

TIMMED DESIGN EXERCISE

Timed Design Exercise

Part 1 of 2

Instructions to Students

1. Read all of these instructions before beginning the exercise.
2. Review the project and code requirements as well as the site plan P1-1.
3. Review the matrix, material options, and material schedules P1-1.
4. Review the interior elevation showing the window fenestration from the interior P1-1.
5. Review the floor plan P1-2.
6. Read the entire project description and carefully review the requirements in each area.
7. Complete the adjacency matrix P1-1.
8. Show your proposed layout on the sheet given to solve the problem defined (following).
9. Select finish materials for the floors and walls and indicate the best choice by circling it on the schedule P1-1.
10. Write your control number in the lower right of every sheet—even the ones that you don't write on.

Code Requirements

- All exterior doors are available for egress as they swing out and have a minimum clear opening of 3'.
- Egress paths of travel may not pass through areas that may be blocked, locked, or used for storage.
- Barrier free requires a 5' turning circle (show as a dotted line) at every change in direction. Paths of travel not required for egress are not bound by this restriction.
- Egress must be provided from the residence without requiring the weaver to pass through the shop to exit.
- Maintain a minimum width of 44" along accessible routes.
- Doors and storage units that open toward a path of travel may not limit the clear passage width when open.
- Doors to be a minimum of 3' clear width in all accessible spaces and a minimum 30" clear width otherwise.
- Doors in accessible areas must be flanked by clear wall space 18" on the pull side and 12" wide on the push side along the latching side.
- Sinks in barrier-free areas must have clear knee space below and may not encroach on the turning circle more than 6".
- Door swings may not encroach on turning circles.
- Habitable spaces in the living space/apartment must have an operable window.
- Floors in areas with sinks must be slip resistant.
- Surfaces in bathrooms and washrooms must be moisture resistant.

Design Requirements

All items, adjacencies, and attributes mentioned in this document are required in your passing solution. Use a freehand sketch or drafting to represent items in accurate scale. Draw your solution on drawing sheets provided using ink or felt tip (it will be assumed that all pencil is preliminary to your final solution and not intended as part of your final solution). You need only erase pencil marks that will interfere with comprehension of your solution.

Complete the partition and furniture plan on P1-1, showing typical required details (door swings, backs on chairs, pillows on bed, etc.) to the extent necessary to distinguish one type of item from another. Label all spaces listed in the project description. Include the lineal feet or cubic feet of storage required with the label for such items where the specific requirement is noted on the project requirements list.

Project Description

In a rural vacation destination, a varied group of artisans creates and sells their work within an enclave of small separate buildings. A weaver lives, works, and teaches weaving at the project location. The living area is to be located to have discreet access from the shop and is also to have direct access to the outside. Classes are held in the shop after the close of business. The shop, studio for classes, and the shop restroom are to be handicapped accessible. An office for managing business and a storage room for extra stock is to be conveniently accessed from the shop but screened from customers.

Plumbing locations should all be within a 36' diameter circle (circle location to be determined by you and indicated on the plan with a dotted line). The building shell with windows and doors as indicated cannot be changed; the exterior of the building cannot be changed. Access flooring is used throughout EXCEPT in the apartment bathroom and kitchen and in the shop washroom. Except for the windows in the two projecting corners, the windows are 3' from finished floor to bottom of the apron. The projecting windows in the NW and SE are 18" from floor to sill.

Requirements for each functional area follow. Address the items to be represented as well as adjacencies and privacy considerations. Functions may be combined as long as all requirements are met.

Shop Area

Weaver's Work Area

1. Loom 108" wide and 48" deep with a seat for the weaver
2. 21 lineal feet of shelving that is 10" deep and provides 10" of height per shelf for cones and baskets of yarn
3. Sink 30" wide × 18" deep from front to back with 4' of counter surface to the right

The weaver works at the loom when there are no customers in the shop, so it must be possible to visually monitor the shop from the loom, but customers must not have access to this area. This area need not be handicapped accessible.

Retail Shop

1. Full-height display shelving 20" deep and a total/aggregate width of 20' (need not be contiguous).
2. Three separate tabletop displays 30" × 72" with storage below. Tables are on locking casters.
3. Clear floor space for stacks of rugs organized in piles by size. Each stack to have a clear floor space of the same size as the rug, immediately adjacent to the rug for comparing two rugs of the same size to each other. Show the rug location with a solid line and the clear area with a dotted line. Rug sizes are 4' × 6', 8' × 10', 6' × 9'.

4. Point-of-sale station/cash-wrap 2'-6" deep × 5' wide minimum must be centrally located and salesperson must be able to monitor the doors.
5. Lounge seating for 3 to 5 persons arranged for conversation.
6. Surface for a snack buffet that provides 18 square feet of surface has storage below for glasses, mugs, and plates.
7. Accessible restroom with toilet, sink, storage cabinet 10" deep × 2' wide, which should also be accessible. Label grab bars.

This area is used for promotional events that have a social atmosphere, and food and drinks are served at these functions. The weaver also entertains friends who stop by after hours. This area must be accessible.

Office

1. Allocate room 120 square feet
2. Closet within room for phone and computer equipment full height 3' × 3' Storage
1. Allocate 80 square feet for woven goods for resale

Studio Classroom

1. Four looms 3' wide × 2' deep from front to back, each with a chair
 2. Sink 30" wide × 18" deep with 4' of clear counter space to the right
 3. 45 lineal feet of 18" deep shelving, each shelf having 12" of height
- This area may be open to the shop but must be a distinctly separate area so customers do not disturb student work on the looms. This area must be accessible.

Living Space for Weaver

Guest coats must be stored immediately adjacent to the door from the outside. The configuration of the entrance area, directly from the shop, should provide visual privacy when the door is opened. The living space/apartment need not be accessible.

Living Space/Apartment

Sitting Room

1. Lounge seating for four
2. Set-down surface at each seat
3. Shelving unit containing TV 30" wide × 24" deep × 28" tall, stacked stereo equipment requires 18" wide × 17" deep × 15" tall space when stacked; 40 lineal feet of book shelving

Dining

1. Table and chairs for 6 people

Kitchen

1. 15 lineal feet clear counter space over base cabinets and appliances
2. 10 lineal feet of upper cabinets
3. Full-height refrigerator 30" wide × 28" deep
4. Undercounter dishwasher 24" × 24"
5. Microwave 21" wide × 18" deep × 15" tall
6. Sink 24" wide × 18" deep from front to back
7. Range 24" wide × 30" deep

Sleep Space

1. Double bed 54" wide × 75" long
2. Pair of nightstands 24" wide × 20" deep × 26" tall, with drawer storage
3. Dresser 6' wide × 20" deep from front to back × 30" tall
4. Closet with 3' of long hanging and 4' of short/double hanging

Bathroom

1. Vanity cabinet 30" wide × 22" deep containing sink
 2. Toilet
 3. Tub 2'-5" wide × 5'-0" long with shower. Indicate location of fittings (shower head and faucet)
 4. Linen closet 24" wide × 24" deep full height
- The toilet and sink must be accessible to guests without requiring that they pass through the sleep space. The bathroom must be immediately adjacent to the sleep space.

Part One of Design Exercise Weaver's Studio, Full Version

Sheet

C-1

Scale

None

Student Control Number

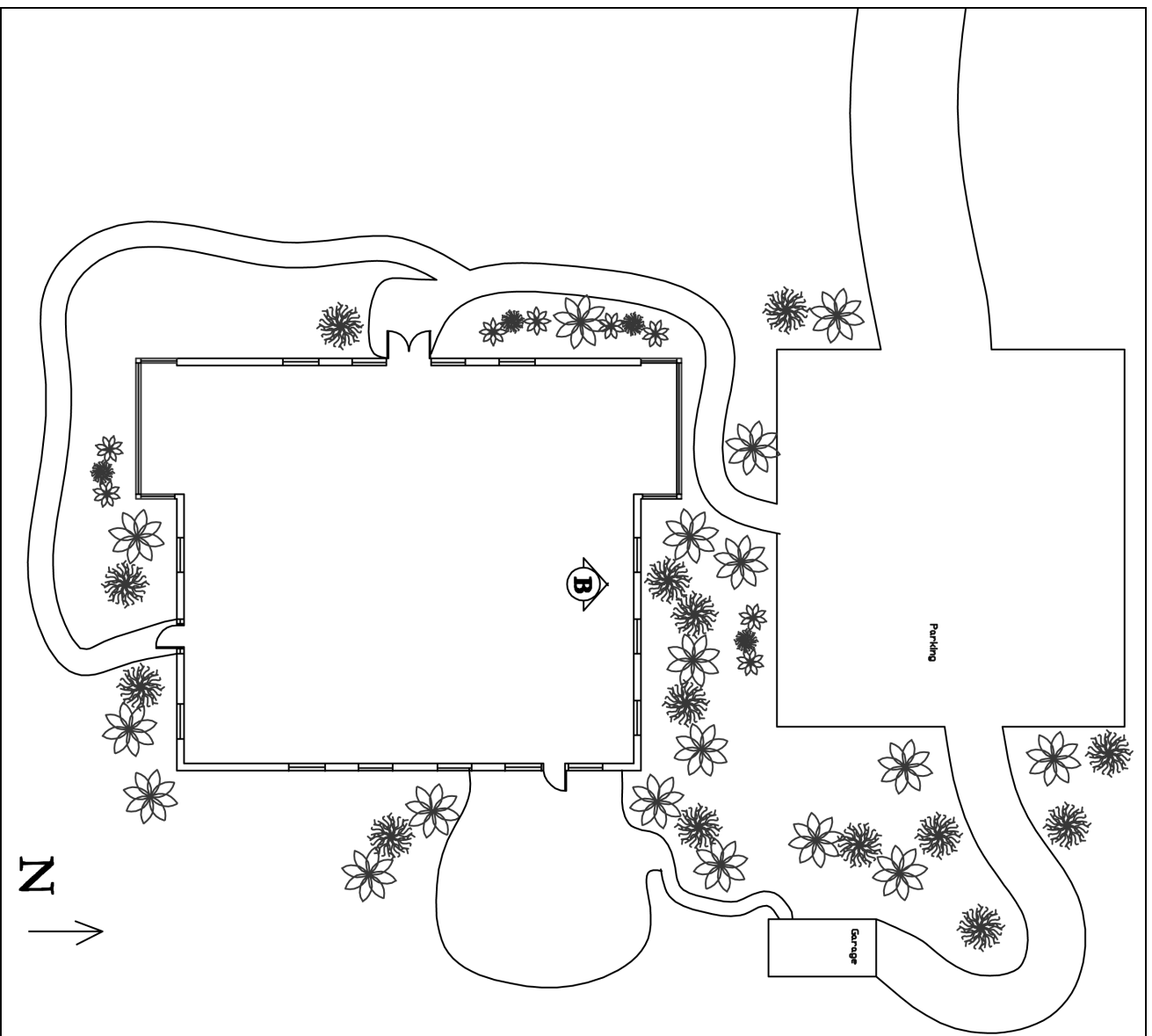
Adjacency Matrix

Use only these symbols; do not make up your own symbols.

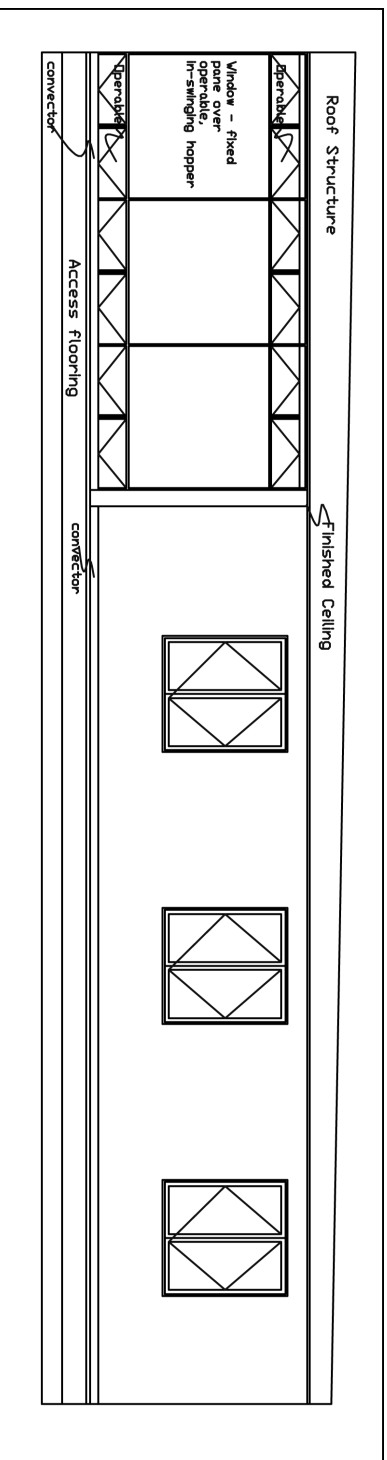
- Direct Adjacency
- Convenient Adjacency
- Visual Connection
- X Remote

	Retail Shop	Studio	Work Area	Restroom	Office	Storage	LR/Ent.	Kitchen	Dining	Sleeping	Bath
Retail Shop											
Studio											
Work Area											
Restroom											
Office											
Storage											
LR/Ent.											
Kitchen											
Dining											
Sleeping											
Bath											

F	Floor
F1	45 oz level loop nylon carpet tiles loose lay
F2	Stained concrete sealed 3 coats matte nonslip urethane
F3	Ungauged slate with heavy cleft face acrylic high-gloss sealer
F4	Recycled rubber tiles size coordinated with access floor
F5	Linoleum sheet goods
W	Walls
W1	Linen wall covering not fire-rated
W2	Semigloss, low VOC paint
W3	Ceramic tile
W4	Textured commercial vinyl wall covering



A Site Plan



B Interior Elevation

Scale 1/8" = 1'-0"

Circle the most appropriate choice from those listed to the right by referencing the table above for material descriptions.

Area	Floor			Walls			
Retail Shop	F1	F2	F5	W1	W3	W4	
Studio	F5	F4	F1	W1	W2	W3	
Work Area	F5	F4	F3	W1	W2	W3	
Restroom	F1	F2	F4	W1	W3	W4	

Site Plan
Elevation
Matrix
Schedule

Weaver's Studio, Full Version

Sheet
P1-1

Scale
As Noted

Control Number

Floor Plan

Your solution must be presented in ink or felt tip
on this sheet

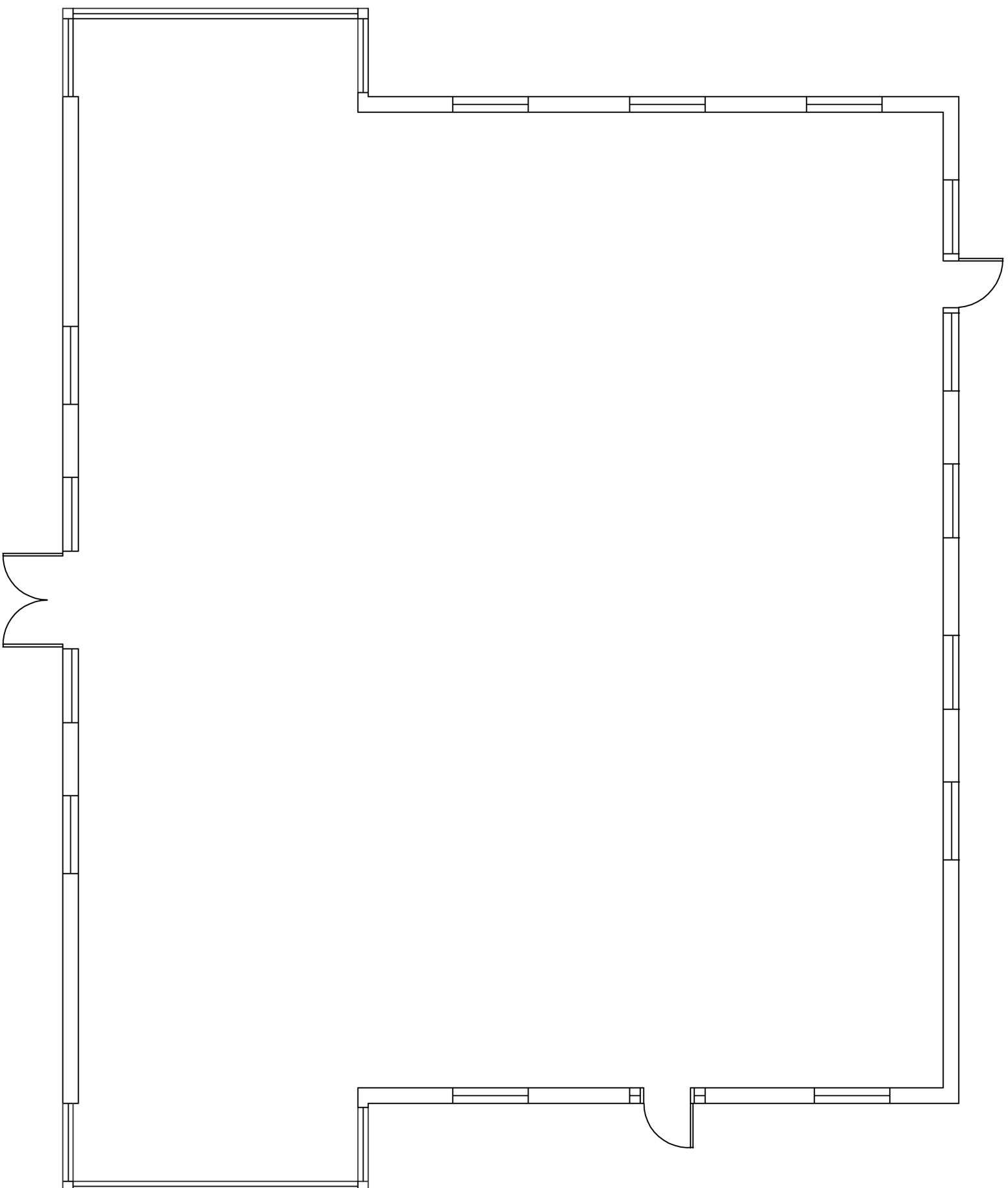
Weaver's Studio, Full Version

Sheet

P1-2

Scale $1/8'' = 1'-0''$

Control Number



TIMMED DESIGN EXERCISE

Timed Design
Exercise

Instructions to Students

1. Read all of these instructions before beginning the exercise.
2. Review the project and code requirements and additional scope of services.
3. Review the floor plan P2-1; notice the layout for your lighting and electrical planning and also the elevation symbols indicating the two elevations for the sales desk, which are to be drawn on sheet P2-1 at $1/4" = 1'0"$ (requirements follow).
4. Review all of the symbols and electrical requirements on sheet P2-2.
5. Locate the electrical and communication devices required on the electrical/data/phone plan, sheet P2-2.
6. Create a reflected ceiling plan on sheet P2-3 showing all lighting locations.
7. Draw required circuitry and switching locations for a functional design.
8. Write your control number where indicated in the lower right corner of every sheet—even the ones that you don't write on.
9. Select the best choice from the equipment listed in the legends and use only that equipment and those symbols. Do not add equipment or make up your own symbols.

Code Requirements

- All electrical outlets must be located 18" AFF unless noted otherwise.
- Exit signage must be visible upon exiting all enclosed spaces and positioned to direct people safely out of the building without confusion as to the exit locations.
- Where practical, wall outlets and ports are preferred over floor-mounted outlets and ports.
- Electricity, voice, and data devices required of the sales desk are to be brought up into and permanently affixed within the built-in sales desk.
- Electricity, voice, and data devices for sales offices will not be brought up into the portable desks and must be configured so no cords span open space where a person might walk.

Additional Scope of Services

The sales center for the artisans country enclave serves a few functions. It houses offices for sales associates who reserve rental units for families who vacation on the property and a small souvenir shop. It functions as a warming house in the winter and makes restrooms available for people enjoying the grounds; there is also a pond adjacent to the building.

Design Requirements

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Project Description

Sales Desk

1. The design of the sales desk is to be congruent with nature and art themes.
2. A computerized cash register sits on the sales counter 30" AFF and is networked to a hard drive in the equipment closet. The device that connects and powers the register is to be located 24" AFF in a closed-door storage unit within the sales desk, below the register.
3. A phone is also located on the desk, connected and powered by a device located in the vertical support for the transaction top.
4. Three kinds/sizes of bags and one size of tissue paper are to be organized in individual compartments. Folded bag sizes are 6.25" × 9.25", 8.5" × 11", and 12" × 12". Tissue paper is 15" × 20".
5. Two trash containers (one for paper, one for trash) are each 14" × 18" × 21" tall.
6. Drawer space for supplies to be aggregatedly (need not be a single drawer) 24" wide with a 6" tall drawer face (for a 5" tall drawer box) and 18" deep with full-extension glides.
7. One locked cabinet for staff personal belongings to be minimally 18" wide × 24" tall, full cabinet depth.
8. Additional closed storage with one adjustable shelf per unit as possible.
9. Label all finishes/surface materials for the desk; note incremental and overall dimensions.
10. Indicate with hidden lines and a note the barrier-free transaction surface at 30" high.
11. Draw and note a second transaction surface at 45" high.
12. A convenience outlet is to be located in the vertical support for the 45" high transaction surface.

Electrical Plan

1. Review the requirements on sheet P2-2 and provide for all required devices.
2. The tabletop displays for sales and diorama of the grounds are 30" above finished floor.

Lighting/Reflected Ceiling Plan

1. Energy conservation to be balanced with effective lighting techniques in display and sales area.
2. Solution to be safe and conform with codes.

Part Two of Design Exercise Weaver's Studio, Full Version

Part 2 of 2

Sheet
C-2

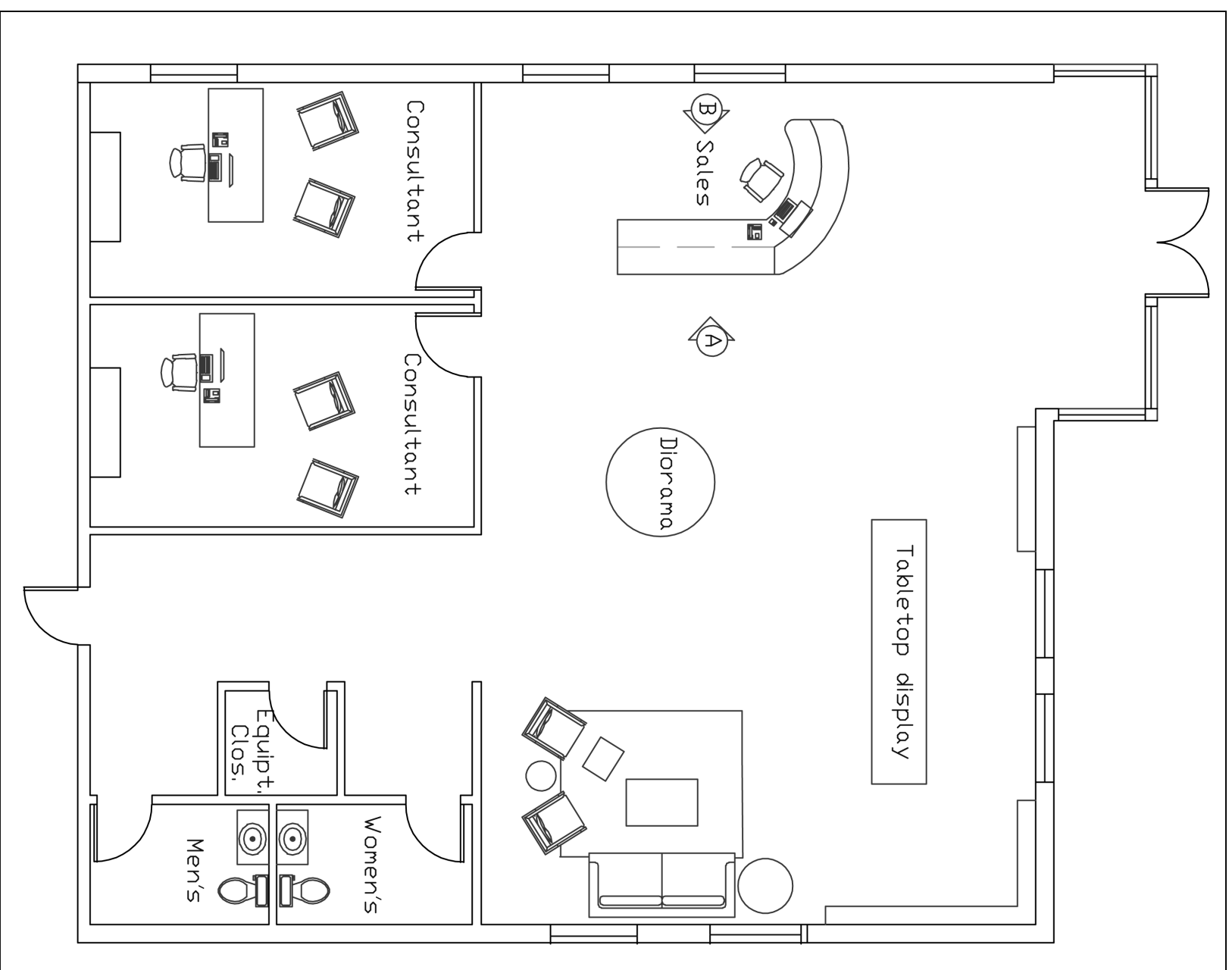
Scale
None

Student Control Number

Use the space below to draw (to scale) your design for the sales desk showing all equipment devices, dimensions, and material descriptions.

Timed Design Exercise

Part 2 of 2



A Elevation of Customer Side of Sales Desk

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

B Elevation of Staff Side of Sales Desk

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

Floor Plan Weaver's Studio, Full Version












Sheet

P2-1

Scale 1/8" = 1'-0"

Control Number

Electrical Legend

	Duplex outlet
	Ground Fault Interrupt duplex outlet
	Quadruplex outlet
	220-volt outlet
	Cat 3 phone port
	Cat 5 data port
	Voice and data port
	Voice/data/power
	Floor duplex outlet
	Floor phone port
	Floor data port

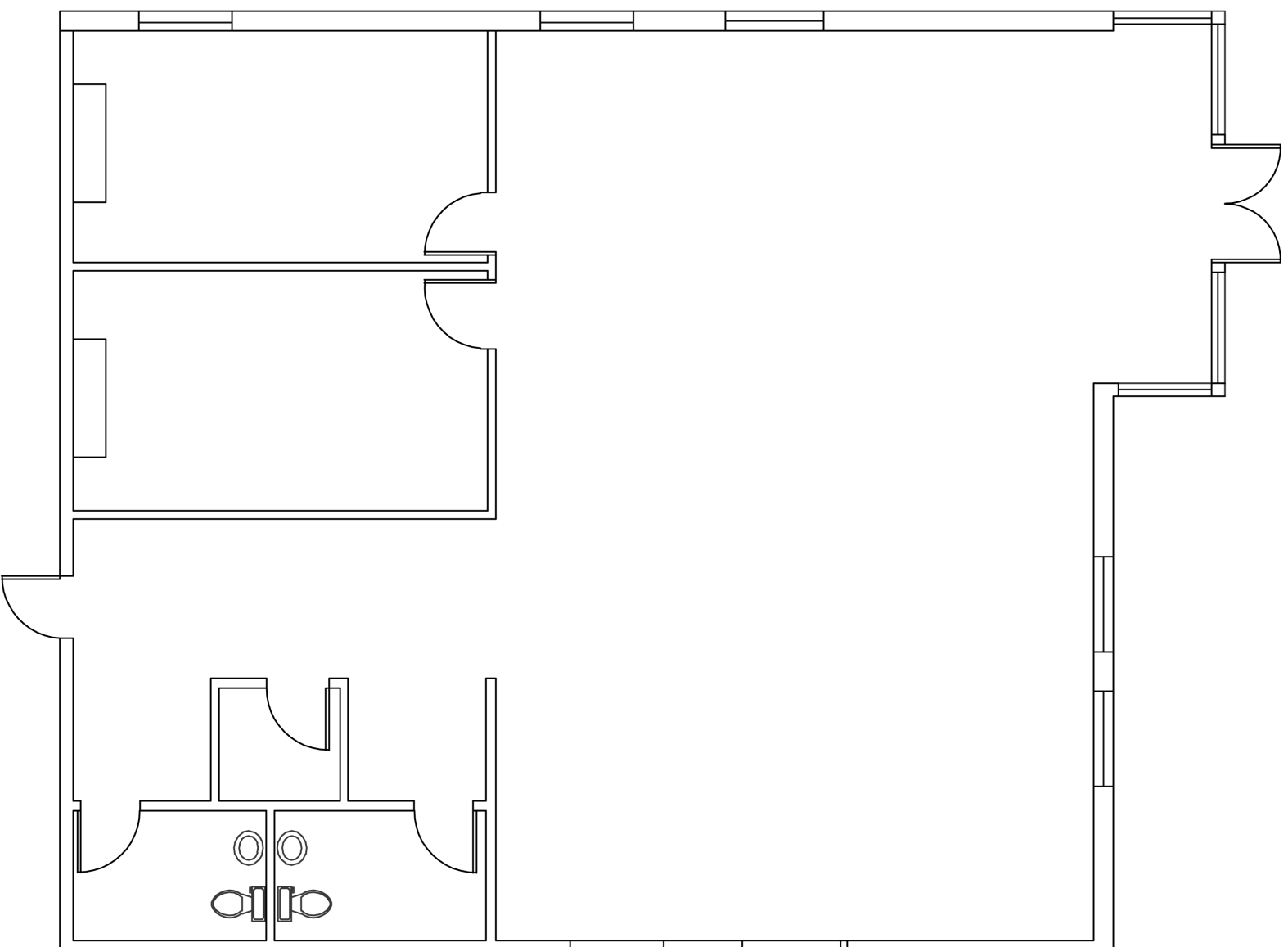
Use only these symbols to communicate your design. Do not make up your own symbols.

Equipment List

Note all heights that deviate from typical 18" AFF

Qty	Location and requirements
1	Sales desk: phone/data/power in desktop
1	Sales desk: one duplex outlet under transaction counter
1	Sales desk: one phone line 24" AFF for computer
1	Diorama: duplex in floor under pedestal
1	Consultant desk: duplex each office
1	Consultant desk: phone/data/power each office
1	Consultant desk: phone each office
2	Equipt closet: phone/data/power closet
2	Equipment closet: quadruplex outlet closet
1	Tabletop display: one duplex each mounted in side
2	Display shelving wall: duplex outlets 45" AFF
1	Washroom one GFI outlet at sink in each restroom

Refer to this list as you prepare your electrical/data/power plan; select and show only these items on that plan.



Electrical/Data/Phone Plan Weaver's Studio, Full Version

Sheet

P2-2

Scale

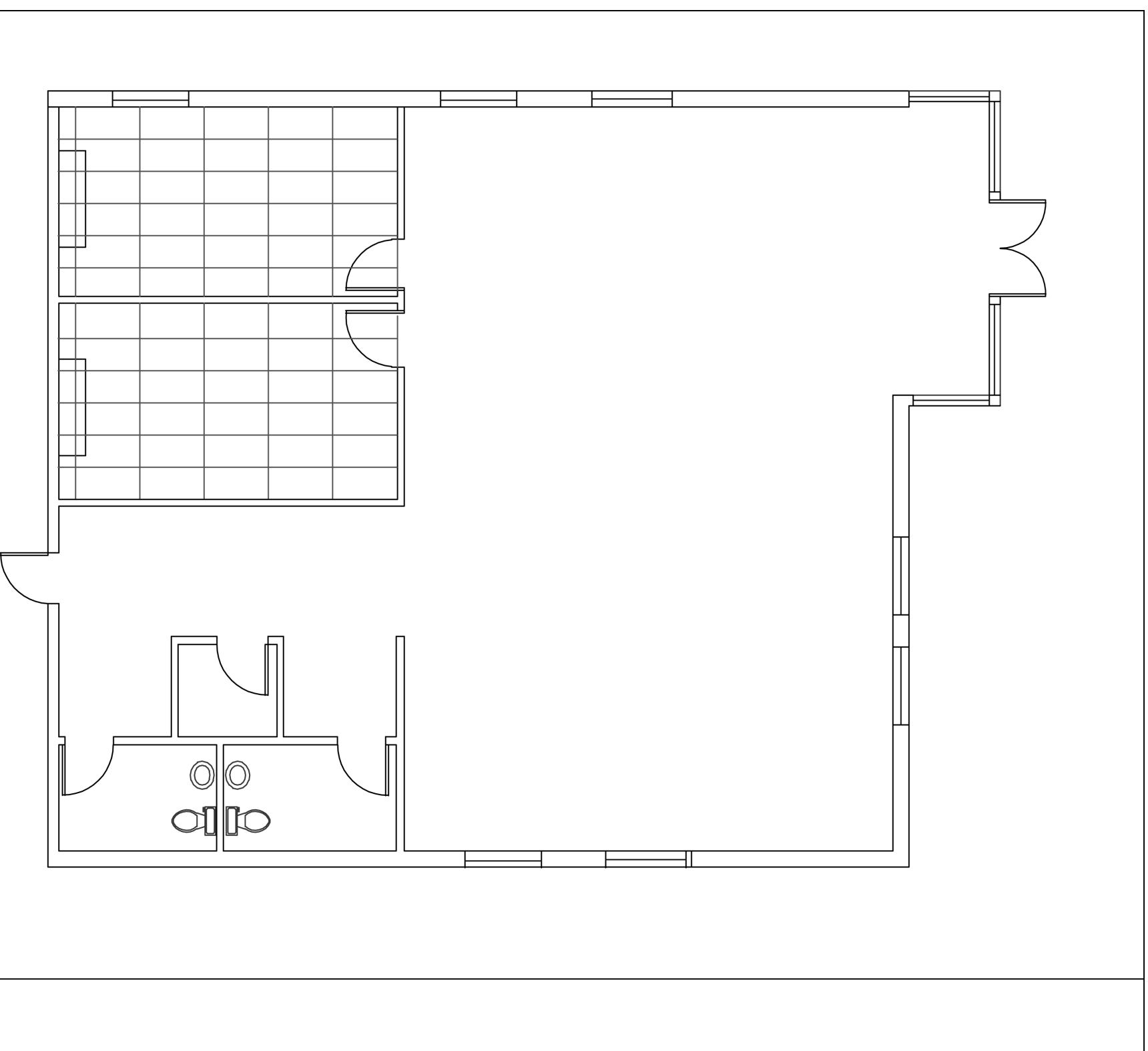
1/8" = 1'-0"

Control Number

Lighting Legend

Wall	Ceiling	
	(R)	Recessed incandescent
	(R) LV	Recessed incandescent low voltage
(HFL)	(R) CFL	Recessed compact fluorescent
		Recessed fluorescent troffer
---	---	Hidden light fixture fluorescent T5 or xenon strip light
	(X)	Portable task or table lamp
—	△	Track lighting—broad side of triangle indicates beam side
(H) (R) (E)	(R) (E)	Security lighting with backup battery power (always on)
(H) (X)	(X)	Exit sign (dark portion indicates location of lettering)
	(FL)	Exhaust fan/light
\$		Light switch
\$ 3		3-pole switch
\$ D		Dimmer switch

Refer to this list as you prepare your Lighting Plan; show only these items on your plan; use only these fixtures to solve the problem and only these symbols—do not make up your own symbols.



Timed Design Exercise

Part 2 of 2

Reflected Ceiling Plan Weaver's Studio, Full Version

Sheet

P2-3

Scale 1/8" = 1'-0"

Control Number