

Article 7. Site Development

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7.1 LANDSCAPE

7.1.1 General

- A. Applicability.** All development that involves new construction of a principal structure, expansion of an existing principal building by 2,500 square feet or more, or new construction or reconstruction of a parking lot, or expansion of a parking lot by 20 or more spaces, must comply with the requirements of this section. Resealing or re-striping of a parking lot, which does not entail paving, resurfacing, or replacement of the asphalt, concrete, or other surface paving material, is not considered reconstruction.
- B. Landscape Plan.** All developments subject to site plan review per Section 11.3.6 or 11.3.7 must submit a landscape plan. Where developments involve either 10,000 square feet or more of development area or construction or reconstruction of a parking lot containing 20 or more spaces, the landscape plan must be stamped by a New York State licensed landscape architect. Single-unit dwellings, double-unit dwellings, and multi-unit dwellings of 6 units or less, are exempt from this requirement.
- C. Landscape Installation.** Prior to a certificate of occupancy being granted, all landscape required by this section must be installed. However, where required landscape cannot be installed because of seasonal weather conditions, a certificate of occupancy may be issued by the Commissioner of Permit and Inspection Services provided that the applicant produces a contract for the landscape work to be completed within nine months of the issuance of the certificate of occupancy.
- D. Selection**
1. Plant materials must be hardy to regional climate conditions per the U.S. Department of Agriculture's Plant Hardiness Zone Map, as well as to individual site microclimates.
 2. No plant material may be installed that is listed by the New York Invasive Species Council as an invasive species, defined by

New York State statute to be any species that is non-native to the ecosystem under consideration, whose introduction causes or is likely to cause economic or environmental harm or harm to human health, and whose harm significantly outweighs any benefits.

E. Installation

1. Plant materials must be installed in accordance with the latest edition of the American Standard for Nursery Stock published by the American Nursery and Landscape Association (ANLA).
2. Plant materials must be installed in soil of sufficient volume, composition, and nutrient balance to sustain healthy growth.

F. Irrigation

1. Irrigation, beyond establishment, is not required. Where installed, permanent irrigation systems must:
 - a. Utilize low-volume irrigation emitters such as bubbler, drip irrigation, and soaker hose emitters.
 - b. Be equipped with a meter, backflow preventer, and weather-based irrigation controller.
2. Temporary spray irrigation systems may be used to establish seeded areas for grass and groundcover.

G. Maintenance

1. All plant materials must be maintained in a healthy, growing condition.
2. Any plant material that is significantly damaged, missing, disease-ridden, or dead must be abated by the property owner within one year or the next planting season, whichever occurs first, except in the D-ON zone and other areas of naturally occurring vegetation and undergrowth.
3. Any landscape that is considered hazardous

or unsafe, interferes with public utilities, is in conflict with required corner visibility, obstructs pedestrian or vehicular access, constitutes a traffic hazard, or is listed as an invasive species by the New York Invasive Species Council, must be abated by the property owner as soon as practicable or within 30 days of notice by the Commissioner of Permit and Inspection Services. The Commissioner of Permit and Inspection Services may remove any landscape that is an immediate peril to persons or property summarily, without notice, and at the property owner's expense.

7.1.2 Site Landscape

A. All non-paved and non-built land areas of the site must consist of living vegetation, such as grass, ornamental grass, groundcover, edible plants, shrubs, vines, annuals, perennials, or native or naturalized trees, with the exception of the following areas:

1. Agricultural fields or planting areas seasonally tilled for cultivation.
2. Trails.
3. Naturally occurring dunes, creek beds, rock outcroppings, or similar landscape features typically lacking in vegetation.
4. Recreational fields and facilities.
5. Rock or gravel, wood chips, bark, or other non-living material typically used as a landscape ornament.
6. Water features.

B. Any development, with the exception of single-unit and double-unit dwellings, that involves new construction of a principal structure must include the installation of at least one shade tree of a caliper of at least two inches for every 1,000 square feet of non-paved and non-built area of the site. The following are exceptions to this requirement:

1. An existing shade tree may fulfill this

requirement, so long as the tree is a minimum of four inches diameter at breast height (DBH), possesses a healthy and full canopy, has an unmolested critical root zone, and has incurred no damage that would undermine its long-term vitality and quality.

2. In lieu of one required shade tree, three ornamental trees of a minimum caliper of one and one-half inch may be installed.

7.1.3 Tree Conservation

A. All proposed development must conserve on-site established trees, defined as any tree with a diameter at breast height of six inches or more.

1. **Removal.** An on-site established tree may be removed only if at least one of the following conditions are satisfied:
 - a. The tree interferes with the construction of a structure or other site improvement, no feasible and prudent location alternative exists on-site for the proposed structure or other site improvement, and no possibility exists for incorporation of the tree into the proposed development.
 - b. The tree is causing damage to an existing structure or site improvement and no feasible remedy exists other than removing the tree.
 - c. The tree is diseased or injured beyond restoration, as determined by a registered forester or certified arborist.
 - d. The tree is dead, is in danger of falling, is located so as to pose a threat to existing structures, interferes with existing utility infrastructure, is in conflict with required corner visibility, or is otherwise considered hazardous or unsafe.
2. **Replacement.** In the event that an on-site established tree of a minimum of six inches DBH is removed under any circumstances, including the accidental killing of a tree during the course of construction activity, the following requirements apply:

- a. For each established tree that is removed, on-site replacement trees of the same or similar species must be installed for which the combined DBH is equal to or greater than the DBH of the tree that is removed. The replacement trees must be planted within nine months of the date of removal or, if the removal was made to facilitate on-site construction, within nine months of the issuance of a certificate of occupancy.
- b. If the site cannot accommodate the number of trees required as replacements, the replacement trees may be installed off-site so long as the site is within the corporate boundaries of the City of Buffalo.
- c. A replacement tree may be planted in a public park or public right-of-way with the authorization of the Commissioner of Public Works, Parks, and Streets.

7.1.4 Street Trees

A. Street Trees Required. Any development that involves construction of a new principal building, expansion of an existing principal building by 2,500 square feet or more, or a substantial renovation of an existing principal building, except for single unit dwellings, double unit dwellings, and multiple unit dwellings of six units or less, must include the installation of street trees as follows:

- 1. A minimum of one street tree must be installed on the adjacent public rights-of-way, excluding alleys, for each 30 feet of right-of-way frontage.
- 2. All street trees must be installed in accordance with the Street Tree Planting Standards that are on file with the Commissioner of Public Works, Parks, and Streets.
- 3. All required street trees must be installed within nine months of the issuance of a certificate of occupancy, and maintained in a healthy, growing condition until fully

established, or replaced as necessary.

B. Exceptions. The Commissioner of Public Works, Parks, and Streets may grant a waiver to the street tree requirement where:

- 1. Street trees of the minimum required number are already installed and maintained in a healthy, growing condition.
- 2. There is already a well-established tree planted on-site and adjacent to the outer edge of the property, whose crown reaches over the public right-of-way area to be planted, and would cause overcrowding of the new street tree, and may result in deforming the symmetry of the street tree crowns as it approaches maturity.
- 3. The specific location of a curb cut, utility line, underground vault, transit stop or station, or other feature conflicts with the placement of a tree.

C. Alternative Planting Locations. The Commissioner of Public Works, Parks, and Streets may require tree installation in alternative locations within the City of Buffalo when installation cannot be accommodated in the immediately adjacent public right-of-way.

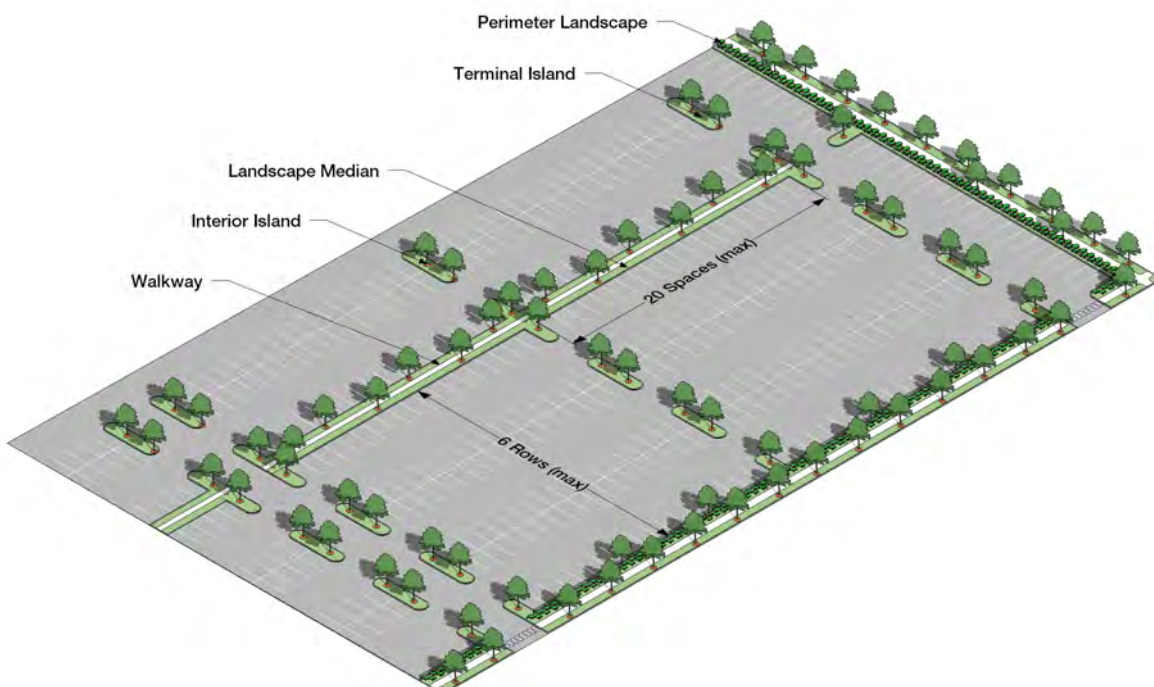
7.1.5 Parking Lot Landscape

A. Any new construction of a parking lot, expansion of an existing parking lot by 20 or more spaces, or reconstruction of an existing parking lot must be landscaped in accordance with this section.

B. Parking Lot Perimeter. Parking lot perimeters must be landscaped as follows:

- 1. Where any parking lot is located along, within 50 feet of, and visible from a public right-of-way other than an alley, the parking lot must be screened by a Type D buffer yard, designed per Section 7.1.6. The following are exceptions:
 - a. In lieu of a Type D buffer yard, a solid masonry wall may be installed at the right-of-way line of between two feet and

- three and one-half feet in height.
- b.** In lieu of a Type D buffer yard, in the N-1D, N-1C, and N-1S zones only, dedicated spaces for market stalls or mobile food vendors may be provided adjacent to the right-of-way line.
- 2.** Where any parking lot is located along, within 50 feet of, and visible from an interior side or rear lot line that abuts any lot in an N-2R, N-3R, N-4-30, N-4-50, D-R, D-OS, D-OG, or D-ON zone, the parking lot must be screened by a Type C buffer yard, designed per Section 7.1.6.
 - 3.** Parking lot perimeter landscape must be integral, where possible, with on-site stormwater management facilities installed in accordance with Section 7.3.
- C. Parking Lot Interior.** With the exception of parking lots in the D-IL and D-IH zones, the interior of parking lots containing 20 or more parking spaces must be landscaped as follows:
- 1.** At least 10% of the interior of the parking lot, calculated as the total surface area of all parking spaces, drive aisles, and interior landscape, must be planted with landscape. Parking lot perimeter landscape required by Section 7.1.5.B is not counted toward the minimum interior landscape requirement.
 - 2.** At least one shade tree of a minimum caliper of two inches must be installed within the parking lot interior for every 20 parking spaces, and distributed so that no parking space is more than 150 feet from a tree. The following are exceptions to this requirement:
 - a.** An existing shade tree may fulfill this requirement, so long as the existing shade tree is a minimum of four inches diameter at breast height, possesses a healthy and full canopy, has an unmolested critical root zone, and has incurred no damage that would undermine its long-term vitality and quality.
 - b.** In lieu of one required shade tree, three ornamental trees of a minimum caliper of one and one-half inch may be installed.
 - 3.** Landscape islands must be installed as



follows:

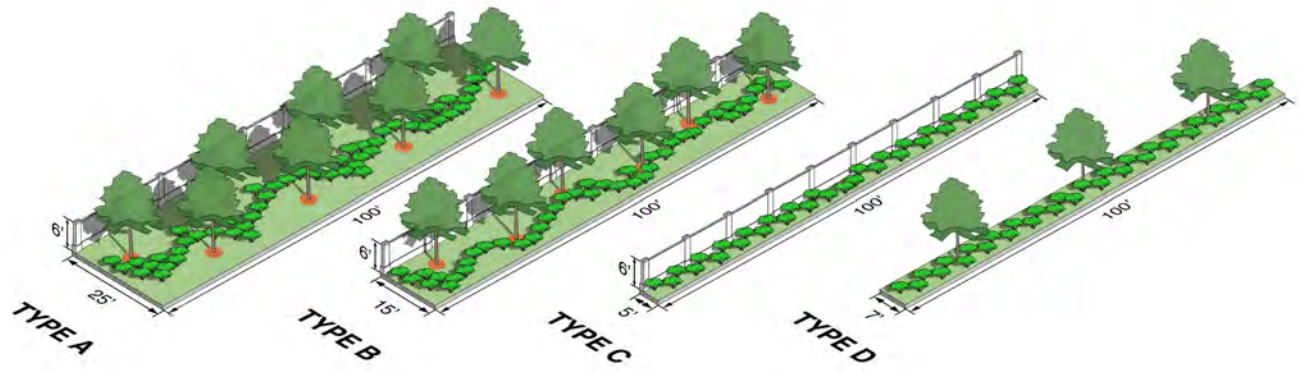
- a.** A terminal island must be provided at the beginning and end of each parking row. No more than 40 parking spaces may be located between terminal islands. Interior islands must be used to break up parking spaces into groups of no more than 20 contiguous spaces.
 - b.** Interior islands and terminal islands must extend across the depth of the parking row. An interior or terminal island must be at least eight feet in width and 150 square feet in area in the case of a single parking row or, in the case of a double parking row, at least eight feet in width and 300 square feet in area.
 - c.** At least one shade tree is required in each interior or terminal island that extends the length of a single parking row or, in the case of a double parking row, at least two shade trees are required.
 - d.** Landscape islands may be consolidated or intervals may be adjusted as necessary to preserve existing trees or facilitate stormwater management.
- 4.** Landscape medians must be installed as follows:
- a.** A landscape median must be provided between every six parking rows.
 - b.** A landscape median must be at least seven feet in width and planted with landscape, including at least one shade tree for every 30 feet of median length. In lieu of one shade tree, three ornamental trees may be planted.
 - c.** A landscape median may also serve as the location for a sidewalk connecting the parking and the use served by the parking area, in which case the width must be at least 12 feet.
 - d.** Landscape medians may be consolidated or intervals may be adjusted where necessary to preserve existing trees or facilitate stormwater management.
- 5.** Parking lot interior landscape must be integral, where possible, with on-site stormwater management facilities per Section 7.3.
- 6.** All required plant materials within the parking lot interior must be maintained in a healthy, growing condition over their lifetime, or replaced as necessary.

7.1.6 Buffer Yards

A. Required Buffer Yards

- 1.** A buffer yard must be installed per Table 7A: Buffer Yards, where the below uses are introduced as part of any new development or as the result of a change of use. Refer to the applicable sections for more information.
 - a.** Car wash. Refer to Section 6.1.5.F.
 - b.** Drive-through facility. Refer to Section 6.1.5.I.
 - c.** Gas station. Refer to Section 6.1.5.M.
 - d.** Retail and service, heavy. Refer to Section 6.1.5.U.
 - e.** Self-storage facility. Refer to Section 6.1.5.V.
 - f.** Vehicle rental or sales. Refer to Section 6.1.5.Z.
 - g.** Vehicle Repair, Major. Refer to Section 6.1.5.AA.
 - h.** Industrial, heavy. Refer to Section 6.1.6.B.
 - i.** Industrial, light. Refer to Section 6.1.6.C.
 - j.** Junk/salvage yard. Refer to Section 6.1.6.D.
 - k.** Recycling facility. Refer to Section

TABLE 7A: BUFFER YARDS



	TYPE A	TYPE B	TYPE C	TYPE D
Buffer yard depth (min)	25'	15'	5'	7' or required corner side or front yard depth for the zone, whichever is greater
Fence/wall type	Solid	Solid	Solid	N/A
Fence/wall height (min/max)	6'/10'	6'/8'	6'/7'	N/A
Shade trees (min per 100')	8	6	N/A	3
Ornamental trees (min per 100')	In lieu of planting a required shade tree, 3 ornamental trees may be planted	In lieu of planting a required shade tree, 3 ornamental trees may be planted	N/A	In lieu of planting a required shade tree, 3 ornamental trees may be planted
Shrubs (min per 100')	50	40	33	33

6.1.6.F.

- l.** Storage yard. Refer to Section 6.1.6.H.
- m.** Warehouse/distribution. Refer to Section 6.1.6.I.
- n.** Waste transfer station. Refer to Section 6.1.6.J.
- o.** Truck stop. Refer to Section 6.1.8.O.
- p.** Wireless communication tower. Refer to Section 6.1.9.F.
- q.** Parking lot perimeter. Refer to Section 7.1.5.B.
- r.** Loading areas. Refer to Section 8.3.7.B.

- 2.** Where a proposed project is subject to major site plan review per Section 11.3.7, the City Planning Board, where it finds that the project may have an adverse impact on any adjacent property or the surrounding neighborhood, may require the installation of a buffer yard, of a type described in Table 7A: Buffer Yards, to mitigate such impacts.

B. Buffer Yard Parameters

- 1.** A buffer yard is determined exclusive of any required front, corner side, interior side, rear, or waterfront yard. However, the buffer yard may be located wholly or partially within required yards.
- 2.** A buffer yard must be located within the outer perimeter of the lot, parallel to and extending to the applicable lot line. A buffer yard may not be located within the adjacent public right-of-way.
- 3.** Where a fence and landscaping are required within the buffer yard in accordance with Table 7A: Buffer Yards, the fence must be positioned interior to the landscaping, except for buffer yards along an interior side or rear lot line, where fences must be positioned exterior to the landscaping. However, the City Planning Board may adjust the positioning of

a fence within a buffer yard to better mitigate potential impacts between the proposed project and adjacent properties.

- 4.** No building, accessory structure, or vehicle parking, may encroach upon a buffer yard, with the following exceptions:
 - a.** Pedestrian and vehicle access points, plus related signs, may encroach upon a buffer yard.
 - b.** Where a proposed project is subject to major site plan review, per Section 11.3.7, the City Planning Board may allow a building or other structure to be located within a required buffer yard, where it finds the building or other structure would better mitigate potential impacts between the proposed project and adjacent properties. This exception does not allow for the waiver by the City Planning Board of any other required yard, per the applicable zone regulations.
- 5.** A natural, pre-existing grade separation may be conserved, or a man-made berm retained or installed, in lieu of a fence or wall to the extent that the height of the berm or pre-existing grade separation meets the minimum required height of the fence or wall.

C. Buffer Yard Landscape

- 1.** Required buffer yard landscape must be of the following dimensions at installation:
 - a.** Shade trees must be of a minimum caliper of two inches.
 - b.** Ornamental trees must be of a minimum caliper of one and one-half inches.
 - c.** Shrubs must be of a five gallon container minimum.
- 2.** Pre-existing, equivalent vegetation that is conserved within the buffer yard may substitute for any required landscape installation, so long as the pre-existing

vegetation is healthy and growing.

3. Any required trees or shrubs may be installed at varying distances to create a naturalistic landscape design, so long as the per linear foot requirement is applied as an average, and the landscape is arranged so as to provide sufficient screening.
4. Buffer yards must be integral, where possible, with on-site stormwater management facilities.
5. All required plant materials within the buffer yard must be maintained in a healthy, growing condition over their lifetime, or replaced where necessary.
6. Except as it relates to the required height of fences and walls for buffer yards, fences and walls must be installed and maintained in accordance with Section 7.2.

7.2 FENCES AND WALLS

7.2.1 General

- A. The construction of a new fence or wall, or reconstruction of at least 50% of an existing fence or wall, must comply with the standards of this section. The height standards of this section do not apply to fences or walls required for buffer yards, which are addressed by Section 7.1.6.
- B. A fence or wall may encroach upon any required yard, except for a required waterfront yard, so long as the fence or wall is aligned parallel or radial to the adjacent property line. No fence or wall may be erected in a required waterfront yard.
- C. No fence or wall may encroach upon a public right-of-way, conflict with required corner visibility, interfere with any utility line, or obstruct any legally required ingress or egress point.

7.2.2 Design and Construction

A. Materials

1. Fences and walls must be constructed of permanent, durable materials, such as brick, stone, concrete, textile block, wood, iron, or steel. Vinyl or chain link fence materials are not allowed in the N-1D, N-1C, N-2C, N-2E, N-3C, or N-3E zones.
2. No fence or wall may be constructed of barbed wire, concertina wire, razor wire, electrically charged wire, railroad ties; standard, fluted, or split face concrete masonry units (CMU); scrap metal, tarps, or any other material determined by the Commissioner of Permit and Inspection Services to be detrimental to the public health, safety, and welfare.

B. Height

1. The height of all fences and walls is measured from the average ground level within two feet of the base of the fence or wall. An additional one foot of height is allowed, above the maximum permitted height, for posts, columns, light fixtures, or other decorative details.

2. Fences and walls along front lot lines or within a front yard must not exceed four feet in height. In the D-IL and D-IH zones only, such fences and walls may be up to eight feet in height.
 3. Fences and walls along corner side lot lines or within a corner side yard must not exceed four feet in height, except that fences and walls may be up to six feet in height between the point of intersection of the corner side wall and rear wall of the principal structure, to the rear lot line. In the D-IL and D-IH zones only, such fences and walls may be up to eight feet in height.
 4. Fences and walls along interior side lot lines or within interior side yards must not exceed four feet in height, except that fences and walls may be up to six feet in height between the point of intersection of the interior side wall and rear wall of the principal structure, to the rear lot line. In the D-IL and D-IH zones only, such fences and walls may be up to eight feet in height.
 5. Fences and walls along rear lot lines or within rear yards must not exceed six feet in height. In the D-IL and D-IH zones only, such fences and walls may be up to eight feet in height.
 6. An open fence enclosing a tennis, basketball, pickleball, or other recreational court may be erected to a maximum of 12 feet in height, irrespective of the above standards.
- C. Finish.** All fence posts and related supporting members of a fence must be erected so that the finished sides of the fence face the adjacent property or public right-of-way.
- D. Maintenance.** Fences and walls, including supports, must be maintained in a proper state of repair. Any damage to or deterioration of a fence or wall, whether due to vandalism, weather, age, loss of mortar, or peeling paint, must be repaired as soon as practicable or within 30 days of receipt of notice from the Commissioner of Permit and Inspection Services.

7.3 STORMWATER

All land development activity must manage construction and post-construction stormwater runoff in accordance with this section.

7.3.1 General

- A.** Any land development activity that will involve soil disturbance of one-quarter acre (10,890 square feet) or more, or soil disturbance of less than one-quarter acre that is part of a larger development plan consisting of at least one-quarter acre in area, requires submission by the applicant of a Stormwater Pollution Prevention Plan (SWPPP) prepared per the requirements of the Buffalo Sewer Authority. Applicants proposing land development activity that falls below this threshold must manage construction and post-construction stormwater runoff, but are not required to prepare a SWPPP. A SWPPP must be completed as part of site plan review.
- B.** The SWPPP must be prepared by a New York State licensed engineer or registered landscape architect, and must be signed and stamped by the professional preparing the plan, who must certify that the design of all stormwater management practices meets the requirements of this section.
- C.** The property owner must ensure proper operation and maintenance of permanent stormwater management facilities installed in accordance with this section, and must provide certification of their continued performance every five years.

7.3.2 Technical Guides

- A.** The below documents serve as the official guides and specifications for stormwater management. Stormwater management practices that are designed and constructed per the most recent or successor versions of these technical documents are presumed to meet the performance standards of this section.
 1. New York State Stormwater Management Design Manual (New York State Department of Environmental Conservation).

2. New York State Standards and Specifications for Erosion and Sediment Control (New York State Department of Environmental Conservation).
 3. TR-55 Urban Hydrology for Small Watersheds (United States Department of Agriculture).
 4. Precipitation Frequency Atlas of the United States (National Oceanic and Atmospheric Administration).
- B.** Where stormwater management practices are not in accordance with technical documents referenced in Section 7.3.2.A, the applicant must demonstrate equivalence to the technical standards.

7.3.3 Performance Standards

All land development activity is subject to the following performance and design criteria:

- A.** For all projects for which a SWPPP is required, erosion and sediment control measures must be undertaken which are in accordance with the New York State Standards and Specifications for Erosion and Sediment Control.
- B.** Where technically feasible, stormwater discharges must be directed to sewers according to the following hierarchy of preference:
1. Storm Only Sewer.
 2. Storm Overflow Sewer.
 3. Storm Relief Sewer.
 4. Combined Sewer.
- C.** Where the stormwater will be released to a storm-only sewer or storm overflow sewer, the project must meet both the sizing criteria and water quality standards contained in the New York State Stormwater Management Design Manual.
- D.** Where stormwater will be released to a storm relief sewer or combined sewer, the project must demonstrate that post-development peak flows during a 25-year storm will be less than pre-development peak flows during a 2-year storm.

7.3.4 Best Management Practices

- A.** Where practicable, stormwater management facilities should utilize Green Infrastructure Best Management Practices (BMPs) according to the following hierarchy of preference:
1. Conservation of natural areas.
 2. On-site infiltration practices including, but not limited to, bioretention cells/rain gardens, vegetated swales, filter strips, constructed wetlands and porous pavement.
 3. Capture and reuse of runoff through low-impact practices including, but not limited to, green roofs, blue roofs, and rain barrels or cisterns.
- B.** Where on-site green infrastructure BMPs are not feasible for all or a portion of stormwater runoff volume due to factors including, but not limited to, contamination, high groundwater table, shallow bedrock, or poor infiltration rates, or where it can be proven that such practices would cause property or environmental damage, the remaining portion may be treated by another stormwater management practice acceptable to the Buffalo Sewer Authority.
- C.** In cases where on-site BMPs have been determined not to be feasible, the Buffalo Sewer Authority may consider the following alternative stormwater management practices to meet water quantity standards, in order of preference:
1. Off-site green infrastructure BMPs within the same sub-sewershed;
 2. Retention through subsurface infiltration or underground storage vaults;
 3. Detention through underground storage vaults.
- D.** BMPs that are implemented within the public right-of-way may not be designed to accept or treat stormwater from private property, except for sewer system infrastructure per the specifications of the Buffalo Sewer Authority.

- E.** Where underground storage vaults are utilized for detention discharge to a storm only or storm overflow sewer, water quality standards must be met through the use of a New York State Department of Environmental Conservation approved proprietary technology.
- F.** Where stormwater management performance standards cannot be met due to unique site constraints or any other conditions beyond the control of the applicant, the Buffalo Sewer Authority may provide an exemption to the standards of this section.

7.4 OUTDOOR LIGHTING

7.4.1 General

- A.** All outdoor lighting must comply with the requirements of this section, with the following exceptions:
 - 1.** Lighting for bridges, monuments, statuary, flags, and public buildings.
 - 2.** Sign illumination, which is addressed by Section 9.1.5.
 - 3.** Repairs to existing lighting, where no more than 25% of existing luminaires are repaired or replaced. Repairs include the reconstruction or renewal of any part of an existing luminaire, other than replacement of components such as lamps, capacitors, ballasts, or photocells.
 - 4.** Temporary special purpose lighting, such as lighting for special events, television broadcasts, or construction sites.
 - 5.** Underwater lighting in swimming pools and other water features.
 - 6.** Temporary holiday lighting.
 - 7.** Low intensity lighting used in landscape design and to illuminate walkways.
 - 8.** Lighting used under emergency conditions.
 - 9.** Lighting required by federal, state, or local regulations.
 - 10.** Any lighting approved by a special use permit.
- B. Lighting Plan.** All developments subject to site plan review per Section 11.3.6 or 11.3.7 must submit a lighting plan, stamped by a New York State licensed engineer or other qualified professional, demonstrating compliance with this section. Single-unit dwellings, double-unit dwellings, and multi-unit dwellings of six units or less, are exempt from this requirement.

7.4.2 Lighting Zones

A. Lighting Zone Descriptions. Each zone is assigned a lighting zone that describes the level and type of illumination allowed per site. The lighting zones are described as follows:

- 1. LZ-0: No Ambient Lighting.** Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna or detracting from enjoyment and appreciation of the natural environment.
- 2. LZ-1: Low Ambient Lighting.** Areas where lighting might adversely affect flora and fauna or disturb the character of the area. Lighting may be used for safety and convenience but is not necessarily uniform or continuous.
- 3. LZ-2: Moderate Ambient Lighting.** Areas of activity with moderate light levels. Lighting is used for safety and convenience, but it is not necessarily uniform or continuous.
- 4. LZ-3: Moderately High Ambient Lighting.** Areas of activity with moderately high light levels. Lighting is generally desired for safety, security, and convenience, and is often uniform and continuous.
- 5. LZ-4: Very High Ambient Lighting.** Areas of activity with very high light levels. Lighting is generally considered necessary for safety, security, and convenience, and is mostly uniform and continuous.

B. Lighting Zone Assignments. Table 7B: Lighting Zones identifies the lighting zones assigned to each zone. Within each lighting zone, there are separate standards in Section 7.4.3 for non-residential and residential uses with more than six units, and for residential uses with six units or less.

7.4.3 Lighting Standards

A. Lighting for Non-Residential and Residential Uses With More Than Six Units. For all non-residential properties, and for multi-unit dwellings of more than six dwelling units with common outdoor areas, such as courtyards or parking lots, all outdoor lighting must comply with the following:

- 1. Total Site Lumen Limit.** The total installed initial luminaire lumens of all outdoor lighting may not exceed the total site lumen limit of Table 7C: Total Site Lumen Limits, except as otherwise permitted by this section. The total installed initial luminaire lumens is calculated as the sum of the initial luminaire lumens for all luminaires. For sites with existing outdoor lighting, the existing lighting must be included in the calculation of total installed lumens.
- 2. Maximum BUG Ratings.** All luminaires must be rated and installed according to Table 7D: Maximum BUG Ratings, which describes the maximum backlight (B), uplight (U), and glare (G), as rated by the luminaire manufacturer, allowed in each lighting zone. Luminaires equipped with adjustable mounting devices

TABLE 7B: LIGHTING ZONES

	N-1D	N-1C	N-1S	N-2C	N-2E	N-2R	N-3C	N-3E	N-3R	N-4-30	N-4-50	D-R	D-M	D-E	D-S	D-C	D-IL	D-IH	D-OS	D-OG	D-ON	C-R
LZ-0																						
LZ-1																						
LZ-2																						
LZ-3																						
LZ-4																						

permitting alteration of luminaire aiming are not permitted.

3. **Additional Allowable Lumens.** Additional lumens are allowed, above the total site lumen limits identified in Table 7C, for the following lighting applications:
 - a. **Building Entrances or Exits.** An additional 400 lumens in LZ-0, 1,000 lumens in LZ-1, 2,000 lumens in LZ-2, 4,000 lumens in LZ-3, and 6,000 lumens in LZ-4 are allowed per door for building entrances or exits, so long as the luminaires are within 20 feet of the door.
 - b. **Building Facades.** An additional eight lumens in LZ-2, 16 lumens in LZ-3, and 24 lumens in LZ-4 are allowed per square foot of building facade that is to be illuminated, so long as the luminaires are aimed at the facade.
 - c. **Drive-Through Facilities.** An additional 4,000 lumens in LZ-2 and 8,000 lumens in LZ-3 and LZ-4 are allowed per drive-through window within 20 feet of the window.
 - d. **Gas Stations: Impervious and Semi-Pervious Surface.** An additional eight lumens in LZ-2, 16 lumens in LZ-3, and 24 lumens in LZ-4 are allowed per square foot of total illuminated impervious and semi-pervious surface of a gas station, not including building footprints or areas under canopies.
 - e. **Gas Stations: Under Canopies.** An additional 16 lumens in LZ-2 and 32 lumens in LZ-3 and LZ-4 are allowed per square foot of area within the drip line of a gas station canopy, and must be located under the canopy.
 - f. **Guard Stations.** An additional six lumens in LZ-1, 12 lumens in LZ-2, 24 lumens in LZ-3, and 36 lumens in LZ-4 are allowed per square foot of a guardhouse, plus 2,000 square feet per vehicle lane within

two mounting heights of a vehicle lane or guardhouse.

- g. **Outdoor Dining.** An additional five lumens in LZ-2, ten lumens in LZ-3, and 15 lumens in LZ-4 are allowed per square foot of total illuminated impervious or semi-pervious surface of an outdoor dining area within two mounting heights of the outdoor dining area.
- h. **Outdoor Display.** An additional eight lumens in LZ-2, 12 lumens in LZ-3, and 18 lumens in LZ-4 are allowed per square foot of outdoor display area, not including driveways, parking areas, or other non-sales areas within two mounting heights of the outdoor display area. This includes open-air markets.

B. Lighting for Residential Uses With Six Units or Less.

For residential dwellings of six units or less, all outdoor luminaires must be fully shielded, with the following exceptions:

1. Up to two partly shielded or unshielded luminaires at each main entrance.
2. Low voltage lighting that does not project onto adjacent properties.
3. Shielded directional flood lighting that is aimed so that direct glare is not visible from adjacent properties.
4. Lighting installed with a vacancy sensor, which extinguishes the lights no more than 15 minutes after the area is vacated.

C. Lighting of Right-of-Way. Outdoor lighting of public rights-of-way and private easements for vehicular, cyclist, or pedestrian ways must comply with the following:

1. All street light luminaires must be designed per the specifications of the Commissioner of the Department of Public Works, Parks, and Streets.

TABLE 7C: TOTAL SITE LUMEN LIMITS

	LZ-0	LZ-1	LZ-2	LZ-3	LZ-4
Total site lumens allowed per SF of impervious/semi-pervious surface area	0.5 lumens	1.25 lumens	2.5 lumens	5.0 lumens	7.5 lumens

TABLE 7D: MAXIMUM BUG RATINGS

MAXIMUM ALLOWABLE BACKLIGHT (B) RATING ¹	LZ-0	LZ-1	LZ-2	LZ-3	LZ-4
Greater than 2 mounting heights from property line	B1	B3	B4	B5	B5
1 to less than 2 mounting heights from property line and ideally oriented ²	B1	B2	B3	B4	B4
0.5 to 1 mounting heights from property line and ideally oriented ²	B0	B1	B2	B3	B3
Less than 0.5 mounting height to property line and properly oriented ²	B0	B0	B0	B1	B2

MAXIMUM ALLOWABLE UPLIGHT (U) RATING

Allowed uplight rating	U0	U1	U2	U3	U4
Allowed % light emission above 90 degrees for street or area lighting	0%	0%	0%	0%	0%

MAXIMUM ALLOWABLE GLARE (G) RATING³

Allowed Glare Rating	G0	G1	G2	G3	G4
Any luminaire not ideally oriented ⁴ with 1 to less than 2 mounting heights to any property line of concern	G0	G0	G1	G1	G2
Any luminaire not ideally oriented ⁴ with 0.5 to 1 mounting heights to any property line of concern	G0	G0	G0	G1	G1
Any luminaire not ideally oriented ⁴ with less than 0.5 mounting heights to any property line of concern	G0	G0	G0	G0	G1

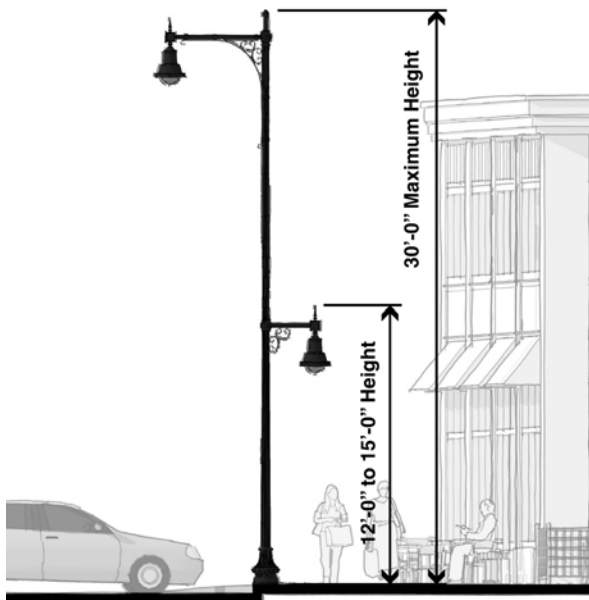
1. For property lines that abut public walkways, bikeways, plazas, and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.

2. Ideally oriented means the luminaire is mounted with the backlight portion of the light output oriented perpendicular and towards the property line of concern.

3. For property lines that abut public walkways, bikeways, plazas, and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.

4. Any luminaire that cannot be mounted with its backlight perpendicular to any property line within twice the mounting height of the luminaire location must meet the reduced allowed glare rating.

2. Lighting fixture spacing must conform to light level and uniformity requirements per the American National Standard Practice for Roadway Lighting (RP-8) published by the Illuminating Engineering Society of North America (IESNA).
3. The suitability of the lighting fixture type for particular right-of-way and lighting conditions is at the discretion of the Commissioner of Public Works, Parks, and Streets. Lighting fixtures are divided into two basic types:
 - a. Vehicular lighting, intended to illuminate areas for vehicular travel and parking, may be no more than 30 feet in height.
 - b. Pedestrian lighting, intended to illuminate areas for pedestrian travel and seating, must be between 12 and 15 feet in height.



granted only where the lighting of such sites is found to be consistent with the general criteria of Section 11.3.3 and the following additional criteria:

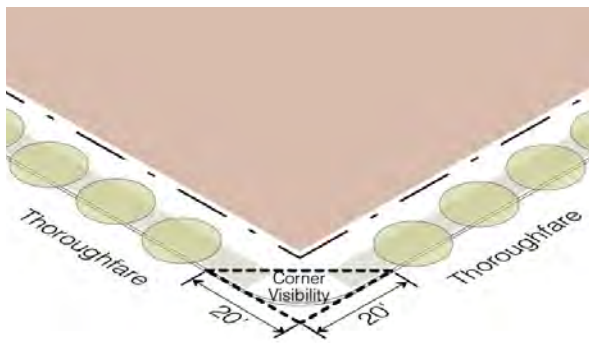
- A. Every reasonable effort will be made to mitigate the effects of light on the environment and surrounding properties.
- B. The proposed use or lighting will not create unnecessary glare, sky glow, or light trespass.

7.4.4 Lighting by Special Use Permit

A special use permit may be issued for lighting of sites with special requirements, such as correctional facilities or sports fields, which does not comply with the technical requirements of this section but is consistent with its intent. A special use permit may be

7.5 CORNER VISIBILITY

Corner visibility must be provided along all public rights-of-way, except for passages and alleys, in the N-2R, N-3R, N-4-30, and N-4-50 zones. Corner visibility is defined as the triangular area formed by projecting the lines of intersecting curbs, or of street paving edges where there are no curbs, and a line joining these points 20 feet from their point of intersection. No structure, including signs and fences, may be erected, and no plant foliage may be maintained, between heights of three and one-half feet and ten feet above the curb level in this area.



7.6 SITE IMPACTS

7.6.1 Dust and Air Pollution

Dust and other types of air pollution that can be borne by the wind from the use must be controlled through appropriate landscape, sheltering, paving, wetting, collecting, or other means.

7.6.2 Electromagnetic Interference

Electromagnetic interference from any use must not adversely affect the operation of any equipment located off the lot where the interference originates.

7.6.3 Glare and Heat

Any activity or the operation of any use that produces glare or heat must be conducted so that no glare or heat from the activity or operation is detectable at any point off-site. Flickering or intense sources of light must be fully shielded.

7.6.4 Hazardous Materials

The use, storage, handling, transport, discharge, and disposal of hazardous materials, or materials that present potential fire and explosion hazards, must comply with applicable federal, state, and local laws and regulations. Radioactive and hazardous material waste must be transported, stored, and used in conformance with all federal, state, and local laws.

7.6.5 Noise

No use may be conducted in a manner that generates a sound level that is in violation of Chapter 293, Noise, of the City Code.

7.6.6 Odors

No use may emit odors of an intensity and character as to be detrimental to the public health, safety, and welfare. Odors lasting less than 15 minutes for every 24-hour period are exempt.

7.6.7 Vibration

No use may produce continuous, frequent, or repetitive vibrations that exceed 0.002g peak at up to 50 cycles per second frequency off-site, measured by seismic or electronic vibration measuring equipment, such as an accelerometer. Vibrations from vehicles that leave the site, such as trucks, trains, airplanes,

and helicopters, are exempt from this requirement.
Vibrations lasting less than five minutes for every 24-hour period are exempt.