Article 600A: DESIGN STANDARDS

Except as otherwise provided for in the Section, any new development, additional to an existing development or change in use shall meet the standards set out in the Article.

Section 601A. Design Standards Relating to Location of Intensive Uses.

Intensive uses, including but not limited to convenience stores, fast-food restaurants and banks with drive-in windows, automobile service stations, theaters, and shopping centers are required to be adjacent to and have direct access to a road designated as a collector, arterial or thoroughfare in the Thoroughfare Plan, or have indirect access to such a road by way of a street designed to local or sub collector standards. New developments incorporating intensive uses, or existing developments which are not in intensive use but which are proposed to have a changed of use to an intensive use, may be required to provided turn lanes and take other measures to ensure the safe movement of vehicles and pedestrians on and near the site, and the adjacent streets.

Section 602A. Design Standards Relating to Points of Ingress and Egress

602A.1 Non-Residential Developments.

Except to the extent that a development is exempted under paragraph (f) below, every commercial, industrial, institutional, recreational or other non-residential development use shall meet the following standards related to the number and location of points on ingress and egress and other aspects of site design.

(a) Points of ingress and egress shall be limited in width t 36 feet except that a width not to exceed 50 feet may be permitted where the authority determines that the same is desirable because of the size, shape, topography of the lot, or the location of the structures on the same, or where tractor trailer trips re anticipated.

(b) Vehicle movement to and from the site shall be clearly channeled through points of ingress and egress by way of curbing, landscape timbers, pavement painting and other techniques and devices.

(c) Points of ingress and egress shall be limited to one driveway per site or street for lots 100 feet wide or less, and to two driveways per site for lots exceeding 100 feet but less than 200 feet in width. An additional driveway may be permitted by the permit issuing authority if:

(1) Such a point is on a lot with a lot width of greater than 200 feet, or,

(2) The site borders two or more streets, and more than one street has or is proposed to have at least one point of ingress or egress on it, provided that the authority determines that the additional point of ingress or egress will not pose a safety hazard or will actually improve the safe movement of

motor vehicles and pedestrians on the adjacent streets and the site. In determining if a point of ingress or egress will not pose a safety hazard or will improve the safe movement of motor vehicles on the adjacent streets and the site, the permit issuing authority will consider the number of trips generated by the use, the number of trips on the street, the number of conflicting traffic movements nears the site, the number of lanes and the configuration of the street, the location of the points on ingress and egress, and safety measures proposed by the developer. The City may require the developer provide the necessary traffic study in order to review the application for the proposed driveway cut. (Amended 5/27/2003)

(d) Except where a proposed or existing point of ingress is located or proposed to be located more than 100 feet from the intersection, said point of ingress and egress shall be located as far as practical from any intersection of two or more streets where one of the streets is a collector, arterial or thoroughfare.

(e) Except where or to the extent that the permit issuing authority determines that the cost of providing landscaping would be unreasonably burdensome (e.g. where the size or shape of the lot or location of the structures thereon significantly interferes with landscaping required under this ordinance), landscaping will be provided which is consistent with section 603A of this ordinance.

(f) Development involving only minor improvements or changes in use and which do not propose to add a new point of ingress and egress or widen an existing one are exempted from the requirements of (a),(c) and (d) above. A minor change of use is defined as a change of use which does not result in any significant increase in the amount of motor vehicles trips to or from the site during the course of a day during peak hours.

A minor improvement is defined as one where (a) the total cost of improvements are less than 33% of the fair market value of the structures and improvements on the tracts, or less than 25,000, whichever is greater; or, (b) he development consists of only a replacement of existing structures with new structures of the same or smaller size.

In calculating costs under this subsection, costs incurred by the developer in order to comply with federal environmental regulations shall not be included in the total costs of the structures and improvements.

A project involving both a change of use and improvements must meet both criteria for minor change of use and for minor improvement foe the exemptions set out for minor improvements or changes in use to apply.

602A.2 Residential Uses.

Residential driveways shall require a driveway permit, and all driveways shall meet the City Engineerôs standard driveway drawings and in addition the requirements of the State Department

of Transportation, if applicable. Non-conforming residential lots shall only be permitted one driveway per site. (Amended 5/27/2003)

Section 603.A Design Standards Relating to Landscaping.

(A) Except for development of single family detached and residential duplex units, the following landscape provisions are required for any new use or new development or existing use or development involving substantial change. All applicants or developers shall prepare and submit a landscape plan that is found by the Planning Department and/or Technical Review Committee to comply with the general intent of the provision of this section or propose landscaping that meets the following requirements:

(1) The retention of healthy trees eighteen (18) inches or greater in diameter and the protection of the drip line of such tress, whenever the retention would not unreasonably burden the development(where such tress are present in the interior, as opposed to the periphery of a site and the proposed use is intensive , it shall be presumed that the retention of such tress would be unreasonable);

(2) The creation of the tree lined streets with an average of at least one deciduous hardwood tree (2 inches in caliper and 6-8 feet in height at planting) or three coniferous tress(2 inches in caliper and 6-8 feet in height at planting) at least every thirty feet along any property line bordering or adjacent to a street right-of-way exclusive of such areas as might be needed on unsignalized intersections or driveways to insure proper sight distance for the safe movement of motor vehicles and pedestrians, and such other areas where prohibition by City Code, or State regulations; the location of new planting should take into consideration the existence of public utilities on and near the site; if the trees are proposed to be grouped, each tree shall be planted at least eighteen feet apart to ensure healthy maturity. All trees shall be healthy at planting and planted in accordance with the approved tree planting details. (See diagram 1)

(3) The planting of retention of sufficient trees and/ or vegetation to assist in the control of storm water runoff:

(4) The shading of vehicle accommodation areas by deciduous trees (either retained or planted by the developer) that have or will have when fully mature a trunk at least twelve inches in diameter.(this requirement can be met with the minimum planting requirements).

Development with the parking areas including accessory drives and aisles) exceeding 5,000 square feet if pavement shall provide and maintain landscape areas based upon the surface parking area. Areas under canopies, loading and service areas, and portions or drives with no parking on either side or distance longer than 25 feet and/or used exclusively as access to loading or service areas are exempt from this requirement. The landscaping with parking areas shall be provided in additional to any buffer requirements of the s ordinance.

Areas used for landscaping shall be provided in the amount equivalent to at least 7.5% of the paved area of the parking area, and shall be used for planting trees and shrubs according to the requirements below:

a) One 2 inch (minimum) caliper deciduous tree six-eight feet in height per square 250 square feet of required landscaped area. Each tree shall be located within a minimum growing area of 150 square feet or the area required to maintain healthy growth of that tree, unencroached by shrubs or impervious pavement.

b) One large evergreen shrub or evergreen tree at the rate of one 6 foot tall tree or large shrub shall be required for every 125 square feet of required landscape are (large shrubs shall be minimum of 2 feet in height at planting and are assumed to reach 4 to 5 feet in height within 3 to 5 years). Large shrubs shall not be planted closer than 6 feet to any tree and shall be planted at least 12 feet apart from other large shrubs.

c) Small shrubs (15-18 inches in height at maturity) shall be required for every 35 square feet of required landscape area. These shrubs shall be located within 15 feet of the paved area.

d) No parking space shall be farther than 100 feet from a tree trunk.

e) Minimum curb radii of 3 feet are required on the corner of all tree islands and medians to allow for free movement of motor vehicles around planting materials. All islands shall have raised edging or other devices as necessary to stop vehicles from driving into planted areas.

Development containing parking areas of 4 or more parking spaces but less than 5,000 square feet of parking area shall provide a landscaped area as stated in (a-e) above equal to six (6) square feet for each linear foot of street frontage, less driveways.

Vehicle accommodation areas shall be visually buffered from adjoining uses by low opaque (ñLò) screen (large shrubs shall be minimum of 2 feet in height at planting and are assumed to reach 4 to 5 feet in height within 3 to 5 years of planting);

(5) In the case of development involving a commercial, industrial, institutional, recreational or other development use other than a residential use involving less than three dwelling units, the planting or retention of tress and/or vegetation which will clearly channel motor vehicles to points on ingress and egress, and assist motorists using the street in being able to quickly recognize the location of points of ingress and egress and apprehend the potential danger; and

(6) The planting or retention of tress sufficient to adequately screen more intensive uses from less intensive sues (a minimum of an ñLò screen), except where screening is provided by acceptable alternative measures, such as fences.

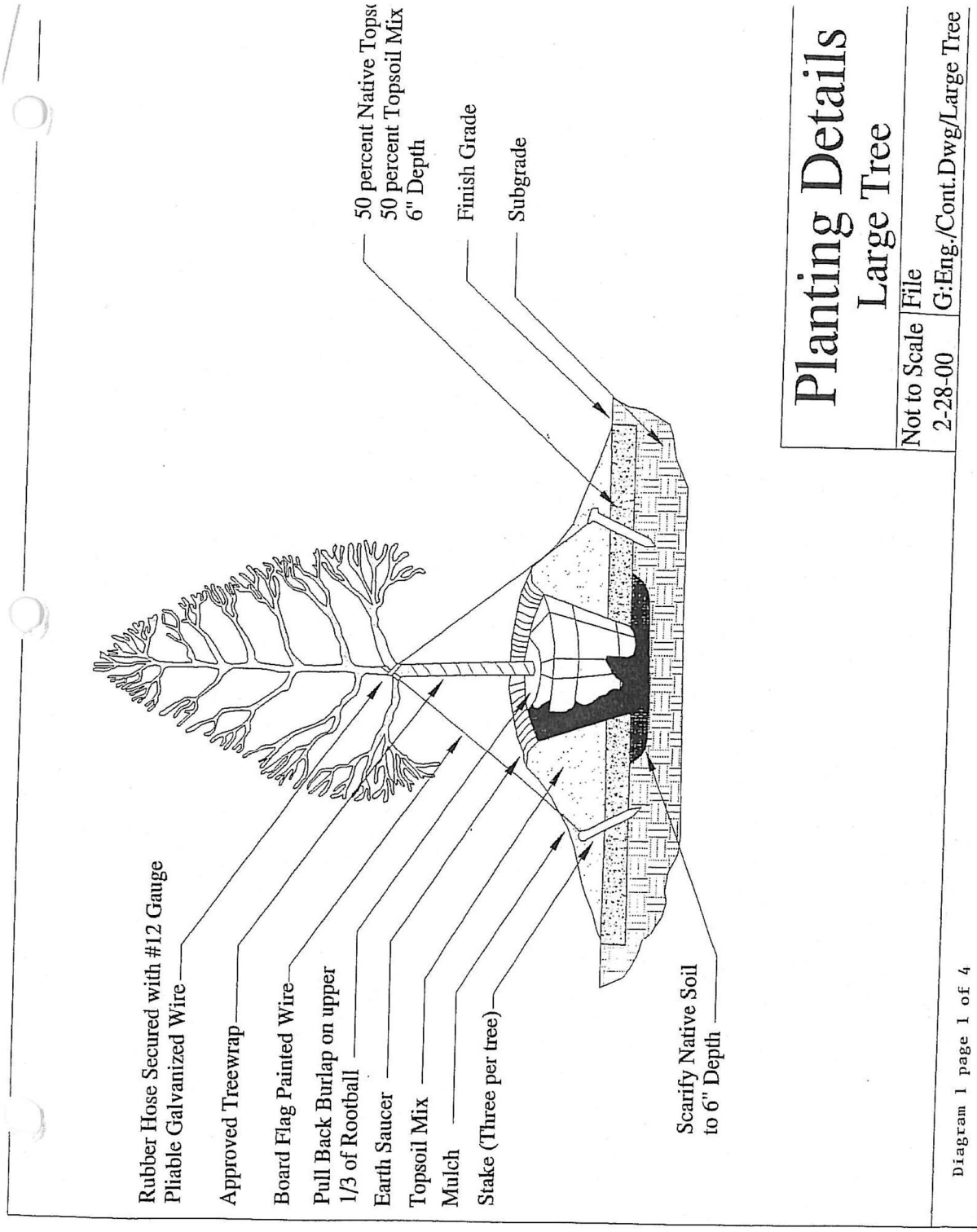
(B) In selecting landscaping to plant or retain, the developer should select vegetation:

(1) Which will not impede the safe movement of motor vehicles on the site and the adjacent street system.

(2) Whose root system will do the least damage to sidewalks, street surfaces, vehicle accommodation areas, and water, sewer, utility, and storm drainage lines on the site or nearby and

(3) Which will not impose an undue burden on street cleaning.

(C) Unless otherwise stated, the owner or tenant of any property where landscaping is required shall be responsible for the maintenance and continued compliance with this section. Any landscaping installed prior to this ordinance that is neglected or removed shall be replace with landscaping that meets the requirements of this ordinance. (Amended February 28. 2000)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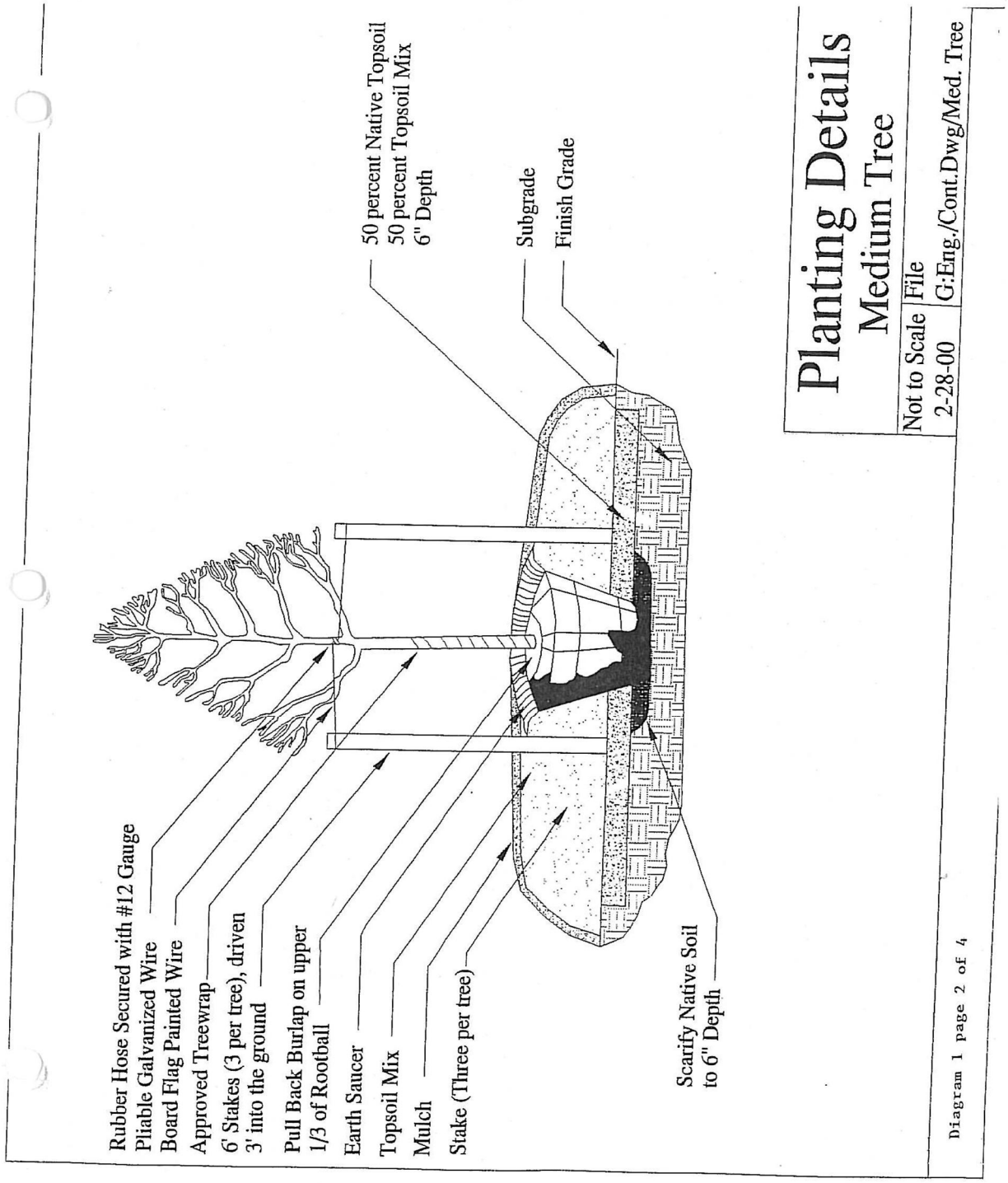
Pliable Galvanized Wire
Approved Treewrap
Board Flag Painted Wire
Pull Back Burlap on upper
1/3 of Rootball
Earth Saucer
Topsoil Mix
Mulch
Stake (Three per tree)
50 percent Native Topso
50 percent Topsoil Mix
6" Depth
Finish Grade
Subgrade
Scarify Native Soil
to 6" Depth
Planting Details
Large Tree
Not to Scale
2-28-00
File
G:Eng./Cont.Dwg/Large Tree
Diagram 1 page 1 of 4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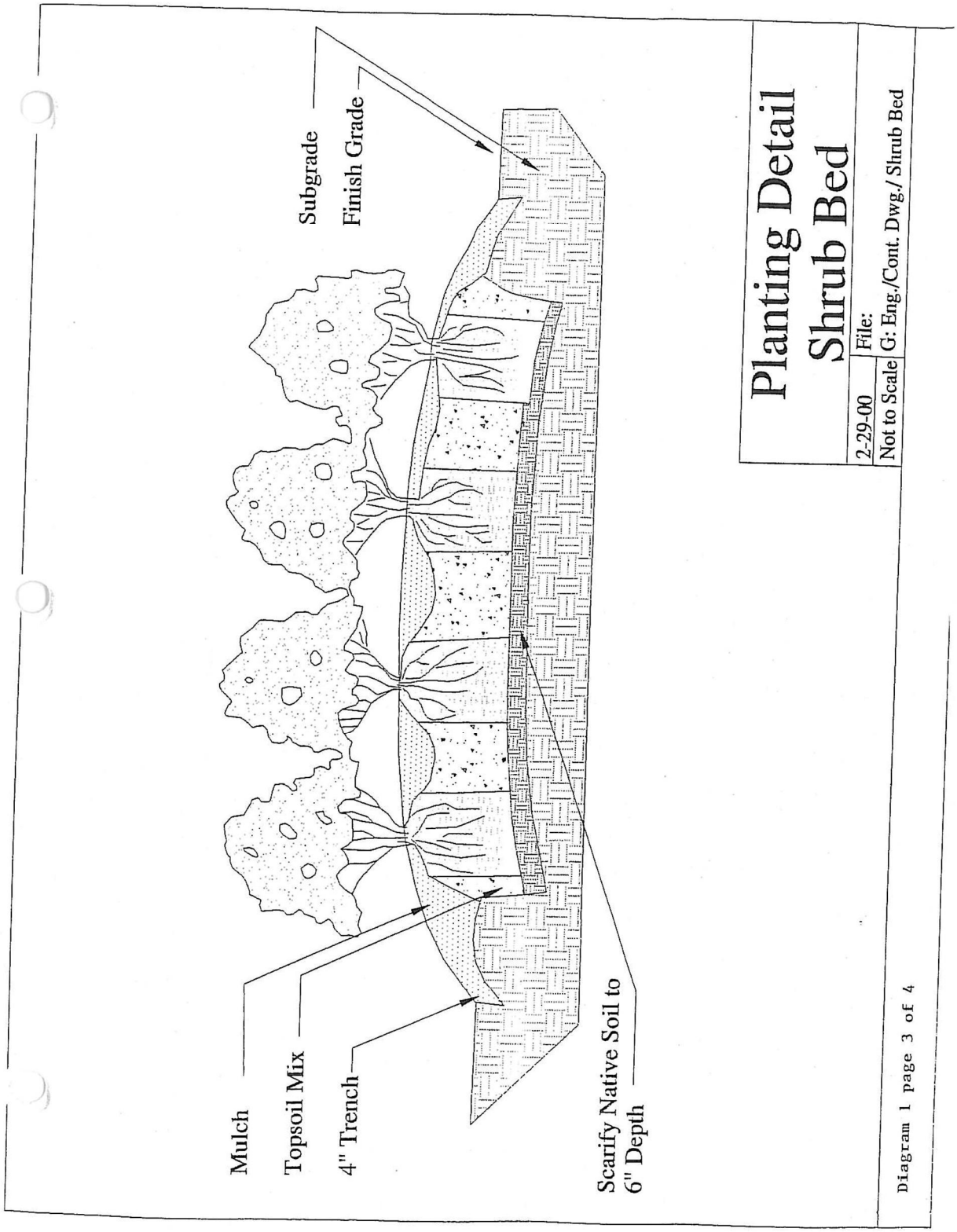
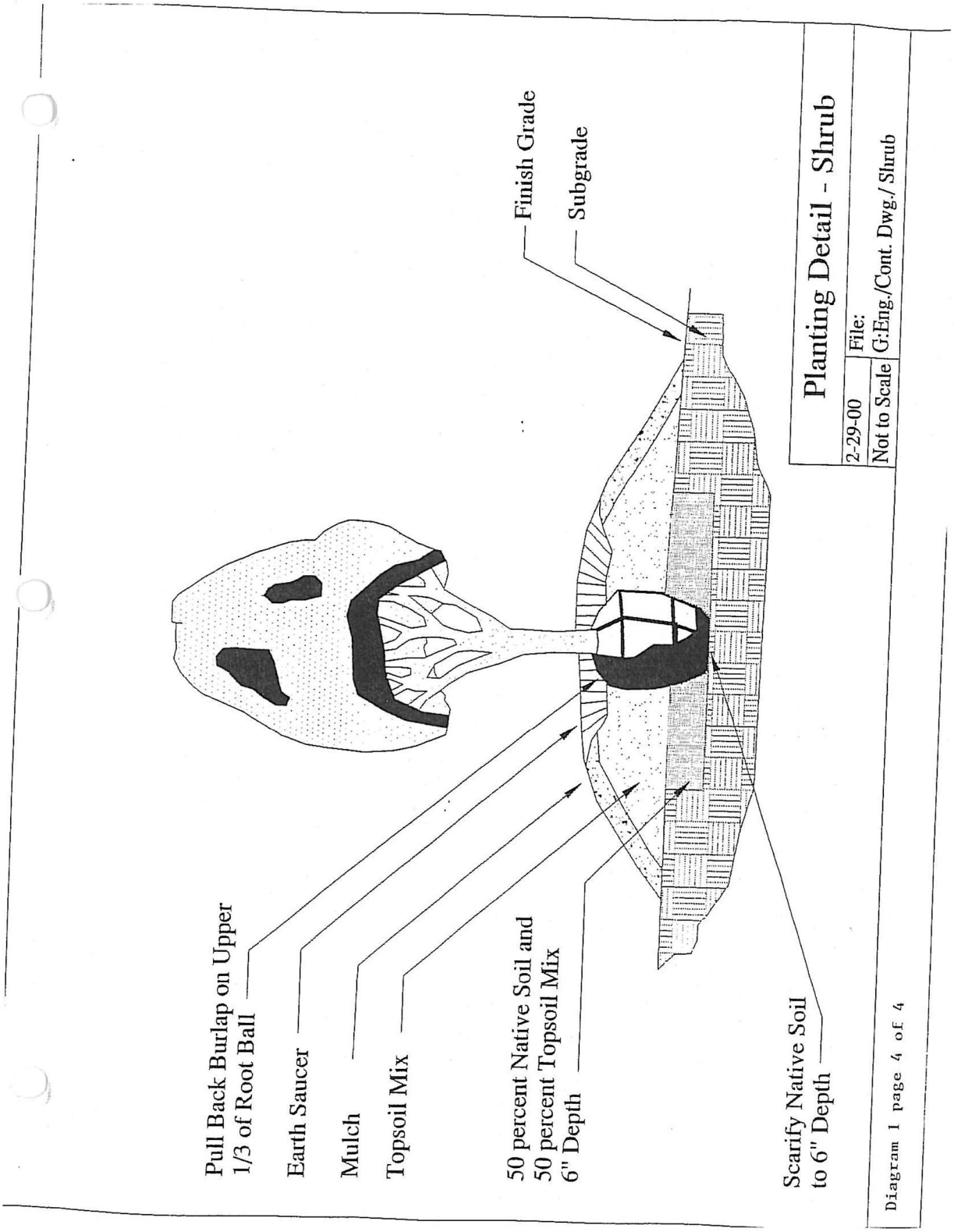
Pliable Galvanized Wire
Board Flag Painted Wire
Approved Treewrap
6' Stakes (3 per tree), driven
3' into the ground
Pull Back Burlap on upper
1/3 of Rootball
Earth Saucer
Topsoil Mix
Mulch
Stake (Three per tree)
50 percent Native Topsoil
50 percent Topsoil Mix
6" Depth
Subgrade
Finish Grade
Scarify Native Soil
to 6" Depth
Planting Details
Medium Tree
Not to Scale
2-28-00
File
G:Eng./Cont.Dwg/Med. Tree
Diagram 1 page 2 of 4


Subgrade
Finish Grade
Mulch
Topsoil Mix
4" Trench
Scarify Native Soil to
6" Depth
Planting Detail
Shrub Bed
2-29-00
File:
Not to Scale
G: Eng./Cont. Dwg./ Shrub Bed
Diagram 1 page 3 of 4


Pull Back Burlap on Upper
1/3 of Root Ball
Earth Saucer
Mulch
Topsoil Mix
50 percent Native Soil and
50 percent Topsoil Mix
6" Depth
Finish Grade
Subgrade
Scarify Native Soil
to 6" Depth
Planting Detail - Shrub
2-29-00
File:
Not to Scale
G:Eng./Cont. Dwg./ Shrub
Diagram 1 page 4 of 4

TREE LIST

Small Understory Trees

Common Name	Height	Spread	Ht/W Ratio	Sun or Shade	Growth Rate
Kousa Dogwood	12	10	1.20	N; P;	5
Smoketree	12	11	1.09	N	5
Serviceberry	15	11	1.36	N; P;	5
Japanese Maple	17	12	1.42	P;	1
Crepe-Myrtle	20	10	2.00	N	5
Flowering Crab-Apple	20	15	1.33	N	5
Japanese Cherry	20	17	1.18	N; P;	5
Saucer Magnolia	20	20	1.00	N; P;	5
Sourwood	22	12	1.83	N; P; H;	1
Flowering Dogwood	22	17	1.29	P	5
Myrtle-Leaved Holly	23	8	2.88	P	5
Golden-Rain Tree	25	17	1.47	N; P;	7
Sour Cherry	25	17	1.47	N; P;	5
Franklinia	25	17	1.47	N	3
American Hornbeam	25	17	1.47	N; P;	1
Eastern Redbud	25	18	1.39	N; P;	3
Carolina Cherry-laurel	25	18	1.39	N; P;	9
European White Birch	30	12	2.50	N;	7
American Holly	30	15	2.00	N; P;	4
Mountain Silverbell	30	18	1.50	P; H;	3
Callery Pear	30	20	1.20	N; P;	9
Yoshino Cherry	30	25	1.20	N	9
Sargent Cherry	50	35	1.43	N	5

Large Street / Shade

Common Name	Height	Spread	Ht/W Ratio	Sun or Shade	Growth Rate
River Birch	30	18	1.67	P	9
Littleleaf Linden	40	33	1.21	N; P;	3
Live Oak	40	40	1.00	N; P;	1
Red Maple	45	30	1.50	N; P; S;	9
Black Tupelo	50	25	2.00	N; P; H;	5
Japanese Zelkova	55	45	1.22	N; P;	7
Eastern Red Oak	60	50	1.20	N; P;	9
Honeylocust	62	33	1.88	N	5
Water Oak	62	35	1.77	N; P;	7
Sugar Maple	62	35	1.77	N; P;	1
Willow Oak	70	35	2.00	N;	7
Pin Oak	70	45	1.56	N; P;	9

Large Street / Shade – CONTINUED

Common Name	Height	Spread	Ht/W Ratio	Sun or Shade	Growth Rate
Scarlet Oak	70	45	1.56	N;	9
Beech	70	50	1.40	N;	1
American Linden	70	55	1.27	N; P;	9
Norway Maple	70	60	1.17	N;	5
White Ash	70	60	1.17	N;	7
Bald Cypress	75	25	3.00	N; P;	1
Sweet-Gum	80	62	1.29	N; P;	3
White Oak	80	70	1.14	N; P;	1
London Plane-Tree	85	60	1.42	N; P;	9
Sycamore	85	70	1.21	N; P;	9
Tulip-Tree	90	35	2.57	N	7
Chinese Elm					
Ginko (male)					
Washington Hawthorne					

Section 604A. Flood Damage Prevention Ordinance (Adopted 3/26/2007)

SECTION 604A.1 STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES.

SECTION 604A.1.1 STATUTORY AUTHORIZATION.

The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3, 5, and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare.

SECTION 604A.1.2 FINDINGS OF FACT.

(a) The flood prone areas within the jurisdiction of the City of Henderson are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.

(b) These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities and by the occupancy in flood prone areas of uses vulnerable to floods or other hazards.

SECTION 604A.1.3 STATEMENT OF PURPOSE.

It is the purpose of this ordinance to promote public health, safety, and general welfare and to minimize public and private losses due to flood conditions within flood prone areas by provisions designed to:

(a) restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion hazards or that result in damaging increases in erosion, flood heights or velocities;

(a) require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;

(b) control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of flood waters;

(c) control filling, grading, dredging, and all other development that may increase erosion or flood damage; and

(d) prevent or regulate the construction of flood barriers that will unnaturally divert floodwaters or which may increase flood hazards to other lands.

SECTION 604A.1.4 OBJECTIVES.

The objectives of this ordinance are:

(a) to protect human life, safety, and health;

(b) to minimize expenditure of public money for costly flood control projects;

(c) to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

(d) to minimize prolonged business losses and interruptions;

(e) to minimize damage to public facilities and utilities (i.e. water and gas mains, electric, telephone, cable and sewer lines, streets, and bridges) that are located in flood prone areas;

(f) to help maintain a stable tax base by providing for the sound use and development of flood prone areas; and

(g) to ensure that potential buyers are aware that property is in a Special Flood Hazard Area.

SECTION 604A.2 DEFINITIONS.

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

ñAccessory Structure (Appurtenant Structure)ò means a structure located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory structures. Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.

ñAddition (to an existing building)ò means an extension or increase in the floor area or height of a building or structure.

ñAppealò means a request for a review of the Floodplain Administratorôs interpretation of any provision of this ordinance.

ñArea of Special Flood Hazardò see ñSpecial Flood Hazard Area (SFHA)ò.

ñBasementò means any area of the building having its floor subgrade (below ground level) on all sides.
ñBase Floodò means the flood having a one (1) percent chance of being equaled or exceeded in any given year.

ñBase Flood Elevation (BFE)ò means a determination of the water surface elevations of the base flood as published in the Flood Insurance Study. When the BFE has not been provided in a ñSpecial Flood Hazard Areaò, it may be obtained from engineering studies available from a Federal, State, or other source using FEMA approved engineering methodologies. This elevation, when combined with the ñFreeboardò, establishes the ñRegulatory Flood Protection Elevationò.

ñBreakaway Wallò means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

ñBuildingò see ñStructureò.

ñChemical Storage Facilityò means a building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products.

ñDevelopmentò means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

ñDisposalò means, as defined in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

ñElevated Buildingò means a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

ñEncroachmentò means the advance or infringement of uses, fill, excavation, buildings, structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

ñExisting Manufactured Home Park or Manufactured Home Subdivisionò means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) was completed before the effective date of the initial floodplain management regulations adopted by the community.

ñFloodò or ñFloodingò means a general and temporary condition of partial or complete inundation of normally dry land areas from:

(1) the overflow of inland or tidal waters; and/or
(2) the unusual and rapid accumulation of runoff of surface waters from any source.

ñFlood Insuranceò means the insurance coverage provided under the National Flood Insurance Program.

ñFlood Insurance Rate Map (FIRM)ò means an official map of a community, issued by the Federal Emergency Management Agency, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

ñFlood Insurance Study (FIS)ò means an examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data in a community issued by the Federal Emergency Management Agency. The Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs).

ñFlood Prone Areaò see ñFloodplainò.

ñFloodplainò means any land area susceptible to being inundated by water from any source.

ñFloodplain Administratorò is the individual appointed to administer and enforce the floodplain management regulations.

ñFloodplain Development Permitò means any type of permit that is required in conformance with the provisions of this ordinance, prior to the commencement of any development activity.

ñFloodplain Managementò means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

ñFloodplain Management Regulationsò means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power. This term describes Federal, State or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.

ñFloodproofingò means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.

ñFloodwayò means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

ñFlood Zoneò means a geographical area shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.

ñFreeboardò means the height added to the Base Flood Elevation (BFE) to account for the many unknown factors that could contribute to flood heights greater that the height calculated for a

selected size flood and floodway conditions, such as wave action, blockage of bridge openings, and the hydrological effect of urbanization of the watershed. The Base Flood Elevation plus the freeboard establishes the ñRegulatory Flood Protection Elevationò.

ñFunctionally Dependent Facilityò means a facility which cannot be used for its intended purpose unless it is located in close proximity to water, limited to a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales, or service facilities.

ñHazardous Waste Facilityò means, as defined in NCGS 130, Article 9, a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.

ñHighest Adjacent Grade (HAG)ò means the highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.

ñHistoric Structureò means any structure that is:

(a) listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register;

(b) certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

(c) individually listed on a local inventory of historic landmarks in communities with a ñCertified Local Government (CLG) Programò; or

(d) certified as contributing to the historical significance of a historic district designated by a community with a ñCertified Local Government (CLG) Programò.

Certified Local Government (CLG) Programs are approved by the US Department of the Interior in cooperation with the North Carolina Department of Cultural Resources through the State Historic Preservation Officer as having met the requirements of the National Historic Preservation Act of 1966 as amended in 1980.

ñLowest Adjacent Grade (LAG)ò means the elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.

ñLowest Floorò means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building's lowest floor, provided that such an enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.
ñManufactured Homeò means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when

connected to the required utilities. The term ñmanufactured homeò does not include a ñrecreational vehicleò.

ñManufactured Home Park or Subdivisionò means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

ñMarket Valueò means the building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent certified appraisal: replacement cost depreciated for age of building and quality of construction (Actual Cash Value): or adjusted tax assessed values.

ñMean Sea Leveòò means, for purposes of this ordinance, the National Geodetic Vertical Datum (NGVD) as corrected in 1929, the North American Vertical Datum (NAVD) as corrected in 1988, or other vertical control datum used as a reference for establishing varying elevations within the floodplain, to which Base Flood Elevations (BFEs) shown on a FIRM are referenced. Refer to each FIRM panel to determine datum used.

ñNew Constructionò means structures for which the ñstart of constructionò commenced on or after the effective date of the initial floodplain management regulations for that site and includes any subsequent improvements to such structures.

ñNon-Encroachment Areaò means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot as designated in the Flood Insurance Study report.

ñPost-FIRMò means construction or other development for which the ñstart of constructionò occurred on or after the effective date of the initial Flood Insurance Rate Map for the site.

ñPre-FIRMò means construction or other development for which the ñstart of constructionò occurred before the effective date of the initial Flood Insurance Rate Map for the site.

ñPrincipally Above Groundò means that at least 51% of the actual cash value of the structure is above ground.

ñPublic Safetyò and/or ñNuisanceò means anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

ñRecreational Vehicle (RV)ò means a vehicle, which is:

(a) built on a single chassis;
(b) 400 square feet or less when measured at the largest horizontal projection;
(c) designed to be self-propelled or permanently towable by a light duty truck; and
(d) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

ñReference Levelò is the top of the lowest floor or the bottom of the lowest attendant utility, whichever is lower, for structures within Special Flood Hazard Areas designated as Zone A1-30, AE, A, A99 or AO. The reference level is the bottom of the lowest horizontal structural member of the lowest floor for structures within Special Flood Hazard Areas designated as zone VE.

ñRegulatory Flood Protection Elevationò means the ñBase Flood Elevationò plus the ñFreeboardò. In ñSpecial Flood Hazard Areasò where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE plus 2 feet of freeboard. In ñSpecial Flood Hazard Areasò where no BFE has been established, this elevation shall be at least 2 feet above the highest adjacent grade.

ñRemedy a Violationò means to bring the structure or other development into compliance with State and community floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

ñRivernineò means relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.

ñSalvage Yardò means any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to vehicles, appliances and related machinery.

ñSolid Waste Disposal Facilityò means, as defined in NCGS 130A-290(a)(35), any facility involved in the disposal of solid waste.

ñSolid Waste Disposal Siteò means, as defined in NCGS 130A-290(a)(36), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.

ñSpecial Flood Hazard Area (SFHA)ò means the land in the floodplain subject to a one (1) percent or greater chance of being flooded in any given year, as determined in Article 3 Section B of this ordinance.

ñStart of Constructionò includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work

beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

ñStructureò means a walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground.

ñSubstantial Damageò means damage of any origin sustained by a structure during any one-year period whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. See definition of ñsubstantial improvementò. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

ñSubstantial Improvementò means any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one-year period for which the cost equals or exceeds 50 percent of the market value of the structure before the ñstart of constructionò of the improvement. This term includes structures which have incurred ñsubstantial damageò, regardless of the actual repair work performed. The term does not, however, include either:

(a) any correction of existing violations of State or community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or

(b) any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

ñVarianceò is a grant of relief from the requirements of this ordinance.

ñViolationò means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles 4 and 5 is presumed to be in violation until such time as that documentation is provided.

ñWater Surface Elevation (WSE)ò means the height, in relation to mean sea level of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

ñWatercourseò means a lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

SECTION 604A.3 GENERAL PROVISIONS.

SECTION 604A.3.1 LANDS TO WHICH THIS ORDINANCE APPLIES.

This ordinance shall apply to all Special Flood Hazard Areas within the jurisdiction, including Extra-Territorial Jurisdictions (ETJs) if applicable, of_the City of Henderson and within the jurisdiction of any other community whose governing body agrees, by resolution, to such applicability.

SECTION 604A.3.2 BASIS FOR ESTABLISHING THE SPECIAL FLOOD HAZARD AREAS.

The Special Flood Hazard Areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its Flood Insurance Study (FIS) and its accompanying Flood Insurance Rate Maps (FIRM), for Vance County_ dated April 16, 2007, which are adopted by reference and declared to be a part of this ordinance.

SECTION 604A.3.3 ESTABLISHMENT OF FLOODPLAIN DEVELOPMENT PERMIT.

A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities within Special Flood Hazard Areas determined in accordance with the provisions of Article 3 Section B of this ordinance.

SECTION 604A.3.4 COMPLIANCE.

No structure or land shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this ordinance and other applicable regulations.

SECTION 604A.3.5 ABROGATION AND GREATER RESTRICTIONS.

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

SECTION 604A.3.6 INTERPRETATION.

In the interpretation and application of this ordinance, all provisions shall be:

(a) considered as minimum requirements;
(b) liberally construed in favor of the governing body; and
(c) deemed neither to limit nor repeal any other powers granted under State statutes.

SECTION 604A.3.7 WARNING AND DISCLAIMER OF LIABILITY.

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur. Actual flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the Special Flood Hazard Areas or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of the City of Henderson or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

SECTION 604A.3.8 PENALTIES FOR VIOLATION.

Violation of the provisions of this ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than $50.00 or imprisoned for not more than thirty (30) days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the City of Henderson from taking such other lawful action as is necessary to prevent or remedy any violation.

SECTION 604A.4 ADMINISTRATION.

SECTION 604A.4.1 DESIGNATION OF FLOODPLAIN ADMINISTRATOR.

The Planning Director, hereinafter referred to as the ñFloodplain Administratorò, is hereby appointed to administer and implement the provisions of this ordinance.

SECTION 604A.4.2 FLOODPLAIN DEVELOPMENT APPLICATION, PERMIT AND CERTIFICATION REQUIREMENTS.

(a) **Application Requirements.** Application for a Floodplain Development Permit shall be made to the Floodplain Administrator prior to any development activities located within Special Flood Hazard Areas. The following items shall be presented to the Floodplain Administrator to apply for a floodplain development permit:

1. A plot plan drawn to scale which shall include, but shall not be limited to, the following specific details of the proposed floodplain development:

(a) the nature, location, dimensions, and elevations of the area of development/disturbance; existing and proposed structures, utility

systems, grading/pavement areas, fill materials, storage areas, drainage facilities, and other development;

(b) the boundary of the Special Flood Hazard Area as delineated on the FIRM or other flood map as determined in Section 604A.3.2 hereof, or a statement that the entire lot is within the Special Flood Hazard Area;

(c) flood zone(s) designation of the proposed development area as determined on the FIRM or other flood map as determined in Section 604A.3.2.

(d) the boundary of the floodway(s) or non-encroachment area(s) as determined in Section 604A.3.2

(e) the Base Flood Elevation (BFE) where provided as set forth in Section 604A.3.2, or Section 604A.4.3, or Section 604A.5.4;

(f) the old and new location of any watercourse that will be altered or relocated as a result of proposed development;

(g) the certification of the plot plan by a registered land surveyor or professional engineer. ***(OPTIONAL)***

2. Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area including but not limited to:

(a) Elevation in relation to mean sea level of the proposed reference level (including basement) of all structures;

(b) Elevation in relation to mean sea level to which any non-residential structure in Zone AE, A or AO will be flood-proofed; and

(c) Elevation in relation to mean sea level to which any proposed utility systems will be elevated or floodproofed;

3. If floodproofing, a Floodproofing Certificate *(FEMA Form 81-65)* with supporting data and an operational plan that includes, but is not limited to, installation, exercise, and maintenance of floodproofing measures.

4. A Foundation Plan, drawn to scale, which shall include details of the proposed foundation system to ensure all provisions of this ordinance are met. These details include but are not limited to:

(a) The proposed method of elevation, if applicable (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls);

(b) Openings to facilitate automatic equalization of hydrostatic flood forces on walls in accordance with Section 604A.5.2.(d)(3) when solid foundation perimeter walls are used in Zones A, AO, AE, and A1-30;

5. Usage details of any enclosed areas below the lowest floor.

6. Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage;

7. Copies of all other Local, State and Federal permits required prior to floodplain development permit issuance (Wetlands, Endangered Species, Erosion and Sedimentation Control, CAMA, Riparian Buffers, Mining, etc.)

8. Documentation for placement of Recreational Vehicles and/or Temporary Structures, when applicable, to ensure that the provisions of Section 604A.5.2(f & g) hereof are met.

9. A description of proposed watercourse alteration or relocation, when applicable, including an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map (if not shown on plot plan) showing the location of the proposed watercourse alteration or relocation.

(b) **Permit Requirements.** The Floodplain Development Permit shall include, but not be limited to:

1. A description of the development to be permitted under the floodplain development permit.

2. The Special Flood Hazard Area determination for the proposed development in accordance with the available data specified in Section 604A.3.2.

3. The regulatory flood protection elevation required for the reference level and all attendant utilities.

4. The regulatory flood protection elevation required for the protection of all public utilities.

5. All certification submittal requirements with timelines.

6. A statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse, as applicable.

7. The flood openings requirements, if in Zones A, AO, AE or A1-30.

(c) **Certification Requirements.**

1. Elevation Certificates

(a) An Elevation Certificate (FEMA Form 81-31) is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, in relation to mean sea level. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit.

(b) A final as-built Elevation Certificate *(FEMA Form 81-31)* is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

2. Floodproofing Certificate

If non-residential floodproofing is used to meet the regulatory flood protection elevation requirements, a Floodproofing Certificate (FEMA Form 81-65), with supporting data and an operational plan, is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to mean sea level. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data and the operational plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.

3. If a manufactured home is placed within Zone A, AO, AE, or A1-30 and the elevation of the chassis is more than 36 inches in height above grade, an engineered foundation

certification is required in accordance with the provisions of Section 604A.5.2.3.2 hereof.

4. If a watercourse is to be altered or relocated, a description of the extent of watercourse alteration or relocation; a professional engineerôs certified report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation shall all be submitted by the permit applicant prior to issuance of a floodplain development permit.

5. Certification Exemptions. The following structures, if located within Zone A, AO, AE or A1-30, are exempt from the elevation/floodproofing certification requirements specified in items (a) and (b) of this subsection:

   (a) Recreational Vehicles meeting requirements of Section 604A.5.2.(f).1;

   (b) Temporary Structures meeting requirements of Section 604A.5.2.(g); and

   (c) Accessory Structures less than 150 square feet meeting requirements of Section 604A.5.2(h) hereof.

SECTION 604A.4.3 DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR.

The Floodplain Administrator shall perform, but not be limited to, the following duties:

(a) Review all floodplain development applications and issue permits for all proposed development within Special Flood Hazard Areas to assure that the requirements of this ordinance have been satisfied.

(b) Advise permittee if additional Federal or State permits (Wetlands, Endangered Species, Erosion and Sedimentation Control, CAMA, Riparian Buffers, Mining, etc.) are required, and assure that copies of such permits are provided and maintained on file with the floodplain development permit.

(c) Notify adjacent communities and the North Carolina Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).

(d) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is maintained.

(e) Prevent encroachments into floodways and non-encroachment areas unless the certification and flood hazard reduction provisions of Section 604A.5.6 are met.

(f) Obtain actual elevation (in relation to mean sea level) of the reference level (including basement) and all attendant utilities of all new and substantially improved structures, in accordance with Section 604A.4.2.(c).

(g) Obtain actual elevation (in relation to mean sea level) to which all new and substantially improved structures and utilities have been floodproofed, in accordance with the provisions of Section 604A.4.2.(c).

(h) Obtain actual elevation (in relation to mean sea level) of all public utilities in accordance with the provisions of Section 604A.4.2.(c).

(i) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with the provisions of Section 604A.4.2.(c) and Section 604A.5.2.(b).

(j) Where interpretation is needed as to the exact location of boundaries of the Special Flood Hazard Areas, floodways, or non-encroachment areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this Article.

(k) When Base Flood Elevation (BFE) data has not been provided in accordance with Article 3, Section B, obtain, review, and reasonably utilize any Base Flood Elevation (BFE) data available from a Federal, State, or other source, including data developed pursuant to Section 604A.5.4(b)(2).,in order to administer the provisions of this ordinance.

(l) When Base Flood Elevation (BFE) data is provided but no floodway nor non-encroachment area data has been provided in accordance with Section 604A.3.2. obtain, review, and reasonably utilize any floodway data or non-encroachment area data available from a Federal, State, or other source in order to administer the provisions of this ordinance.

(m) Permanently maintain all records that pertain to the administration of this ordinance and make these records available for public inspection, recognizing that such information may be subject to the Privacy Act of 1974, as amended.

(n) Make on-site inspections of work in progress. As the work pursuant to a floodplain development permit progresses, the Floodplain Administrator shall make as many inspections of the work as may be necessary to ensure that the work is being carried out according to the provisions of the local ordinance and the terms of the permit. In exercising this power, the Floodplain Administrator has a right, upon presentation of proper credentials, to enter on any premises within the jurisdiction of the community at any reasonable hour for the purposes of inspection or other enforcement action.

(o) Issue stop-work orders as required. Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the Floodplain Administrator may order the work to be immediately stopped. The stop-work order shall be

in writing and directed to the person doing or in charge of the work. The stop-work order shall state the specific work to be stopped, the specific reason(s) for the stoppage, and the condition(s) under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.

(p) Revoke floodplain development permits as required. The Floodplain Administrator may revoke and require the return of the floodplain development permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, and specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of an applicable State or local law may also be revoked.

(q) Make periodic inspections throughout the special flood hazard areas within the jurisdiction of the community. The Floodplain Administrator and each member of his or her inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action.

(r) Follow through with corrective procedures of Section 604A.4.4 hereof.

(s) Review, provide input, and make recommendations for variance requests.

(t) Maintain a current map repository to include, but not limited to, the FIS Report, FIRM and other official flood maps and studies adopted in accordance with Section 604A.3.2 hereof, including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.

(u) Coordinate revisions to FIS reports and FIRMs, including Letters of Map Revision Based on Fill (LOMR-F) and Letters of Map Revision (LOMR).

SECTION 604A.4.4 <u>CORRECTIVE PROCEDURES</u>.

(a) Violations to be Corrected: When the Floodplain Administrator finds violations of applicable State and local laws, it shall be his or her duty to notify the owner or occupant of the building of the violation. The owner or occupant shall immediately remedy each of the violations of law cited in such notification.

(b) Actions in Event of Failure to Take Corrective Action: If the owner of a building or property shall fail to take prompt corrective action, the Floodplain Administrator shall give the owner written notice, by certified or registered mail to the ownerôs last known address or by personal service, stating:

1. that the building or property is in violation of the floodplain management regulations;

2. that a hearing will be held before the Floodplain Administrator at a designated place and time, not later than ten (10) days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and

3. that following the hearing, the Floodplain Administrator may issue an order to alter, vacate, or demolish the building; or to remove fill as applicable.

(c) Order to Take Corrective Action: If, upon a hearing held pursuant to the notice prescribed above, the Floodplain Administrator shall find that the building or development is in violation of the Flood Damage Prevention Ordinance, they shall issue an order in writing to the owner, requiring the owner to remedy the violation within a specified time period, not less than sixty (60) calendar days, nor more than 180 calendar days. Where the Floodplain Administrator finds that there is imminent danger to life or other property, they may order that corrective action be taken in such lesser period as may be feasible.

(d) Appeal: Any owner who has received an order to take corrective action may appeal the order to the Zoning Board of Adjustment by giving notice of appeal in writing to the Floodplain Administrator and the clerk within ten (10) days following issuance of the final order. In the absence of an appeal, the order of the Floodplain Administrator shall be final. The Zoning Board of Adjustment shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

(e) Failure to Comply with Order: If the owner of a building or property fails to comply with an order to take corrective action for which no appeal has been made or fails to comply with an order of the governing body following an appeal, the owner shall be guilty of a misdemeanor and shall be punished at the discretion of the court.

SECTION 604A.4.5. <u>VARIANCE PROCEDURES</u>.

(a) The Zoning Board of Adjustment as established by the City of Henderson, hereinafter referred to as the ñappeal boardò, shall hear and decide requests for variances from the requirements of this ordinance.

(b) Any person aggrieved by the decision of the appeal board may appeal such decision to the Court, by filing a writ of Certiorari, as provided in Chapter 7A of the North Carolina General Statutes.

(c) Variances may be issued for:

(1) the repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and that the variance is the minimum necessary to preserve the historic character and design of the structure.

(2) functionally dependent facilities if determined to meet the definition as stated in Section 604A.2 hereof, provided provisions of Section 604A.4.5 (1),(2),(3), and (5) have been satisfied, and such facilities are protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

(3) any other type of development, provided it meets the requirements of this Section.

(d) In passing upon variances, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

(1) the danger that materials may be swept onto other lands to the injury of others;

(2) the danger to life and property due to flooding or erosion damage;

(3) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

(4) the importance of the services provided by the proposed facility to the community;

(5) the necessity to the facility of a waterfront location as defined under Section 604A.2 as a functionally dependent facility, where applicable;

(6) the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;

(7) the compatibility of the proposed use with existing and anticipated development;

(8) the relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

(9) the safety of access to the property in times of flood for ordinary and emergency vehicles;

(10) the expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and

(11) the costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

(e) A written report addressing each of the above factors shall be submitted with the application for a variance.

(f) Upon consideration of the factors listed above and the purposes of this ordinance, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes and objectives of this ordinance.

(g) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the Base Flood Elevation (BFE) and the elevation to which the structure is to be built and that such construction below the Base Flood Elevation increases risks to life and property, and that the issuance of a variance to construct a structure below the Base Flood Elevation will result in increased premium rates for flood insurance up to $25 or more per $100 of insurance coverage. Such notification shall be maintained with a record of all variance actions, including justification for their issuance.

(h) The Floodplain Administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency and the State of North Carolina upon request.

(i) Conditions for Variances:

1. Variances shall not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations, or ordinances.

2. Variances shall not be issued within any designated floodway or non-encroachment area if the variance would result in any increase in flood levels during the base flood discharge.

3. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

4. Variances shall only be issued prior to development permit approval.

5. Variances shall only be issued upon:

(a) a showing of good and sufficient cause;

(b) a determination that failure to grant the variance would result in exceptional hardship; and

(c) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(j) A variance may be issued for solid waste disposal facilities, hazardous waste management facilities, salvage yards, and chemical storage facilities that are located in Special Flood Hazard Areas provided that all of the following conditions are met.

(1) The use serves a critical need in the community.

(2) No feasible location exists for the use outside the Special Flood Hazard Area.

(3) The reference level of any structure is elevated or floodproofed to at least the regulatory flood protection elevation.

(4) The use complies with all other applicable Federal, State and local laws.

(5) The City of Henderson has notified the Secretary of the North Carolina Department of Crime Control and Public Safety of its intention to grant a variance at least thirty (30) calendar days prior to granting the variance.

SECTION 604A.5 PROVISIONS FOR FLOOD HAZARD REDUCTION.

SECTION 604A.5.1 GENERAL STANDARDS.

In all Special Flood Hazard Areas the following provisions are required:

(a) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.

(b) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

(c) All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.

(d) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding to the Regulatory Flood Protection Elevation. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, hot water heaters, and electric outlets/switches.

(e) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

(f) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into flood waters.

(g) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

(h) Any alteration, repair, reconstruction, or improvements to a structure, which is in compliance with the provisions of this ordinance, shall meet the requirements of ñnew constructionò as contained in this ordinance.

(i) Nothing in this ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the regulatory flood protection elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.

(j) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Section 604A.4.5(j). A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the regulatory flood protection elevation and certified according to the provisions of Section 604A.4.2(c) hereof.

(k) All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.

(l) All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.

(m) All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.

(n) All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.

(o) When a structure is partially located in a special flood hazard area, the entire structure shall meet the requirements for new construction and substantial improvements.

(p) When a structure is located in multiple flood hazard zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest base flood elevation shall apply.

SECTION 604A.5.2 <u>SPECIFIC STANDARDS</u>.

In all Special Flood Hazard Areas where Base Flood Elevation (BFE) data has been provided, as set forth in Section 604A.3.2 or Section 604A.5.4, the following provisions, in addition to the provisions of Section 604A.5.1 hereof, are required:

(a) Residential Construction. New construction and substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation, as defined in Section 604A.2 hereof.

(b) Non-Residential Construction. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the regulatory flood protection elevation, as defined in Section 604A.2. hereof. Structures located in A, AE, AH, AO, and A1-30 Zones may be floodproofed to the regulatory flood protection elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the regulatory flood protection elevation are watertight with walls substantially impermeable to the passage of water, using structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. For AO Zones, the floodproofing elevation shall be in accordance with Section 604A.5.8(c). A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Section 604A.4.2 (c) along with the operational and maintenance plans.

(c) Manufactured Homes.

1. New and replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the regulatory flood protection elevation, as defined in Section 604A.2. hereof.

2. Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by certified engineered foundation systems or in accordance with the current edition of the State of North Carolina Regulations for Manufactured Homes, adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.

3. All enclosures or skirting below the lowest floor shall meet the requirements of Section 604A.5.2(d).

4. An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the Floodplain Administrator and the local Emergency Management coordinator.

(d) Elevated Buildings. Fully enclosed areas of new construction and substantially improved structures, which are below the lowest floor:

1. shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;

2. shall be constructed entirely of flood resistant materials at least to the regulatory flood protection elevation;

3. shall include, in Zones A, AO, AE, and A1-30, flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria;

   (a) A minimum of two flood openings on different sides of each enclosed area subject to flooding;

   (b) The total net area of all flood openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding;

   (c) If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;

   (d) The bottom of all required flood openings shall be no higher than one (1) foot above the adjacent grade;

   (e) Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and

   (f) Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings.

(e) Additions/Improvements.

(1) Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

(a) not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure.

(b) a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

(2) Additions to post-FIRM structures with no modifications to the existing structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction.

(3) Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

(a) not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction.

(b) a substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.

(f) Recreational Vehicles. Recreational vehicles shall either:

1. be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities, and has no permanently attached additions); or

2. meet all the requirements for new construction.

(g) Temporary Non-Residential Structures. Prior to the issuance of a floodplain development permit for a temporary structure, the applicant must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification**.** The following information shall be submitted in writing to the Floodplain Administrator for review and written approval;

1. a specified time period for which the temporary use will be permitted. Time specified should not exceed three (3) months, renewable up to one (1) year;

2. the name, address, and phone number of the individual responsible for the removal of the temporary structure;

3. the time frame prior to the event at which a structure will be removed (i.e., minimum of seventy-two (72) hours before landfall of a hurricane or immediately upon flood warning notification);

4. a copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and

5. designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.

(h) Accessory Structures. When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area, the following criteria shall be met:

1. Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);

2. Accessory structures shall not be temperature-controlled;

3. Accessory structures shall be designed to have low flood damage potential;

4. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;

5. Accessory structures shall be firmly anchored in accordance with the provisions of Section 604A.5.1(a) hereof;

6. All service facilities such as electrical shall be installed in accordance with the provisions of Section 604A.5.1(d); and

7. Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided in conformance with the provisions of Section 604A.5.2.(d)(3).

An accessory structure with a footprint less than 150 square feet that satisfies the criteria outlined above does not require an elevation or floodproofing certificate. Elevation or floodproofing certifications are required for all other accessory structures in accordance with Section 604A.4.2.(c) hereof.

SECTION 604A.5.3. RESERVED.

SECTION 604A.5.4 STANDARDS FOR FLOODPLAINS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS.

Within the Special Flood Hazard Areas designated as Approximate Zone A and established in Section 604A.3.2, where no Base Flood Elevation (BFE) data is available, the following provisions, in addition to the provisions of Sections 604A.5.1 and Sections 604A.5.2, shall apply:

(a) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty (20) feet each side from top of bank or five times the width of the stream, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

(b) The BFE used in determining the regulatory flood protection elevation shall be determined based on the following criteria:

1. When Base Flood Elevation (BFE) data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this ordinance and shall be elevated or floodproofed in accordance with standards in Sections 604A.5.1 and 604A.5.2

2. All subdivision, manufactured home park and other development proposals shall provide Base Flood Elevation (BFE) data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such Base Flood Elevation (BFE) data shall be adopted by reference in accordance with Section 604A.3.2. to be utilized in implementing this ordinance.

3. When Base Flood Elevation (BFE) data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated to or above the regulatory flood protection elevation, as defined in Section 604A.2.

SECTION 604A.5.5 STANDARDS FOR RIVERINE FLOODPLAINS WITH BFE BUT WITHOUT ESTABLISHED FLOODWAYS OR NON-ENCROACHMENT AREAS.

Along rivers and streams where BFE data is provided by FEMA or is available from another source but neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:

(a) Standards of Sections 604A.5.1 and 604A.5.2 hereof; and

(b) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

SECTION 604A.5.6 FLOODWAYS AND NON-ENCROACHMENT AREAS.

Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in Section 604A.3.2. The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in Sections 604A.5.1 and 604A.5.2 shall apply to all development within such areas:

(a) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless:

1. it is demonstrated that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the Floodplain Administrator prior to issuance of floodplain development permit, or

2. a Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained upon completion of the proposed encroachment.

(b) If Section 604A.5.6(2) is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this ordinance.

(c) No manufactured homes shall be permitted, except replacement manufactured homes in an existing manufactured home park or subdivision, provided the following provisions are met:

1. the anchoring and the elevation standards of Section 604A.5.2(c); and

2. the no encroachment standard of Section 604A.5.6(2).

SECTION 604A.6 LEGAL STATUS PROVISIONS.

SECTION 604A.6.1 **EFFECT ON RIGHTS AND LIABILITIES UNDER THE EXISTING FLOOD DAMAGE PREVENTION ORDINANCE.**

This ordinance in part comes forward by re-enactment of some of the provisions of the flood damage prevention ordinance enacted August 4, 1987 as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this ordinance shall not affect any action, suit or proceeding instituted or pending. All provisions of the flood damage prevention ordinance of the City of Henderson enacted on August 4, 1987, as amended, which are not reenacted herein are repealed.

SECTION 604A.6.2 **EFFECT UPON OUTSTANDING FLOODPLAIN DEVELOPMENT PERMITS.**

Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a floodplain development permit has been granted by the Floodplain Administrator or his or her authorized agents before the time of passage of this ordinance; on March 26, 2007, provided, however, that when construction is not begun under such outstanding permit within a period of six (6) months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this ordinance.

Section 605A. Design Standards Relating to Streets

Except where or to the extent that the permit using issuing authority determines that the costs of compliance with the standards set out herein would be unreasonably burdensome or the actions required to effectuate compliance impossible, any new or proposed non-residential, principal use structure with a gross floor area of greater than 2,000 square feet, or, any addition to a non-residential, principal use structure which will increase the existing floor area of the principal use structure(s) on said lot by more than 25% and 500 square feet, and the number of trips per day to and from the lot by 50 trips, or, any change of use of an existing structure or any other new or proposed structure or addition that will increase the number of trips per day by over 25% and 50 trips per day shall comply with the standards for street set out in Section 4.4 of Article 4 of the Subdivision Regulations.

Section 606A. Design Standards Relating to Water and Sewer

Except where to the extent that the permit issuing authority determines that the cost of compliance with the standards set out herein would be unreasonably burdensome or the actions required to effectuate compliance impossible, any new or proposed non-residential structure with a gross floor area greater than 2,000 square feet, or, any addition to a non-residential, principal use structure that will increase the existing floor area of the non-residential, principal use structure(s) on the lot by more than 25% and 500 square feet shall comply with the standards for water and sewer facilities as set out in Section 4.5 of Article 4 Subdivision Regulations.

Section 607A. Design Standards Relating to Surface Drainage

Except where or to the extent that the permit issuing authority determines that the cost of compliance with the standards set out herein would be unreasonably burdensome or the actions required to effectuate compliance impossible, any non-residential development which will increase the amount of impervious surface or amount of building floor area on a lot by 25% or more and such that the total impervious surface on the lot shall exceed 10,000 square feet, shall comply with the standards of Section 4.6 of Article 4 of the Subdivision Regulations addressing surface water drainage.

Section 608A. Design Standards Relating to Street Lighting

Except where or to the extent that the permit issuing authority determines that the costs of compliance with the standards set out herein would be unreasonably burdensome or the actions required to effectuate compliance impossible, any new or proposed non-residential structure with a gross floor area of greater than 2,000 square feet, or, any addition to a non-residential, principal use structure that will increase the existing floor area of the non-residential, principal use structure(s) on the lot by more than 25% and 500 square feet shall comply with the standards for street lighting and utility service set out in Section 4.9 and 4.10 of Article 4 of the Subdivision Regulations.

Section 609A. Design Standards Relating to Solid Waste Disposal

Except where or to the extent that the permit issuing authority determines that the costs of compliance with the standards set out herein would be unreasonably burdensome or the actions required to effectuate compliance impossible, whenever the City Manager, pursuant to Section 17-2 (c) of the Henderson City code, has determine that the solid wastes generated from a lot will exceed 1 cubic yard per regular garbage or trash pickup, any development, other than single family residential development, will provide for such bulk container as are necessary to adequately collect and store the solid wastes generated on the lot. Furthermore, any containers required to be provided pursuant to this section shall be located on an appropriately sized concrete dumpster and with a width of 1 feet and length of 17 feet, and shall be situated, whenever possible, so that the container can emptied by a solid waste truck with front loading movement and without said truck having to back into an arterial, collector, sub collector or local street. Vehicle accommodation areas shall be designed in such a way that the radius of any curve therein is not less than 50 feet.