# ORDINANCE NO. 201

AN ORDINANCE REPLACING ORDINANCE NO. 88 AND ESTABLISHING MINIMUM SPECIFICATIONS AND REQUIREMENTS FOR STORMWATER RUNOFF WITHIN THE CITY LIMITS OF THE CITY OF BETHEL HEIGHTS, ARKANSAS AND AMENDING THE CITY CODE, PROVIDING FOR THE EMERGENCY CLAUSE AND FOR OTHER PURPOSES.

WHEREAS, the City Council of the City of Bethel Heights hereby finds it in the public interest, and in the furtherance of the public health, safety, and welfare, that minimum specifications and requirements relating to Stormwater Runoff within the corporate limits of the City of Bethel Heights, Arkansas, be adopted.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Bethel Heights, Arkansas:

Section 1: General Provisions

A. JURISDICTION: The provisions of this Ordinance shall apply to all lands within the City of Bethel Heights, Arkansas and its planning area as defined on the official maps of the City of Bethel Heights.

Section 2: Applicability

Developers of land within the jurisdiction of the City of Bethel Heights, Arkansas shall provide for drainage improvements and the protection of the area, land and water resources as follows herein. The principles and concepts of erosion and sedimentation control and watershed protection apply to all projects and shall be instituted as required by the current Grading, Erosion Control and Stormwater Pollution Prevention Ordinance.

Section 3: Project Control

All development shall comply with the following sections in preparing the project plan:

A. To the extent practical, all development shall conform to the natural contours of the land and natural pre-existing man-made drainage channels shall remain undisturbed. Approved clearing or enlargement of drainage channel will be allowed.

B. To the extent practical, lot boundaries shall be made to coincide with natural and pre-existing man-made drainage ways within subdivisions.

C. When the proposed project borders a subdivision with an existing storm drain system, a storm drain system will be required and every effort shall be made to make the system compatible.

D. Easements for drainage channel maintenance will be a minimum of 20 foot wide unless approved in writing by the City Engineer.

E. All developments or any lot containing or adjacent to a drainage channel or drainage structure must provide the finish floor elevation for any proposed structure one (1) foot minimum above the 100 year flood elevation in the drainage structure. For subdivisions, this minimum elevation shall be shown on the Final Plat. For Large Scale Development Plans, this minimum elevation must be shown on the approved plan.

F. Whenever practical, the drainage system of a development shall coordinate with and connect to existing systems or drainage ways on surrounding properties or streets.

G. Where offsite downstream improvements are required to control runoff resulting in part from the improved area, it shall be the developer's responsibility to acquire the necessary easement(s) from property owners for the construction and operation of the necessary drainage improvements. If affected property owners are not receptive to granting easements, the developer may petition the city for assistance. All easements shall be dedicated to the city. In the event the developer petitions the city assistance, the procedure will be as follows:

1. The petition shall first be presented to the planning commission which shall make its recommendation on the same to the city council.

2. The city council shall either approve or reject the petition and, if approved, shall direct the city attorney to proceed with condemnation proceedings upon the developer depositing the required funds with the city clerk.

3. The primary criterion to be used by the planning commission and the city council in deciding whether to proceed with the condemnation proceedings shall be whether the taking is in the best interest of the affected drainage area and not whether the taking is in the best interest of the developer or the project being considered.

4. If the petition is approved, the developer shall deposit with the city clerk the funds necessary to acquire the required easements to pay appraisal and attorney fees and costs and any and all other funds reasonably foreseeable to accomplish the taking. The engineer of record for the project shall provide a cost estimate to determine the amount necessary to be deposited.

5. The developer shall deposit additional funds as necessary once the taking order has been issued and litigation has begun.

6. The condemnation suit shall be brought in the name of the city and shall be directed and controlled by it.

H. Private roads, parking lots, and access ways (excluding residential driveways), within developments shall utilize curb, gutter, and storm drain systems to provide adequate drainage. The use of swales and sodding open side ditches are acceptable only upon written approval of the City Engineer. All utilities must be a minimum of 24" below the flow line of an open ditch unless approved in writing by

the City Engineer and the respective utility company. Clearances may be reduced for paved ditches.

I. Persons engaged in land alteration activities regulated by this chapter shall take measures to protect public and private properties from damage by such activities.

J. All developments shall be constructed and maintained so that adjacent properties are not unreasonably burdened with surface waters as a result of such development. More specifically, new development may not unreasonably impede water runoff from higher properties nor may it unreasonably channel water onto lower properties.

K. Land shall be revegetated and restored as close as practically possible to its original condition so far as runoff and erosion are concerned. All restoration efforts must be to the satisfaction of the City Engineer.

L. A drainage report shall be submitted to the city at the time new subdivisions and large scale developments are submitted for project approval. The drainage report must be certified by a registered professional engineer licensed in the State of Arkansas.

M. A **grading permit** shall be required as detailed in the current grading ordinance.

Section 4: Storm water management

All development shall be constructed and maintained so that adjacent properties are not unreasonably burdened with surface waters as a result of such developments. More specifically:

A. No development or other activity may be constructed or maintained so that such development or activity unreasonably impedes the natural flow of water from higher adjacent properties across such development, thereby unreasonably causing substantial damage to adjacent properties; and

B. No development may be constructed or maintained that surface waters from such developments are unreasonably collected and routed around the drainage channel onto lower adjacent properties to cause damage to such lower adjacent properties.

C. All drainage design must be computed based on the total drainage basin or area, including on and off site, being totally developed in accordance with the City of Bethel Height's approved Master Land Use Map. Runoff coefficient values shall be used in accordance with the Arkansas Highway and Transportation Department's Drainage Manual.

D. Erosion control provisions shall be as set forth in the current Grading, Erosion Control and Stormwater Pollution Prevention Ordinance.

E. A Drainage Report with complete hydraulic data showing all calculations shall be performed by an Engineer licensed in the State of Arkansas and shall be completed

in accordance with the Arkansas Highway and Transportation Department's Drainage Manual. The impact on downstream flows outside the project shall also be addressed. The following requirements shall also apply:

1. Methods of calculating stream flows and runoff.
   (The following is a general guideline; other methods may be used with written approval from the City Engineer).

   a. The Rational Method shall be used in determining peak storm water runoff for areas up to 100 acres in size. To determine the intensity, use the Intensity-Duration-Frequency curve from the City of Bethel Heights Drainage Manual.

   b. The SCS TR-55 Method shall be used in determining peak storm water runoff for areas from 100 to 2,000 acres in size.

   c. The HEC-1 Method shall be used in determining runoff for areas greater that 2,000 acres.

2. Storm Frequency

   a. The following storm frequencies shall be used in all runoff calculations: 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year.

3. Stormwater Detention:

   a. If hydrologic and hydraulic studies reveal that the development would cause increased flood stages so as to increase the flood damages to existing developments or property, or increase flood elevations beyond the vertical limits set for the floodplain districts, then the grading permit shall be denied unless one or more of the following mitigation measures are used:
      1. Stormwater detention.
      2. Improve the downstream drainage system.

   b. Stormwater detention ponds shall be designed to limit the peak stormwater discharge rate of the 2, 10, 25, 50 and 100 year storm frequencies after development to predevelopment rates.

   c. Detention facilities shall be located within the parcel limits of the project under consideration. No detention or ponding will be permitted within public road right-of-ways.

   d. Wet weather ponds or dry reservoirs shall be designed with proper safety, stability, and ease of maintenance facilities, and shall not exceed eight (8) feet in depth. Maximum side slopes for grass reservoirs shall not exceed one (1) foot vertical for three (3) feet horizontal (3:1). In no case shall the limits of maximum ponding elevation be closer than twenty (20) feet horizontally from any building and less than one (1) foot

vertically below the lowest sill or floor elevation. The entire reservoir area shall be sodded as required prior to final plat approval. The pond bottom shall have a slope of 1.0% or greater and a 4' trickle channel shall be supplied.

e. Detention is permitted in parking lots to maximum depths of 6 inches. In no case should the maximum limits of ponding be designed closer than ten (10) feet from a permanent structure unless waterproofing of the building and pedestrian accessibility are properly documented and approved.

f. Detention facilities shall be provided with effective control structures. Plan view and sections of the structure with adequate details shall be included in the construction plans.

g. All detention reservoirs with the exception of parking lot detention shall be enclosed by a drainage/maintenance easement for public use unless the basin is to be maintained by the property owner.

h. Finished floor elevations shall be set at one (1) foot minimum above the calculated 100 year water surface elevation for the pond.

4. Floor elevations shall be set at a minimum of one (1) foot above the calculated 100 year flood elevation on each lot or site that is located adjacent to a primary drainage way. Floor elevations shall be shown at a minimum of two (2) feet above the 100 year flood elevation in areas that are in a designated floodplain.

5. All flow of water across continuous streets or alleys shall be through culverts or bridges.

6. Bridges and culverts shall be sized to accommodate the total contributing drainage area involved and the frequency of rainfall event as follows:

| | |
|---|---|
| Local Street: | 10 year |
| Collector Street: | 25 year |
| Arterial Street: | 50 year |

7. Design of bridges and culverts shall conform to the A.H.T.D. standards and construction specifications.

8. Closed storm sewers shall be constructed of precast or prefabricated pipe or cast-in-place conduit conforming to the A.H.T.D. standards and specifications.

9. Open paved storm drainage channels shall be constructed in accordance with the A.H.T.D. standards and specifications.

10. All side slopes of earth lined channels shall be sodded unless approved otherwise by the City Engineer.

11. It shall be understood that the minimum requirements outlined in these standards are only minimum requirements and shall only be applied when conditions, design criteria, and materials conform to the City Specifications and are normal and acceptable to the City Engineer. When unusual subsoil or drainage conditions are suspected, an investigation should be made and a special design prepared in line with good engineering practice.

12. Review and approval of drainage plans, reports and calculations by the City or City personnel shall not relieve the developer of any responsibility associated with the development of property.

13. The engineer of record shall certify that the risk of endangerment to life or property damage downstream from the site has not been increased.

F. The City Engineer, with the consent of the Planning Commission, may make additional requirements for waterway improvement where the minimum requirements for waterways do not adequately provide for the protection of life, limb, and property.

G. Preservation of Existing Channels:

New construction shall not block existing channels. In constructing buildings or making other improvements, the Developer shall not cause material of any sort to block any drainage way. Should the Developer inadvertently block such drainage channel, he or she shall immediately take action to restore the full channel capacity.

H. Fences and Structures:

Temporary or permanent structures and fences shall not be allowed within drainage easements or open channels. Vehicular access to drainage ways shall not be blocked by fences.

I. The City reserves the right to require improvements, drainage easements, and to enter into agreements beyond the boundaries of the area being developed where necessary to facilitate the flow of water through the area to be developed and to avoid possible damages resulting from changed runoff in the area. The City also reserves the right to provide for or require of the Developer, improvements of the overall storm drainage system.

J. The City may exercise the power of eminent domain to assure proper operation of flood control drainage channels, waterways and storm sewers.

K. These requirements will not preclude the developer from acquiring a Storm Water Pollution Prevention permit in accordance with the Arkansas Department of Environmental Quality's standards. A copy of the Storm Water Pollution Prevention Plan shall be provided to the City Engineer.

Section 5: Administration of All Drainage Projects

A. Project Plan Required:

A developer of land shall cause to be prepared a Project Plan in accordance with the provisions of this Ordinance. Prior to any construction or other improvement being commenced upon the subject property, the Project Plan must be approved as provided by this Ordinance.

B. Project Plan Submission Procedure:

1. The Developer shall file three (3) copies of the Project Plan and Drainage Report with the Planning Commission for consideration 30 days prior to the Planning Commission meeting.

2. Upon filing and consideration of the Project Plan and Drainage Report, the Planning Commission may approve, disapprove, or approve with conditions, the Project Plan and/or Drainage Report.

3. If the Planning Commission finds that they cannot determine if the Project Plan and Drainage Report satisfies the requirements of the Ordinance, due to a matter of interpretation, a question of engineering opinion or supporting data, or the complexity of the project, the Planning Commission may elect to retain an Engineer for technical counsel in assisting to resolve an issue. The engineering fees for technical counsel will be paid by the Developer.

C. Appeal:

1. Any decision of the Engineer retained for technical counsel, may be appealed to the Planning Commission by the Developer provided the Developer does so by filing his or her written appeal notice with the Planning Commission Chairman within fifteen (15) days of the decision from the Engineer.

2. Any decision of the Planning Commission, with the exclusion of a variance decision under sub-part E. of this Section, may be appealed by the Developer to the City Council provided the Developer does so by filing his or her written appeal notice with the Mayor's office within fifteen (15) days of the decision of the Planning Commission.

D. Approved Project Plan term:

The approval of a Project Plan shall be effective for an original term of six (6) months from its date of approval. Thereafter, if construction of the improvements or any portion thereof has not been completed, the approval of the Project Plan shall lapse. Provided, however, the Developer may obtain an extension of approval of the Project Plan for successive six (6) months terms upon written request to the Planning Commission stating good cause therefore and certifying that no change has occurred which would materially affect the Project Plan.

E. Variance:

Upon application by a Developer, for good cause, the Planning Commission shall have authority to vary the requirements of this Article. Variances under this provision shall be limited to variance of the type or construction of any portion of the required drainage system.

F. Enforcement:

1. No Building Permit shall be issued until the Project Plan has been approved and the drainage system constructed and certified.

2. The City Engineer may authorize adjustments in the approved Plan during construction provided the adjustments conform to the purpose and intent of the Project Plan.

G. Warranty of Developer:

The Developer is required to provide routine maintenance of the drainage system until structures have been built on 50% of the lots in the development or after two years, whichever is longer, at which time the City accepts the system. Upon acceptance of the drainage system, the Developer must warrant the operation of the drainage system for a one-year period after acceptance by the City. A bond equal to 100% of the cost of the drainage improvements will be required of the Developer. The bond shall be required until all project phases are complete. No alteration of the drainage system will be allowed without written approval by the City Engineer.

H. Penalty:

It shall be unlawful for any person, firm, or corporation to alter or tamper with an approved public or private drainage system or detention basin or dispose of trash or debris or other construction material into a private or public drainage system. Any person, firm or corporation violating this ordinance shall be subject to imprisonment not to exceed thirty (30) days or a fine not to exceed $500.00 or both. Each day will be considered a separate violation.

Section 6: Conflicts:

Where the provisions stipulated herein conflict, the most stringent provision shall govern, except as may otherwise be provided herein. In the event the provisions of this Article are determined to conflict with the provision of other Chapters of the Code of Ordinances of the City of Bethel Heights, the more stringent provision shall govern.

Section 7: Emergency Clause:

This Ordinance is necessary to preserve the public peace, health, safety and welfare, and because of such an emergency is hereby declared to exist and this ordinance shall be in full force and effect from the date of its passage and approval.

Passed and approved this 21st day of June, 2005.

APPROVED: _____
Mayor

ATTEST: _____
Recorder/Treasurer

THE INCORPORATED CITY OF BETHEL HEIGHTS, ARKANSAS
SEAL