

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. Space plan 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.
- 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

This river keeper's cabin is a research facility and meeting place; it is inhabited for a few months at a time throughout the year by grad students. This facility also provides overnight accommodations for visiting researchers studying ecosystems and wildlife. Views are important to all spaces.

All floor drains to sewer should be within a 36' diameter circle (circle location to be determined by you and indicated on the plan with a dotted line). Wall-mounted sinks and toilets may be an additional 8' outside circle and chemical sink to reservoir in lab may be outside the circle.

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.

With the exception of the front door, windows and doors can be located for best views and egress for your plan. You must determine and show these locations on your plan.

Research, Investigative, and Facility Function

Lab

1. Station equipped as follows:
 - a. Lab counter providing 12 lineal feet of counter space 30" deep
 - b. Sink 12" wide × 18" from front to back; counter to be additional to work space
 - c. Storage below to be accessible from work area
2. Desk providing 12 square feet of surface holds a computer and a phone, a task chair is to be provided.
3. Locked cabinet for chemicals and supplies is 30" wide × 18" deep from front to back.

Research and Records

1. Two desks each providing 12 square feet of work surface that holds a computer and phone. Each with a task chair.
2. 24' of lateral files
3. 25 lineal feet of bookshelves

River Supplies

1. Closet 4' wide × 2' deep full height (for waders, raincoats, nets, etc.)
2. Bench 5' wide × 1.5' deep from front to back

This area is to be located near an entrance on the riverside of the building

Utility Room

120 square feet centrally located; must be within the plumbing circle defined by dotted line on solution sheet.

Classroom

1. 15 chairs, each measuring approximately 18" wide × 24" deep from front to back
 2. Folding table for presenter/instructor is 30" × 60" with 3 chairs
 3. Closet 30" deep from front to back × 5' wide, full height
- Classroom must be barrier-free.

Living Space for Staff and Visitors

Guest coats for 26 must be stored immediately adjacent to a door from the outside. Allocate 6' of closet or 12" of wall for staggered high/low pegs.

Sitting Room

1. Lounge seating for four to six
2. Set-down surface reachable from 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
4. 20 lineal feet of book shelving

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
8. Table and chairs for 6 people

Two separate sleep spaces for grad students to contain:

1. Double bed 54" wide × 75" long
2. Set-down surface each side of bed minimum 24" wide × 20" deep
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

Shared bathroom immediately adjacent to sleep spaces

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

Bathroom to be used by visitors

1. Vanity cabinet 24" wide × 22" deep containing sink
2. Toilet

This bath must be accessible.

Part One of Design Exercise River Keeper's Station, Lite Version

Sheet

C-1

Scale

None

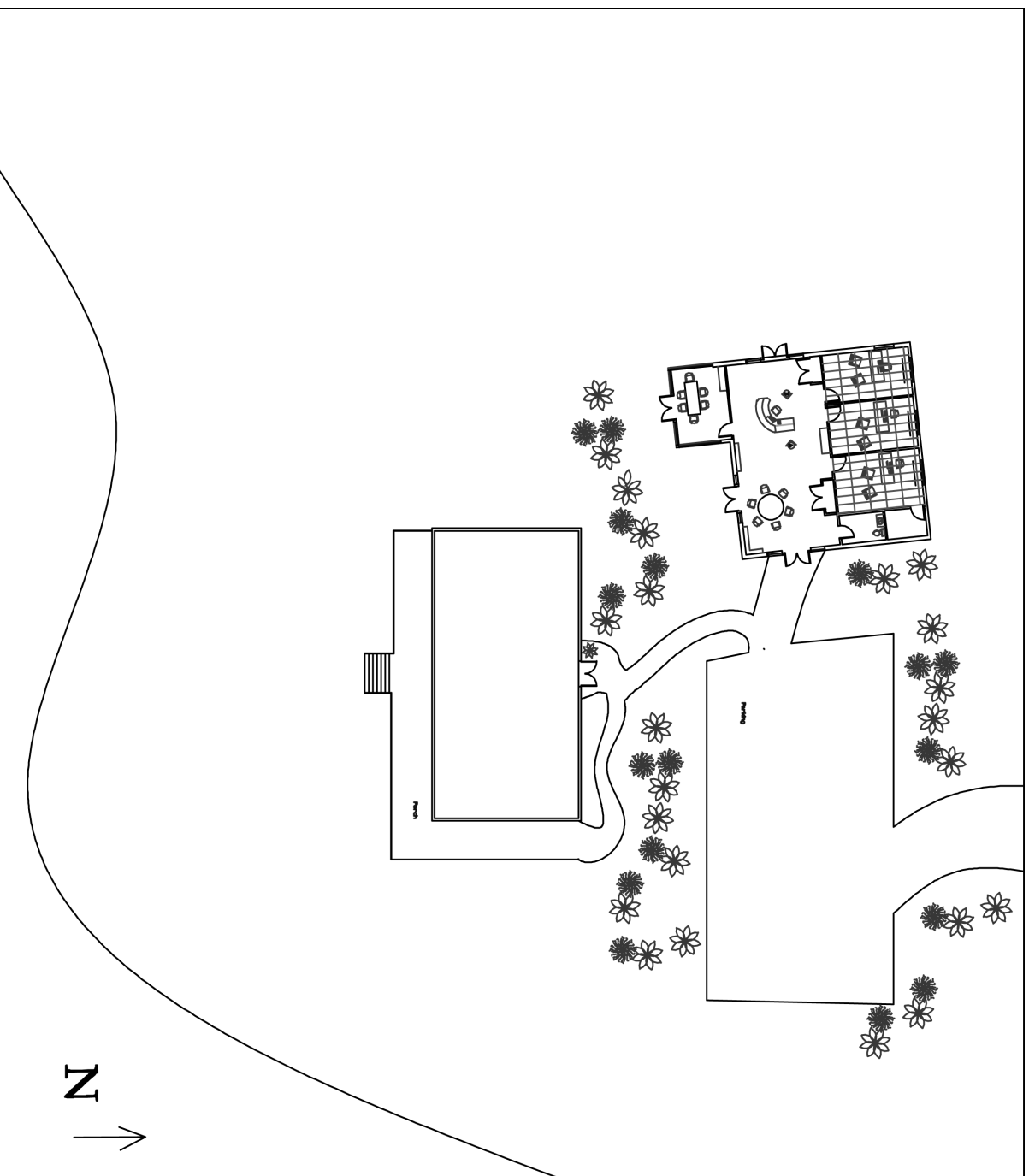
Student Control Number

Adjacency Matrix

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

- Direct Adjacency
- Convenient Adjacency
- X Remote

	Main Entry	Lab	Research	Classroom	River Supplies	Utilities	Sitting Rm	Kitchen	Grad Suite	Grad Bath	Guest Bath
Main Entry											
Lab											
Research											
Classroom											
River Supplies											
Utilities											
Sitting Rm											
Kitchen											
Grad Rms											
Grad Bath											
Guest Bath											

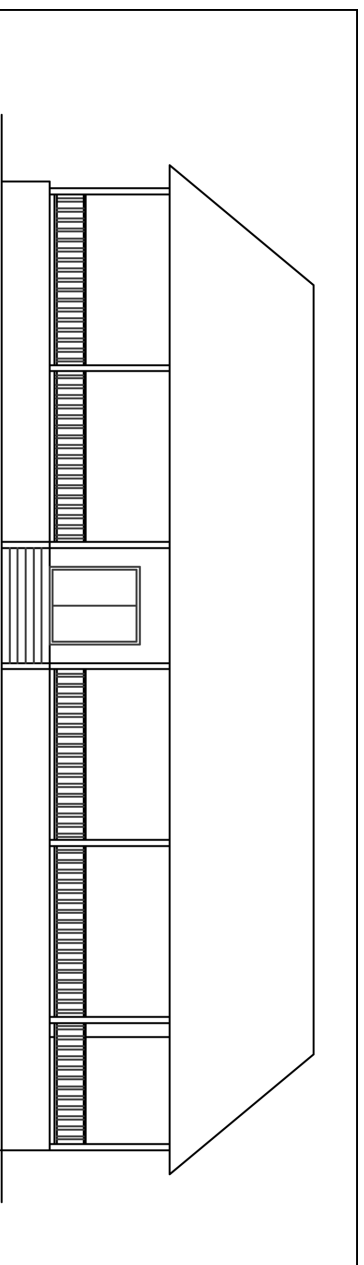


A Site Plan

F	Floor
F1	45 oz low-level loop commercial nylon carpet
F2	Stained concrete sealed 3 coats matte nonslip urethane
F3	Ungauged slate with heavy cleft face acrylic high-gloss sealer
F4	Recycled rubber tiles
W	Walls
W1	Washable gloss low VOC paint
W2	Satin, low VOC paint
W3	Ceramic tile
W4	Textured commercial vinyl wall covering

Area	Floor			Walls			
	F1	F2	F3	W1	W3	W3	W4
Class Rm	F1	F2	F3	W1	W3	W3	W4
Lab	F1	F2	F3	W1	W2	W2	W4
Sleep Space	F1	F4	F3	W1	W3	W3	W4
Kitchen	F1	F3	F4	W1	W2	W2	W4

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



B Exterior Elevation

Scale 1/8" = 1'-0"

Site Plan
Elevation
Matrix
Schedule
River Keeper's Station, Lite Version

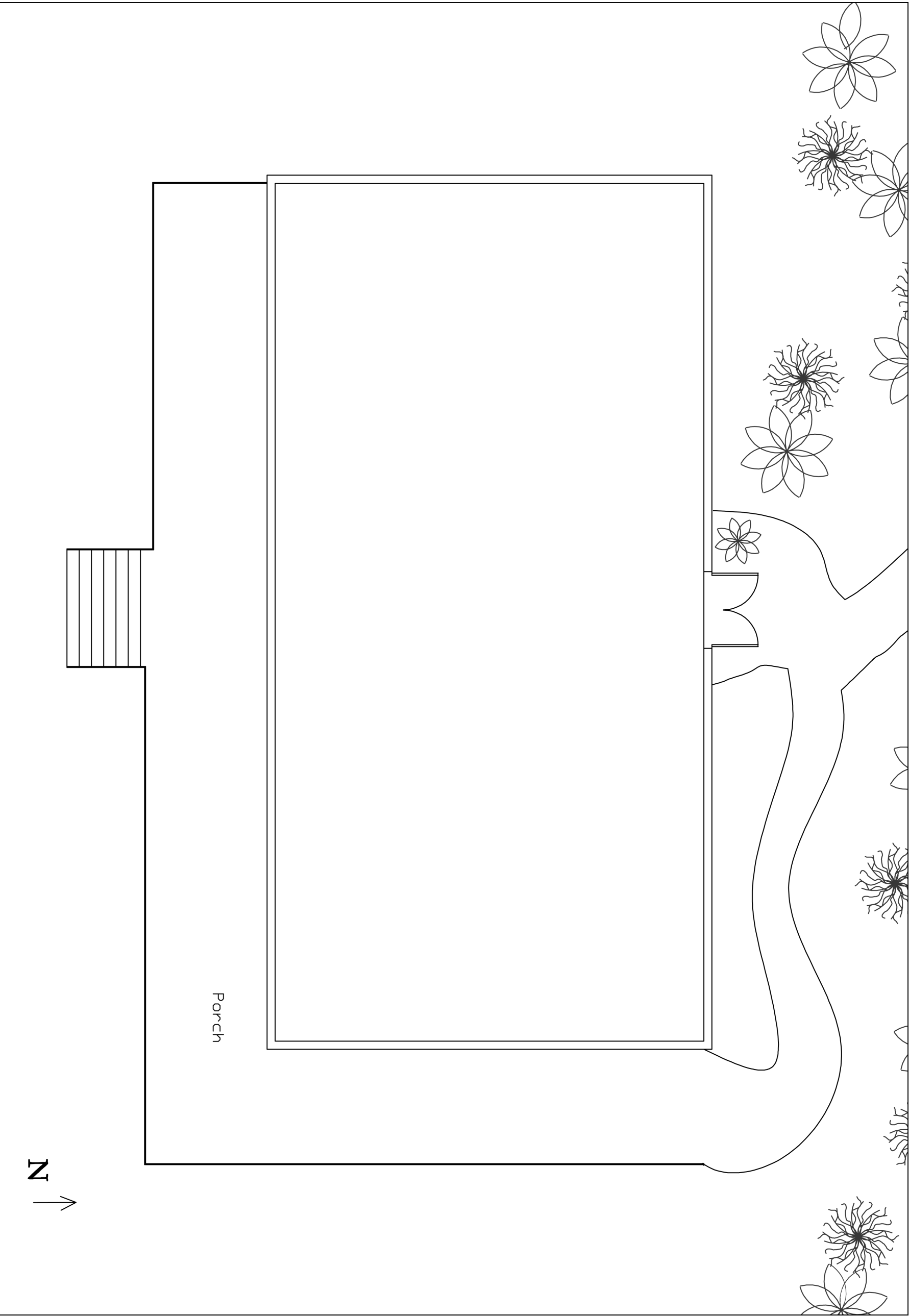
Sheet

P1-1

Scale

None

Control Number



**Timed Design
Exercise**

Part 1 of 2

Floor Plan
 Your solution must be presented in ink or felt tip
 on this sheet
River Keeper's Station, Lite 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 reception 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. Exit signs must not direct people into the enclosed space of another room before delivering them to an exit to the outdoors.
- Where practical, wall outlets and ports are preferred over floor-mounted outlets and ports.
- Electricity, voice, and data devices required of the reception desk are to be brought up into and permanently affixed within the built-in reception 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 game warden is a separate function from the river keeper, but the two departments do collaborate, as they have overlapping missions. It is a goal of this state that the warden's offices be viewed by citizens as an outdoorsman's resource rather than a policing function, and an institutional atmosphere is to be avoided as much as possible.

Design Requirements

All items, adjacencies, and attributes mentioned in this document are required in your 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).

Show your design for the reception desk with elevations where indicated on P2-1.

Reception Desk

1. The design of the reception desk is to be congruent with nature themes.
2. A computer monitor sits on the desk 30" AFF. The device that connects and powers the cpu is to be located 24" AFF in a closed-door storage unit within the desk.
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. A printer is located on a pullout shelf below desk height.
5. Two trash containers (one for paper, one for trash) are each 8" × 12" × 15" tall.
6. A box file pedestal base for supplies and filing for current projects.
7. Additional closed storage with one adjustable shelf for paper storage.
8. Label all finishes/surface materials for the desk; note incremental and overall dimensions.
9. Use hidden lines and notes for all requirements that are not visible from assigned views.

Electrical Plan

1. Review the requirements on sheet P2-2 and provide for all required devices.
2. Note heights of all devices that are not to be located at the standard 18" AFF.

Lighting/Reflected Ceiling Plan

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

Part Two of Design Exercise River Keeper's Station, Lite Version

Part 2 of 2

Sheet
C-2

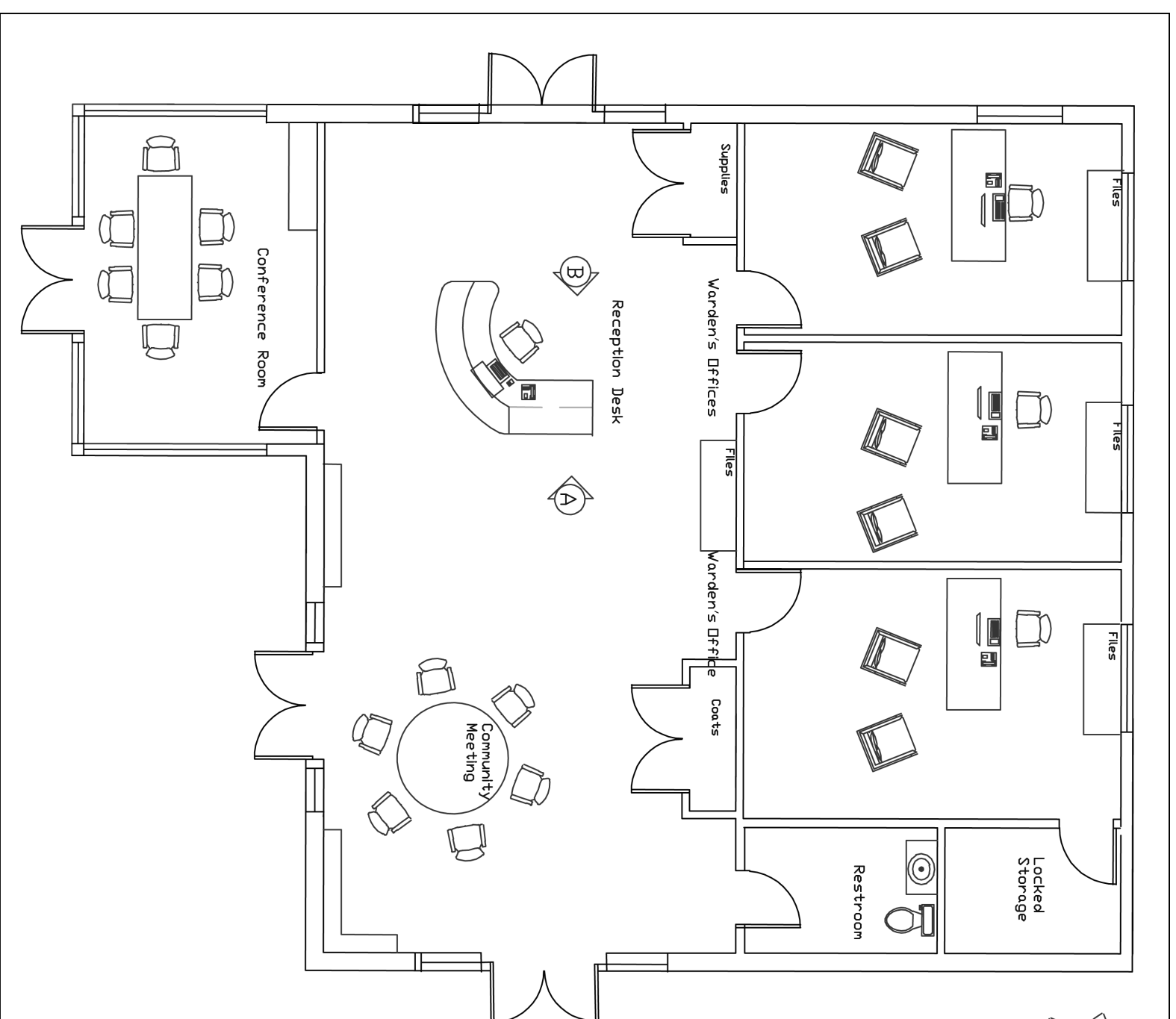
Scale
None

Student Control Number

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

A Elevation of Customer Side of Reception Desk
Scale: 1/4" = 1'-0"

B Elevation of Staff Side of Reception Desk
Scale: 1/4" = 1'-0"



Timed Design
Exercise

Part 2 of 2












Floor Plan
River Keeper's Station, Lite 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

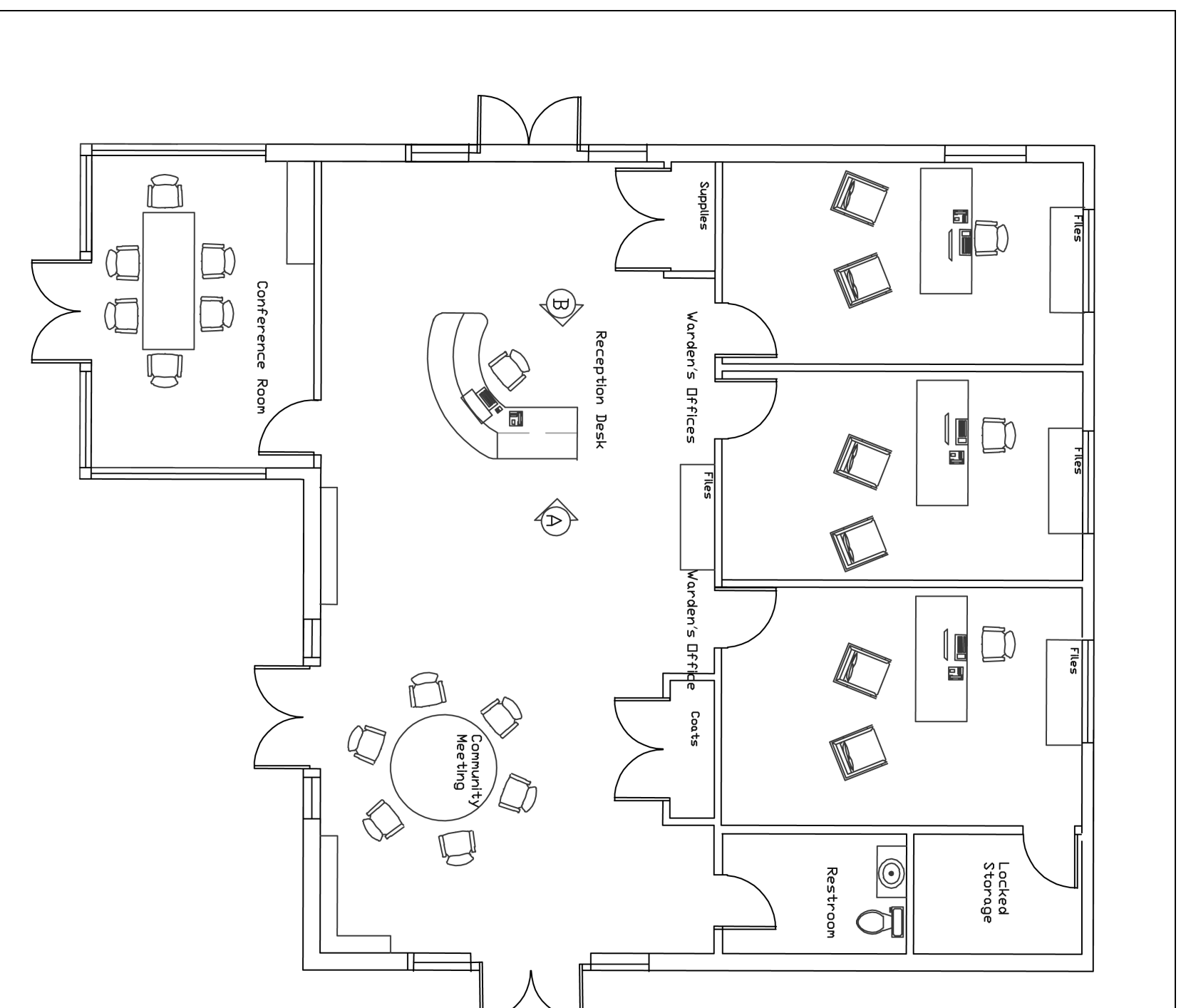
Use only these symbols to communicate your design. Do not make up your own symbols.

Equipment List

Note all heights that deviate from typical 18" AFF

Qty	Location and requirements
1	Reception desk: phone/data/power in desktop
1	Reception desk: one phone line 24" AFF for computer
1	Voice/data/power in floor under conference table
1	Each warden desk: duplex each office
1	Each warden desk: phone/data/power each office
1	Each warden desk: phone each office

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



Timed Design Exercise

Part 2 of 2

Electrical/Data/Phone Plan River Keeper's Station, Lite Version

Sheet

P2-2

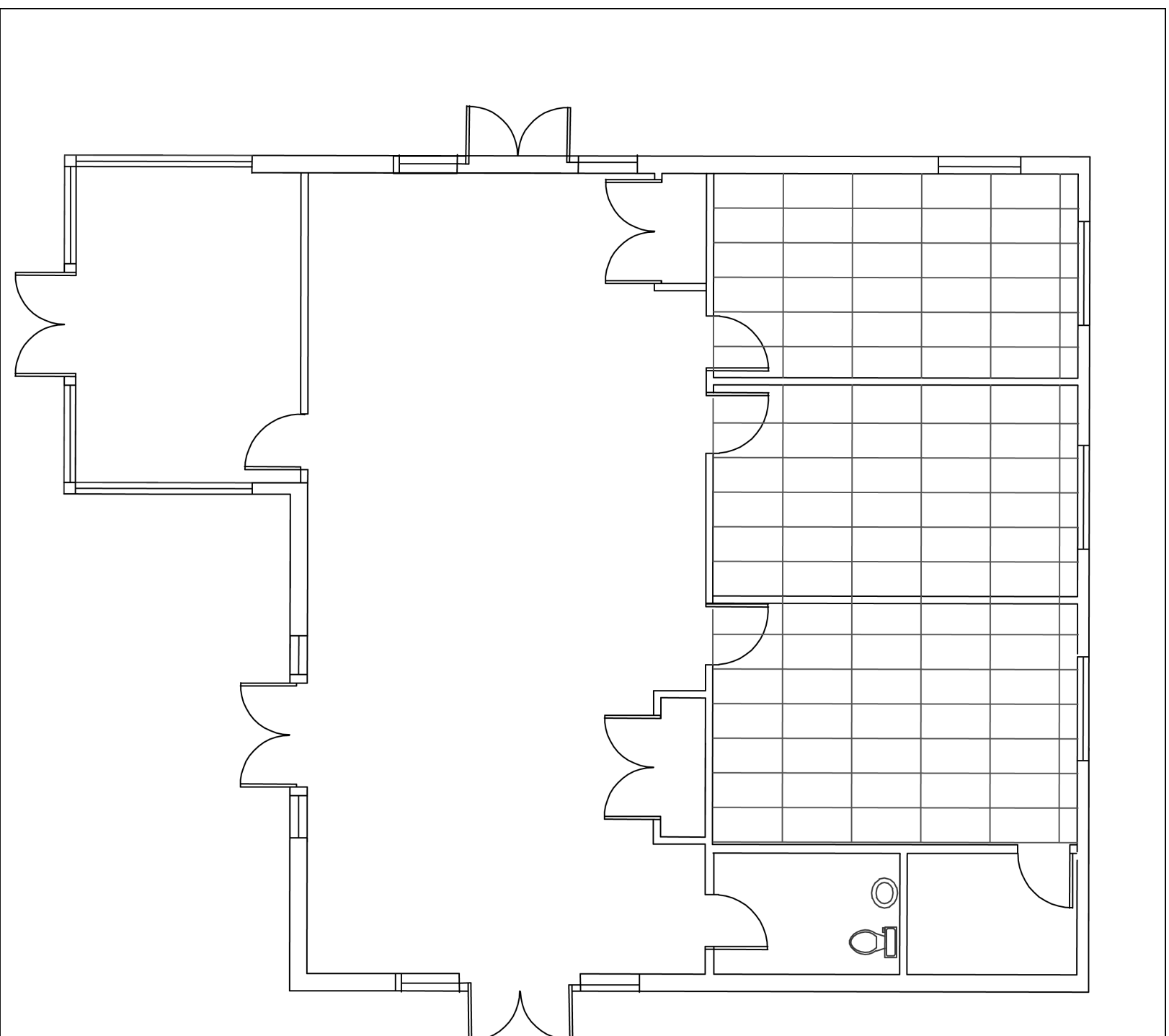
Scale 1/8" = 1'-0"

Control Number

Lighting Legend

Wall	Ceiling	
	(R)	Recessed incandescent
(R) E	(R) E	Security lighting with backup battery power (always on)
(R) FL	(R) CFL	Recessed compact fluorescent
---	---	Recessed fluorescent troffer
---	---	Hidden light fixture fluorescent T5 or xenon strip light
	⊗	Portable task or table lamp
⊗	⊗	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 use only these symbols—do not make up your own symbols.



Timed Design Exercise

Part 2 of 2

Reflected Ceiling Plan River Keeper's Station, Lite Version

Sheet

P2-3

Scale 1/8" = 1'-0"

Control Number