Site, Type and Composition

Sam Choi [sa.choi@neu.edu] Michelle Laboy [m.laboy@neu.edu]
Erkin Ozay [e.ozay@neu.edu] Anthony Piermarini [ajp@studioluz.net]
Ryan Senkier [ryans@perrydean.com] Rebecca Whidden [r.whidden@neu.edu]

Office hours by appointment

Course Description

This course is structured around analytical exercises and design projects intended to develop fundamental design skills – both intellectual and technical – including:

– site analysis and its application as an architectural design tool
– spatial and tectonic composition
– building typology and precedent analysis

Projects will build on the drawing, modeling and visualization skills introduced in the freshman studio curriculum. The course will stress the use of drawings and models both as investigative and communication tools, with a particular emphasis on diagramming and on the composition of plans, sections and elevations.

Prerequisites

This course requires that the following prerequisites be completed satisfactorily before you will be allowed to take this course: ARCH 1110 Fundamental Representation and ARCH 1120 Fundamental Design. If it is discovered that you have not completed these prerequisites, you may be dropped from the course at any time during the semester.

Course Requirements

Studio. You will be expected to work during studio hours so come prepared to work on your assignments with the necessary materials (laptop, drawing tools, model-making equipment, etc.). The course will require both manual and digital work as specified by the instructor for each assignment. Always have the following for desk-crits:

– drawings, prints (to scale) or models of your project to discuss with the instructor
– trace paper and drafting pencils or pens for sketching
– sketchbook (unlined) for taking notes and for making sketches and diagrams of your project

Critiques (Pin-up, Review). Requirements for each critique will be specified for each project. No work can continue during a critique unless it is designated a “working critique.” There are NO acceptable excuses for not presenting work, including digital media issues. Please produce and print your digital work well before the due date. Lateness of work will reduce its grade.

Attendance and Participation. Three unexcused absences will automatically drop your grade by one letter-grade, i.e., from an A to a B (24 meetings; 3 absences is 12% of the course). You should be present for the entire studio time and actively engaged in project development. All students are required to participate in class discussions; dialogue is encouraged and required. You are also required to attend all the evening lectures offered during this term.
**Evaluation**

Conceptual ideas and rigorous thinking are integral to design work. In sophomore studios, it is equally important to develop drawing and model-making skills that effectively communicate one’s ideas. Students should use appropriate methods of architectural representation in both their process and presentation work.

Evaluation of projects, and by extension your evaluation for the course, will be based on the following criteria. A successful project should meet each of these criteria with competence and balance:

- Asserts a conceptual and spatial proposition that is rooted in a reading of site, program, and precedent.
- Develops ideas independently with rigor and critical analysis, and produces the physical work associated with this process.
- Shows comprehension of representational conventions and techniques for communicating spatial information.
- Demonstrates knowledge of fundamental architectural design with respect to scale, dimension, circulation systems, and program/site relationships.

Your overall course grade is a weighted average of the grades for each project. Project evaluation is based on work at reviews, as well as your process work at desk crits. Process is also a separate component of the course grade. Evaluation of your process work considers the quality of design work at each class session, your use of studio time, and consistent effort throughout the project duration:

- Design Project 1: 35%
- Typology Analysis: 10%
- Design Project 2: 45%
- Process: 10%

Also refer to the School of Architecture grading guidelines for Design Studio courses:

http://www.architecture.neu.edu/student_resources/grading_policy/studio_course

**Academic Honesty**

Northeastern University is committed to the principles of intellectual honesty and integrity. Members of the Northeastern community are expected to maintain complete honesty in all academic work, presenting only that which is their own work in tests and assignments. If you have any questions regarding proper attribution of the work of others, contact your professor prior to submitting work for evaluation.
Northeastern University School of Architecture  
ARCH 2130 Studio 1  
Fall 2010: Tuesday & Friday 1:35 – 5:05  
Schedule

Site, Type and Composition

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<thead>
<tr>
<th>WK</th>
<th>DATE</th>
<th>STUDIO SESSION</th>
<th>PROJECT</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Sep 08</td>
<td>W Fall Semester Begins</td>
<td>1</td>
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<tr>
<td></td>
<td>Sep 10</td>
<td>F Course Introduction and Lecture – Project 1 Issued</td>
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<td>2</td>
<td>Sep 14</td>
<td>Tu Modelmaking Exercise</td>
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<td></td>
<td>Sep 17</td>
<td>F Pin-up</td>
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<td>3</td>
<td>Sep 21</td>
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<td>Sep 24</td>
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<td>4</td>
<td>Sep 28</td>
<td>Tu Mid-review</td>
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<td></td>
<td>Oct 01</td>
<td>F Façade Study</td>
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<td>5</td>
<td>Oct 05</td>
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<td>Oct 08</td>
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<td>6</td>
<td>Oct 12</td>
<td>Tu Final Review Project 1</td>
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<td></td>
<td>Oct 15</td>
<td>F Typology Analysis and Library Type Lecture</td>
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<td>7</td>
<td>Oct 19</td>
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<td>Oct 22</td>
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<td>8</td>
<td>Oct 26</td>
<td>Tu Review – Typology Analysis</td>
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<td></td>
<td>Oct 29</td>
<td>F Project 2 Issued – Site Analysis</td>
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<td>9</td>
<td>Nov 02</td>
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<td>Nov 05</td>
<td>F Site Model Due</td>
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<td>F NO CLASS – Thanksgiving Recess</td>
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<td>13</td>
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<td>Dec 08</td>
<td>W Classes End</td>
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<td>Dec 17</td>
<td>F Exam Period Ends</td>
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<td>Dec 20</td>
<td>M Grades Due</td>
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Founded in 1934, the School of Fashion Design is one of the unique educational assets for the city of Boston. An independent institution dedicated solely to the study of fashion design, it has served as an entry point to the fashion industry for many individuals at different career and experience levels.

In contrast to other similar schools, which are part of larger academic institutions, the SFD curriculum has a conscious emphasis on traditional methods of tailoring and couture-detailing, as well as more current fashion industry demands such as trend awareness, use of CAD-based drafting and modeling technologies, and other innovative design and manufacturing methods.

The SFD community is a varied mix of professional teachers, Boston area fashion industry professionals, and students who may be as young as high school age. The school offers classes during day and evening sessions to accommodate different groups. It also hosts fashion events and serves as a meeting point for current industry professionals. Vibrant interaction and exchange between different groups in versatile spaces is considered an asset to the school’s teaching philosophy.

Boston’s fashion scene is under the constant threat of losing talent to larger schools in New York, and the School is looking to reinvent itself as a magnet for established and young designers through grants and fellowships. Fundraising is partially complete, and the institution is seeking designs for a new building to replace the old facilities. Under the new name “Boston Fashion House,” the school will add a housing program for “fellows” and also require changes to its public spaces (exhibit and multi-purpose spaces). This new facility will aid in the school’s efforts to increase corporate and media relationships.

Site Constraints

The Newbury Street site is to be considered empty as an existing condition. The building footprint is set at 24’ x 60’, with the possibility of projections on the façade consistent with the context. Please refer to the site envelope diagram.

Program

The new center is a multi-functional program with the school at its core. The program requires interpretation of which spaces are “public” and “private.” It also requires a clear argument behind programmatic sequences, adjacencies and overlaps. What spatial qualities would you then ascribe to each type of program area (e.g., cellular vs. open plan, additive vs. subtractive, dark vs. light, compressed vs. expansive)? How are the temporal aspects of the program addressed? Consider these specific issues:

– The circulation system serves and distinguishes both private residents and public visitors. In between, there is the academic function which mixes residents, students, faculty and guests. Devising a clear circulation strategy is crucial. Accessibility, control, security and legibility are only some of the concepts you may want to consider as you construct your circulation diagram.
– Service + Served spaces. Fashion education and production rely on ample, well designed and accessible storage and support spaces. Be mindful of the needs of each space in your final design.

– Newbury Street is populated with a mixture of residential and commercial buildings, and is shaped by the urge to maximize commercial visibility at street level. Consider the image of the new building and how it relates to its existing fabric. The new building shall have a decisively public atmosphere while ensuring proper functionality for the private and educational portions of the program.

**Store/exhibit space 300 sf**

Student and alumni work are frequently sold directly by the school to generate exposure for students. Maximum visibility from the street is desired.

**Lounge 300 sf**

An informal gathering space for students and industry professionals. Needs to have access to an outdoor space and include a service counter.

  - Includes storage area 50 sf

**Multipurpose 900 sf**

  - Event space 700 sf (min. 18’W x 36’L x 14’H)
  - Dedicated changing room 120 sf
  - Dedicated storage 80 sf

Teaching, exhibitions, occasional talks/lectures and runway shows. Runway shows require a min 5’ wide clear area.

**Studio 900 sf**

  - (2) Work room “Sewing Theater” 350 sf (min. 14’H, can be 1 large room of 700 sf)
  - Dedicated storage for bolts of fabric 200 sf

Min 36’ of continuous table length required. The layout of the room shall allow for about 10 students to gather around an instructor who will be teaching hands on detailing, sewing, patternmaking or draping. Controlled, indirect daylight desired.

**Classrooms 500 sf**

  - Sewing “Lab” 250 sf
    - Class, 4 sewing machines (2’x4’), 2 overlock machines (2’x3’) and 2 ironing stations
  - Computer Lab 250 sf
    - For class and independent work.

**Residential 900 sf**

  - Units for visiting fellows (6) 100 sf each
  - Shared bathroom w/ 3 shower stalls 150 sf
  - Shared Kitchen and common area 150 sf

  - (2) Administrative offices 80 sf each
  - Public restrooms (M/F) 200 sf total
  - General storage 200 sf
  - Mechanical room 50 sf
  - Elevator 8’x10’ min
  - Egress Stair
  - Circulation approx 25% of total floor area
Model-making Exercise

Issued: Friday, September 10
Parts 1 + 2: Tuesday, September 14
Part 3 + Pin-up: Friday, September 17

The site for Project 1 is a traditional urban infill site (refer to attached drawing). Party walls physically define the site along both long edges, and zoning regulations provide implied definition along both short edges and in overall height. For this exercise, you will work within a building envelope that is 24 feet wide, 60 feet deep, and 40 feet high. Your goal this week is to explore ways of shaping and organizing space. Working quickly and iteratively, you will produce a series of models that demonstrate your developing thought process. You will make nine models in total.

Guidelines:

– Work at 1/8” = 1'-0” scale.
– Include the site context in each model. Be aware of the front “yard”, sidewalk, and implied façade wall.
– Think about modeling the site as carefully and conceptually as you do the program; you should not default to using dimensionless chipboard for party walls and ground plane. Your technique may change from model to model.
– Do not get caught up in modeling each and every program component. Abstract the individual elements yet also think of the program holistically, clustering complementary components together and being conscious of the relative scales of each program cluster.
– Prepare a title and brief description for each model. Indicate your zoning strategy, the materials used, and the physical modeling techniques used (e.g. piercing, notching, gluing, wrapping).
– Remember to choose areas of focus as you work. Your models should not have a uniform level of detail; rather they should show articulation in areas to which you have given thought, and less detail in areas that are not part of your investigations
– Remember to think in section as well as in plan!

Part 1: Explore zoning strategies.

Review the program. Consider the functional requirements and spatial qualities of each component, and select one zoning strategy (e.g. light vs. dark, solid vs. void, public vs. private, open vs. closed, primary vs. ancillary, served vs. servant). Consider also notions of entry and circulation. While you are not expected to model individual circulation elements, you are expected to think about the role that passages, ramps, stairs and elevators play in organizing three-dimensional space. Pay particular attention to the ways in which circulation can emphasize or de-emphasize zoning strategies. Make three models, using the same material for each, that propose different ways of achieving a zoning strategy.
Part 2: Explore materials.

Gather a range of modeling materials, including at least one planar material (e.g. chipboard, paper), one solid material (e.g. foam, wood), and one linear material (e.g. wire, string). Select one model from Part 1, and make three models that re-interpret one zoning strategy, using a different palette of materials in each model. As you work, consider the inherent properties of each material, and be conscious of the physical modeling techniques each requires. For example, you may find that planar materials lend themselves to layering and wrapping, that solid materials lend themselves to stacking or excavating, and that linear materials lend themselves to weaving or bunching.

Part 3: Combine and develop.

Review the six models you have made, and select one model for further development. Based on desk crits, re-assess the zoning strategy and material palette. Produce three or more variations on the selected model. Use these final models to experiment with your selected material and to develop your modeling techniques. Play with modes of connection (e.g. glue vs. notches), material thicknesses (e.g. thick vs. thin), and material qualities (e.g. rounded vs. flat, smooth vs. rough). After completing the final models, diagram your evolving process through the exercise (Parts 1, 2 and 3). Your diagrams should complement the titles and descriptions of each drawing; in essence, they should contain the same information, except visually instead of verbally.
Final Presentation Requirements (Review on Tuesday, October 12)

Plans, sections and elevations should have the appropriate amount of site context. You should construct the drawings with a strong emphasis on the clarity of lineweights and spatial information. Discuss level of detail for drawings with your instructor. As you layout your presentation, carefully coordinate the relationship of plans to sections and elevations.

– Site Elevation and Partial Plan at 1/8” = 1’.
   Show your façade and at least 40’ of context on each side. Just below, show a corresponding plan of the sidewalk, your entry condition, and the profile of adjacent buildings.

– Sections at 1/4” = 1’.
   2 longitudinal and 1 lateral, minimum. One longitudinal section should be rendered to indicate materials and quality of light. Include figures in all sections.

– Floor Plans at 1/4” = 1’.
   Show party walls and context in plans. Include sidewalk and ground conditions in first floor plan.

– Elevation at 1/4” = 1’.
   Show immediate context on each side (ie, less than 40’).

– Diagrams.
   Concept diagram or other process diagrams.
   Diagrams that explain the facts of your design: circulation, program, etc.

Choose Either:

– Model at 1/8” = 1’ and (3) interior perspectives.

OR

– Model at 1/4” = 1’.

In either case, models should show site context and the ground. Show the façade and exterior spaces. Indicate materials (although this can be diagrammatic, meaning that wood in your design does not need to be made out of basswood in your model). The larger model requires a greater level of detail that you should discuss with your instructor.

Process Materials

For the final review, bring your study models and any relevant process drawings, diagrams, sketches, etc. that aid in explaining your design development and methodology.
Library Architecture: Type Analysis

Issued:  Friday, October 15
Pin-up:  Tuesday, October 26

Overview

This analytical project serves as an introduction to the second building you will design, a new branch library for the Boston public library system. Using a precedent from the list below, you are asked to create a series of diagrams and models. Your precedent analysis should isolate the spatial and organizational elements that operate in specific ways to address the needs of the library program. That is, what are the characteristics of the library building type? Consider carefully how spaces and rooms are defined in section, and how views and sequences between spaces are created or controlled. Pay particular attention to the heights of the spaces and how these correlate to programmatic use.

Assignment

5 drawings and 2 diagrammatic models total will be required. The first 4 drawings are analytical (factual) diagrams that look at specific elements of the library precedent in isolation. These drawings could be plan, section, elevation or axonometric diagrams.

Analytical Diagrams @ 1/32"=1' or 1/16"=1' (discuss scale with instructor and format for 11”x17”)

1. Public space, community space, reading space
   Diagram the sequence, hierarchy, and scale of public spaces and any spaces for reading. This might also include information on how the building is sited and exterior spaces.

2. Circulation and program
   Diagram the circulation system, looking at public, private, and egress circulation. Identify different programmatic zones, including office and service functions.

3. Books and tectonics
   How is the location of the books themselves used to define space or create an institutional image for the library? Create a drawing that considers the books and book-stacks as equal to the structural and tectonic elements in defining the spatial qualities of the architecture.

4. Light, views, enclosure
   What are the features/characteristics of the building envelope? How are light & views controlled in order to support the specific needs of the library program? Develop a drawing that looks at carefully at the exterior facades and how they relate to the interior spaces.
Diagrammatic Models (match the scale of your first 4 diagrams)

1. *Circulation and program*
   
   Use the information generated from diagrams 1+2 above to create a model showing the relationship of the circulation systems to the program. Remove or simplify information to provide a clear understanding of how circulation is used to connect or separate program elements.

2. *Concept*
   
   Model the main concept of your precedent as you understand it. Edit and distill the information from your diagrams.

**Conceptual or Synthetic Diagram @ 1/16”=1’ or 1/8”=1’ (twice the scale of your first 4 diagrams)**

The fifth drawing will be an exploded axonometric that looks critically at the first four drawings and synthesizes the information isolated in those diagrams. Use the drawing to frame an argument about the building’s spatial and programmatic organization.

Diagrams are interpretive but should show appropriate standards of representation. As you devise the diagrams, carefully select the drawing forms, views, and techniques that best suit each topic and precedent. Your drawings and models taken together should present a cohesive understanding of the precedent.

**Precedent List**

1. Bibliotheque St. Genevieve: Henri Labrouste (1845-51)
2. Public Library, Stockholm: Gunnar Asplund (1918-27)
4. Beinecke Rare Book Library: Gordon Bunshaft, SOM (1963)
5. Library at Phillips Exeter Academy, Exeter, NH: Louis Kahn (1965-72)
10. Arenberg Campus Library: Rafael Moneo (2002)
Northeastern University School of Architecture  
ARCH 2130 Studio 1  
Fall 2010  
Design Project 2  

Branch Library

Issued: Friday, October 29  
Mid-review: Tuesday, November 16  
Final Review: Thursday, December 16, or Friday, December 17

The Cambridge Public Library has recently completed an expansion and restoration of its main facility, located on a park near the city's public high school campus. The original building, from 1888, was too small and lacked adequate support for computer facilities. An addition has tripled the overall square footage, and it has also provided the open spaces and technological services that are typical of the contemporary library program. The new public reading room is being heavily used by all kinds of residents, especially those who are often using only online services. The original 19th-century building was renovated and now accommodates secondary reading areas, staff and meeting spaces.

The city's library system has 6 other smaller branches, and following the success of the changes to the main facility, the city is looking to build a new branch library to replace one of its existing branches. The current Central Square branch has been closed indefinitely due to failing mechanical systems. In addition to providing books, the branch was popular for its Literacy Center and as a general community space for residents of the Cambridgeport area. This area has historically been one of working-class family homes, but like much of Cambridge, it has experienced gentrification over the past 15 years.

A proposed location for the new branch is at Massachusetts Ave and Landsdowne St. This site has convenient access to the Red Line T stations at Central and Kendall, and is easily reached by bus or pedestrians along Mass. Ave. The site borders the residential areas of Cambridgeport and East Cambridge, and is also adjacent to the many new office, residential and retail developments in the area, like University Park. The project requires outdoor space that is shared with the general public.

The collection consists of a comprehensive adult fiction library, including bestsellers and recent publications. A large periodical listing and subscriptions to several daily newspapers are included. Additionally, this branch will have increased computer and online services, as the library has promised to expand its technological offerings. Proposals should consider the many community roles of the existing branch library, as well as the potential users and constituents of this new facility.

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<th>Program</th>
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<tr>
<td>Collections, 30,000 Volumes:</td>
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<tr>
<td>Children’s</td>
<td>450</td>
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<td>Periodicals</td>
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<td>Local History</td>
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<td>Fiction</td>
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<td>Non-fiction</td>
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<td>Reading Rooms:</td>
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<tr>
<td>Children’s Reading / Work Room</td>
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<tr>
<td>Periodicals</td>
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<tr>
<td>Research and Computer Area</td>
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<tr>
<td>Main Reading Room</td>
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<tr>
<td>Secondary Reading Area (or areas)</td>
<td>600</td>
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<tr>
<td>Literacy Center / Classroom</td>
<td>300</td>
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<tr>
<td>Online-catalog Workstations</td>
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</table>
Circulation Desk: 300
Small Auditorium: 800 Fixed or movable seating for 80.
Staff Work Space: 1000
   Offices (4 @ 125 ea.) 500
   Bookbinding/Work Room 200
   Conference Room (10 Seats) 300
TOTAL NET SQ FT: 11,000
Circulation and Service (approx. 30%) 3000
   Circulation and egress
   Mechanical Room 600
   IT/Telecom Closet 100
   Bathrooms 600
Exterior Loading Dock: 500
TOTAL GROSS SQ FT: 14,500

Constraints
OPEN SPACE REQUIREMENT: 5,000 SF (approximately 40% of site)
   Open space should be “unconditioned” and have access from street.
   Part of open space may be “private” to library.

A 20’ wide service alley must be included from Green St. and should allow residents of the block to drive through. The service alley and loading dock should have 20’ vertical clearance.

Building height should address context. Proposal can build 12’ below grade.

Two means of egress are required from every floor. Passenger elevator must be included. Building design should be accessible. Ramps should slope no greater than 1:12.

Library Design Reference:
   Book-stack reference standard: 84” high x 12” deep per side, 5’-0” to 5’-6” O.C.
   ADA book-stack aisle width: 36” min. / 42” strongly recommended
   Periodicals: Require both display shelves and storage shelves

Final Review Requirements:
Site figure / ground diagram. Discuss scale and context with instructor.
1/16” = 1’. Site plan.
1/16” = 1’. Model in group site model.
1/8” = 1’. All floor plans.
1/8” = 1’. Two sections, minimum.
1/8” = 1’. One elevation.
1/8” = 1’. Model.
Perspectives, one interior and one exterior, minimum.
Four diagrams (structure, circulation required).