a denial of a request for amendment to their current Individual Sewage Disposal System (ISDS) Permit. The request for amendment was denied because the proposed system is a new technology type that must be approved through a public hearing process (ISDS Regulation 10-101).**

Lull introduced the request for a public hearing.

The project engineer, Eric Krch, joined the meeting by phone.

Stenson stated that the public hearing notice was properly posted.

Starkebaum entered the meeting in the audience.

Stenson introduced the applicants to the board.

Special review of new technology is the issue of this application **GUNNISON COUNTY ENVIRONMENTAL HEALTH OFFICE REPORT**

TO: Environmental Health Board

PREPARED BY: Richard Stenson, Environmental Health Director

DATE: August 31, 2009

APPLICANTS: **Eric and Casey Krawczyk**

STATUS of APPLICANT:

- Work Session date: _____
- Public hearing date: September 3, 2009
- Action by Board date: _____

PROPERTY LOCATION: 324 Crocus Road, Lot 35 Panoview Park Subdivision

SPECIAL REVIEW ACTION REQUESTED: New Technology Public Hearing

- ATTACHMENTS:**
1. ISDS Permit 2008-079
 2. ISDS Application 2008-079;
 3. Experimental Designation Request from Eric Krch, P.E. Buckhorn Geotech—July 2, 2009;
 4. Denial of Application dated August 10, 2009;
 5. Application for Special Review-New Technology received August 13, 2009;
 6. Notice of Public Hearing and Agenda for September 3, 2009.

SPECIAL INFORMATION: Gunnison County Individual Sewage Disposal Regulations section 3-101-13a ; Guidelines on ISDS, Colorado State Board of Health; Colorado Revised Statute, (CRS), 25-10.

COMMENTS: The applicants wish to amend their septic permit on their lot at 324 Crocus Way. They have not yet installed the permitted septic system.

The applicants plan to use the greywater re-use system inside and outside the dwelling and would like to install an engineered wetland ISDS. The systems are considered as “New Technology” by the County and State.

The following observations were made by the Gunnison County Environmental Health Official:

1. The application is for an amendment to their exiting ISDS permit.
2. The Gunnison County Environmental Health Department hand delivered, a formal written denial of the application; (3-126)
3. An application was filed for a special review within thirty days of the receipt of the denial letter; (3-127.1)
4. The applicants have stated that their request for variance is warranted by New Technology; (10-101)
5. They have not yet demonstrated that a special review approval would not result in substantial variance from the Regulations.
6. It has not yet been demonstrated that the system would not be a nuisance or injurious to public health and that no substantial injury would result from the granting of the special review request. (3-127.2.e and f)
7. The County accomplished required and proper legal notifications of the public hearing. (3-127.3)

The Environmental Health Staff, after review of the pertinent information, considers this application appropriate for review as “New Technology”, by the Gunnison County Environmental Health Board.

After review of the application the Environmental Health Director suggests that the Environmental Health Board review the information and hear the testimony during the scheduled public hearing. It is suggested that the EH Board, after hearing testimony, motion for a continuation of the hearing. The scheduling for the continuation should be done only after the applicants have provided a design from the engineer and a monitoring and sampling program, approved by the County.

The applicants wish to use and operate a grey water treatment system inside their proposed house for reuse as toilet supply water and for the watering of plants both inside and outside of the house. Another potential component of the applicant's request is a treatment system for the reuse of both grey and black water which would be operated outside of the house.

It was established that the County was the jurisdictional regulator on this request and not the State.

Public comments were requested from the board. Other comments

Richard,

I am concerned about Earthship waste disposal systems that treat black and grey water by running the effluent through plant root systems to clean the water. This involves lots of evaporative transpiration and evaporation in a closed residence, which will in my professional opinion, and in this extreme environment, cause indoor air quality problems from moisture buildup in the building envelope.

I have seen what happens to a home from excessive buildup of moisture caused by infiltration of excessive water vapor into the framing of homes during our long and cold winter months, when moisture tries to escape the envelope and reach the dry cold air on the exterior. When this moisture migration occurs through the wall or roof envelope, it hits the dew point and condenses and freezes in our climate. Over a period of time this constant condensation of house moisture builds up and creates a perfect environment for mold, mildew and fungus growth. This growth of these organism can create air quality problems for the structure's inhabitants, and over time, cause structural failure as these organisms consume the cellulose in the framing, sheathing and roof decking. I have yet to see a vapor barrier system that will keep excessive residential humidity out of the insulation cavities.

In the homes I build, which tend to be very tight, because I am an Energy Star Partner builder, I try to keep residential moisture to a minimum, through good moisture management and mechanical systems such as heat recovery ventilation

(HRV) which helps to remove stale moisture laden air and replace it with clean dry air from outside the residence with a minimum of heat loss. I do not know of an effective and efficient HRV system that will remove the amounts of winter moisture that this Earthship waste treatment system will create within the residence.

I have repeatedly and respectfully stressed to the Krawczyks' my concerns about moisture buildup in the structure of their future Earthship home. I have told them that in a milder climate, where the wall and roof insulation cavities have an increased capacity to dry during the winter months, air quality and structural problems might not occur. But in this extreme climate, they are most likely to occur.

Please pass this information on to your Environmental Health Board for consideration at today's hearing on the Krawczyk's experimental waste disposal system.

Sincerely,

**Steven C. Schechter
Heron Construction
Mountain Solar Design
981 County Rd. 20
Gunnison, CO 81230**

Bryndal asked there were any other systems similar to the proposed system in the County. Stenson stated that there are none in the County.

The purpose of a conventional septic system was discussed. It was established that, fundamentally, a conventional system was a “green system” if maintained and used correctly.

Glazer asked if there were any comments from adjoining neighbors. Stenson stated that none were received.

The applicants began presenting their proposed system. Krawczyk stated the outline of the presentation and explained that their goal is to apply water conservation and enrichment. They will maintain an operational conventional septic system as a backup. Conceptual designs were presented through visual media. The Site plan was presented and reviewed. Components of the system, living areas, water sources, and treatment areas were indicated and discussed. Set backs discussed. Details on treatment and holding tank locations and water flow routes were indicated and discussed.

Glazer inquired about the potential for plugging of the filter and system function during power interruptions. Eric Krch, P.E., responded that the filter will be a biopack of moss material and then addressed how the system would function and recover during and after

a power outage. Glazer asked how the system would function and recover during periods of inactivity.

Krch responded this could system could be set to operate with timers and a potable water supply could be used to feed the system.

Balch inquired about the cross section calculations. Plumbing schematics were discussed. The details of the planter structures were discussed.

Glazer inquired about how the system will drain. It was explained that the system will be designed to utilize the force of gravity.

Balch inquired about the possibility of grease entering the digester component. Details of plumbing ensued.

Glazer asked what the proposed water sources for the property are. It was explained that the applicants plan to harvest atmospheric water in addition to a well.

The digester component was introduced and discussed.

Bryndal inquired how much of a reduction in water usage the applicants anticipate with their proposed system. It was responded that a 75-80% reduction was expected. A 20 foot Set back from the proposed residence to the black water treatment area and leach field will meet met. The well location was indicated on the site plan. Harvested water coming from the roof will be treated through a 4 chamber filter system for potability.

Balch, Glazer, Stenson an opinion that potable water requires further treatment beyond the proposed 4 chamber filter system. Additional ultraviolet treatment was mentioned. Krawczyk referred the board to Equaris.com which presents and explains contained treatment systems. Exterior subsurface flow treatment was discussed.

Glazer inquired about the possibility of having an exterior treatment garden. The applicant responded that due to the local climatic constraints an exterior treatment garden was unrealistic.

Glazer inquired about the possibility of gases escaping from the soil. Krch responded that the top soil layer should mitigate this but he will investigate it further to be certain. Radon mitigation will be achieved through the proposed ventilation skylights.

Stenson stressed that any permits issued will be for the house, if the owners ever move, future owners must be capable of understanding the system and operating it.

The potential for possibly non-treatable materials getting into the system was discussed.

Photo examples of Earthship homes in other parts of the country were presented. A possible criteria and schedule for testing after plants are grown was discussed. Krch will provide direction as to which plants need to be initially installed for rapid growth.

Bryndal asked about how the potentially high humidity level inside the residence will be handled. The skylights and vents were pointed out and discussed. A complete operation and maintenance manual for owners was discussed.

Break requested at 03:45 p.m.

Meeting resumed 04:00 p. m.

Protocol discussed to continue this meeting.

Stenson asked for an explanation of where and how gas will escape from the digester. Venting pipes will be reviewed for standard plumbing codes. Septic tanks and set backs from foundations were discussed. Subsurface flow of wetlands was discussed. State regulations will be followed in the design. A 20 foot set back was reiterated as needing to be met on the final design.

Glazer inquired if the engineer had knowledge of expected nitrogen and phosphate levels produced with this system and if it was possible to monitor the proposed system once it is operational.

Stenson explained, after conferring with State, that compliance Article 9 will be reviewed. The expense of testing required to comply with Article 9 was discussed. Krch will review.

Glazer requested to know the State of Colorado comments on this proposal. Page 42 addresses constructive wetlands out doors.

Glazer requested that site specific engineered system plans be presented to the board.

Possible testing protocols were discussed by the engineer whom he will review with the State.

Continuation of meeting will be November 19th, 1:15 p.m. 2.50 hours for this hearing.

Close the public hearing at this time. Motion by Glazer , 2nd by Balch. Approved.

Lull would like all further information for the continuation packet from the applicant and state and engineer.

Stenson has another public hearing, and a meeting on the ISDS regs. Irwin Lodge property for the 1st of October 1:15 p.m. Discussion of the ISDS regulations by Glazer. Other changes will be discussed.

04:55pm. Motion to adjourn by Glazer 2nd Bryndal. passed