The Site:

-Mountain Grove is a rural setting about halfway between Roseburg and Grant’s Pass. Our site is located in the southern half of the 400 acre property which includes open fields of different character, a stream that has seen a great rise in the population of steelhead and salmon, and many acres of sustainably managed forest.

-The siting of this project allows most of the upper meadow (north of the building site) to be used for agricultural uses. It still receives ample daylight and provides easy access to several other parts of the site, while remaining relatively secluded. Being in a somewhat wet area can be adapted to with the design of a bioswale that would divert water from the building site, as well as serve as a design feature of the common open spaces.

The Program:

-This project proposes that the site be developed as a combined housing and educational facility. The purpose would be to conduct various types of research into the idea of living sustainably. Permanent residents would be caretakers for the land and grow much of their own food. They also be educators to those seeking internships to learn more about what it means to live sustainably. Areas of research and study could include, but are not limited to sustainable forestry, wildlife restoration, permaculture, organic farming, and building sciences and alternative construction. This type of program would not only serve the increasing number of people interested in these topics, but is itself, self-sustaining, by providing food for residents and possibly for sale and by the income received by those seeking this education. Aprovecho near Cottage Grove, OR is a great precedent for this type of program, where residents grow their own food and educate interns while conducting research that is used world-wide.

Homegrown timber will reduce building costs, and can serve as an example of sustainable forestry for the surrounding timber land.
Site Planning

The site offered many challenges. One of the primary challenges was the fact that southern exposure for daylighting and possible passive heating is desired, but the contours run North-South for the most part. At the same time I tried to design a site and building type that would fit in the existing landscape. The solution for my scheme was to have "L" shaped building pairs that interlocked in a way that created semi-public/private courtyards as transition zones, but also allowed every unit to receive southern lighting, as well as to have views to the north and/or west. The relatively tight fit of these two "L" shapes also allowed the buildings to be positioned close to each other so they could fit generally on the same contour, with little land-shifting required.

Views:
While there are beautiful views in all directions, the most, views to the north were preserved because the hills to the south and west will be clear cut sometime in the near future. The permanent residences were positioned here because of the fact that long-term residents will have a stronger connection to the land that they will be working.

Forest Edge:
I chose the forest edge as a sort of theme for the site. The play between light and shadow, open and closed and forest and field were very interesting in walking the property which is made up of forest and various sized open spaces. I tried to recreate this edge with the housing units on the north creating an edge for the site, with views between the pairs of buildings from the main common space. At these points benches or other features such as collection ponds for a bioswale could be located.

Common Space:
Even with a cohousing type of development, people require private spaces as well as shared spaces, and these at different scales. I attempted to provide a large common space, with small pairs or groups of buildings having semi-public space off of which are the entrances to the buildings, leading to more private areas.

Water Management:
Being a wet area of the property, water management will be a key issue. The water from the slopes to the east and southeast could be managed by a bioswale that could also function as a design feature to the common space.
A Perspective between a housing pair to the north. this would be a typical viewpoint from a seating area around a collection pond of the bioswale for example

An Axonometric of a building pair showing the shared courtyard as well as how the bioswale and common spaces interact with the edge created by the housing
Wall Construction Detail
- Rammed Earth Foundation (could be replaced with high fly ash concrete if soil tests are not sufficiently strong)
- Straw Bale first floor with modified post-and-beam construction, utilizes agricultural waste product and uses less heavy timber than traditional post and beam, target insulation values of R-30-40
- Double frame upper wall provides a super insulated wall, while using smaller dimension timber from the sustainably harvested forest on site

Unit Diagram
The first floor of all units are all accessible. Living areas retain views to the west and north while receiving light from the south through windows and/or clerestory windows above mezzanines. Bathrooms and kitchens share a utility wall. The composting toilets have an electronic (solar powered) collector in a space within the stem wall foundation, with access from the outside easily accessed due to the slope of the site.