City of Napoleon, Ohio Engineering Department Rules & Regulations

Document No. CNER98-1

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RULE 1	DEFINITIONS	
RULE 2	GENERAL CONDITIONS	5
Rule 2.1	Authority	5
Rule 2.2	Scope of Control	5
Rule 2.3	Effective Date	5
Rule 2.4	Approvals	5
Rule 2.5	Violations & Penalties	5
Rule 2.6	Agreement	5
Rule 2.7	Interpretation	5
Rule 2.8	Correction and/or Modification	6
RULE 3	PROCEDURES	7
Rule 3.1	General Statement	7
Rule 3.2	Subdivision Construction Planning	7
Rule 3.3	Site Planning	12
RULE 4	ROADWAY AND DRAINAGE REQUIREMENTS	14
Rule 4.1	Pavement Design	14
Rule 4.2	Sanitary Sewers	20
Rule 4.3	Water Mains	21
RULE 5	CONSTRUCTION AND POST-CONSTRUCTION REQUIREMENTS	23
Rule 5.1	Permits	23
Rule 5.2	Restrictions on Plan Approval	23
Rule 5.3	Construction	23
Rule 5.4	As-Built Plans	24
RULE 6	VIOLATIONS AND PENALTIES	25
Rule 6.1	Violations and Penalties	25
Rule 6.2	Revocation of Prior Approvals	25
Rule 6.3	EPA Notification	25
Rule 6.4	Administrative Penalties for Failure to Meet Specifications	25
RULE 7	ADMINISTRATIVE APPEALS	26
Rule 7.1	Appeals in General	26
Rule 7.2	Appeals from Decision of City Manager	26
Rule 7.3	Scope of Appeals	26

RULE 1 DEFINITIONS

The following words and phrases, when used in the "City of Napoleon, Ohio Engineering Department Rules and Regulations", except as otherwise provided, shall have the meaning respectively ascribed to them in this section. (Amended – August 7, 2006 – Ordinance No. 062-06)

AASHTO Standards

The most current edition of standards as established by the American Association of State Highway and Transportation Officials (AASHTO).

ASTM Standards

The most current edition of standards as established by the American Society for Testing Materials.

AWWA Standards

The most current edition of standards as established by the American Waterworks Association.

Alley

A public right-of-way, usually located between streets, established to provide vehicular, pedestrian and utility access and service to the rear or side of lots or buildings.

Arterial Street

A public right-of-way established for the purpose of vehicular and pedestrian travel and to accommodate public utilities. An arterial street is the primary course of travel for traffic through a community and provides continuity for all rural and state routes that intersect the municipality.

Collector Street

A public right-of-way established for the purpose of vehicular and pedestrian travel and to accommodate public utilities. A collector street permits both direct access to abutting properties and through traffic.

Commencing Construction

The physical alteration of a site for the purpose of performing an improvement or development. This is not intended to include preparatory work required for surveying, design or layout.

Construction Plan

Detailed drawings developed for the purpose of improving property. Generally utilized for properties greater than one (1) acre in area for which the proposed development shall result in a new subdivision, commercial or industrial site, or any extension of or from existing public infrastructure.

Cul-de-sac

A semicircular ending to a dead-end street intended to provide an area to turn vehicles around.

Dead-End Street

A local street constructed with an outlet at only one end.

Development

As a verb, any construction upon a site, being vacant or occupied, resulting in the altered use or characteristics of the site. Generally utilized in reference to new subdivisions and/or facilities.

As a noun, the result or proposed result of construction upon a vacant site.

EPA

The Environmental Protection Agency.

Improvement

As a verb, any construction upon a site, being vacant or occupied, resulting in the altered use or characteristics of the site. Generally utilized in reference to the modification of an existing facility.

As a noun, the result or proposed result of construction upon an occupied or vacant site.

Local Street

A public right-of-way established for the purpose of vehicular and pedestrian travel and to accommodate public utilities. A local street permits direct access to abutting properties and service to through traffic is discouraged.

NGS

The National Geodetic Survey. (Amended – August 7, 2006 – Ordinance No. 062-06)

ODOT

The Ohio Department of Transportation.

Private Street

A privately owned right-of-way established for vehicular travel for the purpose of serving a private development.

Public Street

A right-of-way established for public purpose.

Right-of-way

A continuous parcel of land, established within a plat or by legislation, for public purposes for the installation and maintenance of streets, sidewalks and utilities.

Sidewalk

A walkway, generally along the margin of a street, designed and prepared for the use of pedestrians, exclusive of road vehicles.

Site

A parcel of land, occupied or vacant, to be the location of an improvement or development.

Site Plan

A drawing developed for the purpose of improving property. Generally utilized for properties of less than one (1) acre in area and including improvements resulting in an altered use of the site (i.e. - A parking lot).

Street

A main way within a municipality including, but not limited to, the roadway, curbs, gutters and sidewalks.

10 States Standards

The most current edition of recommended standards as established by the Great Lakes - Upper Mississippi River Board for water works and wastewater facilities.

USGS

The United States Geological Survey.

RULE 2 GENERAL CONDITIONS

Rule 2.1 Authority

The Ohio Revised Code, City Charter and legislation of the Council of the City of Napoleon, Ohio.

Rule 2.2 Scope of Control

These "City of Napoleon, Ohio Engineering Department Rules and Regulations" apply to all rights-of-way and easements, either dedicated or to be dedicated, all extension of utilities, public or private, receiving City services and the development or any improvement of real estate within the corporation limits of the City of Napoleon, Ohio. Includes streets, sanitary sewers, storm sewers, water mains, pavement, drainage facilities and all appurtenances thereto. (Amended – August 7, 2006 – Ordinance No. 062-06)

Rule 2.3 Effective Date

These "City of Napoleon, Ohio Engineering Department Rules and Regulations" shall be effective immediately upon the adoption of legislation of the Council of the City of Napoleon, Ohio.

Rule 2.4 Approvals

Any approval given by the Engineer of the City of Napoleon shall be only for the drawings or plans submitted and reviewed and said approval shall be for one (1) calendar year from the date of said approval, thereafter said approval is automatically withdrawn unless the Owner, Developer or their Agent requests for good cause an extension of time and such extension is granted by the City Engineer.

Rule 2.5 Violations & Penalties

(See Rule No. 6 contained herein) (Amended - August 7, 2006 - Ordinance No. 062-06)

Rule 2.6 Agreement

All persons, successors and assigns obtaining and accepting a permit or approvals for developing, subdividing, platting or improving from the City Engineer or the City Building Department, accept and agree to be bound to these "City of Napoleon, Ohio Engineering Department Rules and Regulations".

Rule 2.7 Interpretation

The provisions of these "City of Napoleon, Ohio Engineering Department Rules and Regulations" shall be the minimum requirements adopted for the promotion of the health, safety, and welfare of the constituency of the City of Napoleon, Ohio. These "City of Napoleon, Ohio Engineering Department Rules and Regulations" are not intended to repeal, abrogate, annul or in any manner interfere with any laws or rules of any governmental units having jurisdiction that are more stringent. Where these "City of Napoleon, Ohio Engineering Department Rules

and Regulations" impose greater restrictions than those of existing laws and rules, then the provisions of these "City of Napoleon, Ohio Engineering Department Rules and Regulations" shall govern.

Rule 2.8 Correction and/or Modification

Any typographical, scrivener, or clerical error found in said "City of Napoleon, Ohio Engineering Department Rules and Regulations" may be corrected by the City Engineer upon joint approval of the City Manager, and upon the approval as to form and correctness by the City Law Director, without the necessity of further legislative action; further, nothing in this Ordinance shall be construed as limiting the authority of the City Manager or City Engineer to establish additional rules and regulations not inconsistent with said "City of Napoleon, Ohio Engineering Department Rules and Regulations" manual without necessity of Council approval; however, any other modifications of these "City of Napoleon, Ohio Engineering Department Rules and Regulations" require the approval by legislation of the City Council of the City of Napoleon, Ohio. The City Engineer is expressly granted the authority by the City Council to create standard detailed drawings to supplement this manual without further approval of City Council. (Amended – August 7, 2006 – Ordinance No. 062-06)

RULE 3 PROCEDURES

Rule 3.1 General Statement

The following list of statements on procedure is to be followed in obtaining approval of the City Engineer, the City's respective boards or commissions and/or the Council of Napoleon, Ohio for subdivisions, platting, improving, and/or developing real estate. For the purpose of this section, the requirements set forth within the Subdivision Construction Planning section of this Article shall be followed for all subdivisions, planned unit developments and large-scale commercial and industrial developments. The requirements set forth within the Site Planning section of this Article shall be followed for all other developments, as determined by the City Engineer.

Unless otherwise approved by the Planning Commission and City Council prior to preliminary plan submittal, all streets, water mains, storm sewers, sanitary sewers, and traffic control devices and signage shall be constructed at owner or developer's expense to no less than the minimum standards set forth below and, once accepted by the City pursuant to Chapter 1105 of the City of Napoleon Code of Ordinances, be public infrastructure. Any improvement that is permitted by Council to remain as private shall also be constructed to no less than the minimum standards set forth below such that, in the event the improvements are petitioned to become public, the City may accept the improvements. (Amended – August 7, 2006 – Ordinance No. 062-06)

Rule 3.2 Subdivision Construction Planning

Rule 3.2.1 Engineer and Surveyor

All preliminary and detailed construction plans for the proposed development shall be prepared under the supervision of and certified by a Professional Engineer registered in the State of Ohio. All preliminary and final plats for the proposed development shall be prepared under the supervision of and certified by a Professional Surveyor registered in the State of Ohio.

Rule 3.2.2 Preliminary Plan Consideration

The Owner, Developer or their Agent, along with their Engineer and Surveyor, shall consult with the City Engineer and any other authority having jurisdiction in the matter. In the case of a subdivision, construction plans for the development will not be considered by the City Engineer until a preliminary plat of the area in question has been approved in accordance with Chapter 1105 of the Codified Ordinances of the City of Napoleon.

Rule 3.2.3 Construction Standards

The most current edition of the City of Napoleon Standard Construction Drawings and Standard Specifications for Construction shall be used in conjunction with all construction planning and are available for a fee of twenty-five dollars (\$25.00) from the office of the City Engineer. All applicable standard drawings and

specifications of ODOT, the Ohio EPA, AASHTO, AWWA and ASTM shall also be referenced, as required.

Rule 3.2.4 MASTER PLANS AND REFERENCES

Along with the City of Napoleon Rules for Water and Sewer Service and the Fire Prevention Code (Chapter 1501 of the Codified Ordinances of the City of Napoleon), both as may be amended from time to time, the following documents and their amendments shall be used in the planning of the development. Copies of all referenced documents contained in these "City of Napoleon, Ohio Engineering Department Rules and Regulations" are on file in the office of the City Engineer for review.

"Master Plan of Napoleon, Ohio" - 1957, Metropolitan Planners, Inc., or such plan as may be later adopted and on file in the office of the City Engineer. If such a later plan is developed and adopted, the later plan shall control.

"Study of Theoretical Vehicular On-Street and Off-Street Parking and Existing Parking Supply - City of Napoleon" - July, 1989, McDonnell Proudfoot & Associates, Inc.

"Water Distribution System Analysis - Napoleon, Ohio" - July, 1969, Jones & Henry Engineers, Limited.

"Water Distribution Study for the City of Napoleon, Ohio" - August, 1995, FBA Environmental, Inc.

"Sewerage Report - Napoleon, Ohio" - March, 1973, Jones and Henry Engineers, Limited.

"City of Napoleon - Facilities Plan for Wastewater Collection and Treatment" - October, 1976, Jones & Henry Engineers, Limited.

"Combined Sewer System Operational Plan for the City of Napoleon, Ohio" - December, 1995, Finkbeiner, Pettis & Strout, Inc.

"Napoleon, Ohio Wastewater System Master Plan" - August, 1996, Finkbeiner, Pettis & Strout, Inc.

"Flood Insurance Study - City of Napoleon, Ohio" - November, 1995, Federal Emergency Management Agency.

"Flood Plain Information - Maumee River - Napoleon, Ohio"; 1970; Army Corps of Engineers U.S. Army - Detroit District.

Rule 3.2.5 Preliminary Construction Plan Requirements

Four (4) copies of the preliminary construction plans shall be submitted by the Owner, Developer or their Agent to the Zoning Administrator who shall submit two (2) copies to the City Engineer and shall be subject to and/or contain the following: (the Preliminary Plat may be used as the base map for the preliminary construction plan).

The name of the Subdivision (or development), the name of the Owner or Developer, and the name and seal of the Professional Engineer and Professional Surveyor registered in the State of Ohio preparing the plans.

The scale of the preliminary plans shall not be smaller than one inch (1") equals one hundred feet (100').

The preliminary plan shall be submitted electronically in .pdf format. (Amended – May 2, 2016 – Ordinance No. 009-16)

Location of development by Section, Township, and Range. (Amended – August 7, 2006 – Ordinance No. 062-06)

Scale of plan and north arrow.

Boundaries of the proposed development indicated by a heavy line including the bearing and distance for each line and monuments found or set.

Names of adjacent subdivisions and/or owners of record.

A location map of a scale not less than one inch (1") equals two thousand feet (2,000') showing the development in relationship to the corporation limits of the City of Napoleon.

Lot layout and location of existing and proposed utilities and structures.

Show location, widths and names of existing streets, railroad right-of-way, easements, parks, permanent buildings, corporation and township lines, location of wooded areas and other significant topographic and natural features within and adjacent to the proposed development.

Show street names and scaled dimensions for all proposed roads, alleys, easements (with purpose stated) and areas to be reserved for parks, schools, or other public uses.

Angles shall be shown where streets intersect at something other than ninety degrees (90°).

Show the existing contours with the following intervals:

Five feet (5') where the slope is greater than ten percent (10%).

Two feet (2') where the slope is less than ten percent (10%).

One foot (1') in flat areas.

Vertical Datum shall be USGS or NGS. (Amended - August 7, 2006 - Ordinance No. 062-06)

One (1) copy of drainage calculations showing pre- and post-development storm water runoff for two (2), five (5) and ten (10) year storm events shall be submitted with the preliminary plans. If storm water retention or detention is required based upon these calculations, preliminary pond sizing shall be included as part of the submittal. All drainage calculations shall be prepared and sealed by a licensed engineer. (Amended – May 2, 2016 – Ordinance No. 009-16)

If the area is to be developed in phases, the preliminary plan shall be for the entire development. (Amended – August 7, 2006 – Ordinance No. 062-06)

After the approval of the preliminary plan by the City Engineer, a reproducible copy of the plan shall be placed on file with the City Engineering Department.

Rule 3.2.6 Detailed Construction Plans

One (1) set of the detailed construction plans and specifications in .pdf format prepared by a Professional Engineer registered in the State of Ohio shall be submitted to the Zoning Administrator who shall distribute them to the City Engineer and other appropriate department heads. (Amended – May 2, 2016 – Ordinance No. 009-16)

A title block shall be placed on each sheet showing the design engineer's name, the date when the drawing was done, the sheet number, the total number of sheets and a revision block.

There shall be a title sheet showing a location map, the name of the development, the name and signature of the owner; the name, signature and seal of the design engineer and a signature block for the approvals of the Mayor, the City Manager, and the City Engineer.

The plans shall include general notes, general summary, test boring locations and logs, intersection details and construction details.

One (1) electronic copy of the soil boring log and report, including recommendations for design and construction of streets, underground utilities and buildings, shall be submitted with the detailed construction plans. (Amended – May 2, 2016 – Ordinance No. 009-16)

Each plan and profile sheet shall have a north arrow and scales denoted and a minimum of one (1) site bench mark.

A note on the plans shall indicate that all work will be done in accordance with the latest ODOT Construction and Materials Specifications and with the City of Napoleon Standard Specifications for Construction.

All proposed improvements shall be shown in plan and profile.

All existing utilities and structures shall be shown in the plan and profile including, but not limited to, gas mains, storm and sanitary sewers, water mains and buried cables. (Amended – May 2, 2016 – Ordinance No. 009-16)

The type of pipe material, joints, strength, etc. shall be shown by ODOT, ASTM or AWWA nomenclature.

Details of special structures shall be included in the plans.

All property lines, dimensions, corporation limits, section lines, boundary lines, easements, and other survey lines shall be shown.

The location, description and elevation of all bench marks shall be shown on the appropriate sheets.

USGS or NGS Datum shall be used. (Amended - August 7, 2006 - Ordinance No. 062-06)

Indicate references for all existing section corners, street intersections, property corners, etc. that are relevant to the construction.

All supporting data including survey information, pavement design calculations, soil test results, storm sewer design and construction estimates, including a ten percent (10%) contingency, shall be submitted with the detailed plans. (Amended – May 2, 2016 – Ordinance No. 009-16)

Rule 3.2.7 FEES

The City Engineering Department shall charge a fee to the Owner or Developer to cover the cost of reviewing the Preliminary and Final Construction Plans, the Preliminary and Final Plat and Construction Inspection and Testing.

Construction Plans

Before the Preliminary Construction Plan review is begun, the Owner, Developer or their Agent must pay a fee of two hundred dollars (\$200.00), plus ten dollars (\$10.00) per acre for every acre, or part thereof, within the proposed development up to a maximum of one thousand dollars (\$1,000.00), by check or money order payable to "City of Napoleon", noting "Engineering Plan Review". This fee is intended to cover the cost of reviewing the Preliminary and Final Construction Plans. (Amended – August 7, 2006 – Ordinance No. 062-06)

City Inspection

City employed or City contracted inspectors shall be utilized during construction unless private inspectors are expressly authorized by the City Engineer. (Amended – August 7, 2006 – Ordinance No. 062-06)

Inspection Fees Due and Payable

Before construction has begun, the Owner, Developer or their Agent shall: Advance the cost of inspection fees as it relates to City owned or contracted inspector(s) prior to any construction in an amount stated in Rule 3.3.5. (Amended – August 7, 2006 – Ordinance No. 062-06)

Rule 3.2.8 WARRANTY

Following final plat approval and the dedication of streets and utilities for public use; however, prior to acceptance thereof by the City, the Owner or Developer shall agree to provide a minimum of a one (1) year warranty from the date of dedication for all work within the development. Such warranty shall be secured by the furnishing of a maintenance bond or irrevocable letter of credit running to the City in the amount equal to one hundred percent (100%) of the value of all streets and utilities to be dedicated for public use. Any work performed under the auspices of said warranty shall cause the time period to extend to one (1) year from the date of such warranty work for those items affected by such warranty work, as well as a performance agreement as approved by the City Law Director. (Amended – August 7, 2006 – Ordinance No. 062-06)

Rule 3.3 Site Planning

Rule 3.3.1 Engineer or Architect and Surveyor

All preliminary and detailed site plans for the proposed development shall be prepared under the supervision of and certified by a Professional Engineer or Architect registered in the State of Ohio. Boundary surveys and descriptions, when required, shall be prepared under the supervision of and certified by a Professional Surveyor registered in the State of Ohio.

Rule 3.3.2 Preliminary Site Plan Consideration

The Owner, Developer or their Agent, along with their Engineer or Architect and Surveyor, shall consult with the City Engineer and any other authority having jurisdiction in the matter.

Rule 3.3.3 Construction Standards

The most current edition of the City of Napoleon Standard Construction Drawings and Standard Specifications for Construction shall be used in conjunction with all planning and are available for a fee of twenty-five dollars (\$25.00) from the office of the City Engineer. All applicable standard drawings and specifications of ODOT, the Ohio EPA, AASHTO, AWWA and ASTM shall also be referenced, as required.

Rule 3.3.4 SITE PLAN REQUIREMENTS

One (1) copy of the site plan in electronic .pdf format shall be submitted by the Owner, Developer or their Agent to the Zoning Administrator who shall distribute it to the City Engineer and other appropriate department heads and shall be subject to and/or contain the following: (Amended – May 2, 2016 – Ordinance No. 009-16)

The name of the development, the name of the Owner, or Developer, and the name of the Engineer or Surveyor preparing the plans. (Amended – August 7, 2006 – Ordinance No. 062-06)

Scale of plan and north arrow.

Property lines including the bearing and distance for each line and monuments found or set.

Names of adjacent subdivisions and/or owners of record.

Location of existing and proposed utilities and structures.

Show location, widths and names of existing streets, railroad right-of-way, easements, permanent buildings, location of wooded areas and other significant topographic and natural features within and adjacent to the proposed development.

At a minimum, spot elevations shall be given for every one hundred (100) feet of surface to be developed.

Vertical Datum shall be defined on the drawings.

One (1) copy of drainage calculations showing pre- and post-development storm water runoff for two (2), five (5) and ten (10) year storm events may be requested to be submitted with the preliminary plans, as determined by the City Engineer. If storm water retention or detention is required based upon these calculations, preliminary pond sizing shall be included as part of the submittal.

If the area is to be developed in phases, the preliminary plan shall be for the entire development. (Amended – August 7, 2006 – Ordinance No. 062-06)

RULE 3.3.5 **FEES (NOTE: 3.2.7 and 3.3.5 are not the same for Plan Review Fee)** (Amended – May 2, 2016 – Ordinance No. 009-16)

The City Engineering Department shall charge a fee to the Owner or Developer to cover the cost of reviewing the Site Plan. A fee shall also be charged for Construction Inspection and Testing, if required.

Site Plans

Before the Construction Plan review is begun, the Owner, Developer or their Agent must pay a fee of two hundred dollars (\$200.00), by check or money order payable to "City of Napoleon", noting "Engineering Plan Review". This fee is intended to cover the cost of reviewing the Site Plans. (Amended – August 7, 2006 – Ordinance No. 062-06)

Inspection Fee Amounts

If construction inspection is performed by the City Engineering Department utilizing its own or contracted forces, as determined by the City Engineer, the Owner, Developer or their Agent shall: (Amended – August 7, 2006 – Ordinance No. 062-06)

- 1. Pay an amount equal to two percent (2%) of the estimated cost of construction (including contingencies) of all improvements to be connected to City utilities, as verified by the City Engineer, for the City to provide part-time inspection services; or, (Amended August 7, 2006 Ordinance No. 062-06)
- 2. In the event the owner or developer hires or utilizes its own inspector responsible for the supervision of construction during the construction period with the consent of the City Engineer, the inspector shall be a professional engineer registered in the State of Ohio or employed by a qualified engineering consulting firm. The inspector shall be responsible to submit construction reports to the City Engineer on a regular basis as determined by the City Engineer and notify the City Engineering Department a minimum of one (1) working day prior to when testing is to be performed. (Amended August 7, 2006 Ordinance No. 062-06)

RULE 4 ROADWAY AND DRAINAGE REQUIREMENTS

Rule 4.1 Pavement Design

Due to emergency vehicle access, all private streets shall be constructed to the same standards as public streets. (Amended – August 7, 2006 – Ordinance No. 062-06)

Rule 4.1.1 Soil Tests

For every six hundred feet (600') of pavement length, one (1) soil boring shall be made by a qualified testing laboratory. All borings shall be made to a depth of four feet (4') below the proposed top of curb grade or to one foot (1') below the depth of the deepest proposed underground utility, whichever is greater. The soil samples taken at every boring shall be analyzed for:

- a. Visual classification.
- b. AASHTO group index.
- c. Atterburg limits.
- d. Liquid limit, plastic limit, plasticity index. The water table shall also be determined for each boring.

A minimum of one (1) sample per project or on larger projects one (1) sample out of six (6) shall be tested to determine the moisture-density relationship by the Standard Proctor Method (ASTM D-698, AASHTO T-99) and the bearing values by the use of the California Bearing Ratio Test.

The pavement cross section recommended by the testing firm shall prevail, unless the design is less than the minimum design standards set forth below.

Rule 4.1.2 PAVEMENT CROSS SECTION

Pavement for residential streets and parking lots shall include a minimum of one and one half inches (1½") of Asphalt Concrete Surface (ODOT Item 448 Type 1 Medium, PG 64-22), one and one half inches (1½") of Asphalt Concrete Intermediate (ODOT Item 448 Type 2 Medium, PG 64-22), three inches (3") of Bituminous Aggregate Base (ODOT Item 301 PG 64-22), and eight inches (8") of Compacted Aggregate Base (ODOT Item 304) installed in two (2) lifts. Subgrade stabilization fabric meeting the requirements of ODOT Item 712.09 Type D, soil type 2 (apparent opening size \leq 0.3 mm) shall be required between the subgrade and the aggregate base. Heavier pavement designs shall be required for arterial streets and streets within commercial and industrial areas. (*Amended – August 7, 2006 – Ordinance No. 062-06*)

Rigid concrete pavements may also be utilized if approved by the City Engineer. The minimum residential concrete pavement shall be eight inches (8") of ODOT Item 499, Class "C" concrete over six inches (6") of Compacted Aggregate Base (ODOT Item 304) installed in two (2) lifts. Subgrade stabilization fabric meeting the requirements of ODOT Item 712.09 Type D, Soil type 2 (apparent opening size ≤ 0.3 mm) shall be required between the subgrade and the aggregate base.

Heavier pavements shall be required for arterial streets and streets within commercial and industrial areas. (Amended – August 7, 2006 – Ordinance No. 062-06)

Except for those streets designated as arterial streets, the standard width of pavement shall be twenty- nine feet (29') as measured from the back of curb with ODOT Type 2 concrete curb and gutter. ODOT Type 3 concrete curb and gutter may be utilized in new residential subdivisions. (Amended – May 2, 2016 – Ordinance No. 009-16)

The pavement width may be reduced to twenty-five feet (25°) if existing right-of-way width prohibits standard width pavement and approved by the City Engineer. (Amended – May 2, 2016 – Ordinance No. 009-16)

Arterial streets shall be a minimum of thirty-three feet (33') in width as measured from the back of curb with ODOT Type 2 concrete curb and gutter. The concrete curb and gutter may be eliminated in industrial developments if approved by the City Engineer. Where curbs and gutters are eliminated, shallow grass drainage swales shall be provided along both sides of the roadway. (Amended – August 7, 2006 – Ordinance No. 062-06)

Streets shall be constructed with transverse slopes of one quarter inch (1/4") per foot as measured from the centerline to the edge of asphalt. Parking lots shall be sloped to a point, or series of points, within the pavement so as not to shed storm water off the site. Such slopes shall not be less than one percent (1%). (Amended – May 2, 2016 – Ordinance No. 009-16)

Six inch (6") nominal diameter perforated under drains shall be provided along both sides of pavement. Underdrain inverts shall be four feet (4') below the top of curb. The under drains shall be located directly under the back of curb. Where no curbs are to be constructed, the under drains shall be located directly beneath the edge of the proposed pavement and the invert shall be four feet (4') below the edge of pavement. (Amended – August 7, 2006 – Ordinance No. 062-06)

Rule 4.1.3 SIDEWALKS AND DRIVE APPROACHES

Sidewalks shall be located along both sides of streets, unless otherwise approved by the City Engineer. (Amended – June 6, 2016 – Ordinance No. 020-16) Sidewalks shall be four inches (4") of ODOT Item 499, Class "C" concrete over six inches (6") of Compacted Aggregate Base (ODOT Item 304) or Stabilized Crushed Aggregate (ODOT Item 411) except within five feet (5') of drive approaches and within the intersection of rights-of-ways. At drive approaches and intersections, sidewalks shall be six inches (6") of ODOT Class "C" concrete over four inches (4") of Compacted Aggregate Base (ODOT Item 304) or Stabilized Crushed Aggregate (ODOT Item 411). (Amended – May 2, 2016 – Ordinance No. 009-16)

Sidewalks shall be four feet (4') in width when located at least two feet (2') from the back of curb or edge of pavement, as applicable. Where within two feet (2') of the back of curb or edge of pavement, sidewalks shall be five feet (5') in width.

Sidewalks shall have a transverse slope no greater than one quarter inch ($\frac{1}{4}$ ") per foot, nor a longitudinal slope greater than one inch (1") per foot.

Handicap ramps with curb drops shall be provided at all intersections. (Amended – August 7, 2006 – Ordinance No. 062-06)

Drive approaches for residential developments shall be a minimum six inches (6") of ODOT Item 499, Class "C" concrete over six inches (6") of Compacted Aggregate Base (ODOT Item 304) or Stabilized Crushed Aggregate (ODOT Item 411). Commercial drive approaches shall be no less than eight inches (8") of ODOT Item 499, Class "C" concrete over six inches (6") of Compacted Aggregate Base (ODOT Item 304) or Stabilized Crushed Aggregate (ODOT Item 411). Minimum drive approach curb cuts shall be fourteen feet (14'). Maximum drive approach curb cuts shall be thirty feet (30') for residential drives. Both minimum and maximum curb cuts include three feet (3') wide drive wings on each side of the drive approach. No residential lot shall have more than one (1) drive unless approved by the City Engineer. (Amended – May 2, 2016 – Ordinance No. 009-16)

Commercial and industrial drive approaches shall have Type 2A concrete curb with radii in place of wings. Commercial drive approach widths shall be submitted for review by the City Engineer. (Amended – May 2, 2016 – Ordinance No. 009-16)

Rule 4.1.4 VERTICAL GEOMETRY

A vertical curve shall be established where the algebraic differential of grade is greater than ninety-five hundredths percent (0.95%). Vertical curves shall be no less than fifty feet (50') in length.

Pavement grades shall be not less than fifty hundredths percent (0.50%), nor greater than five percent (5%), except in cases of extreme necessity. (Amended – August 7, 2006 – Ordinance No. 062-06)

Pavement and gutter grades shall be established on intersection details at the following locations: (Amended – August 7, 2006 – Ordinance No. 062-06)

- 1. At the end of all radii.
- 2. At the Center of all radii.
- 3. At the intersection of pavement centerlines.
- 4. At any point necessary to clarify drainage.

Rule 4.1.5 HORIZONTAL GEOMETRY

The minimum allowable radius at intersections shall be twenty-five feet (25') as measured to the back of curb, except at intersections of a proposed street with an arterial street or state route where the minimum radius shall be thirty-five feet (35') as measured to the back of curb. If streets are not curbed, the minimum radii shall apply to the edge of payment. Where a street is terminated due to phasing, a temporary cul-de-sac shall be constructed. Temporary cul-de-sacs shall have a minimum radius of thirty-five feet (35') and shall be constructed of twelve inches (12") of Compacted Aggregate Base (ODOT Item 304) installed in two (2) lifts. (Amended – August 7, 2006 – Ordinance No. 062-06)

The arrangement of streets in new subdivisions shall provide for the continuation of the principal existing streets in adjoining areas.

The angle of intersection between any street and an arterial street shall not be less than eighty degrees (80°) as measured from the centerline of each street. All other streets shall not intersect at an angle less than seventy degrees (70°).

Except in extreme cases, dead end streets shall not be permitted. Where a deadend is permitted, a cul-de-sac shall be provided at the terminus of the street. Cul-de-sacs shall have a minimum radius of fifty feet (50') as measured to the back of curb. (Amended – August 7, 2006 – Ordinance No. 062-06)

Horizontal curves shall be provided where the horizontal deflection exceeds two degrees (2°), fifteen (15) minutes. Horizontal curves shall not exceed the following:

- 1. The maximum degree of curve shall be eleven degrees (11°), thirty (30) minutes for arterial streets; and
- 2. The maximum degree of curve shall be sixteen degrees (16°), thirty (30) minutes for all other streets.

A Type "A" monument shall be placed at each change in direction of the centerline of right-of-ways, the intersection of centerlines of all street right-of-ways, the centerline of right-of-way at the end of all phased construction, and the center of all permanent cul-de-sacs. (Amended – August 7, 2006 – Ordinance No. 062-06)

Rule 4.1.6 STORM SEWER SIZING

An overall drainage area layout plan showing the limits of the area contributing to each drainage pickup point shall be submitted with the detailed construction plans. The drainage design within the development shall be adequate to handle the entire contributing watershed area, along with its existing, proposed or probable future development, and not just the area being submitted for approval.

If the development is to be completed in phases, the overall drainage plan shall be submitted with the first set of detailed construction drawings and the storm outlet for the entire development shall be included for construction within the first phase.

Storm sewers shall be sized using the "Rational Method" (Q = CIA). The storm sewers shall be designed to flow just full for a five (5) year storm event. The hydraulic grade for each segment of sewer shall be checked by using the ten (10) year intensity-duration-frequency curve. The initial time of concentration (Tc) shall be not less than twenty (20) minutes.

The runoff coefficients (C) to be used shall be based on a weighted coefficient of runoff using the following ranges:

Type of Ground Cover	Runoff
or Development	Coefficient (C)
Concrete or Asphalt Pavements	0.90
Roof Areas	0.90
Gravel Roadways	0.50
Undeveloped Sites	0.20

Catch basin and curb inlet crossovers shall be twelve inch (12") nominal diameter and placed at no less than one percent (1%) slope.

Catch basins and curb inlets shall be constructed per the City of Napoleon Standard Construction Drawings.

Storm taps shall be provided for residential and commercial lots. Storm taps shall consist of a six inch (6") wye connected to the storm sewer main and a six inch (6") PVC crossover extended to the right-of-way line for each building lot in a development. The location and the elevation of the storm tap at the right-of-way line shall be shown on the detailed plans. Storm taps shall be utilized as outlets for footer drains and sump pumps only. Downspouts shall outlet onto the ground surface. (Amended – May 2, 2016 – Ordinance No. 009-16)

Rear yard drainage shall be provided by means of drainage swales and/or catch basins located between lots.

Manholes shall be provided at intervals not to exceed four hundred feet (400'), at all changes in size, direction or grade, at the connection point between two (2) or more mainline sewers and at the upper terminus of the sewer. (Amended – May 2, 2016 – Ordinance No. 009-16)

A headwall with dump rock fill shall be provided at the outfall of a proposed storm sewer. Dump rock fill shall be ODOT Item 601.07 Type C.

The proposed outlet for the storm drainage system must be approved at the time of the preliminary plan. A method of on-site retention or detention of storm water shall be provided. Calculations for the sizing of a retention/detention pond or basin shall be based upon the following criteria: (Amended – May 2, 2016 – Ordinance No. 009-16)

Any increase in the volume of storm water runoff caused by site development shall be controlled such that the post-development peak rate of discharge does not exceed that of pre-development for all twenty-four (24) hour storms between the two (2) year frequency and the critical storm, as subsequently defined. In other words, when required, facilities shall be provided such that the volume of water equal to that produced under post-development conditions for the critical storm may be retained or detained on site while discharging at a rate not to exceed that produced by a two (2) year storm under pre-development conditions. Pre-development conditions assumes all developments to be grass lots. (Amended – May 2, 2016 – Ordinance No. 009-16)

The method by which the Owner or Engineer shall determine the changes in rates of runoff and runoff volumes is presented in Urban Hydrology for Small Watersheds (TR-55) as prepared by the US Department of Agriculture, Soil Conservation Service, Engineering Division and dated June, 1986. TR-55 is supplemented by the Ohio Supplement to Urban Hydrology for Small Watersheds.

To determine the critical storm for which control is required, the Owner or Engineer shall:

Calculate the storm water runoff for a two (2) year frequency, twenty-four (24) hour storm for undeveloped conditions (C=0.20) and post-development of the site. The maximum allowable runoff from the proposed site shall be predevelopment runoff.

Subtract the pre-development runoff from the post-development runoff and divide by the pre-development runoff to determine the percent of increase.

Determine the critical storm frequency for which storm water control is required from the following table: (Amended – May 2, 2016 – Ordinance No. 009-16)

Storm Frequency Requirements				
Equal to or	Less Than	Storm		
Greater Than	(%)	Frequency		
(%)		(Years)		
	20	2		
20	50	5		
50	100	10		
100	250	25		
250	500	50		
500		100		

Example (critical storm):

Development Area = 6.25 acres

Pre-development "C" = 0.20 (Amended – May 2, 2016 – Ordinance No. 009-16)

Post-development "C" = 0.80 (Amended – August 7, 2006 – Ordinance No. 062-06)

2 year, 24 Hour Rainfall = 2.60 inches (Table OH-1, TR-55 Ohio Supplement)

$$Q2A = (0.20)*(2.0)*(6.25) = 3.25 \text{ CFS}$$
 (Amended – May 2, 2016 – Ordinance No. 009-16) $Q2B = (0.80)*(2.60)*(6.25) = 13.00 \text{ CFS}$

$$(Q2B-Q2A)/(Q2A) = (13.00-3.25)/(3.25) = 3.0$$
, or 300% (Amended – May 2, 2016 – Ordinance No. 009-16)

Therefore, the critical storm is the fifty (50) year frequency, twenty-four (24) hour storm. (Amended – May 2, 2016 – Ordinance No. 009-16)

Develop a unit hydrograph of the critical storm for the proposed development, including a horizontal line at the rate of allowable discharge (Q2A). Calculate the area beneath the curve and above the horizontal line. This will equate to the volume of retention or detention required.

Rule 4.1.7 Traffic Control Devices

The placement of all traffic control devices and signage in all phases of a development or subdivision shall be at the owner's or developer's expense until acceptance and in accordance with standards defined in the Manual Of Uniform Traffic Control Devices as on file with the City, or as otherwise directed by the City Engineer. (Amended – August 7, 2006 – Ordinance No. 062-06) (Amended – October 16, 2006 – Ordinance No. 062-06)

City Engineer. (Amended – August 7, 2006 – Ordinance No. 062-06) (Amended – October 16, 2006 – Ordinance No. 100-06)

Rule 4.2 Sanitary Sewers

Rule 4.2.1 GENERAL

All sanitary sewers shall meet all of the requirements of the Ohio EPA and the City of Napoleon Standard Specifications for Construction.

Rule 4.2.2 SEWER EXTENSIONS

If a development can be reasonably served by the extension of an existing sewer, as determined by the City Engineer, the Owner, Developer or their Agent may petition the City for the extension of said sewer. All extensions shall be to the farthest end of the development and shall be at the cost of the developer. (See also City of Napoleon Rules for Water and Sewer Service.) (Amended – May 2, 2016 – Ordinance No. 009-16)

Rule 4.2.3 LIFT STATIONS

When a subdivision cannot be readily serviced by a sewer extension of an existing sanitary sewer by gravity flow, a lift station shall be required.

Lift stations shall be constructed at the cost of the Owner or Developer and shall be of the wet-well - dry-well type and shall include telemetering equipment.

The drawings and specifications for lift stations shall be submitted for approval with the detailed construction plans.

Rule 4.2.4 SANITARY SEWER SERVICES

Sanitary sewers shall be a minimum of eight inches (8") in diameter and shall be constructed with six inch (6") diameter service connections to each proposed lot or unit within a development and shall be extended from the sanitary sewer main to the right-of-way line. A six inch (6") diameter cleanout shall be required at the right-of-way line. (Amended – May 2, 2016 – Ordinance No. 009-16)

Service connections shall be constructed at no less than one percent (1%) slope, not greater than three percent (3%) slope and shall outlet directly into the sewer main, not into manholes unless authorized by the City Engineer. (Amended – August 7, 2006 – Ordinance No. 062-06)

Manholes shall be provided at intervals not to exceed four hundred feet (400'), at all changes in size, direction or grade, at the connection point between two (2) or more mainline sewers and at the upper terminus of the sewer. (Amended – May 2, 2016 – Ordinance No. 009-16)

Where oversizing of the proposed sanitary sewers is required by the City, the City shall pay the incremental cost of oversizing, as determined by the City Engineer, prior to construction. The oversizing of sanitary sewers to reduce the slope of the sewer and compensate for grade concerns is prohibited.

Prior to commencing with construction, the City Engineer shall receive one (1) copy of the Ohio EPA Permit to Install for the proposed sanitary sewers and an approved set of plans. Any construction commencing prior to the City Engineer receiving such documentation shall be subject to penalties as subsequently defined.

Rule 4.3 Water Mains

Rule 4.3.1 GENERAL

All water mains shall meet all of the requirements of the Ohio EPA and the City of Napoleon Standard Specifications for Construction.

Rule 4.3.2 WATER MAIN EXTENSIONS

If a development can be reasonably served by the extension of an existing water main, as determined by the City Engineer, the Owner, Developer or their Agent may petition the City for the extension of said water main. All extensions shall be to the farthest end of the development and shall be at the cost of the developer. (See also City of Napoleon Rules for Water and Sewer Service.) (Amended – May 2, 2016 – Ordinance No. 009-16)

Rule 4.3.3 WATER MAINS

Water mains shall be a minimum of eight inches (8") in diameter. Six inch (6") diameter water mains shall only be allowed if justified by the City of Napoleon's water model. All costs for modeling the proposed waterline shall be paid by the developer regardless of the findings. (Amended – May 2, 2016 – Ordinance No. 009-16)

Service connections shall be installed by the contractor responsible for the installation of the respective water mains.

Service connections shall be provided for each building lot within a development and shall be extended from the water main to the right-of-way line with a curb valve and box installed at the right-of-way line. (Amended – May 2, 2016 – Ordinance No. 009-16)

Service connections shall be sized based upon the water fixture unit demand as determined by current building codes. However, no service connections shall be less than one inch (1") diameter, Type K copper.

Water mains shall be "looped", where possible.

Where oversizing of the proposed water mains is required by the City, the City shall pay the incremental cost of oversizing, as determined by the City Engineer, prior to construction.

Valves shall be located as follows:

- 1. The lesser of not more than every five hundred feet (500') or at all intersections for commercial and industrial developments;
- 2. The lesser of not more than every eight hundred feet (800') or at all intersections for residential developments;
- 3. At all connections to existing water mains; and
- 4. At the end of all dead end water mains. Plugs shall also be provided at dead ends.

Fire hydrants shall be located as follows:

- 1. Every three hundred feet (300') for commercial and industrial developments;
- 2. Every five hundred feet (500') for residential developments; and
- 3. At the end of all dead end water mains.

Prior to commencing with construction, the City Engineer shall receive one (1) copy of the Ohio EPA Permit to Install for the proposed water mains and an approved set of plans. Any construction commencing prior to the City Engineer receiving such documentation shall be subject to penalties as subsequently defined.

RULE 5 CONSTRUCTION AND POST-CONSTRUCTION REQUIREMENTS

Rule 5.1 Permits

The Owner or Developer shall obtain all applicable permits, including but not limited to, the Ohio EPA Permit to Install for water mains and sanitary sewers and building permits from the proper authorities, which may be necessary to proceed with the construction of the improvements.

Prior to commencing with construction, the City Engineer shall receive one (1) copy of the Ohio EPA Permit to Install for the proposed water mains and sanitary sewers along with an approved set of plans in .pdf format. Any construction commencing prior to the City Engineer receiving such documentation shall be subject to penalties as subsequently defined. (*Amended – May 2, 2016 – Ordinance No. 009-16*)

Rule 5.2 Restrictions on Plan Approval

The Owner or Developer shall, unless an extension of time is requested in writing and granted by the City Engineer, commence with the construction of the proposed improvement within one (1) year of the date of approval of the detailed construction plans and specifications.

Any proposed changes or alternates to the plan after approval, but prior to construction, shall be subject to the complete review process, including resubmittal to all applicable agencies.

Any proposed changes to the approved plan once construction has commenced shall be brought to the attention of and reviewed by the City Engineer. Any such modifications to the approved plan without the proper notification to the City Engineer shall be subject to penalties as subsequently defined.

Rule 5.3 Construction

The Owner or Developer shall pay all applicable inspection fees, as defined previously, **prior to commencing with construction**.

The Owner or Developer shall hire a qualified testing laboratory to provide testing services throughout construction including, but not limited to, compaction and concrete testing.

If the Owner or Developer opts to provide its own inspection services, the responsible inspector shall be a Professional Engineer registered in the State of Ohio or an agent thereof. The inspector shall provide the City with daily construction reports and shall inform the City a minimum of one (1) working day in advance of any testing procedure. The City shall maintain the right to reject any and all work performed.

Rule 5.4 As-Built Plans

The Owner or Developer shall, within sixty (60) days after the completion of construction, submit one (1) set of electronic plans in .pdf format marked "AS-BUILT" to the City Engineer. (Amended – May 2, 2016 – Ordinance No. 009-16)

The Owner's or Developer's Engineer shall provide a notarized affidavit certifying that the completion of the work is in accordance with the approved plans. If any changes to the approved plans occurred, a list of these deviations shall be included with the certification. A sample affidavit is available from the office of the City Engineer.

RULE 6 VIOLATIONS AND PENALTIES

RULE 6 VIOLATIONS AND PENALTIES

Rule 6.1 Violations and Penalties

Criminal violations of the "City of Napoleon, Ohio Engineering Department Rules and Regulations" and associated penalties therefore, shall be pursuant to City Ordinance 30-98, as may be amended from time to time, or codified.

Rule 6.2 Revocation of Prior Approvals

In addition to the criminal penalties specified in Rule 6.1 above, the City Manager may, for a violation of the "City of Napoleon, Ohio Engineering Department Rules and Regulations" or City Ordinance No. 30-98 as may be amended from time to time, or codified, (upon such finding by the City Manager after an informal hearing with the Owner, Developer or Agent thereof and the City Engineer, unless such hearing is waived), order the revocation of all prior approvals of the City and the City Engineer relative to the property being developed. The failure to appear at a scheduled hearing after notice constitutes a waiver thereof. (Amended – August 7, 2006 – Ordinance No. 062-06)

Rule 6.3 EPA Notification

Any work performed for the installation of sanitary sewers and/or water mains commenced without first obtaining the necessary permits or approvals of the Ohio EPA shall be reported directly to the Ohio EPA Northwest District Office.

Rule 6.4 Administrative Penalties for Failure to Meet Specifications

If the Owner, Developer or Agent thereof, opts to provide their own inspection services and does not comply with the requirements of the "City of Napoleon, Ohio Engineering Department Rules and Regulations", the Owner, Developer or Agent shall be subject to Administrative Fines in the amount of fifty dollars (\$50.00) per day for each day that a violation exists, to be levied by the City Manager (upon a finding that the violation exists after an informal hearing with the Owner, Developer or Agent thereof and the City Engineer, unless such hearing is waived). Failure to appear at a scheduled hearing after notice constitutes a waiver thereof. All improvements completed during times when inspection does not meet the requirements of the "City of Napoleon, Ohio Engineering Department Rules and Regulations" will not be accepted by the City. (Amended – May 2, 2016 – Ordinance No. 009-16)

RULE 7 ADMINISTRATIVE APPEALS

Rule 7.1 Appeals in General

Any decision of the City Manager in regard to the denial, suspension or revocation of a permit, as required by the "City of Napoleon, Ohio Engineering Department Rules and Regulations", or any finding or imposition of an administrative fine, as authorized by the "City of Napoleon, Ohio Engineering Department Rules and Regulations", or forfeiture of prior approvals of the City Engineer may be appealed to the Municipal Properties, Buildings, Land Use & Economic Development Committee of Council, so long as the appeal is commenced in a timely manner. (Amended – May 2, 2016 – Ordinance No. 009-16)

A filing fee of thirty-five dollars (\$35.00), as may be amended from time to time, will be charged for all appeals to the Municipal Properties, Buildings, Land Use & Economic Development Committee of Council. However, this fee may be waived by the Finance Director in cases of indigence. Further, said fee will be returned if the appealing party prevails. (Amended – May 2, 2016 – Ordinance No. 009-16)

Rule 7.2 Appeals from Decision of City Manager

After a hearing by the City Manager, a decision or order shall be rendered and delivered by either personal service or mailed to the person who filed the appeal at the last known address by regular mail.

An appeal from a decision of the City Manager, after hearing, may be taken to the Municipal Properties, Buildings, Land Use & Economic Development Committee of Council, so long as a notice of appeal is filed in writing with the Finance Director within thirty (30) business days after mailing of the decision or order of the City Manager or thirty (30) business days after rendering the decision or order by personal service to the person who filed the appeal. (Amended – May 2, 2016 – Ordinance No. 009-16)

Appeals will not stay the decision or order of the City Manager as a result of his/her finding.

Appeals to the Municipal Properties, Buildings, Land Use & Economic Development Committee of Council will be held in a timely manner and will be informal in nature such that the rules of evidence shall not apply. (Amended – May 2, 2016 – Ordinance No. 009-16)

Such orders of the Municipal Properties, Buildings, Land Use & Economic Development Committee of Council will be considered final. (Amended – May 2, 2016 – Ordinance No. 009-16)

Rule 7.3 Scope of Appeals

The scope of all appeals to the Municipal Properties, Buildings, Land Use & Economic Development Committee of Council shall be limited to the question of whether the City Manager acted unreasonably, arbitrary or capricious in his/her decision. The Committee may, upon a finding that the City Manager acted

