

The goal of this 2-year program of Design Studio/Seminars/Research is to give students a strong, comprehensive and broad understanding of architecture, design, and engineering in the context of our present world. The program will focus on integration of design + engineering, design methods, history, creative thinking, and research while requiring students to realize designs individually as well as working in teams. The program seeks to reinforce creative engineering for future engineers or lead to a Masters in Architecture at an Architecture Graduate Program.

1. History

A few informal history discussions will begin developing a value system by identifying and judging the best buildings that will help decision-making. History of architectural design will seek to develop methodologies and process for useful work approaches.

2. Urbanization

Using the development of Chicago infrastructure and architecture since 1850, students will gain an understanding of the forces at work in our environment.

3. Integrated Design Studio

Design exercises will require students to create buildings ranging from simple to complex; developing graphic and modeling skills, three dimensional representation, energy analysis, design thinking, structure, and mechanical concepts. Graphic and verbal presentations will be required.

4. Teamwork

The complexity of our modern world requires teams of professionals to work together to address building design. A one-week team project with Stanford AE+D students over the internet in second quarter is followed by a third quarter team project for the design of a tall building.

5. Structural Engineering

Professors from Engineering will interact with the studio design work with engineering analysis and calculations of engineering aspects of the design solutions.

6. Building Information Modeling, Sustainability, and 3D Printing

Student Designs will be developed using REVIT (a BIM platform) and Rhino (NURBS Surface modeling) Use of digital fabrication software to produce 3D printed models. Overview of building energy modeling.

7. Free-Hand Drawing

Students will develop their individual skills of free-hand drawing that will enable them to see, communicate, and to conceptualize. Students will execute several assignments in an iterative process that sharpens their design drawing communication.

8. Seminars/Lectures

Practicing professionals will present case studies of architectural, engineering, contracting, management, and development, that will provide the student with a foundation; for understanding the complexity of architectural practice; and a general appreciation of the modern design world.

9. Readings and Reports

Various reading assignments, group discussions and reports.

SEMINAR / STUDIO APPROACH: SEPTEMBER 2018 - DECEMBER 2018

Quarter 1

Class Meets: Tu/Th 3:00pm – 4:50pm

Instructors: Larry Booth, Mark Sexton, Joy Meek and Scott Cyphers

Class Hours: 40 hrs. Lectures, Seminars, Field Trips, Critiques and Presentations
164 hrs. minimum student time

Date	Instructor	Course Topic	Requirements
Th 9/27	LB/SC/MS/JM	Lecture: Course Introduction	Class introductions, assign studio project and review Housing Benchmarks Site Visit - measurement and analysis
Tu 10/02	Don Semple - K+S	Lecture: Rhino Software	In class Rhino training and techniques in L441 <ul style="list-style-type: none"> Have Rhino 5 loaded on your laptops - (<i>Windows and Mac students should point their laptop installations of Rhino to 129.105.86.159 for license verification</i>)
Th 10/04	SC	BIM1: Revit Intro + Techniques 1	BIM drawing exercises in TECH computer lab (MG47)
Tu 10/09	LB/SC/MS/JM	Lecture: Design Approaches + Program	Booth, Sexton & Meek discusses the architectural design process & project benchmarks <ul style="list-style-type: none"> Graphic Program hand drawn to scale with furniture Site Analysis indicating context factors
Th 10/11	LB/SC/MS/JM	Critiques: 3 Site Concepts	Group reviews <ul style="list-style-type: none"> 3 different "Architectural Site Concepts" hand drawn to scale
Tu 10/16	Tom Leslie - Iowa State	Lecture: Chicago Architecture	Lecture on origins of Chicago Tall Buildings.
Th 10/18	LB/SC/JM	Critiques: 3 Building Concepts	Individual reviews of Concept development <ul style="list-style-type: none"> Building site plan and floor plans hand drawn to scale 3D building massing in Rhino Leslie Synopsis due
Tu 10/23	Josh Dortzbach - Forefront	Lecture: Structural Engineering	Lecture on residential structures projects in Midwest <ul style="list-style-type: none"> Begin work on large team site model (foam/paperboard)
Th 10/25	LB/SC/JM	Critiques: Study Model	Group reviews of Concepts Models <ul style="list-style-type: none"> Individual Concept Model (foam/paperboard) in group site model Drawing Assignment #1 due
Tu 10/30	David Corr - NU LB/SC/JM	Lecture: Studio Project Structures Critiques: Rhino Drawings	Structures Project #1 assigned Individual reviews of Concept development <ul style="list-style-type: none"> Rhino Drawings – perspectives Forefront Synopsis due

Th 11/01 LB/SC/JM	Critiques: Rhino Drawings	Individual reviews for plans and structural concepts <ul style="list-style-type: none"> • Rhino or hand drawn floor plans – include furniture • Structural plans and framing concepts
Tu 11/06 LB/SC	Critiques: Revit Drawings	Individual reviews of Concept Design progress for midterm <ul style="list-style-type: none"> • Drawing Assignment #2 due
Th 11/08 LB/SC/MS/JM	Midterm Presentation	<ol style="list-style-type: none"> 1. Site Plan indicating surrounding buildings, streets and context. 2. Floor Plans detailing all levels. 3. Minimum one full building section. 4. Minimum two perspectives – ground level and bird's eye view. 5. Physical model that fits into the group site model. 6. Initial materials selection board <p>All drawings completed in Rhino Drawings to fit 11 x 17 horizontal page layout with graphic scale and north arrow. Verbal presentation to be 1-2 minutes and describe the main idea / concept.</p>
Tu 11/13 Rick Juneau - Bulley & Andrews	Lecture: Residential Architecture	Lecture on residential architecture projects in the Midwest
Th 11/15 LB/SC	Lecture: Model Building Techniques Group Book Discussion	Cyphers to review physical model building techniques and skills Group conversation of <u>Conceptual Blockbusting</u>
Tu 11/20 SC	BIM2: Revit Techniques 2	BIM drawing exercises in TECH computer lab (MG47) <ul style="list-style-type: none"> • Bulley & Andrews Synopsis due
Th 11/22	<i>Holiday – Thanksgiving</i>	
Tu 11/27 David Corr - NU LB/SC/JM	Lecture: Studio Project Structures Critiques: Floor Plans	Project #2 assigned <ul style="list-style-type: none"> • Structures Project #1 due Review Floor Plan Development & Revit Troubleshooting
Th 11/29 LB/SC/JM	Critiques: Floor Plans	Individual reviews of Finalized Floor Plans <ul style="list-style-type: none"> • Building Floor Plans with furniture in Revit
Tu 12/04 LB/SC/JM	Critiques: Interior Perspectives	Individual reviews <ul style="list-style-type: none"> • Preliminary Interior Perspective Views in Revit • One Page Individual Book Review due
Th 12/06 LB/SC/JM	Critiques: Final preparation	Individual reviews of Draft Final Presentation <ul style="list-style-type: none"> • Final Presentation Cartoon Layout • Site Plan, Floor Plans, Elevations and Sections • Exterior and Interior Perspectives • Material finishes

Final Jury Presentation

1. Structures Project #2
2. Drawing Assignment #3
3. The required drawings are similar to Midterm. However, they should exhibit a much higher degree of quality - detail, color, shadows, materials, furniture etc.
 - Site Plan indicating surrounding buildings, streets and context.
 - Floor Plans detailing all levels. Show furniture.
 - Minimum two full building sections.
 - Minimum two exterior and three interior perspectives.
 - Final material selection board
4. Physical model that fits into the group site model.

Final drawings can be a combination of Rhino and Revit. Floor plans in Revit.
All drawings to fit 11 x 17 horizontal layout with graphic scale and north arrow.
Verbal presentation to be 1-2 minutes and describe the main idea / concept.

PROJECT ASSIGNMENTS

Individual Studio Design Project (65%)

- Home for Northwestern University Civil Engineering Professor and Family (2 children)
- Evanston/Northwestern Site - location of "former" Army ROTC building
- Program: 2,500 sf gross
 - Entry/Foyer, Living Room, Dining Room, 3 Bedrooms (Master + 2), 2 baths + Powder Room, Den/Study/Office, Kitchen & Pantry, Laundry/Mud Room, Storage, Recreation Room, Exercise Room, Garage, Basement Utility
 - Front & Backyard Landscaping
 - Note that program may be modified to accommodate individual designs
- **PROJECT GOALS: Design Thinking and Synthesizing, Critical Judgment, Graphic Skills, Digital and Spatial Visualization, Decision Making & Teamwork**

3D Modeling – Digital and Physical (10%)

- Rhino1 – Rhino introduction, Basic Commands, Interface Orientation, Navigation, Object Creation and Production Workflow
- BIM1 - Architectural Drawing Conventions, Definitions, Revit Basics including Floor, Walls, Roofs, Structure, Views and Sheets
- BIM2 - Advanced modeling techniques including materials, rendering, Families, Components and Annotation
- Physical Modeling – Team Site Model and Modeling Techniques
- **PROJECT GOALS: Advanced Digital Technologies to Aid Form Making**

Freehand Drawing Assignments (10%)

#1 – Architectural Transformation

- Pick an object. Using the "Conceptual Transformation" technique, draw it several times (at least 4) to bring out its fundamental qualities
- Use the "Bull Transformation" as a benchmark.
- Use pencil or pen. Drawings on 8.5"x11" paper

#2 & #3 - Architectural Renderings

- Choose an Evanston Home in the area and draw its entry elevation.
- Pay particular attention the entry door and windows. Document these features in a detailed hand drawing with pencil.
- Indicate light, shadow, materials and texture. Drawings on 8.5" x 11" paper.
- **PROJECT GOALS: Seeing and Communicating Materiality and Detail**

Structural Engineering Assignment (10%)

- Two assignments focusing on the development of each student's structural system
- Students interact with Engineering Professor, David Corr
- **Complete engineering analysis and calculations**
- **PROJECT GOALS: Quantitative analysis and Integrating Design + Engineering**

Reports and Readings (5%)

Visitor Lecture Synopsis

- After each lecture, summarize the material through writing, building, collaging or diagraming in a creative way. Focus on the main themes.
- Not more than one page.

Book Discussion / Readings

- Conceptual Blockbusting by James Adams - Read the book and be prepared to discuss it in a group format.
- Read individual book from selected reading list and write a one page review.
- **PROJECT GOALS: Listening, Understanding and Communicating**

READING LIST FOR YEAR ONE

Required Readings

Read and Discuss in Class

Fall 2018

- Conceptual Blockbusting - James Adams

Winter 2019

- The Laws of Simplicity - John Maeda

Spring 2019

- TBD

Selected Readings

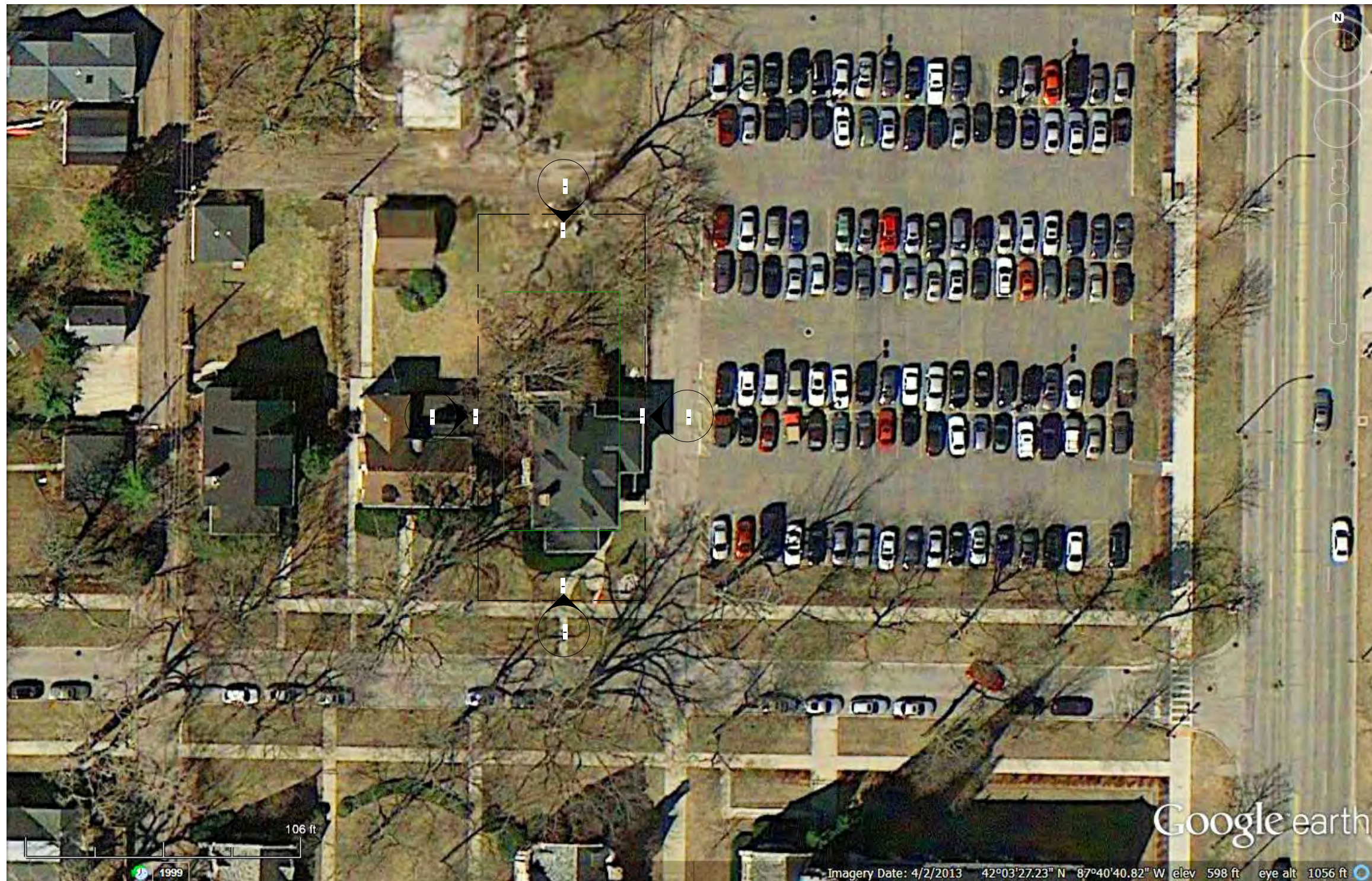
(Read One/Quarter; Write One-Page Review)

Architecture / Planning General Concepts

- The Plan of Chicago - Carl Smith
- Toward an Architecture - Le Corbusier
- Complexity and Contradiction - Venturi
- Ideas that Shaped Buildings - Hearn
- The Architecture of Humanism - Scott
- Notes on the Synthesis of Form - Alexander
- Chicago Skyscrapers 1871-1934 - Thomas Leslie
- The Shingle Style and the Stick Style - Vincent Scully
- The Plan of Chicago - D.H. Burnham
- The Architecture of John Wellborn Root - Donald Hoffman
- Frederick Law Olmsted and the American Environmental Tradition - Albert Fein
- Inventing America - Jefferson's Declaration of Independence - Gary Wills
- Late Entries to the Chicago Tribune Tower Competition - Tigerman
- John Wellborn Root, Architect - Harriet Monroe
- The Chicago School of Architecture - Mark L. Peisch
- The Chicago School of Architecture - Carl Condit
- The Prairie School - H. Allen Brooks
- Frank Lloyd Wright to 1910 - Grant C. Manson
- The Mathematics of the Ideal Villa and Other Essays - Colin Rowe
- David Adler - Richard Pratt
- Mies van der Rohe - Phillip Johnson

Creative Thinking

- A Whole New Mind - Daniel Pink
- Lateral Thinking - Edward De Bono
- How to Have a Beautiful Mind - Edward De Bono
- The Art of Innovation - Tom Kelley
- The Elements of Style - Strunk & White
- Thinkertoys - Michael Michalko
- The Design of Everyday Things - Donald Norman
- Change By Design - Tim Brown



1

SITE PLAN - AERIAL

1" = 40'-0"

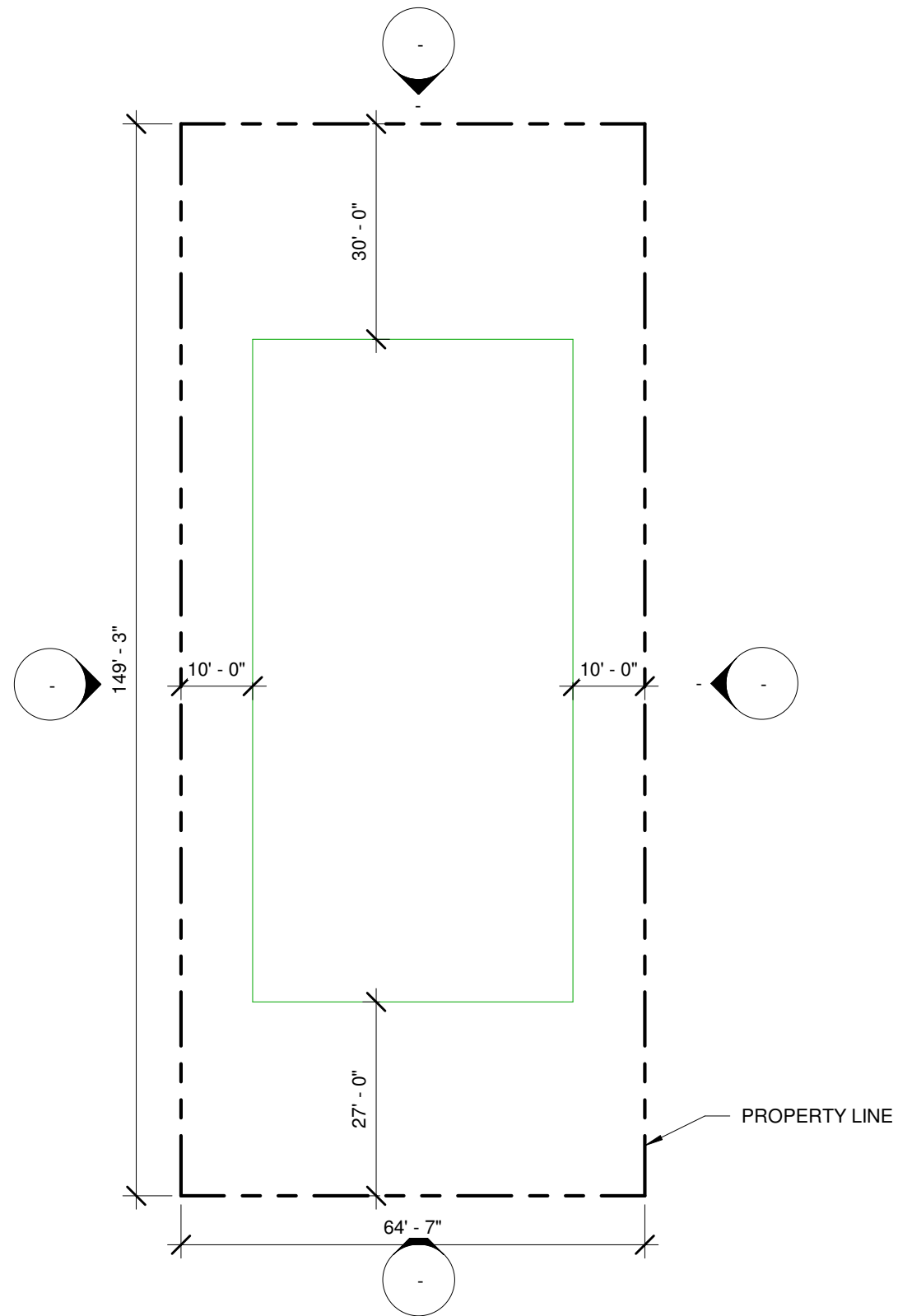


2018.09.27

FALL 2018 DESIGN STUDIO

Designer

A001



1

SITE BOUNDARY

1" = 20'-0"

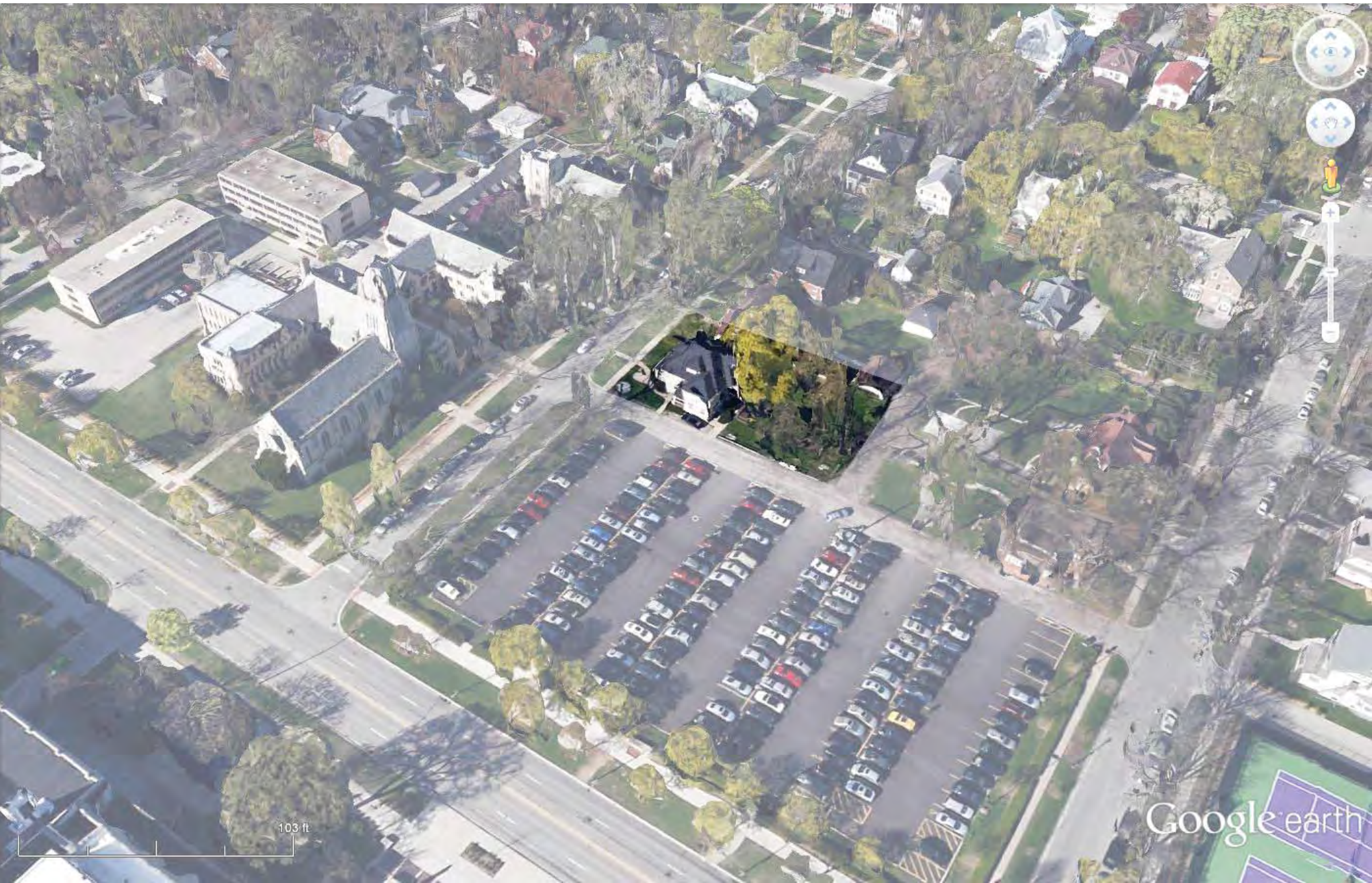


2018.09.27

FALL 2017 DESIGN STUDIO

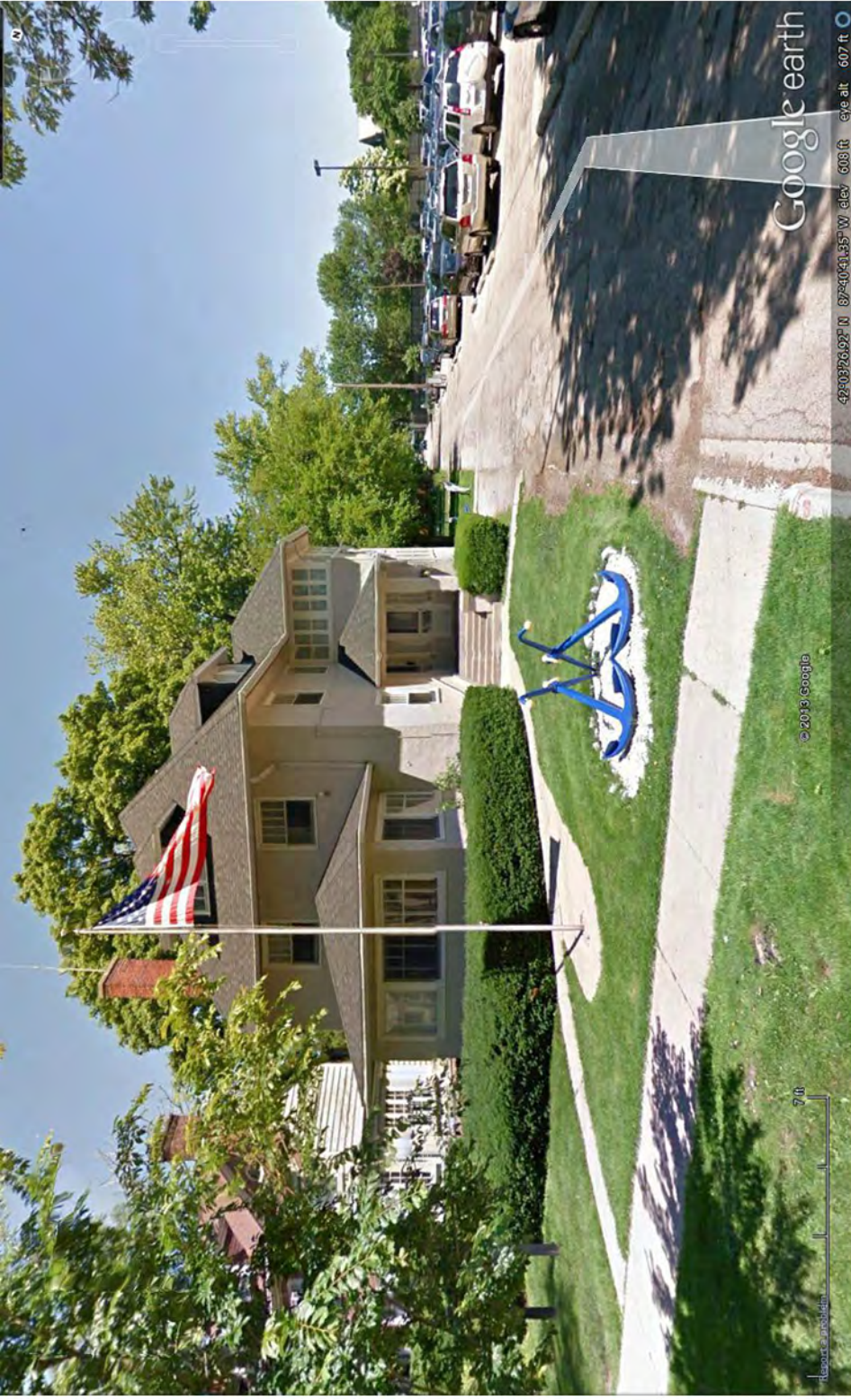
Your Name

A002



103 ft

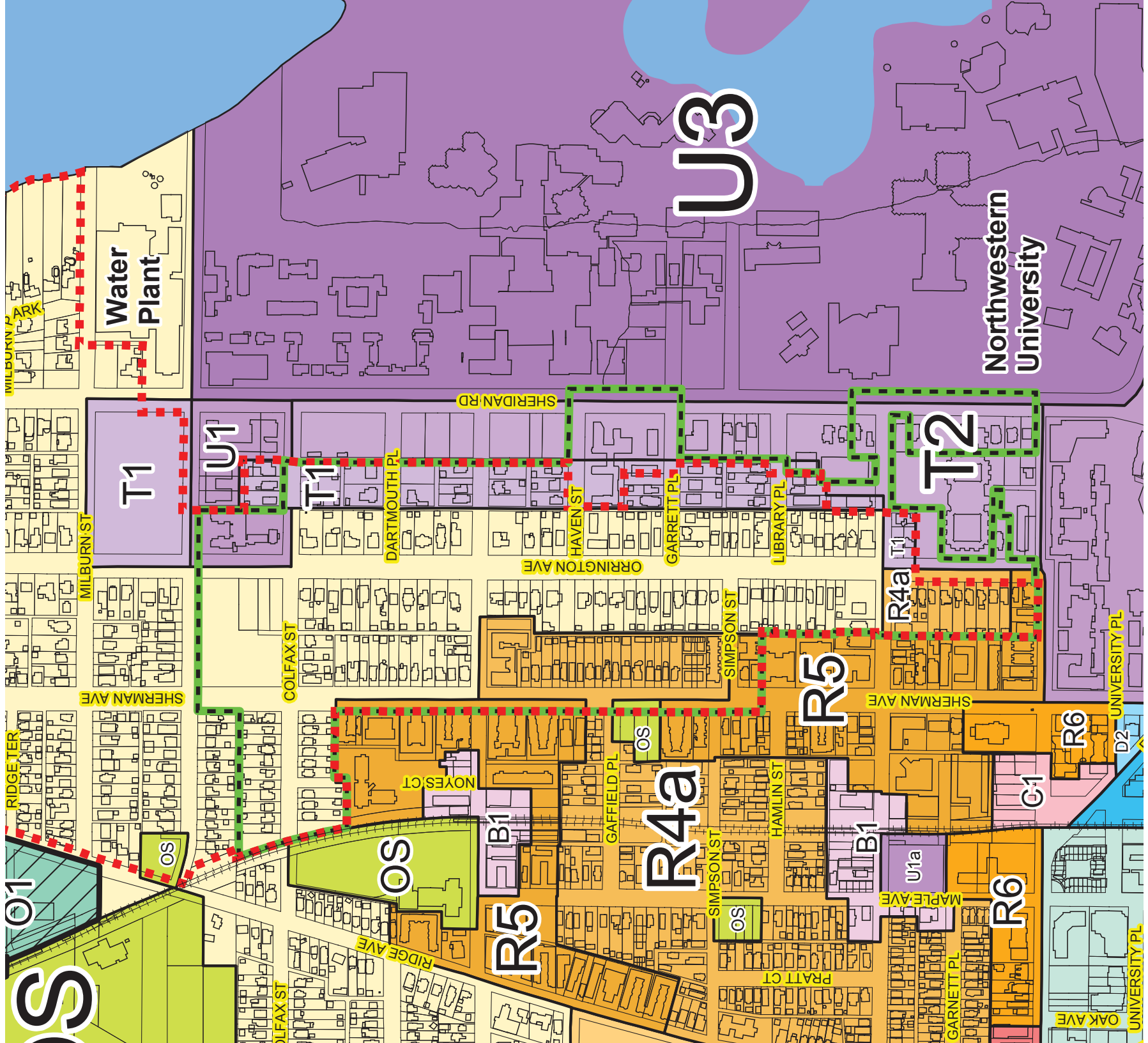
Google earth





Zoning Map 1:600





OS

T1

U1

T1

OS

R5

R4a

R5

U1a

R6

U3

T2

C-1

R4a

UNIVERSITY PL

Water Plant

Northwestern University

MILBURN ST

MILBURN ST

SHERMAN AVE

RIDGE TER

GOLFAX ST

GOLFAX ST

RIDGE AVE

NOYES CT

DARTMOUTH PL

SHERIDAN RD

ORRINGTON AVE

HAVEN ST

GARRETT PL

LIBRARY PL

SIMPSON ST

HAMLIN ST

PRATT CT

MAPLE AVE

GARNETT PL

OAK AVE

D2 UNIVERSITY PL

UNIVERSITY PL

University Athletic Facilities District Analysis

The U2 District is appropriate and consistent with existing university uses. Hotel and retail uses are not listed as permitted or special uses.

T1: Transitional Campus District

The purpose of the T1 district is to serve as a buffer between intensive university activities and low-density residential uses. There is one T1 district in the Study Area located west of Ryan Field.

Permitted Uses: Adult or Child Day Care, Single-Family Dwelling, Two-family Dwelling, Educational Institution, Home Occupation, Park, Playground, and Residential Care Home.

Special Uses: Administrative and Departmental Staff Offices, Bed & Breakfasts, Educational Institutions, Faculty Offices, Parking Areas with more than 5 spaces, Parking Lot, Category II Residential Care Home, Student Religious Organizational Meeting House, Category I & II Transitional Treatment Facilities, and Planned Developments.

Minimum Lot Size:

- **Single-Family:** 5,000 square feet with a 35-foot minimum width.
- **Two-Family:** 2,500 square feet per dwelling unit with a 35-foot minimum width.
- **Nonresidential:** 7,200 square feet with a 35-foot minimum width.

Maximum Lot Coverage: 40%.

Maximum Height: 35 feet or 2½ stories, whichever is less.

Setbacks:

- **Front:** 27 feet.
- **Corner Side Yard:** 15 feet.
- **Side Yard:** 10 feet for single-family homes; 15 feet for two-family dwellings; 5 feet for non-residential buildings.
- **Rear Yard:** 30 feet for single-family and two-family homes; 3 feet for non-residential buildings.

Parking:

- 2 spaces for single-family homes.
- 1.5 per single-family attached and two-family dwelling units.
- 1.25 to 2 spaces for each multi-family dwelling unit dependent upon number of bedrooms.

Transitional Campus District Analysis

The T1 District accommodates the large parking lots serving Northwestern University and Evanston Hospital (ENH) and nearby shops and residents. Parking structures with retail space components do not appear to be allowed as permitted or special uses.

OS: Open Space District

The purpose of the OS district is to maintain large open space and recreational areas. There are five OS districts within the Study Area, including four parks and the Peter Jans Golf Course.

Permitted Uses: Arboreta, Botanical Gardens, Community Centers, Conservatories, Cultural Facilities, Educational Facilities, Forest Preserves, Golf Course, Park, Playground and Recreation Center.

Special Uses: Cemetery and Zoological Garden.

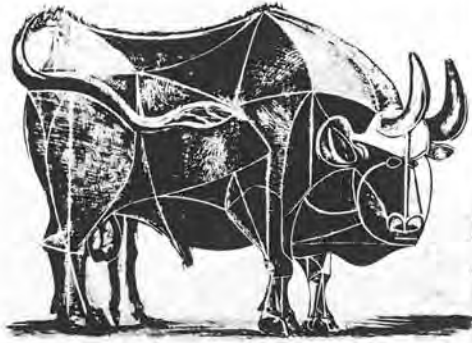
Minimum Lot Size: 20,000 square feet and 25-foot minimum width.

Floor-Area Ratio: 0.15

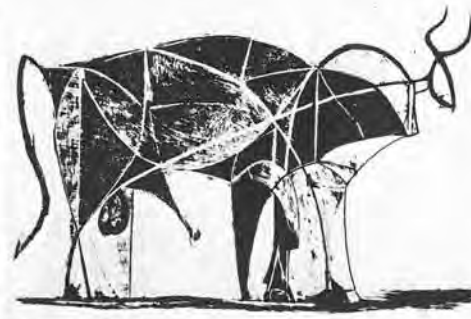
Bull, Paris, December 5, 1945–January 17, 1946
 Eleven progressive states of same lithograph, c. 11% x 16½" (28.9 x 41 cm)
 Mourlot 17, States I–XI. Collection Bernard Picasso, Paris



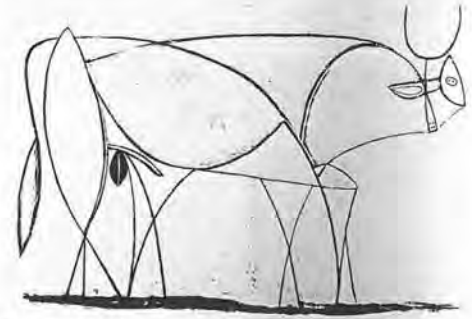
I. December 5, 1945



IV. December 22, 1945



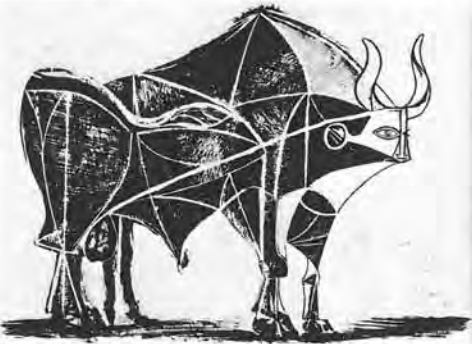
VI. December 26, 1945



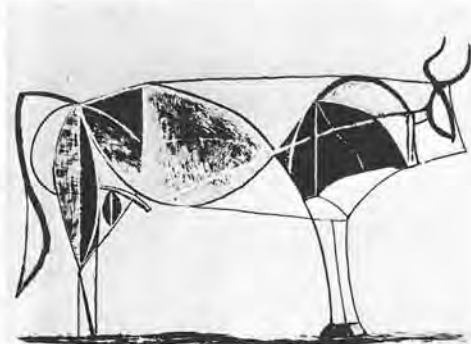
IX. January 5, 1946



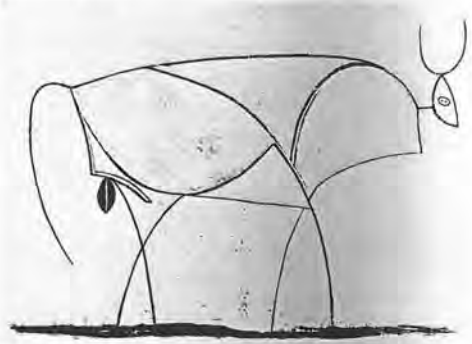
II. December 12, 1945



V. December 24, 1945



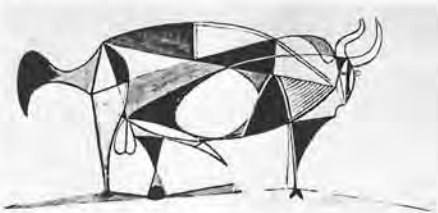
VII. December 28, 1945



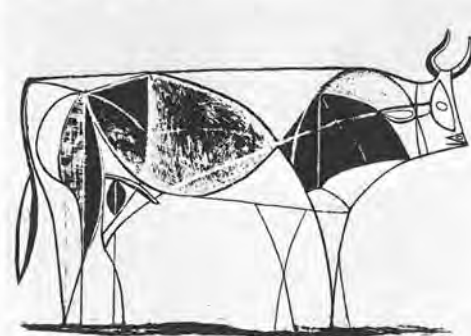
X. January 10, 1946



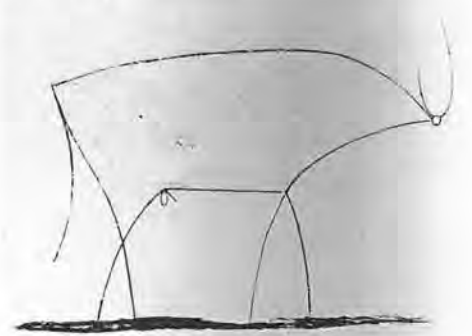
III. December 18, 1945



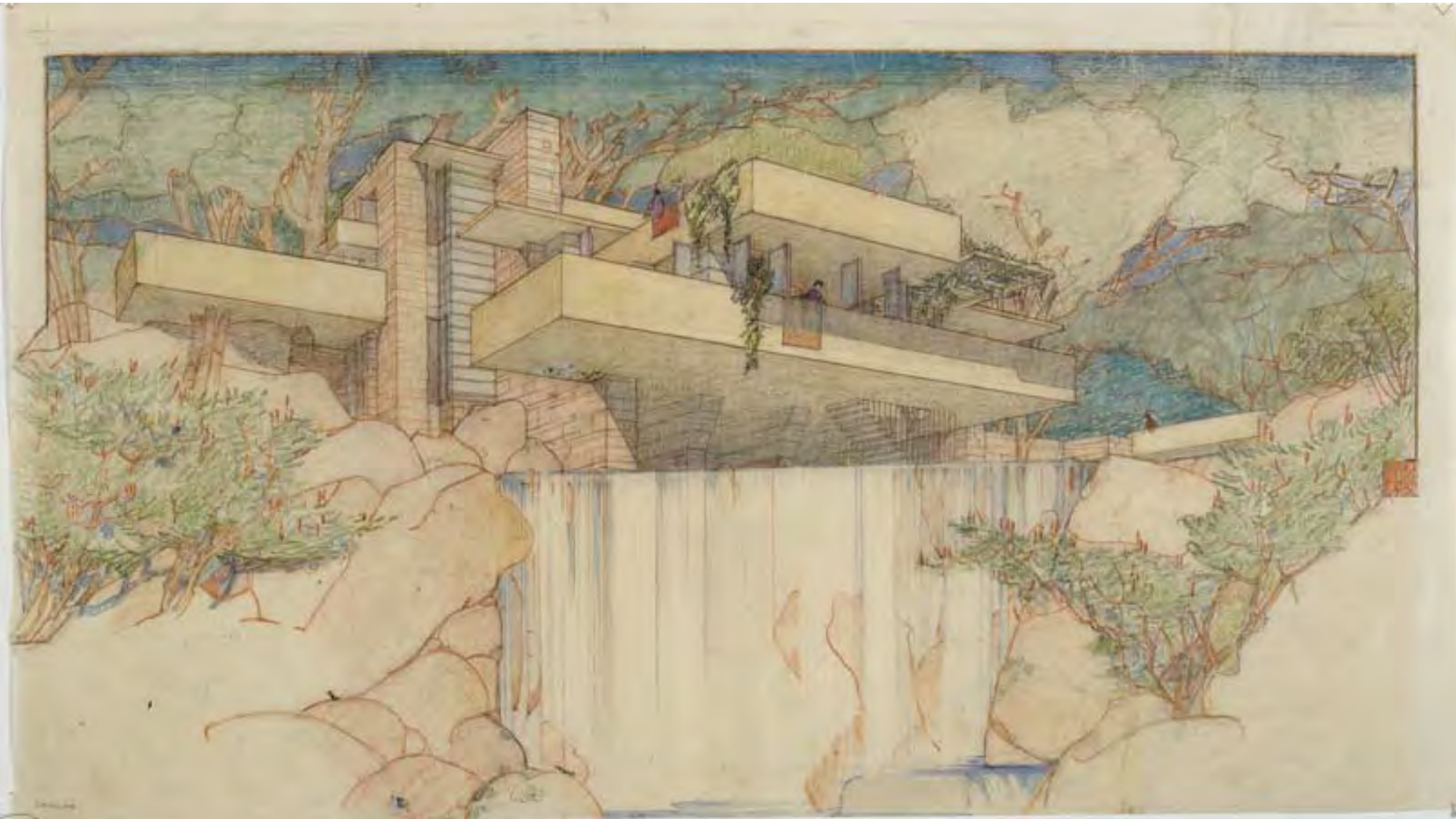
Bull, Paris, December 24–25, 1945
 Watercolor, gouache, and India ink on cardboard,
 5% x 11½" (13.3 x 29.1 cm)
 Zervos XIV, 130. Musée Picasso, Paris



VIII. January 2, 1946



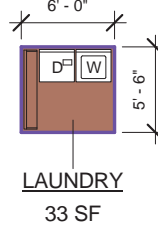
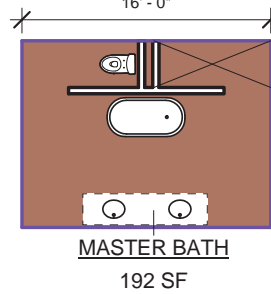
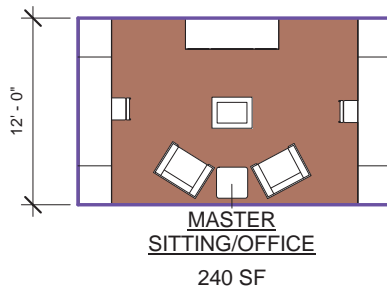
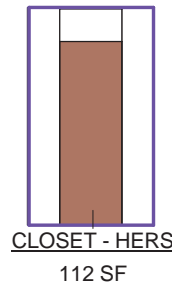
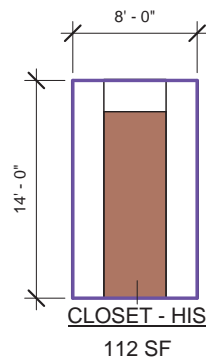
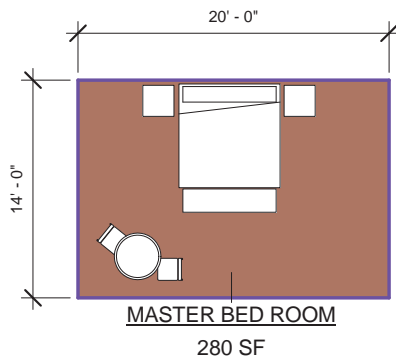
XI. January 17, 1946



ying li

10.31.2013





MASTER SUITE

BEDROOM

PRIVATE, COMFORTABLE AND COZY
SHOULD HAVE GREAT VIEWS OUT TO LANDSCAPE
ACCESS TO AN EXTERIOR PORCH
KING SIZE BED

BATHROOM

BATHROOM WITH TUB AND SHOWER (NOT ENTIRELY GLASS)
HEATED FLOORS IN BATHROOM
MAKEUP AREA

CLOSETS

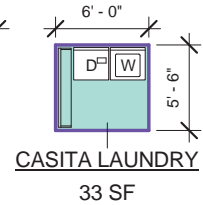
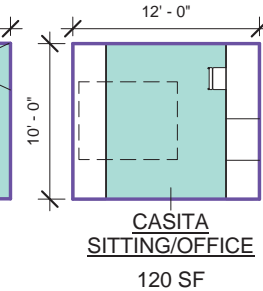
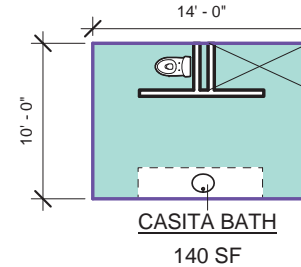
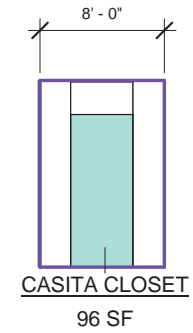
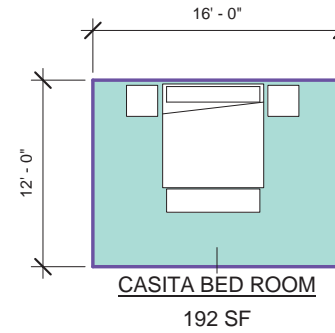
LARGE HIS AND HERS CLOSETS
HIDDEN SAFE

SITTING ROOM / OFFICE

TV/SITTING AREA
FIREPLACE
SMALL FRIDGE/COFFEE AREA
SMALL OFFICE AREA

LAUNDRY

SMALL LAUNDRY AREA OFF THE MASTER CLOSETS
WASHER/DRYER (STACKED?)
SHELVING



CASITA SUITE

SIMILAR TO MASTER SUITE EXCEPT SMALLER
NO TUB IN BATHROOM
ONE WALK IN CLOSET
SEPERATE HVAC ZONE
GROUND FLOOR NECESSARY FOR FUTURE WHEELCHAIR CONVERSION
OFFICE/SITTING AREA SHOULD HAVE MURPHY BED
POTENTIAL FOR EXTERIOR ACCESS
KITCHENETTE COMBINED WITH SITTING RM?