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Portfolio

PROJECT DESCRIPTION

The grid was the driving force of the design. Based off of the dimensions of the larger sailboat needed to be stored the footprint grew in this module. Columns are placed at each crossing of the gird lines and the columns extend out forming the covered instruction area and dock. The most important aspect of the project is the grid and how the connections of the building are formed at these intersections. Also important is how the wall material in-fills in between each column while still allowing for the columns and beams to be exposed on the interior of the building.

1 Annotated View
1/8" = 1'-0"

3 Furniture Plan
1/8" = 1'-0"

1 Northeast
1/8" = 1'-0"

2 Northwest
1/8" = 1'-0"

4 Southeast
1/8" = 1'-0"

3D View 5

3rd Year

STRUCTURAL CONNECTIONS

There is a family of structural connections that make up this building. Each connection allows for a separation and gap between elements that calls attention to each as a distinct part of the structure.

PROJECT DESCRIPTION

The goal of the design was to create an environmentally friendly elementary school that encouraged collaboration. The overlapping geometry of the design allows an interaction within the building between grades and also creates a dialog of how you experience a building from the outside with its overhangs. The many green roofs and natural lighting give a strong connection to nature which is an important characteristic to early education that is disappearing.

The complex geometry creates several structural challewnges that are solved with the use of new materials and careful detailing. Ten key problem areas were detailed to solve these challenges that persist throughout the entire building.

Solar orientation was also a key factor in placing the building to optimize the amount of light and minimize heat gain. The plan extends in an east west orientation to gain as much natural light with a saw tooth roof on the upper floors that can also hold solar panels.

3rd Year

TAPERED INSULATION
BLOCKING
METAL FLASHING
OSB
MTL STUD
2" RIGID INSULATION
MOISTURE & AIR BARRIER
CONCRETE & MTL DECKING
MTL ANGLES AND OPEN WEB STEEL JOIST
W SECTION STEEL BEAM
BRICK VENEER
BRICK VENEER
METAL ANGLE WITH KNIFE JOINT TO STUD
METAL FLASHING
EXTERIOR GRADE GYP BOARD
MOISTURE &AIR BARRIER
GRAVEL
GREEN ROOF SYSTEM
METAL FLASHING
BLOCKING
METAL ANGLE
METAL SOFFIT PANEL
ADHERED MEMBRANE ROOF FLASHING
TREATED WOODEN BLOCKING
METAL STANDING SEAM ROOF
RIGID INSULATION 4"
CORRUGATED METAL DECK
OPEN WEB STEEL JOIST
HOLLOW SQUARE STEEL TUBE 6"
METAL FLASHING
EXTERIOR RATED GYP BOARD
HOLLOW SQUARE STEEL TUBE 6"
TAPERED RIGID INSULATION
FULLY ADHERED EPDM ROOF
WINDOW ASSEMBLY
BLOCKING
METAL STANDING SEAM ROOF
4" RIGID INSULATION
CORRUGATED MTL DECK
TREATED BLOCKING
MOISTURE BARRIER
MTL GUTTER WITH FLASHING
MTL DECK
MTL SOFFIT PANEL
METAL FLASHING
BRICK VENEER
CONCRETE SILL WITH DRIP EDGE
2" RIGID INSULATION
MOISTURE &AIR BARRIER
METAL FLASHING LAPPED WITH MOISTURE BARRIER
METAL ANGLE
ALUMINUM WINDOW FRAME
DOUBLE PANE GLASS WINDOW
ALUMINUM WINDOW FRAME
BLOCKING AND SILL
MOISTURE AND AIR BARRIER
METAL TIES
2" AIR SPACE
BRICK VENEER
METAL FLASHING
CAST IN PLACE CONCRETE FOUNDATION
2" RIGID INSULATION
MOISTURE &AIR BARRIER
SHEATHING
6" METAL STUDS WITH BATT INSULATION
EXPANSION JOINT
6" CONCRETE SLAB ON GRADE
SELECT FILL
CONCRETE FLOOR
CONTINUOUS RIGID INSULATION
MTL SOFFIT PANEL
MTL STUD WALL
BRICK VENEER
MTL ANGLE
STEEL BEAM
MTL ANGLE WITH KNIFE JOINT TO STRUCTURE
WELD
STEEL TUBE 6" COLUMN
WWW STRUCTURAL INSULATION JOINT
CONCRETE FLOOR
RIGID INSULATION
MTL SOFFIT PANEL
BRICK VENEER WITH MTL TIE BACKS

2nd Year

PROJECT DESCRIPTION

The To Our House Program helps provide shelter for a few nights for homeless people during the colder times of the year in Blacksburg. The goal of this project was to create a center that could function ideally for this use but also to help serve the needs of the community and the Church.

The obtuse splay of the building creates a welcoming area between the church and the center while a third wing embraces the hill where more parking is located on the site. The large overhanging butterfly roof creates sheltered area outside that wraps around the building creating a welcoming and protected entrance to the building.

The structure was a basic steel frame with a open web joist to make the span of the 35' roof. A simple brick veneer was applied to the outside to create a cohesive dialog of the church and the center creating a singular site.

ceiling interior finish
concrete roof and metal decking
6" insulation
sheathing
gutter with cross slope to drainage
metal angle
steel open web joist
insulation
2' deep beam
sheathing and air barrier
rigid insulation
air space
brick veneer
metal stud wall
gypsum board and interior finish

Fall Travel 2018 Sketches

Water Color