

Building Number: 22
Original Name: Theater
Est. Year of Construction: 1951

General Data

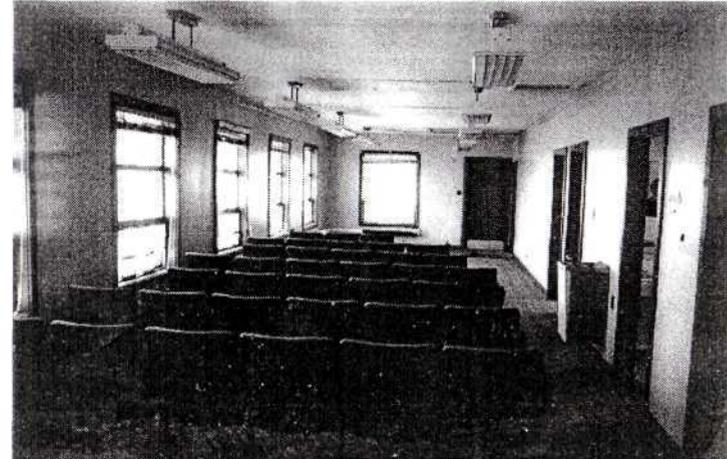
- Square Footage: 1,340
- # of Floors: 1
- # of Rooms: 7
- # of Bedrooms: 0
- # of Bathrooms: 2
- # of Kitchens: 0
- # of Laundry Rooms: 0
- # of Shower Rooms: 0
- Basement or Crawl Space? Crawl Space
- Ceiling Heights: 9'-2"



View from northwest.

History and Future Plans

Building #22 was originally used as a small theater with fixed seating and as a recreation building. NPS anticipates use of this small space located on the eastern edge of the site for meetings. There is abundant natural light to accommodate this use.



Interior of theater.



Detail of pest-related problems at soffit.

Exterior Conditions

- *Roof*
Asphalt roll roof in **fair/poor condition**. Advise replacement of all 16 squares. Some deterioration of overhangs. Missing downspout at gutter over entrance.
- *Wall*
Exterior is sheathed in white cedar shingles that have been weathered. **Overall condition is fair/poor**; replace 800 SF. Bird infestation at eaves and wall (?) No vent screens.
- *Trim*
Wood trim is in **fair condition**. Replace rotted areas (+/- 110 LF) and sheathing below, especially at vestibules.
- *Foundation*
CMU walls and crawl space in **good condition**.

Framing

Hip Roof: 20-degree slope. Wood 2 x 6 @ 24" O.C. with 4" wood plank tongue-and-groove sheathing. 2x4 collar ties and brg. walls and 2 x 10 C.J. @ 24" O.C. **Fair/good condition**.
Wall: Wood 2 x 4 with insulation. Offset bearing wall. **Fair/good condition**.
Floor: Wood 2 x 10 @ 16" O.C. with offset 7¼" x 13¼" beam spanning 10'-0" across 16" x 16" CMU piers, below 2 x 4 bearing wall. Batt insulation. **Fair/good condition**.

Life Safety

The two means of egress from Building #22 are in **fair condition**. Doors are 35" wide and do not have panic hardware. Three steps up to both entrances - not handicap accessible.

Interior Conditions

- *Ceiling*
Painted drywall finish in **fair/poor condition**. Large cracks in drywall and peeling paint from water damage. Large leak in main theater space. Repair and refinishing advised.
- *Wall*
Painted drywall finish in **fair condition**. Refinish recommended.
- *Trim*
Wood baseboard, window and door trim is in **fair condition**. Paint is peeling and cracking. Refinishing recommended.
- *Floor*
Carpet on plywood subfloor throughout most. VAT in bathrooms. **All in fair condition**. Water damage to carpet. Replacement advised.

Windows

Building #22 has 17 awning windows with the bottom panel operable in **fair condition**. Anodized aluminum is in fair condition; glazing is in poor condition. Replacement is advised.

Doors

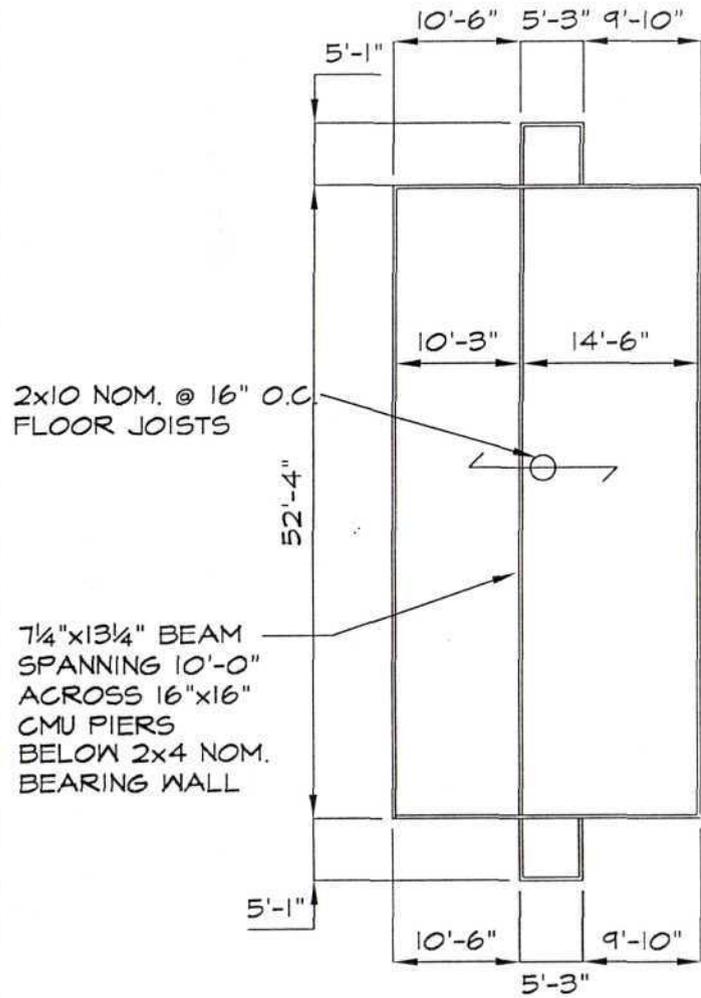
Interior hollow core wood doors are in **fair/poor condition**; replacement advised. Four panel wood doors are in **good condition**. Solid wood three-light doors to the exterior are in **fair condition**; replacement advised.

Reusable Fixtures

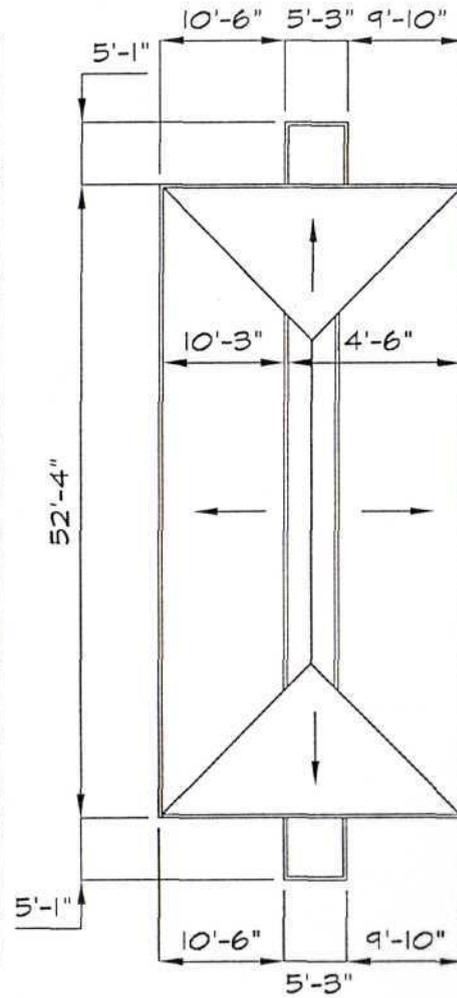
Fixed seating in good condition and may be reused.

All plumbing fixtures in poor condition; however, lavatories and janitor's sink may be refurbished with new hardware, etc. Refer to Mechanical/Electrical/Plumbing section.

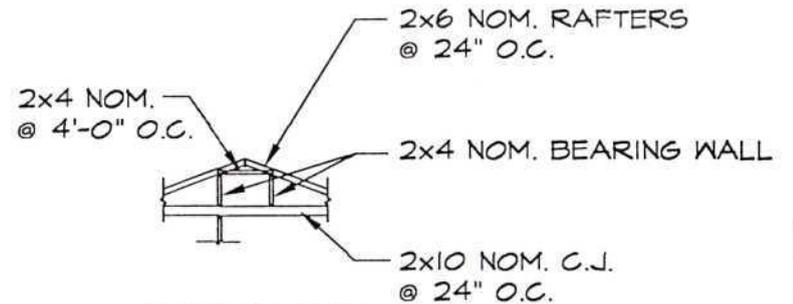
Building Number: 22



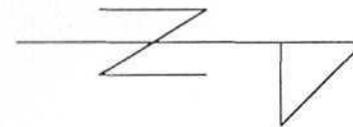
22 FIRST FLOOR



22 ROOF



ROOF
20° ROOF SLOPE



Building 22**A. Building Classification**

Existing Theater/HQ is assumed to be B business use, because it incorporates 40 fixed seats, together with a row of small offices. Proposed meeting area with offices or small meeting rooms anticipates retention of fixed seats and entails continuation of B meeting use.

B. Occupancy and Fire Separations

Per 302.1.1, boiler and furnace rooms require 1-hour separation or an automatic fire suppression system. For A and B use groups, storage rooms > 50 sf and < 100 sf in area require 1-hour separation or automatic fire suppression system with smoke partitions; storage rooms > 100 sf require automatic fire suppression system with smoke partitions.

C. Type of Construction

Type 5B, wood-framed building without fire resistant wall construction (i.e., not "protected construction" per 702.1).

D. Floor Area

1,340 sf < 7,200 sf max. allowed for 5B construction, per Table 503.

E. Height and Number of Stories

1 story; conforms to 2-story/30' max. for B use (Table 503).

F. Occupancy

Proposed continuation of B office use results in change in Hazard Index of +1. Chapter 34 provisions are applicable for business use.

Maximum floor area allowance is 100 gsf per occupant for business areas. Occupancy assumed to be 40 (actual fixed seats + wheelchair spaces) + 6 in 550 sf of small meeting spaces = 46 occupants.

G. Exiting Requirements

Existing one-story building has two single-leaf exits. Per Table 1009.2, for B uses, egress width of doors, ramps and corridors per occupant is .2" without sprinkler system, .15" with sprinkler system. Existing egress widths are adequate for 46 occupants.

H. Loading Requirements

Refer to plan diagrams for structural information.

I. Accessibility

Both entrances are three steps up; main entrance has nonconforming (narrow) door width and must be refurbished or adapted for universal accessibility. New accessible toilets, water fountain, etc. required.

BUILDING #22: REQUIRED ARCHITECTURAL AND STRUCTURAL REPAIRS

1. Repair/replace framing and sheathing	250	sf
2. Remove and replace rotted trim	110	lf
3. Remove and replace cedar shingles	800	sf
4. Prepare and paint wood trim	1	job
5. Remove and replace damaged soffits	30	lf
6. Remove and replace exterior doors, hardware	2	ea
7. Remove windows and replace with metal-clad wood windows	17	ea
8. Repair and recondition window sills; paint	17	ea
9. Remove and replace asphalt roof with new shingles	16	sq
10. Roof drainage system repair/replacement	1	job
11. Install blown-in cellulose insulation at attic, R22	1,340	sf
12. Install blown-in cellulose insulation at walls, cut & patch	1,560	sf
13. General interior cleanout, mildew treatment	1,340	sf
14. Patching and floor, wall and ceiling finishes (gfa)	1,340	sf
15. Repair/replace/paint interior doors & trim	1	job
16. New toilet and mechanical room enclosures, toilet accessories	1	job
17. Refurbish main entrance for universal accessibility (path, ramp)	1	job

IV MECHANICAL, ELECTRICAL, FIRE PROTECTION AND PLUMBING REPORTS – BUILDING NUMBER 22

A. HEATING, VENTILATING AND AIR CONDITIONING

1. Existing Conditions

- a. Heating Media
 - 1) Heating systems media provided from above-ground, low pressure steam distribution systems that has been disconnected from inactive boiler plant.
- b. Heating Distribution
 - 1) Fin-tube radiation elements (steel 4"x4" fins and 1" steel tube) and piping throughout the building.
- c. Automatic Temperature Control
 - 1) One control valve was noted.
- d. Heating Return
 - 1) Heating condensate return piping is piped within the building crawlspace and piped to removed condensate pump.
- e. Ventilation
 - 1) No central ventilation provided/open windows.

2. Recommendations

- a. Heating Media
 - 1) Hot water heating plant, provided with propane gas-fired boiler with propane tanks located outside of building. Additional space within building will be required for boiler, pumps, controls, et cetera
- b. Heating Distribution
 - 1) Forced hot water heating with distribution piping systems, provided with fin-tube radiation with individual space controls.
- c. Toilet Exhaust
 - 1) New toilet exhaust systems.
- d. Miscellaneous Heating
 - 1) Heating or vestibule and exits provided with wall mounted cabinet unit heaters.
- e. Domestic Hot Water
 - 1) Refer to plumbing for domestic hot water services.

- f. Ventilation
 - 1) Estimated 800 cubic feet per minute heating and ventilation unit required for ventilation.

3. Miscellaneous

- a. No central air conditioning is scheduled for this building. However, window (electric) type units may be considered.
- b. Estimated building heating requirements with ventilation is 150 MBH.
- c. Refer to supplement section: Sustainable Passive Solar and Wind Energy Technologies

B. PLUMBING

1. Existing Conditions

- a. Plumbing Fixtures
 - 1) Men's Room
 - a) (2) water closets, floor mounted, flush valve
 - b) (1) urinal
 - c) (2) lavatories, wall mounted
 - 2) Women's Room
 - a) (1) water closet, floor mounted, flush valve
 - b) (1) lavatory, wall mounted
 - c) (1) janitor's sink, wall mounted
 - 3) (1) Electric Water Cooler
- b. Water Service
 - 1) A 1-inch service enters the northeast corner within the crawlspace below an access panel.
- c. Water Heating
 - 1) None
- d. Domestic Water Distribution
 - 1) A cold water main runs within the crawlspace from the service entrance to the water heater room adjacent to the women's room. Most of the exposed piping has been removed. It is assumed that any remaining piping is within the toilet room wet wall only.
- e. Miscellaneous (beyond assumptions)
 - 1) All plumbing fixtures are in poor condition. The lavatories and janitor's sink are old but pending careful demolition they may be refurbished and reused. They would need new waste, trim, hangers and faucets.

- 2) No floor drains were found in this building.
- 3) Exterior wall hydrants were not present on this building.

2. Recommendations (Meeting/Office)

- a. Plumbing Fixtures
 - 1) 23 Men (Office)
 - a) (1) water closet
 - b) (1) lavatory
 - 2) 23 Women (Office)
 - a) (2) water closets
 - b) (1) lavatory
 - c) (1) floor drain
 - d) (1) hose bibb
 - 3) General Building
 - a) (1) drinking fountain
 - b) (1) janitor's sink
 - c) (2) exterior wall hydrants
 - d) (1) mechanical room floor drain
 - e) (1) mechanical room hose bibb
- b. Water Service
 - 1) A new 1¼-inch service would be required to accommodate the proposed fixtures. The service would enter the crawlspace below the floor and rise up into the janitor's closet.
- c. Water Heating
 - 1) Office Space
 - a) The hot water load for the lavatories and janitor's sink would be very low. A small, 10-gallon electric storage heater with low recovery electric input would be recommended. The heater would be located on a shelf within the janitor's closet. (Assume close to toilet rooms).
 - 2) Although not recommended, domestic hot water could also be supplied from the building heating system boiler.
- d. Domestic Water Distribution
 - 1) New cold water piping would run either below the floor in the crawlspace with freeze protection cable or above the ceiling (below the insulation) in the

attic space. Hot water piping would be limited to toilet room area only and within the partitions between the heater and fixtures.

- e. Sanitary Distribution
 - 1) A new, 4-inch sanitary service would be required to accommodate the proposed fixtures. Piping would run below the floor within the crawlspace. A new, 4-inch vent would extend through the roof above the toilet area.
- f. Propane System
 - 1) A single bottle point-of-use system would be installed by a supplier to accommodate the building heating system and if provided by the tenant, a storage type water heater.
 - 2) A new gas main will follow the domestic water route to the boiler room.
 - 3) Review building 23 or 18 propane section for possible gas source via a bulk tank.
- g. Miscellaneous
 - 1) Other than typical notes on water conservation or combining gas storage, additional sustainability options are not available.

C. FIRE PROTECTION

1. Recommendations

- a. None required by code. However, automatic sprinkler system could be installed by the tenant during the fit-up. An automatic sprinkler system installation would also help to reduce code requirements such as fire separations, exiting, et cetera

D. ELECTRICAL

1. Existing Conditions:

- a. Building Electric Service:
 - 1) 100 ampere, 120/240 volts, single phase, 3-wire, overhead service drop to a 100 ampere Square D, 100 ampere load center with 8 branch circuit breakers. Load center is in poor condition. Service has been disconnected.

- b. Fire Alarm System:
 - 1) None.
- c. Lighting:
 - 1) Fixtures are fluorescent, pendant mounted, with louvers in most areas. Fixtures are incandescent, surface mounted in bathrooms and offices.
- d. Emergency Lighting:
 - 1) None.
- e. Exterior Lighting:
 - 1) None.
- f. Wiring Devices:
 - 1) Grounding type receptacles, color: brown. Devices and coverplates are in fair to poor condition.
- g. Telephone System:
 - 1) System enters the building underground. System has been disconnected. Interior wiring is in poor condition.

2. Recommendations:

- a. All systems are in fair to poor condition and must be replaced for the building to be habitable for any use. See Part III Typical Mechanical, Electrical, Fire Protection and Plumbing Items.
- b. Refer to "Sustainability Supplement" section.

We have listed in Table 1 the location and estimated quantity, by square foot (sf), linear foot (lf), or other appropriate unit, of each type of ACM identified at the site. We have also provided asbestos location drawings in Appendix B.

TABLE 1. • List Of Materials Testing Positive For Asbestos

Building 22, Truro Air Base, North Truro, Massachusetts

Type of Material	Location	Quantity
Brown 9"x9" floor tile on plywood over brown floor tile (2 layers separated by plywood)	Theater area, office 1, office 2, office 3, and janitors closet	945 sf
Tan 12"x12" floor tile and mastic adhesive on plywood over brown floor tile (2 layers separated by plywood)	Men's and Ladies' bathroom	160 sf
Pipe insulation	Crawl space under Ladies' bathroom	3 lf
Pipe insulation debris and contaminated soil	Crawl space under Ladies' bathroom	20 sf
Black 3-tab roof shingles and associated cements	Exterior roof	1,140 sf
Gray window caulking	Between window and wood frame opening throughout	20 total

In Table 2, all materials that tested negative for asbestos are listed, including the locations where these materials were observed and the corresponding bulk sample reference number(s).

TABLE 2. • List Of Materials Testing Negative For Asbestos		
Building 22, Truro Air Base, North Truro, Massachusetts		
Type of material	Location(s) observed	Sample number(s)
Black glue daub	Associated with 1'x1' wall and ceiling tile in office 1	22-01A
Brown carpet mastic	Theater	22-02A
Black mastic adhesive under top layer of 9"x9" floor tile and bottom layer of brown floor tile	Throughout	22-04A, 22-06A
Black tar paper under bottom layer of floor tile	Throughout	22-07A
White gypsum wallboard	Throughout	22-10A, 22-10B, 22-10C
White joint compound associated with gypsum wallboard	Throughout	22-11A, 22-11B, 22-11C
Black tar paper	Exterior under wood shingles	22-12A

2.0 Conclusions and Recommendations

On the basis of our findings, we offer the following conclusions and recommendations:

1. Both friable and nonfriable ACBM were identified at the site. Should the building be renovated or demolished, removal of the ACBM will be necessary. Abatement of all friable and nonfriable ACBM that will be made friable by demolition activities must be performed before building renovation/demolition. This work should be conducted by a licensed Asbestos Abatement Contractor in accordance with a project design prepared by a certified Abatement Project Designer.
2. The two layers of ACM floor tile are separated by plywood flooring and would require removal of the plywood to access all layers of flooring. The associated plywood must be treated as ACM due to cross-contamination from the floor tile mastic adhesive.
3. If any suspect ACBM are identified at a later date that are not addressed in this inspection report, they should be assumed to be ACBM unless appropriate sampling and analysis demonstrates otherwise.
4. Asphalt roof materials containing asbestos may be left in place during demolition if they meet all conditions and guidelines associated with the Massachusetts Department of Environmental Protection (MA DEP) Bureau of Waste Prevention Policy #BWP-96-012. All demolition involving these materials must comply with 310 CMR 7.09 (3) and (4) (Dust, Odor, Construction, Demolition). Asphalt roof materials meeting the condition of this Policy may also be disposed of in a landfill permitted by the DEP to accept solid waste in accordance with the Solid Waste Management Facility Regulations 310 CMR 19.061(6)(b)3. If these materials are in a deteriorated condition prior to beginning renovation/demolition operations, then 310 CMR 7.15 asbestos controls shall be complied with including notification to the DEP. In addition, these materials must be disposed in a landfill that has obtained a special waste permit to accept asbestos containing wastes, in accordance with 310 CMR 19.06 "special Waste."
5. Develop a site-specific operations and maintenance (O&M) program for properly maintaining ACBM that will remain in place. Such a program would include a site-specific O&M plan, training of workers who may impact ACBM, periodic inspection of locations where ACM is present, and other applicable guidelines and procedures.

VHB**XRF Field Testing Results**

Site Access: Yes
 Demo Permitted: Yes
 Project# 06780
 Location: Building #22

Date 11/3/99
 Page 1 of 1
 Project Name: N. Truro AFS
 Inspector: TMD

Location	Surface Tested	Substrate	Concentration (mg/cm ²)	Estimated Quantity*
Main Theatre	Brown baseboard	Wood	0.2	
	Brown window casing	Wood	< 0.1	
	Brown door (east) to exterior	Wood	1.2	1
	Brown door (west) to exterior	Wood	2.9	1
	Brown office door	Wood	< 0.1	
	Brown door casing	Wood	< 0.1	
Office #2	Yellow wall	SR	0.3	
	White ceiling	SR	< 0.1	
	Brown window casing	Wood	< 0.1	
	Blue wall	SR	0.4	
Women's Bathroom	Brown baseboard	Wood	< 0.1	
	Yellow wall	SR	0.1	
	Yellow stall divider	Metal	0.2	
	Yellow chair rail	Wood	< 0.1	
Men's Bathroom	Yellow window casing	Wood	< 0.1	
	Yellow wall	SR	0.9	
	Brown stall divider	Metal	< 0.1	
Janitor's Closet	Brown window casing	Wood	< 0.1	
	Blue wall	SR	0.2	
	Blue chair rail	Wood	< 0.1	
Office #3 (Tickets)	Blue wall	SR	1.2	300 SF
	White window casing	Plastic	< 0.1	
	White chair rail	Wood	0.2	
	Black baseboard	Wood	< 0.1	
Exterior	White split door	Wood	< 0.1	
	Brown trim	Wood	< 0.1	
	Brown eve	Wood	< 0.1	
	Brown gutter	Wood	< 0.1	
	Brown window casing	Wood	< 0.1	
	Brown window sill	Wood	4.1	17
Brown vent casing	Wood	3.0	4	

*LBP components only. Limit of detection of NITON XRF is < 0.1 mg/cm²) SR=Sheet Rock Block=Cinder Block SF=Square Feet