BIG FLOOR PLANS · SAMPLE TEACHING PLAN · TEACHER GUIDE

BFP-TP-03 The Corner Cafe

Small commercial · business, data, probability, hospitality and food safety

A cafe with a separated point-of-sale queue and mobile-pickup lane, an entry vestibule, an accessible restroom on the customer side, and a back-of-house served by its own corridor with its own outside door - so no storeroom, office or walk-in is entered from a space a customer stands in.

Best for: Business and entrepreneurship, statistics and probability, hospitality and retail pathways, food-safety and facilities planning, and any lesson that needs a commercial floor.

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House rule on any printed floor: walk only, measure kneeling, no running or racing. The rule is printed on the border of the full-size file.

What is in this file, and which page you actually need

This single PDF is the whole plan set. Ninety percent of teachers need exactly two pages: the **Letter teaching sheet** to project or photocopy, and the **Letter worksheet sheet** (same drawing, no dimensions) to hand out. Everything after those is for printing bigger. **Print by page number** — do not send the whole file to a copier, because the poster and full-size pages are much larger than letter paper and will come out shrunk.

Page	What it is	Use it for
1-6	**Teacher Guide** (this document)	Read first. Every room measured, the answer key, the checks, the field card.
7	Letter teaching sheet (grid, axes, dimensions, areas)	Project this one. It is your answer key.
8	Letter worksheet sheet (same drawing, nothing labelled)	Photocopy this one and hand it out. The students measure.
9	Letter clean sheet (plain architectural drawing)	Blueprint reading and CTE: a real drawing, not a worksheet.
10	Tabloid 11 x 17 teaching	Group work: dimensions a table of four can actually read.
11	Tabloid 11 x 17 worksheet	Group work: dimensions a table of four can actually read.
12	Tabloid 11 x 17 clean	Group work: dimensions a table of four can actually read.
13	ARCH D 24 x 36 poster (teaching)	Engineering print at Staples or FedEx Office, a few dollars.
14	ARCH E 36 x 48 poster (teaching)	The biggest sheet a normal print shop runs flat.
15	FULL SIZE teaching edition, drawn at 1:4	Send to a wide-format shop and ask for 400%. Check the 12-inch square.
16	FULL SIZE teaching, /UserUnit twin	Opens at true 1:1 in Acrobat and MuPDF only.
17	FULL SIZE clean edition, drawn at 1:4	Send to a wide-format shop and ask for 400%. Check the 12-inch square.
18	FULL SIZE clean, /UserUnit twin	Opens at true 1:1 in Acrobat and MuPDF only.

The CAD file is attached to this PDF. BFP-TP-03-clean.dxf — AutoCAD DXF R2000, inches, AIA layers — travels inside this file as a standard PDF attachment rather than as a separate download. Open this PDF in Adobe Acrobat Reader and click the paperclip in the left sidebar to save the DXF wherever you want it; Firefox lists it under the attachments tab of its sidebar. The PDF viewer built into Chrome does not show attachments at all, so download this file and open it in a reader rather than working from a browser tab.

How to print it, and what it costs

Size	Pages to send	Scale	Where	Typical cost
Letter 8.5 x 11	7	auto (stated on the sheet)	school copier	pennies; B&W is fine (the drawing is line-only)
Tabloid 11 x 17	10	auto	most school copiers	pennies
ARCH D 24 x 36	13	auto (3/8" or 1/2" = 1 ft)	Staples / FedEx Office engineering print	about $4.50 B&W at Staples list price ($0.75/sq ft)
ARCH E 36 x 48	14	auto (1/2" or 3/4" = 1 ft)	Staples / FedEx Office	about $9.00 B&W at Staples list price
FULL SIZE 44'-0" x 33'-0"	15	1:1 on the floor	Big Floor Plans (bigfloorplans.com/calculator)	priced on the printed sheet at $0.45/sq ft ($100 minimum), confirmed after file review; shipping quoted separately. Ships folded with lawn staples and a mallet

Read the full-size price carefully. The building footprint is 44'-0" x 33'-0" = 1,452 sq ft, but a printed floor is charged on the **sheet**, not the footprint. The teaching sheet carries the numbered grid margin (and any outdoor area drawn beyond the walls), so it measures 48'-6" x 39'-4" = 1,908 sq ft. The clean edition has no grid margin and measures 48'-0" x 38'-10" = 1,864 sq ft — only a little cheaper, so choose the edition you actually want to teach on, not the one that shaves a few dollars. The published rate is $0.45 per printed square foot with a $100 minimum. A sheet this size is produced in panels, so the final figure and the shipping are confirmed after file review. Send the PDF and get a firm number at bigfloorplans.com/calculator before you raise a purchase order.
Do not try to print the full-size pages on a school copier: at letter size the floor would be roughly 2,787 sheets. Tape one room out instead (field card below), or order the print.

Every room, measured (answer key)

Dimensions are **clear** (inside face of wall to inside face of wall). Coordinates are feet-and-inches from the **origin** at the inside south-west corner — the orange dot on the teaching edition. Walls are drawn at schematic thickness (0'-6" exterior, 0'-4" interior); this is not a framing detail.

Room	Clear size	Area	Perim.	Diag.	SW corner (x, y)	Why it is here
Vestibule	6'-4" x 7'-0"	44.3 SF	26'-8"	9'-5 1/4"	(0'-0", 0'-0")	
Queue	6'-4" x 8'-8"	54.9 SF	30'-0"	10'-8 3/4"	(0'-0", 7'-4")	
Dining Room	24'-0" x 16'-0"	384 SF	80'-0"	28'-10 1/4"	(6'-8", 0'-0")	24 x 16 = 384 SF: four seating types at different densities
Service Counter	12'-0" x 16'-0"	192 SF	56'-0"	20'-0"	(31'-0", 0'-0")	12 x 16 = 192 SF: exactly half the dining room
Restroom	6'-4" x 7'-8"	48.6 SF	28'-0"	9'-11 1/4"	(0'-0", 16'-4")	6'-4" x 7'-8": the 60" circle fits, and no food room opens off it
Dry Storage	12'-0" x 7'-8"	92 SF	39'-4"	14'-3"	(0'-0", 24'-4")	
Office	5'-4" x 7'-8"	40.9 SF	26'-0"	9'-4"	(6'-8", 16'-4")	
Service Corridor	4'-0" x 15'-8"	62.7 SF	39'-4"	16'-2"	(12'-4", 16'-4")	the back-of-house spine - its own outside door
Kitchen	26'-4" x 11'-4"	298.4 SF	75'-4"	28'-8"	(16'-8", 16'-4")	
Walk-in Cooler	6'-0" x 4'-0"	24 SF	20'-0"	7'-2 1/2"	(16'-8", 28'-0")	opens off the KITCHEN, never off a restroom
Freezer	6'-0" x 4'-0"	24 SF	20'-0"	7'-2 1/2"	(23'-0", 28'-0")	
Dish	13'-8" x 4'-0"	54.7 SF	35'-4"	14'-3"	(29'-4", 28'-0")	

Gross footprint: 44'-0" x 33'-0" = 1,452 SF. **Sum of clear room areas inside the walls:** 1320.4 SF. **Walls and the corner mass:** 131.6 SF = 9.1% of the footprint. That percentage is a real 7.RP.A.3 problem, and the reason a "1,200 SF house" never has 1,200 SF of rooms.

What was engineered into it

1. Footprint 44'-0" x 33'-0": diagonal exactly 55'-0" (3-4-5 x 11). Every plan in the set has a whole-number diagonal. **CCSS 8.G.B.7**
2. Dining room 24 x 16 = 384 SF with four seating types (2-tops, 4-tops, community tables, window bar): seats per square foot becomes a real optimisation, and the 15 SF-per-person egress figure becomes a constraint to check rather than a fact to copy. **CCSS G-MG.A.2, 7.RP.A.3**
3. The service counter is 12 x 16 = 192 SF, exactly half the dining room: percent-of-total problems come out whole. **CCSS 6.RP.A.3c**
4. The back of house is served by its own 4-foot corridor with its own outside door. The walk-in cooler, the freezer and the dish station open off the KITCHEN; dry storage and the office open off the CORRIDOR; the restroom is entered from the queue, on the customer side, and nothing that holds food opens off it. Trace the path a case of milk takes from the delivery van to the walk-in, then the path a customer takes to the toilet, and show on the floor that they never cross. That separation is the difference between a plan that passes a health inspection and one that does not. **FDA Food Code 6-202 / 6-501; IBC 1210**
5. The point-of-sale queue and the mobile-pickup lane are marked separately in a 6'-4" bay, so students can time both flows and argue about the layout with data instead of opinion. **CCSS 6.SP.B.5**
6. Cooler, freezer and dish sit in one 4-foot strip along the north wall of the kitchen - the shortest path from prep to cold storage and from bussing to washing. Time a bus tub to the dish station, then propose a better strip. **Perkins**

V hospitality

7. The restroom is 6'-4" x 7'-8" clear: the 60-inch turning circle fits with room to spare, the door is 36 inches, and the water closet holds 21 inches clear in front. **2010 ADA Standards 304.3.1, 404.2.3; IRC R307.1**
8. The entry is a vestibule with a pair of 36-inch doors: a real airlock, and the doorway-width lesson at full scale. **2010 ADA Standards 404.2.3**

Doors, and the accessibility checks

The 2010 ADA Standards used here: accessible route **36 in** minimum clear width (403.5.1); door clear opening **32 in** minimum (404.2.3); circular turning space **60 in** diameter (304.3.1); clear floor space **30 x 48 in** (305.3). A door drawn at 30" fails; 32" and 36" pass. This is a clearance study for a lesson, not an accessibility audit or a code review. **Some rows below fail on purpose.** Every failure in this table is real and is stated in its own words - a plan that only ever passes teaches students nothing about what failing looks like.

Check	What the plan shows	Result
Restroom turning space	6'-4" x 7'-8" clear (76" x 92") - 60" circle fits	**PASSES**
Restroom door	36" - passes	**PASSES**
Entry doors	pair of 36" leaves - passes	**PASSES**
Water closet clearance	21" clear in front and 15" centreline to side wall - passes	**PASSES**
Aisle between the 4-tops and the community tables	measure it: is it 36"?	**PASSES**

Door schedule: 2 x cased 48", 2 x cased 72", 1 x cased 96", 1 x door 32", 10 x door 36". Windows: 6.

Tape-It-Out field card: one room at full size in 12 minutes, no print needed

Pick one room from the table (start with a rectangle). You need: a 25-ft tape measure, a chalk line or a second tape, painter's tape or sidewalk chalk, four objects to hold corners, and two students who can read a tape.

1. Choose the surface first (see the warning below). Blacktop with sidewalk chalk is the safest default. A tiled cafeteria or hallway with low-tack painter's tape is next.
2. Mark corner A. Run the tape along your long side and mark corner B at the room's clear length.
3. Square the corner with 3-4-5: from A measure 3 ft along AB and mark; measure 4 ft from A in the direction of the short side and mark; adjust that second mark until the two marks are exactly 5 ft apart. Now the short side is square. (For big rooms use 6-8-10 or 9-12-15.)
4. Mark corner D at the clear width along the squared short side. Mark corner C by measuring the length from D and the width from B; both must agree.
5. Check the diagonal: measure A to C. It must equal the diagonal in the table. If it is off by more than an inch, the rectangle is not square - fix it before you tape.
6. Snap or tape the four sides. Add the door openings from the plan (width from the door schedule).
7. Set the origin: the inside corner nearest the building's south-west is (0, 0) on the teaching edition; label it so coordinate lessons match the handout.
8. Removal: painter's tape the same day; chalk washes off with a hose.

Gym floor warning: painter's tape can lift the finish coat of a maple gym floor and the repair is a sanding and refinish job. Do not tape a gym floor without the athletic director's sign-off; use dry-erase gym-floor markers or white shoe polish there, and remove the same day.

Rooms with a whole-foot diagonal you can verify with one tape pull:

Room	Clear size	Diagonal (predict, then measure)
Service Counter	12'-0" x 16'-0"	20'-0"
Whole footprint	44'-0" x 33'-0"	55'-0"

Running a class on the floor: the station map

The teaching edition prints four numbered stations. Rotate 3-4 students per station, 10 minutes each, four rotations in a 45-50 minute period; the rest of the class works the letter worksheet at desks. 12-16 students on the floor at once is the practical maximum on a plan this size.

Station	Task	Room
1	seats per square foot	Service Counter
2	queue timing	Queue
3	trace the delivery path	Service Corridor
4	ADA restroom	Restroom

Lessons in the free library that use this plan

Grid the Bedroom, Scale Detective, Data Walk, Probability Walk, Service Flow, The Retail Floor, Route & Egress Study, Roll the Route: ADA Clearance Study, The Work Triangle, Money Math Market, Price per Square Foot, On Foot, Traffic Jam, The Remodel Budget, Volume Builder. All 75 lessons: **bigfloorplans.com/lesson-plans** — search by standard code at bigfloorplans.com/lesson-plans-standards.

Standards referenced on this plan

2010 ADA Standards 304.3.1, 2010 ADA Standards 404.2.3, 404.2.3, 7.RP.A.3, CCSS 6.RP.A.3c, CCSS 6.SP.B.5, CCSS 8.G.B.7, CCSS G-MG.A.2, FDA Food Code 6-202 / 6-501, IBC 1210, IRC R307.1, Perkins V hospitality

Credit line (the only condition of the licence)

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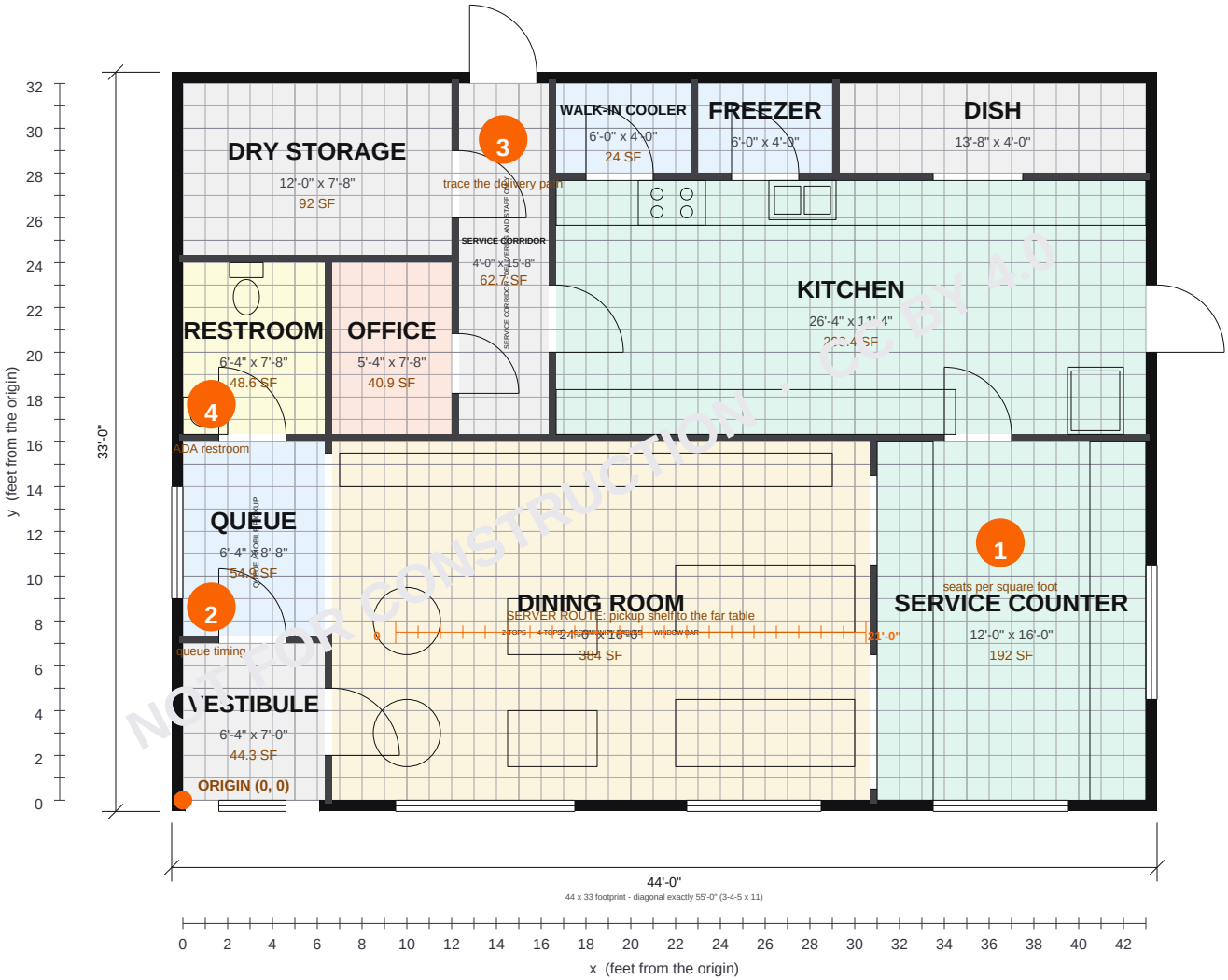
Big Floor Plans prints floor plans at true 1:1 scale for design review and for classrooms. $0.45 per printed square foot, $100 minimum, shipping quoted separately. Questions: estimating@bigfloorplans.com · 937-901-3402.



BIG FLOOR PLANS · SAMPLE TEACHING PLAN

BFP-TP-03 The Corner Cafe

SCALE 1/8"=1'-0" (1:96)

Bar = 1.25 in at 100%

NOT A CONSTRUCTION DOCUMENT

Instructional drawing - not for permitting or building.

TEACHING EDITION (grid, axes, areas)

Small commercial · business, data, probability, hospitality and food safety

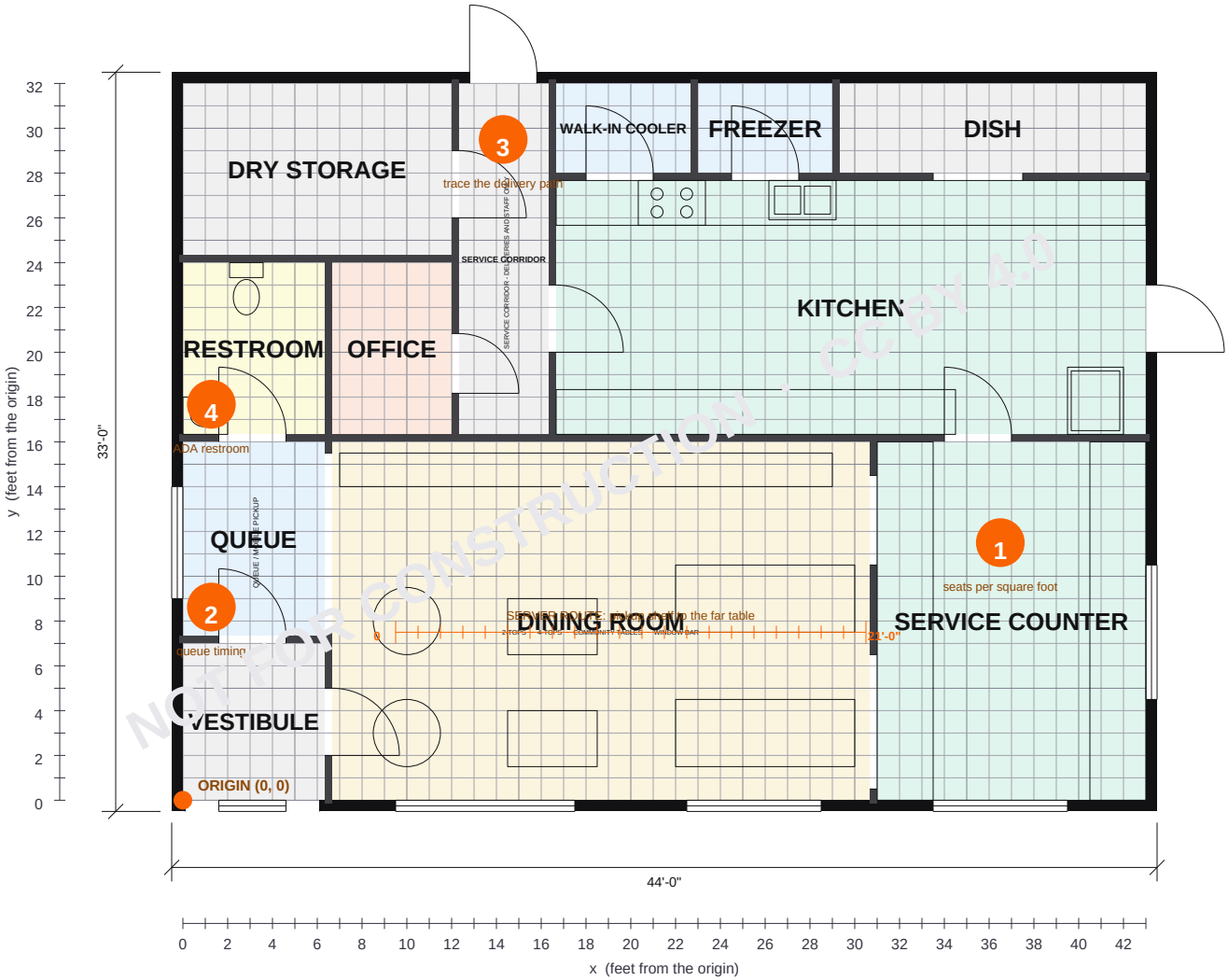
0 10 ft

12" at scale

"BFP-TP-03 The Corner Cafe" by Big Floor Plans, CC BY 4.0. bigfloorplans.com/sample-plans

Walk-pace only on a printed floor. No running.

N



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STUDENT WORKSHEET EDITION (grid, axes - no dimensions: you measure)

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0 10 ft

12" at scale

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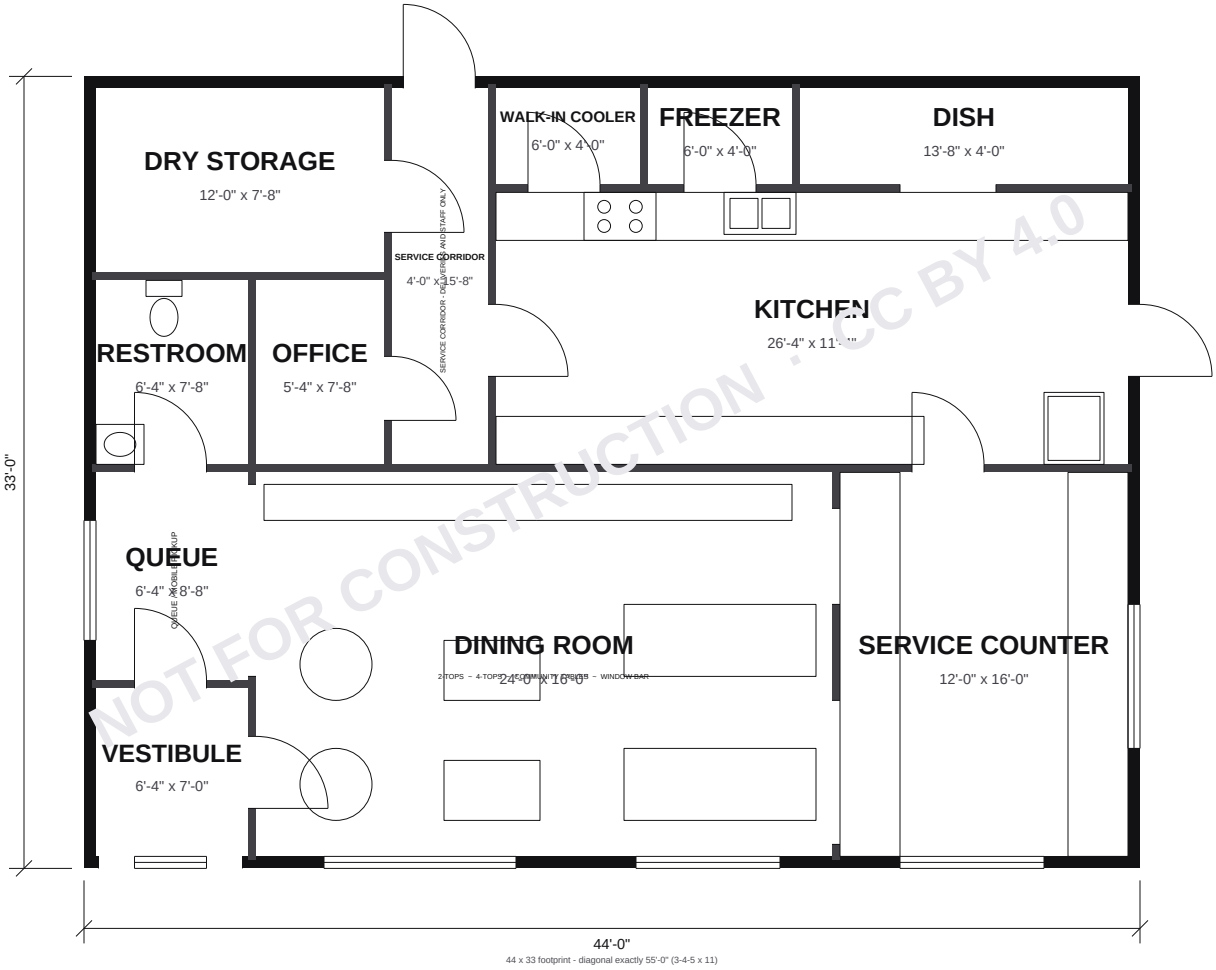

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BIG FLOOR PLANS · SAMPLE TEACHING PLAN

BFP-TP-03 The Corner Cafe

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N

CLEAN EDITION

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0 10 ft

12" at scale

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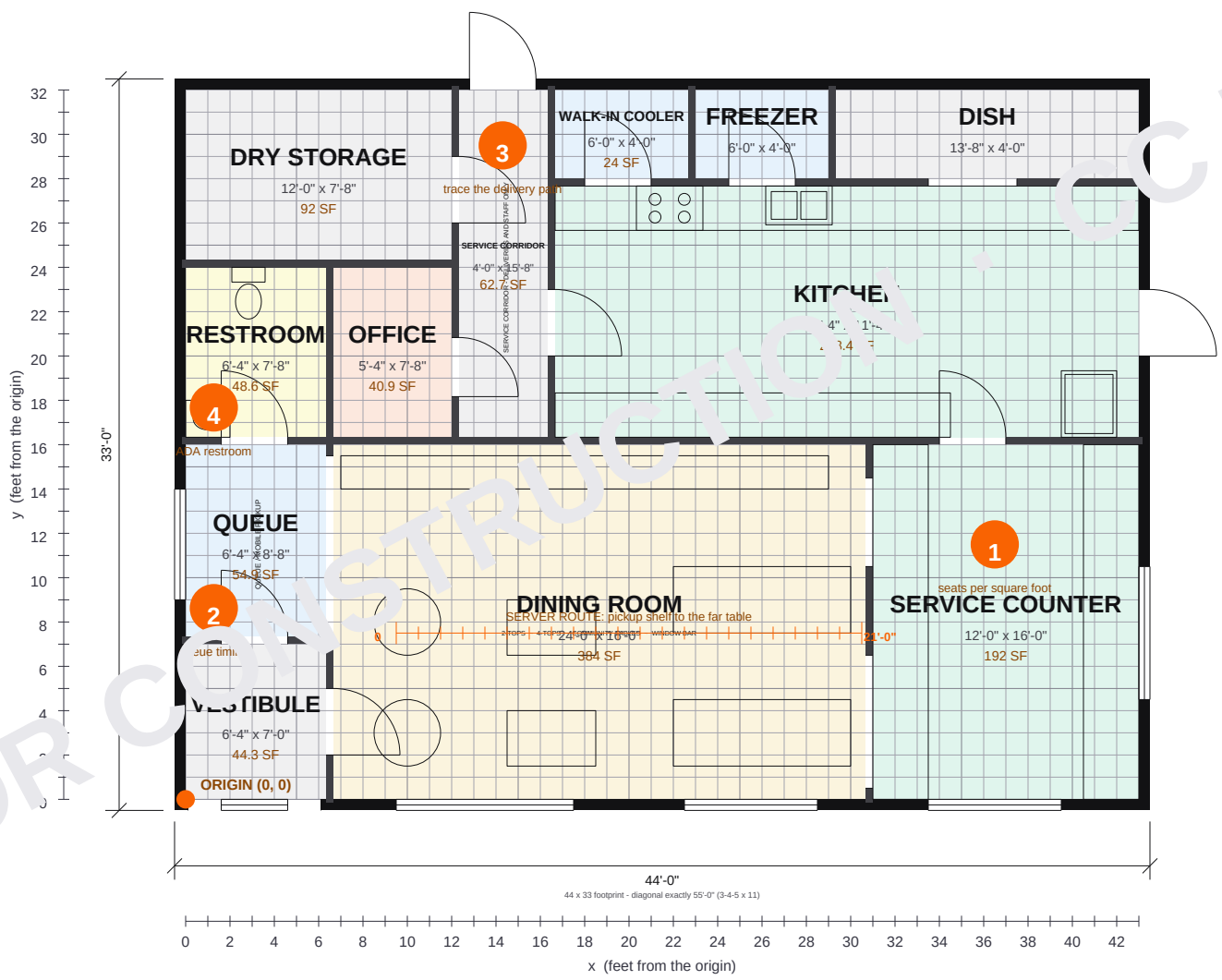

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BIG FLOOR PLANS · SAMPLE TEACHING PLAN

BFP-TP-03 The Corner Cafe

SCALE 1/8"=1'-0" (1:96)

Drawn at 1 plan inch = 96 real inches. The stamped, not measured, dimensions are for permitting and building.

NOT A CONSTRUCTION DOCUMENT

TEACHING EDITION (grid, axes, areas)

Small commercial · business, data, probability, hospitality and food safety · footprint 44'-0" x 33'-0" · gross 1,452 SF

0 10 ft "BFP-TP-03 The Corner Cafe" 12" at scale

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Walk-pace only on a printed floor. No running.

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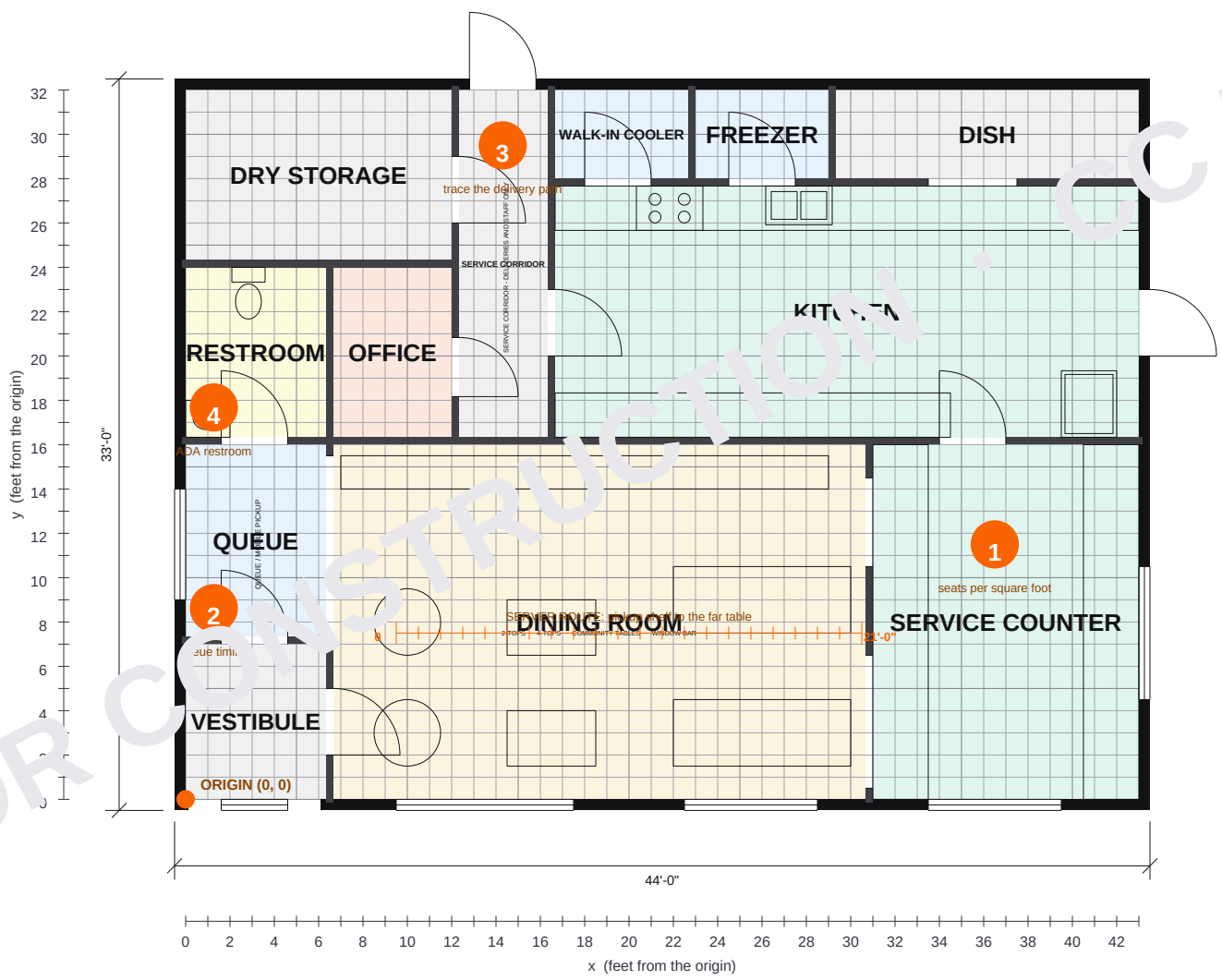

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BIG FLOOR PLANS · SAMPLE TEACHING PLAN

BFP-TP-03 The Corner Cafe

SCALE 1/8"=1'-0" (1:96)

Drawn at 1 plan inch = 96 real inches. The stamped, not measured, 1.25 in/pt printing at 100%.

NOT A CONSTRUCTION DOCUMENT

STUDENT WORKSHEET EDITION (grid, axes - no dimensions: you measure)

Small commercial · business, data, probability, hospitality and food safety · footprint 44'-0" x 33'-0" · gross 1,452 SF

0 10 ft

12" at scale

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Walk-pace only on a printed floor. No running.

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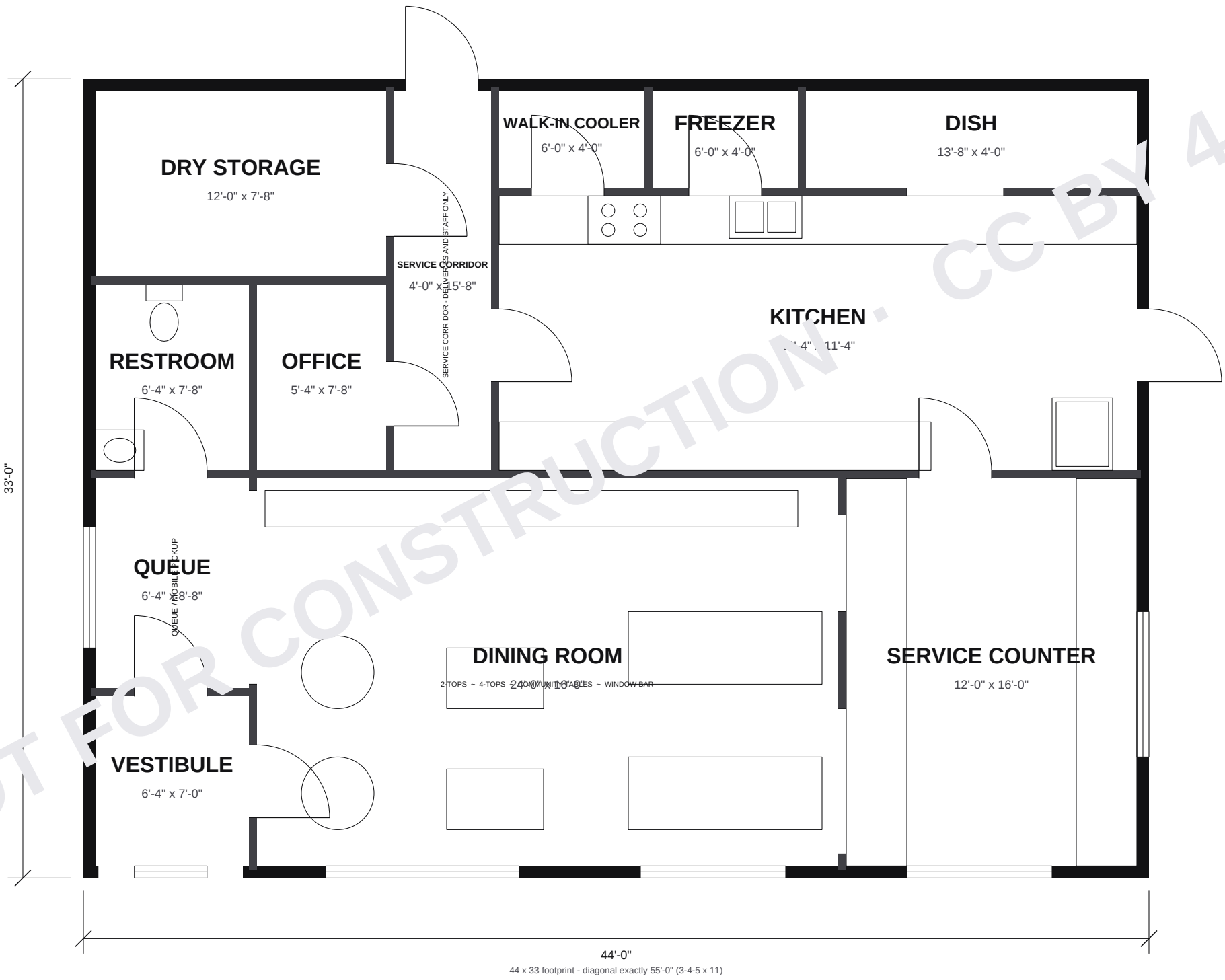

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BIG FLOOR PLANS · SAMPLE TEACHING PLAN

BFP-TP-03 The Corner Cafe

SCALE 3/16"=1'-0" (1:64)

Drawn at 1 plan inch = 64 actual inches. The total area, not measured, is 1,452 SF, rounded to the nearest 10 SF.

NOT A CONSTRUCTION DOCUMENT

Not for permitting or building. Not to scale unless printed at 100%.

0 10 ft

12" at scale

N

CLEAN EDITION

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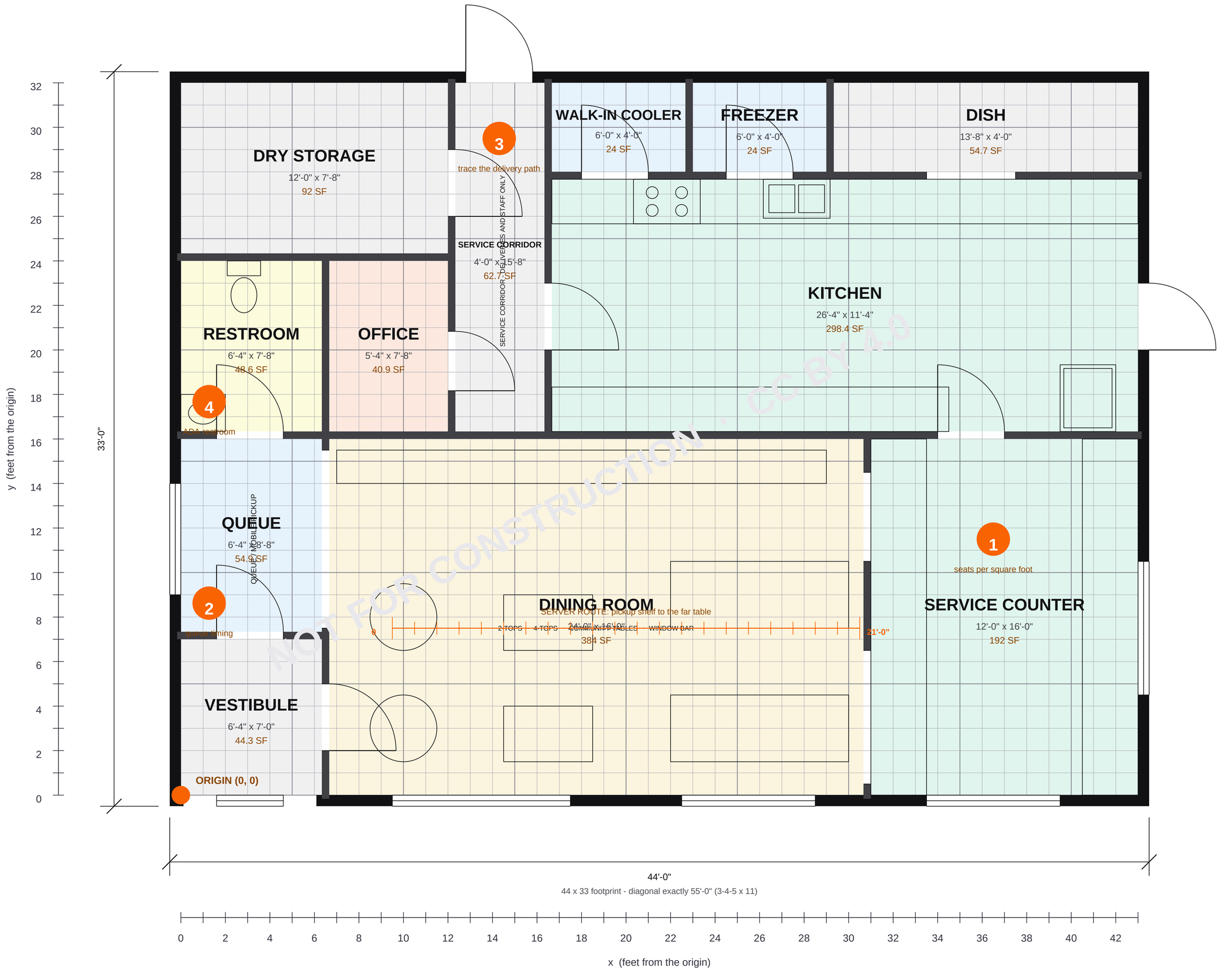

BIG FLOOR PLANS · SAMPLE TEACHING PLAN

BFP-TP-03 The Corner Cafe

TEACHING EDITION (grid, axes, areas)
Small commercial · business, data, probability, hospitality and food safety · footprint 44'-0" x 33'-0" · gross 1,452 SF

SCALE 3/8"=1'-0" (1:32)
Drawn at 1 plan inch = 32 sheet inches. The bar above must measure 3.75 in when printed at 100%.

0 — 10 ft
12" at scale

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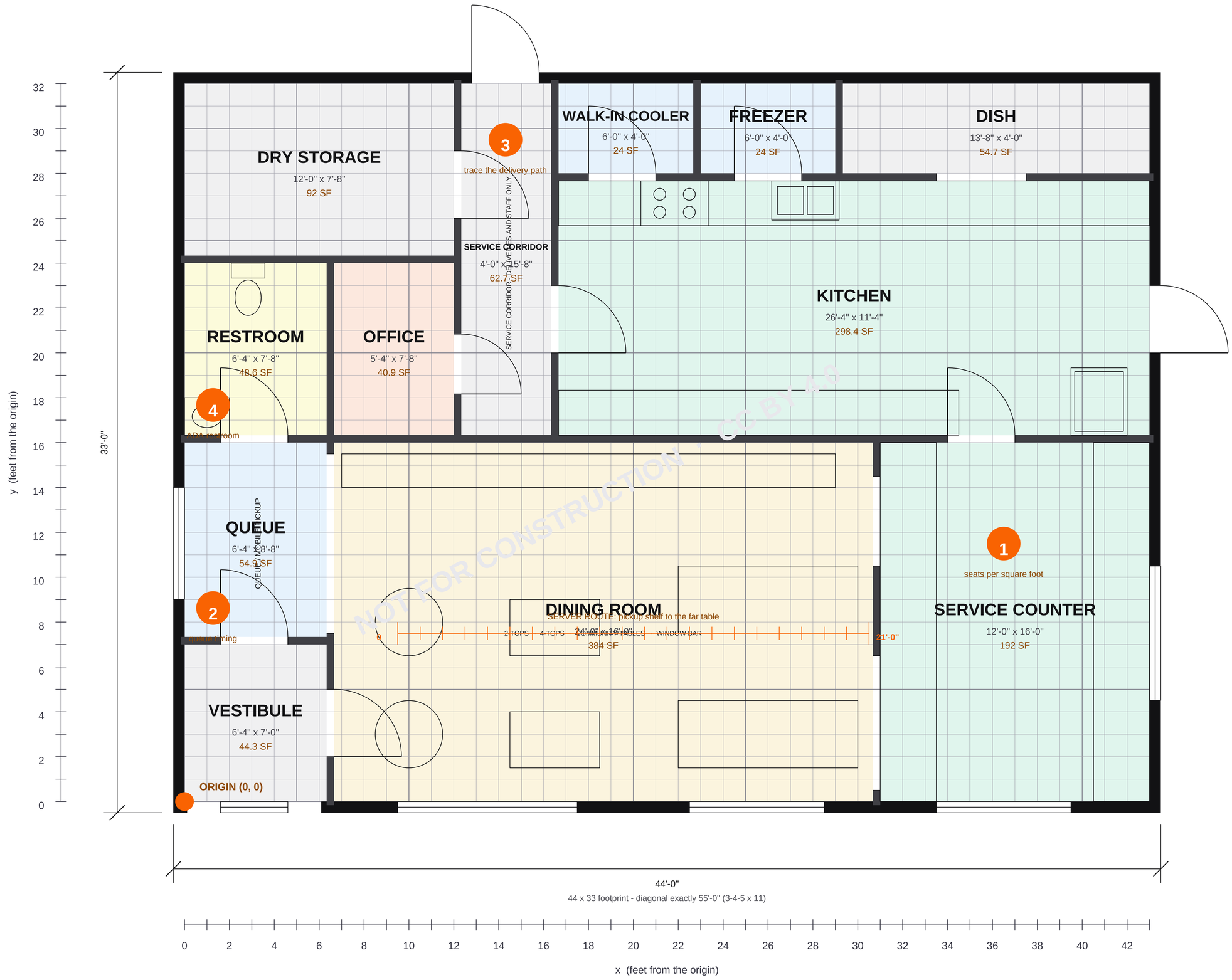

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SCALE 1/2"=1'-0" (1:24)
Drawn at 1 plan inch = 24 sheet inches. The bar above must measure 5 in when printed at 100%.

0 10 ft 12" at scale

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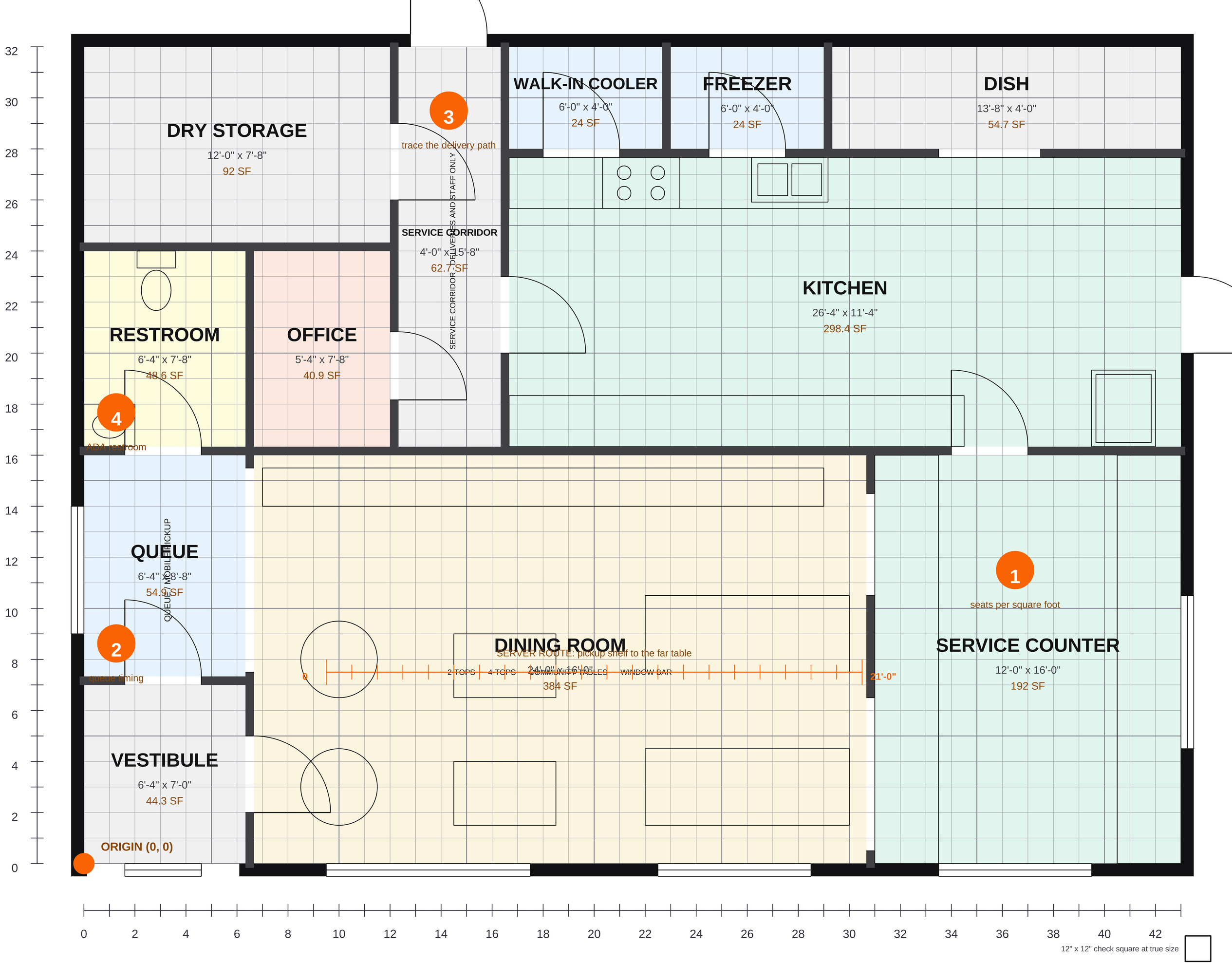

44 x 33 footprint - diagonal exactly 55'-0" (3-4-5 x 11)

BFP-TP-03 THE CORNER CAFE - TEACHING EDITION - BIG FLOOR PLANS SAMPLE TEACHING PLAN - CC BY 4.0

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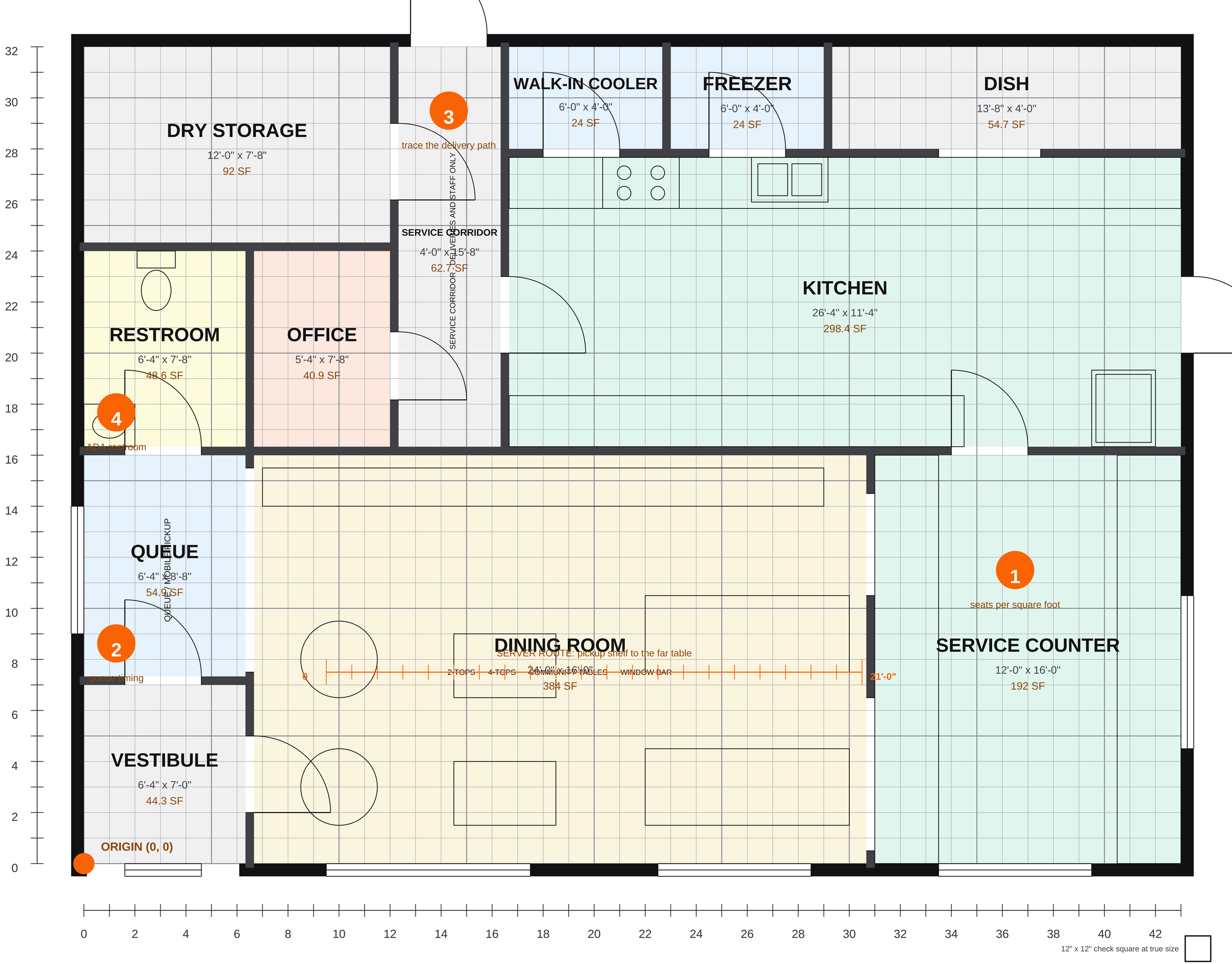

44 x 33 footprint - diagonal exactly 55'-0" (3-4-5 x 11)

BFP-TP-03 THE CORNER CAFE - TEACHING EDITION - BIG FLOOR PLANS SAMPLE TEACHING PLAN - CC BY 4.0

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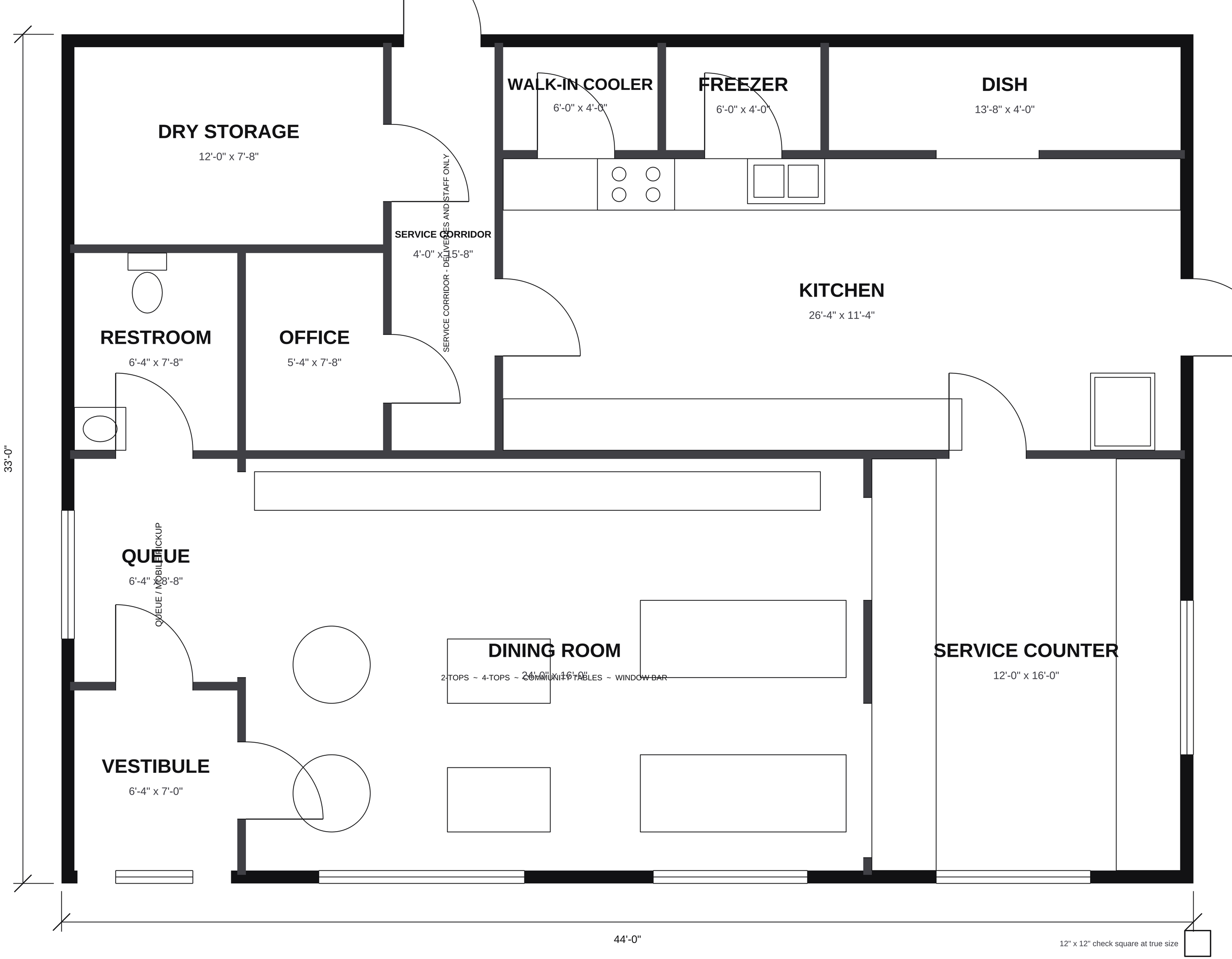

BFP-TP-03 THE CORNER CAFE - CLEAN EDITION - BIG FLOOR PLANS SAMPLE TEACHING PLAN - CC BY 4.0

44 x 33 footprint - diagonal exactly 55'-0" (3-4-5 x 11)

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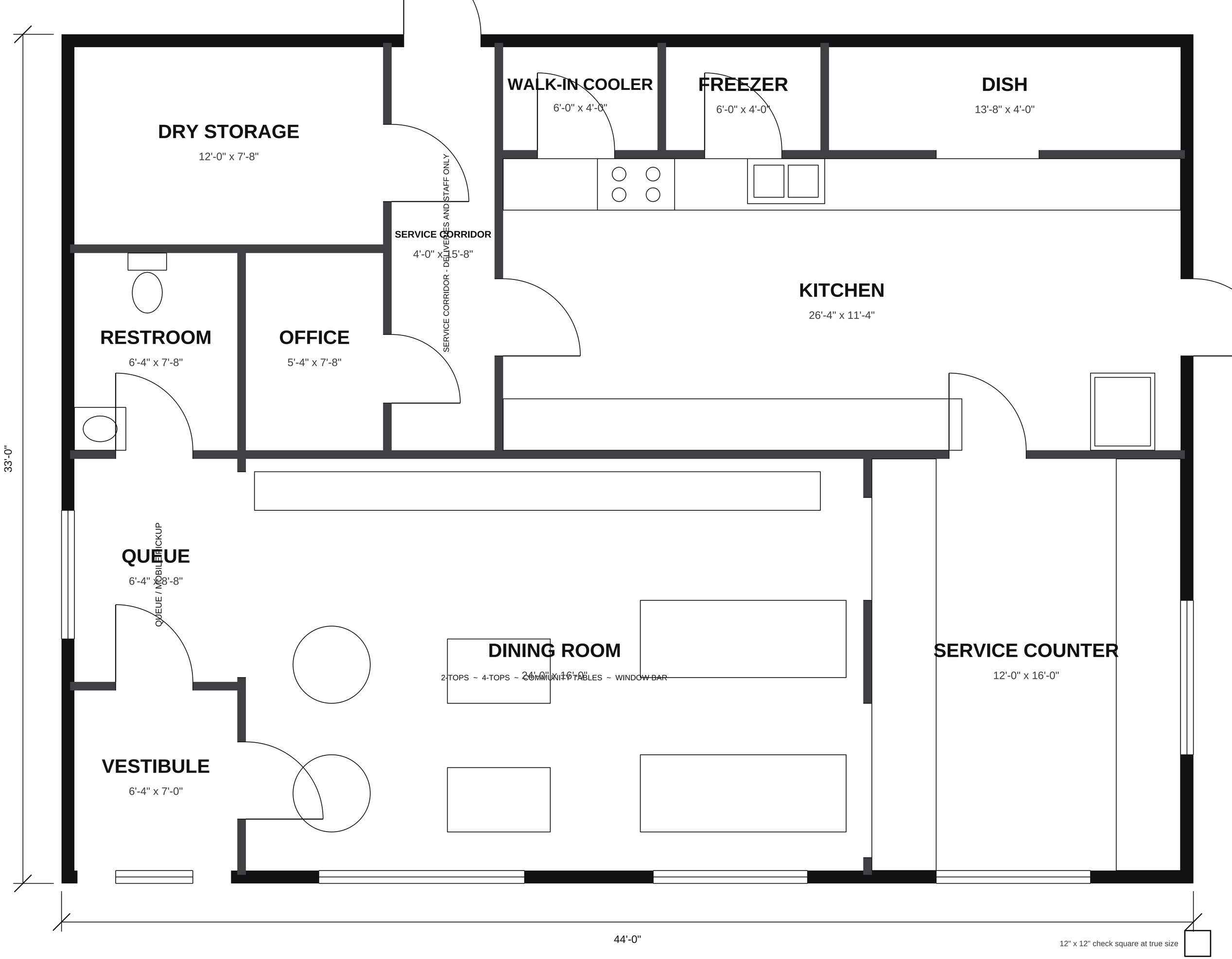

BFP-TP-03 THE CORNER CAFE - CLEAN EDITION - BIG FLOOR PLANS SAMPLE TEACHING PLAN - CC BY 4.0

44 x 33 footprint - diagonal exactly 55'-0" (3-4-5 x 11)

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