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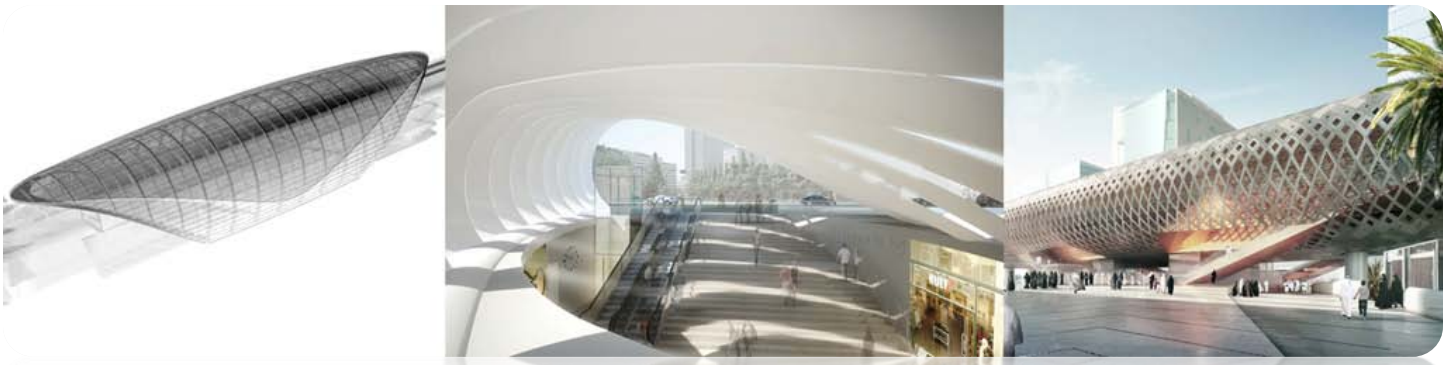
ARCH 4050 | 6050 | D02
School of Architecture, UNC Charlotte

Desert Oasis Metro Station

BIMethods Final Project



Synopsis: Throughout the semester, you have been exposed to very detailed methods on how to model complex forms, tectonic structures, stairs, railings, and the basic vertical and horizontal structural and architectural components within Revit. Methods for creating variation in design and using tools beyond their originally intended purpose have also been showcased. The dichotomy between the orthogonal and the complex throughout the semester will be evident in the final project where complex forms have a juxtaposition to the regular orthogonal. This project is a test on the skills that you have learned throughout the semester and a chance to prove your BIM competency. The tectonic details and the presentation of the final images are the key to the project.

Due Date: ~~Tuesday, May 6 @ 10:30 PM (File Uploads)~~; **Thursday, May 8 @ 6:30 PM (Poster Exhibition & File Uploads)**

Project Requirements: The following components shall be part of your final project:

1) A complex canopy form such as the one digitized from your funky foam form with the following requirements:

    a. Articulated with a unique panelized system that is made with a Curtain Panel Pattern Based Family and/or Adaptive Component.
    b. The panel shall have a programmed method for creating variation across the surface whether using Dynamo or other Revit Based Methods as gone over in class (such as point attractors).
    c. Methods of variation can be in the form of dimensional and/or material changes.
    d. The panelized system shall have a tectonic structural system framing the panels as well as supporting it from the ground below or suspended from above.

2) Orthogonal juxtapositions with the following requirements:

    a. Metro stations typically have some building program component such as retail shops, restaurants, bars, meeting rooms, restrooms, etc.
    b. Box out areas that are simple orthogonal spaces (they can be angled and complex if you want).
    c. The spaces should contain curtain wall/storefront glazing systems and doors.
    d. At a minimum add floors, walls, and ceilings to these spaces.
    e. Add lights and materials if these spaces show up in rendered views (some of these spaces should show up in the renderings).

3) Methods for circulation to cross the tracks with the following requirements:

    a. Railroad Tracks modeled as railings
    b. Railroad Tracks on an elevated platform or on the ground level (take note that typically the tracks are a little lower than the pedestrian platform).
    c. The platform if elevated shall have columns and beams to support it (standard Revit Structural Components).
    d. Circulation components shall be composed of unique/custom stairs and railings.

4) Embedded Site Context downloaded from:

    a. http://www.jrohdesign.com/revit/authorized_users/classes_2014s/downloads/index.php?dir=final-site%2F
    b. Use the Revit Site provided called, "Final_Site.rvt" with the materials as already established and place your transit station so that it is near the water and the tracks leaving the station extend over the water

    OR

    c. Use the "UNCCPlan-Filtered_r2004-1.dwg" file to generate a topography site. You can cut this file down to a more reasonable size if you wish.

        i. Flood the site with water and place your transit station so that it is near the water and the tracks leaving the station extend over the water.
        ii. Make the ground material a "Sand" material from the Autodesk Material Library. Remove the image but keep the color.

5) Entourage Elements:

    a. Place entourage people.
    b. Place a train model from Google Warehouse, Revit City, etc.
    c. Add vegetation if appropriate.

6) Presentation Images & Narrative:

    a. Create at least (1) One Exterior Rendered View at the maximum MegaPixel size on the cloud
    b. Create at least (1) One Interior Rendered View at the maximum MegaPixel size on the cloud
    c. Create at least (1) One Floor Plan showing the overall design.
    d. Create at least (1) One Section showing an interesting portion of your model.
    e. Create at least (1) One Displaced View showing the various layers to your design.
    f. All images should be displayed on (1) One 30x42 poster in a vertical orientation.
    g. Add a narrative to your poster that describes the following:

        i. Describe what is in your project programmatically.
        ii. Describe your process in how you digitized your form (I know some of you have used other programs such as Rhino to smooth your curves and that is fine. Just describe the process).
        iii. Describe what inspired your pattern and structural tectonic components and the methods used to create the components.
        iv. Describe how you achieved methods for variation.

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Submission: The following shall be completed by May 8th @ 6:30 PM.

1) Upload your final Revit .RVT file.
2) Upload your 30x42 .PDF file of the final poster.
3) Upload all original image files used to create the poster.
4) The poster shall be printed and hung up in the main lobby of the SoA.