



## **DEVELOPMENT ADVISORY – Number: 7**

**June 3, 2008**

The following are proposed City Policy and Public Facilities Manual (PFM) changes that are tentatively set to go into effect July 1, 2008. The City appreciates feedback on these new requirements and will consider all input before finalizing these changes on the website.

### **City of Chesapeake Policy Changes**

#### **1. INSTALLATION OF STREET NAME SIGNS AND TRAFFIC CONTROL SIGNS FOR NEW DEVELOPMENTS**

Current policy is to collect fees at the time of plat recordation that include a fee for installation of both street name and traffic control signs.

Effective July 1, 2008 the City will begin to transition this responsibility to the developer and no longer require the respective fee.

The Developer will be responsible for providing and installing street name signs and traffic control signs.

Construction plans submitted after July 1, 2008 must provide all necessary callouts, notes and details to comply with the new criteria.

The necessary changes to the Public Facilities Manual Volume I, Volume II and Volume III are expected to be posted on the City website by June 15, 2008.

Installation of all signs shall be required prior to final acceptance.

If you have any questions regarding this item, please contact Steve Froncillo via email at: [sfroncillo@cityofchesapeake.net](mailto:sfroncillo@cityofchesapeake.net).

## 2. **PLAN ELEVATIONS MUST BE BASED ON NAVD 88 DATUM**

Effective as of July 1, 2008 the city will begin requiring North American Vertical Datum of 1988 (NAVD 88) to be used on all plans. Construction Record Drawings for developments which were surveyed using other datum may be accepted for a grace period not to exceed twelve months. Locations of City monuments are shown on the City website at <http://cityofchesapeake.net/services/depart/pub-wrks/engineer-survey-benchmarks.shtml>, Contact City Surveyor Dwight Spivey with questions via email at: [dspivey@cityofchesapeake.net](mailto:dspivey@cityofchesapeake.net)

## 3. **STREET LIGHTS**

The City will no longer send the authorization letter requesting installation of streetlights to Dominion Virginia Power until the City is in receipt of the applicable funds from the developer. Once the estimate for street lights is received from Dominion Virginia Power, the developer will receive a letter from Public Works requesting payment made payable to City of Chesapeake.

If you have any questions regarding this item, please contact Tom Crawford via email at: [tcrawford@cityofchesapeake.net](mailto:tcrawford@cityofchesapeake.net).

## 4. **SANITARY SEWER OVERFLOWS – REGIONAL CONSENT ORDER**

After discussions with the Department of Environmental Quality (DEQ), and as a result of the Regional Consent Order, the approval process for construction plans is modified. Additionally, certain design requirements are modified, added or deleted.

Prior to the City of Chesapeake approving plans we must receive a letter from HRSD verifying that they have adequate capacity to handle the proposed flows. In addition, HRSD approval for the proposed work (if any) must be obtained before the plans are approved by the City upon the condition that DEQ approval is obtained. Once the City of Chesapeake has conditionally approved the plans a letter is required to be sent to DEQ advising as to whether the City has adequate capacity to handle the flows from the project. The plans are not approved for construction until DEQ has either approved the plans or has notified the City that they have waived their review.

DEQ has also reminded all of the locales that construction on sanitary sewer systems are not to begin until they have approved the plans and issued a Certificate to Construct. They have also indicated that they will begin actively enforcing this requirement. DEQ has indicated that they will send one copy of their approved plans to the City for use by the inspectors and engineers. ALL work must be in accordance with the DEQ approved plans (which must be the same as those approved by the City).

DEQ clarified the requirement regarding the statement of completion by a professional engineer (In Chesapeake this has been the City). The statement MUST be based on the plans that were approved by DEQ.

As a result of the Regional Consent Order all inspections of Gravity Sewer Lines and Manholes upon completion must be done in accordance with the requirements of the NASSCO PACP & MACP standards. This includes all new construction. These standards also require CCTV inspect the gravity sewer lines. Currently we do not plan to change the timing of the CCTV inspection; it will continue to be done after activation. As with other required testing, the contractor has the option to use CCTV to inspect the lines after completion.

Although not required at the present time, in the future, all sewer system improvements will be required to be modeled on a dynamic model for both gravity and pressure systems, such as DHI's Mike Urban. It is anticipated that this will be implemented sometime in 2009.

If you have any questions regarding this item, please contact Dean Perry via email at: [dperry@cityofchesapeake.net](mailto:dperry@cityofchesapeake.net).

## 5. **LOT GRADING POLICY**

Builders may sign Final Grading Certification under certain conditions.

The City is also reserving the right to not accept certifications from builders that fail to submit accurate certifications.

If you have any questions regarding this item, please contact Mike Benda via email at: [mbenda@cityofchesapeake.net](mailto:mbenda@cityofchesapeake.net)

## **Public Facilities Manual (PFM) changes:**

### 1. **INSTALLATION OF STREET NAME SIGNS AND TRAFFIC CONTROL SIGNS FOR NEW DEVELOPMENTS**

The necessary changes to the Public Facilities Manual Volume I, Volume II and Volume III are expected to be posted on the City website by June 15, 2008.

### 2. **PLAN ELEVATIONS MUST BE BASED ON NAVD 88 DATUM**

The following changes will be made to the Public Facilities Manual, Volume I.

Chapter 1 - Construction Plan Requirements, page 1-6:

4. All plan elevations must be based on NAVD 88 datum. Reference source of datum (City of Chesapeake GPS monument number or acceptable other). Plans must indicate/describe onsite temporary benchmark (TBM) with location and elevation (07/08).

Chapter 5 – Drainage Design Water Quantity, page 5-20:

Q. Additional design Considerations

1. The starting tailwater at the natural outfall for all design storms shall be 3.6 (NAVD 88) for tidal estuaries and 2.3 (NAVD 88) for non-tidal rivers and the Albermarle and Chesapeake Canal. Hydraulic boundary conditions for drainage design modeling can be found in the Drainage Study Watersheds Reports online at the City website. The SWMM models developed for these drainage studies are specific design scenarios based on 2-, 5-, 10-, 25-, 50-, and 100-year rainfall events—THEY ARE NOT TO BE CONSTRUED AS INDICATIVE OF EXPECTED WATER SURFACE ELEVATIONS FOR THE PURPOSES OF FLOODPLAIN MANAGEMENT AND/OR INSURANCE REQUIREMENTS. (07/08)

Chapter 8 – Street Design, page 8-6:

Y. Tidal flooding shall be considered in site/subdivision street design. The entire length of every new street shall have some portion (or point) of the pavement riding surface above the 50-year tidal elevation. (7.6 NAVD 88 Elizabeth River watersheds, 4.1 NAVD 88 Albermarle Sound Watersheds/Northwest River. The 10-year tidal elevation must be below the gutter flow line or manhole rim in public facilities. No property damage may result from the 50-year tidal flood. Tidal elevation frequencies are to be based on Flood Insurance Study for the City of Chesapeake prepared for the U.S. Department of Housing and Urban Development by the Federal Insurance Administration. See Appendix 16). (07/08)

3. **STREET LIGHTS** There are no PFM changes.

4. **SANITARY SEWER OVERFLOWS – REGIONAL CONSENT ORDER**

The following changes will be made to the Public Facilities Manual, Volume I.

Chapter 1, Section 1.3:

- G. The coversheet of all construction plans must include the following statement, signed by the professional engineer in responsible charge of the project, to facilitate DEQ's approval of the construction plans:

“This is to certify that the sewer flows for this project were designed in accordance with the Regional Technical Standards.” (07/08)

Chapter 10, Section 10.6.C:

10. All new pump stations will be required to make provisions for the installation of ISCO 4501 Dataloggers in the control panel. The approximate dimensions of the unit are 4X4X8. A serial port connection shall also be provided on the front of the cabinet to allow for connection for downloading. (07/08)

Chapter 10, Section 10.6.C:

7. ~~"Murphy" gauges or approved equal will be used for system control.~~ Transducers, pursuant to Public Utilities' specifications, shall be installed for control of the pumps and for signaling alarms. The modular control units must have separate wiring for each alarm & control set points. (07/08)

Chapter 10, Section 10.6.E:

16. A calibrated static pressure gauge suitable for sewer service (with intermediate oil filled diaphragm) shall be installed on the downstream side of the check valve on a piping tree. Provision shall be made for the connection of a pressure transducer to this tree. (07/08)

Chapter 10, Section 10.6:

- H. A City of Chesapeake Survey Monument disk (provided by City Surveyor) shall be installed on the top of the wetwell for all new pump stations. Recovery sheets and other necessary data shall be provided to the City Surveyor. Horizontal and vertical data shall be recorded. The benchmark shall conform to A.C.S.M. standards of accuracy for Second Order, Class II vertical control, (0.04'  $\sqrt{1.0}$  miles). (07/08)

Chapter 10, Section 10.8.E:

- E. Telemetry, Standby Pump, and Flow Monitor Deposit. (07/08)

Replace PFM Volume I, Appendix VIII with the following:

## Hampton Roads Regional Sewage Flow Projection Data

V 2.0 April 21, 2008

<b>Discharge Facility</b>	<b>Contributing Design Units</b>	<b>Flow gpd/Unit</b>	<b>Flow Duration hours</b>	<b>Peak Factor</b>
Dwellings	Per Residential Unit	310	24	2.5
Schools	Per Person	10	8	3
Boarding Schools	Per Person	75	16	3
Motels & Hotels	Per Room	130	24	3
Trailer courts, Apartments, Condos, Townhomes, & Time Shares	Per Unit	310	24	2.5
Restaurants (including fast food)	Per Seat	30	16	3
Service Stations	Per Gross SF	0.4	16	3
Shopping Centers	Per Gross SF	0.2	12	3
Hospitals	Per Bed	300	24	3
Nursing Homes/Assisted Living	Per Bed	160	24	3
Doctor's offices in medical centers	Per Gross SF	0.25	12	3
Laundromats	Per Machine	500	16	3
Community colleges	Per Student & Faculty	10	12	3
Theaters (auditorium type)	Per Seat	2.5	12	3
Picnic areas	Per Person	5	12	3
Camps, resort day & night w/limited plumbing	Per Site	50	24	3

Luxury camps w/flush toilets	Per Site	100	24	3
Warehouse	Per Gross SF	0.05	24	3
Convenient Store	Per Gross SF	0.3	24	3
Office Building	Per Gross SF	0.1	12	3
Fitness Center	Per Gross SF	0.1	16	3
Religious Assembly	Per Seat in Main Assembly Room	2.5	6	3
Heavy Industrial	Per Gross SF	0.35 <sup>(1)</sup>	16	3
Light Industrial	Per Gross SF	0.1 <sup>(1)</sup>	16	3

(1) The stated flow per day per unit is provided as a guide and should only be used if known data for similar heavy or light industrial facilities is not available.

For undeveloped property zoned **other than residential**, average daily flows may be projected at a rate of 1,000 gpd per acre. Consideration should be given to designated wetlands and Chesapeake Bay Preservation Act Resource Protection Areas which should be excluded from the gross acreage. A peaking factor of 3 shall be used.

For undeveloped property zoned **residential**, average daily flows may be projected at a rate of 310 gpd per unit based on the zoning density. A peaking factor of 2.5 shall be used.

Flow duration should be taken into account for the design of on-site infrastructure and when discharging into Publicly owned force mains, but need not be considered for downstream publically owned gravity collections systems. Additionally, the SCAT Regulations require a peaking factor of 4 be applied to the average daily flow when designing laterals and submains. For example in designing an **on-site sewer lateral** or an **on-site/private pump station** for a shopping center that has a gross square footage of 7,500 SF the flow duration should be applied as follows:

$$7,500 \text{ SF} \times 0.20 \text{ gpd/SF} = 1,500 \text{ gpd}$$

$$1,500 \text{ gpd} / (12 \text{ hr duration day} \times 60 \text{ min/hr}) = 2.08 \text{ gpm}$$

$$2.08 \text{ gpm} \times 4 \text{ (peak factor per SCAT Regulations)} = 8.32 \text{ gpm}$$

**Sound engineering judgment must be used in all applications of these flow projection guidelines.**

(07/08)

## 5. **LOT GRADING POLICY**

The following changes will be made to the Public Facilities Manual, Volume I.

Chapter 5, Section R on page 5-22, number 7.d and Appendix XXVII, number 4.

Lots shall be graded to within 0.1' of the final grade prior to issuance of a Certificate of Occupancy (C.O.). In addition, a minimum grade of 0.5% minimum slope must be provided. A certification is required from a Certified Land Surveyor (CLS) or the Builder confirming this lot grading prior to Issuance of a C.O. Temporary C.O.'s may be issued under extenuating circumstances. Certification from said Builder will be accepted only if there have not been previous inaccuracies in Lot Grading submittals, as determined by the Department of Public Works. If any previous submittals have been determined to be inaccurate by the Department of Public Works, the Builder will be required to obtain a certification from a Certified Land Surveyor (CLS) (07/08)