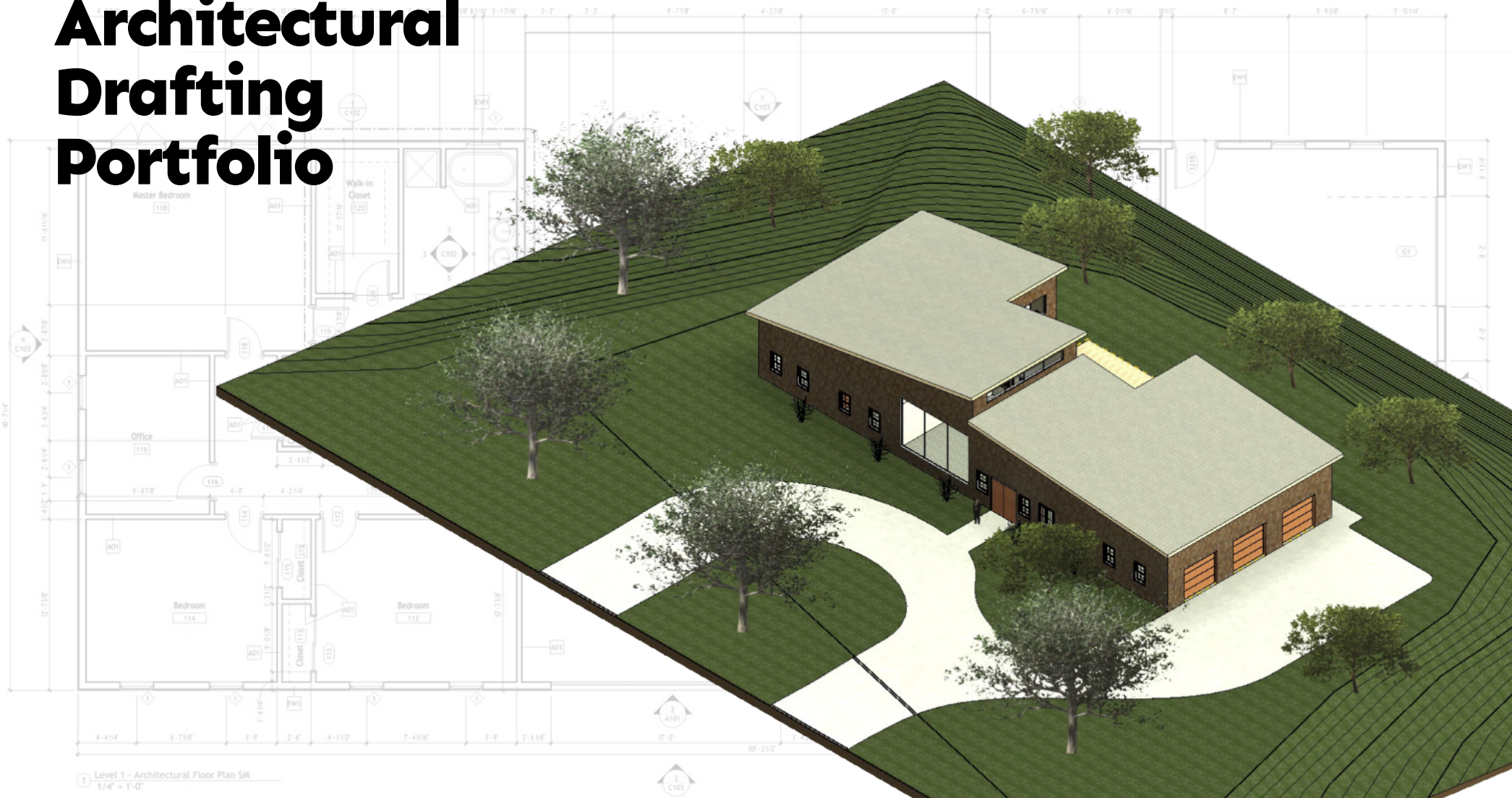


Architectural Drafting Portfolio



Shane McKnight
hello@shanemcknight.dev
<https://shanemcknight.dev>

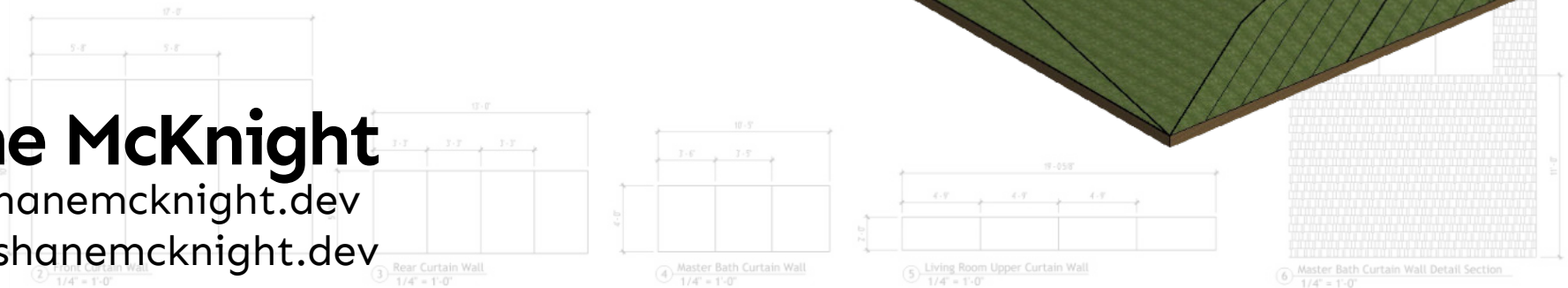


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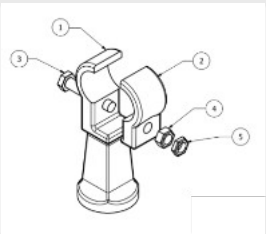


03

Residential Home Constr. Documentation

AutoCAD

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04

Hand Rail Column

Inventor

Page 3

Architectural Drafting & BIM Portfolio

I am a designer with over a decade of experience in graphic and web design transitioning my career to architectural drafting, CAD, and BIM.

From my professional experience in web and graphic design, I have developed skills in technical problem-solving and communicating complex information clearly as well as an understanding of visual hierarchy and composition. With a long-standing interest in architecture, I am taking what I know from design and applying it towards architectural drafting and BIM.

Through my architectural coursework, I have developed practical experience with Autodesk Revit and AutoCAD, including floor plans, architectural modeling, sections, elevations, drawing sheets, dimensioning, and construction documentation. My coursework has also introduced me to construction materials and specifications, as well as 3D modeling of parts and structures.

Technical Skills

CAD & BIM

Autodesk Revit • AutoCAD • Autodesk Inventor

Architectural Documentation

Floor Plans • Sections • Elevations • Dimensioning
Sheet Layout • Construction Documents

Graphic Design

Adobe Photoshop • Adobe Illustrator • Adobe InDesign

Web Design

HTML/CSS/Javascript • Wordpress • Shopify • Squarespace

Residential Floor Plan

AutoCAD • Academic Project: 2D CAD • 2026

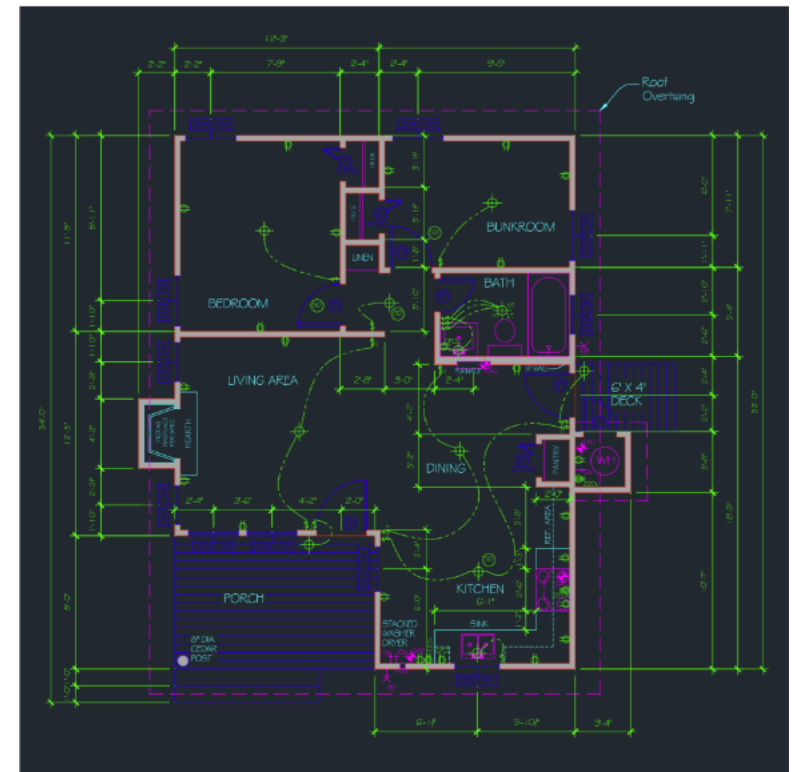


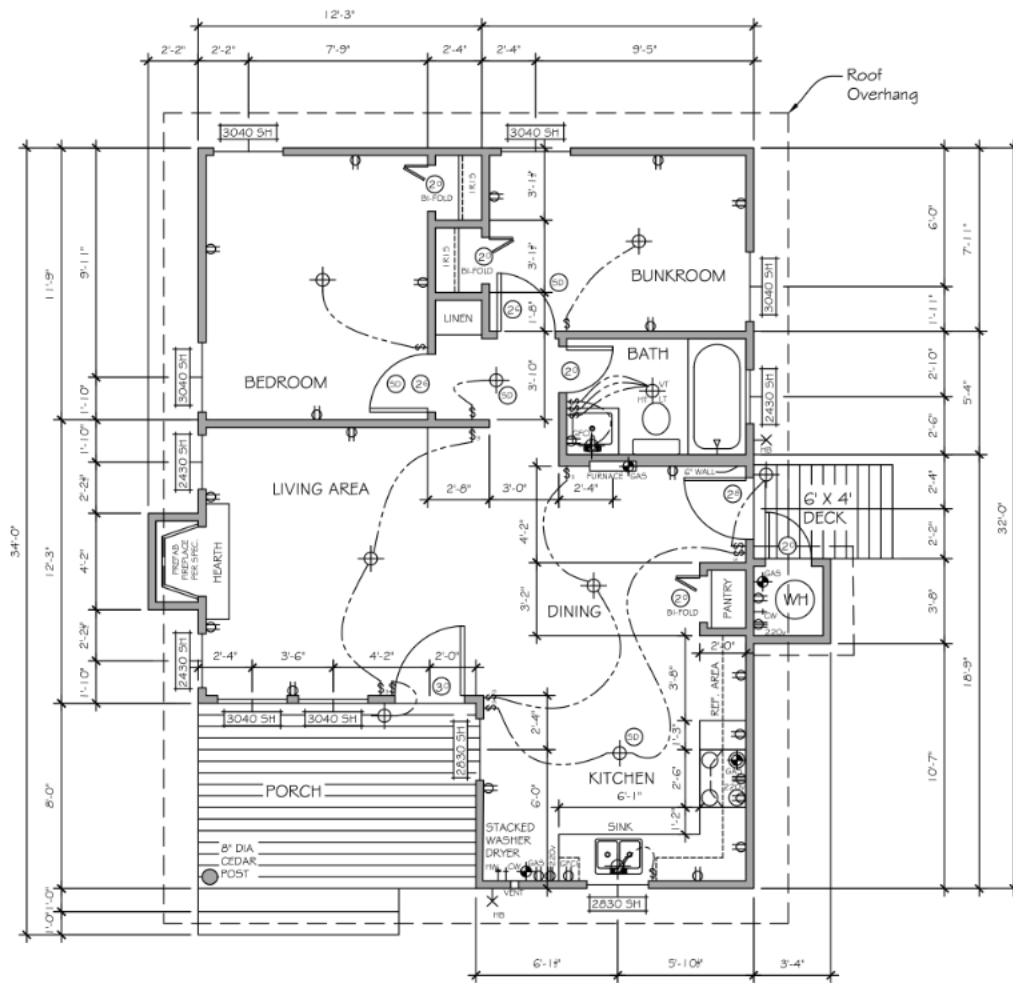
Project Objectives

- Demonstrate proficiency with core AutoCAD tools including drawing, modification, dimensioning, blocks, hatching, and sheet layout
- Translate a residential floor plan sketch into a complete, accurately drafted CAD drawing with appropriate annotations and construction notes
- Produce a clean, organized residential floor plan that follows standard drafting conventions and communicates design intent clearly

Project Overview

This project served as a capstone assignment for a 2D CAD course, emphasizing drafting accuracy, drawing organization, and proficiency with AutoCAD tools rather than comprehensive architectural design development.





FLOOR PLAN

SCALE: 3/16" = 1'-0"

NOTE: WALL THICKNESS = 4"

IVY TECH INDIANAPOLIS
SHANE MCKNIGHT
50 W FALL CREEK PKWY N DR
INDIANAPOLIS, INDIANA

PROJECT NAME:
DESN 113
CAPSTONE PR. 2.1

SCALE:
3/16" = 1'-0"

DATE:
03/01/26

SHEET:
1 OF 1

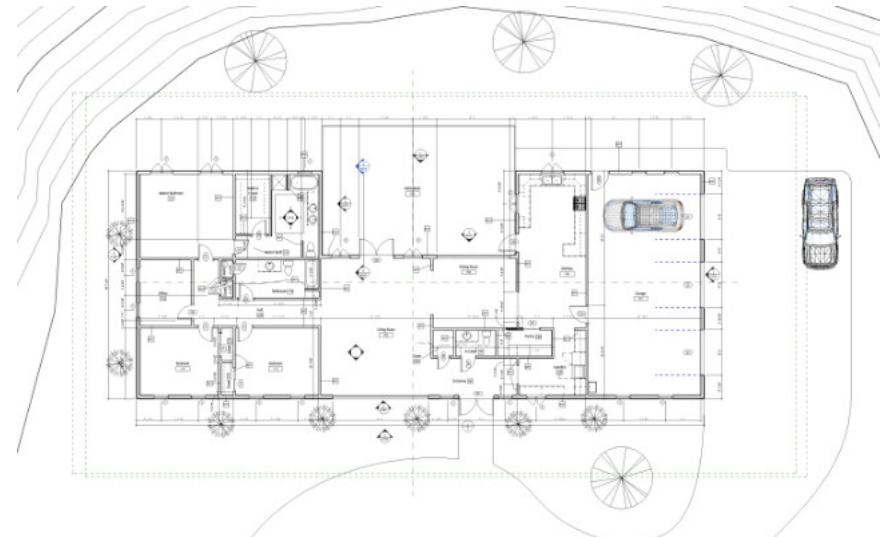
Residential Building Model / BIM

Revit • Academic Project: BIM Architecture • 2026



Project Objectives

- Establish the core tools of creating floor plans: walls, doors, windows, floors, ceilings, roofs, families, and defined rooms
- Create detailed renderings of 3D views, section views, and elevation views
- Prepare organized construction documents with necessary annotations, dimensions, and notes

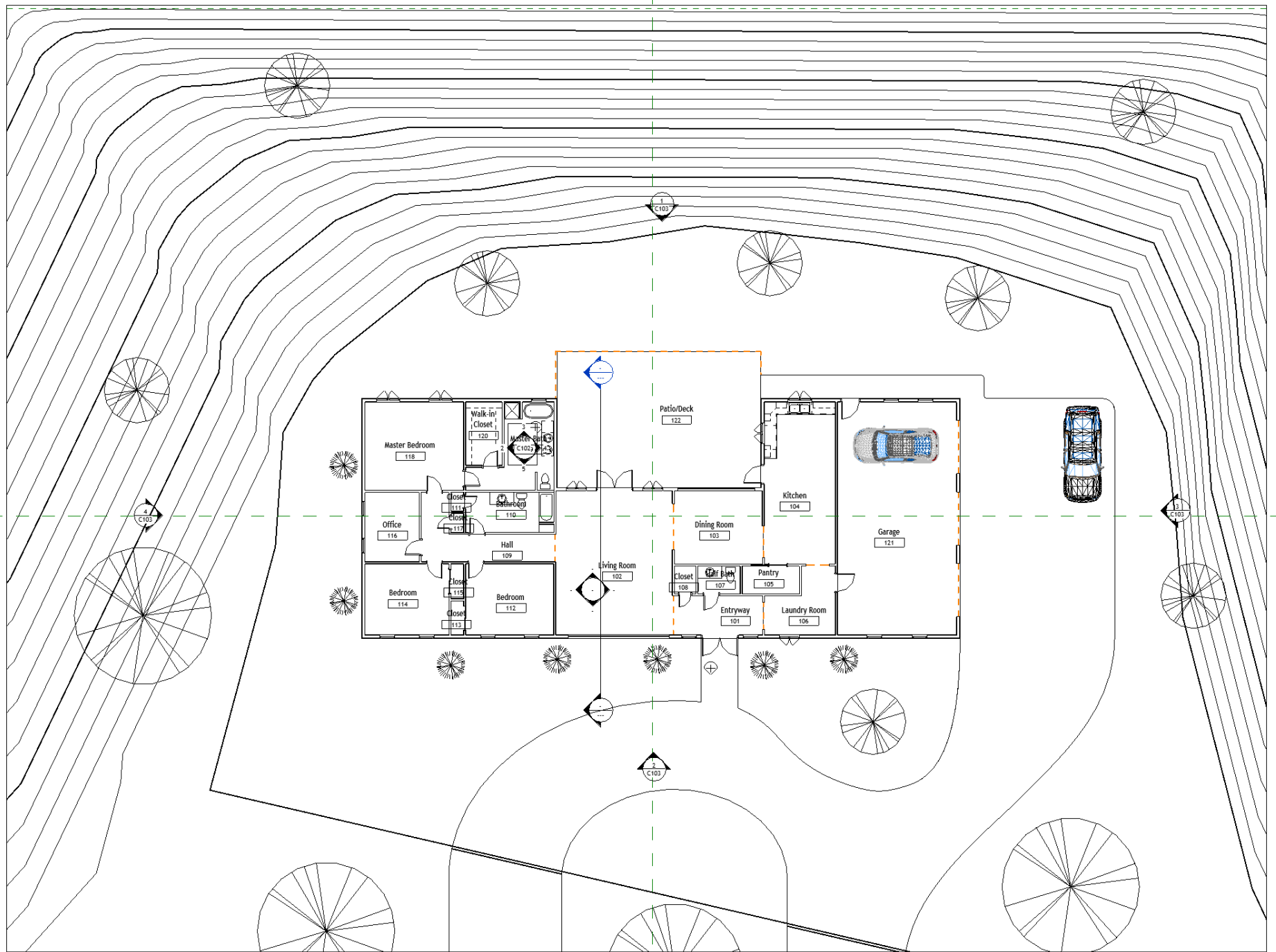


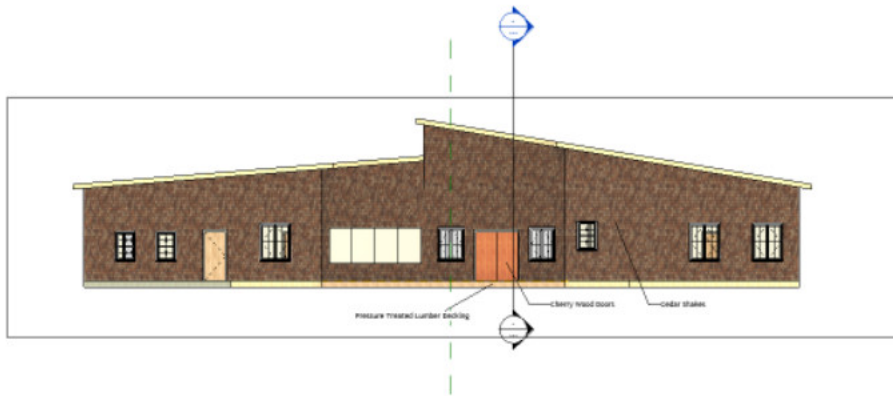
Project Overview

This was course-long project that built upon itself to learn a wide array of tools and techniques of Revit such as defining a building structure through floor plans; creating different section, elevation, and 3D views; and arranging plans and views onto sheets for plotting.

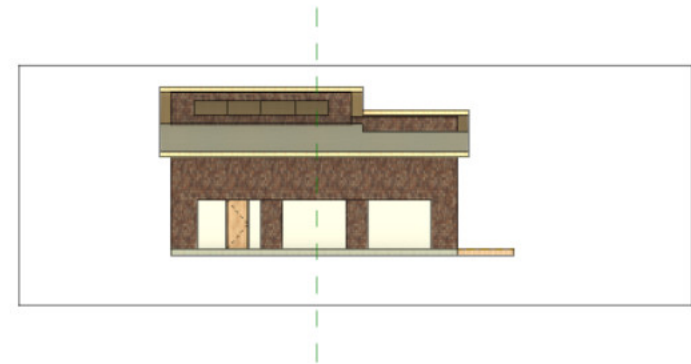




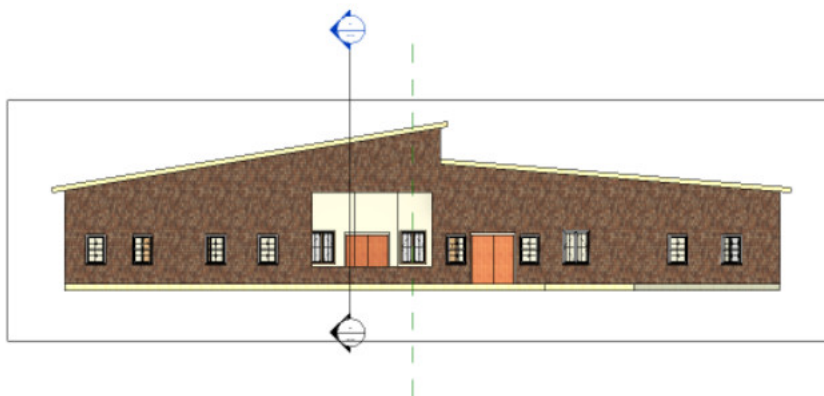




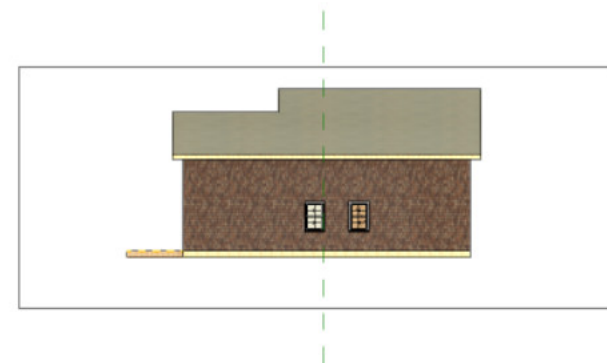
① North Elev
1/8" = 1'-0"



③ East Elev
1/8" = 1'-0"



② South Elev
1/8" = 1'-0"



④ West Elev
1/8" = 1'-0"

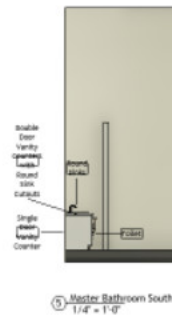
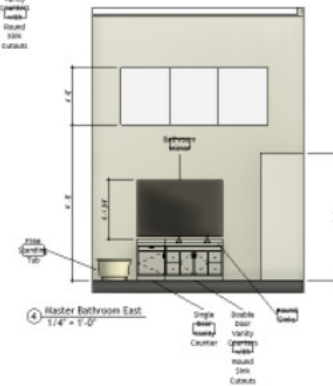
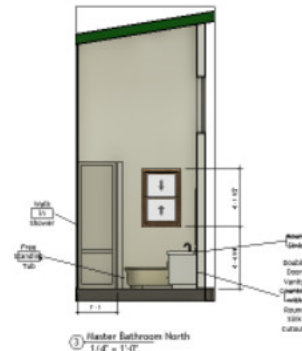
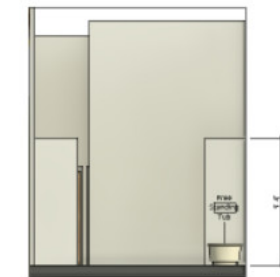
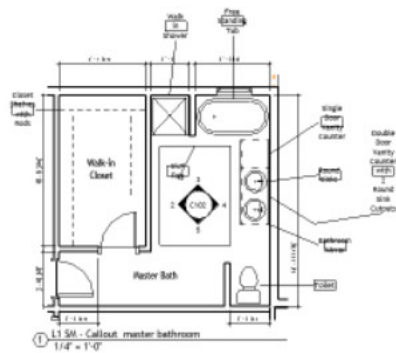


Exterior Elevations

Tom Wilson
123 Sunset Lane
Greencastle, IN 46135

04/15/24
ACB0001
1/8" = 1'-0"

Ampersand
Design+Build



Master Bathroom

Tom Wilson
123 Sunset Lane
Greencastle, IN 46135

04/15/24
AD80001
1/4" = 1'-0"

Ampersand
Design+Build

Residential Construction Documents

AutoCAD • Academic Project: Residential Design • 2026

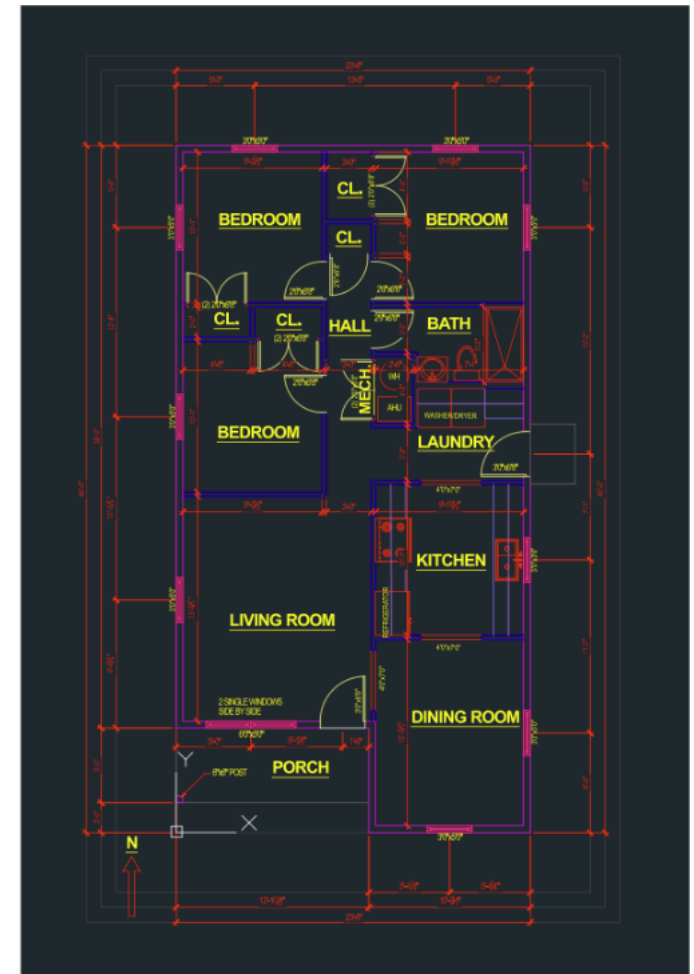


Project Objectives

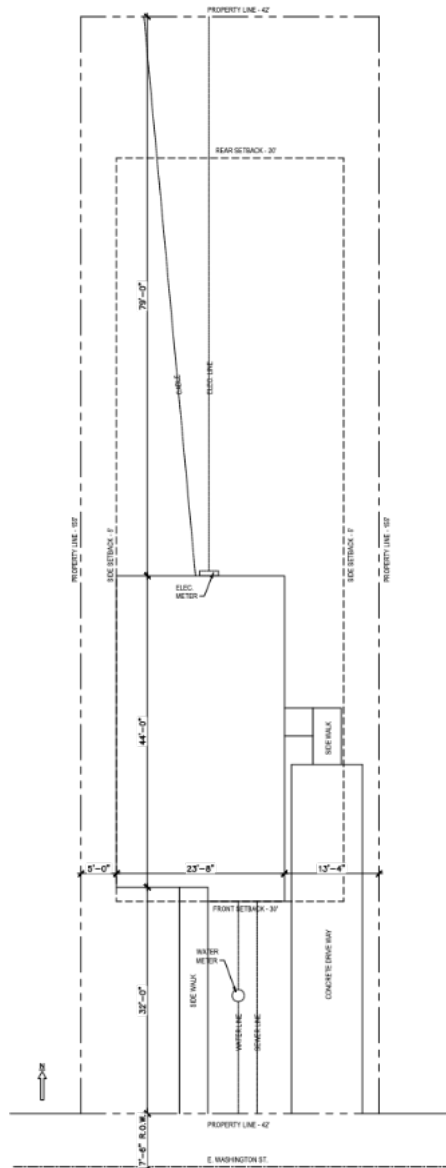
- Learn and create primary types of drawings and sheets included in a set of construction documents: floor plan, elevation drawings, site plan, foundation plan, roof plan, wall sections, mechanical plan, electrical plan, plumbing plans
- Understand IRC regulations and requirements for residential building projects
- Read design sketches and translate them into detailed AutoCAD drawings

Project Overview

This project built over the course of a semester focusing on a different type of construction document each week. This project and course introduced various IRC requirements for residential building projects and how to implement them into a building project.

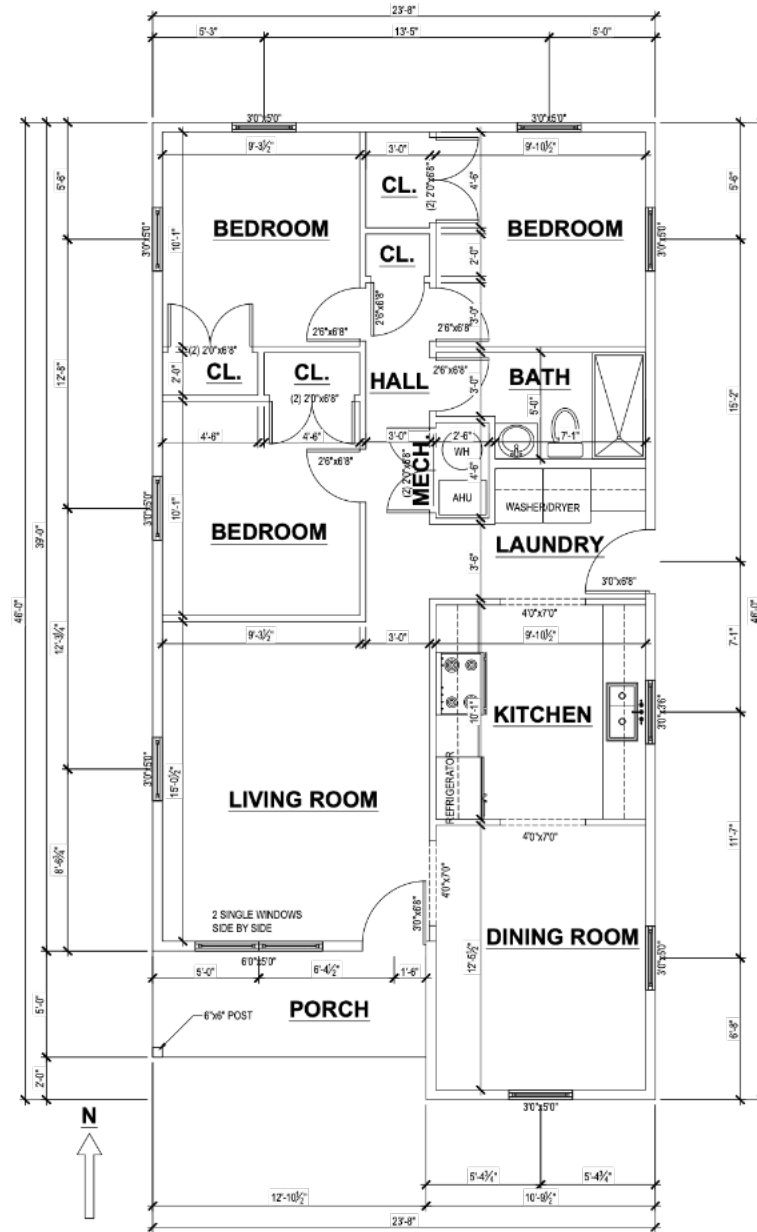


*Note: Drawing Scales are based on original 36"x24" sheets and have been cropped/resized for Portfolio to allow for more drawings per portfolio page.



SITE PLAN

SCALE: 1/16" = 1'-0"



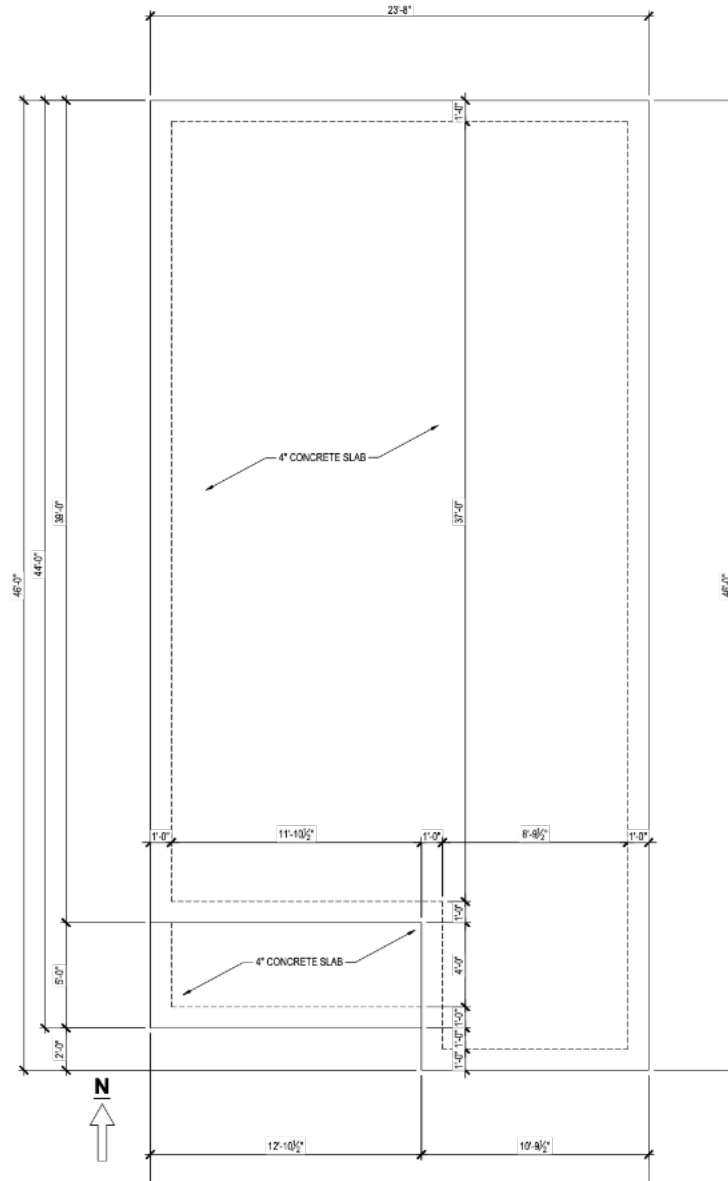
FLOOR PLAN

SCALE: 1/4" = 1'-0"

*Note: Drawing Scales are based on original 36"x24" sheets and have been cropped/resized for Portfolio to allow for more drawings per portfolio page.

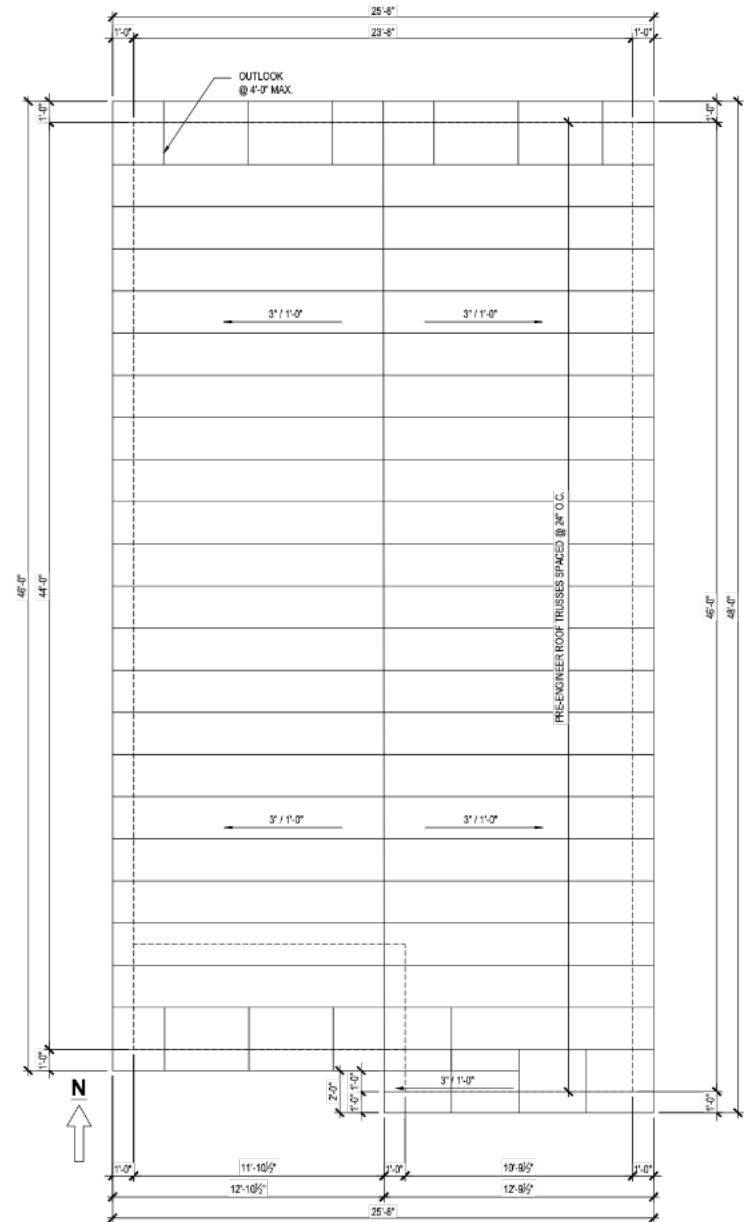
FOUNDATION NOTES:

1. SPREAD AND OR CONTINUOUS FOOTING BEARING MATERIALS SHOULD EITHER BE ON UNDISTURBED SOILS OR 95% COMPACTED SOIL IN 12" LIFTS NOT TO EXCEED 4'-0". UNLESS APPROVED BY CERTIFIED INSPECTION OR BUILDING OFFICIAL.
2. BOTTOM OF FOOTING SHALL BE NO LESS THAN 12" BELOW NATURAL GRADE OR CERTIFIED COMPACTED PAD AND ALWAYS BELOW FROST LINE.
3. ALLOWABLE FOUNDATION BEARING PRESSURE SHALL BE 1,500 PSI.
4. FINISH GRADE SHALL SLOPE 5% MINIMUM FOR A DISTANCE OF 10'-0" AWAY FROM STRUCTURE TOWARD AND APPROVED WATER DISPOSAL AREA.
5. FINISHED FLOOR SHALL BE A MINIMUM OF 8" ABOVE ADJACENT FINISHED GRADE.
6. SLOPE OF LANDINGS AT DOORWAYS SHALL BE A MINIMUM OF 1" PER 10'-0".
7. UNLESS APPROVED OTHERWISE, ALL CONCRETE SLABS ON GRADE SHALL BE BOUNDED BY CONTROL JOINTS (KEYED OR SAW CUT) SUCH THAT THE ENCLOSED AREA DOES NOT EXCEED 400 SQ. FT. -SAW CUT WITHIN 24 HOUR PERIOD AFTER POUR.
8. ALL FOOTINGS SHALL BE 2,900 PSI (28 DAY COMPRESSIVE STRENGTH CONCRETE) WITH HORIZ. #4 REBAR CONTINUOUS (OVERLAP REBAR 30 BAR DIAMETERS) AT TOP & BOTTOM. FOOTING SIZE = 12" (WIDE) X 18" (DEEP), U.N.O.
9. ALL SLABS ON GRADE SHALL BE 2,900 PSI (28 DAY COMPRESSIVE STRENGTH CONCRETE), UNLESS NOTED OTHERWISE.
10. ALL SLABS ON GRADE SHALL BE 4" THICK (MIN.) REINF. W/ #3 BARS AT 24" O.C. EACH AND BEAR ON 4" (MIN.) COMPACTED AGGREGATE BASE COURSE (COMPACTED TO 95%) UNLESS NOTED OTHERWISE.
11. FOUNDATION WALLS ARE NOT TO BE BACKFILLED UNTIL FLOOR SYSTEM IS COMPLETELY IN PLACE.
12. INSTALL 12" DIA. X 12" ANCHOR BOLTS TO 2x6 PRE-TREATED SILL PLATE OVER SILL SEALER AT 48" O.C. & NOT MORE THAN 12" FROM ANY CORNER OR END OF PLATE.
13. IN THE EVENT THAT STEPPED FOOTINGS ARE REQUIRED - HORIZONTAL DIMENSION = 32" (MIN.) ; VERTICAL DIMENSION = 24" (MAX.)
14. ALL REINFORCING STEEL FOR CONCRETE SHALL COMPLY WITH ASTM SPECIFICATION A-615 GRADE 60.
15. CONTRACTOR TO PROVIDE 30' OF #4 COPPER U.F.F.R. WIRE 20' TO BE TIED TO FOOTING STEEL & 10' AVAILABLE AT PANEL LOCATION.
16. WHERE HOLD DOWNS ARE PLACED, ALL REBARS, ANCHOR BOLTS & SSTB BOLTS MUST BE TIED IN PLACE BEFORE PLACING ANY CONCRETE. NO "WET STABBING" ALLOWED



FOUNDATION PLAN

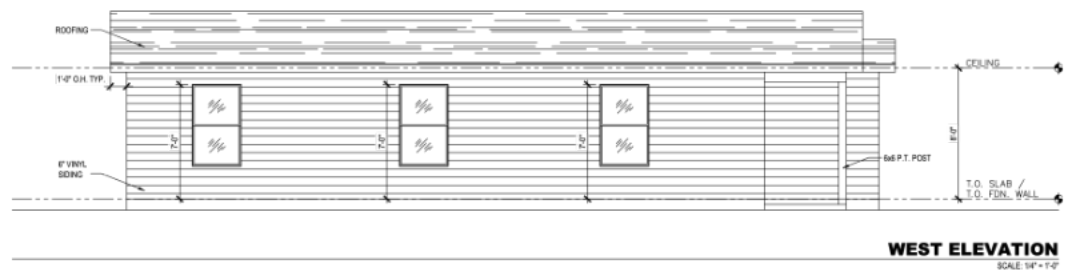
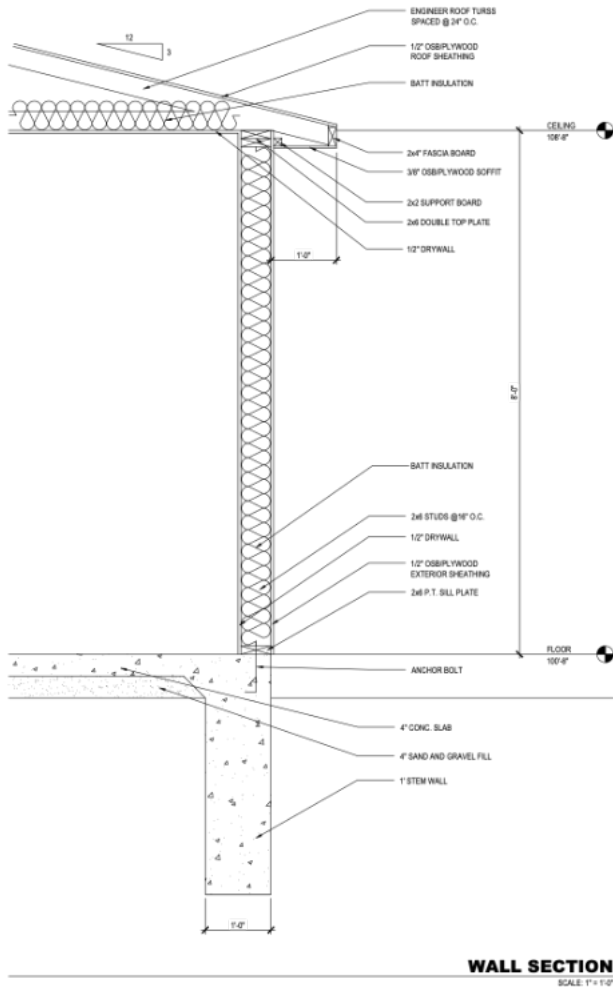
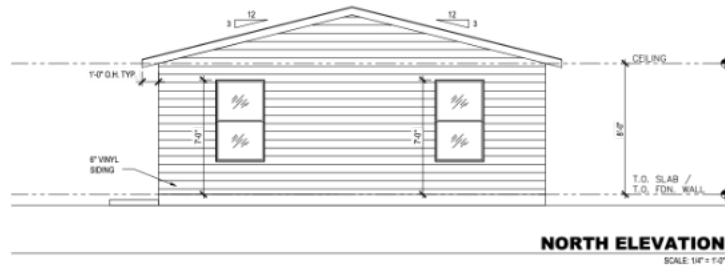
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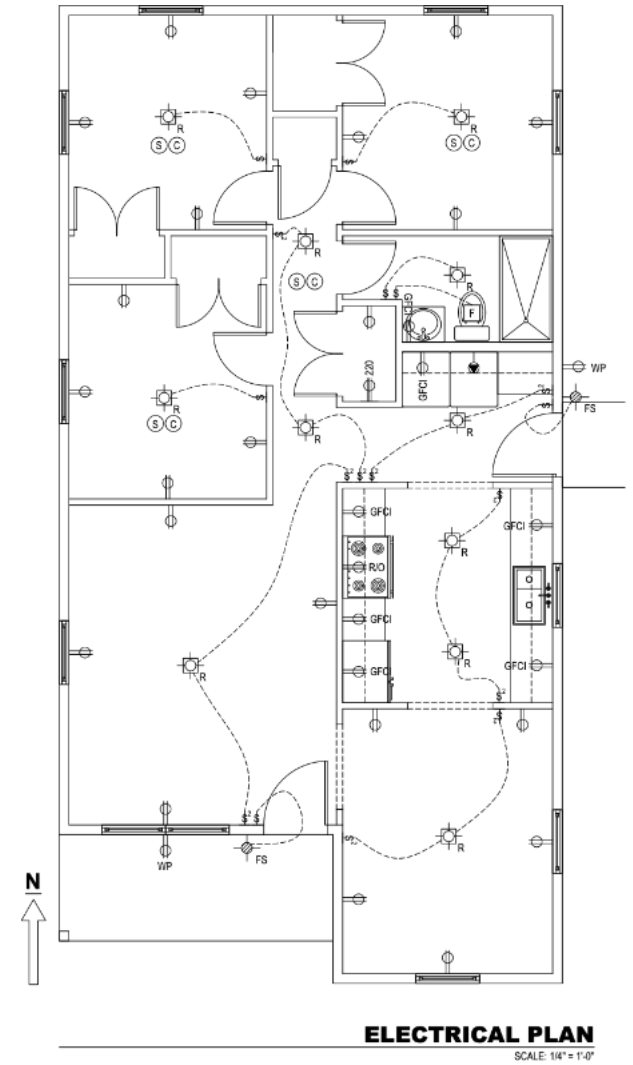
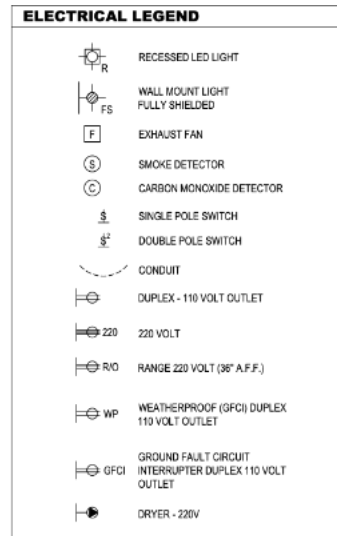
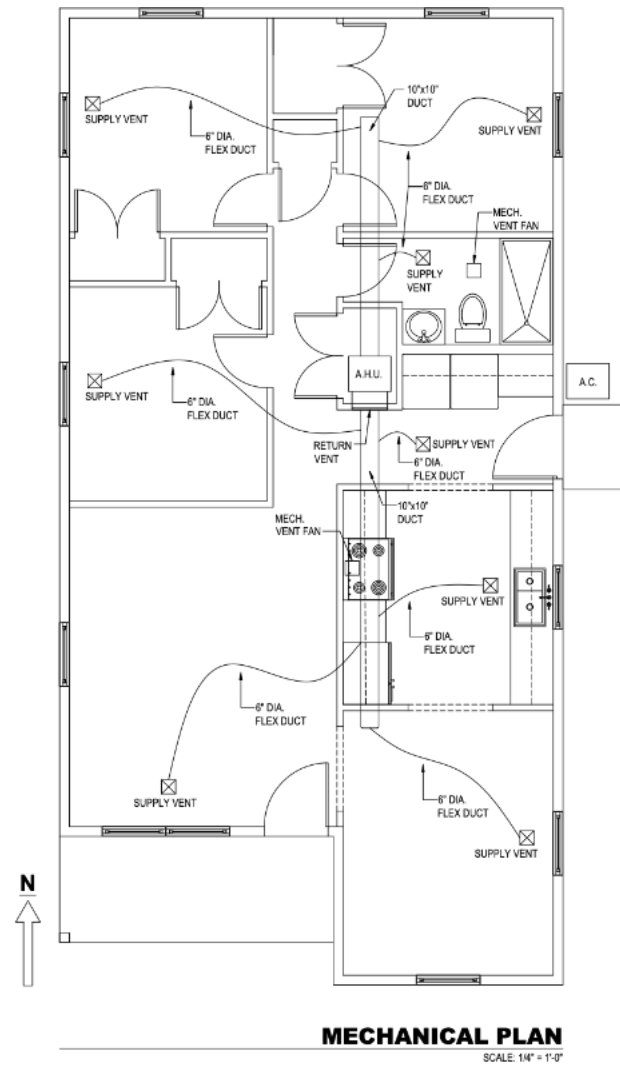
ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"

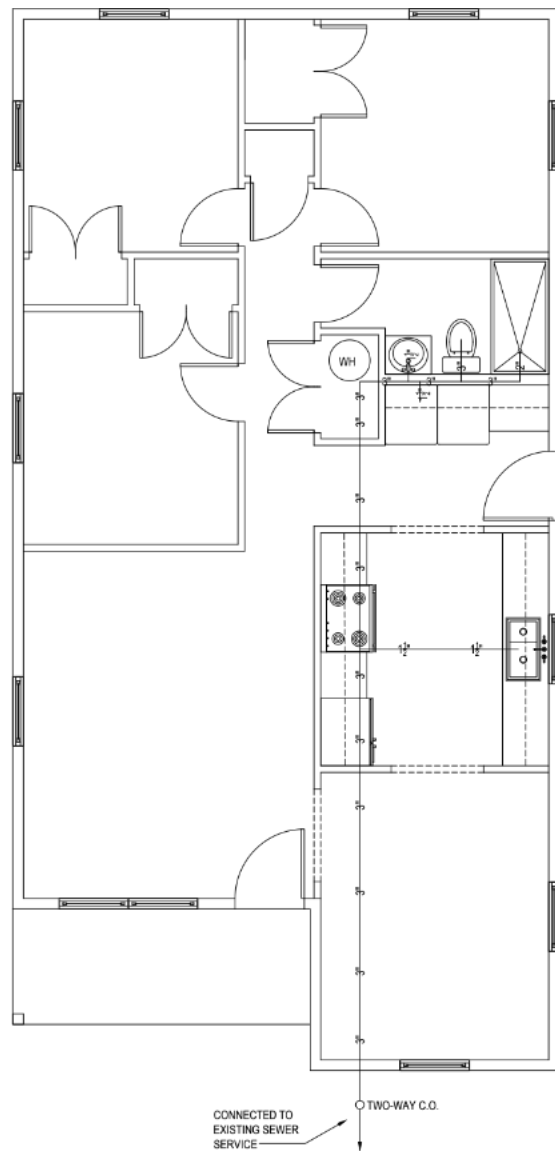
*Note: Drawing Scales are based on original 36"x24" sheets and have been cropped/resized for Portfolio to allow for more drawings per portfolio page.



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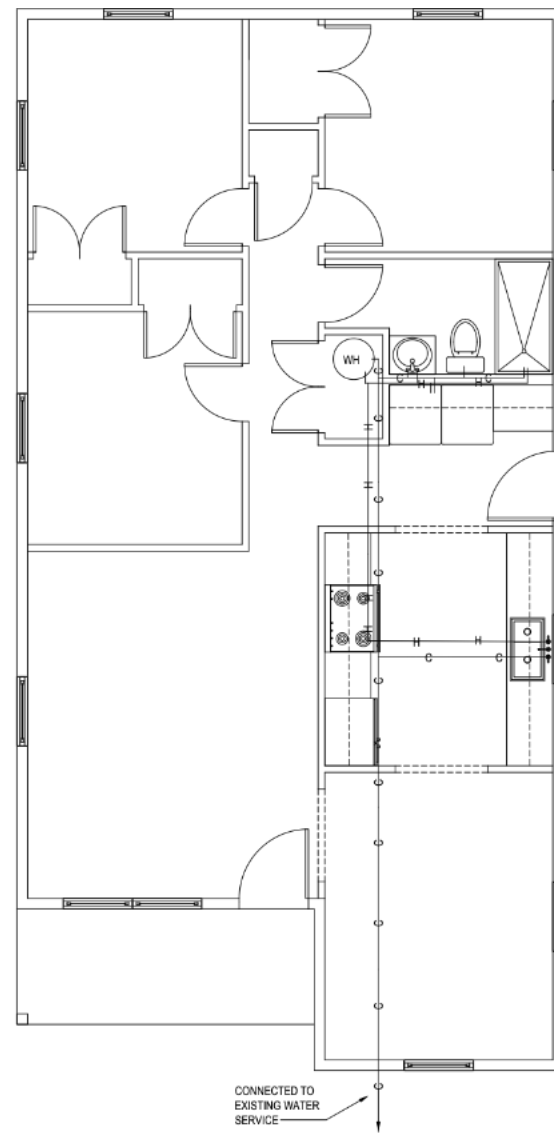


*Note: Drawing Scales are based on original 36"x24" sheets and have been cropped/resized for Portfolio to allow for more drawings per portfolio page.



WASTE PLAN

SCALE: 1/4" = 1'-0"



HOT AND COLD WATER PLAN

SCALE: 1/4" = 1'-0"

Hand Rail Column, Assembly

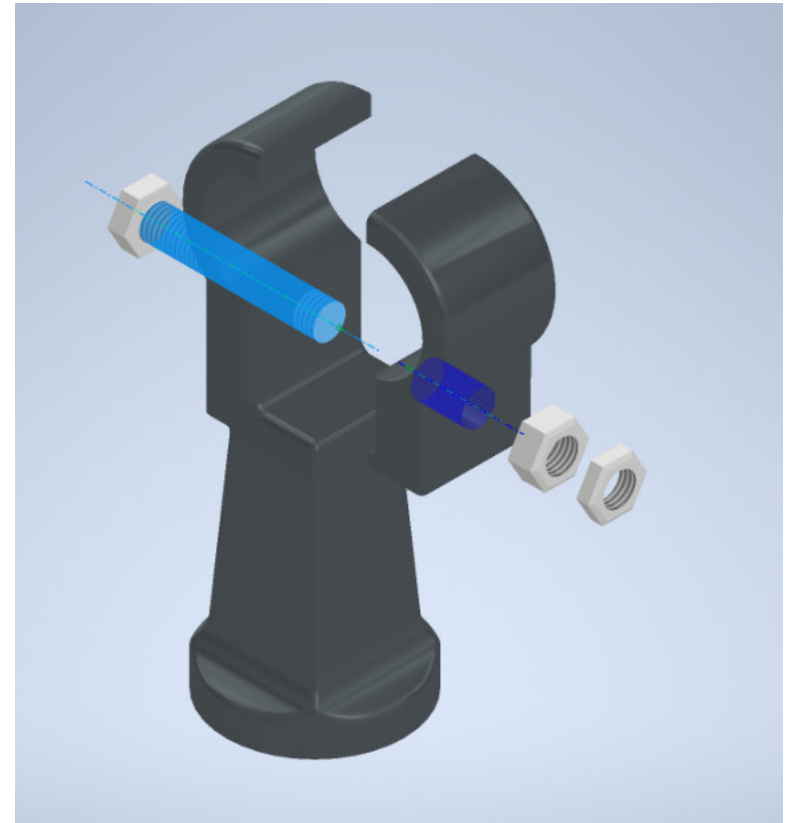
Inventor • Academic Project: 3D CAD • 2026

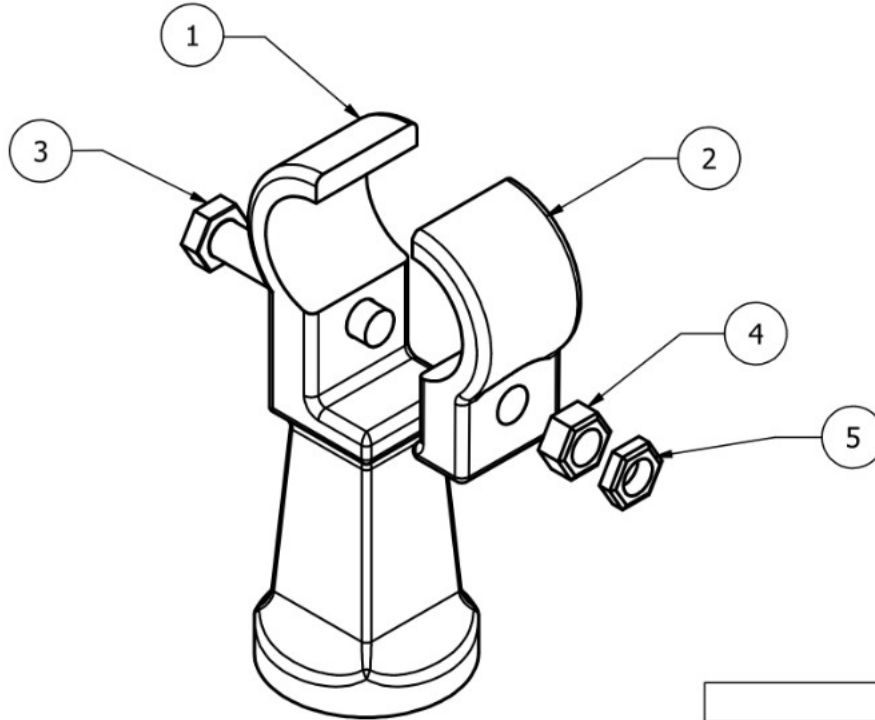
Project Objectives

- Demonstrate proficiency with Autodesk Inventor's 3D part modeling and assembly tools
- Develop individual components from provided design specifications and assemble them into a complete hand rail column using appropriate Inventor constraints
- Produce an assembly drawing that clearly communicates component relationships, dimensions, and hardware
- Apply appropriate technical drawing conventions to document the completed assembly

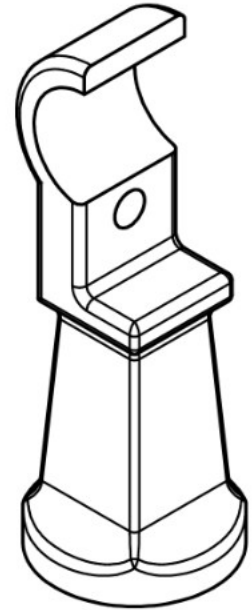
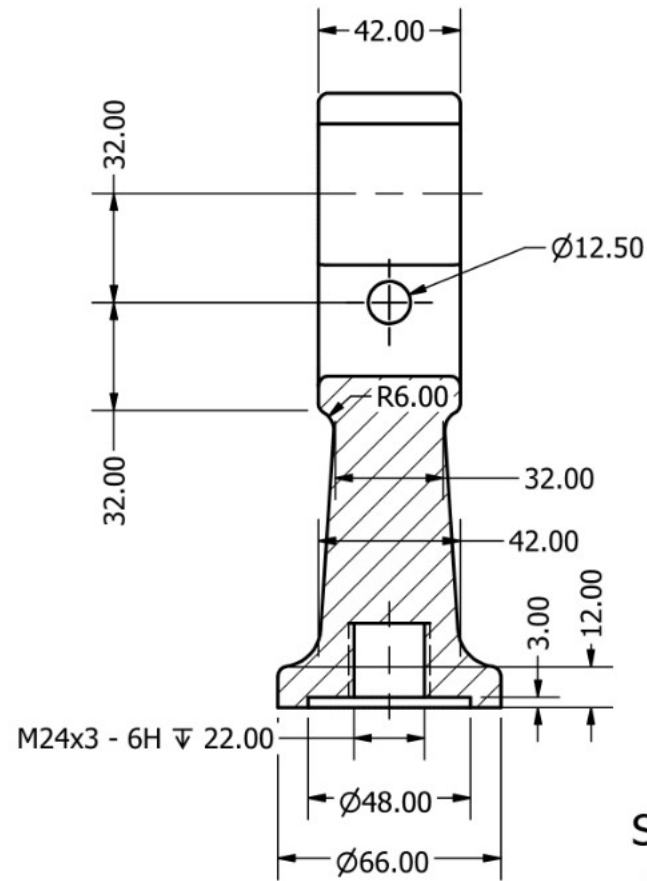
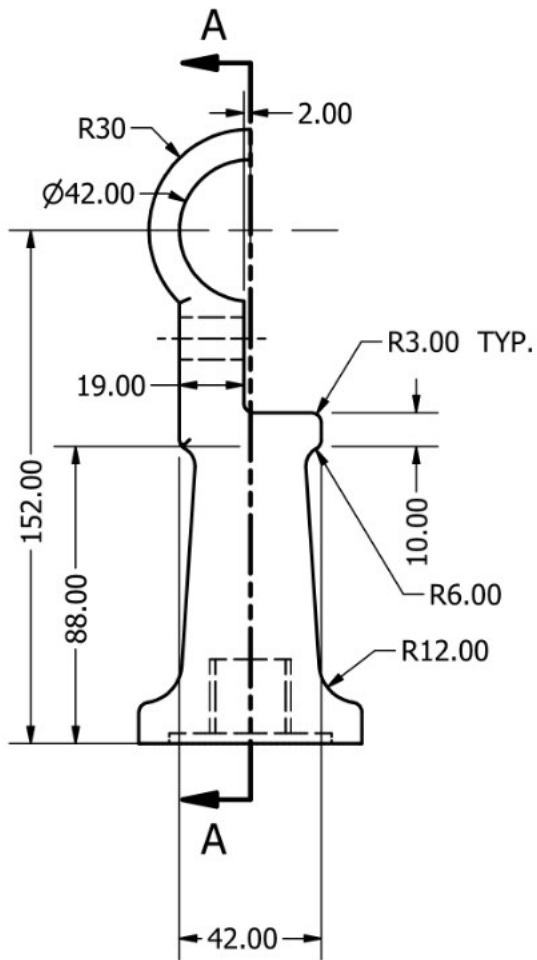
Project Overview

This project demonstrates the ability to develop individual 3D components, establish relationships between parts, and document a completed assembly through technical drawings.



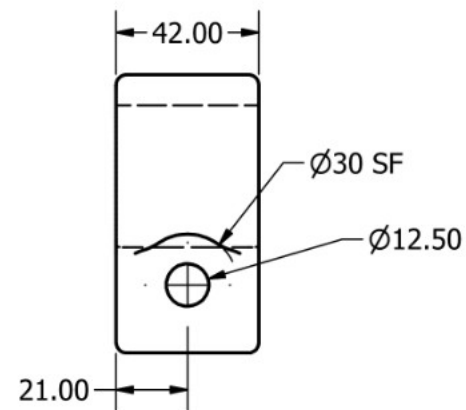
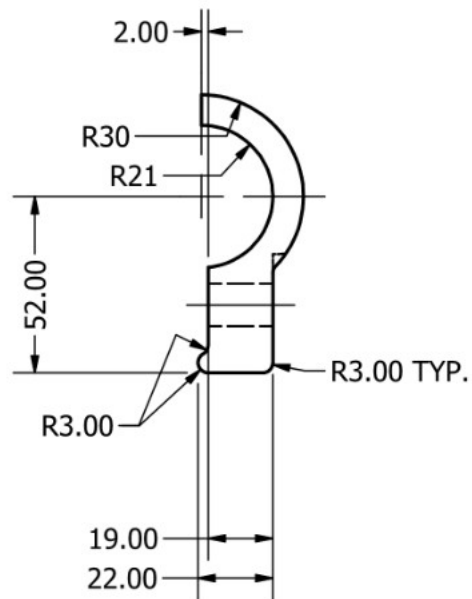


PARTS LIST			
ITEM	QTY	PART NUMBER	
1	1	COLUMN, CAST IRON	
2	1	CAP, CAST IRON	
3	1	M12 x 1.75 - 65 LG, HEX SCREW CAP	
4	1	HEX NUT	
5	1	HEX LOCK NUT	
		IVY TECH COMMUNITY COLLEGE OF INDIANA 50 WEST FALL CREEK PARKWAY NORTH DRIVE INDIANAPOLIS, IN 46208	
		HAND RAIL COLUMN, ASSEMBLY	
COURSE INFORMATION DESN220 3D CAD		DRAWN BY: S. MCKNIGHT	DATE: 07/26/2026
PROPERTY OF IVY TECH COMMUNITY COLLEGE UNAUTHORIZED USE PROHIBITED EXCEPT BY WRITTEN PERMISSION		SCALE: 1:2	UNITS: MM SHEET: 3 OF 3



SECTION A-A
SCALE 1 / 2

	IVY TECH COMMUNITY COLLEGE OF INDIANA 50 WEST FALL CREEK PARKWAY NORTH DRIVE INDIANAPOLIS, IN 46208		
	COLUMN, CAST IRON		
COURSE INFORMATION DESN220 3D CAD	DRAWN BY: S. MCKNIGHT	DATE: 07/26/2026	
PROPERTY OF IVY TECH COMMUNITY COLLEGE UNAUTHORIZED USE PROHIBITED EXCEPT BY WRITTEN PERMISSION	SCALE: 1:2	UNITS: MM	SHEET: 1 OF 3



	IVY TECH COMMUNITY COLLEGE OF INDIANA 50 WEST FALL CREEK PARKWAY NORTH DRIVE INDIANAPOLIS, IN 46208		
	CAP, CAST IRON		
COURSE INFORMATION DESN220 3D CAD	DRAWN BY: S. MCKNIGHT		DATE: 07/26/2026
PROPERTY OF IVY TECH COMMUNITY COLLEGE UNAUTHORIZED USE PROHIBITED EXCEPT BY WRITTEN PERMISSION	SCALE: 1:2	UNITS: MM	SHEET: 2 OF 3