MALVERNE BUILDING DEPARTMENT APPLICATION

99 Church Street Malverne, NY Phone 516-599-1200 Fax 516-823-0767

CENTRAL AIR / HVAC / GENERATOR PERMIT

Incomplete applications will not be accepted All fees are non-refundable.

THIS APPLICATION *MUST* BE submitted with:

- Upload and submit survey/plot plan indicating any exterior unit locations including set back dimensions to property lines.
- Upload and submit Manufacturer's specification sheets for ALL equipment – including Energy Information (SEER)
- Separate Electrical permit application for any electrical work and Separate Plumbing permit application for any Gas / Water Piping and Boilers / Water Heaters
- Upload and submit Nassau County Department of Assessment Building Permit application – must be signed by property owner.
- Separate building permit and or certifications by licensed design professional may be required for any new building structural supports for HVAC units or verification of existing structure.
- Upload and submit Inspection Requirements form signed by the contractor or property owner.
- Signed and Sealed P.E. or R.A. Mechanical HVAC drawings required for new commercial work.

Date: _____ **Permit App #**_____

Owner Name: _____ **Phone #**_____ **Email:** _____

Address of Project: _____**Malverne, NY 11565**

Check all that apply: Residential _____ Commercial _____ Maintain As Built _____ New_____
Alteration_____ Replacement_____ Addition_____

TYPE OF EQUIPMENT	**# UNITS**	**FEE/UNIT**	**TOTAL**
Ducted Cooling System (Per Set of Air Handler/Condenser)	_____	$100.00	$_____
Ducted Hot Air Furnace	_____	$100.00	$_____
Ductless Mini Split System (Per Exterior Inverter)	_____	$50.00	$_____
Electric Generator	_____	$50.00	$_____
Geothermal System	_____	$50.00	$_____
Other:_____	_____	$50.00	$_____

Heating Appliance Fueled by: (Pick all that apply: Propane ☐ Natural Gas ☐ Electric ☐ Fuel Oil ☐ Other ☐)
Ductwork: (New ☐ Reuse Existing ☐)
Indicate Number of Air Handlers for either ducted or ductless systems: _____
Indicate Locations of all Air Handlers for either ducted or ductless systems:
Basement: _____ First Floor: _____ Second floor: _____ Third Floor: _____ Attic: _____ Other:_____
Total Fee for units $_____

☐ Certificate of Compliance / Letter in Lieu Residential $100.00 $_____
☐ Certificate of Compliance / Letter in Lieu Commercial $300.00 $_____
☐ Maintain and Legalize / As Built Surcharge 50% of the total permit fee $_____

TOTAL HVAC PERMIT FEE (Electrical and Plumbing Permits Separate Application and Fees) **$_____**

- **HVAC Contractor Name:** _____**Malverne License #**_____
  Phone: _____ **Email:** _____
- **Electrician Name**_____**Malverne License #**_____
  Plumbers Name_____**Malverne License #**_____

Signature of HVAC Contractor **Signature of Property Owner** **Village Approval Signature and Stamp**

Sworn to before me this _____day of _____

NOTARY SIGNATURE_____

SEAL:

No registered contractor shall sign a Central Air / HVAC/ Generator permit or act as an agent for a person who is not a licensed contractor in the Village of Malverne. I understand by signing below that my license in the Village of Malverne could be in jeopardy by violating the above section. Applicant certifies that all information given is correct and that all work shall conform to the current NYS Residential, Building, Plumbing, Fire, Existing Building, Fuel Gas, Energy Conservation, Property Maintenance and Mechanical Codes and all Village Ordinances for which this permit is issued.

☐ Ok to issue Certificate of Compliance or Letter in Lieu _____

BUILDING PERMIT
RESIDENTIAL PROPERTY
DEPARTMENT OF ASSESSMENT
NASSAU COUNTY
240 Old Country Road, Mineola, NY 11501

TOWN - CITY - VILLAGE OF: _____

NBHD# (ASSESSOR USE ONLY)

DATE REC'D (ASSESSOR USE ONLY)

SECTION	BLOCK	LOT (S)	SCH DIST #	PERMIT #	SPECIFIC ZONING DESIGNATION

Location of Building	N.E.S.W. SIDE OF (OR CORNER OF)	N.E.S.W. SIDE OF	
ADDRESS OF PROPERTY		Check one	NAME OF BUSINESS
CITY, TOWN, VILLAGE	ZIP	☐ OWNER OR ☐ LESSEE	CONTACT PERSON/OWNER
ESTIMATED COST OF CONSTRUCTION:			ADDRESS
			CITY, STATE, ZIP
WORK MUST BEGIN BY	PRINCIPLE TYPE OF CONSTRUCTION		PHONE
PERMIT EXP DATE	☐ STEEL		EMAIL
LOT SIZE S.F.	☐ MASONRY	IF YOU WISH TO GROUP OR APPORTION LOTS PLEASE CALL 516-571-1500 FOR FURTHER INFORMATION	
# BLDGS ON LOT	☐ FRAME		

DETAILED DESCRIPTION OF WORK (PLEASE PRINT CLEARLY)

*INCLUDING, BUT NOT LIMITED TO: LOCATION, TYPE AND DIMENSIONS OF IMPROVEMENT

PERMIT TYPE - CHECK ALL ITEMS THAT APPLY

- ☐ NEW BUILDING
- ☐ ADDITION (CHANGE IN S.F.)
- ☐ DEMOLITION
- ☐ ALTERATION (NO CHANGE IN S.F.)
- ☐ MAINTAIN (PRE-EXISTING)
- ☐ RECONSTRUCTION
- ☐ DECK, TERRACE, PORCH, CARPORT
- ☐ DORMERS
- ☐ OTHER _____
- ☐ FIRE DAMAGE
- ☐ GARAGE/ OUT BUILDING
- ☐ HVAC
- ☐ PLUMBING
- ☐ RELOCATION
- ☐ REPLACEMENT
- ☐ SWIMMING POOL
- ☐ TENNIS COURT
- ☐ CHANGE IN USE

DOES RESIDENCE HAVE THE FOLLOWING

CENTRAL AIR YES ☐ NO ☐

FINISHED ATTIC YES ☐ NO ☐

BASEMENT FINISH

1/4 ☐ 1/2 ☐ 3/4 ☐ FULL ☐

PROPOSED TOTAL PLUMBING FIXTURES

FLOOR/FIXTURE	BASEMENT	1ST FLOOR	2ND FLOOR	3RD FLOOR
BATHROOM SINK				
TOILET				
BATHTUB				
STALL SHOWER				
BIDET				
KITCHEN SINK				
WET BAR				

NUMBER OF EXISTING AND PROPOSED BATHS

NUMBER OF EXISTING FULL BATHS		NUMBER OF PROPOSED FULL BATHS	
NUMBER OF EXISTING HALF BATHS		NUMBER OF PROPOSED HALF BATHS	

HALF BATH EQUALS TWO FIXTURES, FULL BATH EQUALS THREE OR MORE FIXTURES

NEW C/O NEEDED	YES ☐	NO ☐
VARIANCE OBTAINED	YES ☐	NO ☐
CONSTRUCTION/RENOVATION IN EXCESS OF 50%	YES ☐	NO ☐
SURVEY ENCLOSED	YES ☐	NO ☐

PLEASE ATTACH ALL PERMITS & SURVEY IF AVAILABLE

DATE OF GRANTING OF PERMIT _____

_____
Signature of Applicant/Contact Person - Sign & Print

SEPARATE APPLICATION SHALL BE MADE FOR EACH BUILDING

_____
Address of Applicant/Contact Person Telephone

FIELD REPORT ON REVERSE

Rev 08/11

TOWN | SCHOOL DISTRICT | SECTION | BLOCK | LOT(S) | CA # OR BLDG # | UNIT # | DATE

INCORPORATED VILLAGE OF MALVERNE
BUILDING DEPARTMENT
99 CHURCH STREET, MALVERNE, NEW YORK 11565
(516) 599-1200 ext. 113/114

DUCTLESS SPLIT AIR CONDITIONING SYSTEM INSPECTION REQUIREMENTS

Under NYS Title 19 Section 1203.3 (b) (1) & (2), NYS requires The Incorporated Village of Malverne Department of Buildings inspect and verify all construction items listed below be inspected prior to closing. In the event the inspection is missed, the Homeowner / Contractor will be responsible to OPEN/EXPOSE any or all items as requested by the Department of Building Staff for proper certification. No Certificate of Compliance or Occupancy can be issued if any of the required inspections are not performed.

PROPERTY ADDRESS: **SECTION:** **BLOCK:** **LOT(S)** **ZONE**				APPLICATION #: MECHANICAL PERMIT # PLUMBING PERMIT # ELECTRICAL PERMIT #
TOTAL REQUISITE INSPECTIONS REQUIRED			**5**	
PROJECT DESCRIPTION	**Installation of a ductless split air conditioning system**			

THE FOLLOWING REQUIRED INSPECTIONS CHECKED (☑) ITEMS MUST BE PERFORMED AND ACCEPTED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY OR CERTIFICATE OF COMPLETION:

REQUIRED INSPECTIONS (DURING CONSTRUCTION AND FINAL INSPECTIONS)	
☑ **EXTERIOR CONDENSER LOCATION(S)**	☑ **ROUGH INSPECTION BY ELECTRICAL INSPECTION AGENCY**
☑ **FINAL INCLUDING SEER RATING CONFIRMATION**	☑ **FINAL INSPECTION BY ELECTRICAL INSPECTION AGENCY**
☐ DEMOLITION	☐ PLUMBING GAS PRESSURE TEST
☐	☐ PLUMBING ROUGH
☐	☐ PLUMBING FINAL
☐ OTHER:	☑ **CARBON MONOXIDE DETECTOR(S) & SMOKE DETECTORS**
REQUIRED ADMINISTRATIVE DOCUMENTATION FOR CLOSEOUT	
☐	
☐ UPDATED PROPERTY SURVEY SHOWING LOCATION OF CONDENSERS	
☑ **ELECTRICAL AGENCY APPROVAL CERTIFICATE**	

Electrical Inspection - Electrical inspections are coordinated by your electrician. Your electrician is required to be present during the inspections.

Plumbing Inspection (if Plumbing required)–All plumbing inspections are to be coordinated by your plumber. Your plumber is required to be present during inspections. Direct replacement of Plumbing fixtures or New / relocated installations require both a rough plumbing inspection as well as a Final Plumbing inspection. Call Joseph Montilli at (516) 766-7684 to set up an appointment.

Building Inspection – Building inspections are to be coordinated by your contractor. During construction inspections are to be scheduled prior to closing or covering. The final building inspection should not be called for until the final electrical and plumbing (if required) inspections are completed and have passed inspection. A representative for the contractor must be present during the final inspection. Call (516) 599-1200 X113/114 to set up an appointment.

DISCLAIMER: The ultimate responsibility lies with the owner to confirm that all inspection requirements have been met. I (We) have read, understand and **AGREE** the checked requirement will be scheduled. Should an inspection be missed, I (We) will "OPEN/EXPOSE" the required area(s) per the inspector request for proper verification under NYCRR Title 19, Section 1203. The premise will also not be allowed to be utilized or occupied until a Certificate of Completion or Certificate of Occupancy are issued.

Per NYCRR Title 19, Section 1203 – All Department of Building Permits are required to be visibly displayed at the work site and to remain visible until the project has been completed.

	PRINT	**Signature**	**Date**
Property Owner			
Contractor			

48 HOUR NOTICE MUST BE GIVEN FOR EACH INSPECTION – THIS IS A MINIMAL CHECKLIST – OTHER INSPECTIONS NOT CHECKED OFF OR UNLISTED MAY BE REQUIRED ON AN INDIVIDUAL PROJECT BASIS – ALL INSPECTIONS SHALL BE MADE WITH THE VILLAGE BUILDING DEPARTMENT OFFICE, NOT DIRECTLY WITH THE INSPECTOR

INCORPORATED VILLAGE OF MALVERNE
BUILDING DEPARTMENT
99 CHURCH STREET, MALVERNE, NEW YORK 11565
(516) 599-1200 ext. 113/114

CENTRAL AIR SYSTEM INSPECTION REQUIREMENTS

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PROPERTY ADDRESS:	**MALVERNE, NY 11565**			APPLICATION #:
SECTION:	**BLOCK:**	**LOT(S)**	**ZONE**	BUILDING PERMIT #
TOTAL REQUISITE INSPECTIONS REQUIRED			**7**	PLUMBING PERMIT #
PROJECT DESCRIPTION	**Installation of a central air conditioning system (interior air handler, exterior condenser unit and associated ductwork)**			ELECTRICAL PERMIT #

THE FOLLOWING REQUIRED INSPECTIONS CHECKED (☑) ITEMS MUST BE PERFORMED AND ACCEPTED PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY OR CERTIFICATE OF COMPLETION:

REQUIRED INSPECTIONS (DURING CONSTRUCTION AND FINAL INSPECTIONS)	
☑ **EXTERIOR CONDENSER LOCATION**	☑ **ROUGH AND FINAL INSPECTION BY ELECTRICAL INSPECTION AGENCY**
☑ **AIR HANDER LOCATION AND SUPPORT**	☐ PLUMBING ROUGH INSPECTION & FINAL INSPECTION
☑ **DUCT SEALING**	☐ PLUMBING GAS TEST
☑ **DUCT INSULATION**	☐ DEMOLITION FINAL
☑ **FINAL INCLUDING SEER CONFIRMATION**	☐ **CARBON MONOXIDE DETECTOR(S) & SMOKE DETECTORS**
☐ OTHER:	☐ OTHER:

REQUIRED ADMINISTRATIVE DOCUMENTATION FOR CLOSEOUT	
☐ ASBESTOS VERIFICATIONS FROM LICENSED ASBESTOS CONTRACTOR BEFORE AND AFTER REMOVAL	
☐ UPDATED PROPERTY SURVEY SHOWING LOCATION OF CONDENSERS	
☑ **AIR DUCT LEAKAGE TEST REPORTS (ENERGY CODE MANDATORY IF ANY DUCTWORK IN UNCONDITIONED SPACE)**	☑ **NOTARIZED INSTALLATION CERTIFICATION LETTER FROM CONTRACTOR**
☑ **ELECTRICAL AGENCY APPROVAL CERTIFICATE**	☐ LEAD PAINT REMOVAL VERIFICATION

Electrical Inspection - Electrical inspections are coordinated by your electrician. Your electrician is required to be present during the inspections.

Plumbing Inspection (if Plumbing required– All plumbing inspections are to be coordinated by your plumber. Your plumber is required to be present during inspections. Direct replacement of Plumbing fixtures or New / relocated installations require both a rough plumbing inspection as well as a Final Plumbing inspection. Call Joseph Montilli at (516) 766-7684 to set up an appointment.

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	PRINT	**Signature**	**Date**
Property Owner			
Contractor			

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MALVERNE BUILDING DEPARTMENT APPLICATION
99 Church Street Malverne, NY Phone 516-599-1200 Fax 516-823-0767

CENTRAL AIR SYSTEMS

INSPECTIONS / CERTIFICATIONS REQUIRED

1. ELECTRICAL CERTIFICATE AGENCY: ROUGH AND FINAL ON ALL ELECTRIC TO ALL UNITS, INTERIOR AND EXTERIOR.

2. MALVERNE PLUMBING INSPECTOR: ROUGH AND FINAL ON ANY GAS PIPING.

3. MALVERNE BUILDING INSPECTOR: FLUE / CHIMNEY AND THEIR TERMINATIONS FOR GAS OR OIL FUELED FURNACES

4. MALVERNE BUILDING INSPECTOR: DUCT INSULATION AND DUCT SEALING PRIOR TO ANY COVERING OF FINISHES.

5. MALVERNE BUILDING INSPECTOR: FIRE BLOCKING/FIRE STOPPING IN CONCEALED SPACES AT FLOORS AND FIRE RATED WALLS.

6. MALVERNE BUILDING INSPECTOR: FINAL ON INTERIOR AIR HANDLER(S) INSTALLATION AND EXTERIOR CONDENSER UNIT(S) LOCATION.

7. DUCT PRESSURE TEST AIR LEAKAGE REPORT FROM TESTING AGENCY, WHEN APPLICABLE.

8. APPROVED ELECTRICAL CERTIFICATE.

9. INSTALLATION AFFIDAVIT FROM HVAC CONTRACTOR

RESIDENTIAL DUCTED HVAC SYSTEMS

INSTALLATION REQUIREMENTS

THE 2025 RESIDENTIAL CODE OF NEW YORK STATE AND THE 2025 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE

Note: The items listed on this sheet are common deficiencies noted during Air conditioning installation inspections and are not intended to list all code requirements. For all code requirements see the 2025 Residential and Energy Conservation Construction Codes and your design professional.

SECTION M1305—APPLIANCE ACCESS

M1305.1 Appliance access for inspection service, repair and replacement. *Appliances* shall be located to allow for access for inspection, service, repair and replacement without removing permanent construction, other *appliances*, or any other piping or ducts not connected to the *appliance* being inspected, serviced, repaired or replaced. A level working space not less than 30 inches deep and 30 inches wide (762 mm by 762 mm) shall be provided in front of the control side to service an *appliance*.

M1305.1.1 Appliances in rooms. *Appliances* installed in a compartment, alcove, *basement* or similar space shall be accessed by an opening or door and an unobstructed passageway measuring not less than 24 inches (610 mm) wide and large enough to allow removal of the largest *appliance* in the space, provided there is a level service space of not less than 30 inches (762 mm) deep and the height of the *appliance*, but not less than 30 inches (762 mm), at the front or service side of the *appliance* with the door open.

M1305.1.2 Appliances in attics. *Attics* containing *appliances* shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest *appliance*, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) long measured along the centerline of the passageway from the opening to the *appliance*. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all sides of the *appliance* where access is required. The clear access opening dimensions shall be not less than of 20 inches by 30 inches (508 mm by 762 mm), and large enough to allow removal of the largest *appliance*.

Exceptions:

1. The passageway and level service space are not required where the *appliance* can be serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall be not more than 50 feet (15 250 mm) long.

M1305.1.2.1 Electrical requirements. A luminaire controlled by a switch located at the required passageway opening and a receptacle outlet shall be installed at or near the *appliance* location in accordance with Chapter 39. Exposed lamps shall be protected from damage by location or lamp guards.

M1305.1.3 Appliances under floors. Underfloor spaces containing *appliances* shall be provided with an unobstructed passageway large enough to remove the largest *appliance*, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide, nor more than 20 feet (6096 mm) long measured along the centerline of the passageway from the opening to the *appliance*. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the *appliance*. If the depth of the passageway or the service space exceeds 12 inches (305 mm) below the adjoining grade, the walls of the passageway shall be lined with concrete or masonry extending 4 inches (102 mm) above the adjoining grade in accordance with Chapter 4. The rough-framed access opening dimensions shall be not less than 22 inches by 30 inches (559 mm by 762 mm), and large enough to remove the largest *appliance*.

Exceptions:

1. The passageway is not required where the level service space is present when the access is open, and the *appliance* can be serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall not be limited in length.

M1305.1.3.1 Ground clearance. *Equipment* and *appliances* supported from the ground shall be level and firmly supported on a concrete slab or other *approved* material extending not less than 3 inches (76 mm) above the adjoining ground. Such support shall be in accordance with the manufacturer's installation instructions. *Appliances* suspended from the floor shall have a clearance of not less than 6 inches (152 mm) from the ground.

M1305.1.3.2 Pit locations. Appliances installed in pits or excavations shall not come in direct contact with the surrounding soil and shall be installed not less than 3 inches (76 mm) above the pit floor. The sides of the pit or excavation shall be held back not less than 12 inches (305 mm) from the *appliance*. Where the depth exceeds 12 inches (305 mm) below adjoining grade, the walls of the pit or excavation shall be lined with concrete or masonry. Such concrete or masonry shall extend not less than 4 inches (102 mm) above adjoining grade and shall have sufficient lateral load-bearing capacity to resist collapse. Excavation on the control side of the *appliance* shall extend horizontally not less than 30 inches (762 mm). The *appliance* shall be protected from flooding in an *approved* manner.

M1305.1.3.3 Electrical requirements. A luminaire controlled by a switch located at the required passageway opening and a receptacle outlet shall be installed at or near the *appliance* location in accordance with Chapter 39. Exposed lamps shall be protected from damage by location or lamp guards.

SECTION M1308—MECHANICAL SYSTEMS INSTALLATION

M1308.1 Drilling and notching. Wood-framed structural members shall be drilled, notched or altered in accordance with the provisions of Sections R502.8, R602.6, R602.6.1 and R802.7. Holes in load-bearing members of cold-formed steel *light-frame construction* shall be permitted only in accordance with Sections R505.2.6, R603.2.6 and R804.2.6. In accordance with the provisions of Sections R505.3.5, R603.3.4 and R804.3.3, cutting and notching of flanges and lips of load-bearing members of cold-formed steel light frame construction shall not be permitted. Structural insulated panels (SIPs) shall be drilled and notched or altered in accordance with the provisions of Section R610.7.

M1308.2 Protection against physical damage. Where piping will be concealed within *light-frame construction* assemblies, the piping shall be protected against penetration by fasteners in accordance with Sections M1308.2.1 through M1308.2.3.

Exception: Cast-iron piping and galvanized steel piping shall not be required to be protected.

M1308.2.1 Piping through bored holes or notches. Where *piping* is installed through holes or notches in framing members and is located less than $1^1/_4$ inches (32 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the pipe shall be protected by shield plates that cover the width of the pipe and the framing member and that extend 2 inches (51 mm) to each side of the framing member. Where the framing member that the piping passes through is a bottom plate, bottom track, top plate or top track, the shield plates shall cover the framing member and extend 2 inches (51 mm) above the bottom framing member and 2 inches (51 mm) below the top framing member.

M1308.2.2 Piping in other locations. Where piping is located within a framing member and is less than $1^1/_4$ inches (32 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the piping shall be protected by shield plates that cover the width and length of the piping. Where piping is located outside of a framing member and is located less than $1^1/_2$ inches (38 mm) from the nearest edge of the face of the framing member to which the membrane will be attached, the piping shall be protected by shield plates that cover the width and length of the piping.

M1308.2.3 Shield plates. Shield plates shall be of steel material having a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage).

[NY] R403.3.1 Duct system design. *Duct systems* serving one or two *dwelling units* or *sleeping units* shall be designed and sized in accordance with ANSI/ACCA Manual D based on calculations made in accordance with Section R403.7. *Duct systems* serving more than two *dwelling units* or *sleeping units* shall be sized in accordance with the ASHRAE *Handbook of Fundamentals*, ANSI/ACCA Manual D or other equivalent computation procedure based on calculations made in accordance with Section R403.7.

R403.3.2 Building cavities. *Building* framing cavities shall not be used as ductwork or plenums.

R403.3.3 Ductwork located outside conditioned space. Supply and return *ductwork* located outside *conditioned space* shall be insulated to an *R-value* of not less than R-8 for *ducts* 3 inches (76 mm) in diameter and larger and not less than R-6 for *ducts* smaller than 3 inches (76 mm) in diameter. *Ductwork* buried beneath a *building* shall be insulated as required per this section or have an equivalent *thermal distribution efficiency*. Underground *ductwork* utilizing the *thermal distribution efficiency* method shall be *listed* and *labeled* to indicate the *R-value* equivalency.

R403.3.4 Duct systems located in conditioned space. For *duct systems* to be considered inside a *conditioned space,* the *space conditioning equipment* shall be located completely on the conditioned side of the *building thermal envelope*. The *ductwork* shall comply with the following, as applicable:

1. The *ductwork* shall be located completely on the conditioned side of the *building thermal envelope*.
2. *Ductwork* in ventilated attic spaces or unvented attics with vapor diffusion ports shall be buried within ceiling insulation in accordance with Section R403.3.5 and shall comply with the following:
   - 2.1. The ductwork leakage, as measured either by a rough-in test of the supply and return *ductwork* or a post-construction *duct system* leakage test to outside the *building thermal envelope* in accordance with Section R403.3.7, is not greater than 1.5 cubic feet per minute (42.5 L/min) per 100 square feet (9.29 m^2) of *conditioned floor area* served by the *duct system*.
   - 2.2. The ceiling insulation *R-value* installed against and above the insulated *ductwork* is greater than or equal to the proposed ceiling insulation *R-value*, less the *R-value* of the insulation on the *ductwork*.
3. *Ductwork* contained within wall or floor assemblies separating unconditioned from *conditioned space* shall comply with the following:
   - 3.1. A *continuous air barrier* shall be installed as part of the building assembly between the *ductwork* and the unconditioned space.
   - 3.2. *Ductwork* shall be installed in accordance with Section R403.3.3.

     Exception: Where the building assembly cavities containing *ductwork* have been air sealed in accordance with Section R402.5.1 and insulated in accordance with Item 3.3, *duct* insulation is not required.
   - 3.3. Not less than R-10 insulation, or not less than 50 percent of the required insulation *R-value* specified in Table R402.1.3, whichever is greater, shall be located between the *ductwork* and the unconditioned space.
   - 3.4. Segments of *ductwork* contained within these building assemblies shall not be considered completely inside
     conditioned space for compliance with Section R405 or R406.

[NY] R403.3.5 Ductwork buried within ceiling insulation. Where supply and return *ductwork* is partially or completely buried in ceiling insulation, such *ductwork* shall comply with the following:

1. The supply and return *ductwork* shall be insulated with not less than R-8 insulation.
2. At all points along the *ductwork*, the sum of the ceiling insulation *R-value* against and above the top of the *ductwork*, and against and below the bottom of the *ductwork*, shall be not less than R-19, excluding the *R-value* of the duct insulation.

R403.3.5.1 Effective *R*-value of deeply buried ducts. Where complying using Section R405, sections of *ductwork* that are installed in accordance with Section R403.3.5 surrounded with blown-in attic insulation having an *R-value* of R-30 or greater and located such that the top of the *ductwork* is not less than 3.5 inches (89 mm) below the top of the insulation shall be considered as having an effective duct insulation *R-value* of R-25.

R403.3.6 Sealing. *Ductwork*, *air-handling units* and filter boxes shall be sealed. Joints and seams shall comply with the *Mechanical Code of New York State* or the *Residential Code of New York State*, or the New York City Construction Code, as applicable.

R403.3.6.1 Sealed air-handling unit. *Air-handling units* shall have a manufacturer's designation for an air leakage of not greater than 2 percent of the design airflow rate when tested in accordance with ASHRAE 193.

R403.3.7 Duct system testing. Each *duct system* shall be tested for air leakage in accordance with ANSI/RESNET/ICC 380 or ASTM E1554. Total leakage shall be measured with a pressure differential of 0.1 inch water gauge (25 Pa) across the *duct system* and shall include the measured leakage from the supply and return *ductwork*. A written report of the test results shall be signed by the party conducting the test and provided to the *building official*. *Duct system* leakage testing at either rough-in or post construction shall be permitted with or without the installation of registers or grilles. Where installed, registers and grilles shall be sealed during the test. Where registers and grilles are not installed, the face of the register boots shall be sealed during the test.

Exceptions:

1. Testing shall not be required for *duct systems* serving *ventilation* systems that are not integrated with *duct systems*

serving heating or cooling systems.

2. Testing shall not be required where there is not more than 10 feet (3048 mm) of total *ductwork* external to the *space conditioning equipment* and both the following are met:

2.1. The *duct system* is located entirely within *conditioned space*.

2.2. The *ductwork* does not include *plenums* constructed of building cavities or gypsum board.

3. Where the *space conditioning equipment* is not installed, testing shall be permitted. The total measured leakage of the supply and return *ductwork* shall be less than or equal to 3.0 cubic feet per minute (85 L/min) per 100 square feet (9.29 m^2) of *conditioned floor area.*
4. Where tested in accordance with Section R403.3.9, testing of each *duct system* is not required.

R403.3.8 Duct system leakage. The total measured *duct system* leakage shall not be greater than the values in Table R403.3.8, based on the *conditioned floor area*, number of ducted returns, and location of the *duct system*. For *buildings* complying with Section R405 or R406, where *duct system* leakage to outside is tested in accordance with ANSI/RESNET/ICC 380 or ASTM E1554, the leakage to outside value shall not be used for compliance with this section, but shall be permitted to be used in the calculation procedures of Section R405 and R406.

R403.3.9 Unit sampling. For *buildings* with eight or more *dwelling units* or *sleeping units,* the *duct systems* in the greater of seven or 20 percent of the *dwelling units* or *sleeping units* shall be tested, including a top floor unit, a ground floor unit, a middle floor unit and the unit with the largest *conditioned floor area*. Where buildings have fewer than eight *dwelling units* or *sleeping units*, the *duct systems* in each unit shall be tested. Where the leakage of a *duct system* is greater than the maximum permitted *duct system* leakage, corrective actions shall be made to the *duct system* and the *duct system* shall be system retested until it passes. For each tested *dwelling unit* or *sleeping unit* that has a greater total duct system leakage than the maximum permitted *duct system* leak-age, an additional three *dwelling units* or *sleeping units*, including the corrected unit, shall be tested.

R403.4 Mechanical system piping insulation. Mechanical system piping capable of carrying fluids greater than 105°F (41°C) or less than 55°F (13°C) shall be insulated to an *R-value* of not less than R-3.

R403.4.1 Protection of piping insulation. Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, physical contact and wind. The protection shall provide shielding from solar radiation that can cause degradation of the material and shall be removable not less than 6 feet (1828 mm) from the equipment for maintenance. Adhesive tape shall be prohibited.

TABLE R403.3.8—MAXIMUM TOTAL DUCT SYSTEM LEAKAGE			
EQUIPMENT AND DUCT CONFIGURATION	DUCT SYSTEMS SERVING MORE THAN 1,000 FT^2 OF CONDITIONED FLOOR AREA		DUCT SYSTEMS SERVING 1,000 FT^2 OR LESS OF CONDITIONED FLOOR AREA
	cfm/100 ft^2		cfm
	Number of ducted returns[a]		
	< 3	≥ 3	Any
Space conditioning equipment is not installed[b, c]	3	4	30
All components of the duct system are installed[c]	4	6	40
Space conditioning equipment is not installed, but the ductwork is located entirely in conditioned space[c, d]	6	8	60
All components of the duct system are installed and entirely located in conditioned space[c]	8	12	80

For SI: 1 cubic foot per minute per square foot = 0.0033 LPM/m^2, 1 cubic foot per minute = 28.3 LPM.

a. A ducted return is a duct made of sheet metal or flexible duct that connects one or more return grilles to the return-side inlet of the air-handling unit. Any other method to convey air from return or transfer grilles to the air-handling unit does not constitute a ducted return for the purpose of determining maximum total duct system leakage allowance.

b. Duct system testing is permitted where space conditioning equipment is not installed, provided that the return ductwork is installed and the measured leakage from the supply and return ductwork is included.

c. For duct systems to be considered inside a conditioned space, where the ductwork is located in ventilated attic spaces or unvented attics with vapor diffusion ports, duct system leakage to outside must comply with Item 2.1 of Section R403.3.4.

d. Prior to the issuance of a certificate of occupancy, where the air-handling unit is not verified as being located in conditioned space, the total duct system leakage must be retested.

M1411.9 Condensate disposal. Condensate from cooling coils and evaporators shall be conveyed from the drain pan outlet to an *approved* place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than $^1/_8$ unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other area where it would cause a nuisance.

M1411.9.1 Auxiliary and secondary drain systems. In addition to the requirements of Section M1411.9, a secondary drain or auxiliary drain pan shall be required for each cooling or evaporator coil where damage to any building components will occur as a result of overflow from the *equipment* drain pan or stoppage in the condensate drain piping. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than $^1/_8$ unit vertical in 12 units horizontal (1-percent slope). Drain piping shall be not less than $^3/_4$-inch (19 mm) nominal pipe size. One of the following methods shall be used:

1. An auxiliary drain pan with a separate drain shall be installed under the coils on which condensation will occur. The auxiliary pan drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The pan shall have a minimum depth of 1.5 inches (38 mm), shall be not less than 3 inches (76 mm) larger than the unit or the coil dimensions in width and length and shall be constructed of corrosion-resistant material. Galvanized sheet steel pans shall have a minimum thickness of not less than 0.0236-inch (0.6010 mm) (No. 24 Gage). Nonmetallic pans shall have a minimum thickness of not less than 0.0625 inch (1.6 mm).
2. A separate overflow drain line shall be connected to the drain pan installed with the *equipment*. This overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection.
3. An auxiliary drain pan without a separate drain line shall be installed under the coils on which condensation will occur. This pan shall be equipped with a water level detection device conforming to UL 508 that will shut off the *equipment* served prior to overflow of the pan. The pan shall be equipped with a fitting to allow for drainage. The auxiliary drain pan shall be constructed in accordance with Item 1 of this section.
4. A water-level detection device conforming to UL 508 shall be installed that will shut off the *equipment* served in the event that the primary drain is blocked. The device shall be installed in the primary drain line, the overflow drain line or the *equipment*-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan.

M1411.9.1.1 Water-level monitoring devices. On down-flow units and other coils that do not have secondary drain or provisions to install a secondary or auxiliary drain pan, a water-level monitoring device shall be installed inside the primary drain pan. This device shall shut off the *equipment* served in the event that the primary drain becomes restricted. Devices shall not be installed in the drain line.

M1411.9.1.2 Appliances, equipment and insulation in pans. Where *appliances, equipment* or insulation are subject to water damage when auxiliary drain pans fill, that portion of the *appliance , equipment* and insulation shall be installed above the rim of the pan. Supports located inside of the pan to support the *appliance* or *equipment* shall be water resistant and *approved*.

M1411.9.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be ABS, cast iron, copper, cross-linked polyethylene, CPVC, galvanized steel, PE-RT, polyethylene, polypropylene or PVC pipe or tubing. Components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 30. Condensate waste and drain line size shall be not less than $^3/_4$-inch (19 mm) nominal diameter from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with an *approved* method.

M1411.9.3 Drain line maintenance. Condensate drain lines shall be configured to permit the clearing of blockages and performance of maintenance without requiring the drain line to be cut.

M1411.9.4 Appliances, equipment and insulation in pans. Where *appliances, equipment* or insulation are subject to water damage when auxiliary drain pans fill, those portions of the *appliances, equipment* and insulation shall be installed above the flood level rim of the pan. Supports located inside of the pan to support the *appliance* or *equipment* shall be water resistant and *approved*.

M1411.10 Condensate pumps. Condensate pumps located in uninhabitable spaces, such as *attics* and *crawl spaces*, shall be connected to the *appliance* or *equipment* served such that when the pump fails, the *appliance* or *equipment* will be prevented from operating. Pumps shall be installed in accordance with the manufacturer's instructions.

M1411.11 Auxiliary drain pan. Category IV condensing *appliances* shall have an auxiliary drain pan where damage to any building component will occur as a result of stoppage in the condensate drainage system. These pans shall be installed in accordance with the applicable provisions of Section M1411.9.

Exception: Fuel-fired *appliances* that automatically shut down operation in the event of a stoppage in the condensate drainage system.

M1411.12 Insulation of refrigerant piping. Piping and fittings for refrigerant vapor (suction) lines shall be insulated with insulation having a thermal resistivity of not less than R-3 and having external surface permeance not exceeding 0.05 perm [2.87 ng/(s × m^2 × Pa)] when tested in accordance with ASTM E96.

[NY] M1411.12.1 Refrigerant line insulation protection. Refrigerant piping insulation shall be protected in accordance with Section R403.4.1 of the *Energy Conservation Construction Code of New York State*.

M1411.13 Location and protection of refrigerant piping. Refrigerant piping installed within $1^1/_2$ inches (38 mm) of the underside of *roof decks* shall be protected from damage caused by nails and other fasteners.

M1411.14 Support of refrigerant piping. Refrigerant piping and tubing shall be securely fastened to a permanent support within 6 feet (1829 mm) of the condensing unit.

M1411.15 Locking access port caps. Refrigerant circuit access ports located outdoors shall be fitted with locking-type tamper-resistant caps or shall be otherwise secured to prevent unauthorized access.

Provide notarized letter from installer of HVAC systems certifying that all HVAC work was installed in accordance with the 2025 Residential Code of NYS and 2025 Energy Conservation Construction Code of NYS

Installation of appliances shall conform to the conditions of their listing and label and the manufacturer's installation instructions and all applicable codes.

The manufacturer's operating and installation instructions shall remain attached to the appliance.