ORDINANCE NO. 222

AN ORDINANCE OF THE CITY OF UNIVERSITY PLACE, WASHINGTON, AMENDING TITLE 13, CHAPTER 20 (STORM DRAINAGE) OF THE UNIVERSITY PLACE MUNICIPAL CODE.

WHEREAS, on May 4, 1997, the City Council adopted the City of University Place Public Works Standards; and

WHEREAS, since adoption of the Public Works Standards, several necessary changes have become apparent; and

WHEREAS, on December 14, 1998, the City Council met to discuss the issue further; and,

WHEREAS, on February 1, 1999, the City Council held a second public hearing to hear and duly consider testimony.

NOW THEREFORE THE CITY COUNCIL OF THE CITY OF UNIVERSITY PLACE, WASHINGTON, DO ORDAIN AS FOLLOWS:

Section 1. Chapter 13.20, Storm Drainage. Chapter 13.20, Storm Drainage, of the University Place Municipal Code is amended as set forth on Exhibit A to this Ordinance, attached and incorporated as part of this ordinance.

Section 2. Severability. If any section, sentence, clause, or phrase of this ordinance shall be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause, or phrase of this ordinance.

Section 3. Publication and Effective Date. A summary of this Ordinance shall be published in the official newspaper of the City. This ordinance shall take effect five days after publication.

PASSED BY THE CITY COUNCIL ON FEBRUARY 1, 1999.

Debbie Klosowski

Debbie Klosowski, Mayor

ATTEST:

Susan Matthew

Susan Matthew, City Clerk

APPROVED AS TO FORM:

Timothy X. Sullivan

Timothy X. Sullivan, City Attorney

Date of Publication: **2-5-99**
Effective Date: **2-10-99**

EXHIBIT A – ORDINANCE NO. 222

Chapter 13.20

STORM DRAINAGE

Sections:

13.20.010 General.

The standards established by this chapter are ~~intended to represent~~ the minimum standards for the design and construction of storm drainage facilities.

The King County Surface Water Design Manual and the King County Road Standards are considered a part of this chapter and the public works standards. The King County Surface Water Design Manual sets forth the minimum drainage and erosion control requirements as supplemented herein. The King County Road Standards will supplement these standards only for drainage structures and appurtenances. All standards and guidelines addressed in this document shall supersede that expressed in the above referenced documents.

(Ord. 142 § 1 Exh. A (3.010), 1997).

13.20.020 Design standards.

The design of storm drainage and/or retention/ detention systems shall depend on their type and local site conditions. The design elements of storm drainage systems shall conform to city standards as set forth herein and follow current design practice as set forth in UPMC Chapter 13.10. The following design considerations shall apply:

A. No retention/detention facility shall be located in an area that is used to satisfy an open space requirement unless it enhances a recreational amenity.

Use of designated open space areas for stormwater detention/retention and for infiltration shall satisfy all conditions of the City of University Place for usability and landscape conformity.

Because the primary purpose of consolidated open space is to provide usable area for recreation activities, buffer zones, and green belt areas, the open space must be designed for this intent. Any use of this area for stormwater detention/ retention must clearly be subordinate to and not detract from open space uses. Because active recreation requires primarily flat topography, the usable open space will be predominantly flat. In no event shall slopes exceed 4:1 where drainage facilities are present and a minimum of 50 percent of the linear slope length shall not exceed 7:1. Design of the combined facility, as well as ease of access into and out of the facility, will be considered by the city in review of the design of such facilities.

Open space also serves an aesthetic function by providing areas of green space that are attractive and an amenity to the project site. Storm drainage facilities which serve as open space must provide the impression that the open space is area available for park uses.

The city shall make the sole determination whether the proposed stormwater facilities are compatible with open space and satisfy the intent of the city for open space amenities.

B. The use of commercial parking lots for detention of stormwater will be reviewed by the director of public works and approved or denied based on the design. The detention area shall be situated away

from areas of pedestrian movement unless means for rapid closing of the areas is incorporated in the design, and the maximum depth of water in parking lot storage shall be limited to 12 inches.

C. Maximum catch basin spacing shall be 300 feet on arterials and collectors and 500 feet on all other street classifications. No surface water shall cross any roadway.

The general notes on construction in UPMC 13.20.040 shall be included on any plans dealing with storm systems.

(Ord. 142 § 1 Exh. A (3.020), 1997).

13.20.030 Maintenance.

As a condition of storm drainage system plan approval the applicant shall maintain the drainage system as shown on the drainage plans. The drainage system shall be maintained and preserved until such time as the applicant or owner and the city agree that the system should be altered in some manner or eliminated. The applicant shall be required to record a maintenance agreement to maintain the storm drainage system.

(Ord. 142 § 1 Exh. A (3.025), 1997).

13.20.040 Construction.

A. All workmanship and materials shall be in accordance with City of University Place standards and the most current edition of the State of Washington Standard Specifications for Road, Bridge and Municipal Construction (WSDOT/ APWA) and King County Road Standards (for drainage structures and appurtenances).

B. Temporary erosion/water pollution measures shall be required in accordance with the King County Surface Water Design Manual.

C. Comply with all permits and other requirements by the city or other governing authority or agency.

D. A preconstruction meeting shall be held with the City of University Place public works department prior to the start of construction.

E. All storm mains and retention/detention areas shall be staked for grade and alignment by an engineering or surveying firm capable of performing such work.

F. Storm drain pipe shall meet the following requirements:

1.Plain concrete pipe conforming to the requirements of AASHTO M 86, Class 2.

2.Reinforced concrete pipe conforming to the requirements of AASHTO M 170.

3.PVC pipe shall conform to ASTM D 3034 SDR 35 or ASTM F 789 with joints and gaskets conforming to ASTM D 3212 and ASTM F 477.

4.Ductile iron pipe conforming to the requirements of AWWA C 151, thickness class as shown on the plans.

5.Polyethylene smooth wall pipe per Advanced Drainage Systems (ADS) N-12 constructed per WSDOT/APWA Standard Specifications 7-04.

G. Special structures, oil/water separators and outlet controls shall be installed per plans and manufacturer's recommendations.

H. Provide traffic control plan(s) as required in accordance with MUTCD.

I. Call underground locate line, 1-800-424- 5555, minimum 48 hours prior to any excavations.

J. Where connections require "field verifications", connection points will be exposed by contractor and fittings verified 48 hours prior to distributing shut-down notices.

K. On-site erosion control measures shall be the responsibility of the developer. Any problems occurring before final acceptance of the storm system by the engineer shall be corrected by the applicant.

L. In case erosion or sedimentation occurs to off-site property, all construction work within the development that will further aggravate the situation must cease and the owner/contractor will immediately commence restoration methods. Restoration activity will continue until such time as the erosion and sedimentation no longer occurs off- site.

M. All erosion and sedimentation control devices shown on this drawing shall be installed prior to or at the first stage of site preparation.

N. Should the temporary erosion and sedimentation control measures as shown on this drawing not prove adequate to control erosion and sedimentation, the applicant/contractor shall install additional facilities as necessary to protect adjacent properties, sensitive areas, natural water courses and/or storm drainage systems.

O. In any area which has been stripped of vegetation and where no further work is anticipated for a period of 30 days or more, all disturbed areas must be immediately stabilized with mulching, grass planting or other approved erosion control treatment applicable to the time of year in questions. Grass seeding alone will be acceptable only during the months of April through September inclusive. Seeding may proceed, however, whenever it is in the interest of the applicant/contractor, but must be augmented with mulching, netting or other treatment.

P. The engineer/owner/contractor will be responsible for field locating the clearing limits and establishing those boundaries with bright colored flagging. The contractor shall clear to the limits as established on this plan and flagging in the field.

Q. Tie impervious surfaces (roofs, streets, drives, etc.) to the completed drainage system as soon as possible.

R. The necessary facilities shall be maintained on site to prevent debris, dust, and mud from impacting public facilities and other property owners.

S. All work associated with stabilizing the disturbed areas shall be in accordance with Section 8-01 of the ~~1994 latest version of the~~ Standard Specifications for Road, Bridge, and Municipal Construction, ~~or the latest version thereof~~ unless approved otherwise by the city.

T. All erosion control measures shall remain in place and be properly maintained until the disturbed areas have been stabilized.

U. The city shall be responsible for the inspection and acceptance of all clearing and grading work and erosion and sedimentation control facilities. The applicant shall notify the city 48 hours in advance of each required inspection.

1. Inspection No. 1 – Installation of erosion control facilities/prior to clearing.
2. Inspection No. 2 – Completion of clearing.
3. Inspection No. 3 – Upon completion of excavation, filling, and earthwork.
4. Inspection No. 4 – Completion of project.
5. Inspection No. 5 – Work in city right-of- way.

(Ord. 142 § 1 Exh. A (3.025), 1997).

13.20.050 Conveyance.

A. Pipe. Storm drain pipe within a public right- of-way or easement shall be sized to carry the maximum anticipated runoff from the possible contributing area.

The minimum main size shall be 12 inches in diameter. Laterals lines may be six inches in diameter. Nothing shall preclude the city from requiring the installation of a larger sized main if the city determines a larger size is needed to serve adjacent areas or for future service.

All pipe for storm mains shall comply with one of the following types:

1.Polyvinyl Chloride. PVC pipe per Section 7-04 of the current WSDOT Standard Specifications.

2.Plain Concrete. Plain concrete pipe per WSDOT/APWA Standard Specifications as set forth in Section 7-04.

3.Reinforced Concrete. Reinforced concrete pipe per WSDOT/APWA Standard Specifications as set forth in Section 7-04.

4.Ductile Iron. Ductile iron pipe per Section 9-30, WSDOT Standard Specifications.

5.Polyethylene: PE smooth wall pipe per Advanced Drainage Systems (ADS) N-12 constructed per WSDOT/APWA Standard Specifications Section 7-04.

B. Channels. The city encourages the use of open vegetated channels to convey stormwater runoff when possible. Any open channels proposed to be located within public right-of-way shall require special approval from the director of public works.
(Ord. 142 § 1 Exh. A (3.027), 1997).

13.20.060 Staking.

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed as a professional engineer or professional land surveyor by the state of Washington.

A preconstruction meeting shall be held with the city prior to commencing staking. All construction staking shall be inspected by the city prior to construction.

The minimum staking of storm sewer systems shall be as directed by the city engineer or as follows:

A. Stake centerline alignment every 50 feet with cut or fill to invert of pipe.

B. Stake location of all catch basins, manholes and other fixtures for grade and alignment with cut or fill to grate or lid and invert of all pipes.

C. Grade stake or slope stake (as appropriate) at intervals, sufficient to control location, size and depth of retention/detention facilities.
(Ord. 142 § 1 Exh. A (3.030), 1997).

13.20.070 Trench excavation.

A. Clearing and grubbing where required shall be performed within the easement or public right- of-way as permitted by the city and/or governing agencies. Debris resulting from the clearing and grubbing shall be disposed of by the owner or contractor in accordance with the terms of all applicable permits.

B. Trenches shall be excavated to the line and depth designated by the city to provide a city approved minimum of cover over the pipe. See details as applicable. Except for unusual circumstances where approved by the city, the trench sides shall be excavated vertically and the trench width shall be excavated only to such widths as are necessary for adequate working space as allowed by the governing agency and in compliance with all safety requirements of the prevailing agencies. See detail. The trench shall be kept free from water until joining is complete. Surface water shall be diverted so as not to enter the trench. The owner shall maintain sufficient pumping equipment on the job to insure that these provisions are carried out.

C. The contractor shall perform all excavation of every description and whatever substance encountered and boulders, rocks, roots and other obstructions shall be entirely removed or cut out to the width of the trench and to a depth six inches below sewer line grade. Where materials are removed from

below pipe grade, the trench shall be backfilled to grade with material satisfactory to the city and thoroughly compacted.

D. Trenching and shoring operations shall not proceed more than 100 feet in advance of pipe laying without approval of the city, and shall be in conformance with Washington Industrial Safety and Health Administration (WISHA) and Office of Safety and Health Administration (OSHA) Safety Standard.

E. The bedding course shall be constructed to grade with hand tools in such a manner that the pipe will have bearing along the entire length of the barrel. The bell holes shall be excavated with hand tools to sufficient size to make up the joint.

F. Gravel backfill for pipe bedding shall be installed in conformance with Section 2-09 of the Standard Specifications (WSDOT). See drawing 2-8.

1.Bedding for Rigid Pipe (Ductile Iron Pipe). Gravel backfill for rigid pipe bedding shall consist of crushed, processed, or naturally occurring granular material. It shall be essentially free from various types of wood waste or other extraneous or objectionable materials. It shall have such characteristics of size and shape that it will compact readily and shall meet the following specifications for grading and quality:

Sieve Size	**Percent Passing***
3/4" Square	100
3/8" Square	95 – 100
U.S. No. 8	0 – 10
U.S. No. 200	0 – 3
Sand Equivalent	35 MIN.

*All percentages are by weight.

2.Bedding for Flexible Pipe (PVC Pipe). Gravel backfill for flexible pipe (PVC pipe) bedding shall consist of crushed, processed, or naturally occurring granular material. It shall be essentially free from various types of wood waste or other extraneous or objectionable materials. It shall have such characteristics of size and shape that it will compact readily and shall meet the following specifications for grading and quality:

Sieve Size	**Percent Passing***
3/4" Square	100
3/8" Square	95 – 100
U.S. No. 8	0 – 10
U.S. No. 200	0 – 3
Sand Equivalent	35 MIN.

*All percentages are by weight.

Native material shall not be used for bedding, unless approved by the engineer.
(Ord. 142 § 1 Exh. A (3.040), 1997).

13.20.080 Backfilling.

Backfilling and surface restoration shall closely follow installation of pipe so that not more than 100 feet is left exposed during construction hours without approval of the city. Selected backfill material shall be placed and compacted around and under the sewer pipe by hand tools. Special precautions shall be provided to protect the pipe to a point 12 inches above the crown of the pipe. The remaining backfill shall be compacted to 95 percent of the maximum density in traveled areas and road "prisms", 90 percent outside driveway, roadways, road prism, shoulders, parking or other traveled areas. Where governmental agencies other than the city have jurisdiction over roadways, the backfill and compaction shall be done to

the satisfaction of the agency having jurisdiction. Typically, all utility trenches located in roadway sections, roadway "prisms", or beneath traffic bearing areas shall be backfilled with 5/8-inch minus crushed rock. Due to localized conditions, the city may allow/permit the backfill of the trench section with suitable excavated material, as determined by the city, or if suitable native material is not available from trenching operations, the city may order the placing and compaction of gravel base conforming with Section 9-03.10 of the Standard Specifications (WSDOT) for backfilling the trench. All excess material shall be loaded and hauled to waste.
(Ord. 142 § 1 Exh. A (3.050), 1997).

13.20.090 Street patching and restoration.

See UPMC 13.15.200 and 13.15.210 for requirements regarding street patching and trench restoration.
(Ord. 142 § 1 Exh. A (3.060), 1997).