

TIMED 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 floor plan P1-2.
4. Review the matrix, material options, and material schedules.
5. Review the interior elevation showing the window fenestration from the interior P1-1.
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 sheet P1-2 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 (an exit required per code) and are shown as out-swinging doors that 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 to be barrier free are not bound by this restriction.
- The entry serves the residence and recording studio. The recording studio and path of travel from the recording studio to the guest powder room in the residence must be barrier free.
- 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".
- Habitable spaces in the living space/apartment must have an operable window.
- Flooring 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 on the plan 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

The owner of this residence with an attached coffee shop promotes musicians and poets with performance space in the coffee shop and a small recording studio in her residence. Her family of three includes her spouse and her 6-year-old son.

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.

Plumbing locations should be within 12' radius of existing plumbing locations, which are noted as circles for waste and supplies on the plan on P1-2. The building shell with windows and doors as indicated cannot be changed. This converted warehouse will have the garage doors on the south facade replaced with glass (clear or frosted as will suit your solution). The clerestory windows on the east and west facades rise from 10' to 13' AFF (above finished floor) and are operated by a motor or manually. The windows overlooking the service alley on the north side are double-hung (operable and available for emergency fire exit as well as ventilation) and rise from 30" AFF to 96" AFF.

Recording Function

1. Soundproof studio with walls on all 4 sides shown 12" thick. This room is to be a rectangular room with a minimum depth of 10' and a maximum width of 20' ; it is to be accessed from the mixing room.
 2. Mixing room with a minimum of 15 lineal feet desk-height counter surface and two executive desk chairs. This room is to have direct visual connection to the recording room via a laminated, double-pane fixed glass panel.
 3. An editing room/office with a U-shaped workstation having a minimum of 20 lineal feet measured along interior/work side of desk-height counter surface.
- Double-file pedestal desk with a computer for a separate business function. Each of these desks must have its own chair.

The recording studio shares an entrance with the residence. The guest powder room in the residence is used by the people working and recording in the studio. Other than this access, the studio is to be as separate from the residence as possible for sound and convenience for the family space, as recording sessions can sometimes go late into the night.

Living Space/Apartment

Entrance

1. 8 lineal feet of coat closet
2. 3 lineal feet × 20" deep set-down surface
3. Adjacent to recording studio entrance and also conveniently serving residence

This area serves both the recording studio and the residence and should also serve as a divider between them.

Living Room

1. Lounge seating for eight configured for conversation or TV
2. A surface to set things down at each seat
3. Shelving unit containing TV and stereo equipment measuring at least 6' wide × 2' deep
4. Widescreen TV that can be conveniently viewed from the seating; allow 5' of width for TV screen.

Dining

1. Table and chairs for 6 people (80" long) to 10 people (120" long)
2. Buffet surface 8' long with storage below

Kitchen

1. 15 lineal feet clear counter space over base cabinets and appliances
2. 10 lineal feet of upper cabinets
3. Full-height refrigerator 36" 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 30" wide × 28" deep from front to back

Guest Powder Room

1. Toilet
2. Sink

This room must be handicapped accessible and accessed by people working and recording in the studio along a limited travel path (to keep the residence as private as possible).

Master Bedroom

1. King-size bed 76" × 80"
2. Nightstand each side of bed 2' wide × 20" deep
3. Dresser 7' wide × 20" deep × 40" tall
4. Desk minimum 6' wide × 30" deep with desk chair
5. 16 lineal feet of hanging clothing storage
6. Lounge seating for two oriented for TV or conversation
7. Widescreen, flat-panel TV 40" wide

Child Sleep Space

1. Twin bed 39" wide × 75" long
2. Surface near bed for clock and lamp
3. Dresser 4' wide × 20" deep from front to back
4. Closet with 3' of long hanging and 4' of short/double hanging
5. Desk minimum 5' wide × 30" deep with chair
6. Accommodation for sleepover guest

Family Bathroom

1. Vanity cabinet 60" wide × 22" deep containing two sinks
2. Toilet
3. Tub 2'-6" wide × 5'-0" long with shower. Indicate location of fittings (shower head and faucet)
4. Linen closet 24" wide × 24" deep full height

Sheet

C-1

Scale

None

Student Control Number

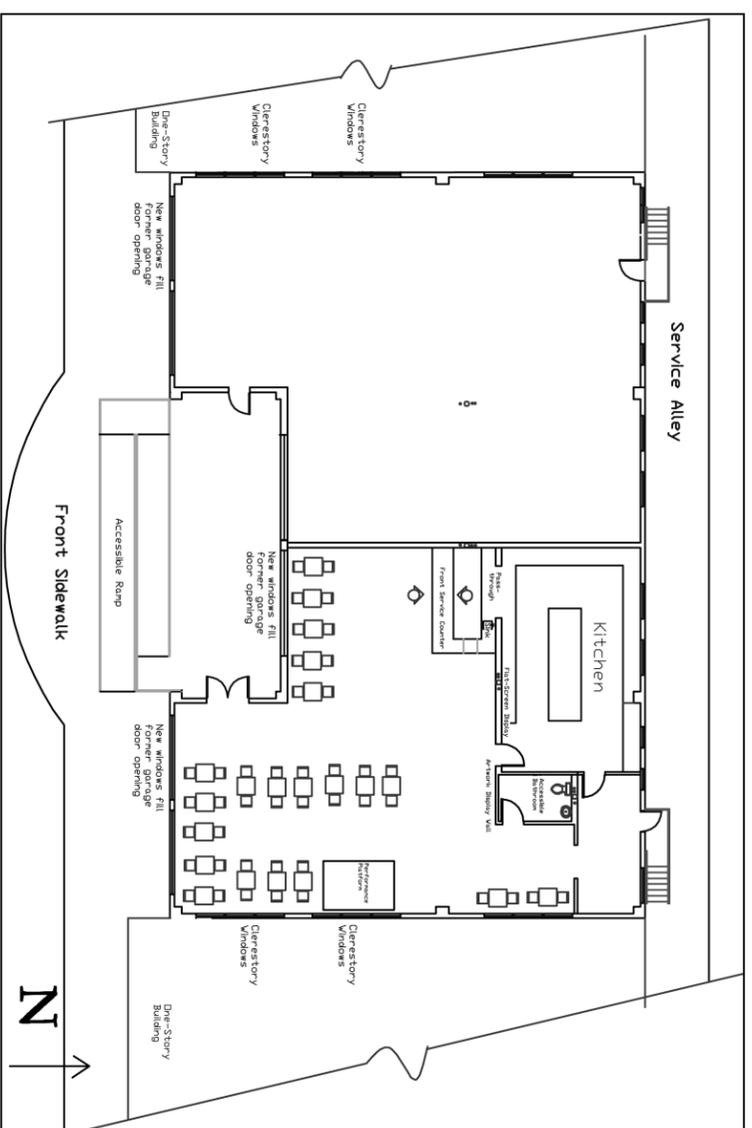
Part One of Design Exercise Coffee Shop, Full Version

Adjacency Matrix

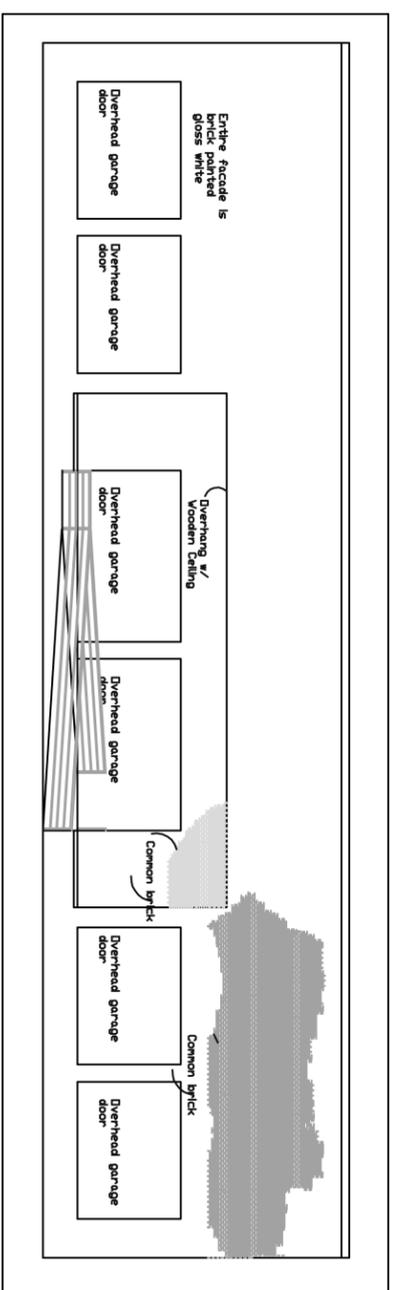
Use only these symbols; do not make up your own symbols.

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

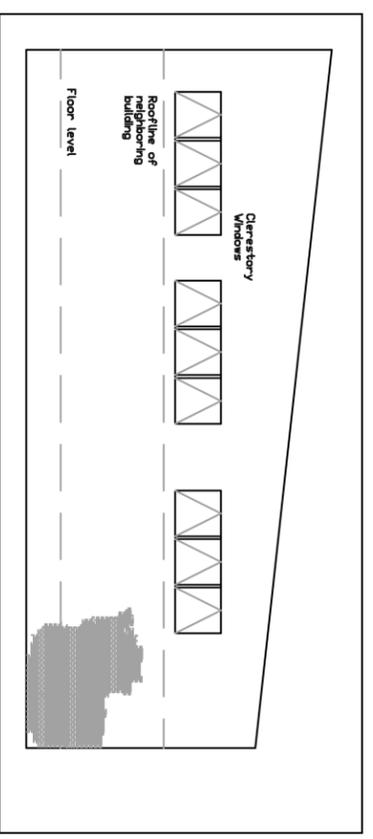
	Sound Studio	Edit	Mixing Room	Entrance	Living Room	Dining Room	Kitchen	Master BR	Child BR	Guest Bath	Family Bath
Sound Studio											
Edit											
Mixing Room											
Entrance											
Living Room											
Dining Room											
Kitchen											
Master BR											
Child BR											
Guest Bath											
Family Bath											



A Site Plan



B Exterior Elevation South Facade
Scale 1/16" = 1'-0"



C Exterior Elevation East Facade
Scale 1/16" = 1'-0"

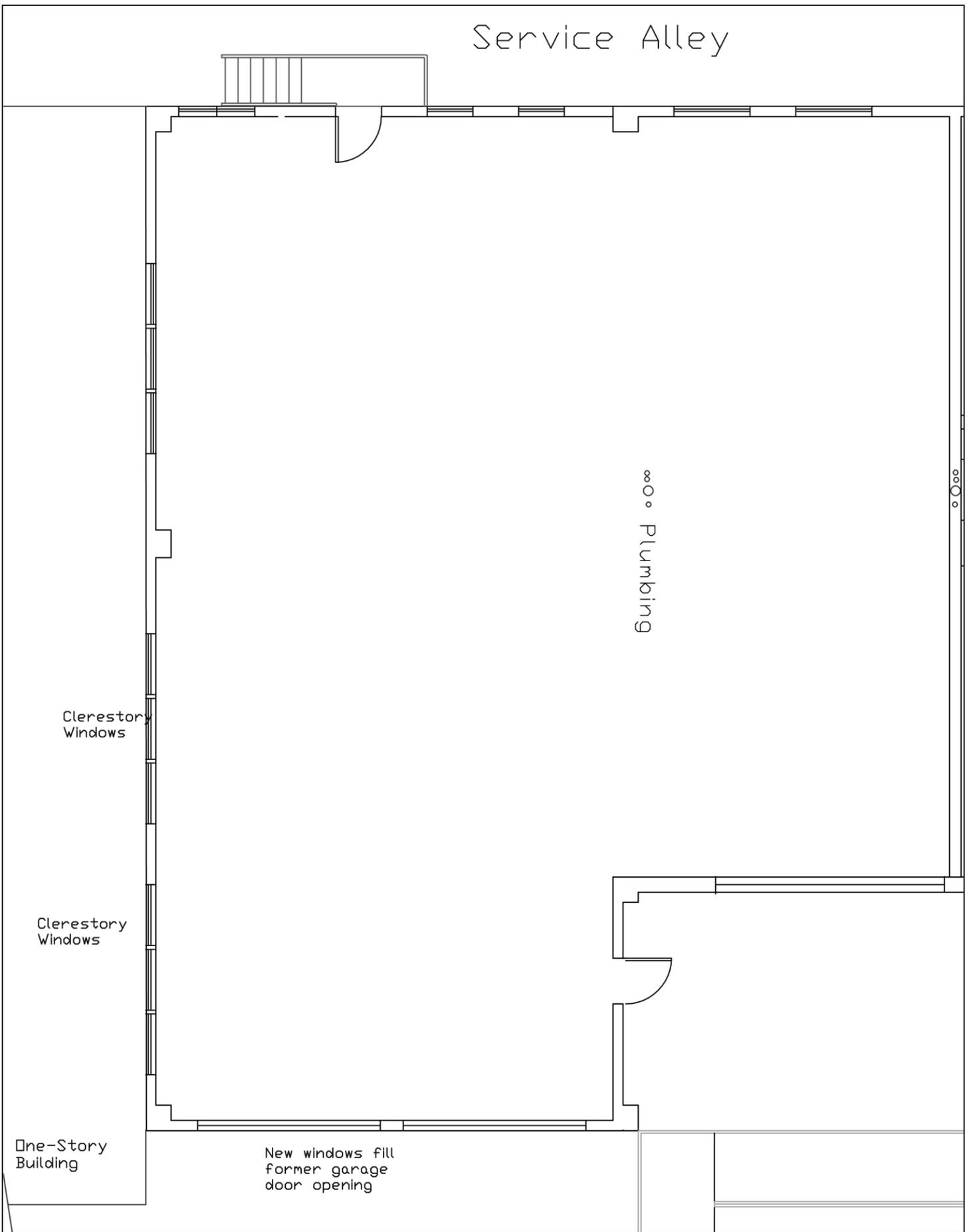
F	Floor
F1	45 oz level loop nylon carpet tiles loose lay
F2	Stained concrete sealed 3 coats matte nonslip urethane
F3	Ungauged slate with heavy cleft face acrylic high-gloss sealer
F4	Recycled rubber tiles w/ antistatic additives
F5	Linoleum sheet goods
W	Walls
W1	Textile wall covering
W2	Semigloss, low VOC paint
W3	Ceramic tile
W4	Textured commercial vinyl wall covering

Area	Floor					Walls		
	F1	F2	F5	W1	W3	W4		
Entrance	F1	F2	F5	W1	W3	W4		
Studio	F1	F2	F3	W1	W2	W3		
Edit Room	F3	F4	F5	W1	W2	W3		
Powder Room	F1	F2	F3	W1	W2	W3		

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

Site Plan Elevation Matrix Schedule Coffee Shop, Full Version

Sheet	P1-1
Scale	As Noted
Control Number	



Timed Design
Exercise

Part 1 of 2

Floor Plan

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

Coffee Shop, 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 counter, 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.
10. Review P2-1 and note the location for elevations of the sales desk.

Code Requirements

- All electrical outlets must be located 18" AFF unless noted otherwise.
- Exit signage must be continuously visible along paths of travel toward exit to the outside.
- Where practical, wall outlets and ports are preferred over floor-mounted outlets and ports.
- Electricity, voice, and data devices required at the sales desk are to be brought up into and permanently affixed within the sales counter.

Additional Scope of Services

The coffee shop serves coffee and sandwiches and attracts customers for evening performances by musicians, poets, and performance artists. Coffee drinks are made to order at the service counter. Food items are to be displayed in a pastry cabinet and a refrigerator cabinet, which are part of the service counter. A menu of made-to-order sandwiches and salads is displayed on the wall above the service counter. These orders are relayed electronically to the kitchen when the sale is rung up. Orders are delivered through a pass-through window from the kitchen to the service counter. Coffee is brewed and orders are assembled and wrapped at the back portion of the service counter.

Food items are packaged "to go" and may be carried away or eaten in the shop. Catering of sandwich-based meals is also available from the kitchen. Catering customers sometimes pick up orders at the service counter.

A small performance platform with flexible lighting serves a variety of small performances, including poetry and storytelling, musicians' performances, and performance art. An industrial atmosphere is requested.

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).

Project Description

Service Counter—Front Counter

1. The sales counter will include two floor-standing food-display cases that are each 4' wide \times 30" deep \times 45" tall.
2. The refrigerator case houses a condenser in its 2' tall base. The pastry cabinet has concealed storage in its 2' high base. The upper portion of each case is $1/2"$ thick acrylic on the customer side and enameled steel sliding doors on the staff side.
3. A computerized cash register sits on the sales counter 36" AFF and is networked to a flat-panel display in the kitchen. The jack that connects and powers the register is to be located 24" AFF in a closed-door storage unit within the service counter, below the computer.
4. A phone is also located on the counter next to the register.
5. Drawer space for supplies to be aggregatedly (need not be a single drawer) 24" wide with a 6" tall drawer face and 10" deep with full-extension glides.
6. Indicate on the plan view with hidden lines and a note the barrier-free transaction surface at 30" high.
7. Two identical trash and paper refuse bins are each 14" \times 18" \times 31" tall.
8. Note materials to be used.

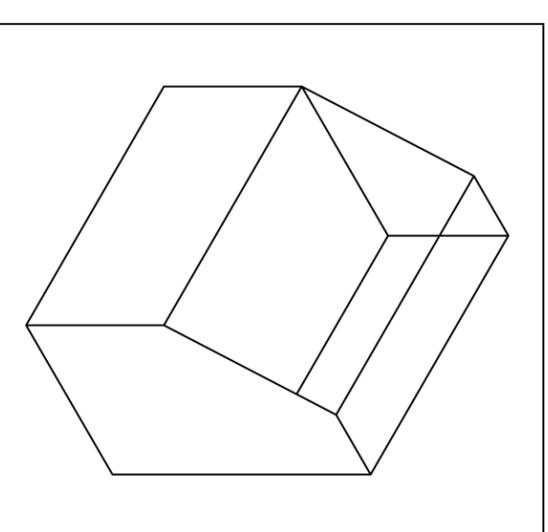
The back service counter is not part of the design tasks for this exercise.

Electrical Plan

1. Review the requirements on sheet P2-2 and provide for all required devices.

Lighting/Reflected Ceiling Plan

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



Generic form of refrigerator
and pastry cabinets

Part Two of Design Exercise Coffee Shop, Full Version

Part 2 of 2

Sheet

C-2

Scale

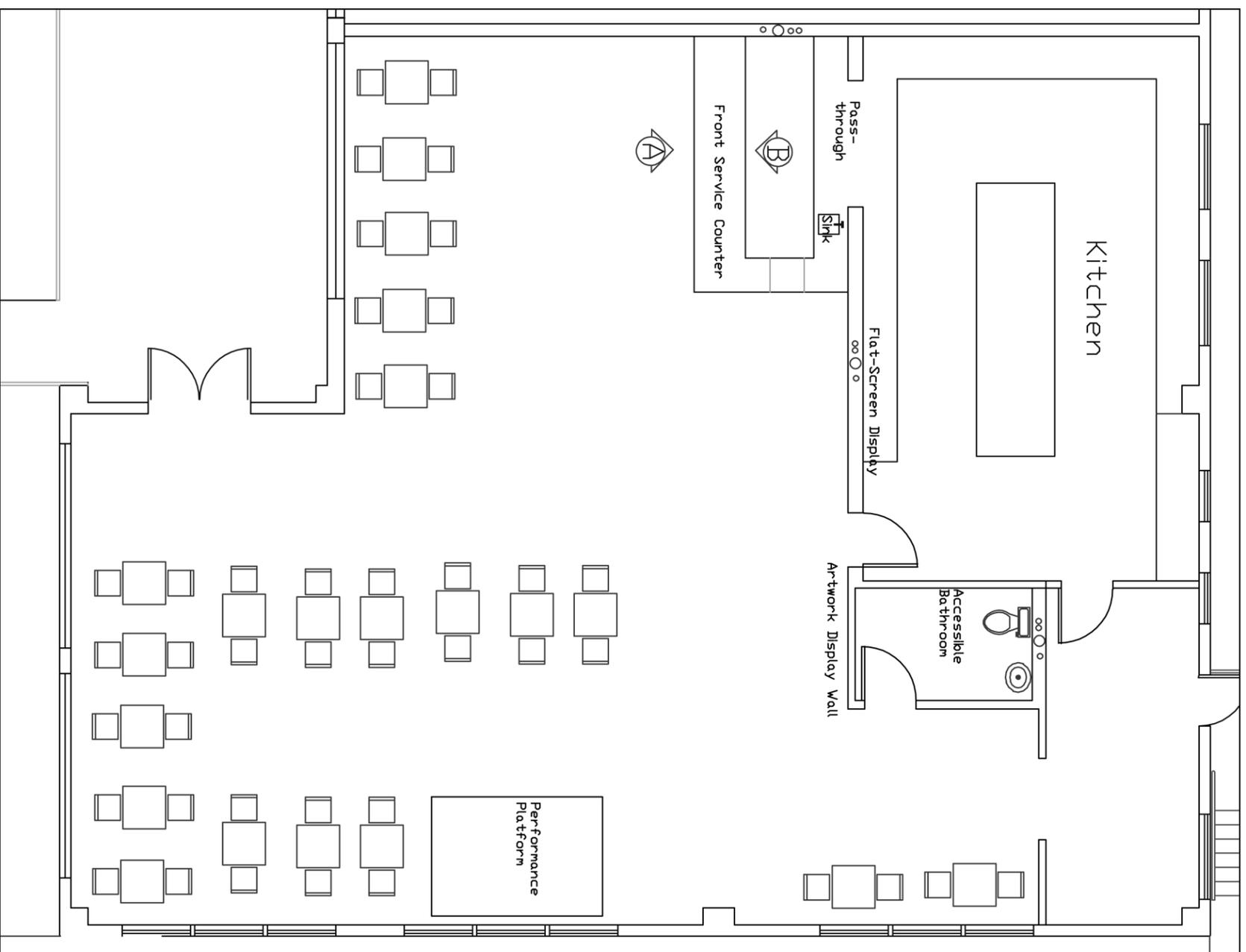
None

Student Control Number

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

Timed Design Exercise

Part 2 of 2



A Elevation of Customer Side of Service Counter

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

B Elevation of Staff Side of Service Counter

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

Floor Plan Coffee Shop, 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
	Phone and data port
	Phone/data/power
	Floor duplex outlet
	Floor phone port
	Floor data port
	Electric Hand Drier
	Recessed clock outlet for picture light

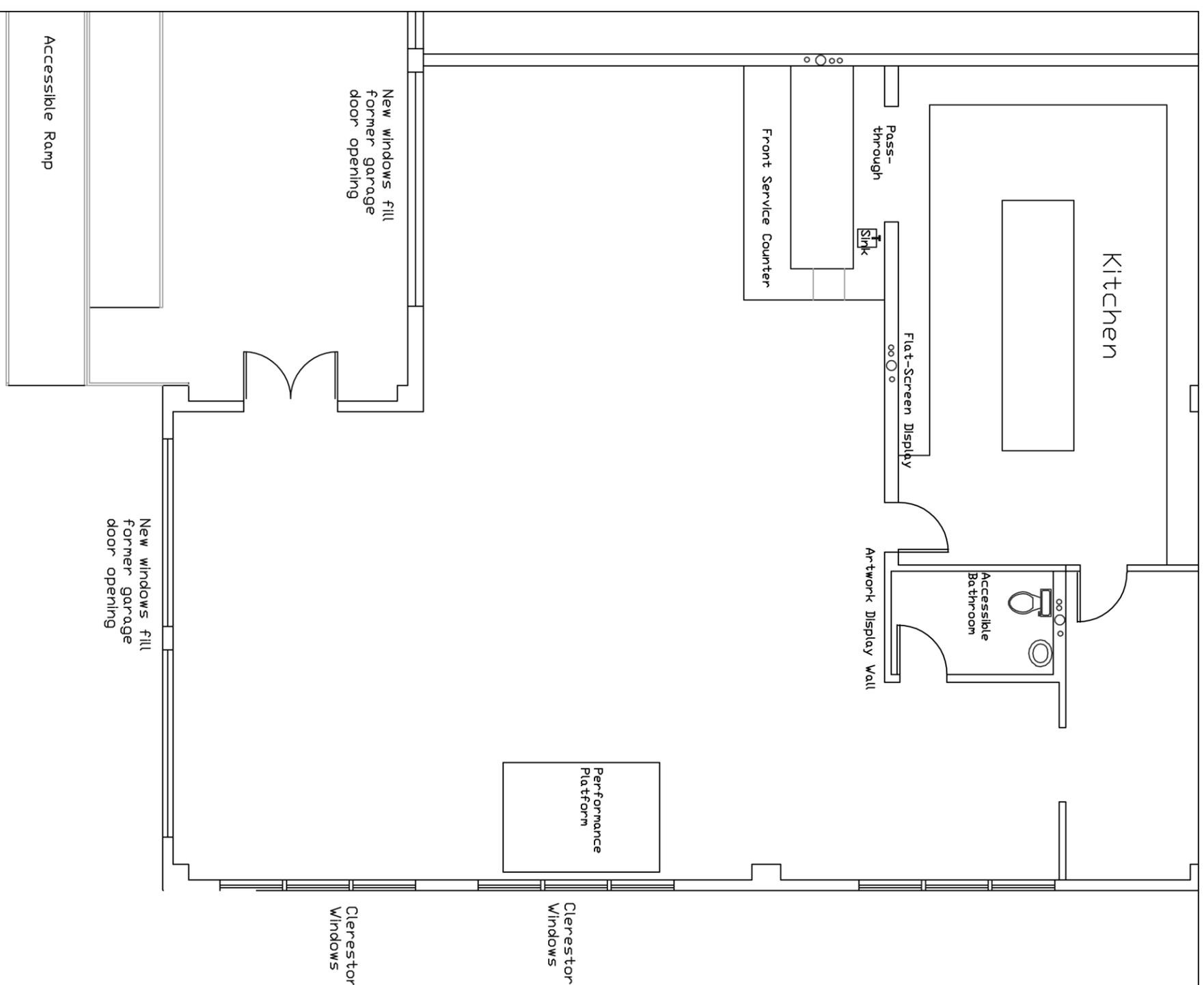
Use only these symbols to communicate your design. Do not make up your own symbols.

Equipment List

On your plan, note all heights that deviate from typical 18" AFF

Qty	Location and requirements
1	Service counter: phone/data/power in desktop
1	Service counter: 1 phone line 24" AFF
1	Recessed outlet in artwork wall, centered @ 45" AFF
1	Duplex outlet in each side of performance platform
1	Phone/data/power 60" AFF for flat-panel display in kitchen
1	Duplex @ 34" AFF cook's desk in kitchen
1	Voice/data/power 34" AFF cook's desk in kitchen
8	Convenience/duplex outlets for customers' laptop computers
1	Back service counter one GFI outlet at sink 40" AFF
1	Washroom one GFI outlet at sink in restroom 30" AFF
1	Electric hand drier in washroom

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 Coffee Shop, Full Version

Sheet
P2-2

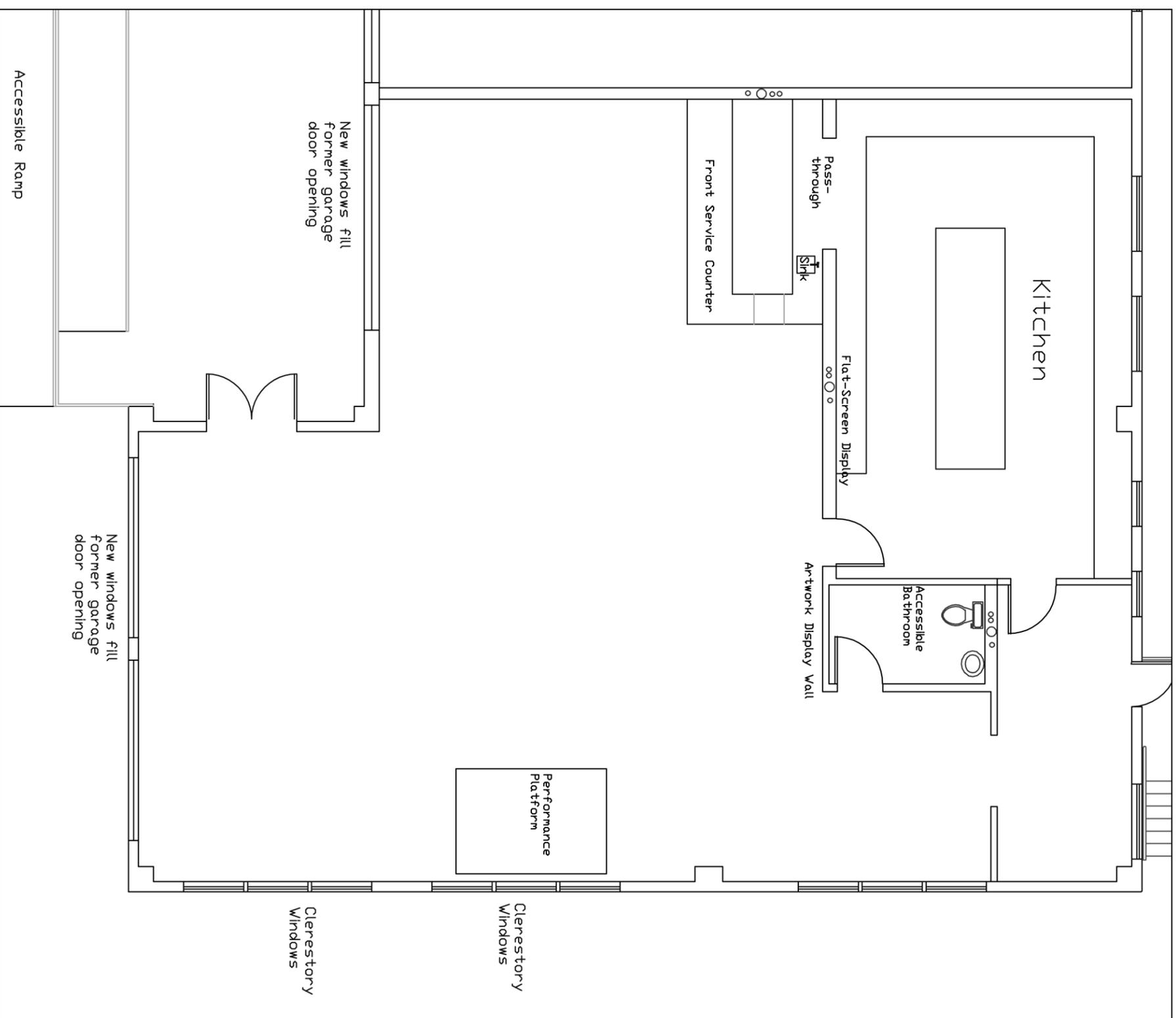
Scale

Control Number

Lighting Legend

Wall	Ceiling	
	(R)	Recessed incandescent
(H)(V)	(R) LV	Recessed incandescent low voltage
(H)(F)	(R) CFL	Recessed compact fluorescent
	[Symbol]	Recessed fluorescent troffer
	[Symbol]	Hidden light fixture fluorescent T5 or xenon strip light
	[Symbol]	Portable task or table lamp
	[Symbol]	Track lighting—broad side of triangle indicates beam side
(H)(R) E	(R) E	Security lighting with backup battery power (always on)
(H)	[Symbol]	Exit sign (dark portion indicates location of lettering)
	[Symbol]	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 Coffee Shop, Full Version

Sheet

P2-3

Scale 1/8" = 1'-0"

Control Number