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ADDRESSING RESILIENCE
THROUGH THE ZONING &
LAND DEVELOPMENT
REGULATIONS ORDINANCE
(ZLDR)

June 27, 2023

Charleston County Resilience Committee Meeting

History of ZLDR Resilience Ordinances

- The Resilience Element of the Comprehensive Plan was adopted by County Council March 10, 2020.
 - *The County Administrator appointed Karen Green as the first Chief Resilience Officer in October of 2020, implementing an action item of the Resilience Element.*
- The Resilience Element also calls for identifying and pursuing amendments to existing County policies and regulations to improve the County's resilience towards long-term stresses and acute disasters.
- This led to the creation of the Resilience Committee which met from April 2021 through February 2022:
 - *Comprised of community representatives/concerned citizens; representatives from the City of North Charleston, City of Charleston, Town of Mt. Pleasant, and Town of James Island; County departmental representatives from Budget, Facilities, Building Services, Zoning/Planning, and Public Works/Stormwater; representatives from the fields of property management, real estate, engineering, and home building; representatives from The Nature Conservancy, Coastal Conservation League, and the Medical District; and representatives from the County Planning Commission.*
 - *Made recommendations to staff about ways the ZLDR, Building and Flood Codes, and Stormwater Manual could be revised to address resilience.*
 - *Planning Department staff addressed the recommendations that could be implemented through the Zoning and Land Development Regulations Ordinance (ZLDR) and divided the recommendations into those already addressed in the ZLDR, those that could be addressed in the short-term through amendments to the ZLDR, and those that would require more research.*
 - *Staff drafted the short-term amendments and presented them to the Committee for review and feedback and then took them through the Planning Commission and Council adoption process (adopted Oct. 11, 2022).*



RECOMMENDATIONS
ALREADY
ADDRESSED IN THE
ZLDR

Recommendations Addressed in the ZLDR

Committee Recommendation	How it is being Addressed
Admin Strategy: Have a staff person to investigate and propose solutions to specific case by case issues	Addressed during Site Plan Review.
Stop development on wetlands in density and lot development requirements.	Freshwater wetland acreage no longer counts towards density calculations (as of Oct. 26, 2021).
Reduce parking requirements for developments in proximity to public transportation.	Reductions in required parking for Affordable/Workforce Housing developments within 1,200 feet of an approved CARTA, TriCounty Link, or LCRT stop.
Strengthen Tree ordinance - require natural buffers.	Retention of natural buffers is required along all Rights-of-Way for buffer type C (20 ft) or greater.
Require parking area design to be separated into normal use areas (everyday use) and high-capacity overflow areas (occasional use) and require use of pervious surfaces in the high-capacity overflow areas.	<ul style="list-style-type: none"> • 10% reduction in required parking if all pervious materials are used for parking area; • 40% impervious surface coverage limit; and • No more than 70 percent of all developable land within Parcels may be impervious, unless approved by the Zoning/Planning Director.



SHORT-TERM ZLDR AMENDMENTS

(ADOPTED OCT. 11, 2022)



Committee Recommendation

#1:

Encourage parking under buildings

*Recommended ZLDR Action:
Incentivize by exempting parking area under structures from maximum building height calculation.*

Adopted ZLDR Amendments:

- Sec. 4.2.4 and Sec. 9.3.5: The area under Buildings that is used for parking is exempt from maximum Building Height calculations, up to one Story for multi-family dwellings and non-residential development. ***Parking area under the building must be at least 51 percent of the building footprint.***
- Defined “Story” as: That portion of a building included between the surface of any floor and the surface of the next floor above, or if there be no floor above it, then the space between such and the ceiling next above it.

Committee Recommendation #2a:

Incentivize use of local, natural, and more sustainable landscaping and hardscaping by developers – less open lawns, more rain gardens, more pervious surfaces.

Recommended ZLDR Action: Add maximum impervious surface area requirements and define impervious surface area.

Proposed ZLDR Amendments:

- Ch. 4, Base Zoning Districts: Limit impervious surface coverage as follows:
 - Parks/Recreation/Open Space, Resource Management, AG-15, AG-10, AG-8, AGR, Rural Residential, Special Management, R-4, Manufactured Housing Subdivision, and Manufactured Housing Park Zoning Districts: Maximum Impervious Surface Coverage of 40% of the lot for nonresidential development and residential development on parcels less than 30,000 square feet in size **or as allowed by the Stormwater Manual** (maximum 30% building coverage applies to residential development on parcels greater than 30,000 square feet in size);
 - Urban Residential Zoning District: Maximum Impervious Surface Coverage of 50% or as allowed by the Stormwater Manual;
 - Rural Commercial, Rural Industrial Zoning Districts, Residential Office, Civic/Institutional, General Office, Neighborhood Commercial, Community Commercial, and Industrial Zoning Districts: Maximum Impervious Coverage of 50% of the lot or as allowed by the Stormwater Manual; and

Committee Recommendation #2a:

Incentivize use of local, natural, and more sustainable landscaping and hardscaping by developers – less open lawns, more rain gardens, more pervious surfaces.

Recommended ZLDR Action: Add maximum impervious surface area requirements and define impervious surface area.

Adopted ZLDR Amendments:

- Ch. 4, Base Zoning Districts: Limit impervious surface coverage as follows:
 - Parks/Recreation/Open Space, Resource Management, AG-15, AG-10, AG-8, AGR, Rural Residential, Special Management, R-4, Manufactured Housing Subdivision, and Manufactured Housing Park Zoning Districts: Maximum Impervious Surface Coverage of 40% of the lot for nonresidential development and residential development on parcels less than 30,000 square feet in size **or as allowed by the Stormwater Manual** (maximum 30% building coverage applies to residential development on parcels greater than 30,000 square feet in size);
 - Urban Residential Zoning District: Maximum Impervious Surface Coverage of 50% or as allowed by the Stormwater Manual;
 - Nonresidential zoning districts: **No changes** (maximum building coverage applies along with a max. 70% impervious surface limit).

Committee Recommendation #2b:

Incentivize use of local, natural, and more sustainable landscaping and hardscaping by developers – less open lawns, more rain gardens, more pervious surfaces.

Recommended ZLDR Action: Add maximum impervious surface area requirements and define impervious surface area.

Adopted ZLDR Amendments:

- Prohibit driveways of any surface type from being located in OCRM Critical Line Buffers.
- Chapter 5, Overlay and Special Purpose Zoning Districts:
 - Amend overlay zoning district requirements to correspond with the change from building coverage to impervious surface coverage limitations approved by Council on Oct. 11, 2022;
- Chapter 3, Development Review Procedures and Chapter 4, Base Zoning Districts:
 - Require that applications for variances from the maximum impervious surface coverage requirements include documentation showing how the proposed increase in Impervious Surface Coverage beyond the maximum allowed will be mitigated, and provide documentation that the proposed mitigation has been reviewed by the Stormwater Division of the Charleston County Public Works Department. Include the same requirement for Planned Developments that request increases in maximum impervious surface coverage.
 - Mitigation may include, but shall not be limited to, green infrastructure and low impact design techniques.
 - In no case shall the maximum Impervious Surface Coverage be increased beyond 70% of the Lot.

Committee Recommendation #2c:

Incentivize use of local, natural, and more sustainable landscaping and hardscaping by developers – less open lawns, more rain gardens, more pervious surfaces.

Recommended ZLDR Action: Add maximum impervious surface area requirements and define impervious surface area.

Adopted ZLDR Amendments:

- Sec. 3.8.3: Add requirement for applicants for Zoning Permits to show Impervious Surface Coverage on site plans.
- Sec. 3.10.1: Add requirement for applicants submitting for variances from Maximum Impervious Surface Coverage to show how the impact of additional Impervious Surface Coverage will be mitigated, as reviewed by the PW department.
- Chapter 9, Development Standards: Allow increases in impervious surface for parcels involved in shared access agreements.
- Chapter 12, Definitions:
 - Define “Impervious Surface Coverage” as: A surface which has been compacted or covered with a layer of material so that it is highly resistant to infiltration by water. The term includes most conventionally surfaced Streets, roofs, sidewalks, Parking Lots, and other similar Structures; and
 - Define “Pervious Surface Coverage” as: A surface type including, but not limited to, grass, permeable asphalt, and permeable concrete, that allows water to penetrate through the surface and drain to the ground below at a rate greater than 0.3 in/hr, as approved by the Charleston County Public Works Department.
- Note: The amendments also clarify the difference between the terms “paving” and “impervious surface” as applicable throughout the ZLDR.

Committee Recommendation #3

Discussed increasing the freeboard requirement in the **Charleston County Building Code**

*Recommended ZLDR Action:
Change the definition of Building Height in the ZLDR to reference Design Flood Elevation (DFE).*

Adopted ZLDR Amendments:

- Change the definition of “Building Height” to be measured from the Design Flood Elevation instead of the Base Flood Elevation to account for potential changes in the Freeboard, which is defined as “a factor of safety usually expressed in feet above a mandatory Base Flood Elevation (BFE) for purposes of floodplain management, as approved by the Charleston County Building Inspections Services Department”:
- Define “Base Flood Elevation” as: The elevation of surface water resulting from a flood having a one percent chance of being equaled or exceeded in any given year, as determined by the Charleston County Building Inspections Services Department; and
- Define “Design Flood Elevation” as: The Base Flood Elevation (BFE) plus Freeboard, as approved by the Charleston County Building Services Department.



**LONG-RANGE
PLANNING/ZONING
RECOMMENDATIONS**



Long-Range Recommendations

Parking	<ul style="list-style-type: none">• Incentivize use of structured parking rather than surface parking.• Reduce parking lot size by requiring adjacent businesses to coordinate and develop realistic aggregate parking requirements.• Require parking lots to be covered – green roofs or solar; consider as incentives.• Limit on-street parking to one side of the street in new development to reduce overall impervious surface.
Trees	<ul style="list-style-type: none">• Strengthen Tree Ordinance: Preserve tree clusters instead of grand protected trees; Stricter tree protection requirements for PDs (<i>included in the draft Comprehensive Plan Five-Year Review work plan</i>).
Elevation-based development	<ul style="list-style-type: none">• Undisturbed areas – be more aggressive than 10% + based on elevation (<i>strategy to investigate the feasibility of elevation-based zoning included in the draft Comprehensive Plan Five-Year Review</i>).• Incentivize redevelopment of existing communities in lieu of new development of currently undeveloped open spaces.
Design Standards	<ul style="list-style-type: none">• Incentivize development of multiple level structures instead of one level to reduce the rooftop area and total runoff.• Incorporate sunken landscaped islands in the middle of cul-de-sac turnarounds.• Cap building footprints and allow larger footprints with green roofs.• Incentives for rain gardens – Tax Credits etc.