Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

Graduation Plan: All tracks

Personal information	
Name	Sandra Bugaite
Student number	4404025
Telephone number	0610910782
Private e-mail address	sandrabugaite@gmail.com

Studio	
Name / Theme	Complex Projects / Border Studio
Teachers / tutors	Kees Kaan / Hrvoje Smidihen
Argumentation of choice of the studio	I am interested in researching one topic in various scales and making a project in close relation to the context. I believe this approach can lead to a well argumented design. Another factor - interesting location of the site.

Graduation project	
Title of the graduation project	Waste management center

Goal	
Location:	Ciudad Juarez (MEX) – El Paso (USA)
The posed problem,	Due to the Free Trade Agreement and location in the USA – MEX border region there is an overload of urban and toxic wastes which are very poorly managed. This causes many environmental, health issues.
research questions and	How can urban waste management in Ciudad Juarez and El Paso be improved and united to approach zero waste concept? How can waste be rationally reused, recycled and used as a renewable energy source.
design assignment in which these result.	Design of waste management center.

Process

Method description

First of all, the location and border conditions had to be researched in three different scales: USA – Mexico, Juarez – El Paso and Chamizal. The study trip and site visit was a crucial part of this analysis. These steps were an important problem, research question and exact site selection process. Secondly, waste management issues and possibilities were researched to determine the ambition for the design. None the less important was an understanding of existing waste management institutions, systems and strategies within twin-cities and in other exemplary countries such as Sweden and Denmark. Analysis of already built waste management facilities, their configuration, program and placement in the city context was prepared as well. This method was used to determine the program and massing of a new waste management facility.
All this above mentioned information was collected in Thesis Book. My further process after P2 is described in time planning section below.

Literature and general practical preference

Literature:

Tchobanoglous G., Theisen H, Vigil S. *Integrated Solid Waste Management: Engineering Principles and Management Issues*. Massachusetts: McGraw-Hill, 1993.

Osmani M., Glass J., Price A.D.F. *Reducing Waste Through Architectural Design Practices*. United Kingdom: Loughborough, 2007.

Bernard T. *Architecture and Disjunction*. Cambridge: MIT, 1994

Jacobs J. *The Death and Life of Great American Cities*. New York: Vintage Books, 1961.

Schoonderbeek M. (Ed.). Border conditions. Architectura & Natura Press, 2009.

Liverman D. Varady R., Sanchez R., Chavez O. *Environmental Issues Along the United States – Mexico Border: Drivers of Change and Responses of Citizens and Institutions*. Annu. Rev. Energy Environment: 1999.

Rand T., Haukohl J., Marxen U. *Municipal Solid Waste Incineration*. Requirements for a Successful Project. Washington, D.C.: The World Bank, 2000.

Jevremovic Ljiljana, Vasic Milanka, Jordanivic Marina. *Aesthetics of Industrial Architecture in the Context of Industrial Buildings Conversion*. PhIDAC 2012: IV International Symposium for students of Doctoral Studies in the Fields of Civil Engineering, Architecture and Environmental Protection.

Rappaport Nina. ''Vertical Urban Factory''. *Context Mas*. Production. Issue 16, winter 2012.

Practical references:

- Plasco Energy Group new technologies and projects.
- Sunset Park Material Recovery Facility in Brooklyn (renovated in 2014), Selldorf Architects
- Waste-to Energy facility in Roskilde, Denmark (2014), Erick van Egeraat.

Reflection

Relevance

This project proposes a design that combines different types of waste management - Sorting (recycling), Waste-to-Energy (WTE) and Reuse - in one building. This program is unusual, however different functions complement one another and reduce transportation expenses. New position towards urban waste management in border region also encourages united El Paso – Juarez strategy. All this leads towards improved environmental and health issues and utopian zero waste concept. New clean and efficient technology encourages to rethink location and architect's role while designing an industrial building that can be simultaneously attractive and engaging to public.

Time planning

After P2.

Week 1: Revising P2, developing spatial concept
Week 2: Developing plans for the Waste Management Center (1:200 / 1:100)
Week 3: Preparing facades and cross-sections (1:200 / 1:100)
Week 4: Making a plan and cross-section (1:50) of a part of the building in more detail
Week 5: Preparing the façade fragment with horizontal and vertical cross-sections (1: 20)
Week 6: Drawing details (1:5)
Week 7: Model and draft reflection preparation
Week 8: Presentation preparation, finalizing the drawings

Week 9-10: P3 PRESENTATION proposed date

Week 10: Revising theoretic and thematic support of research and design
Week 11: Preparing final reflection on architectonic and social relevance
Week 12: Drawing a site plan (1:5000 / 1:1000), ground level plan (1:500)
Week 13: Revising design and developing details, reorganizing presentation

Week 14-15: P4 PRESENTATION proposed date

Week 16: Revising design and details
Week 17: Preparing a final model
Week 18: Preparing a final presentation and updating a final thesis book

Week 19-20: P5 PRESENTATION proposed date