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**GUIDE TO RESIDENTIAL DETACHED ACCESSORY STRUCTURES
INCLUDING GARAGES, PLAYHOUSES, SHEDS, GAZEBOS, PERGOLAS
AND TREE HOUSES**

ZONING – ACCESSORY STRUCTURES

Chapter 28 Zoning Regulations of the Municipal Code defines a(n):

- “ACCESSORY STRUCTURE” as one which is subordinate to and serves a principal building; is subordinate in area, extent or purpose to the principal building served; contributes to the comfort, convenience or necessity of occupants of the principal building; and is located in the rear yards or side yards, and on the same zoning lot as the principal building served, except as otherwise indicated in this Code [3.2-2].
- “DETACHED PRIVATE RESIDENTIAL GARAGE” is an accessory building that is not structurally attached to a primary single-family residential dwelling unit [3.2-100.a].
- “GAZEBO” is an accessory building that is a detached, covered, freestanding, open air structure [3.2-102.a].
- “PLAYHOUSE” is a freestanding structure, exclusively for the use of children, with a maximum height not to exceed 12 feet in a side yard and 15 feet in a rear yard [3.2-172].
- “TREE HOUSE] is an accessory structure which utilizes one or more trees for structural support and/or incorporates the tree into the design [3.2-208.a].

Where an accessory structure is structurally attached to a main building it shall be subject to, and must conform to, all regulations of this Ordinance applicable to the main building [6-5.1].

An accessory structure including but not limited to a tool shed, storage building, detached garage, tree house or gazebo, shall only be located in a rear yard. An accessory structure may be located no less than three feet from a side lot line (except for a tree house which shall be setback five feet and no closer than ten feet to the principal structure), and no less than five feet from the rear lot line. No more than three accessory structures shall be permitted on any zoning lot less than 10,000 square feet and no more than four accessory structures shall be permitted on any zoning lot 10,000 square feet or greater. [6-5.2]

On a reversed corner lot, no accessory building shall be located in the front yard, if extended, of the adjacent property to the rear. When this requirement will make it impossible to build, it will be permitted to construct an accessory structure no closer to the side lot line abutting the street than two-thirds the required front yard on the adjoining lot. In no case shall it be permitted to construct an accessory structure beyond the building line established for the main building [6.5-3].

No accessory structure shall be constructed on any lot prior to the time of construction of the principal building to which it is accessory [6.5-4].

All driveways and detached garages must be designed to conform with the existing adjoining grade. If the petitioner can demonstrate, to the reasonable satisfaction of the Village, that it is not feasible to have the foundation and driveway to conform to the grade, appropriate screening, approved by the Village, must be incorporated. Such screening can be a retaining wall with a finished exterior, a solid screen using landscaping or a fence or some other decorative treatment, which sufficiently reduces the visual impact of the foundation and driveway [6-5-4a].

No accessory structure or structures shall occupy more than 40% of the area of a required rear yard [6.5-5].

No accessory structure or portion shall exceed a height of 15 feet above grade; except that no tree house may be taller than the highest point of the primary structure and in no case shall a tree house be taller than 15 feet [6.5-6].

Maximum Size of Accessory Structures [6.5-7]:

- a. Detached Garage: 720 sq. ft.
 - i. Floor Area in excess of 400 square feet shall be included in the Maximum Floor Area Ratio.
 - ii. Floor Area Bonus for Detached Garages. In determining the floor area ratio for lots having a detached garage and no other garage, 100% of the floor area of the detached garage shall be excluded from the FAR calculation. A FAR bonus for a detached garage shall only be allowed if there are no other garages on site, if the structure is architecturally compatible with the principal dwelling unit, and if 50% or more of the existing homes that both front on the same side of the street and are contained between two adjacent streets which intersect that street also have detached garages.
 - iii. Where a detached garage is located in the rear yard, the side drive shall be a minimum of nine feet wide as measured from the exterior wall of the house to the lot line.
 - iv. A detached garage shall be at least ten feet from the principal structure.
- b. Playhouse, Shed, and Gazebo: 300 sq. ft.
- c. Tree House: 100 sq. ft.

In the R-E, R-1, R-2 and R-3 zoning districts, there shall be no more than two detached garages per zoning lot [6.5-7a].

The following shall not be considered to be obstructions when located in the required yards specified [6.6-5].

- F Denotes permitted obstruction in front and side yards adjoining streets
- S Denotes permitted obstruction in interior side yard
- R Denotes permitted obstruction in rear yards

6.6-5.1 Table of Permitted Obstructions [Partial] (F=Front S=Side R=Rear)

	F	S	R
Arbors and trellises, freestanding			R
Detached Garages			R
Playhouse, child's (not to exceed 32-sq. feet in a side yard) with a min. of five feet to lot line		S	R
Tool sheds and similar buildings or structures for domestic storage			R
Tree House			R

Off Street Parking [28-11]

In R-E, R-1, R-2, and R-3 Districts, off-street parking spaces shall be allowed based on the following [11.2-11.1]:

- a. Off-street parking spaces may be located in any yards provided that said parking shall be permitted only on concrete or asphalt surfaces.
- b. Except as set forth in subsection c. below, no driveway and/or parking area shall exceed a width of 22 feet.
- c. For three car garages, a driveway and/or parking area shall be allowed to be a maximum of 32 feet in width, within 18 feet of the garage's front elevation when, in the opinion of the Director of Engineering, the installation of such driveway will not be detrimental to drainage or alter the character of the area.
- d. When the garage is located to the rear of the residence, the side drive shall be a minimum of nine feet wide. Projections (chimneys, awnings, etc.) shall not be allowed to overhang within this measurement.
- e. For a zoning lot with a lot width of 70 feet or greater, all driveway pavement must be setback at least three feet from the side or rear lot line (whichever lot line applies).
- f. For side-loaded garages (when the garage door(s) face a side lot line), the driveway pavement dimension shall be a minimum of 22 feet from the face of the garage to the edge of the driveway pavement along the side lot line.

Nothing contained herein, however, shall permit that parking of any vehicle in a portion of yard where such parking would otherwise be prohibited by any provision of this chapter or other section of the Arlington Heights Village Code, nor shall this section be construed to eliminate any requirements for the installation of driveways otherwise imposed by the Arlington Heights Village Code, including specifications for the construction and character of such driveways. Parking upon grass, dirt or other non-hard surface of any vehicle except towed vehicles is prohibited [11.2-11.1].

BUILDING

[Chapter 23 Building Regulations](#) stipulates all new construction, and any alteration, addition, or repair, for purposes of maintenance or otherwise, to existing buildings or structures shall require a building permit prior to proceeding with such work, except where the fair market value as determined by the Director of Building & Health Services thereof is less than \$1000. All construction shall be in conformance with the municipal building ordinances. All construction performed without any of the required permits will be charged a penalty of double the listed permit fee [23-103.a].

Applicants for residential construction shall provide three sets of building plans. Where the cost of the construction, alterations or addition exceeds the sum of \$5,000, such plans shall be impressed with the seal or certificate of a duly licensed and registered architect or structural engineer [23-103.d.1].

There is hereby adopted by reference the 2009 Edition of the International Residential Code (IRC) for One- and Two-Family Dwellings, for the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, location and

maintenance of buildings and structures, except as modified by Section 23-302 of Article III of Chapter 23 of the Municipal Code [23-301].

Where terms are defined in both the IRC or other International Code Council (ICC) codes and the Municipal Code, the definitions in the Municipal Code shall apply [R201.3].

The following paragraphs include excerpts of modifications by amendment and deletion of various sections of the IRC taken from Chapter 23 Building Regulations related to detached garages and other accessory structures. It is the responsibility of the permit applicant to comply with all applicable provisions of the Municipal Code.

The minimum uniformly distributed live load shall be as provided by IRC Table R301.5 [R301.5]. Minimum uniform distributed live loads for passenger vehicle garage floors = 50 psf.

The roof load shall be designed for the live load indicated in IRC Table R301.6 or the snow load indicated in IRC Table R301.2(1), whichever is greater [R301.6]. Refer to IRC Table R301.2(1) as amended for Climatic and Geographic Design Criteria [Ground Snow Load = 30 psf; Wind Design Speed = Min. 90 mph; Frost Line Depth = 42 inches].

When any portion of a detached garage is within 10 feet of a dwelling, all four interior walls and the ceiling shall be covered with a minimum of 5/8 -inch fire-resistance-rated (Type X) gypsum board. [Table R302.6].

Garage floor surface shall be of approved noncombustible construction. The area of the floor used for parking automobiles and vehicles shall be sloped to facilitate the movement of liquids to an approved drain or toward the main vehicle entry [R309.1.a].

There shall be a minimum of 3 feet wide walkway between the dwelling unit and any detached garage or other accessory structure [R309.1.b].

Any garage with multiple doors or a door width wider than 12 feet shall be considered a two-car garage [R309.1.c].

1. Minimum Interior Garage Dimensions.

Number of Cars	Depth of Garage	Width of Garage
1	21 feet 4 inches	12 feet
2	21 feet 4 inches	21 feet
3	21 feet 4 inches	30 feet

2. Minimum garage door sizes:

Number of Cars	Door Size to be at least
1	9 feet
2	16 feet or two 8-foot doors
3	16 feet + 8 feet or three 8-foot doors

3. Minimum ceiling height: The minimum ceiling height for a carport, attached or detached garage shall be 7 feet 6 inches.

One side-hinged egress door shall be provided for any detached garage [R309.1.d].

Foundation construction shall be capable of accommodating all loads according to IRC Section R301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practice [R401.2].

1. All organic materials including topsoil and all landscape materials and debris shall be removed prior to placing foundations, slabs, raised porches, stoops, or similar construction [R401.2.a].
2. Stoop foundations, the main entry stoop and all porches, terraces, and flights of stairs exceeding three risers shall be supported on an engineered foundation [R401.2.b].

Wood foundations are not permitted within the Village [R402.1].

Concrete shall have a minimum specified compressive strength of f'_c , as shown in IRC Table R402.2.

Footings shall be supported on undisturbed natural soils or engineered fill. Concrete footings shall be designed and constructed in accordance with the provisions of IRC Section R403 or in accordance with American Concrete Institute (ACI) 332. ACI 332 provides additional technical details for the design and construction of concrete footings. At a minimum, the footing shall be twice the foundation wall thickness [R403.1.1]. Rebar chairs (steel supports) of the correct height shall be used to secure the rebars in place.

Minimum sizes for concrete footings shall be as set forth in IRC Table R403.1 and IRC Figure R403.1(1). Minimum width of footings to be not less than 16 inches [Table R403.1 as amended].

All footings should be designed for a soil bearing capacity of 3,000 psf. Soil bearing capacity shall be verified prior to placement of concrete footings, by a licensed engineer [R403.1.1.a].

A gazebo or pergola that is designed and constructed similar to or integral with a wood deck may have the foundation constructed on cast in place piers (see [DECKS](#) handout). Cast in place piers shall be allowed in the construction of exterior decks the elevation of which is not more than 5 feet above grade. The minimum pier diameter shall be 8 inches with the bottom belled to a diameter of 12 inches [R403.1.1.a.2].

Where approved engineering design is provided to account for soil bearing capacity, trench foundations may be used [R403.1.1.b].

For slabs-on-ground cast monolithically with a turned-down footing, locating one No. 5 bar or two No. 4 bars in the middle third of the footing depth shall be permitted as an alternative to placement at the footing top and bottom [R403.1.3.2].

All exterior footings shall be placed at least 12 inches below the undisturbed ground surface. The depth of footings shall also conform to IRC Sections R403.1.4.1 through R403.1.4.2 [R403.1.4].

Foundation walls, piers and other permanent supports of buildings and structures shall be protected by one or more of the following methods [R403.1.4.1]:

1. Extended below the frost line specified in Table R301.2.(1) [42 inches]; or
4. Erected on solid rock.

Commentary: Methods 2 (Section R403.3) and 3 (ASCE, Design and Construction of Frost-protected Shallow Foundation) of IRC Section R403.1.4.1 are not applicable; frost protected shallow foundations are not permitted [R403.3 as amended].

Exceptions:

1. Protection of freestanding accessory structures with an area of 600 square feet or less, of light-frame construction, with an eave height of 10 feet or less shall not be required.

2. Protection of freestanding accessory structures with an area of 400 square feet or less, of other than light-frame construction, with an eave height of 10 feet or less shall not be required.

Foundation walls shall extend above the finished grade adjacent to the foundation at all points a minimum of 4 inches where masonry veneer is used and a minimum of 6 inches elsewhere [R404.1.6].

Sill plates and walls supported directly on continuous foundations shall be anchored to the foundation in accordance with Section R403.1.6.

Wood sill plates shall be a minimum of 2-inch by 4-inch nominal lumber. Plates shall be shimmed level to provide solid contact with the foundation wall. Shims shall be placed not more than 32 inches on center [R404.3].

Concrete slab-on-ground floors shall be a minimum 4 inches thick [R506.1]. All concrete work shall be placed on a minimum of 4" of compacted crushed aggregate CA-6 or better.

For garage floor replacements, a thickened concrete edge shall be installed at overhead door; 14" down and 20" wide. This 14" measurement INCLUDES the 4" for the concrete floor replacement. Install (2) #5 ($\frac{5}{8}$ " diameter) rebar approximately 3" from bottom of thickened edge at overhead door. See [CONCRETE/ASPHALT ACKNOWLEDGEMENT](#).

Where provided in slabs on ground, reinforcement (woven wire mesh or rebars) shall be supported to remain in place from the center to upper third of the slab for the duration of the concrete placement [R506.2.4].

Exterior walls of wood-frame construction shall be designed and constructed in accordance with IRC Section R602.3.

Wall bracing shall comply with IRC Section R602.10.

Wood roof framing shall comply with IRC Section R802.

Roof assemblies shall have roof rafters or trusses attached to their supporting walls assemblies by connections capable of providing the resistance requires in IRC Table R802.11. At a minimum, tie down clips installed in accordance with the manufacturer's requirements shall be provided at all truss and rafter ends bearing on outside wall plates to tie the roof framing to the wall framing or a continuous load path shall be designed to transmit the uplift forces from the rafter or truss ties to the foundation [R802.11].

Asphalt shingles shall be of a Class C label or better [R905.2.4].

Heaters in garages shall comply with Section 304 of the 2009 International Mechanical Code.

Details for the foundation, framing, attachment and anchorage, and design loads must be provided with the permit submittal documents for any detached accessory structure. For prefabricated structures, the manufacturer's information including model type, specifications, construction details, and assembly and installation instructions shall accompany the permit submittal documents.

Detached accessory structures such as garden sheds must be properly anchored to withstand wind loads and shall be minimally anchored to grade by one of the following means:

- a. Bolted with anchor bolts to a 4 inch thick concrete floor slab
- b. Bolted to 8 inch diameter by 42 inch deep concrete piers at each corner of the structure

- c. Secured with an approved metal ground anchorage kit system with anchors extending a minimum of 18 inches into the ground.

ELECTRICITY

Chapter 25 Electricity provides the electrical requirements for detached accessory structures and garages.

Section 152.4-28 Detached Structures

28. All conduits that contain conductors for the purpose of supplying electricity to detached structures such as garages, storage sheds, etc., shall be rigid heavy-wall galvanized steel conduit. (See N.E.C. Article 300-5 for depth of conduit systems).

Section 152.4-58 Illumination Requirements for Garages

58. All storage garages shall have a minimum of one ceiling lighting fixture installed per each automobile (car) bay and/or stall.

All ceiling-mounted lighting fixtures shall be controlled by a wall switch.

Where more than one entrance and/or exit is provided to said storage garage, all lighting fixtures shall be switched at all locations and/or at all entrances and/or exits to the storage garage.

NOTE: Overhead-type storage garage doors shall be considered as an entrance and/or exit in relation to this [electrical] code.

- 58(a) A minimum of one out-of-door weatherproof lighting fixture shall be installed at all storage garage service door(s).

Said lighting fixture(s), as required in this paragraph (to include paragraphs 58 through 58(a)), shall be installed on the exterior wall and immediately adjacent to the garage service door(s) and overhead doors. Lights outside of the service door and overhead door shall be controlled by three-way switches; one at garage and one at house.

A minimum of one wall-mounted switch shall be installed within the main wall and located adjacent to the service door of said storage garage for the purpose of controlling the lighting fixture(s) at the service door location(s).

Section 152.4-59 Detached Garages, Structures, and General Outdoor Lighting

59. All detached structures (such as garages, storage buildings, outdoor lighting in general, etc.) that require electricity to operate electrical devices, equipment, etc., shall be served underground.

- 59(a) All conductors that serve electricity to any electrical device, equipment, etc., shall be copper.

- 59(b) All conductors installed underground for detached structures, general and/or decorative lighting, etc., shall be in full compliance with paragraph 23, inclusive of this Chapter and to include all requirements in all articles as set forth in this Chapter.

Section 152.4-60 Receptacles Required in Storage Garages

60. A minimum of one duplex receptacle shall be installed on the inside walls of any storage garage.

Said duplex receptacle shall be installed and/or located at a minimum of 48 inches above finished grade.

60(a) A minimum of one duplex receptacle shall be installed in the ceiling area(s) of the storage garage.

NOTE: The purpose of said duplex receptacle is to provide an electrical means for automatic garage door opening device and it may not be required that the ceiling-mounted receptacle be (G.F.I.) ground-fault interrupter protected. The location(s) of said duplex receptacle installations shall be approved by the electrical inspector having jurisdiction.

60(b) All receptacles installed in any storage garage shall be protected by an approved (G.F.I.) ground-fault-interrupting device.

Said (G.F.I.) ground-fault interrupting device shall not be connected to and/or associated with any other power-consuming device.

Section 152.4-62 Sizes of Junction Boxes

62. In all single family dwellings, apartment units and/or apartment type complexes, condominiums, townhouses, multi-family structures, detached structures, general outdoor electrical installations, storage garages, etc., all junction boxes shall be metallic.

The minimum dimensions of any outlet box, switch box, junction box, splicing box, pull box, etc., shall be 4" x 4" x 1-1/2" in measurement.

EXCEPTION: Junction boxes required for use for the proper installation and/or mounting of lighting fixtures may be of the eight-sided types but shall be a minimum of 1-1/2 inches in depth.

EXCEPTION: Pancake type junction boxes may be used in locations only for out-of-door lighting fixture installations where structural members interfere with 4" x 4" x 1-1/2" type junction boxes or eight-sided by 1-1/2 inch junction boxes installations.

Said type junction boxes shall only have one conduit entry and shall be firmly supported in place.

Also see [MINIMUM ELECTRICAL REQUIREMENTS FOR RESIDENTIAL DETACHED GARAGE](#) handout.

DRIVEWAYS

See [RESIDENTIAL DRIVEWAYS](#) handout.

If there are any questions regarding the content of these guidelines, please contact the Department of Building & Health Services at (847) 368-5560.