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GOOD PRACTICE SUSTAINABLE BUILDINGS

KUNGSLJUSET – NEW CARE DWELLINGS IN BORLÄNGE

Region / local area considered: Dalarna	Good practice submitted by Åke Persson, County Administrative Board												
<p>1) Short description of the project</p> <p>Kungsljuset – new care dwellings in Borlänge</p> <p>The Municipality of Borlänge is currently building new care housing in the Kvarnsveden area.</p> <p>The building is horseshoe-shaped with its central part at the entrance, which will house a catering kitchen and facilities for personnel and administrative staff. There are also plans for an inviting spa and relaxation area for residents. The living areas are housed in the wings and the floor above the entrance section. There are five departments with 8-10 apartments in each. In each department there are spaces for socializing and small kitchens. One apartment per department is designed for a couple living together. In total there will be 46 apartments with capacity for 51 residents. The apartments are 31 square metres for one person and 52 square metres for a couple. The protected inner courtyard allows residents to enjoy being outdoors in a safe and pleasant environment. The apartments in the facility will be allocated on the basis of care needs by Borlänge Municipality, not by way of Tunabyggen's normal waiting list.</p> <p>Floors: 2</p> <p>Floorspace :</p> <table data-bbox="263 1758 1197 1899"> <tr> <td>Dwellings:</td> <td>1651</td> <td></td> </tr> <tr> <td>Other premises</td> <td>701</td> <td>AC and other technical areas not included</td> </tr> <tr> <td>Communal areas:</td> <td>1286</td> <td></td> </tr> <tr> <td>Total :</td> <td>3627 sqm</td> <td></td> </tr> </table> <p>Year of construction: 2012</p>		Dwellings:	1651		Other premises	701	AC and other technical areas not included	Communal areas:	1286		Total :	3627 sqm	
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Energy consumption: Theoretical assessment is 61 kWh/m² added energy per year. This includes solar panels on the roof that contribute to the hot water requirement.

Contractor: Skanska

2) Content/background/targets

In its care plan, Borlänge Municipality has formulated how housing should be developed over time. On the basis of this plan, the municipal property company Tunabyggen was commissioned to produce new sheltered housing. The municipality's energy and climate strategy contains requirements for energy efficiency in new constructions at a maximum of 80 kWh/m², which required Tunabyggen's technical staff to plan for a low-energy building.

During the procurement process, consultants and contractors were asked to describe certain functional requirements in their bids. Energy and airtightness requirements are examples of such functional requirements. The tenderer's energy balance sheet shows what R-values etc. the construction must meet in order to fulfil energy requirements.

3) Detailed project/program description

Tunabyggen has two main target areas as regards the environment. These are energy usage and the demands made of materials selected. The contractor that submits a tender must prove how targets are to be met and how environmental work will be carried out in a quality and environmental management plan specific to each project. The plan also details what measurements are needed and when they should be carried out.

Materials should always be selected using one of the materials databases available that provide support in selecting environmentally friendly materials. There are three active databases currently available in Sweden: Miljöbedömningen, Sunda Hus and Basta. The latter is the construction industry's own database while the other two are available by license only.

An exciting feature of the project is that throughout the period, care staff have been involved in the planning process. Staff were also able to take part in the evaluation of tenders thanks to a model that has been developed to make this legally possible. The various contractors that submitted tenders each had 1.5 hours in which to present their project planning for groups of staff and for the developer, i.e. the municipal property company Tunabyggen.

4) Funding/financing/costs

As we use the LCC tool, financial consequences are already balanced and included in the estimate. The developer can rarely present figures on how much the building will cost in terms of additional investment.

5) Main results

- Tunabyggen is building one of Sweden's most energy-efficient care buildings.
- Care staff have participated in the project.
- LCC was used as a tool in producing estimates.
- Basta was used for the selection of environmentally friendly materials.

6) Analysis – lessons learnt and success factors

Kungsljuset is another project that Tunabyggen has succeeded in building in an energy-efficient way. During the process, several lessons have been learnt that we can take with us to the next project. Building in an energy-efficient way is a complex process that rarely has one single solution. Building on previous experience therefore both necessary and crucial for the development of the entire company in this area.



In connection with its work on energy efficiency, Tunabyggen has recently revised its business plan and now requires a maximum energy level of 70kWh/m² for new buildings.

Staff participation in both the planning and the selection of contractors is an activity that also contributes to the next step in the development of an energy-efficient building. The sense of ownership of a project like this are also forms the basis for changing staff behaviour towards energy efficient habits.

7) Time frame

Project commences: **2011**

Construction commences: **June 2011**

Target date of completion: **November 2012**

8) Contact project owner

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