**FAIRFAX COUNTY**
**BOARD OF SUPERVISORS**
**February 2, 2016**

**AGENDA**

| | | |
|---|---|---|
| 9:00 | | Reception for Don Smith Award, Conference Center Reception Area |
| 9:30 | | Presentations |
| 10:00 | | Presentation of the Don Smith Award |
| 10:10 | | Report on General Assembly Activities |
| 10:20 | | Items Presented by the County Executive |
| | **ADMINISTRATIVE ITEMS** | |
| 1 | | Approval of Traffic Calming Measure as Part of the Residential Traffic Administration Program (Dranesville District) |
| 2 | | Street into the Secondary System (Springfield District) |
| 3 | | Extension of Review Period for 2232 Application (Dranesville District) |
| | **ACTION ITEMS** | |
| 1 | | Amendment of the Board's Statement of Policy Regarding Sewage Disposal to Revise Paragraph E-4 |
| 2 | | Approval of the Project Agreement Between the Virginia Department of Rail and Public Transportation (DRPT) and Fairfax County for Fiscal Year (FY) 2016 Funding for the I-95 Transit and Transportation Demand Management Plan Operating Assistance |
| 3 | | Adjustment to Fairfax Center, Centreville, Tysons, Tysons-Wide and Tysons Grid of Streets Road Funds (Dranesville, Springfield, Braddock, Sully, Providence Districts) |
| | **INFORMATION ITEMS** | |
| 1 | | Contract Award – Real Estate Development Advisory Services |
| 10:30 | | Matters Presented by Board Members |
| 11:20 | | Closed Session |

**FAIRFAX COUNTY**
**BOARD OF SUPERVISORS**
**February 2, 2016**

## PUBLIC HEARINGS

| | |
|---|---|
| 3:30 | Decision Only to Approve a Real Estate Exchange Agreement Between the Board of Supervisors and AvalonBay Communities, Inc. ("AvalonBay") and to Approve the Purchase of Property from 5827 Columbia Pike Associates, LLC, an Affiliate of Landmark Atlantic, Inc. ("Landmark") (Mason District) |
| 3:30 | Public Hearing on SEA 79-D-071-02 (The Tea Center, LLC) (Dranesville District) |
| 3:30 | Public Hearing on SEA 87-L-012-02 (R Joun Enterprise LLC, Roland Joun, Trustee and Maria Joun, Trustee) (Lee District) |
| 3:30 | Public Hearing on SE 2015-HM-024 (Metropolitan Washington Airports Authority and The Virginia Department of Rail And Public Transportation on Behalf of the Washington Metropolitan Area Transit Authority and The Board of Supervisors of Fairfax County) (Hunter Mill District) |
| 3:30 | Public Hearing on PRC 86-C-121-05 (Metropolitan Washington Airports Authority and The Virginia Department of Rail And Public Transportation on Behalf of the Washington Metropolitan Area Transit Authority and The Board of Supervisors of Fairfax County) (Hunter Mill District) |
| 4:00 | Public Hearing to Consider Parking Restrictions on Hamaker Court (Providence District) |
| 4:00 | Public Hearing to Consider Parking Restrictions on Mariah Court (Sully District) |
| 4:00 | Public Hearing on Proposed Amendments to the Public Facilities Manual Re: National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Rainfall Data |
| 4:00 | Public Hearing to Consider Adopting an Ordinance Expanding the West Springfield Residential Permit Parking District, District 7 (Springfield District) |
| 4:00 | Public Hearing to Consider Adopting an Ordinance Expanding the Greenway Downs Residential Permit Parking District, District 13 (Providence District) |
| 4:30 | Public Hearing on SE 2015-HM-013 (Singh Properties II, LLC) (Hunter Mill District) |

**FAIRFAX COUNTY**
**BOARD OF SUPERVISORS**
**February 2, 2016**

**Public Hearings**
**(Continued)**

| | |
|---|---|
| 4:30 | Public Hearing on RZ 2014-HM-024 (George Family Property Development LLC) (Hunter Mill District) |
| 4:30 | Public Hearing on SE 2015-MV-003 (First Years Learning Center LLC / Claudia Tramontana) (Mount Vernon District) |

# *Fairfax County, Virginia*

# *BOARD OF SUPERVISORS AGENDA*

**Tuesday**
**February 2, 2016**

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9:30 a.m.

**ANNOUNCEMENTS**

- PROCLAMATION – To designate February 2016 as African American History Month in Fairfax County. Requested by Chairman Bulova

STAFF:
Tony Castrilli, Director, Office of Public Affairs
Bill Miller, Office of Public Affairs

Board Agenda Item
February 2, 2016

10:00 a.m.

Presentation of the Don Smith Award

ENCLOSED DOCUMENTS:
None.

PRESENTED BY:
Randy R. Creller, Chairperson, Employee Advisory Council (EAC)

Board Agenda Item
February 2, 2016

10:10 a.m.

Report on General Assembly Activities

ENCLOSED DOCUMENTS:
None. Materials to be distributed to the Board of Supervisors on February 2, 2016

PRESENTED BY:
Supervisor Jeff McKay, Chairman, Board of Supervisors' Legislative Committee
Edward L. Long Jr., County Executive

Board Agenda Item
February 2, 2016

10:20 a.m.

Items Presented by the County Executive

Board Agenda Item
February 2, 2016

ADMINISTRATIVE - 1

Approval of Traffic Calming Measure as Part of the Residential Traffic Administration Program (Dranesville District)

ISSUE:
Board endorsement of Traffic Calming measure as part of the Residential Traffic Administration Program (RTAP).

RECOMMENDATION:
The County Executive recommends that the Board endorse a traffic calming plan for Vernon Drive consisting of the following:

- One Speed Hump on Vernon Drive (Dranesville District)

In addition, the County Executive recommends that the Fairfax County Department of Transportation (FCDOT) be requested to schedule the installation of the approved measure as soon as possible.

TIMING:
Board action is requested on February 2, 2016.

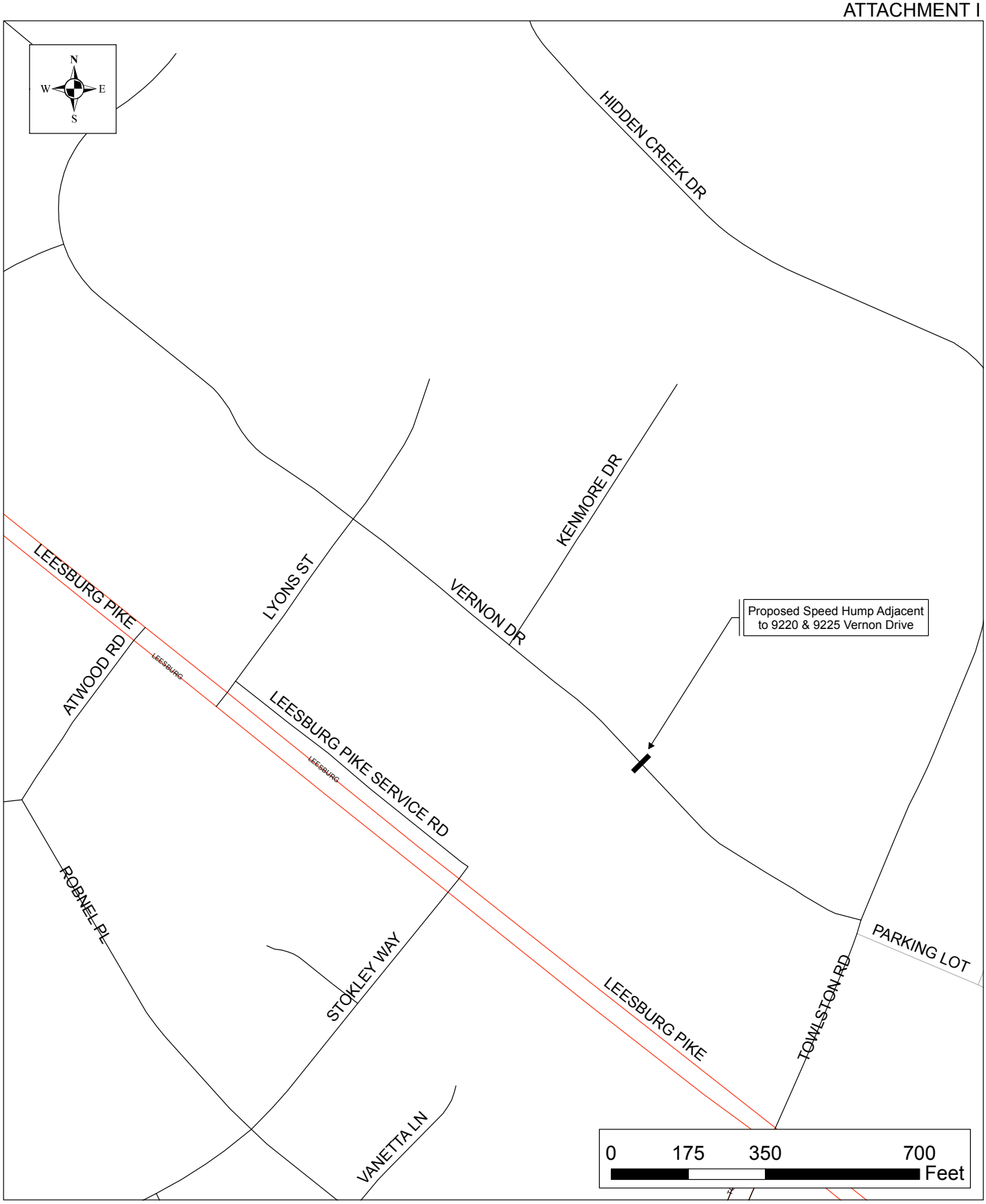
BACKGROUND:
As part of the RTAP, roads are reviewed for traffic calming when requested by a Board member on behalf of a homeowners' or civic association. Traffic calming employs the use of physical devices such as multi-way stop signs (MWS), speed humps, speed tables, raised pedestrian crosswalks, chokers, median islands, or traffic circles to reduce the speed of traffic on a residential street. Staff performed engineering studies documenting the attainment of qualifying criteria. Staff worked with the local Supervisors' office and community to determine the viability of the requested traffic calming measures to reduce the speed of traffic. Once the plan for the road under review is approved and adopted by staff that plan is then submitted for approval to residents of the ballot area in the adjacent community. On December 4, 2015, FCDOT received verification from the local Supervisor's office confirming community support for the above referenced traffic calming plan.

Board Agenda Item
February 2, 2016

FISCAL IMPACT:
Funding in the amount of $7,000 for the traffic calming measure associated with the Vernon Drive project is available in Fund 300-C30050, General Fund, under Job Number 2G25-076-000.

ENCLOSED DOCUMENTS:
Attachment I: Traffic Calming Plan for Vernon Drive

STAFF:
Robert A. Stalzer, Deputy County Executive
Tom Biesiadny, Director, Fairfax County Department of Transportation (FCDOT)
Eric Teitelman, Chief, Capital Projects and Operations Division, FCDOT
Neil Freschman, Chief, Traffic Engineering Section, FCDOT
Steven K. Knudsen, Transportation Planner, Traffic Engineering Section, FCDOT




December, 2015

Fairfax County Department of Transportation
Residential Traffic Administration Program (RTAP)
TRAFFIC CALMING PLAN
VERNON DRIVE
Dranesville District

A Fairfax Co. Va., publication

Tax Map: 19-4

Board Agenda Item
February 2, 2016

ADMINISTRATIVE – 2

Street into the Secondary System (Springfield District)

ISSUE:
Board approval of a street to be accepted into the State Secondary System.

RECOMMENDATION:
The County Executive recommends that the street listed below be added to the State Secondary System.

| **Subdivision** | **District** | **Street** |
|---|---|---|
| Will H Krause-Beechwood Drive (Extension) | Springfield | Beechwood Drive |

TIMING:
Routine.

BACKGROUND:
Inspection has been made of this street, and it is recommended for acceptance into the State Secondary System.

FISCAL IMPACT:
None.

ENCLOSED DOCUMENTS:
Attachment 1 – Street Acceptance Form

STAFF:
Robert A. Stalzer, Deputy County Executive
James W. Patteson, Director, Department of Public Works and Environmental Services (DPWES)
William D. Hicks, P.E., Director, Land Development Services, DPWES

Attachment 1

Print Form

# Street Acceptance Form For Board Of Supervisors Resolution - June 2005

**FAIRFAX COUNTY BOARD OF SUPERVISORS**
**FAIRFAX, VA**

**Pursuant to the request to inspect certain streets in the subdivisions as described, the Virginia Department of Transportation has made inspections, and recommends that same be included in the secondary system.**

**ENGINEERING MANAGER: Imad A. Salous, P.E.**

**BY:** Nadia Alphonse

**VIRGINIA DEPARTMENT OF TRANSPORTATION - OFFICE OF THE ENGINEERING MANAGER, FAIRFAX, VIRGINIA**

REQUEST TO THE ENGINEERING MANAGER, FOR INCLUSION OF CERTAIN SUBDIVISION STREETS INTO THE STATE OF VIRGINIA SECONDARY ROAD SYSTEM.

**PLAN NUMBER:** 7675-SD-02

**SUBDIVISION PLAT NAME:** Will H Krause - Beechwood Drive (Extension)

**COUNTY MAGISTERIAL DISTRICT:** Springfield

**FOR OFFICIAL USE ONLY**

**DATE OF VDOT INSPECTION APPROVAL:** 11/10/2015

| STREET NAME | LOCATION | | LENGTH MILE |
|---|---|---|---|
| | FROM | TO | |
| Beechwood Drive | Existing Beechwood Drive (Route 10488) - at CL Rose Garden Lane (Route 10267) | 636' SE to Beginning of Temporary Turnaround Easement. | 0.12 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | TOTALS: | 0.12 |

NOTES:

Board Agenda Item
February 2, 2016

ADMINISTRATIVE – 3

Extension of Review Period for 2232 Application (Dranesville District)

ISSUE:
Extension of review period for 2232 application to ensure compliance with review requirements of *Section* 15.2-2232 of the *Code of Virginia.*

RECOMMENDATION:
The County Executive recommends that the Board extend the review period for the following application: 2232-D15-14

TIMING:
Board action is required February 2, 2016, to extend the review period of the application noted above before its expiration date.

BACKGROUND:
Subsection B of *Section* 15.2-2232 of the *Code of Virginia* states: "Failure of the commission to act within 60 days of a submission, unless the time is extended by the governing body, shall be deemed approval." The need for the full time of an extension may not be necessary, and is not intended to set a date for final action.

The review period for the following application should be extended:

| | |
|---|---|
| 2232-D15-14 | Metropolitan Washington Airports Authority / Virginia Department of Rail and Public Transportation / Washington Metropolitan Area Transit Authority<br>2205 Rock Hill Road, Herndon, VA<br>Dranesville District<br>Accepted December 11, 2015<br>Extend to August 9, 2016 |

FISCAL IMPACT:
None

ENCLOSED DOCUMENTS:
None

Board Agenda Item
February 2, 2016

STAFF:
Robert A. Stalzer, Deputy County Executive
Fred R. Selden, Director, Department of Planning and Zoning, DPZ
Chris B. Caperton, Chief, Facilities Planning Branch, Planning Division, DPZ
Douglas W. Hansen, Senior Planner, Facilities Planning Branch, Planning Division, DPZ

Board Agenda Item
February 2, 2016

ACTION - 1

Amendment of the Board's Statement of Policy Regarding Sewage Disposal to Revise Paragraph E-4

ISSUE:
Board of Supervisors' approval is needed to amend Paragraph E-4 of the Board's Statement of Policy Regarding Sewage Disposal.

RECOMMENDATION:
The County Executive recommends that the Board of Supervisors approve the proposed revisions to Paragraph E-4 as shown on Attachment A.

TIMING:
Board action is requested on February 2, 2016.

BACKGROUND:
On June 16, 1980, the Board adopted a Statement of Policy Regarding Sewage Disposal (Policy) (Attachment B) outlining certain policies and procedures relating to sewer service in the County. Paragraph E-4 of the Policy establishes a process by which a property owner who extends a sewer line at his own cost can receive partial reimbursement of his costs. The reimbursement funds are obtained from the connection charges assessed to property owners who apply to connect directly to the privately funded sewer line extension. The connection charge is calculated based on the lot frontage of the property connecting to the sewer line, and reimbursement is available for only five (5) years after the sewer line is completed.

Staff recommends that the Paragraph E-4 of the Sewer Policy be amended to (1) encourage privately funded extensions of the County's sanitary sewer system, (2) make public sewer more accessible to others who cannot afford the substantial cost of constructing a sewer extension, and (3) calculate connection charges more equitably. Paragraph E-4 accomplishes these purposes by eliminating the five-year limitation on reimbursement (making the Policy consistent with the County's current Extension and Improvement policy, which imposes connection charges in perpetuity), and calculating the connection charge based on the number of dwellings that could connect to the sewer line, not property frontage. Also, in order to discourage speculative use of the Policy, an individual who constructs the sewer line is ineligible for reimbursement if the individual owns more than two of the dwellings that would be

eligible to connect to the sewer line or ceases to own at least one of the dwellings connected to the sewer extension in the five-year period following the completion of the sewer extension.

Therefore, staff recommends that the Board approve the attached revision to Paragraph E-4 as shown on Attachment A.

FISCAL IMPACT:
None.

ENCLOSED DOCUMENTS:
Attachment A – Proposed Paragraph E-4 revision
Attachment B – Current Statement of Policy Regarding Sewage Disposal

STAFF:
Robert A. Stalzer, Deputy County Executive
James Patteson, Director, Department of Public Works and Environmental Services (DPWES)
Randy Bartlett, Deputy Director, Stormwater and Wastewater Management Divisions, DPWES
Shahram Mohsenin, Director, Wastewater Planning and Monitoring Division, DPWES

ATTACHMENT A

Proposed Paragraph E-4 revision

E-4 Subject to execution of an application with the County, a property owner who privately funds an extension of the public sanitary sewer will be reimbursed under the following circumstances and according to the following policy:

a. The public sanitary sewer line extension is available to and serves two or more single-family detached residential properties in a subdivision by direct connection and the applicant owns no more than two of such residential properties, one of which must be occupied by the applicant; and
b. Upon the County's receipt of a Surcharge, as described in E-4(c) below, which shall be collected at the time any person files an application to connect to or contributes sewage to the privately funded sanitary sewer line extension, such surcharge shall be paid in January as partial reimbursement to the property owner funding the extension; and
c. The Surcharge amount equals the quotient obtained by dividing the cost of the sanitary sewer extension by the total number of single-family residential properties eligible to be served by the sewer line extension or the County's current maximum Connection Charge for a single-family residential property, whichever is less. The cost of the sanitary sewer extension for purposes of determining the Surcharge is limited to installation costs (including, but not limited to, engineering, easement, permit, and construction costs) of that section of the sanitary sewer line that is used jointly by the connecting single-family residential properties.
d. The applicant will forfeit any right to reimbursement under this policy in the event the applicant ceases to own at least one of the residential dwellings for which the extension of the sewer line was constructed in the five-year period following the completion of the sewer extension. The applicant will also forfeit the right to reimbursement if the applicant fails to maintain a valid mailing address with the County in accordance with the terms and conditions of the reimbursement application.
e. This policy applies only to lawful sewer line extensions and connections that fully comply with all of the provisions of the Board's adopted Statement of Policy Regarding Sewage Disposal.

ATTACHMENT B

OFFICE OF WASTE MANAGEMENT
DEPARTMENT OF PUBLIC WORKS
FAIRFAX COUNTY, VIRGINIA

# STATEMENT OF POLICY REGARDING SEWAGE DISPOSAL

Adopted by the Board of Supervisors June 16, 1980
Revised February 2, 1981
Revised April 30, 2001
Revised June 17, 2002
Revised September 12, 2005

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| Section C - Policy Regarding Developed Communities | 5 |
| Section D - Policy Regarding Revenues and Charges | 6 |
| Section E - Policy Regarding Reimbursement and Funds Advanced to County | 7 |
| Section F - Limitation of Statement of Policy | 8 |

## SECTION A -GENERAL

A-1 The County Integrated Sewage System is operated and maintained by the Department of Public Works, as established by the Board of Supervisors, for the purpose of ultimately providing public sewer service to Fairfax County in accordance with adopted plan.

A-2 The immediate policy, to bridge the gap between present development and ultimate complete system development, is to provide service to areas as designated by the Board to encourage the orderly growth of the County.

## SECTION B - POLICY REGARDING DEVELOPMENT AREAS

B-1 Development areas shall be defined as those areas (a) that are within the sewer service areas as designated by the formal action of the Board of Supervisors; (b) that are undeveloped; and (c) that are being subdivided at time of application for service for residential, industrial, commercial, and/or public use requiring public sewerage service.

B-2 The delineation of the sewer service area boundary is to include the immediately adjacent area which can be served by the smallest allowable gravity lines installed in accord with normal engineering practices which will result in the safest and most cost-effective operation. Any extension of a sewer line across the surface drainage divide of an approved sewer service area shall not exceed a distance of 400 feet nor a manhole depth of 12 feet without the approval of the Board of Supervisors. Notwithstanding the above, an ejector pump may be used to pump sewage from one basement level in a structure to a gravity-flow lateral line, provided that the other floor(s) of the structure are served by a gravity-flow lateral line and the ejector pump is used to pump the sewage to such gravity-flow lateral line.

Notwithstanding the foregoing requirement specifying that only gravity lines can be installed in the area immediately adjacent to the approved sewer service area under the 400-foot rule, a limited exception to that rule will be allowed under specified circumstances so as to allow the utilization of a sewage pump when gravity lines cannot be utilized. Such extensions of sewer lines across the surface drainage divide of an approved sewer service area may be allowed to pump the sewage generated by that property, even in those areas where the Board has determined that the 400-foot rule does not apply, if all of the following requirements set forth in either Paragraph 1 (subparagraphs 1(a) through 1(l) below) or Paragraph 2 (subparagraphs 2(a) through 2(r) below) are satisfied:

PARAGRAPH 1 REQUIREMENTS:

1(a) the parcel in question must have been developed with an existing residential structure served by an onsite sewage disposal system;

1(b) the residence on the parcel in question must have been used for human habitation for more than 75% of the time during the three years immediately preceding the request for the sewer line extension;

1(c) in the event the residence on the parcel in question was constructed pursuant to a building permit approved no more than 20 years before the request for the sewer line extension is

made, the onsite sewage disposal system serving that residence must have been approved by the Fairfax County Health Department in accordance with all requirements set forth in the statutes, ordinances, and regulations of the Commonwealth of Virginia and/or Fairfax County;

1(d) the Fairfax County Health Department must have concluded that the onsite sewage disposal system on the parcel in question is failing, constitutes a health hazard, and cannot reasonably be repaired or replaced;

1(e) the Fairfax County Health Department, in consultation with the Department of Public Works and Environmental Services, must have determined that, other than a connection to the public sewer with the use of a sewer pump, there is no reasonable alternative method of sewage disposal available to the parcel with the failing onsite sewage disposal system;

1(f) the parcel to be served by the proposed sewer line cannot be located any more than 400 feet from the boundary of the existing approved sewer service area;

1(g) the lateral to be used by the parcel to be served by the proposed sewer line cannot extend any more than 300 feet from the connection to the public sewer;

1(h) the lateral and the sewage pump to be used by the property in question shall be owned, maintained by, and remain the sole responsibility of the owner of the property proposed to be served by such lateral and pump;

1(i) the sewage pump to be used by the parcel to be served by the proposed sewer line shall be located on that property;

1(j) none of the cost of extending the County sewer line to such a parcel, including the cost of installing the sewage pump, laterals and any other appurtenant devices, shall be borne by the County;

1(k) the extension of the County sewer line, any laterals and all appurtenant devices necessary to provide sewer service to the parcel must be built and/or installed by the property owner in accordance with all of the applicable requirements of the Fairfax County Department of Public Works and Environmental Services and the Fairfax County Health Department; and

1(l) the extension of the County sewer line must be dedicated to and accepted by Fairfax County for ownership and maintenance.

PARAGRAPH 2 REQUIREMENTS:

2(a) the parcel in question must have been developed with an existing residential structure served by an onsite sewage disposal system;

2(b) the residence on the parcel in question must have been used for human habitation for more than 75% of the time during the three years immediately preceding the request for the sewer line extension;

2(c) in the event the residence on the parcel in question was constructed pursuant to a building permit approved no more than 20 years before the request for the sewer line extension is made, the onsite sewage disposal system serving that residence must have been approved by the

Fairfax County Health Department in accordance with all requirements set forth in the statutes, ordinances, and regulations of the Commonwealth of Virginia and/or Fairfax County;

2(d) the Virginia Department of Transportation (VDOT) and/or the Board of Supervisors of Fairfax County must have concluded that a portion of the parcel in question is needed for the construction of a public road project and must be acquired by eminent domain or other means for use in that public road project;

2(e) that the acquisition by eminent domain or other means by VDOT and/or the Board of Supervisors of Fairfax County of a portion of the parcel in question and the construction of the public road project would necessarily result in the incapacitation of the onsite sewage disposal system serving the residence on the parcel in question;

2(f) that the Fairfax County Health Department must have determined that the residence on the parcel in question at the time a portion of said parcel is acquired by VDOT and/or the Board of Supervisors of Fairfax County could no longer be served by the existing onsite sewage disposal system and that the incapacitation of the existing onsite sewage disposal system could not reasonably be repaired or replaced on the remaining portion of the parcel in question;

2(g) that the provision of sanitary sewer to the parcel in question cannot and will not be used for the purpose of constructing any additional residences on the parcel in question;

2(h) that the Fairfax County Health Department must have concluded that the existing onsite sewage disposal system on the parcel in question would constitute a health hazard in the event the existing onsite sewage disposal system would be incapacitated by the public road project;

2(i) the Fairfax County Health Department, in consultation with the Department of Public Works and Environmental Services, must have determined that, other than a connection to the public sewer with the use of a sewer pump, there is no reasonable alternative method of sewage disposal available to the parcel with the onsite sewage disposal system that would be incapacitated by the public road project;

2(j) the parcel to be served by the proposed sewer line cannot be located any more than 400 feet from the boundary of the existing approved sewer service area;

2(k) the lateral to be used by the parcel to be served by the proposed sewer line cannot extend any more than 300 feet from the connection to the public sewer;

2(l) the lateral and the sewage pump to be used by the property in question shall be owned, maintained by, and remain the sole responsibility of the owner of the property proposed to be served by such lateral and pump;

2(m) the sewage pump to be used by the parcel to be served by the proposed sewer line shall be located on that property;

2(n) none of the cost of extending the County sewer line to such a parcel, including the cost of installing the sewage pump, laterals and any other appurtenant devices, shall be borne by the County unless the County is solely responsible for designing, funding, and constructing the

public road project that caused the incapacitation of the onsite sewage disposal system on such parcel;

2(o) the extension of the County sewer line, any laterals and all appurtenant devices necessary to provide sewer service to the parcel must be built and/or installed by or on behalf of the owner of the parcel in question in accordance with all of the applicable requirements of the Fairfax County Department of Public Works and Environmental Services and the Fairfax County Health Department;

2(p) the extension of the County sewer line must be dedicated to and accepted by Fairfax County for ownership and maintenance;

2(q) in the event of a VDOT public road project, a parcel that satisfies all of the foregoing Paragraph 2 requirements will be allowed to connect to the public sewer before the actual incapacitation of the onsite sewage disposal system on that parcel in the event VDOT certifies in writing to the Fairfax County Department of Public Works and Environmental Services that the Commonwealth Transportation Board has taken formal action to award a construction contract for the work that is anticipated to incapacitate that system; and

2(r) in the event of a public road project of the Board of Supervisors of Fairfax County, a parcel that satisfies all of the foregoing applicable Paragraph 2 requirements (2(a) through 2(p)) will be allowed to connect to the public sewer before the actual incapacitation of the onsite sewage disposal system on that parcel in the event the Fairfax County Department of Public Works and Environmental Services certifies in writing to the Board of Supervisors that there is full funding for the public road project that is anticipated to incapacitate that system.

B-3 Development should be encouraged to seek areas already provided with basic sewerage facilities, such as trunk sewers and treatment plants.

B-4 Developers desiring sewerage service, for certain specified areas, shall make application to the Department of Environmental Management and agree to perform all construction in accordance with plans and specifications approved by the Department and in accordance with all current standards of design and construction.

B-5 Developers will be required to provide enlarged sewers within the area developed when required by the Department of Public Works to service adjacent and/or upstream areas in accordance with general plans promulgated from time to time. An agreement to provide for reimbursing a portion of the increased cost to the developer, as set forth in Section E-2, may be executed prior to construction.

B-6 All sewerage facilities constructed by developers shall be a minimum of 8 inches inside diameter, be constructed in public rights-of-way or upon private land with recorded perpetual easements, free of cost to the County, providing free unobstructed, uninterrupted rights-of-way with provisions for ingress and egress for inspection, operation, maintenance, enlargement, replacement, alteration and extension of the facility.

## SECTION C - POLICY REGARDING DEVELOPED COMMUNITIES

C-1 Developed communities which may be served by the County are defined as those areas within the service area (as designated by the Board of Supervisors) already populated by separate owners and/or renters, including commercial, industrial, and/or public use establishments, not provided with public sewerage facilities.

C-2 Developed communities may receive public sewerage facilities from the County by one of the following methods:

C-2.1 Bond Program based upon engineering and financial feasibility reports with a County-wide referendum to permit the County to issue sewer bonds to finance the recommended program.

C-2.2 Fund Advancement by the community and/or individuals upon execution of agreement and deposit of sufficient funds to construct the facilities. Such funds shall be subject to partial reimbursement as provided in Section E-2.

C-2.3 Extension and Improvement Funds. After all requirements of the system have been met (i.e., Operation and Maintenance, Debt Service and required reserve), funds may be budgeted for construction of extensions, providing (a) the project is justifiable for the health and welfare of the area; (b) the finances of the system are such as to warrant the necessary expenditures; (c) at least one-half of the potential users of the facilities agree to connect immediately upon completion of the facility, and to pay in cash in advance, the applicable availability charges.

C-2.4 County General Fund Contributions. If the purpose of the project is to abate a public health hazard, the General Fund of the County may, to the extent that the financial condition of the General Fund permits, contribute to the capital cost of such project in amounts up to a fraction thereof, the numerator of which being the number of potential users contributing to the public health hazard and the denominator of which being the total potential users of the project.

C-3 All properties within E&I project area will be evaluated by the Division of Environmental Health, Fairfax County Health Department and assigned into one of the following classes which are used in establishing the priority rating of a project.

Class I - Properties in this class are presently served by on site sewage disposal systems that are malfunctioning and creating an immediate hazard to the community.

Class II - Properties in this class are served by on site sewage disposal systems that have a history of problems, occasionally malfunction, are installed in poor soil conditions, or are otherwise not expected to function satisfactorily for any length of time. Sand filter systems are also included in this class since they do discharge effluent into streams and must be abandoned when public sewer is made available. Properties in this class are a potential hazard to the community.

Class III - Properties in this class are served by pit privies and pose no serious hazard to the community if maintained properly. However, the minimum Housing Hygiene Code of

Fairfax County requires that basic facilities be provided to all dwellings. These properties cannot comply with these requirements without the availability of public sewer.

C-3.1 All projects will be installed in order of their priority rating. The Division of Environmental Health assigns preliminary priorities on the basis of potential health hazards. These priorities are then reviewed jointly with the Department of Public Works and adjustments are made taking into consideration the economic feasibility of the preliminary list.

## SECTION D - POLICY REGARDING REVENUES AND CHARGES

D-l The system is organized and must operate on a basis designed to raise sufficient revenue to pay all costs and provide all appropriate reserves.

D-2 Sources or revenue of the sewer facilities of the County are (1) Availability Charges; (2) Connection Charges; (3) Lateral Spur Charges; (4) Service Charges; and (5) Account Charges.

D-2.l Availability Charge is a one time charge collected from all users prior to connection to the system to cover in part the applicant's proportional share of the cost of facilities required beyond the collector system. Such facilities beyond the collector system include subtrunk sewers, trunk sewers, pumping stations and treatment facilities.

D-2.2 The fundamental principle in determining the availability fee shall be that:

> The needed total annual revenue requirements of sewage works shall be contributed by users and non-users (or by users and properties) for whose use, need and benefit the facilities of the works are provided, approximately in proportion to the cost of providing the use and the benefits of the works.

D-2.3 Availability fee revenues may be used for construction of new capital facilities to the extent such facilities will benefit new subscribers to the system ("new customers"). Availability fee revenues will not be used for improvements to the extent such improvements will only "benefit "existing" or "current" users of the system. Availability fee revenues may be used to meet the cost of remedying significant operational emergencies, and provision will be made for the timing of reimbursement of the capital for any such emergency disbursements.

D-2.4 Separate accountability for availability fee revenues and capital expenditures will be maintained.

D-2.5 Review of the availability fee consistent with the principles set forth herein will occur annually and will coincide with the County's budget cycle at which time the availability fee schedule for the ensuing year will be set by the Board of Supervisors.

D-2.6 Connection Charge (Front Footage Charge) is a one-time charge collected from all users prior to connection to the system in those cases where service can be obtained from facilities provided by and at the expense of the County, or persons, firms, or corporations other than the applicant. It is levied as a partial repayment of the costs of collector sewers.

D-2.7 Lateral Spur Charge is a one-time charge collected from all users who connect to the lateral spur. This charge must be paid prior to connection to the system and is levied as a partial repayment of the cost of a lateral spur, pursuant to VDH&T requirements that all sanitary sewer facilities to be located within the right-of-way of public highways be installed at one time, under a single permit.

D-2.8 Service Charges are continuing charges based upon water consumption at a cost per 1,000 gallons as established by the rate ordinance.

D-2.9 Account Charges are to defray the cost incurred by reason of special services rendered (repair of developer constructed facilities, temporary treatment, etc.) and agreements or regulatory requirements for which costs are not covered by other charges.

## SECTION E - POLICY REGARDING REIMBURSEMENT AND FUNDS ADVANCED TO COUNTY

E-1 Facilities will be constructed only after sufficient funds are advanced by others to finance said construction, or after the reserves of the system are adequate to finance said construction, or after the issue and sale of revenue bonds.

E-1.1 Investments by developers in local collector and lateral facilities in their respective development areas will not be refunded by, or become an obligation of, the County, as such investments are considered as accrued benefits to the improved property and will be recovered through the increase in value of the property.

E-1.2 Individual owners located adjacent to or within reach of service by sewers installed by and at the expense of the County, or by persons, firms or corporations other than the individual owner, will be required to pay the applicable Availability and Connection charges upon application for service.

E-2 Enlarged Sewers within the area under development as required by paragraph B-5 which are greater than required for the facilities being developed and/or off-site sewers constructed by agreement may be reimbursed for the cost differential as set forth in the agreement according to the following policy:

E-2.1 The amount to be reimbursed shall not exceed the original cost of the enlarged facility multiplied by the quotient obtained by dividing the total acreage and/or units served less the development acreage and/or units served by the total acreage and/or units served by said enlarged facility. This amount is subject to the interest rate of paragraph E-2.3.

E-2.2 Only sewers with an internal diameter exceeding ten (10) inches will be considered as enlarged sewers.

E-2.3 Reimbursement payments will be made as provided in the agreement, subject to the following limitations:

A. The funds and interest for aforesaid payment shall be collected from other users and an Account Charge as provided in paragraph D-2.4.

B. The interest rate shall not exceed 10% per annum for a period of time longer than fifteen (15) years from the date of completion and acceptance of the facility.

C. Annual payments to the developer, his assignee or successor, will be made annually in January for not more than twenty (20) consecutive years.

D. While it is generally believed that a substantial portion of the additional cost will be reimbursed in the twenty (20) year period, the County shall incur no liabilities for failure to collect aforesaid sums of money. Any loss of anticipated reimbursement is considered fully compensated by accrued benefits to the improved property resulting from advancement of the date when sewage service would have become available.

E-3 Extensions of sewers to the development boundary of single family subdivisions to facilitate service to adjoining properties will generally be constructed concurrent with the construction of facilities within the subdivision. Costs incurred by developer will be reimbursed from available E&I funds, which will be replenished by an Account Charge to adjoining property.

E-4 Direct connections to a development's sewers installed along the boundary, serving the development on one side and available to serve the adjoining property will be reimbursed if applied for according to the following policy:

A. Reimbursement to be made only for connection made within 5 years after completion of sewer.

B. No interest or handling charges will be paid.

C. Payments will be made annually in January from revenue collected from Connection charges of connections made directly to said sewer. The percentage of said charges refunded will be set forth in an agreement with the developer, but shall not exceed the cost of the sewer multiplied by the quotient obtained by dividing the front footage of property other than that for which the extension was made by the total front footage served by the said sewer.

## SECTION F – LIMITATION OF STATEMENT OF POLICY

F-1 This statement of policy is published for the information of developers and the general public as a guide to understanding the policy of the Department of Public Works in its administration of the Integrated Sewerage System of Fairfax County. As such, no statement herein contained should be construed as binding upon the County.

Board Agenda Item
February 2, 2016

ACTION - 2

Approval of the Project Agreement Between the Virginia Department of Rail and Public Transportation (DRPT) and Fairfax County for Fiscal Year (FY) 2016 Funding for the I-95 Transit and Transportation Demand Management Plan Operating Assistance

ISSUE:
Approval for the Director of the Department of Transportation to sign the Project Agreement with DRPT, to enable the County to receive FY 2016 funding for the I-95 Transit and Travel Demand Management (TDM) Plan operating assistance.

RECOMMENDATION:
The County Executive recommends that the Board authorize the Director of the Department of Transportation to sign the Project Agreement between DRPT and Fairfax County, in substantial form, to fund Fairfax County's I-95 Transit and TDM Plan operating assistance.

TIMING:
The Board of Supervisors should act on this item on February 2, 2016, so that DRPT can release FY 2016 funding for the TDM Plan operating assistance.

BACKGROUND:
The I-95 Corridor Transit and TDM Plan was developed to provide the Commonwealth of Virginia with recommendations, including both operations and capital investments, to complement the I-95 High Occupancy Toll/High Occupancy Vehicle (HOT/HOV) lanes improvements. The plan pivots off of the 2008 DRPT I-95/I-395 Transit/TDM Study. This plan maximizes utilization of the HOT/HOV lanes network and responds to the demand for increased public transportation and ridesharing. The I-95 Transit and TDM Plan was developed in collaboration with the Secretary of Transportation and the Virginia Public-Private Transportation Act (PPTA) Office. A multi-jurisdictional stakeholder group was formed early in the study process to provide technical input into the study. The stakeholder group held meetings at three key points during the course of the study.

FISCAL IMPACT:
State grant funding in the amount of $371,356 was approved in the FY 2016 Six Year Improvement Program. Funding from the Commonwealth is provided on a reimbursement basis. Funding in the amount of $322,000 is currently appropriated for this grant in Fund 40000, County Transit Systems. The balance of $49,356 will be

appropriated to the same fund at the *FY 2016 Third Quarter Review*. There will be no general fund impact, if this item is approved.

ENCLOSED DOCUMENTS:
Attachment 1 – Project Agreement for Grant # 71316-11: I-95 Transit and TDM Plan Operating Assistance
Attachment 2 - Fairfax County Board of Supervisors Agreement Execution Resolution for the I-95 Transit and TDM Plan Operating Assistance Project Agreement

STAFF:
Robert A. Stalzer, Deputy County Executive
Tom Biesiadny, Director, Fairfax County Department of Transportation (FCDOT)
Todd Wigglesworth, Chief, Coordination and Funding Division, FCDOT
Susan Cooke, Assistant County Attorney
Malcolm Watson, Coordination and Funding Division, FCDOT

**Project Agreement for Use of**
**Commonwealth Transportation Funds**
**Fiscal Year 2016**
**Six Year Improvement Program Approved Project**
**Grant Number 71316-11**

This Project Agreement ("Agreement") effective July 1, 2015, by and between the Commonwealth of Virginia Department of Rail and Public Transportation ("Department") and Fairfax County ("Grantee") (collectively, the "Parties") is for the provision of funding for the I-95 Transit and TDM Plan operating assistance ("Project").

WHEREAS, the Grantee submitted an application to the Department for funding in the Fiscal Year 2016 Six Year Improvement Program for I-95 Operating Assistance; and

WHEREAS, the Department has approved funding for the Project; and

WHEREAS, on June 17, 2015, the Commonwealth Transportation Board ("CTB") allocated funding for the Project; and

WHEREAS, the Parties wish to define the extent of the Project, the responsibilities of each Party, the manner of performing the necessary Work, the method and time of payment, and to set out additional conditions associated with the Project.

NOW, THEREFORE, in consideration of the covenants and agreements set forth, and other good and valuable consideration, the sufficiency of which is acknowledged, the Parties agree as follows:

## ARTICLE 1. SCOPE OF WORK, TERM AND BUDGET

1. The Work under the terms of this Agreement is as follows:

    a. I-95 Transit and TDM Plan operating assistance.

2. The Department agrees to provide funding as detailed below:

    a. State grant funding in the amount of $371,356 for the Project approved in the Fiscal Year 2016 Six Year Improvement Program. Details concerning this funding are contained in Appendix 1, which is attached and made a part of this Agreement.

3. The Grantee acknowledges that state grant funding for this grant cannot exceed the amount allocated by the CTB and that state grant funding is contingent upon appropriation by the General Assembly of Virginia.

4. The State grant funding amount is calculated based on a 45 percent farebox recovery rate. If the farebox recovery rate exceeds 45 percent for the grant period, the Department will

reduce future grants to the Grantee by the overfunded amount. If the actual farebox recovery rate falls below 45% for the grant period, the Grantee can request an amendment to this Agreement to provide for the additional net operating costs incurred.

## ARTICLE 2. INCORPORATION OF MASTER AGREEMENT FOR USE OF COMMONWEALTH FUNDS

The Parties hereby agree to incorporate the Master Agreement for Use of Commonwealth Transportation Funds, dated May 30, 2012, as if set out in full herein.

*This space intentionally left blank*

**Appendix 1**

**Grantee: Fairfax County**

**Project: I-95 Transit and TDM Plan Operating Assistance**

**State Project Agreement**

**Project Number: 71316-11**
**Project Start Date: July 1, 2015**
**Project Expiration Date: June 30, 2016**

| Fund Code | | Item Amount |
|---|---|---|
| 477 | Grant Amount (State share of Project cost 100%) | $371,356 |
| | Total Project Expense | $371,356 |

In no event shall this grant exceed $371,356.

IN TESTIMONY THEREOF, the Department and the Grantee have caused this Agreement to be executed, each by their duly authorized officers, all as of the day, month, and year first written.

DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION

By: _____
Director

Date Signed: _____

By: _____

Title: _____

Date Signed: _____

# Fairfax County Board of Supervisors Resolution

At a regular meeting of the Board of Supervisors of Fairfax County, Virginia, held in the Board Auditorium in the Fairfax County Government Center of Fairfax, Virginia, on Tuesday, [redacted] 2016, at which meeting a quorum was present and voting, the following resolution was adopted.

AGREEMENT EXECUTION RESOLUTION

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the County of Fairfax, Virginia, authorizes the Director of the Department of Transportation to execute, on behalf of the County of Fairfax, a Project Agreement with the Virginia Department of Rail and Public Transportation (DRPT) for the provision of funding for the I-95 Transit and Transportation Demand Management Plan operating assistance.

Adopted this [redacted] day of [redacted] 2016, Fairfax, Virginia

ATTEST _____
Catherine A. Chianese
Clerk to the Board of Supervisors

Board Agenda Item
February 2, 2016

ACTION - 3

Adjustment to Fairfax Center, Centreville, Tysons, Tysons-Wide and Tysons Grid of Streets Road Funds (Dranesville, Springfield, Braddock, Sully, Providence Districts)

ISSUE:
Adjustments to Fairfax Center, Centreville, Tysons, Tysons-Wide and Tysons Grid of Streets Road Funds are needed to compensate for inflation, as defined in the Consumer Price Index, to keep pace with increases in construction costs for which the fund areas were established.

RECOMMENDATION:
The County Executive recommends that the Board of Supervisors approve the attached rate schedule, including a 0.25 percent adjustment of the existing contribution rates in all fund areas with the new rate effective February 3, 2016.

TIMING:
Board action is requested on February 2, 2016, so that the new rates can take effect on February 3, 2016.

BACKGROUND:
One of the principles of the Comprehensive Plan for the Fairfax Center Area is that development above the baseline level established in the plan may be approved, if the developer contributes to a fund for the provision of off-site road improvements. Each of the other funds function in the same manner.

Attachment 1 reflects the increase in developer contribution rates as calculated with the 0.25 percent inflation since 2014. The 0.25 percent is taken from the Consumer Price Index (CPI) as required by the Code of Virginia. The rate increase is necessary to keep pace with inflationary construction cost increases. Attachment 2 includes projects previously approved by the Board. County staff is not requesting approval of any new projects at this time.

Attachment 3 includes the guidelines for the Fairfax Center, Tysons-Wide, and Tysons Grid of Streets Road Funds. No changes are proposed to any of the guidelines at this time.

FISCAL IMPACT:
Adoption of the revised rates will increase the funds contributed by developers to Fund 30040, Contributed Roadway Improvements, by approximately 0.25 percent over previously anticipated amounts. However, the Procedural Guidelines for the Fairfax Center, Tysons-Wide, and Tysons Grid of Streets specifically stipulate that the contribution amount is determined by the effective rate at the time of development approval by the Board, and that such amounts are fixed for site plans submitted for that approved development during a two-year period. Thus, the primary effects of this increase will be felt in future fiscal years.

ENCLOSED DOCUMENTS:
Attachment 1: Calculation of Revised Contribution Rate for 2016
Attachment 2: Fund 30040 Projects Previously Approved by the Board
Attachment 3: Procedural Guidelines for Annual Review Process; Fairfax Center Area, Tysons-Wide Area and Tysons Grid of Streets Area

STAFF:
Robert A. Stalzer, Deputy County Executive
Tom Biesiadny, Director, Fairfax County Department of Transportation (FCDOT)
Todd Wigglesworth, Chief, Coordination and Funding Division, FCDOT
Kenneth Kanownik, Transportation Planner II, FCDOT

Attachment 1

## CALCULATION OF REVISED CONTRIBUTION RATE - 2016

Inflation rate for 2015 based on the Consumer Price Index published by the US Department of Labor, Bureau of Labor Statistics

### Proposed 2016 Contribution Rate

| Road Fund Area | Type | Current Rate | Inflationary Increase | Proposed Rate |
|---|---|---|---|---|
| Tysons | non-residential | $4.36 | x 1.0025 | $4.37 |
| | residential | $968 | x 1.0025 | $970 |
| Tysons-Wide | non-residential | $5.87 | x 1.0025 | $5.90 |
| | residential | $1,042 | x 1.0025 | $1,045 |
| Tysons-Grid of Streets | non-residential | $6.71 | x 1.0025 | $6.73 |
| | residential | $1,042 | x 1.0025 | $1,045 |
| Fairfax Center | non-residential | $5.93 | x 1.0025 | $5.94 |
| | residential | $1,313 | x 1.0025 | $1,316 |
| Centreville | non-residential | $6.36 | x 1.0025 | $6.38 |
| | residential | $2,516 | x 1.0025 | $2,522 |

Attachment 2

## FUND 30040 Projects Approved by the Board

| PROJECT | PROJECT DESCRIPTION | PRELIMINARY COST ESTIMATES* | STATUS |
|---|---|---|---|
| **FAIRFAX CENTER AREA** | | | |
| Route 50/Waples Mill Road Interchange | Design of entire interchange including at-grade and flyover components; construction to be phased depending on funding availability. | $5.8 M (at-grade) | Construction of at-grade improvements completed in December 2006. |
| Tall Timbers Drive | Construct an east-west roadway, connecting Fields Brigade Drive and North Lake Drive. | $1.8 M | Completed in February 2007. |
| **CENTREVILLE AREA** | | | |
| Old Centreville Road at Route 28 | Construct improvements to Old Centreville Road approach to Route 28. | $0.2 M | Complete. |
| Stone Road | Construct center raised median with left turn lanes between Granville Lane and Sully Park Drive. | $1.0 M | Completed in July 2008. |
| Clifton Road | Widen to 4-lanes between Braddock Road and Lee Highway (Route 29). | $4.3 M | Completed in 2006. |
| Centreville Fire Station Emergency Signal | Preemptive Emergency Signal for Centreville Fire Station Access to Old Centreville Road | $.03 M | Construction Complete, final VDOT approval pending |

*Project cost estimates are done without any survey and right-of-way needs information, and could change significantly
**Funding amount represents Board Authorized Funding from Fund 30040, project total is listed in parenthesis ().

| TYSONS CORNER AREA | PROJECT DESCRIPTION | PRELIMINARY COST ESITMATES* | STATUS |
|---|---|---|---|
| Pedestrian Facilities in Tysons | Supplemental funding for design of projects funded by Job Access and Reverse Commute Grant. | $0.8 M | Complete |
| Route 7 & Route 123 | Complete selected improvements as proposed in Route 7/123 Transportation Corridor Study prepared by Patton Harris Rust and Associates; construction to be phased based on funding availability. | $3.3 M | Complete |
| Conceptual Engineering and Design of Boone Boulevard and Greensboro Drive | Determine the feasibility and impacts of extending Boone Boulevard and Greensboro Drive. | $0.8 M | Complete |
| Tysons Corner Metrorail Access Management Program (TMSAMS) | On March 30, 2009, the Board of Supervisors requested that multi-modal access to the four Tysons Corner Metrorail stations be studied and that citizens and businesses from the three surrounding magisterial districts and the Town of Vienna be represented on this study group. | $0.35 M | TMSAMS was conducted in 2010 and 2011 and the final report on this was presented to the board on December 6, 2011. Updates are provided here: http://www.fairfaxcounty.gov/fcdot/silverline/tysonsimp.htm for individual project updates. |

*Project cost estimates are done without any survey and right-of-way needs information, and could change significantly
**Funding amount represents Board Authorized Funding from Fund 30040, project total is listed in parenthesis ().

| TYSONS CORNER AREA PROJECT | PROJECT DESCRIPTION | PRELIMINARY COST ESITMATES* | STATUS |
|---|---|---|---|
| Conceptual Design and Engineering of Sections of the Proposed Tysons Corner Street Grid | The proposed Tysons grid of streets is a critical element of the future plan for Tysons Corner. It disperses vehicle traffic and improves mobility for pedestrians and bicyclists. The grid of streets will be supported by a street hierarchy that allows different types of trips to use different streets. People wishing to travel across Tysons can choose to use a major arterial, such as Route 7. Others who only need to travel a couple of blocks will have a choice to travel on a smaller street within the grid of streets. | $2.5 M | To enhance the redevelopment of Tysons, it is necessary to finalize the location and associated right-of-way needs for the grid of streets, including the requirements of the proposed circulator system. This project is complete. |
| Tysons Circulator Feasibility Study | To advance the conceptual Circulator System, more detailed design, with consideration given to the desired development pattern, will need to be done. Details of the final Circulator alignment that will need to be assessed include. The specific connections between the Circulator and the Metrorail system. Location of Circulator stops throughout Tysons. Circulator routes to connect the desired Circulator stops, including identification of how the Circulator fits into the roadway right-of-way. Design of the Circulator platforms and stops, including access and circulation plans for pedestrians, transit, bikes, and autos, and integration with the surrounding land uses. | $0.5 M | The Tysons Circulator Study was published in February 2013 and is posted at http://www.fairfaxcounty.gov/tysons/transportation/download/tysons_circulator_study_final_report.pdf |

*Project cost estimates are done without any survey and right-of-way needs information, and could change significantly

**Funding amount represents Board Authorized Funding from Fund 30040, project total is listed in parenthesis ().

| TYSONS CORNER AREA PROJECT | PROJECT DESCRIPTION | PRELIMINARY COST ESITMATES* | STATUS |
|---|---|---|---|
| Route 7 – from Route 123 to I-495/Capital Beltway | Widening of Route 7 from Route 123 to I-495. | $29.0 M | Currently in Phase II Tysons Improvements project list, scheduled from 2013-2020. Initial project design is underway |
| Tysons East Super Streets Simulation | Conduct a simulation for a portion of Route 123 in the Tysons East area to demonstrate the feasibility of a potential super street concept. The super street concept modifies left turn movements to facilitate regional through movement. The analysis will assist in the preliminary design of the super street section currently being developed. | $0.152 M | The preliminary design (30% level) plans of the super street section are being finalized. |
| Tysons Transportation Management Association – Start Up Funding | To assist TYTRAN in establishing a TMA in Tysons. Funding will allow a Tysons TMA to operate over the next five years. After this five year period the TMA will be funded through dues from TYTRAN membership. | As Proffers Dictate | To date $317,000 has been transferred to the Tysons TMA |
| **TYSONS CORNER AREA PROJECT** | **PROJECT DESCRIPTION** | **PRELIMINARY COST ESITMATES*** | **STATUS** |
| State Street Study | Develop and evaluate concepts for a new roadway named State Street, which will connect | $39,000 | Study report drafted and currently under review. |

*Project cost estimates are done without any survey and right-of-way needs information, and could change significantly
**Funding amount represents Board Authorized Funding from Fund 30040, project total is listed in parenthesis ().

| | | | |
|---|---|---|---|
| | the future Boone Boulevard and Greensboro Drive in Tyson Corner area. Study will assess the potential alignments, property impacts, costs and feasibility | | |
| Cleveland Ramp Alternatives Analysis | Develop and assess design concepts for a new ramp connecting the Dulles Airport Access Road to the new Tysons East grid of streets | $145,000 | Alternative development and analysis stage is underway. Completion anticipated in Spring 2016. |
| Route 7/Route 123 Street Simulation and Operational Analysis | Develop plan for widening Route 7 and potential improvements to the Route 7 /Route 123 Interchange. This work will include Operational Analysis of the road and interchange, conceptual engineering design of Route 7 corridor and schematic design of recommended improvements to the Route 7/Route 123. Plans will assess the potential alignments property impacts and construction cost. | $600,000 | Final simulation and operational analysis report to be completed at the end of January 2016. |
| Jones Branch Connector | The Jones Branch Connector will provide an alternative route between Tysons East (Route 123) and West (Jones Branch Drive), bypassing the I-495/Route 123 Interchange. The proposed connection is anticipated to improve the operations along the adjacent road systems. Currently the existing Jones Branch Connector carries traffic between Jones Branch Drive and the I-495 Express Lanes ramps. This project will also provide improved access to the I-495 Express Lanes from the east side of Tysons. | $7,200,000** ($56,000,000) | Final design is scheduled for completion in Summer 2016. Construction is scheduled to begin in early 2017 |

*Project cost estimates are done without any survey and right-of-way needs information, and could change significantly
**Funding amount represents Board Authorized Funding from Fund 30040, project total is listed in parenthesis ().

| TYSONS CORNER AREA PROJECT | PROJECT DESCRIPTION | PRELIMINARY COST ESITMATES* | STATUS |
|---|---|---|---|
| Route 123 "Superstreets" Outside/Inside the Beltway | This project implements a Restricted Crossing U-turn (Superstreet) design concept along Route 123 between International Drive and I-495. This concept would restrict certain left turn movements at intersections and allow for U-turns along Chain Bridge Road to facilitate these movements. The design incorporates pedestrian facilities along the corridor. Funding will be used for the analysis and design of the Route 123 Superstreet segments outside the Beltway and also support the future preliminary engineering related efforts for the segments inside the Beltway. Funding will also be used to assess how the segments outside and inside the Beltway are to be implemented (i.e consecutively, or in parallel). | $3,000,000** ($34,000,000) | Outside the Beltway: Scope of work is being developed.<br><br>Inside the Beltway: 30% level design plans complete. |
| Route 123 / Route 7 Interchange | This project consists of reconstructing the interchange of Route 123 & Route 7 to improve operation and safety for all travel modes. Various design concepts are under consideration which incorporate shared use pathways and shared use lanes. Funding will be used to analyze design concepts with input from stakeholders, finalize a preferred concept and begin design work. | $5,000,000** ($52,000,000) | Design charrette scheduled with Tysons Partnership and local Stakeholders in January 2016 to discuss Route 7 and Route 123 intersection design. |
| Cleveland Ramps | This project consists of modifying the existing interchange of the Dulles Connector with Dolley Madison Boulevard (Route 123) to facilitate a direction connection from the | $2,000,000** ($80,000,000) | An initial Alternatives Analysis is in the final stages of completion, a final report should be available in Spring 2016. This analysis |

*Project cost estimates are done without any survey and right-of-way needs information, and could change significantly
**Funding amount represents Board Authorized Funding from Fund 30040, project total is listed in parenthesis ().

| | | | |
|---|---|---|---|
| | eastbound Dulles Connector Ramp to Scotts Crossing Road. This connection will provide an alternate route to the already congested Route 123. To facilitate this connection changes will need to be made to the eastbound-off ramps and eastbound on-ramps of the Dulles Connector. These changes include adding new signals, possible reconstruction of the eastbound Dulles Connector bridge over Route 123, and the addition of lanes to Route 123 and the eastbound Dulles connector to facilitate merging traffic. | | identified two preferred alternatives, a Braided Ramp Concept and an Auxiliary Lane concept, to be carried forward in an Interchange Modification Report (IMR). |

*Project cost estimates are done without any survey and right-of-way needs information, and could change significantly
**Funding amount represents Board Authorized Funding from Fund 30040, project total is listed in parenthesis ().

ATTACHMENT 3

# PROCEDURAL GUIDELINES

# FOR THE

# ANNUAL REVIEW PROCESS

# FAIRFAX CENTER AREA

Adopted by

FAIRFAX COUNTY
BOARD OF SUPERVISORS

November 22, 1982

April 1, 1995

## ANNUAL REVIEW PROCESS FOR THE FAIRFAX CENTER AREA

The following guidelines serve to direct staff in the implementation of the Fairfax Center Area Plan. These procedures were adopted by the Board of Supervisors on November 22, 1982, and revised periodically since their adoption. Guidelines for the monitoring of development in the Area as well as a procedure for reviewing the roadway contribution formula are included herein.

### A. MAINTENANCE / REVIEW OF LAND USE DATA

It is the intent of the Board of Supervisors that the target or goal for development intensity of the Fairfax Center Area be Level B, as recommended by the Planning Commission. The annual review process will be utilized to assure the achievement of this goal. In addition the Department of Planning and Zoning and the Department of Systems Management for Human Services will collect and maintain the following information with respect to land use development in the Fairfax Center Area:

- the development status of parcels, land development units and unit groups (including acreage, existing zoning, existing land use, planned land use, number and type of dwelling units, and amount and type of non-residential floor area); and

- the identification of activity in the development pipeline for each parcel, land development unit and unit group (including the following stages of development: rezonings pending, rezonings granted, site plans submitted, site plans approved, building permits issued, and projects under construction).

Staff will prepare an annual summary document of this information for presentation to the Board of Supervisors.

### B. ROADWAY CONTRIBUTION FORMULA REVIEW PROCESS

The following excerpt from the Comprehensive Plan identifies the intention of the Board of Supervisors to review the method by which the private sector contributes to funding of roadway improvements in the Fairfax Center Area:

> The proportional share of the transportation improvements provided by the private sector will be established by the Board of Supervisors and reviewed periodically through an established public process such as the Annual Plan Review.

The paragraphs that follow specify the review process to be undertaken by the Board and County staff. Clarification on the Contribution Formula, Roadway Improvements Prioritization, and the Road Fund Account are also provided.

An appraisal of funding and implementation of roadway improvements in the Fairfax Center Area will be made annually and presented to the Board. The appraisal will include but not be limited to the following items:

- identification of total funds contributed by the private sector and the funds contributed over the previous year(s);

- review of trends in roadway construction costs reflecting inflation (or deflation) rates;
- listing of right-of-way dedications, roadway construction, and other commitments/contributions provided in previous year(s);
- examination of the development pipeline toward re-assessment of programming of roadway projects; and
- discussion regarding the ability of current funding mechanisms to satisfactorily provide for necessary roadway improvements.

This annual appraisal will not be conducted as a full-scale traffic analysis and roadway needs study. Rather, it will evaluate the suitability of roadway project implementation with respect to specific site developments and the overall Fairfax Center Area development. In addition to these items, staff will make recommendations with respect to the prioritization of roadway projects. An examination of the funding formula will also be presented for reconsideration by the Board.

## C. CONTRIBUTION FORMULA

The Contribution Formula is designed to represent the participation of the private sector in the funding and implementation of 'off-site' roadway projects and provision of land and facilities for transit-related purposes. 'Off-site' roadway projects are defined for the purposes of this document as:

- those projects which include major improvements to non-interstate primary facilities such as Routes 29 and 50;
- improvements to secondary roadways functioning as arterial roadways, including Fairfax County Parkway, Waples Mill Road, Shirley Gate Road, West Ox Road, Stringfellow Road, and Clifton Road;
- bridges and interchanges on interstate and primary roadways;
- traffic signals which are not otherwise required within the boundaries of or adjacent to sites subject to development; and
- those portions of roads internal to the Fairfax Center Area which are not within the boundaries of or adjacent to sites subject to development.

These 'off-site' roadway improvements are identified in the next section titled "Prioritization of Roadway Improvements."

This formula does not relate to the dedication of right-of-way for, or the construction of, local and collector roads traversing the Fairfax Center Area where such roads lie within or adjacent to sites being developed. In addition, this formula does not apply to those improvements necessary for site access (i.e., turn lanes, traffic signals or service drives)[1]. It is expected that

---

[1] Turning lanes and traffic signals provided on major arterials (e.g. Route 29) are considered to be 'off-site' improvements.

these improvements will be provided solely by the owner/developer of the site. These improvements are referred to as 'on-site' projects.

'Transit-related purposes' are defined as the following:

- rail stations and facilities peripheral to their function
- park-n-ride lots
- bus transit transfer stations and facilities peripheral to their function

The formula does not apply to facilities or activities designed to address site-specific needs to reduce the number of single-occupant vehicle (SOV) trips, such as construction of bus shelters and implementation of TDM programs.

As a minimum, the contribution formula will be as follows[1]:

- for any application requesting a level of development above the baseline, the contribution will be $2.50 per gross square foot of building structure of the total proposed non-residential space and $577 per unit of the proposed residential uses;
- up to one-third of the total contribution required can be credited by the dedication of right-of-way for 'off-site' roadway projects or 'transit-related' projects provided no density credits have been granted for the same right-of-way;
- the total contribution requirement can be provided in part or in total by the construction of major portions of 'off-site' roadway projects or 'transit-related' projects.

For the purpose of interpreting these guidelines, development 'above the baseline' shall be construed to mean any uses that generate peak-hour traffic volumes higher than those generated by baseline development levels, regardless of the type of land use modification (rezoning, Special Exception, or other).

The need for a contribution for each application will be identified prior to development approval. Upon approval, the contribution rate at the time of approval will remain effective for a period of 2 years. If a site plan or subdivision plan (i.e. preliminary or final plat) is not submitted within 2 years from the development approval date, the contribution rate which is in effect at the time of site plan submission or final subdivision plat submission will be utilized to identify the total contribution required. The total contribution will then be adjusted to reflect the deduction of any applicable credit and/or 'in-kind' contribution. 'In-kind'

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[1] Contribution amounts to the fund have subsequently been modified. A twenty year track of previous revisions is provided at the end of the document.

contributions are defined as those commitments made by the private sector towards the provision, in part or in total, of the construction of 'off-site' roadways, or 'transit-related' purposes as defined previously.

Credit for land dedicated for the described purposes will be based upon the property's existing County assessment which is in effect at the time of site plan submission or final subdivision plan submission. The value of the land to be dedicated can be credited to no more than one-third of the total required contribution, provided density credits have not been granted for this same dedicated land area. That is, the applicant will have the opportunity to receive credit, based upon right-of-way dedication, for either density of development or partial satisfaction of the total required contribution. The applicant, prior to development approval, should indicate his intent with regard to the credit opportunities for land dedicated in accordance with these guidelines. Dedication of land for site access improvements will not be eligible for consideration with respect to the total required contribution.

If an applicant elects to construct or provide sufficient funds to construct a portion or portions of 'off-site' roadway projects or 'transit-related' projects, a cost estimate will be provided by the applicant and reviewed by the Department of Public Works and Environmental Services consistent with bonding practice prior to plan or subdivision plat approval. These costs, once verified and accepted by the Department of Public Works and Environmental Services, will be applied against the applicant's total contribution with any applicable land credits as illustrated in Appendix A of these Guidelines. The roadway construction projects will be completed before the respective 'off-site' roadway or 'transit-related' project construction bonds are released.

Prior to or upon site plan or subdivision plat approval, the applicant will contribute 10 percent of the total required contribution minus any applicable credits as discussed previously. The remaining 90% will be required before building permits are issued. If the sum of the cost estimate for the 'in-kind' roadway and 'transit-related' projects and the value of the dedicated land (up to one-third of the total required contribution) is less than the total required contribution, the applicant will supply 10 percent of this differential monetary contribution prior to or upon site plan or subdivision plat building permit. In the event that the combined value of the dedicated land for the 'off-site' roadways or 'transit-related' projects (up to one-third of the total contribution) and the cost estimate for the construction of same exceeds the projected contribution, then it shall be determined that the applicant's commitment to the Fairfax Center Area Road Fund has been met.

As the Fairfax Center Area develops, a schedule for roadway improvements will be established. However, dedicated rights-or-way or monetary contributions will not be conditioned on a specific roadway project or the completion of a project by a specified date.

## D. PRIORITIZATION OF ROADWAY IMPROVEMENTS

The timing of the roadway improvements is crucial to the manner in which the Fairfax Center Area develops. The following improvements are considered as high priority and should be scheduled for implementation as closely as possible to the order in which they are listed. Physical, fiscal, and developmental constraints may shift the priorities of the projects as identified through the annual analysis of road improvement needs. The improvement priorities were adopted by the Board of Supervisors on January 9, 2001. (Note: strikeout indicates completed project.)

- o Advanced right-of-way acquisition for:
  - ~~Monument Drive west of Fields Brigade Road~~
  - ~~Stringfellow Road relocation~~

- o At-grade improvements/construction:
  - ~~West Ox Road / Route 29 at-grade improvements~~
  - ~~Completion of Monument Drive west of Fields Brigade Road~~
  - ~~Stringfellow Road widening between Fair Lakes Parkway to Route 29~~
  - ~~Widen Route 50 to 6 lanes east of Stringfellow Road~~
  - ~~Waples Mill Road / Route 50 at-grade improvements~~
  - Widening of Waples Mill Road to six lanes between Route 50 and Route 29
  - Widening of Rugby Road to four lanes between Fairfax County Parkway and Route 50
  - Widening of Route 50 to 8 lanes between Waples Mill Road and I-66
  - Construction of local and collector roads internal to the Fairfax Center Area which are not within the boundaries of or adjacent to sites under development

- o Interchanges:
  - ~~Fairfax County Parkway / Route 29 / West Ox Road~~
  - ~~Fairfax County Parkway / Route 50~~
  - Waples Mill Road / Route 50
  - ~~Fairfax County Parkway / Fair Lakes Parkway / Monument Drive with widening of the Parkway to 6 lanes between I-66 and Route 50~~

- o Route 29 reconstruction:
  - East of West Ox Road, including interchanges at Shirley Gate Road and Monument Drive
  - West of West Ox Road, including an interchange at Clifton Road/Stringfellow Road

- o Fairfax County Parkway widening:
  - ~~Construction of 4 lanes between Route 29 and Braddock Road~~
  - ~~Widening to 6 lanes between I-66 and Route 50 in conjunction with the construction of an interchange at Fair Lakes Parkway / Monument Drive~~
  - Construction of 6 through lanes between I-66 and Route 29

This priority listing will change due to development and financial considerations. It is important that development not occur without the availability of sufficient roadway access and capacity. This is especially important in the development of those parcels that would utilize the sub-connectors traversing or adjoining their property.

Roadway construction and/or right-of-way dedication by either the private or public sector will not necessarily follow the aforementioned priority listing. However, construction of development projects by the private sector may be predicated upon the completion of adjacent roadways in order that the roadway system can satisfactorily accommodate the change in travel patterns resulting from additional development.

## E. ROAD FUND ACCOUNT

A road fund account will be established and maintained by the County. Monies received prior to or upon site plan approval, subdivision plat approval, or building permit issuance, will be placed in the account. Interest on monies in the account will accrue to the account at the prevailing interest rate earned by the County less one-half of one percent for administration.

The monies in this account will be utilized to help fund and implement roadway projects in the Fairfax Center Area as closely as possible to the order in the aforementioned priority list. The widening of I-66 and the construction of sub-connector roads (unless included in the listing of priorities) will not be funded from this account.

Any monies from previous proffers and specified for off-site roadway improvements will go into the road fund account unless otherwise designated in the proffers.

**APPENDIX A**

**A GUIDE TO CALCULATING CONTRIBUTIONS TO THE FAIRFAX CENTER AREA ROAD FUND IN ACCORDANCE WITH THE PROCEDURAL GUIDELINES ADOPTED BY THE FAIRFAX COUNTY BOARD OF SUPERVISORS ON NOVEMBER 22, 1982 AS REVISED EFFECTIVE MARCH 18, 2002.**

**STEP 1:** Total required Contribution:

# gsf (or # dwelling units) multiplied by the appropriate rate = total required contribution.

**STEP 2:** Anticipated Land Credits (if applicable):

# sq. feet of land dedicated for 'off-site' and/or 'transit-related' projects multiplied by the per foot assessed value of the land at time of site plan submission or final subdivision plan submission.*

**STEP 3:** Anticipated "In-Kind" contributions:

Cost to construct a portion or portions of 'off-site' roadway and/or 'transit-related' projects consistent with bonding practices and verified and accepted by DPWES prior to plan or subdivision plat approval.

**STEP 4:** Total Required Contribution Minus Applicable Credits

Dollar value in Step 1 minus the sum of Steps 2 + 3 will result in the net contribution due the FCAR fund. (Note: if the sum of Steps 2 + 3 is greater then the value of Step 1 then the commitment to the fund is met with dedication of right-of way and 'in-kind' construction.)

*NOTE: This value cannot exceed one-third of the total required contribution calculated in Step 1 provided no density credits have been granted for this land.

Appendix B

## Rate Adjustment History

| Effective Date | Precent Increase | Non-Residential Rate per square foot | Residential Rate per unit |
|---|---|---|---|
| January 27, 1992 | 0 | $3.97 | $883 |
| March 1, 1993 | 1.75 | $4.04 | $898 |
| March 1, 1994 | 0.5 | $4.06 | $902 |
| April 1, 1995 | 0.5 | $4.08 | $906 |
| June 28, 1999 | 0 | $4.08 | $906 |
| January 8, 2001 | 2.5 | $4.18 | $928 |
| March 18, 2002 | 2 | $4.26 | $946 |
| March 24, 2003 | 3 | $4.39 | $974 |
| March 15, 2004 | 2 | $4.48 | $993 |
| February 28, 2005 | 6 | $4.75 | $1,053 |
| September 24, 2007 | 3.2 | $5.07 | $1,124 |
| September 22, 2008 | 3.6 | $5.25 | $1,164 |
| November 6, 2010 | 1.013 | $5.32 | $1,179 |
| December 1, 2011 | 3.89 | $5.53 | $1,225 |
| January 1, 2013 | 2.88 | $5.69 | $1,260 |
| February 1, 2014 | 1.98 | 5.8 | $1,285 |

# PROCEDURAL GUIDELINES

# FOR THE

# ANNUAL REVIEW PROCESS

# Tysons-Wide Road Fund Area

Adopted by

FAIRFAX COUNTY
BOARD OF SUPERVISORS

January 8, 2013

**GUIDELINES FOR THE TYSONS-WIDE TRANSPORTATION FUND (the Tysons-Wide Fund)**

The following guidelines shall be used to establish, implement, and operate a fund for Tysons-Wide road improvements listed in Table 7 of the Comprehensive Plan. The fund is intended to collect monies in conjunction with development of property within the Tysons Corner Urban Center pursuant to any PTC rezoning action in this area. This will include Special Exception and Special Permit applications that result in an increase in building square footage. The boundary of the Tysons Corner Urban Center is defined in Area II of the 2010 Edition of the Tysons Corner Urban Center Comprehensive Plan (TCP).

Proffered commitments to provide monetary contributions to the fund are anticipated from zoning applications for land use changes that propose construction of new building square footage. The funds will be used to construct or implement transportation projects identified as "Tysons-Wide" in Table 7.

The street sections constructed utilizing Tyson-Wide Transportation Fund monies will include pedestrian and bicycle facilities in their design as recommended in the TCP. Illustrations of the expected cross-sections for road improvements are included with the Comprehensive Plan text and the Memorandum of Agreement between the Board of Supervisors of Fairfax County, Virginia, and Commonwealth of Virginia, Department of Transportation for design standards and related responsibilities for maintenance of streets as outlined in the Transportation Design Standards for Tysons Corner Urban Center signed September 13, 2011. The Tysons Corner Urban Design Guidelines endorsed by the Board of Supervisors on January 24, 2012, will also apply.

The following criteria were adopted by the Board of Supervisors on January 8, 2013.

**TYSONS-WIDE TRANSPORTATION FUND CONTRIBUTION CRITERIA**

The cash contribution rate for the Tysons-Wide Transportation Fund improvements provided by the private sector has been established by the Board of Supervisors and will be reviewed and adjusted annually in conformance with Virginia Code Section 15.2-2303.3, Subsection B. The paragraphs that follow discuss the process to administer the Fund.

A number of improvements to the existing roadway and transportation infrastructure are necessary to improve access to, and within, the Tysons Corner Urban Center. These improvements are identified as "Tysons-Wide Road Improvements" in Table 7 of the Comprehensive Plan and are listed in Appendix C of these guidelines. These projects include, but are not limited to, new access points from the Dulles Toll Road, and expanded capacity to interstate and arterial roads. The Tysons-Wide Transportation Fund represents part of the private sector's participation in the funding and implementation of road projects that serve a broader public transportation function.

The contribution rate is as follows:

For any zoning application proposing reconstruction of an improved site, construction on an unimproved site, or additional construction on an improved site, the contribution will be $5.63 per gross square foot ("GSF") of building structure of the total proposed new non-residential space and $1,000 per unit of the proposed new residential uses. The contribution formula does not apply to the GSF for public use facilities.

The amount of the financial contribution anticipated -from each application will be estimated prior to the rezoning -approval. Site Traffic Impact Analysis, Consolidated Traffic Impact Analysis, and/or traffic operational analysis data will be used at the time of rezoning to determine if an improvement is eligible -for credit and the amount of credit (in whole or in part based on the Applicant's proportional impact on said improvement) as applicable. At site plan submittal, the total financial contribution will be adjusted to reflect the deduction of any applicable credit and/or 'in-kind' contribution. 'In-kind' contributions are defined as those commitments made by the private sector towards the provision, in part or in total, of the design and construction of qualifying Tysons-Wide road projects.

Credit for land dedicated for the described purposes will be based upon the property's County assessment which is in effect at the time of site plan submission, provided density credits have not been granted for the land to be dedicated. The applicant, prior to rezoning approval, shall indicate his intent to either seek credit for a Tysons-wide dedication or density credit. Dedication of land for site access improvements (i.e., turn lanes at driveways) will not be eligible for credit toward the required contribution.

If an applicant elected at rezoning to construct or provide sufficient funds to construct a portion or portions of Tysons-Wide transportation project(s), beyond improvements identified and proffered in the zoning review as necessary to offset site-generated traffic, and is requesting credit against the contribution, a cost estimate will be provided by the applicant and reviewed by FCDOT consistent with bonding practice prior to site plan approval. Copies of these documents shall also be submitted to DPWES for review and comment at the time of site plan approval.

The applicant will contribute 100% of the total required contribution for each building, less applicable credits, at the time non-residential use permits (Non-RUPs) or residential use permits (RUPs) are issued, based on the actual GSF and/or number of units in each building, subject to the provisions in the Virginia Code.

Applicants seeking rezoning actions in the Tysons Urban Center may receive credit against their contribution to the Tysons-Wide Transportation Fund under specific circumstances. Creditable improvements will be applicable to the entire rezoning application. Unless otherwise approved by the Board of Supervisors at the time of rezoning, the criteria for receiving credit are described as follows:

- Construction of road projects specifically identified in Appendix that are not otherwise required to address the impact of site generated traffic (construction credit);

- Dedication of land or right-of-way from the applicable site for road projects specifically identified in Appendix C (dedication credit) that are not for site access or otherwise not required to address the impact of site generated traffic. Right-of-way will be valued at County assessment at the time of site plan submission. Alternatively, the applicant may elect to provide an appraisal in place of the assessment. In this circumstance the applicant must procure, at its own expense, a County approved

Virginia state board licensed MAI or SRA American Institute designated general appraiser who uses standard appraisal techniques in preparing the appraisal;

- Acquisition of off-site land for construction of road projects specifically identified in Appendix C. Land that receives acquisition credit is not eligible for dedication credit; and,

- Construction of road projects specifically identified in Appendix C in advance of the development timelines negotiated and approved by FCDOT.

## TYSONS-WIDE TRANSPORTATION FUND ACCOUNT

A transportation fund account will be established and maintained by the County. All monies received will be placed in the account. Interest on monies in the account will accrue to the account and not the General Fund at the prevailing interest rate earned by the County, less up to one-half of one percent for administration. Any interest expended from the fund for administration will be reported annually to the Tysons Service District Advisory Board (created January 8, 2013). The monies in this account will be utilized to help fund and implement Tysons-wide projects in the Tysons Area.

### Annual Assessment

An annual assessment shall be conducted by the Department of Transportation and submitted to the Tysons Service District Advisory Board for review of the Tysons-Wide Transportation Fund, projects and the contribution rates subject to the following:

Review the pace and location of residential and commercial development within Tysons, as well as the construction schedule, funding status, and the funding mechanisms for Tysons' transportation improvements, in concurrence with other Transportation Fund Area review processes, to ensure a sustainable balance between development and transportation infrastructure.

It is understood that this review may result in adjustments to ensure that: the estimated funding levels for such improvements are coordinated with the anticipated construction spending and the timing of construction; that the funding is being spent in an appropriate and efficient manner; and, that the pace of the transportation improvements and the pace of residential and non-residential development are proceeding substantially in tandem, as set forth in the Comprehensive Plan.

This review should be based on the most current data and information available at the time of the review, including whether the assumptions upon which the proposed funding mechanisms and projects were based are still valid or whether they should be changed. The review should include a process that incorporates participation from all stakeholders. If improvements beyond those identified in Table 7 are needed before 2050, and such are considered to be more effective in addressing traffic congestion, consideration could be given to substituting those improvements for projects currently included in Table 7, provided that such adjustments are consistent with and sustain the integrity of the recommended policies and

overall allocation of funding responsibilities. This review will consider any new funding sources (such as parking fees) that have been established.

Changes to these guidelines, as appropriate, may be submitted with the annual assessment.

APPENDIX A

**A GUIDE TO CALCULATING CONTRIBUTIONS TO THE TYSONS WIDE TRANSPORTATION FUND IN ACCORDANCE WITH THE PROCEDURAL GUIDELINES ADOPTED BY THE FAIRFAX COUNTY BOARD OF SUPERVISORS ON JANUARY 8, 2013.**

**STEP 1:** Total required Contribution:

Amount of GSF (and/or # dwelling units) multiplied by the current Tysons-Wide Transportation Fund rate = total required contribution.

**STEP 2:** Anticipated "In-Kind" contributions:

The cost to construct a portion or portions of 'off-site' Tysons-wide projects consistent with bonding practices and verified and approved by FCDOT prior to site approval. Plus, if applicable, the value of Right of Way to be dedicated according to the procedures in the guidelines.

**STEP 3:** Total Required Contribution Minus Applicable Credits

Dollar value in Step 1 minus the sum of Step 2 will result in the net contribution due the Tysons-Wide Transportation Fund. (Note: if the sum of Step 2 is greater then the value of Step 1 then any additional credits may be applied to future Tysons-Wide Road Fund obligations.)

STEP 4: Reconciliation of the Tysons-Wide Road Fund Contribution and Actual "In-Kind" Construction Costs Associated With the Construction of Tysons-Wide Road Projects

Upon completion of Tysons-Wide "In-Kind" construction projects, an applicant shall follow the "Creditable Expense" Guidelines, contained herein, for final reconciliation of the Tysons-Wide Road Fund Contribution (or applicable refund) and Actual "In-Kind" Construction Costs.

**APPENDIX B**

## A GUIDE TO APPLY FOR THE 'OFF-SITE' CONSTRUCTION/Right-of-Way COST CREDIT (Also Known as a 'Creditable Expense')

Assuming credit for a contribution to the Fund that has not already been provided under the criteria described in the guidelines, it is recommended that developers adhere to the following guidance to seek a credit or refund for 'off-site' construction expenditures. Upon completion of 'off-site' construction projects approved by FCDOT and DPWES, the developer may submit documentation for reimbursement or credit of project expenditures. The package should be assembled according to the guidelines directly below and submitted to FCDOT.

The package should include the following:

- Cover Letter - This letter should be from the original applicant or legal entity acting on their behalf addressed to the FCDOT director. The letter should outline the nature of the request for refund and the work that has been completed.

- Site Plan - This should be the site plan used in the construction of this project. Other plans such as signal, signage and striping plans may be requested as the application is reviewed.

- Invoices - All invoices that are directly related to the construction of the approved 'off-site' construction project should be submitted. If construction is done simultaneously with other parts of the development then the applicant must provide a separate accounting of the portion that applies to the 'off-site' project. FCDOT staff will review the invoices for relevance to the project.

- A copy of the approved rezoning case with approved 'off-site' project cost estimates.

- Any documents recording the release of bond or acceptance of the project into the public right of way.

After submission, FCDOT staff will review the credit or refund request. When the review is completed and approved by the department director or his designee, the applicant will receive notification in writing. The applicant shall be notified of the appropriate credit or receive the refund shortly after approval.

Appendix C

| Tysons-Wide Transportation Costs: 2012-2051 (December 4, 2012 Estimate) | | |
|---|---|---|
| | **Project** | **Estimate (2012)** |
| 1 | Rt.7 Widening from Rt.123 to I-495 | $22,000,000 |
| 2 | Boone Blvd Extension west from Rt.123 to Ashgrove Lane | $126,000,000 |
| 3 | Extension of Jones Branch Connection to inside I-495 (Jones Branch Connector to Route 123) | $41,000,000 |
| 4 | Rt.7 Widening from the Dulles Toll Road to Reston Avenue | $300,000,000 |
| 5 | Greensboro Drive Extension west from Spring Hill Road to Rt.7 | $58,000,000 |
| 6 | Dulles Toll Road Ramp to Greensboro Drive Extension | $28,000,000 |
| 7 | Dulles Toll Road Westbound Collector Distributor | $124,000,000 |
| 8 | Dulles Toll Road Eastbound Collector Distributor | $62,000,000 |
| 9 | Dulles Toll Road Ramp to Boone Blvd Extension | $79,000,000 |
| 10 | Rt.123 Widening from Rt.7 to I-495 | $20,000,000 |
| 11 | Rt.123 Widening from Old Courthouse Road to Rt.7 | $8,000,000 |
| 12 | Rt.7 Widening between I-495 and I-66 | $71,000,000 |
| 13 | Widen Magarity Road from Lisle/Rt.7 to Great Falls Street | $63,000,000 |
| 14 | I-495 Overpass at Tysons Corner Center | $18,000,000 |
| 15 | Widen Gallows Road from Rt.7 to Prosperity Ave. | $94,000,000 |
| 16 | I-495 Additional Lane (Outer Loop between Rt. 7 and I-66) | $74,000,000 |
| 17 | Ramps Connecting Dulles Toll Road to Jones Branch Drive | $38,000,000 |
| | **Total for road projects** | **$1,226,000,000** |

# PROCEDURAL GUIDELINES

# FOR THE

# ANNUAL REVIEW PROCESS

# Tysons Grid of Streets Road Fund Area

Adopted by

FAIRFAX COUNTY
BOARD OF SUPERVISORS

January 8, 2013

**GUIDELINES FOR THE TYSONS GRID OF STREETS TRANSPORTATION FUND** (the Tysons Grid Fund)

The following guidelines shall be used to establish, implement and operate the Tysons Grid of Streets Transportation Fund. The Fund is intended to collect monies in conjunction with development of property within the Tysons Corner Urban Center pursuant to any PTC rezoning action in this area. This will include Special Exception and Special Permit applications that result in an increase in building square footage. The boundary of the Tysons Corner Urban Center is defined in Area II of the 2010 Edition of the Tysons Corner Urban Center Comprehensive Plan (TCP).

Proffered commitments to provide monetary contributions to the Tysons Grid Fund are anticipated during review of zoning applications for land use changes that propose construction of new building square footage. The funds will be used to construct sections of streets that cannot otherwise be built through private development in Tysons. Projects utilizing these funds are expected to be street links that will enhance transportation service within Tysons. The street sections constructed utilizing Tysons Grid Fund monies will include pedestrian and bicycle facilities in their design as recommended in the TCP. Illustrations of the expected cross-sections for grid streets are included with the Comprehensive Plan text and the Memorandum of Agreement between the Board of Supervisors of Fairfax County, Virginia and Commonwealth of Virginia, Department of Transportation for design standards and related responsibilities for maintenance of streets as outlined in the Transportation Design Standards for Tysons Corner Urban Center signed September 13, 2011. The Tysons Corner Urban Design Guidelines endorsed by the Board of Supervisors on January 24, 2012, will also apply.

These guidelines were adopted by the Board of Supervisors on January 8, 2013.

**TYSONS GRID FUND CONTRIBUTION CRITERIA**

The cash contribution rate for the Tysons Grid of Streets Transportation Fund provided by the private sector has been established by the Board of Supervisors and will be reviewed and adjusted annually in conformance with Virginia Code Section 15.2-2303.3, Subsection B. The paragraphs that follow discuss the process to be undertaken to administer the Fund.

The minimum contribution rate is as follows:

For any zoning application proposing reconstruction of an improved site, construction on an unimproved site, or additional construction on an improved site, the contribution will be $6.44 per gross square foot ("GSF") of building structure of the total proposed new non-residential space and $1,000 per unit of the proposed new residential uses. The contribution formula does not apply to the GSF for public use facilities.

The Grid of Streets described within the TCP is needed to provide convenient connections within Tysons, distribute multi-modal traffic efficiently, and enhance the quality of the network through the use of 'complete streets'. The grid of streets is generally comprised of the street network that provides site access and circulation within Tysons. The TCP recommends that the private sector be responsible for on-site improvements, including construction of on-site portions of the grid, as well as for contributions to the Tysons Grid Fund to support the construction of off-site portions of the grid. The Tysons Grid Fund does not include the dedication of right-of-way for, or the construction of, streets traversing the Tysons Corner Urban Center when such roads lie within the site being developed.

The amount of the financial contribution expected for each application will be estimated prior to rezoning approval. Site Traffic Impact Analysis, Consolidated Traffic Impact Analysis, and/or traffic operational analysis data will be used at the time of rezoning to determine if an improvement is eligible for credit and the amount of credit (in whole or in part based on the Applicant's proportional impact on said improvement) as applicable. At site plan, the total financial contribution will be adjusted to reflect the deduction of any applicable credit and/or 'in-kind' contribution. Creditable improvements will be applicable to the entire rezoning application. 'In-kind' contributions are defined as those commitments made by the private sector towards the provision, in part or in total, of the construction of off-site grid projects as defined previously.

If an applicant elects at rezoning to construct or provide sufficient funds to construct a portion or portions of 'off-site' Grid of Streets transportation project(s), and is requesting credit against the contribution, a cost estimate will be provided by the applicant and reviewed by FCDOT consistent with bonding practice prior to site plan approval. Copies of these documents shall also be submitted to DPWES for review and comment.

Prior to or upon site plan approval for non-residential development, the applicant will contribute 25 percent of the total required contribution based on the actual GSF, minus any approved applicable credits as discussed previously. The remaining 75 percent, less any further approved applicable credits, will be required before building permits are issued and will be assessed at the then current rate. This contribution approach is intended to facilitate the construction of Tysons Grid Transportation improvements prior to the occupancy of the new development.

For residential development, the applicant will contribute 100% of the total required contribution based on the actual number of units in each building, less applicable credits, at the time residential use permits (RUPs) are issued, subject to the provisions in the Virginia Code.

Applicants seeking rezoning actions in the Tysons Urban Center may receive credit against their contribution to the Grid of Streets Transportation Fund under specific circumstances. Creditable improvements will be applicable to the entire rezoning application. 'Off-site' street grid projects are defined for the purposes of this document as:

- those portions of streets identified for construction in the TCP internal to the Tysons Corner Urban Center which are not within the boundaries of sites subject to the proposed development;

- construction of capacity and/or operational improvements to grid streets which are not otherwise required to address the impact of site generated traffic, and are not within the boundaries of sites subject to the proposed development;

- traffic signals for grid street connections which are not otherwise required to address the impact of site generated traffic, and are not within the boundaries of or directly adjacent to sites subject to the proposed development;

- advance off-site land acquisition for construction of grid streets;

- construction of on-site grid of streets sections in advance of the development timelines negotiated and approved by FCDOT; and,

- dedication of land or right-of-way for 'off-site' Grid of Streets projects, in which density credit has not been granted for the land to be dedicated. Right-of-way will

be valued at the current County assessment. Alternatively, the applicant may elect to provide an appraisal in place of the assessment. In this circumstance the applicant must procure, at its own expense, a County approved Virginia State Board licensed, MAI or SRA American Institute designated general appraiser who uses standard appraisal techniques in preparing the appraisal.

Unless otherwise approved by the Board of Supervisors at the time of rezoning, construction of qualifying projects to advance the grid which meet the criteria above are eligible to receive credit up to equal value of the development's contribution to the fund.

TYSONS GRID TRANSPORTATION FUND ACCOUNT

A transportation fund account will be established and maintained by the County. All monies received will be placed in the account. Interest on monies in the account will accrue to the account and not the General Fund at the prevailing interest rate earned by the County, less up to one-half of one percent for administration. Any interest expended from the fund for administration will be reported annually to the Tysons Service District Advisory Board (created January, 8 2013). The monies in this account will be utilized to help fund and implement grid roadway projects in the Tysons Urban Center.

Annual Assessment

An annual assessment shall be conducted by the Department of Transportation and submitted to the Tysons Service District Advisory Board for review of the Tysons Grid of Streets Fund, the Grid of Streets projects and the contribution rates subject to the following:

Review the pace and location of residential and commercial development within Tysons, as well as the construction schedule, funding status, and the funding mechanisms for Tysons' transportation improvements, in concurrence with other Transportation Fund Area review processes, to ensure a sustainable balance between development and transportation infrastructure.

It is understood that this review may result in adjustments to ensure that: the estimated funding levels for such improvements are coordinated with the anticipated construction spending and the timing of construction; that the funding is being spent in an appropriate and efficient manner; and, that the pace of the transportation improvements and the pace of residential and non-residential development are proceeding substantially in tandem, as set forth in the Comprehensive Plan.

This review should be based on the most current data and information available at the time of the review, including whether the assumptions upon which the proposed funding mechanisms projects were based are still valid or whether they should be changed. The review should include a process that incorporates participation from all stakeholders. If improvements beyond those identified in Table 7 are needed before 2050, and such are considered to be more effective in addressing traffic congestion, consideration could be given to substituting those improvements for projects currently included in Table 7, provided that such adjustments are consistent with and sustain the integrity of the recommended policies and overall allocation of funding responsibilities. This review will also consider any new funding sources (such as parking fees) that have been established.

Changes to these guidelines, as appropriate, may be submitted with the annual assessment.

APPENDIX A

**A GUIDE TO CALCULATING CONTRIBUTIONS TO THE TYSONS GRID OF STREETS FUND IN ACCORDANCE WITH THE PROCEDURAL GUIDELINES ADOPTED BY THE FAIRFAX COUNTY BOARD OF SUPERVISORS ON JANUARY 8, 2013.**

**STEP 1:** Total required Contribution:

Amount of GSF (and/or # dwelling units) multiplied by the current Tysons Grid Transportation Fund rate = total required contribution.

**STEP 2:** Anticipated "In-Kind" contributions:

Cost to construct a portion or portions of 'off-site' grid street projects consistent with bonding practices and verified and approved by FCDOT prior to site plan approval.

**STEP 3:** Total Required Contribution Minus Applicable Credits

Dollar value in Step 1 minus the sum of Step 2 will result in the net contribution due the Tysons Grid Transportation Fund. (Note: if the sum of Step 2 is greater than the value of Step 1 then any additional credits may be applied to future Tysons Grid of Streets Fund obligations.)

STEP 4: Reconciliation of the Tysons-Wide Road Fund Contribution and Actual "In-Kind" Construction Costs Associated With the Construction of Tysons-Wide Road Projects

Upon completion of Tysons-Wide "In-Kind" construction projects, an applicant shall follow the "Creditable Expense" Guidelines, contained herein, for final reconciliation of the Tysons-Wide Road Fund Contribution (or applicable refund) and Actual "In-Kind" Construction Costs.

**APPENDIX B**

## A GUIDE TO APPLY FOR THE 'OFF-SITE' CONSTRUCTION COST REFUND
**(Also Known as a 'Creditable Expense')**

Assuming credit for contribution to the Fund has not already been provided under the criteria described in the guidelines, it is recommended that developers adhere to the following guidance to seek a credit or refund for 'off-site' construction expenditures. Upon completion of 'off-site' construction projects approved by FCDOT and DPWES, the developer may submit documentation for reimbursement of project expenditures. The package should be assembled according to the guidelines directly below and submitted to FCDOT.

The package should include the following:

- Cover Letter - This letter should be from the original applicant or legal entity acting on their behalf addressed to the FCDOT director. The letter should outline the nature of the request for refund and the work that has been completed.

- Site Plan - This should be the site plan used in the construction of this project. Other plans such as signal, signage and striping plans may be requested as the application is reviewed.

- Invoices - All invoices that are directly related to the construction of the approved 'off-site' construction project should be submitted. If construction is done simultaneously with other parts of the development then the applicant must provide a separate accounting of the portion that applies to the 'off-site' project. FCDOT staff will review the invoices for relevance to the project.

- A copy of the approved rezoning case with approved 'off-site' project cost estimates.

- Any documents recording the release of bond or acceptance of the project into the public right of way.

After submission, FCDOT staff will review the credit or refund request. When the review is completed, and approved by the department director or his designee, the applicant will receive notification in writing. The applicant shall be notified of the appropriate credit or receive the refund shortly after approval.

Board Agenda Item
February 2, 2016

INFORMATION - 1

Contract Award – Real Estate Development Advisory Services

The Department of Public Works and Environmental Services (DPWES) issued a Request for Proposal (RFP) for Real Estate Development Advisory Services, under the authority of the County Purchasing Agent. DPWES and other County agencies require consultant support services for land development and public private partnership projects. The resultant contracts will be indefinite delivery, indefinite quantity contracts to provide a ready roster of specialized consultants to be used on an as-needed basis by all County agencies.

The RFP was publicly advertised in accordance with the requirements of the Fairfax County Purchasing Resolution. Thirteen offerors submitted responsive proposals before the due date. The Selection Advisory Committee (SAC), approved by the Deputy Director, DPWES, evaluated the proposals in accordance with the criteria established in the RFP. Upon completion of the evaluation of the proposals, the SAC decided to negotiate with the top eight offerors due to their strong qualifications and relevant range of experience in the proposed service areas. After negotiations the SAC recommended award of eight contracts to Delta Associates, HR & A Advisors, Inc., Jones Lang LaSalle Americas, Inc., MuniCap Inc., RKG Associates Inc., Savills Studley, Streetsense, and Whiteoak Properties LLC. A summary of each firm is outlined below. The SAC recommended contracts be awarded to each of the firms for all the services associated with Real Estate Development based on their demonstrated ability to meet the County requirements defined in the RFP.

| Contractor Name | Services |
|---|---|
| Delta Associates | Development and real estate advisory, and negotiations services, market analysis and valuation, financial analysis, and research services. |
| HR&A Advisors, Inc. | Development and real estate advisory, and negotiations services, market analysis and valuation, financial and fiscal impact analysis, special tax district, affordable housing finance, retail and leasing services. |
| Jones Lang LaSalle Americas, Inc. | Development and real estate advisory, and negotiations services, market analysis and valuation, financial analysis, acquisitions & brokerage services, special tax district, affordable housing finance, retail and leasing services. |
| MuniCap, Inc. | Development and real estate advisory, financial analysis, and special tax district services. |
| RKG Associates, Inc. | Development and real estate advisory, market analysis and valuation, financial and fiscal impact analysis services. |

| | |
|---|---|
| Savills Studley, Inc | Development, negotiations, and real estate advisory, market analysis and valuation, financial and fiscal Impact, acquisitions, brokerage, special tax district, affordable housing finance, retail and leasing services. |
| Streetsense Consulting, LLC | Real estate advisory, market analysis and valuation, and retail and leasing services. |
| Whiteoak Properties, LLC | Development, negotiations, and real estate advisory, market analysis and valuation, financial analysis, acquisitions, and affordable housing finance advisory services. |

The Department of Tax Administration has verified that the selected firms meet Fairfax County Business, Professional, and Occupational License (BPOL) requirements.

Unless otherwise directed by the Board of Supervisors, the Purchasing Agent will proceed to award contracts to Delta Associates, HR & A Advisors, Inc., Jones Lang LaSalle Americas, Inc., MuniCap Inc., RKG Associates Inc., Savills Studley, Streetsense Consulting, LLC., and Whiteoak Properties LLC. The contract term is five years from the award date and may be renewed for (5) one year terms.

FISCAL IMPACT:
Services rendered through these contracts are projected to be approximately $1,500,000 over the five-year term. Funding will be available during this period from various project funds utilizing the advisory services as needed.

ENCLOSED DOCUMENTS:
List of Offerors

STAFF:
Cathy Muse, Director, Department of Purchasing and Supply Management
James Patteson, Director, Department of Public Works and Environmental Services
Ronald N. Kirkpatrick, Deputy Director, Public Works and Environmental Services, Capital Facilities.

ATTACHMENT 1

RFP 15-1 – List of Successful Offerors

| Name | SWAM Status |
|---|---|
| Delta Associates | Large |
| HR&A Advisors, Inc. | Small |
| Jones Lang LaSalle Americas, Inc. | Large |
| MuniCap, Inc. | Small |
| RKG Associates, Inc. | Small |
| Savills Studley, Inc. | Large |
| Streetsense Consulting, LLC | |
| Whiteoak Properties LLC | Small |

RFP 15-1 – List of Unsuccessful Offerors

| | |
|---|---|
| The Concourse Group | Small |
| Alvarez & Marsal Real Estate Advisory Group | Large |
| Partners for Economic Solutions | Women-Owned Small |
| BAE Urban Economics Inc. | Women-Owned Small |
| Vantage Point Economic & Transportation Development Strategies LLC | Small |

Board Agenda Item
February 2, 2016

10:30 a.m.

Matters Presented by Board Members

Board Agenda Item
February 2, 2016

11:20 a.m.

CLOSED SESSION:

(a) Discussion or consideration of personnel matters pursuant to Virginia Code § 2.2-3711(A) (1).

(b) Discussion or consideration of the acquisition of real property for a public purpose, or of the disposition of publicly held real property, where discussion in an open meeting would adversely affect the bargaining position or negotiating strategy of the public body, pursuant to Virginia Code § 2.2-3711(A) (3).

(c) Consultation with legal counsel and briefings by staff members or consultants pertaining to actual or probable litigation, and consultation with legal counsel regarding specific legal matters requiring the provision of legal advice by such counsel pursuant to Virginia Code § 2.2-3711(A) (7).

1. *David J. Laux and Tara K. Laux a/k/a Tara K. Long v. Board of Supervisors of Fairfax County, James W. Patteson, Director, Fairfax County Department of Public Works and Environmental Services, and the Commonwealth of Virginia*, Civil Action No. 15cv1334 (E.D. Va.) (Mason District)

2. *Patricia Tomasello v. Fairfax County, Virginia*, Case No. 1:15-cv-95 (E.D. Va.)

3. *Saad Lodhi, a/k/a Quratulain Balouch v. Officer Sepehri, John Doe I, and Fairfax County, Virginia*, Case No. 1:15-cv-425 (E.D. Va.)

4. *Amy Marshall v. Damien Cichocki*, Case No. CL-2015-0009608 (Fx. Co. Cir. Ct.)

5. *Walgreen Co. v. County of Fairfax, Virginia*, Case No. CL-2014-0016554 (Fx. Co. Cir. Ct.) (Mount Vernon District)

6. *Walgreen Co. v. County of Fairfax, Virginia, and Town of Herndon*, Case No. CL-2014-0016555 (Fx. Co. Cir. Ct.) (Dranesville District)

7. *Walgreen Co. v. County of Fairfax, Virginia*, Case No. CL-2014-0016556 (Fx. Co. Cir. Ct.) (Mount Vernon District)

8. *Walgreen Co. v. County of Fairfax, Virginia and Town of Vienna*, Case No. CL-2014-0016557 (Fx. Co. Cir. Ct.) (Hunter Mill District)

9. *Victor Vega v. Larry Collins, Fairfax County Board of Supervisors, Fairfax County Police Department, Fairfax County Department of Risk Management, and Colonel Edwin C. Roessler Jr.*, Case No. CL-2015-0017926 (Fx. Co. Cir. Ct.)

10. *Leslie B. Johnson, Fairfax County Zoning Administrator v. John L. Butterfield and Nancy S. Butterfield*, Case No. CL-2014-0010617 (Fx. Co. Cir. Ct.) (Dranesville District)

11. *Board of Supervisors of Fairfax County and James W. Patteson, Director, Fairfax County Department of Public Works and Environmental Services v. David J. Laux and Tara K. Laux, a/k/a Tara K. Long*, Case No. CL-2014-0013597 (Fx. Co. Cir. Ct.) (Mason District)

12. *Leslie B. Johnson, Fairfax County Zoning Administrator v. Roberto Abarca*, Case No. CL-2014-0012936 (Fx. Co. Cir. Ct.) (Providence District)

13. *Leslie B. Johnson, Fairfax County Zoning Administrator v. Steven C. Bryant*, Case No. CL-2009-0005546 (Fx. Co. Cir. Ct.) (Sully District)

14. *Elizabeth Perry, Property Maintenance Code Official for Fairfax County, Virginia v. Jorge Alberto Broide*, Case No. CL-2010-0017885 (Fx. Co. Cir. Ct.) (Providence District)

15. *Michael R. Congleton, Property Maintenance Code Official for Fairfax County, Virginia v. Tina M. Howard*, Case No. CL-2011-0017608 (Fx. Co. Cir. Ct.) (Providence District)

16. *Leslie B. Johnson, Fairfax County Zoning Administrator v. Abateneh Mulugeta and Genet Chala*, Case No. CL-2015-0008843 (Fx. Co. Cir. Ct.) (Mason District)

17. *Leslie B. Johnson, Fairfax County Zoning Administrator, and Elizabeth Perry, Property Maintenance Code Official for Fairfax County, Virginia v. Philip W. Bradbury*, Case No. CL-2015-0008844 (Fx. Co. Cir. Ct.) (Mount Vernon District)

18. *Elizabeth Perry, Property Maintenance Code Official for Fairfax County, Virginia v. Jeffrey Gearhart*, Case No. CL-2015-0012282 (Fx. Co. Cir. Ct.) (Providence District)

19. *Leslie B. Johnson, Fairfax County Zoning Administrator v. Robert H. Pearson, Jr.*, Case No. CL-2015-0015903 (Fx. Co. Cir. Ct.) (Providence District)

20. *Leslie B. Johnson, Fairfax County Zoning Administrator v. Christopher L. Sodergen*, Case No. CL-2015-0016908 (Fx. Co. Cir. Ct.) (Springfield District)

21. *Leslie B. Johnson, Fairfax County Zoning Administrator v. Hongfei Shi and Jiang Westerhoff Yang*, Case No. CL-2015-0017903 (Fx. Co. Cir. Ct.) (Sully District)

22. *Leslie B. Johnson, Fairfax County Zoning Administrator v. Maria Arrieta*, Case No. CL-2016-0000685 (Fx. Co. Cir. Ct.) (Mason District)

23. *Tarsha S. Warren v. Officer Ryan Wever*, Case No. GV15-024483 (Fx. Co. Gen. Dist. Ct.)

24. *Leslie B. Johnson, Fairfax County Zoning Administrator v. The Southland Corporation*, Case Nos. GV15-026243, GV15-026244, and GV15-026245 (Fx. Co. Gen. Dist. Ct.) (Hunter Mill District)

25. *Abelardo Brito-Trujillo v. Moufid M. Khoury*, Case No. GV15-023706 (Fx. Co. Gen. Dist. Ct.)

26. *Gilbert Rivera v. Fairfax County Board of Supervisors and Chad Crawford, Director of Maintenance and Stormwater Management*, Case No. GV15-018984 (Fx. Co. Gen. Dist. Ct.)

27. *Leslie B. Johnson, Fairfax County Zoning Administrator v. Philip John Sokolowski*, Case No. GV15-026453 (Fx. Co. Gen. Dist. Ct.) (Dranesville District)

28. *Leslie B. Johnson, Fairfax County Zoning Administrator v. Ray Claure Gonzalez and Meranda De Martinez*, Case No. GV15-027883 (Fx. Co. Gen. Dist. Ct.) (Mason District)

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Board Agenda Item
February 2, 2016

3:30 p.m.

Decision Only to Approve a Real Estate Exchange Agreement Between the Board of Supervisors and AvalonBay Communities, Inc. ("AvalonBay") and to Approve the Purchase of Property from 5827 Columbia Pike Associates, LLC, an Affiliate of Landmark Atlantic, Inc. ("Landmark") (Mason District)

ISSUE:
Decision only to consider the disposition of County-owned property totaling approximately 1.49 acres identified as Tax Maps 61-2 ((19)) parcels 5A and 11A ("County Land") as required by Va. Code Ann. § 15.2-1800 (2012). The disposition of the County Land will be considered through a Real Estate Exchange Agreement ("REEA") between the Board of Supervisors and AvalonBay concerning a portion of the property identified as Tax Maps 61-2 ((1)) parcels 113, 113A, 113C and 114 and 61-4 ((30)) parcels 15 and 17, totaling approximately 4.47 acres ("Avalon Land"). The public hearing will also consider the purchase by the Board of adjoining land identified as Tax Map 61-2 ((1)) parcel 12A and totaling approximately 1.44 acres, from Landmark ("Landmark Land") for the primary purpose of a road connection to Seminary Road and new open space. The County Land, Avalon Land and Landmark Land shall hereafter be collectively known as the "Subject Property." It is intended that, in the future, a rezoning action will be considered on the Subject Property to permit residential development by AvalonBay and a future County office site, as well as the connection to Seminary Road.

RECOMMENDATION:
The County Executive recommends the Board approve the disposition of the County Land through an REEA with AvalonBay providing for an exchange of real property and joint infrastructure development in conjunction with the development of the Subject Property, and that the Board approve the purchase of the Landmark Land, primarily for public roads and open space.

TIMING:
On December 8, 2015, the Board authorized advertisement of the public hearing to be held on January 12, 2016, at 3:00 p.m. After the public hearing was held on January 12, 2016, decision only was deferred to February 2, 2016, at 3:30 p.m.

BACKGROUND:
The County is the owner of the County Land (approximately 1.49 acres), AvalonBay is the contract purchaser of the Avalon Land (approximately 4.47 acres), and Landmark is the owner of the Landmark Land (approximately 1.44 acres). These land areas are

shown, approximately, on Attachment 1, with the County Land shown as Area A, the Avalon Land shown as Areas B1 and B2, and the Landmark Land shown as Area C.

The Comprehensive Plan recommends that, with consolidation of at least five acres, the Subject Property may be appropriate for retail/office/residential mixed-use development at an intensity of up to 2.25 FAR. In addition, the Comprehensive Plan calls for a road realignment to connect Seminary Road with Columbia Pike and Moncure Avenue through the eastern portion of the Subject Property. The road realignment through the Subject Property will necessitate the removal of the office building on the Landmark Land.

The County Land is the site of the Baileys Crossroads Community Shelter ("Shelter"), identified in the adopted Capital Improvements Plan ("CIP") for reconstruction. In addition, the CIP identifies a need for a number of community services, currently housed in leased space in the area, to be consolidated into County-owned space in an East County Human Services Center ("ECHSC"), which could be constructed on the future County office site.

AvalonBay will seek rezoning of the Subject Property to permit the construction of a residential mid-rise apartment development of approximately 375 dwelling units, a future County office building, which may house the ECHSC, and the connection to Seminary Road. As proposed, the residential development would be located on the western portion of the site, fronting Moncure Avenue. The County office building would be located on the eastern portion of the site, fronting on the new road (the first phase of the connection to Seminary Road envisioned by the Comprehensive Plan).

The initial step in this process is for the County to purchase the Landmark Land (Area C shown on Attachment 1) to effectuate the first phase of the road network envisioned by the Comprehensive Plan and to allow for development of the entire site in a more comprehensive, cost effective manner. After purchase of the Landmark Land, the County's holdings will total approximately 2.93 acres (Areas A and C). The second step is for the County and AvalonBay, through the REEA, to exchange an equal amount of real estate such that AvalonBay's property is located on the western side of the site (Areas A and B1) and the County's property is consolidated on the eastern side of the site (Areas B2 and C). The REEA will provide for common infrastructure and rezoning costs to be shared between the County and AvalonBay.

The REEA will not require the County to move forward with any specific development of the future County office site, such as, for example, the ECHSC; any such design and construction will be subject to future Board approval. The Shelter on the County Land will be relocated to another site in the area prior to the AvalonBay residential development. The design and construction of both the temporary and permanent locations of the Shelter will also be subject to future Board approval.

Major terms of the Purchase Agreement with Landmark are as follows:

1. Purchase of the Landmark Land (Area C shown on Attachment 1) for a total of $6,600,000; $ 6,350,000 of which will be paid by the County and $250,000 of which will be paid by AvalonBay pursuant to the REEA.
2. The purchase is contingent upon approval of the joint rezoning application to be pursued by AvalonBay.
3. Provided that the building on the Landmark Land is vacant, the County is prepared to close on this transaction within 30 days after approval. At closing, the existing lease of a County-sponsored dental clinic located within the existing Landmark building will terminate, and all rent will abate (which would otherwise be the County's responsibility through June 30, 2018).

Major terms of the REEA with AvalonBay are as follows:

1. Exchange of the County Land (Area A shown on Attachment 1) for approximately 1.49 acres of the Avalon Land (Area B2 shown on Attachment 1).
2. Closing on this exchange is contingent upon approval of the joint rezoning application to be pursued by AvalonBay, which shall not be later than July 1, 2017.
3. AvalonBay will place an $800,000 deposit in escrow which will be forfeited in the event of a default on the REEA by AvalonBay.

The full text of the Purchase Agreement with Landmark and the REEA with AvalonBay are available online at: http://www.fcrevite.com/SEQDocuments.pdf

FISCAL IMPACT:
The County will pay $6,350,000 to purchase the Landmark Land with an estimated $880,000 in additional funds required for the demolition of the office building currently on the Landmark Land. Total funding is available in Fund 40010, County and Regional Transportation Projects, in the amount of $7,230,000 for the property as Right of Way (ROW) acquisition for a future street connection between Columbia Pike and Seminary Road. Transportation staff will return to the Board in February 2016 to request this authorization, and the funding will formally be moved as part of the FY 2016 Carryover Review.

The County's share of the rezoning and common infrastructure costs to support the Development Agreement with AvalonBay will be approximately $147,000. Funding is available to authorize the Development Agreement in Fund 30010, General Construction and Contributions, Project 2G25-085-000, Public Private Partnership Development.

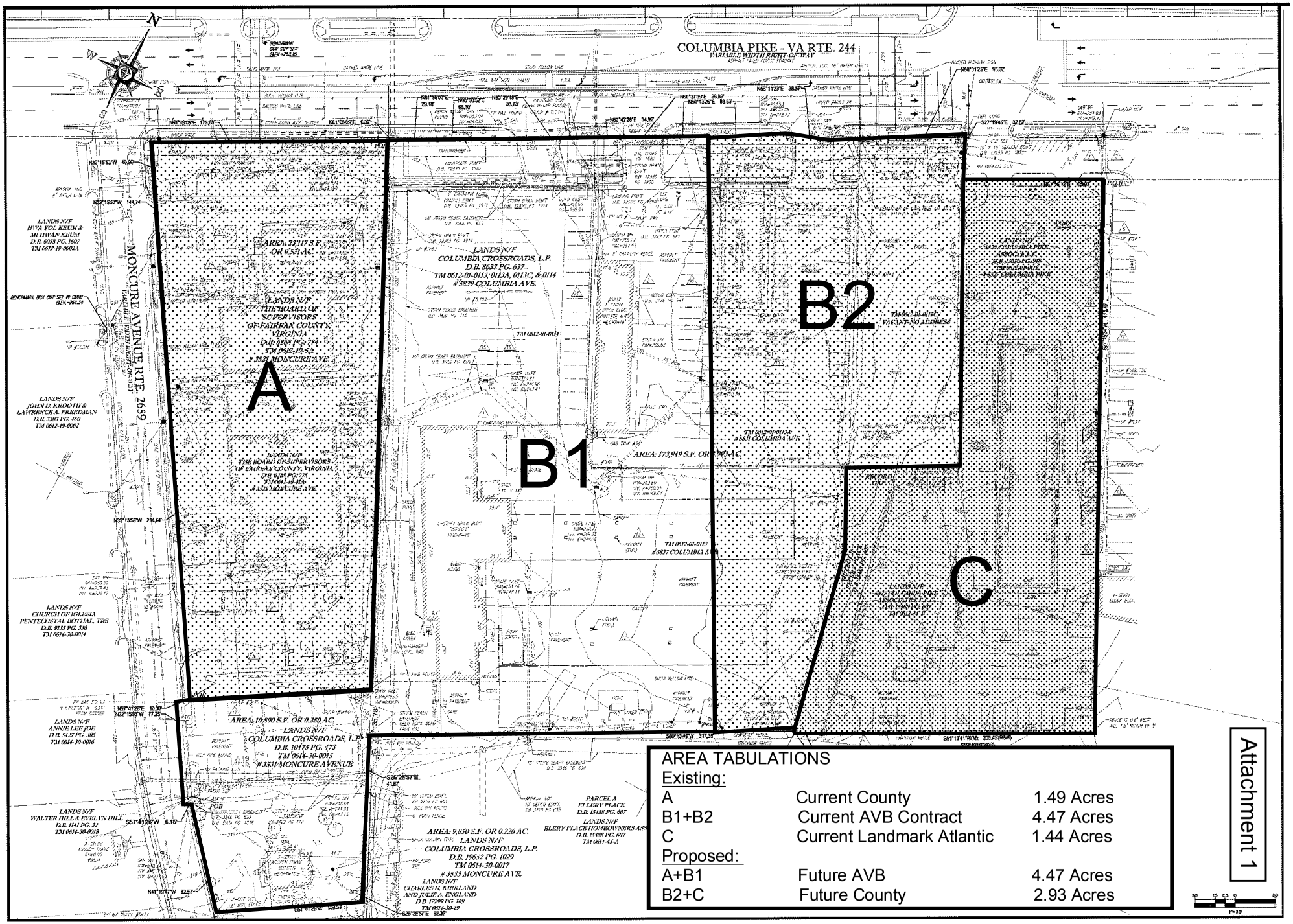
The estimated cost for the relocation of the Shelter to a temporary location will be $2,100,000. Funds are available in the amount of $1,100,000 in Fund 30010, General

Construction and Contributions, Project HS-000013, Bailey's Homeless Shelter. The additional $1,000,000 will be reallocated from balances available in Project HS-000005, Merrifield Center, as part of the FY 2016 Third Quarter Review.

ENCLOSED DOCUMENTS:
Attachment 1: Approximate land areas of ownership on the Subject Property

The full text of the Purchase Agreement with Landmark and the REEA with AvalonBay are available online at: http://www.fcrevite.com/SEQDocuments.pdf

STAFF:
Robert A. Stalzer, Deputy County Executive
Alan Weiss, Office of the County Attorney
James Patterson, Department of Public Works and Environmental Services
Barbara Byron, Office of Community Revitalization
Katayoon Shaya, Department of Public Works and Environmental Services
Tracy Strunk, Office of Community Revitalization




AREA TABULATIONS

| | | |
|---|---|---|
| **Existing:** | | |
| A | Current County | 1.49 Acres |
| B1+B2 | Current AVB Contract | 4.47 Acres |
| C | Current Landmark Atlantic | 1.44 Acres |
| **Proposed:** | | |
| A+B1 | Future AVB | 4.47 Acres |
| B2+C | Future County | 2.93 Acres |

Attachment 1

Board Agenda Item
February 2, 2016

3:30 p.m.

Public Hearing on SEA 79-D-071-02 (The Tea Center, LLC) to Amend SE 79-D-071 Previously Approved for a Private Club to Permit a Child Care Center and Associated Modifications to Site Design and Development Conditions, Located on Approximately 3.00 Acres of Land Zoned R-1 (Dranesville District)

This property is located at 999 Balls Hill Road McLean 22101. Tax Map 21-3 ((1)) 66B

PLANNING COMMISSION RECOMMENDATION:
On Wednesday, December 9, 2015, the Planning Commission voted 9-0-3 (Commissioners Hurley, Migliaccio, and Strandlie abstained from the vote) to recommend the following actions to the Board of Supervisors:

- Approval of SEA 79-D-071-02, subject to Development Conditions dated November 30, 2015;

- Approval of a modification of the peripheral parking lot landscaping requirement along the Balls Hill Road frontage of the application property in favor of the existing landscape, as shown on the SEA Plat; and

- Approval of a modification of the transitional screening and barrier requirements along the southern property line in favor of the existing conditions, as shown on the SEA Plat.

ENCLOSED DOCUMENTS:
Attachment 1: Planning Commission Verbatim Excerpt
Staff Report previously furnished and available online at:
http://ldsnet.fairfaxcounty.gov/ldsnet/ldsdwf/4505926.PDF

STAFF:
Barbara Berlin, Director, Zoning Evaluation Division, Department of Planning and Zoning (DPZ), Mike Van Atta, Planner, DPZ

SEA 79-D-071-02 – THE TEA CENTER, LLC

Decision Only During Commission Matters
(Public Hearing held on November 19, 2015)

Commissioner Ulfelder: Thank you, Mr. Chairman. I have a decision only this evening involving a Special Exception application for a before- and after-school program in the Dranesville District for The Tea Center, LLC. Would the applicant and her representative come on down? If you will recall, at the public hearing some questions were raised about the provisions proposed – development conditions concerning the – how the school could be expanded from between 40 to 70 students. And there was expressed in the original proposed development conditions a – sort of an administrative process combined with a full operational traffic study analysis. After taking a look at look at that, after – at the suggestion of Commissioner Hart checking with the County Attorney's Office, it was determined that that raised some serious questions and we have revised the conditions to eliminate that. So, now what we're looking at is an application with a set of proposed development conditions that would allow a program for up to 40 students. And that's reflected in - without the additional expansion and – so that if in the future the applicant decides she wants to expand, she would have to come back with a Special Exception Amendment and would likely be required still to have the traffic analysis as part of that process. We've also cleaned up a couple of the other conditions in the proposed development conditions. So with that, I first would like to ask the applicant or her representative as to whether they would confirm for the record that you're in agreement with the proposed development conditions now dated November 30th, 2015.

Jane Kelsey, Esquire, Applicant's Agent, Jane Kelsey & Associates, Inc.: Jane Kelsey, representing the applicant. I will ask Ms. Mendis to respond to that, please.

Commissioner Ulfelder: Okay, thank you.

Mayosha H. Mendis, Applicant: Yes.

Commissioner Ulfelder: Okay, fine. Thank you very much. With that Mr. Chairman, I MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS APPROVAL OF SEA 79-D-071-02, SUBJECT TO DEVELOPMENT CONDITIONS DATED NOVEMBER 30TH, 2015.

Commissioner Hart: Second.

Chairman Murphy: Seconded by Mr. Hart. Is there a discussion of the motion? All those in favor of the motion to recommend to the Board of Supervisors that it approve SEA 79-D-071-02, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries. Mr. –

Commissioner Hurley: Mr. – Mr. Chairman, I need to abstain. I was not present for the public hearing.

Chairman Murphy: All right.

Commissioner Migliaccio: The same –

Chairman Murphy: Okay, Mr. Migliaccio and Ms. Hurley abstain; not present for the public hearing.

Commissioner Strandlie: Mr. Chairman?

Chairman Murphy: Yes.

Commissioner Strandlie: I was also not here – not here.

Chairman Murphy: I'm sorry?

Commissioner Strandlie: I also would like to abstain. I was not here for the hearing on November 19th.

Chairman Murphy: Okay, three abstentions.

Commissioner Ulfelder: Just before Thanksgiving.

Chairman Murphy: Mr. Ulfelder.

Commissioner Ulfelder: I also MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS APPROVAL OF THE FOLLOWING MODIFICATIONS:

- MODIFICATION OF THE PERIPHERAL PARKING LOT LANDSCAPING REQUIREMENT ALONG THE BALLS HILL ROAD FRONTAGE OF THE APPLICATION PROPERTY IN FAVOR OF THE EXISTING LANDSCAPE, AS SHOWN ON THE SEA PLAT; AND

- MODIFICATION OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENTS ALONG THE SOUTHERN PROPERTY LINE IN FAVOR OF THE EXISTING CONDITIONS, AS SHOWN ON THE SEA PLAT.

Commissioner Hart: Second.

Chairman Murphy: Seconded by Mr. Hart. Discussion of that motion? All those in favor of the motion as articulated by Mr. Ulfelder, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries, same abstentions.

//

(Each motion carried by a vote of 9-0-3. Commissioners Hurley, Migliaccio, and Strandlie abstained from the vote.)

JN

Board Agenda Item
February 2, 2016

3:30 p.m.

Public Hearing on SEA 87-L-012-02 (R Joun Enterprise LLC, Roland Joun, Trustee and Maria Joun, Trustee) to Amend SE 87-L-012 Previously Approved for a Service Station and Quick Service Food Store to Permit Site Modifications and Modification to the Development Conditions, Located on Approximately 30,476 Square Feet of Land Zoned C-6, HC, SC, and CRD (Lee District)

This property is located at 6703 Backlick Road, Springfield, 22150. Tax Map 90-2 ((1)) 25A and 25B.

This public hearing was deferred by the Board of Supervisors from the January 12, 2016 meeting to February 2, 2016 at 3:30 p.m.

PLANNING COMMISSION RECOMMENDATION:
On Thursday, December 10, 2015, the Planning Commission voted 11-0 (Commissioner Lawrence was absent from the meeting) to recommend to the Board of Supervisors approval of SEA 87-L-012-02, subject to the Development Conditions dated December 9, 2015, with the following revisions:

- Removal of the last sentence in Condition 12;

- Revise Condition 13 as follows: "The development shall consist of two phases. Phase I improvements shall consist of those improvements listed in Development Conditions 18, 19, 20, 21, 23, and 28 below. Phase II shall consist of the installation of two exterior auto lifts, as show on the SEA Plat. Phase II shall not be constructed until all improvements listed in Phase I have been completed. The exterior auto lifts shall require any applicable site plan and permit approvals prior to their installation"; and

- The addition of the following Condition: "To reduce noise levels associated with any impact guns for outdoor vehicle service, the employees of the service station shall use Quiet Gun Impact Guns during outdoor vehicle service."

ENCLOSED DOCUMENTS:
Attachment 1: Planning Commission Verbatim Excerpt
Staff Report previously furnished and available online at:
http://ldsnet.fairfaxcounty.gov/ldsnet/ldsdwf/4508279.PDF

STAFF:
Barbara Berlin, Director, Zoning Evaluation Division, Department of Planning and Zoning (DPZ),
Mike Van Atta, Planner, DPZ

SEA 87-L-012-02 – R JOUN ENTERPRISE LLC; ROLAND JOUN, TRUSTEE & MARIA JOUN, TRUSTEE

Decision Only During Commission Matters
(Public Hearing Held on December 9, 2015)

Commissioner Migliaccio: Thank you Mr. Chairman. Last night we held a public hearing on an SEA for a service station on Backlick Road in the Springfield CRD. Unlike most cases in Lee District, this application had speakers. While these speakers did not participate through the well-established Lee District community land use process, it does not discount the land use concerns they raised as a neighbor to the service station. My hope is that through the new development conditions before the Planning Commission, we are able to address many of those concerns. What we are not able to address is the sincerity of the applicant to follow through on these conditions or any past personal issues not land use related. The applicant is fully aware that his gas station is under scrutiny by his neighbor and is fully expected to live up to these development conditions. That is why the outdoor lifts, which have caused the greatest concern, are conditioned to only go in after all other development conditions listed in Phase One are implemented. Other conditions address the parking issue with new striping of spaces, signage directing customers to park onsite and not in adjacent lots, and the extra pavement on the site, will allow for a drive aisle to better circulate vehicles, provided all others are properly parked. I believe that this path forward is the best route to bring the applicant into compliance and to give all a so-called clean slate moving forward. The Lee District Land Use Advisory Committee also believes this and voted 19-0-1 to pursue this path. Therefore, Mr. Chairman, I MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS APPROVAL OF SEA 87-L-012-02, SUBJECT TO THE DEVELOPMENT CONDITIONS DATED DECEMBER 9, 2015, WITH THE FOLLOWING REVISIONS –

Chairman Murphy: Hold on a minute. Do you want to bring up the applicant?

Commissioner Migliaccio: After, Mr. Chairman, after I –

Chairman Murphy: Okay.

Commissioner Migliaccio: – read my revision; REMOVAL OF THE LAST SENTENCE IN CONDITION 12; REVISE CONDITION 13 TO STATE "THE DEVELOPMENT SHALL CONSIST OF TWO PHASES. PHASE I IMPROVEMENTS SHALL CONSIST OF THOSE IMPROVEMENTS LISTED IN DEVELOPMENT CONDITIONS 18, 19, 20, 21, 23, AND 28 BELOW. PHASE II SHALL CONSIST OF THE INSTALLATION OF TWO EXTERIOR AUTO LIFTS, AS SHOW ON THE SEA PLAT. PHASE II SHALL NOT BE CONSTRUCTED UNTIL ALL IMPROVEMENTS LISTED IN PHASE I HAVE BEEN COMPLETED. THE EXTERIOR AUTO LIFTS SHALL REQUIRE ANY APPLICABLE SITE PLAN AND PERMIT APPROVALS PRIOR TO THEIR INSTALLATION"; AND THE ADDITION OF THE FOLLOWING CONDITION: TO REDUCE NOISE LEVELS ASSOCIATED WITH ANY IMPACT GUNS FOR OUTDOOR VEHICLE SERVICE, THE EMPLOYEES OF THE

SERVICE STATION SHALL USE QUIET GUN IMPACT GUNS DURING OUTDOOR VEHICLE SERVICE.

Commissioner Sargeant: Second.

Commissioner Migliaccio: Thank you, and can I get the applicant to come down, please.

Roland Joun, Applicant: Yes, my name is Roland Joun.

Commissioner Migliaccio: Did you have a chance to read the development conditions and understand the development conditions that I just revised? And do you agree to abide by these?

Mr. Joun: Yes, I do.

Commissioner Migliaccio: Thank you.

Chairman Murphy: Would you state your name for the record please?

Mr. Joun: My name is Roland G. Joun. J-O-U-N.

Chairman Murphy: Thank you very much. That motion was seconded by Mr. Sargeant. Is there a discussion of the motion? All those in favor of the motion to recommend to the board of supervisors that it approve SEA 87-L-012-02, subject to development conditions as amended tonight by Mr. Migliaccio, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries.

//

(The motion carried by a vote of 11-0. Commissioner Lawrence was absent from the meeting.)

JN

Board Agenda Item
February 2, 2016

3:30 p.m.

Public Hearing on SE 2015-HM-024 (Metropolitan Washington Airports Authority and The Virginia Department of Rail And Public Transportation on Behalf of the Washington Metropolitan Area Transit Authority and The Board of Supervisors of Fairfax County) to Permit Electrically-Powered Regional Rail Transit Facilities, Located on Approximately 1.69 Acres of Land Zoned PRC (Hunter Mill District) (Concurrent with PRC 86-C-121-05)

and

Public Hearing on PRC 86-C-121-05 (Metropolitan Washington Airports Authority and The Virginia Department of Rail And Public Transportation on Behalf of the Washington Metropolitan Area Transit Authority and The Board of Supervisors of Fairfax County) to Permit Electrically-Powered Regional Rail Transit Facilities, Located on Approximately 1.69 Acres of Land Zoned PRC(Hunter Mill District) (Concurrent with SE 2015-HM-024)

This property is located approximately 1,200 Feet West of its Intersection with Reston Parkway on the South Side of Sunset Hills Road. Proposed Tax Map 17-3 ((1)) 35C, Formerly Part of 17-3 ((1)) 35B.

PLANNING COMMISSION RECOMMENDATION:
On Wednesday, January 13, 2016, the Planning Commission voted 9-0-1 (Commissioner Keys-Gamarra abstained; Commissioner Hurley was not present for the vote; and Commissioner Migliaccio was absent from the meeting) to recommend to the Board of Supervisors approval of SE 2015-HM-024 and PRC 86-C-121-05, subject the proposed Development Conditions, dated December 30, 2015.

In a related action, On Wednesday, January 13, 2016, the Planning Commission voted 9-0-1 (Commissioner Keys-Gamarra abstained; Commissioner Hurley was not present for the vote; and Commissioner Migliaccio was absent from the meeting) to approve 2232-H15-10, as amended.

The Planning Commission noted that the application satisfies the criteria of location, character, and extent as specified in Section 15-2-2232 of the *Code of Virginia,* as amended, and that it is in substantial accord with the Comprehensive Plan.

Board Agenda Item
February 2, 2016

ENCLOSED DOCUMENTS:
Attachment 1: Planning Commission Verbatim Excerpt
Staff Report previously furnished and available online at:
http://ldsnet.fairfaxcounty.gov/ldsnet/ldsdwf/4511218.PDF

STAFF:
Barbara Berlin, Director, Zoning Evaluation Division, Department of Planning and Zoning (DPZ),
Mary Ann Tsai, Planner, DPZ

PRC 86-C-121-05/SE 2015-HM-025/2232-H15-10 – VIRGINIA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION (VDRPT) O/B/O THE METROPOLITAN WASHINGTON AIRPORTS AUTHORITY (MWAA) & THE BOARD OF SUPERVISORS OF FAIRFAX COUNTY, VIRGINIA

After Close of the Public Hearing

Chairman Murphy: Public hearing is closed; recognize Mr. de la Fe.

Commissioner de la Fe: Thank you very much, Mr. Chairman. This - these multiple applications are primarily to clear the way legally for the Reston Towne Center north entrance up to the Silver Line, which is under construction already, and we need take these actions in order to, you know, for that to proceed. Could – Mr. Chairman, could I have the applicant's representative please step forward?

Chairman Murphy: Mr. McBride?

Commissioner de la Fe: Mr. McBride, do you – could you confirm for the record agreement to the proposed SE and PRC development conditions that are both dated December 30th, 2015?

John McBride, Applicant's Agent, Odin, Feldman & Pittleman P.C.: Yes, we do agree.

Commissioner de la Fe: Thank you very much. Thank you very much. Mr. Chairman, I CONCUR WITH THE STAFF'S CONCLUSION THAT THE PROPOSED ELECTRICALLY POWERED REGIONAL RAIL TRANSIT FACILITY SATISFIES THE CRITERIA OF LOCATION, CHARACTER, AND EXTENT AS SPECIFIED IN SECTION 15-2-2232 OF THE *CODE OF VIRGINIA,* AS AMENDED, AND THAT IT IS IN SUBSTANTIAL ACCORD WITH THE COMPREHENSIVE PLAN, AND I MOVE THE PLANNING COMMISSION APPROVE THIS 2232.

Commissioner Lawrence: Second.

Chairman Murphy: Seconded by Mr. Lawrence. Is there a discussion of the motion? All those in favor of the motion to approve 2232-H15-10, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries. Mr. de la Fe.

Commissioner de la Fe: Mr. Chairman, I move that the planning Commission – oh right there – I FURTHER MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS APPROVAL OF SE 2015-HM-024 AND PRC 86-C-121-05, SUBJECT THE PROPOSED SE AND PRC DEVELOPMENT CONDITIONS, DATED DECEMBER 30TH, 2015.

Commissioner Lawrence: Second.

Chairman Murphy: Seconded by Mr. Lawrence. Is there a discussion of the motion? All those in favor of the motion to approve SE 2015-HM-024 and PRC 86-C-121-05, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries. Ms. Gamarra, did you want to abstain on them?

Commissioner Keys-Gamarra: Yes.

Chairman Murphy: All right, please note that Ms. Gamarra's abstaining on all these motions, okay? All those in favor, say aye. Opposed? Motion carries.

//

(The motion carried by a vote of 9-0-1. Commissioner Keys-Gamarra abstained. Commissioner Hurley was not present for the vote. Commissioner Migliaccio was absent from the meeting.)

TMW

Board Agenda Item
February 2, 2016

4:00 p.m.

Public Hearing to Consider Parking Restrictions on Hamaker Court (Providence District)

ISSUE:
Public hearing to consider a proposed amendment to Appendix R of *The Code of the County of Fairfax, Virginia* (Fairfax County Code), to establish parking restrictions on Hamaker Court in the Providence District.

RECOMMENDATION:
The County Executive recommends that the Board adopt an amendment to Appendix R, of the Fairfax County Code, to prohibit commercial vehicles, recreational vehicles and all trailers as defined in Chapter 82 of the Fairfax County Code from parking on Hamaker Court from 6:00 p.m. to 9:00 a.m., seven days per week.

TIMING:
The public hearing was authorized on January 12, 2016, for February 2, 2016, at 4:00 p.m.

BACKGROUND:
Fairfax County Code Section 82-5-37(5) authorizes the Board of Supervisors to designate restricted parking in non-residential areas where long term parking of vehicles diminishes the capacity of on-street parking for other uses.

Property managers representing all of the landowners along Hamaker Court sent a letter to the Providence District office requesting assistance to restrict long term parking of large out of the area vehicles on Hamaker Court to allow parking for their tenants and tenant's customers. They are specifically requesting a parking restriction for all commercial vehicles, recreational vehicles, and all trailers along the entire length of Hamaker Court from 6:00 p.m. to 9:00 a.m., seven days per week.

Staff has reviewed this area on several occasions over a period of time in excess of 30 days and verified that long term parking of large commercial vehicles, recreational vehicles, and trailers is occurring. Such long term parking results in a lack of parking for the customers and employees of the businesses located on this street.

Board Agenda Item
February 2, 2016

FISCAL IMPACT:
The cost of sign installation is estimated at $800 to be paid from Fairfax County Department of Transportation funds.

ENCLOSED DOCUMENTS:
Attachment I: Proposed amendment to Fairfax County Code, Appendix R (General Parking Restrictions)
Attachment II: Area Map of Proposed Parking Restriction

STAFF:
Tom Biesiadny, Director, Fairfax County Department of Transportation (FCDOT)
Eric Teitelman, Chief, Capital Projects and Traffic Engineering Division, FCDOT
Neil Freschman, Chief, Traffic Engineering Section, FCDOT
Maria Turner, Sr. Transportation Planner, FCDOT

Attachment I

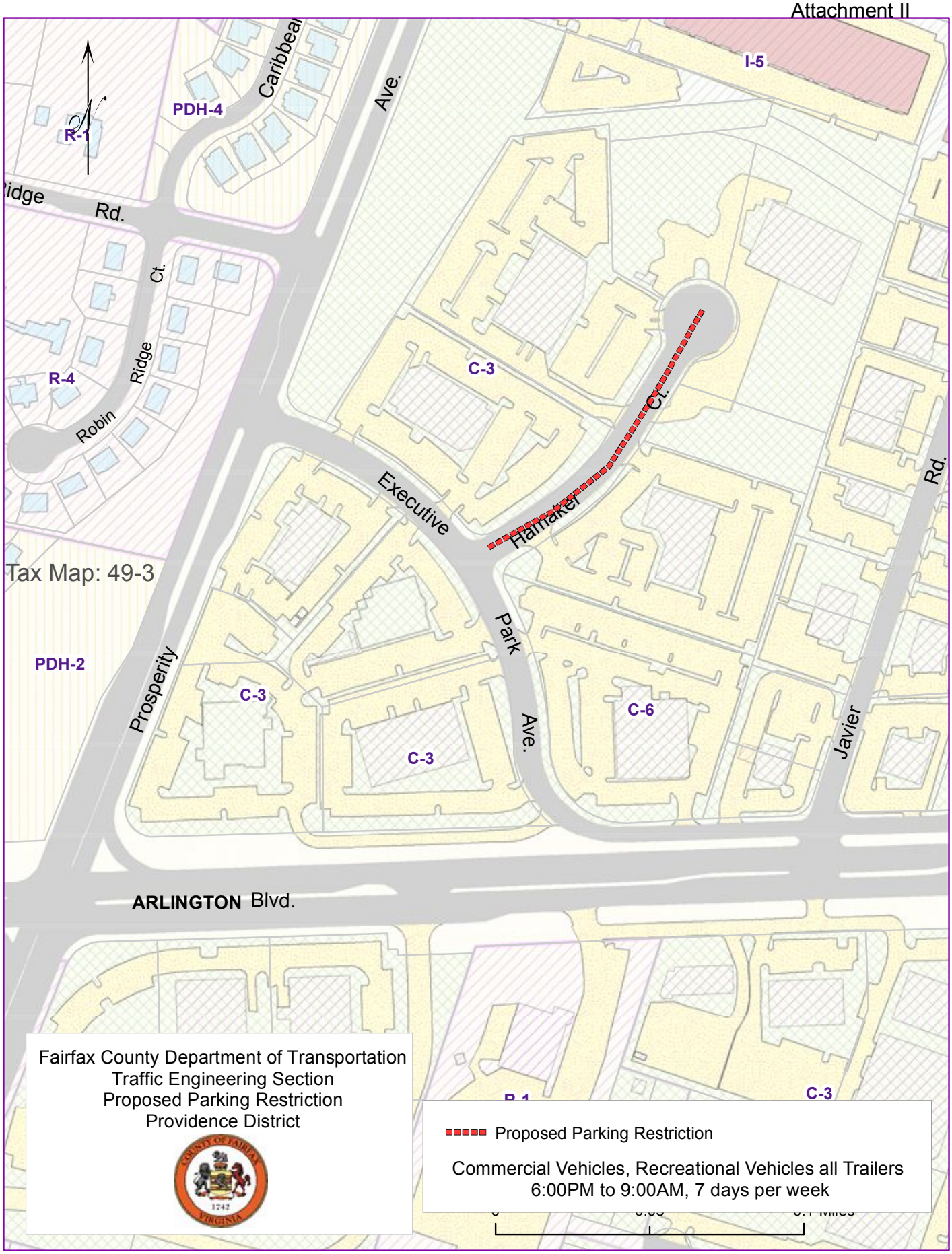
PROPOSED CODE AMENDMENT

THE CODE OF THE COUNTY OF FAIRFAX, VIRGINIA
APPENDIX R

Amend *The Code of the County of Fairfax*, *Virginia,* by adding the following to Appendix R, in accordance with Section 82-5-37:

Hamaker Court (Route 6993).
Commercial vehicles, recreational vehicles, and trailers as defined in Chapter 82 of the Fairfax County Code shall be restricted from parking on Hamaker Court from Executive Park Avenue to the cul-de-sac inclusive from 6:00 p.m. to 9:00 a.m., seven days per week.

Attachment II



Board Agenda Item
February 2, 2016

4:00 p.m.

Public Hearing to Consider Parking Restrictions on Mariah Court (Sully District)

ISSUE:
Public hearing to consider a proposed amendment to Appendix R of *The Code of the County of Fairfax, Virginia* (Fairfax County Code), to establish parking restrictions on Mariah Court in the Sully District.

RECOMMENDATION:
The County Executive recommends that the Board adopt an amendment (Attachment I) to Appendix R, of the Fairfax County Code, to prohibit commercial vehicles, recreational vehicles and all trailers as defined in Chapter 82 of the Fairfax County Code from parking on Mariah Court from 9:00 p.m. to 6:00 a.m., seven days per week.

TIMING:
The public hearing was authorized on January 12, 2016, for February 2, 2016, at 4:00 p.m.

BACKGROUND:
Fairfax County Code Section 82-5-37(5) authorizes the Board of Supervisors to designate restricted parking in non-residential areas where long term parking of vehicles diminishes the capacity of on-street parking for other uses.

The Chantilly Corporate Center Condominium Owners Association and property owners of various parcels along Mariah Court contacted the Sully District office seeking assistance to restrict long term parking of large out of the area vehicles on Mariah Court. They are specifically requesting a parking restriction for all commercial vehicles, recreational vehicles, and all trailers along the entire length of Mariah Court from 9:00 p.m. to 6:00 a.m., seven days per week.

Staff has reviewed this area on several occasions over a period of time in excess of 30 days and verified that long term parking of large commercial vehicles, recreational vehicles, and trailers is occurring.

Board Agenda Item
February 2, 2016

FISCAL IMPACT:
The cost of sign installation is estimated at $800 to be paid from Fairfax County Department of Transportation funds.

ENCLOSED DOCUMENTS:
Attachment I: Proposed amendment to Fairfax County Code, Appendix R (General Parking Restrictions)
Attachment II: Area Map of Proposed Parking Restriction

STAFF:
Tom Biesiadny, Director, Fairfax County Department of Transportation (FCDOT)
Eric Teitelman, Chief, Capital Projects and Traffic Engineering Division, FCDOT
Neil Freschman, Chief, Traffic Engineering Section, FCDOT
Maria Turner, Sr. Transportation Planner, FCDOT

Attachment I

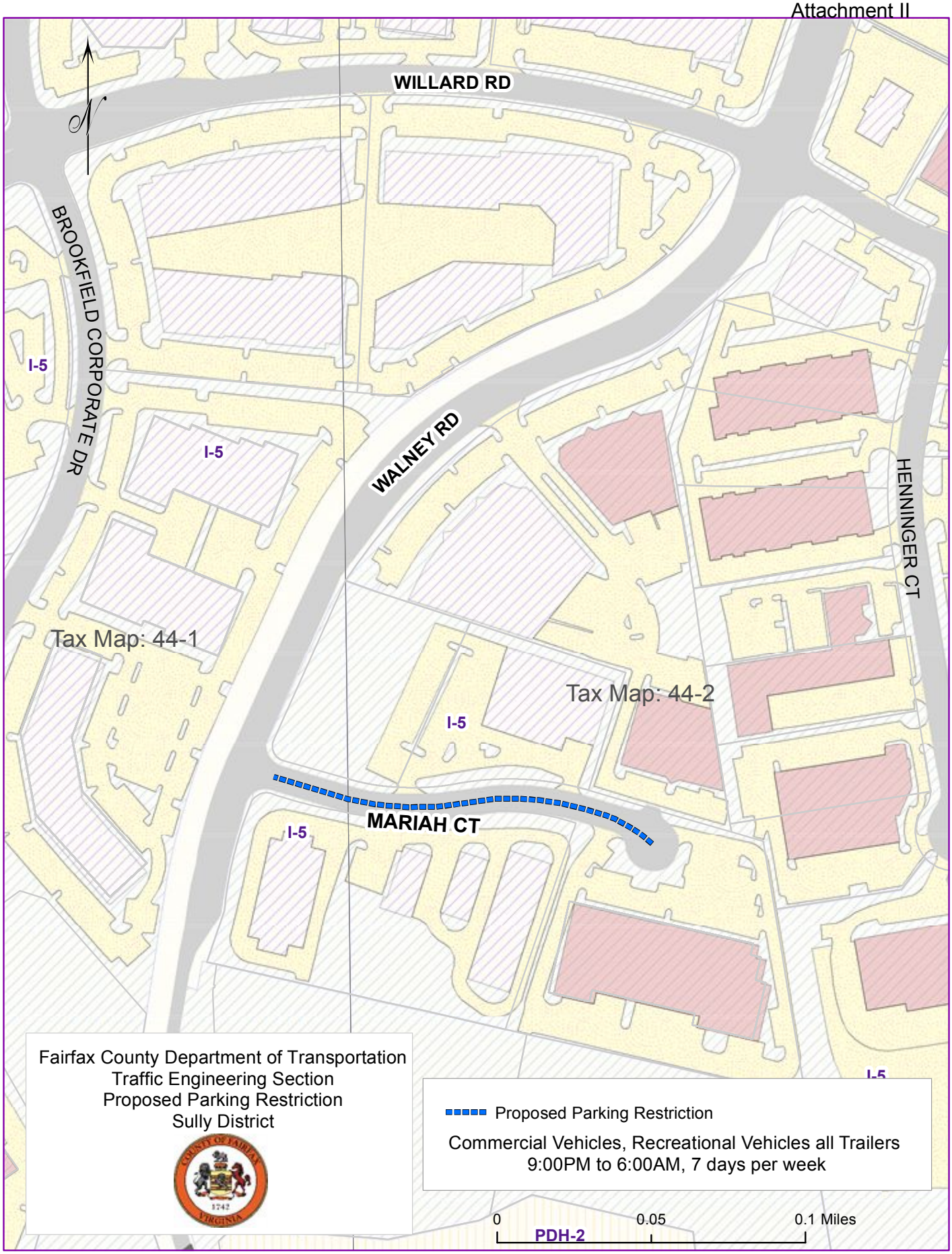
PROPOSED CODE AMENDMENT

THE CODE OF THE COUNTY OF FAIRFAX, VIRGINIA
APPENDIX R

Amend *The Code of the County of Fairfax*, *Virginia,* by adding the following to Appendix R, in accordance with Section 82-5-37:

Mariah Court (Route 8313).
Commercial vehicles, recreational vehicles, and trailers as defined in Chapter 82 of the Fairfax County Code shall be restricted from parking on Mariah Court from Walney Road to the cul-de-sac inclusive from 9:00 p.m. to 6:00 a.m., seven days per week.

Attachment II



Board Agenda Item
February 2, 2016

4:00 p.m.

Public Hearing on Proposed Amendments to the Public Facilities Manual Re: National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Rainfall Data

ISSUE:
Board of Supervisors' adoption of proposed amendments to Chapter 6 (Storm Drainage) and Chapter 13 (PFM Structure, Interpretations, Definitions, Abbreviations, and Unit Conversion Tables) of the Public Facilities Manual (PFM) related to National Oceanic and Atmospheric Administration (NOAA) Atlas 14 rainfall data. The proposed amendments are necessary to utilize the latest and most comprehensive rainfall data available in the design of storm drainage facilities, floodplain determinations, and adequate outfall determinations.

PLANNING COMMISSION RECOMMENDATION:
On Wednesday, December 9, 2015, the Planning Commission voted 12-0, with all members present and voting, to recommend that the Board adopt the proposed amendments as set forth in the Staff Report dated November 17, 2015, with the revision in Attachment 2 dated December 9, 2015.

RECOMMENDATION:
The County Executive recommends that the Board adopt the proposed amendments as set forth in the Staff Report dated November 17, 2015, with the revision in Attachment 2 dated December 9, 2015, as recommended by the Planning Commission.

The proposed amendments to the PFM have been prepared by the Department of Public Works and Environmental Services (DPWES) and coordinated with the Office of the County Attorney. The proposed amendments have been recommended for approval by the Engineering Standards Review Committee.

TIMING:
Board action is requested on February 2, 2016. On November 17, 2015, the Board authorized the advertising of public hearings. The Planning Commission held a public hearing on December 9, 2015. The amendments will become effective at 12:01 a.m. on February 3, 2016.

Board Agenda Item
February 2, 2016

BACKGROUND:
Rainfall intensity, duration, amount, and frequency data is used in the design of storm sewers, ditches, channels, inlets, and stormwater management systems including detention and water quality control facilities. Rainfall data is also used to determine flows in streams to calculate floodplain limits and the adequacy of stormwater outfalls. The data in NOAA Atlas 14 *Precipitation-Frequency Atlas of the United States* (NOAA Atlas 14) supersedes the data in Weather Bureau Technical Paper No. 40 *Rainfall Frequency Atlas of the United States* (TP-40) and National Weather Service (NWS) NOAA Technical Memorandum NWS Hydro-35 *Five- to 60-Minute Precipitation Frequency for the Eastern and Central United States* (Hydro-35) rainfall atlases that were published in 1961 and 1977, respectively. NOAA Atlas 14 is based on more recent and extended data sets, currently accepted statistical approaches, and improved mapping techniques. The rainfall data in the PFM, which is based on TP-40 and Hydro-35 rainfall atlases, needs to be updated to reflect the best available data. Additionally, use of NOAA Atlas 14 rainfall data is required under the County's Stormwater Management Ordinance for the 24-hour duration design storms specified in the ordinance. Pursuant to a May 6, 2014, Technical Bulletin from the Department of Public Works and Environmental Services (DPWES) the industry was advised of the requirement to use NOAA Atlas 14 rainfall data and, since that date, has been using the NOAA Atlas 14 data to design stormwater management facilities.

NOAA Atlas 14 rainfall data is available for three weather stations in or near the County. While it is true that rainfall intensities and amounts can vary significantly at different locations for a given storm event, statistically, rainfall intensities and amounts for the design storms used for engineering analysis in the PFM are similar at all three stations. Therefore, for consistency and ease of application, DPWES staff determined that data from only the Vienna Tysons Corner station should be used in the PFM. The Vienna Tysons Corner station was selected because it is the most centrally located and therefore most representative of long term statistics for the County as a whole. It is also the most conservative (i.e. has the highest value) of the three stations for 100-year 24-hour rainfall amounts.

Most computer software that performs hydrologic computations available from both federal government and private sector sources has been updated to incorporate NOAA Atlas 14 rainfall data. NOAA Atlas 14 rainfall data is distributed online through NOAA's Precipitation Frequency Data Server.

PROPOSED AMENDMENTS:
Using NOAA Atlas 14 rainfall data from the Vienna Tysons Corner Station, the proposed amendments update tables, plates, and example problems in the PFM. This update also includes several new plates, the deletion of several existing plates, and some

additional explanatory material for the acceptable hydrologic methods included in the PFM. Portions of the new rainfall intensity-duration-frequency curves in PFM plates 3A-6 and 3B-6 were generated using regression equations, based on NOAA Atlas 14 data, from the Virginia Department of Transportation (VDOT) Drainage Manual.

REGULATORY IMPACT:
No new regulatory requirements are proposed. A small number of existing floodplain studies must be reviewed prior to using flood elevations and boundaries from those studies for design and regulatory purposes to determine if revisions to the studies are needed. This will occur during the normal development review process as plans are submitted for approval. The floodplain studies that were performed to determine the floodplain limits and elevations of Special Flood Hazard areas depicted on Federal Emergency Management Agency (FEMA) maps are not impacted by the NOAA Atlas 14 data.

FISCAL IMPACT:
There is no fiscal impact to the County. Due to greater 100-year storm rainfall amounts, new stormwater management ponds will need to be slightly larger (height or footprint) resulting in increased construction costs.

ENCLOSED DOCUMENTS:
Attachment 1 – Staff Report Dated November 17, 2015
Attachment 2 – Revision to Advertised Amendments Dated December 9, 2015
Attachment 3 – Planning Commission Verbatim December 9, 2015

STAFF:
James W. Patteson. P.E., Director, Department of Public Works and Environmental Services (DPWES)
William D. Hicks, P.E., Director, Land Development Services, DPWES

Attachment 1

DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES

# STAFF REPORT

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- [ ] PROPOSED COUNTY CODE AMENDMENT
- [√] PROPOSED PFM AMENDMENT
- [ ] APPEAL OF DECISION
- [ ] WAIVER REQUEST

Proposed Amendments to the Public Facilities Manual Re: National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Rainfall Data

| | |
|---|---|
| Authorization to Advertise | November 17, 2015 |
| Planning Commission Hearing | December 9, 2015 |
| Board of Supervisors Hearing | February 2, 2016 |
| Prepared by: | Code Development and Compliance Division<br>JAF (703) 324-1780<br>November 17, 2015 |

STAFF REPORT

A. Issues:

Proposed amendments to Chapter 6 (Storm Drainage) and Chapter 13 (PFM Structure, Interpretations, Definitions, Abbreviations, and Unit Conversion Tables) of the Public Facilities Manual (PFM) related to National Oceanic and Atmospheric Administration (NOAA) Atlas 14 rainfall data. The proposed amendments are necessary to utilize the latest and most comprehensive rainfall data available in the design of storm drainage facilities, floodplain determinations, and adequate outfall determinations.

B. Recommended Action:

Staff recommends that the Board of Supervisors (the Board) adopt the proposed amendments to Chapter 6 (Storm Drainage) and Chapter 13 (PFM Structure, Interpretations, Definitions, Abbreviations, and Unit Conversion Tables) of the PFM.

C. Timing:

Board of Supervisors authorization to advertise – November 17, 2015

Planning Commission Public Hearing – December 9, 2015

Board of Supervisors Public Hearing – February 2, 2016

Effective Date – February 3, 2016 at 12:01 a.m.

D. Source:

Department of Public Works and Environmental Services (DPWES)

E. Coordination:

The proposed amendments to the PFM have been prepared by the Department of Public Works and Environmental Services and coordinated with the Office of the County Attorney. The proposed amendments have been recommended for approval by the Engineering Standards Review Committee.

F. Background:

Rainfall intensity, duration, amount, and frequency data is used in the design of storm sewers, ditches, channels, inlets, and stormwater management systems including detention and water quality control facilities. Rainfall data is also used to determine flows in streams to calculate floodplain limits and the adequacy of

stormwater outfalls. The data in NOAA Atlas 14 *Precipitation-Frequency Atlas of the United States* (NOAA Atlas 14) supersedes the data in Weather Bureau Technical Paper No. 40 *Rainfall Frequency Atlas of the United States* (TP-40) and National Weather Service (NWS) NOAA Technical Memorandum NWS Hydro-35 *Five- to 60-Minute Precipitation Frequency for the Eastern and Central United States* (Hydro-35) rainfall atlases that were published in 1961 and 1977, respectively. NOAA Atlas 14 is based on more recent and extended data sets, currently accepted statistical approaches, and improved mapping techniques. The rainfall data in the PFM, which is based on TP-40 and Hydro-35 rainfall atlases, needs to be updated to reflect the best available data. Additionally, use of NOAA Atlas 14 rainfall data is required under the County's Stormwater Management Ordinance for the 24-hour duration design storms specified in the ordinance. Pursuant to a May 6, 2014, Technical Bulletin from DPWES the industry was advised of the requirement to use NOAA Atlas 14 rainfall data and, since that date, has been using the NOAA Atlas 14 data to design stormwater management facilities.

NOAA Atlas 14 rainfall data is available for three weather stations in or near the County. While it is true that rainfall intensities and amounts can vary significantly at different locations for a given storm event, statistically, rainfall intensities and amounts for the design storms used for engineering analysis in the PFM are similar at all three stations. Therefore, for consistency and ease of application, DPWES staff determined that data from only the Vienna Tysons Corner station should be used in the PFM. The Vienna Tysons Corner station was selected because it is the most centrally located and therefore most representative of long term statistics for the County as a whole. It is also the most conservative (i.e. has the highest value) of the three stations for 100-year 24-hour rainfall amounts.

Most computer software that performs hydrologic computations available from both federal government and private sector sources has been updated to incorporate NOAA Atlas 14 rainfall data. NOAA Atlas 14 rainfall data is distributed online through NOAA's Precipitation Frequency Data Server.

G. <u>Proposed Amendments</u>

Using NOAA Atlas 14 rainfall data from the Vienna Tysons Corner Station, the proposed amendments update tables, plates, and example problems in the PFM. This update also includes several new plates, the deletion of several existing plates, and some additional explanatory material for the acceptable hydrologic methods included in the PFM. Portions of the new rainfall intensity-duration-frequency curves in PFM Plates 3A-6 and 3B-6 were generated using regression equations, based on NOAA Atlas 14 data, from the Virginia Department of Transportation (VDOT) Drainage Manual.

H. Regulatory Impact:

No new regulatory requirements are proposed. A small number of existing floodplain studies must be reviewed prior to using flood elevations and boundaries from those studies for design and regulatory purposes to determine if revisions to the studies are needed. This will occur during the normal development review process as plans are submitted for approval. The floodplain studies that were performed to determine the floodplain limits and elevations of Special Flood Hazard areas depicted on Federal Emergency Management Agency (FEMA) maps are not impacted by the NOAA Atlas 14 data.

I. Fiscal Impact:

There is no fiscal impact to the County. Due to greater 100-year storm rainfall amounts, new stormwater management ponds will need to be slightly larger (height or footprint) resulting in increased construction costs.

J. Attached Documents:

Attachment A – Amendments to Chapter 6 (Storm Drainage)
Attachment B – Amendments to Chapter 13 (PFM Structure, Interpretations, Definitions, Abbreviations, and Unit Conversion Tables)

**Proposed Amendments to Chapter 6 (Storm Drainage)**
**of**
**The Fairfax County Public Facilities Manual**

**Amend §6-0800 (Hydrologic Design), subsection 6-0802 (NRCS Hydrology) by revising it to read as follows:**

NRCS Hydrology consists of Technical Release Number 20 (TR-20), ~~and~~ Technical Release Number 55 (TR-55), NRCS National Engineering Handbook (NEH) Part 630, and associated software applications including the COE HEC-1 and HEC-HMS software~~, NRCS applications~~. This hydrology is preferred and acceptable for all applications except where prior floodplain studies for adopted floodplains used the Anderson Formula. Supplemental Curve Number (CN) values developed for certain runoff reduction practices are provided herein. The NOAA_C 24-hour rainfall distribution shall be used with NRCS Hydrology (Plates 47A-6, 47B-6, & 48-6).

**Amend §6-0800 (Hydrologic Design), subsection 6-0803 (Rational Formula) by revising the introductory paragraph to read as follows:**

The Rational Formula, $Q = C_f CIA$, is acceptable for the determination of peak flows for drainage areas of 200 acres and under, except it is not authorized for designing detention/retention facilities with drainage areas greater than 20 acres. The Rational Formula (i.e. Modified Rational Method) may be used for the design of detention/retention facilities of 20 acres and less provided that the "C" factor for unimproved areas does not exceed 0.15 on storm frequencies of 2 years or less and the facility is in full compliance with all other requirements of § 6-1600 *et seq*. The product of $C_f$ x C should not exceed 1.0.

Q = Rate of runoff (cfs)
$C_f$ = Correction Factor for ground saturation
C = Runoff Coefficient (ratio of runoff to rainfall)
I = Rainfall Intensity (in./hr.)
A = Area of drainage basin (acres)

$C_f$ Values
1.0 - 10-year or less
1.1 - 25-year
1.2 - 50-year
1.25 - 100-year

**Amend §6-0800 (Hydrologic Design), subsection 6-0803 (Rational Formula) by revising paragraph 6-0803.2 to read as follows:**

6-0803.2 Rainfall Intensity (I) shall be determined from the rainfall frequency curves shown in Plate 3A-6 or the table in Plate 3B-6 ~~Table 6.6 (for incremental unit hydrograph)~~. The 2-hour unit hydrographs in Table 6.6 and the 2-hour rainfall distributions in Table 6.18 shall be used for the design of detention facilities unless other unit hydrographs or rainfall distributions are

approved by the Director as appropriate for specific applications. When using the Modified Rational Method in determining the required storage volume for detention facilities, an iterative process is normally used to determine the critical storm duration and hydrograph that results in the maximum storage volume to be detained. For ease of application and uniformity in design of detention facilities, use of the unit hydrographs in Table 6.6 replaces that iterative process. The 10-year storm frequency shall be used to design the storm drains (minor drainage systems); the 100-year storm frequency shall be used to design the drainageways of the major drainage system.

**Amend §6-0800 (Hydrologic Design), subsection 6-0805 (Other Hydrologies) by revising it to read as follows:**

**6-0805 Other Hydrologies**.

It is recognized that there are many hydrologies available, especially in the form of computer software. Other hydrologies may be approved by the Director for specific applications provided it is demonstrated that the alternatives are appropriate for the purpose intended.

**6-0806 Runoff Coefficients and Inlet Times (Table 6.5)**

6-080~~5~~6.1 The lowest range of runoff coefficients may be used for flat areas (areas where the majority of the grades are 2 percent and less).

6-080~~5~~6.2 The average range of runoff coefficients should be used for intermediate areas (areas where the majority of the grades are from 2 percent to 5 percent).

6-080~~5~~6.3 The highest range of runoff coefficients shall be used for steep areas (areas where the majority of the grades are greater than 5 percent), for cluster areas, and for development in clay soils areas.

**6-080~~6~~7 Incremental Unit Hydrograph – 1 ~~Impervious Acre~~ Inch of Runoff per Acre**

Two-hour unit hydrographs for use with rational formula hydrology are presented in Table 6.6. To use the unit hydrographs, multiply the total rainfall amount (inches) in Table 6.19 for the 2-hour design storm by the rational formula runoff coefficient, including the correction factor for ground saturation, and drainage area (acres) to obtain the runoff volume in inches per acre. Multiply the runoff volume by the unit hydrograph values in Table 6.6 to generate the hydrograph values (cfs) for the design storm.

**Amend §6-0800 (Hydrologic Design), Table 6.6 (Incremental Unit Hydrograph Intensities-Inches/Hour) by revising it to read as follows:**

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**~~Table 6.6 Incremental Unit Hydrograph Intensities Inches/Hour~~**

| ~~TIME (Minute)~~ | ~~$t_c$=5 Minute~~ | | | | ~~$t_c$=10 Minute~~ | | | | ~~$t_c$=15 Minute~~ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ~~2-YR~~ | ~~10-YR~~ | ~~25-YR~~ | ~~100-YR~~ | ~~2-YR~~ | ~~10-YR~~ | ~~25-YR~~ | ~~100-YR~~ | ~~2-YR~~ | ~~10-YR~~ | ~~25-YR~~ | ~~100-YR~~ |
| ~~5~~ | ~~5.45~~ | ~~7.27~~ | ~~8.27~~ | ~~9.84~~ | ~~2.57~~ | ~~3.25~~ | ~~3.42~~ | ~~3.68~~ | ~~1.65~~ | ~~2.20~~ | ~~2.44~~ | ~~2.81~~ |
| ~~10~~ | ~~3.51~~ | ~~4.68~~ | ~~5.34~~ | ~~6.37~~ | ~~4.60~~ | ~~5.92~~ | ~~6.77~~ | ~~8.10~~ | ~~3.18~~ | ~~4.24~~ | ~~5.92~~ | ~~5.99~~ |
| ~~15~~ | ~~2.60~~ | ~~3.46~~ | ~~3.95~~ | ~~4.73~~ | ~~3.40~~ | ~~4.53~~ | ~~5.29~~ | ~~6.47~~ | ~~3.90~~ | ~~5.10~~ | ~~5.86~~ | ~~7.05~~ |
| ~~20~~ | ~~2.08~~ | ~~2.77~~ | ~~3.15~~ | ~~3.74~~ | ~~2.36~~ | ~~3.14~~ | ~~3.65~~ | ~~4.44~~ | ~~3.27~~ | ~~4.36~~ | ~~4.88~~ | ~~5.69~~ |
| ~~25~~ | ~~1.72~~ | ~~2.29~~ | ~~2.62~~ | ~~3.13~~ | ~~1.82~~ | ~~2.43~~ | ~~2.85~~ | ~~3.50~~ | ~~2.31~~ | ~~3.08~~ | ~~3.40~~ | ~~3.89~~ |
| ~~30~~ | ~~1.46~~ | ~~1.94~~ | ~~2.23~~ | ~~2.65~~ | ~~1.49~~ | ~~1.99~~ | ~~2.33~~ | ~~2.86~~ | ~~1.76~~ | ~~2.34~~ | ~~2.66~~ | ~~3.17~~ |
| ~~35~~ | ~~1.28~~ | ~~1.68~~ | ~~1.93~~ | ~~2.33~~ | ~~1.25~~ | ~~1.67~~ | ~~2.97~~ | ~~2.43~~ | ~~1.42~~ | ~~1.89~~ | ~~2.22~~ | ~~2.73~~ |
| ~~40~~ | ~~1.10~~ | ~~1.47~~ | ~~1.70~~ | ~~2.07~~ | ~~1.06~~ | ~~1.41~~ | ~~1.71~~ | ~~2.17~~ | ~~1.17~~ | ~~1.56~~ | ~~1.89~~ | ~~2.40~~ |
| ~~45~~ | ~~1.00~~ | ~~1.31~~ | ~~1.53~~ | ~~1.88~~ | ~~0.91~~ | ~~1.21~~ | ~~1.49~~ | ~~1.93~~ | ~~0.97~~ | ~~1.29~~ | ~~1.63~~ | ~~2.16~~ |
| ~~50~~ | ~~0.89~~ | ~~1.18~~ | ~~1.38~~ | ~~1.69~~ | ~~0.78~~ | ~~1.04~~ | ~~1.33~~ | ~~1.78~~ | ~~0.80~~ | ~~1.07~~ | ~~1.42~~ | ~~1.98~~ |
| ~~55~~ | ~~0.82~~ | ~~1.08~~ | ~~1.26~~ | ~~1.55~~ | ~~0.69~~ | ~~0.92~~ | ~~1.21~~ | ~~1.67~~ | ~~0.67~~ | ~~0.89~~ | ~~1.26~~ | ~~1.83~~ |
| ~~60~~ | ~~0.74~~ | ~~0.99~~ | ~~1.16~~ | ~~1.42~~ | ~~0.60~~ | ~~0.80~~ | ~~1.10~~ | ~~1.58~~ | ~~0.55~~ | ~~0.73~~ | ~~1.10~~ | ~~1.68~~ |
| ~~65~~ | ~~0.68~~ | ~~0.91~~ | ~~1.06~~ | ~~1.30~~ | ~~0.55~~ | ~~0.73~~ | ~~1.01~~ | ~~1.45~~ | ~~0.50~~ | ~~0.67~~ | ~~1.01~~ | ~~1.54~~ |
| ~~70~~ | ~~0.62~~ | ~~0.83~~ | ~~0.97~~ | ~~1.18~~ | ~~0.50~~ | ~~0.67~~ | ~~0.92~~ | ~~1.32~~ | ~~0.46~~ | ~~0.61~~ | ~~0.92~~ | ~~1.40~~ |
| ~~75~~ | ~~0.56~~ | ~~0.74~~ | ~~0.87~~ | ~~1.07~~ | ~~0.45~~ | ~~0.60~~ | ~~0.83~~ | ~~1.19~~ | ~~0.41~~ | ~~0.55~~ | ~~0.83~~ | ~~1.26~~ |
| ~~80~~ | ~~0.49~~ | ~~0.66~~ | ~~0.77~~ | ~~0.95~~ | ~~0.40~~ | ~~0.53~~ | ~~0.73~~ | ~~1.05~~ | ~~0.37~~ | ~~0.49~~ | ~~0.73~~ | ~~1.12~~ |
| ~~85~~ | ~~0.43~~ | ~~0.58~~ | ~~0.68~~ | ~~0.83~~ | ~~0.35~~ | ~~0.47~~ | ~~0.64~~ | ~~0.92~~ | ~~0.32~~ | ~~0.43~~ | ~~0.64~~ | ~~0.98~~ |
| ~~90~~ | ~~0.37~~ | ~~0.50~~ | ~~0.58~~ | ~~0.71~~ | ~~0.30~~ | ~~0.40~~ | ~~0.55~~ | ~~0.79~~ | ~~0.28~~ | ~~0.37~~ | ~~0.55~~ | ~~0.84~~ |
| ~~95~~ | ~~0.31~~ | ~~0.41~~ | ~~0.48~~ | ~~0.59~~ | ~~0.25~~ | ~~0.33~~ | ~~0.46~~ | ~~0.66~~ | ~~0.23~~ | ~~0.30~~ | ~~0.46~~ | ~~0.70~~ |
| ~~100~~ | ~~0.25~~ | ~~0.33~~ | ~~0.39~~ | ~~0.47~~ | ~~0.20~~ | ~~0.27~~ | ~~0.37~~ | ~~0.53~~ | ~~0.18~~ | ~~0.24~~ | ~~0.37~~ | ~~0.56~~ |
| ~~105~~ | ~~0.19~~ | ~~0.25~~ | ~~0.29~~ | ~~0.36~~ | ~~0.15~~ | ~~0.20~~ | ~~0.28~~ | ~~0.40~~ | ~~0.14~~ | ~~0.18~~ | ~~0.28~~ | ~~0.42~~ |
| ~~110~~ | ~~0.12~~ | ~~0.17~~ | ~~0.19~~ | ~~0.24~~ | ~~0.10~~ | ~~0.13~~ | ~~0.18~~ | ~~0.26~~ | ~~0.09~~ | ~~0.12~~ | ~~0.18~~ | ~~0.28~~ |
| ~~115~~ | ~~0.06~~ | ~~0.08~~ | ~~0.10~~ | ~~0.12~~ | ~~0.05~~ | ~~0.07~~ | ~~0.09~~ | ~~0.13~~ | ~~0.05~~ | ~~0.06~~ | ~~0.09~~ | ~~0.14~~ |
| ~~120~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ |

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**~~Table 6.6 (cont'd) Incremental Unit Hydrograph Intensities-Inches/Hour~~**

| ~~TIME (Minute)~~ | ~~$t_c$=20 Minute~~ | | | | ~~$t_c$=25 Minute~~ | | | | ~~$t_c$=30 Minute~~ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ~~2-YR~~ | ~~10-YR~~ | ~~25-YR~~ | ~~100-YR~~ | ~~2-YR~~ | ~~10-YR~~ | ~~25-YR~~ | ~~100-YR~~ | ~~2-YR~~ | ~~10-YR~~ | ~~25-YR~~ | ~~100-YR~~ |
| ~~5~~ | ~~1.49~~ | ~~1.98~~ | ~~1.77~~ | ~~1.43~~ | ~~0.96~~ | ~~1.28~~ | ~~1.16~~ | ~~0.98~~ | ~~0.60~~ | ~~0.80~~ | ~~0.87~~ | ~~0.97~~ |
| ~~10~~ | ~~2.53~~ | ~~3.37~~ | ~~3.37~~ | ~~3.36~~ | ~~1.80~~ | ~~2.40~~ | ~~2.35~~ | ~~2.26~~ | ~~1.18~~ | ~~1.57~~ | ~~1.69~~ | ~~1.88~~ |
| ~~15~~ | ~~3.15~~ | ~~4.20~~ | ~~4.64~~ | ~~5.33~~ | ~~2.44~~ | ~~3.25~~ | ~~3.46~~ | ~~3.79~~ | ~~1.74~~ | ~~2.32~~ | ~~2.51~~ | ~~2.80~~ |
| ~~20~~ | ~~3.42~~ | ~~4.56~~ | ~~5.25~~ | ~~6.32~~ | ~~2.87~~ | ~~3.83~~ | ~~4.31~~ | ~~5.05~~ | ~~2.25~~ | ~~3.00~~ | ~~3.31~~ | ~~3.79~~ |
| ~~25~~ | ~~3.12~~ | ~~4.16~~ | ~~4.55~~ | ~~5.15~~ | ~~3.02~~ | ~~4.03~~ | ~~4.70~~ | ~~5.75~~ | ~~2.64~~ | ~~3.52~~ | ~~3.99~~ | ~~4.73~~ |
| ~~30~~ | ~~2.27~~ | ~~3.02~~ | ~~3.32~~ | ~~3.78~~ | ~~2.92~~ | ~~3.89~~ | ~~4.39~~ | ~~5.17~~ | ~~2.76~~ | ~~3.71~~ | ~~4.30~~ | ~~5.22~~ |
| ~~35~~ | ~~1.67~~ | ~~2.22~~ | ~~2.54~~ | ~~3.03~~ | ~~2.51~~ | ~~3.35~~ | ~~3.60~~ | ~~3.99~~ | ~~2.61~~ | ~~3.48~~ | ~~3.99~~ | ~~4.78~~ |
| ~~40~~ | ~~1.37~~ | ~~1.83~~ | ~~2.11~~ | ~~2.55~~ | ~~2.01~~ | ~~2.68~~ | ~~2.77~~ | ~~2.90~~ | ~~2.27~~ | ~~3.03~~ | ~~3.38~~ | ~~3.92~~ |
| ~~45~~ | ~~1.19~~ | ~~1.58~~ | ~~1.83~~ | ~~2.23~~ | ~~1.54~~ | ~~2.05~~ | ~~2.14~~ | ~~2.28~~ | ~~1.87~~ | ~~2.49~~ | ~~2.70~~ | ~~3.04~~ |
| ~~50~~ | ~~1.06~~ | ~~1.41~~ | ~~1.64~~ | ~~2.00~~ | ~~1.19~~ | ~~1.58~~ | ~~1.73~~ | ~~1.96~~ | ~~1.48~~ | ~~1.97~~ | ~~2.18~~ | ~~2.52~~ |
| ~~55~~ | ~~0.95~~ | ~~1.27~~ | ~~1.50~~ | ~~1.87~~ | ~~0.97~~ | ~~1.29~~ | ~~1.48~~ | ~~1.77~~ | ~~1.19~~ | ~~1.58~~ | ~~1.82~~ | ~~2.20~~ |
| ~~60~~ | ~~0.88~~ | ~~1.17~~ | ~~1.40~~ | ~~1.75~~ | ~~0.84~~ | ~~1.12~~ | ~~1.33~~ | ~~1.65~~ | ~~0.99~~ | ~~1.32~~ | ~~1.57~~ | ~~1.97~~ |
| ~~65~~ | ~~0.81~~ | ~~1.07~~ | ~~1.28~~ | ~~1.60~~ | ~~0.77~~ | ~~1.03~~ | ~~1.22~~ | ~~1.51~~ | ~~0.91~~ | ~~1.21~~ | ~~1.44~~ | ~~1.81~~ |
| ~~70~~ | ~~0.73~~ | ~~0.98~~ | ~~1.17~~ | ~~1.46~~ | ~~0.70~~ | ~~0.93~~ | ~~1.11~~ | ~~1.38~~ | ~~0.83~~ | ~~1.10~~ | ~~1.31~~ | ~~1.64~~ |
| ~~75~~ | ~~0.66~~ | ~~0.88~~ | ~~1.05~~ | ~~1.31~~ | ~~0.63~~ | ~~0.84~~ | ~~1.00~~ | ~~1.24~~ | ~~0.74~~ | ~~0.99~~ | ~~1.18~~ | ~~1.48~~ |
| ~~80~~ | ~~0.59~~ | ~~0.78~~ | ~~0.93~~ | ~~1.17~~ | ~~0.56~~ | ~~0.75~~ | ~~0.89~~ | ~~1.10~~ | ~~0.66~~ | ~~0.88~~ | ~~1.05~~ | ~~1.31~~ |
| ~~85~~ | ~~0.51~~ | ~~0.68~~ | ~~0.82~~ | ~~1.02~~ | ~~0.49~~ | ~~0.65~~ | ~~0.78~~ | ~~0.96~~ | ~~0.58~~ | ~~0.77~~ | ~~0.92~~ | ~~1.15~~ |
| ~~90~~ | ~~0.44~~ | ~~0.59~~ | ~~0.70~~ | ~~0.88~~ | ~~0.42~~ | ~~0.56~~ | ~~0.67~~ | ~~0.83~~ | ~~0.50~~ | ~~0.66~~ | ~~0.79~~ | ~~0.99~~ |
| ~~95~~ | ~~0.37~~ | ~~0.49~~ | ~~0.58~~ | ~~0.73~~ | ~~0.35~~ | ~~0.47~~ | ~~0.55~~ | ~~0.69~~ | ~~0.41~~ | ~~0.55~~ | ~~0.65~~ | ~~0.82~~ |
| ~~100~~ | ~~0.29~~ | ~~0.39~~ | ~~0.47~~ | ~~0.58~~ | ~~0.28~~ | ~~0.37~~ | ~~0.44~~ | ~~0.55~~ | ~~0.33~~ | ~~0.44~~ | ~~0.52~~ | ~~0.66~~ |
| ~~105~~ | ~~0.22~~ | ~~0.29~~ | ~~0.35~~ | ~~0.44~~ | ~~0.21~~ | ~~0.28~~ | ~~0.33~~ | ~~0.41~~ | ~~0.25~~ | ~~0.33~~ | ~~0.39~~ | ~~0.49~~ |
| ~~110~~ | ~~0.15~~ | ~~0.20~~ | ~~0.23~~ | ~~0.29~~ | ~~0.14~~ | ~~0.19~~ | ~~0.22~~ | ~~0.28~~ | ~~0.17~~ | ~~0.22~~ | ~~0.26~~ | ~~0.33~~ |
| ~~115~~ | ~~0.07~~ | ~~0.10~~ | ~~0.12~~ | ~~0.15~~ | ~~0.07~~ | ~~0.09~~ | ~~0.11~~ | ~~0.14~~ | ~~0.08~~ | ~~0.11~~ | ~~0.13~~ | ~~0.16~~ |
| ~~120~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ | ~~0.00~~ |

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## Table 6.6 Incremental Unit Hydrograph CFS

| TIME (Minute) | $t_c$=5 Minute | $t_c$=10 Minute | $t_c$=15 Minute | $t_c$=20 Minute | $t_c$=25 Minute | $t_c$=30 Minute |
|---|---|---|---|---|---|---|
| 5 | 2.451 | 1.103 | 0.754 | 0.540 | 0.359 | 0.259 |
| 10 | 1.582 | 2.127 | 1.579 | 1.003 | 0.714 | 0.505 |
| 15 | 1.171 | 1.638 | 1.805 | 1.353 | 1.036 | 0.749 |
| 20 | 0.934 | 1.132 | 1.506 | 1.517 | 1.275 | 0.984 |
| 25 | 0.775 | 0.881 | 1.052 | 1.328 | 1.382 | 1.179 |
| 30 | 0.658 | 0.721 | 0.819 | 0.969 | 1.299 | 1.262 |
| 35 | 0.574 | 0.608 | 0.676 | 0.735 | 1.075 | 1.176 |
| 40 | 0.502 | 0.525 | 0.571 | 0.610 | 0.833 | 1.002 |
| 45 | 0.453 | 0.456 | 0.488 | 0.530 | 0.643 | 0.807 |
| 50 | 0.407 | 0.403 | 0.421 | 0.473 | 0.515 | 0.649 |
| 55 | 0.373 | 0.365 | 0.367 | 0.432 | 0.436 | 0.537 |
| 60 | 0.341 | 0.329 | 0.317 | 0.401 | 0.389 | 0.460 |
| 65 | 0.313 | 0.301 | 0.290 | 0.368 | 0.357 | 0.422 |
| 70 | 0.285 | 0.275 | 0.265 | 0.335 | 0.325 | 0.384 |
| 75 | 0.256 | 0.247 | 0.238 | 0.301 | 0.292 | 0.345 |
| 80 | 0.227 | 0.219 | 0.212 | 0.268 | 0.260 | 0.307 |
| 85 | 0.199 | 0.192 | 0.185 | 0.234 | 0.227 | 0.269 |
| 90 | 0.171 | 0.164 | 0.160 | 0.201 | 0.195 | 0.231 |
| 95 | 0.142 | 0.137 | 0.132 | 0.168 | 0.162 | 0.191 |
| 100 | 0.114 | 0.110 | 0.105 | 0.133 | 0.129 | 0.153 |
| 105 | 0.086 | 0.083 | 0.080 | 0.100 | 0.097 | 0.115 |
| 110 | 0.057 | 0.054 | 0.052 | 0.067 | 0.065 | 0.077 |
| 115 | 0.028 | 0.027 | 0.027 | 0.034 | 0.032 | 0.038 |
| 120 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

**Amend §6-1000 (Open Channels), subsections 6-1009 (Example – Paved Ditch Computations), 6-1010 (Example – Paved Ditch Computations), and 6-1011 (Example – Paved Ditch Computations) by revising them to read as follows:**

**6-1009 Example – ~~Paved~~ Roadside Ditch Computations**.

Example based on the VDOT method for design of roadside ditches (See VDOT Drainage Manual). The Rational Formula is used to determine the flow in each ditch segment beginning with the most upstream segment and proceeding downstream. To calculate the flow in each successive downstream segment, the Rational Formula CA values from all the upstream segments are added to the CA value for the segment being analyzed. The rainfall intensity for the segment being analyzed is the lesser of the rainfall intensity for that segment or the rainfall intensity of the previous segment minus 0.1 in/hr. This is a simplifying assumption or approximation of the actual rainfall intensity that is used for computational efficiency. If the computed flow in any segment decreases from the previous segment, the flow is held at the higher value until the flow for the next segment increases. After computing the flows, determine the velocities, depth of flow, and the need for channel linings in accordance with § 6-1002. Given or assumed ~~(~~values below vary with projects~~)~~:.

6-1009.1 Q=CIA

Where:
C=0.9 for paved area
C=0.5 for unpaved drainage area within normal rights-of-way
C=0.3 for drainage area outside normal rights-of-way (ROW)

"I" is based on the 2-year rainfall curve with time of concentration dependent upon average width, grade and type of cover, (5 percent and average grass in this case).

$$A = \frac{100 \times \text{Width Strip}}{43{,}560}$$

Where:
A = area (acres)
Width Strip = width (ft.)
Length of ditch segment = 100 feet

6-1009.2 Typical Section: 24-foot pavement, road is crowned and 12 feet of pavement drains to ditch, ditch having 3:1 front slope and 2:1 back slope.

6-1009.3 (91-06-PFM) From "Virginia Erosion and Sediment Control Handbook," Chapter 5, mostly silt loam with a short section of ordinary firm load.

6-1009.4 (91-06-PFM) Allowable Velocity: From Table 5-22 in the "Virginia Erosion and Sediment Control" use 3 fps as permissible velocity for silt loam and 3.5 fps for ordinary firm loam.

6-1009.5 Normal right-of-way width = ~~110~~ 50 feet.

6-1009.6 Width Strip Drained: To be determined from cross-sections, aerial photographs, topographical sheets or field observation (to be measured from outside edge of ~~pavement~~ of the ROW to the nearest multiple of 10 feet).

6-1009.7 (61-98-PFM) Where vegetative linings are used, n=0.050 should be used and a velocity of 4 fps should be the upper permitted maximum.

**6-1010 Example – ~~Paved~~ Roadside Ditch Computations (continued).**

~~"C" "A"~~ "CA" Values for 100 feet of ditch, using various widths ~~and roughness factors~~.

| | | ~~Col. 1 No Pavement~~ | ~~Col. 1 + 0.025* 12 ft. Pavement~~ | ~~Col. 1 + 0.050** 24 ft. Pavement~~ | |
|---|---|---|---|---|---|
| ~~30 x 100 x 0.5 / 43,560~~ | = | ~~0.035~~ | ~~0.060~~ | ~~0.085~~ | ~~*12 ft. Pavement Computations~~ |
| ~~40 x 100 x 0.5 / 43,560~~ | = | ~~0.046~~ | ~~0.071~~ | ~~0.096~~ | ~~12 x 100 x 0.9 / 43,560 = 0.025~~ |
| ~~60 x 100 x 0.48 / 43,560~~ | = | ~~0.066~~ | ~~0.091~~ | ~~0.116~~ | |
| ~~100 x 100 x 0.41 / 43,560~~ | = | ~~0.094~~ | ~~0.119~~ | ~~0.144~~ | ~~**24 ft. Pavement Computations~~ |
| ~~150 x 100 x 0.37 / 43,560~~ | = | ~~0.128~~ | ~~0.153~~ | ~~0.178~~ | ~~24 x 100 x 0.9 / 43,560 = 0.050~~ |
| ~~200 x 100 x 0.35 / 43,560~~ | = | ~~0.161~~ | ~~0.186~~ | ~~0.211~~ | |

~~Note: See § 6-1002 and VDOT Drainage Manual.~~

| Width of strip outside ROW | CA unpaved area outside ROW | | CA unpaved area in ROW | | CA pavement in ROW | | CA Total |
|---|---|---|---|---|---|---|---|
| W | W x 100 x 0.3 / 43,560 | | 13 x 100 x 0.5 / 43,560 | | 12 x 100 x 0.9 / 43,560 | | |
| 30 | 0.021 | + | 0.015 | + | 0.025 | = | 0.061 |
| 40 | 0.028 | + | 0.015 | + | 0.025 | = | 0.068 |
| 60 | 0.041 | + | 0.015 | + | 0.025 | = | 0.081 |
| 100 | 0.069 | + | 0.015 | + | 0.025 | = | 0.109 |
| 150 | 0.103 | + | 0.015 | + | 0.025 | = | 0.143 |
| 200 | 0.138 | + | 0.015 | + | 0.025 | = | 0.178 |

| From 2-year Curve – RAINFALL | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Duration (minutes) | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Intensity | ~~4.8~~ | ~~4.6~~ | ~~4.4~~ | ~~4.3~~ | ~~4.1~~ | 4.0 | 3.9 | ~~3.7~~ | 3.6 | 3.5 |
| | 5.0 | 4.7 | 4.5 | 4.4 | 4.2 | | | 3.8 | | |

~~**Table 6.17 Time of Concentration to Use – Paved Ditch**~~

~~30 ft. Width Strip – $t_c$ 6 minutes, I 4.8 in./hr.~~
~~40 ft. Width Strip – $t_c$ 7 minutes, I 4.6 in./hr.~~
~~60 ft. Width Strip – $t_c$ 9 minutes, I 4.3 in./hr.~~
~~100 ft. Width Strip – $t_c$ 10 minutes, I 4.1 in./hr.~~
~~150 ft. Width Strip – $t_c$ 12 minutes, I 3.9 in./hr.~~
~~200 ft. Width Strip – tc 14 minutes, I 3.6 in./hr.~~

**Table 6.17 Time of Concentration to Use* – Roadside Ditch**

| Width of strip outside ROW | Time of concentration ($t_c$) | Rainfall intensity (I) |
|---|---|---|
| feet | minutes | in./hr. |
| 30 | 6 | 5.0 |
| 40 | 7 | 4.7 |
| 60 | 9 | 4.4 |
| 100 | 10 | 4.2 |
| 150 | 12 | 3.9 |
| 200 | 14 | 3.6 |

* Time of Concentration is based on Plate 4-6.

**6-1011 Example – ~~Paved~~ Roadside Ditch Computations (continued).** ~~Decrease "I" value 0.1 in./hr. for each additional 100 feet that water flows in the ditch.~~

~~Time of Concentration is based on Plate 4-6.~~

COMPUTATIONS

Sta. 136 + 00 to 142 + 00 (Ditch #1) and Sta. 149 + 50 to 157 + 50 (Ditch #2)

| Check Point | Width of strip Outside ROW | CA segment | CA total | I | (CA) x I = Q |
|---|---|---|---|---|---|
| Ditch #1 | | | | | |
| Sta. 136+00 | | | | | |
| | 30 feet | 0.061 | 0.061 | 5.0 in/hr | 0.061 x 5.0 = 0.3050 cfs |
| Sta. 137+00 | | ~~0.060~~ | | | ~~0.060 x 4.8 = 0.2880 cfs~~ |
| | 40 feet | 0.068 | 0.129 | 4.7 in/hr | 0.129 x 4.7 = 0.6063 cfs |

| | | | | | |
|---|---|---|---|---|---|
| Sta. 138+00 | | ~~0.071/0.131~~ | | | ~~0.131 x 4.6 = 0.6026 cfs~~ |
| | 100 feet | 0.109 | 0.238 | 4.2 in/hr | 0.238 x 4.2 = 0.9996 cfs |
| Sta. 139+00 | | ~~0.119/0.250~~ | | | ~~0.250 x 4.1 = 1.0250 cfs~~ |
| | 100 feet | 0.109 | 0.347 | 4.1 in/hr | 0.347 x 4.1 = 1.4227 cfs |
| Sta. 140+00 | | ~~0.119/0.369~~ | | | ~~0.369 x 4.0 = 1.4760 cfs~~ |
| | 40 feet | 0.068 | 0.413 | 4.0 in/hr | 0.413 x 4.0 = 1.6520 cfs |
| Sta. 141+00 | | ~~0.071/0.440~~ | | | ~~0.440 x 3.9 = 1.7160 cfs~~ |
| | 40 feet | 0.068 | 0.481 | 3.9 in/hr | 0.481 x 3.9 = 1.8759 cfs |
| Sta. 142+00 | | ~~0.071/0.511~~ | | | ~~0.511 x 3.8 = 1.9418 cfs~~ |

Ditch #2

| | | | | | |
|---|---|---|---|---|---|
| Sta. 157+ 50 | | | | | |
| | 40 feet | 0.068 | 0.068 | 4.7 in/hr | 0.068 x 4.7 = 0.3196 cfs |
| Sta. 156+50 | | ~~0.096~~ | | | ~~0.096 x 4.6 = 0.6228 cfs~~ |
| | 60 feet | 0.081 | 0.149 | 4.4 in/hr | 0.149 x 4.4 = 0.6556 cfs |
| Sta. 155+50 | | ~~0.116/0.212~~ | | | ~~0.212 x 4.3 = 0.9116 cfs~~ |
| | 100 feet | 0.109 | 0.258 | 4.2 in/hr | 0.258 x 4.2 = 1.0836 cfs |
| Sta. 154+50 | | ~~0.144/0.356~~ | | | ~~0.356 x 4.1 = 1.4596 cfs~~ |
| | 200 feet | 0.178 | 0.436 | 3.6 in/hr | 0.436 x 3.6 = 1.5696 cfs |
| Sta. 153+50 | | ~~0.211/0.567~~ | | | ~~0.567 x 3.6 = 2.0412 cfs~~ |
| | 200 feet | 0.178 | 0.614 | 3.5 in/hr | 0.614 x 3.5 = 2.1490 cfs |
| Sta. 152+50 | | ~~0.211/0.778~~ | | | ~~0.778 x 3.5 = 2.7230 cfs~~ |
| | 150 feet | 0.143 | 0.757 | 3.4 in/hr | 0.757 x 3.4 = 2.5738 cfs |
| Sta. 151+50 | | ~~0.178/0.956~~ | | | ~~0.956 x 3.4 = 3.2504 cfs~~ |
| | 100 feet | 0.109 | 0.866 | 3.3 in/hr | 0.866 x 3.3 = 2.8578 cfs |
| Sta. 150+50 | | ~~0.119/1.075~~ | | | ~~1.075 x 3.3 = 3.5475 cfs~~ |
| | 60 feet | 0.081 | 0.947 | 3.2 in/hr | 0.947 x 3.2 = 3.0304 cfs |
| Sta. 149+50 | | ~~0.091/1.166~~ | | | ~~1.166 x 3.2 = 3.7312 cfs~~ |

**Amend §6-1300 (Retention, Detention, and Low Impact Development Facilities), subsection 6-1302 (Rooftop Storage) by revising it to read as follows:**

**6-1302 Rooftop Storage**

6-1302.1 Rooftop storage shall be designed to meet the water quantity control requirements of the Storm Water Management Ordinance ~~detain the 10-year, 2-hour storm, and emergency overflow provisions must be adequate to discharge the 100-year, 30-minute storm (See § 6-1302.5 and Tables 6.18 and 6.19)~~.

6-1302.2 ~~(116-14-PFM)~~ The roof drainage system shall be designed in accordance with the Uniform Statewide Building Code, including emergency overflow requirements ~~If a proper design is submitted for the 10-year storm, sufficient storage will normally be provided for the 2-year storm and the 1-year storm, and separate calculations need not be made~~.

6-1302.3 ~~Rainfall from this design storm results in an accumulated storage depth of 3 inches.~~ The roof shall be designed to address the live load requirements of the Uniform Statewide Building Code taking into consideration the maximum water surface elevation produced by the design storm for emergency overflow.

~~6-1302.3A Because roof design in the County is currently based on a snow load of 30 PSF or 5.8 inches of water, properly designed roofs are structurally capable of holding 3 inches of detained stormwater with a reasonable factor of safety.~~

~~6-1302.3B Roofs calculated to store depths greater than 3 inches shall be required to show structural adequacy of the roof design.~~

~~6-1302.4 No less than two roof drains shall be installed in roof areas of 10,000 square feet or less, and at least four drains in roof areas over 10,000 square feet in area. Roof areas exceeding 40,000 square feet shall have one drain for each 10,000 square feet area.~~

~~6-1302.5 Emergency overflow measures adequate to discharge the 100-year, 30-minute storm must be provided.~~

~~6-1302.5A If parapet walls exceed 3 inches in height, the designer shall provide openings (scuppers) in the parapet wall sufficient to discharge the design storm flow at a water level not exceeding 5 inches.~~

~~6-1302.5B One scupper shall be provided for every 20,000 square feet of roof area, and the invert of the scupper shall not be more than 3½ inches above the roof level. If such openings are not practical, then detention rings shall be sized accordingly.~~

6-1302.~~6~~4 Detention rings shall be placed around all roof drains that do not have controlled flow.

6-1302.~~6~~4A The number of holes or size of openings in the rings shall be computed based on the area of roof drained and runoff criteria.

6-1302.~~6~~4B The minimum spacing of sets of holes is 2 inches center-to-center.

6-1302.~~6~~4C The height of the ring is determined by the roof slope and shall be ~~3~~ 2.56 inches maximum.

6-1302.~~6~~4D The diameter of the rings shall be sized to accommodate the required openings and, if scuppers are not provided, to allow the ~~100-year~~ emergency overflow design storm to overtop the ring (overflow design is based on weir computations with the weir length equal to the circumference of the detention ring).

~~6-1302.6E Conductors and leaders shall also be sized to pass the expected flow from the 100-year design storm.~~

6-1302.7 The maximum time of drawdown on the roof shall not exceed ~~17~~ 24 hours for the 10-year design storm.

6-1302.8 Josam Manufacturing Company and Zurn Industries, Inc. market “controlled-flow” roof drains. These products, or their equivalent, are accepted by the County.

6-1302.9 Computations required on plans:

6-1302.9A Roof area in square feet

6-1302.9B Storage provided at ~~3~~ 2.56 inches depth

6-1302.9C Maximum allowable discharge rate

6-1302.9D Inflow-outflow hydrograph analysis or acceptable charts. (For Josam Manufacturing Company and Zurn Industries, Inc. standard drains, the peak discharge rates as given in their charts are acceptable for drainage calculation purposes without requiring full inflow-outflow hydrograph analysis.)

6-1302.9E Number of drains required

6-1302.9F Sizing of openings required in detention rings

6-1302.9G Sizing of ring to accept openings and to pass ~~100-year~~ the emergency overflow design storm

6-1302.10 Example:

Given:

Building with flat roof 200 feet x 50 feet~~.~~;
Pre-development coefficient of runoff~~:~~, ~~c~~C = 0.40;
Post-development coefficient of runoff, C = 0.9;
Pre-development time of concentration, $t_c$ = 10 minutes;
Post-development time of concentration, $t_c$ = 5 minutes;
Pre-development rainfall intensity for a 10-year storm with a $t_c$ = 10 minutes, I = 5.45 in/hr;
Post-development rainfall intensity for a 100-year storm with a $t_c$ = 5 minutes, I = 9.1 in/hr;
Total rainfall for a 2-hour 10-year storm is 2.56 inches.

Computations:

6-1302.10A Roof Area = 200 ft. x 50 ft. = 10,000 $ft^2$

6-1302.10B Storage provided at ~~3~~ 2.56 inches of depth: Vol. = (10,000 $ft^2$)(~~3~~ 2.56 in.)(1/12) = ~~2,500~~ 2133.33 $ft^3$

6-1302.10C Maximum allowable discharge (pre-development rate of runoff) for the 10-year storm

Q = CIA = (0.4)(~~5.92~~ 5.45)(~~927.2/.093~~)(10,000/43,560)
Q = ~~0.54~~ 0.50 cfs

6-1302.10D From Plate 37-6, One set of holes with ~~3~~ 2.56 inches of water will ~~produce runoff or~~ have a discharge of ~~6~~ 5.12 gpm or ~~0.0134~~ 0.0113 cfs. See Plate 38-6 for a diagram of a typical ponding ring.

6-1302.10E Number of drains required for 10,000 square feet roof area ~~equals~~ under the Uniform Statewide Building Code is two.

6-1302.10F Sizing of openings:

Allowable discharge per drain = 0.50 cfs/2 = 0.25 cfs
Number of hole sets = allowable discharge divided by ~~0.0134~~ 0.0113 cfs/one set of holes
~~Number of holes = 0.54 cfs/two drains~~
~~0.0134 cfs/one set of holes~~
~~20.1 sets of holes per drain (use 20 sets of holes)~~
Number of hole sets = 0.25 cfs /0.0113 cfs = 22.1 sets of holes per drain (use 22 sets of holes)

6-1302.10G Size of ring:

Hole sets spaced 2 inches on center
Circumference = ~~B~~ π x diameter
(~~20~~ 22 sets) (2 inches/set) = ~~B~~ π x diameter
D = ~~12.73~~ 14.01 inches, use 15 inches (see below if separate emergency overflow is not provided).

6-1302.11 If detention rings are to act as emergency overflow measures and assuming a 100-year design storm:

Q100=CIA; $t_c$ = 5 minutes; C = 1.0 (including correction factor for 100-year frequency storm);
A = 10,000 $ft^2$/43,560 = 0.23 ac.
Q100 = (1.0)(~~9.84~~ 9.10)(0.23 ac.) = ~~2.26~~ 2.09 cfs (use 1.045 cfs per drain)

Weir formula: $Q = CLH^{3/2}$
C = 3.33
L = ~~B~~ πD (circumference)
H = ~~2 in. or 0.17 ft.~~ 2.56 in. or 0.21 ft.

Assume all hole sets are clogged and the maximum allowable water depth on the roof is 5 inches, or 2.44 inches above the ~~3~~2.56-inch high ring.

$Q = CLH^{3/2}$
Q (per drain) = ~~2.26~~ 1.045 cfs = 3.33 ~~B~~ πD(~~0.17~~0.21)$^{3/2}$

D = ~~3.08 ft. or 36.98 in.~~ 1.04 ft. or 12.46 in.
Use diameter of ~~37~~ 15 inches

**Amend §6-1300 (Retention, Detention, and Low Impact Development Facilities), subsection 6-1305 (Retention and Detention Ponds), paragraph 1305.9 by revising it to read as follows:**

6-1305.9 Table 6.6 ~~and Plate 40-6~~ shows inflow hydrographs for various 10-year, 2-hour storms with times of concentration from 5 minutes to 30 minutes.

**Amend §6-1300 (Retention, Detention, and Low Impact Development Facilities), Table 6.18 (Rainfall Distribution) and Table 6.19 (Storm Volume in Inces of Rainfall), by revising them to read as follows:**

**Table 6.18 Rainfall Distribution**

| Time minutes | Total Precip in. | Total Precip ft. | Increm Precip in. | Increm Precip ft. |
|---|---|---|---|---|
| | | **1-Year, 2-Hour Storm** | | |
| 5 | .36 | .030 | .36 | .03 |
| 10 | .57 | .047 | .21 | .018 |
| 15 | .71 | .059 | .14 | .012 |
| 20 | .81 | .067 | .10 | .008 |
| 30 | .97 | .081 | .16 | .014 |
| 40 | 1.06 | .089 | .09 | .008 |
| 50 | 1.14 | .095 | .08 | .007 |
| 60 | 1.21 | .101 | .07 | .006 |
| 70 | 1.25 | .105 | .04 | .004 |
| 80 | 1.29 | .108 | .04 | .003 |
| 90 | 1.33 | .111 | .04 | .003 |
| 100 | 1.36 | .113 | .03 | .003 |
| 110 | 1.39 | .116 | .03 | .003 |
| 120 | 1.42 | .119 | .03 | .002 |
| | | **2-Year, 2-Hour Storm** | | |
| 5 | .44 | .036 | .44 | .036 |
| 10 | .70 | .058 | .26 | .022 |
| 15 | .88 | .073 | .18 | .015 |
| 20 | 1.01 | .084 | .13 | .011 |
| 30 | 1.20 | .100 | .19 | .016 |
| 40 | 1.34 | .112 | .14 | .011 |
| 50 | 1.44 | .120 | .10 | .009 |
| 60 | 1.53 | .127 | .08 | .007 |
| 70 | 1.57 | .131 | .04 | .004 |
| 80 | 1.61 | .134 | .04 | .003 |
| 90 | 1.65 | .137 | .04 | .003 |
| 100 | 1.68 | .140 | .03 | .003 |
| 110 | 1.71 | .142 | .03 | .003 |
| 120 | 1.74 | .145 | .03 | .002 |
| | | **10-Year, 2-Hour Storm** | | |
| 5 | ~~.60~~ .56 | ~~.05~~ .047 | ~~.60~~ .56 | ~~.05~~ .047 |
| 10 | ~~.99~~ .91 | ~~.083~~ .076 | ~~.39~~ .34 | ~~.032~~ .029 |
| 15 | ~~1.28~~ 1.15 | ~~.107~~ .096 | ~~.29~~ .25 | ~~.024~~ 0.20 |
| 20 | ~~1.52~~ 1.34 | ~~.127~~ .112 | ~~.24~~ .19 | ~~.020~~ .016 |
| 30 | ~~1.85~~ 1.63 | ~~.154~~ .136 | ~~.33~~ .29 | ~~.027~~ .024 |
| 40 | ~~2.11~~ 1.84 | ~~.176~~ .154 | ~~.26~~ .21 | ~~.022~~ .018 |
| 50 | ~~2.33~~ 2.01 | ~~.194~~ .168 | ~~.22~~ .17 | ~~.018~~ .014 |
| 60 | ~~2.50~~ 2.16 | ~~.208~~ .180 | ~~.17~~ .14 | ~~.014~~ .012 |
| 70 | ~~2.62~~ 2.24 | ~~.218~~ .187 | ~~.12~~ .08 | ~~.010~~ .007 |
| 80 | ~~2.72~~ 2.32 | ~~.226~~ .193 | ~~.10~~ .08 | ~~.008~~ .006 |

| | | | | |
|---|---|---|---|---|
| 90 | ~~2.82~~ 2.38 | ~~.235~~ .199 | ~~.10~~ .07 | ~~.008~~ .006 |
| 100 | ~~2.89~~ 2.45 | ~~.241~~ .204 | ~~.07~~ .06 | ~~.006~~ .005 |
| 110 | ~~2.95~~ 2.51 | ~~.246~~ .209 | ~~.06~~ .06 | ~~.005~~ .005 |
| 120 | ~~3.00~~ 2.56 | ~~.250~~ .213 | ~~.05~~ .05 | ~~.004~~ .005 |
| **100-Year, ~~30-Minute~~ 2-Hour Storm** | | | | |
| 5 | ~~1.11~~ 0.76 | ~~.093~~ .063 | ~~1.11~~ .76 | ~~.093~~ .063 |
| 10 | ~~1.71~~ 1.21 | ~~.143~~ .101 | ~~.60~~ .46 | ~~.050~~ .038 |
| 15 | ~~2.16~~ 1.55 | ~~.179~~ .129 | ~~.45~~ .34 | ~~.036~~ .028 |
| 20 | ~~2.46~~ 1.83 | ~~.204~~ .153 | ~~.30~~ .28 | ~~.025~~ .023 |
| 30 | ~~3.00~~ 2.28 | ~~.250~~ .190 | ~~.54~~ .45 | ~~.046~~ .038 |
| 40 | 2.65 | .221 | .37 | .031 |
| 50 | 2.97 | .247 | .32 | .026 |
| 60 | 3.25 | .271 | .28 | .023 |
| 70 | 3.39 | .283 | .14 | .012 |
| 80 | 3.52 | .293 | .13 | .011 |
| 90 | 3.64 | .303 | .12 | .010 |
| 100 | 3.75 | .312 | .11 | .009 |
| 110 | 3.85 | .321 | .10 | .008 |
| 120 | 3.94 | .328 | .09 | .008 |

**Table 6.19 Storm Volume in Inches of Rainfall***

**Duration of Storm**

| Frequency | 5 Min | 10 Min | 15 Min | 30 Min~~ute~~ | 1 Hr | 2 Hr | 3 Hr | 6 Hr | 12 Hr | 24 Hr |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 Yr | 0.355 | 0.567 | 0.708 | ~~1.0~~ 0.971 | ~~1.4~~ 1.21 | ~~1.7~~ 1.42 | ~~1.8~~ 1.52 | ~~2.1~~ 1.87 | ~~2.5~~ 2.28 | ~~2.7~~ 2.62 |
| 2 Yr | 0.426 | 0.681 | 0.856 | ~~1.3~~ 1.18 | ~~1.8~~ 1.48 | ~~2.0~~ 1.74 | ~~2.1~~ 1.85 | ~~2.6~~ 2.27 | ~~3.0~~ 2.75 | ~~3.2~~ 3.17 |
| 5 Yr | 0.506 | 0.810 | 1.02 | ~~1.7~~ 1.46 | ~~2.2~~ 1.87 | ~~2.6~~ 2.20 | ~~2.7~~ 2.35 | ~~3.2~~ 2.87 | ~~3.7~~ 3.49 | ~~4.5~~ 4.07 |
| 10 Yr | 0.565 | 0.904 | 1.14 | ~~2.0~~ 1.66 | ~~2.6~~ 2.16 | ~~3.0~~ 2.56 | ~~3.2~~ 2.75 | ~~3.7~~ 3.36 | ~~4.6~~ 4.12 | ~~5.2~~ 4.87 |
| 25 Yr | 0.641 | 1.02 | 1.30 | ~~2.3~~ 1.92 | ~~3.0~~ 2.56 | ~~3.5~~ 3.08 | ~~3.8~~ 3.32 | ~~4.2~~ 4.08 | ~~5.1~~ 5.08 | ~~6.0~~ 6.09 |
| 50 Yr | 0.698 | 1.11 | 1.41 | ~~2.6~~ 2.12 | ~~3.4~~ 2.87 | ~~4.0~~ 3.50 | ~~4.4~~ 3.79 | ~~5.1~~ 4.70 | ~~6.0~~ 5.92 | ~~7.0~~ 7.18 |
| 100 Yr | 0.754 | 1.20 | 1.52 | ~~3.0~~ 2.32 | ~~4.0~~ 3.20 | ~~4.5~~ 3.95 | ~~4.9~~ 4.29 | ~~5.4~~ 5.37 | ~~6.3~~ 6.85 | ~~7.3~~ 8.41 |
| Max Prob | | | | | | | | 27.0 | | |

* Storm Volumes from NOAA Atlas 14 for the Vienna Tysons Corner Station (Station ID:44-8737) except for the maximum probable storm which is from NWS Hydrometeorological Report No. 51.

~~Average Relationship – 30 Minute Storm~~
~~5 Minutes – .37 of 30 Minutes~~
~~10 Minutes – .57 of 30 Minutes~~
~~15 Minutes – .72 of 30 Minutes~~

**Amend §6-1600 (Design and Construction of Dams and Impoundments), subsection 6-1603 (Hydrologic Design Criteria for Dams Regulated by the County), by revising paragraph 6-1603.1A to read as follows:**

6-1603.1A The SDF shall be determined based on a spillway design storm determined from Plates 46-6, ~~and~~ 47A-6, and 47B-6. The spillway design storm total rainfall amount shall also be determined from Plate 46-6. The minimum storm duration shall be 24-hour. A storm hyetograph shall be constructed using the ~~NRSC~~ NOAA_C, 24-hour duration, ~~Type II~~ rainfall distribution shown in Plates 47A-6, 47B6, and 48-6. Once the spillway design storm hyetograph is constructed, the SDF hydrograph shall be determined using standard NRCS unit hydrograph techniques.

**Amend §6-1600 (Design and Construction of Dams and Impoundments), subsection 6-1603 (Hydrologic Design Criteria for Dams Regulated by the County), by revising paragraph 6-1603.2E to read as follows:**

6-1603.2E The 10-, 25-, and 50-year recurrence interval floods mentioned in § 6-1603.2A thru § 6-1603.2D shall be developed as hydrographs using a minimum 24-hour storm duration, rainfall amounts from Table 6.19, storm distribution from Plates 47A-6 and 47B-6, and standard NRCS unit hydrograph techniques for converting the rainfall hyetograph to a runoff hydrograph.

**Amend Chapter 6 (Storm Drainage) by deleting existing Plate No. 3-6 (Intensity Duration Frequency Curves) and replacing it with new Plate No. 3A-6 (Intensity Duration Frequency Curves) and Plate 3B-6 (Intensity Duration Frequency Values):**

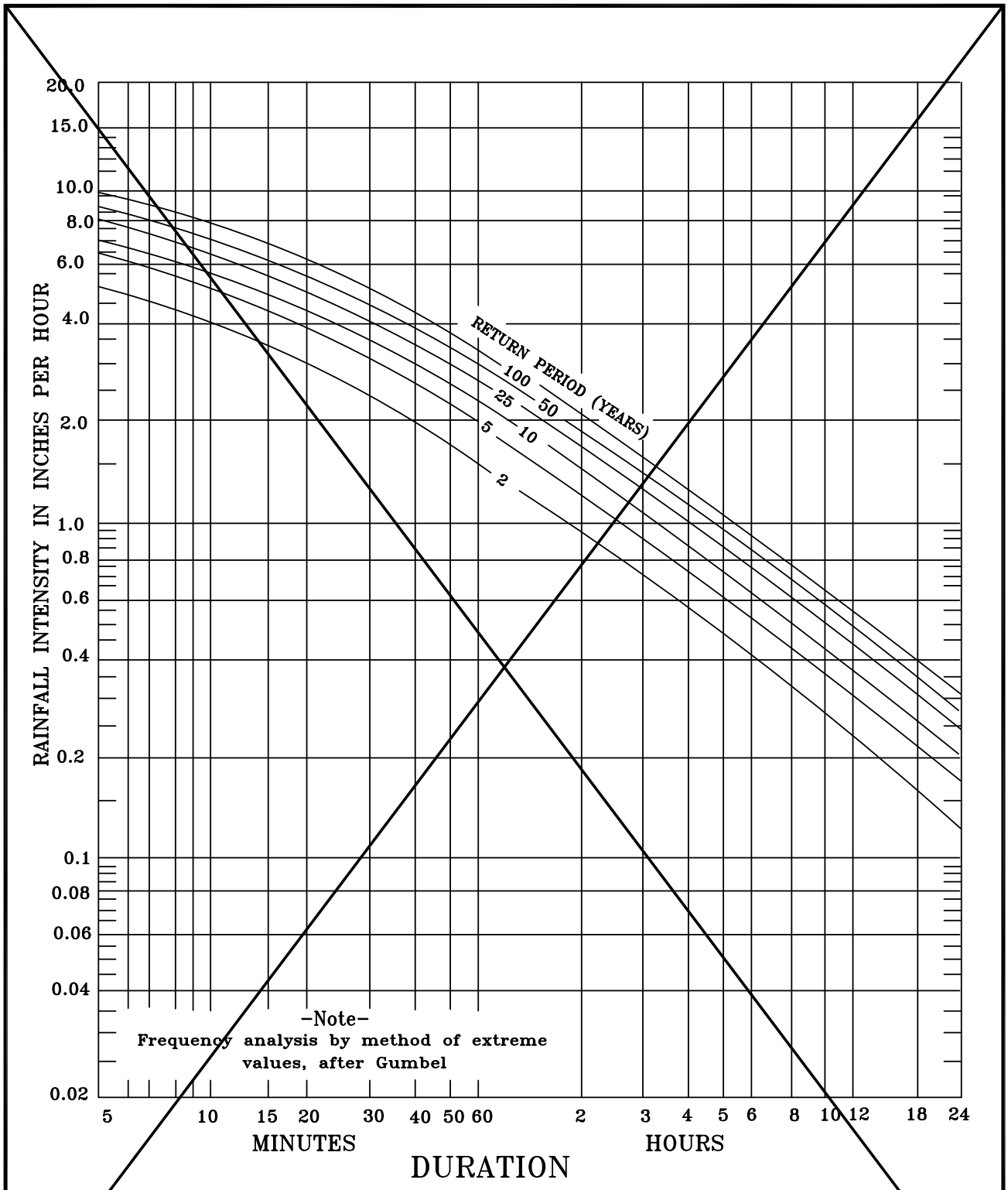
**Amend Chapter 6 (Storm Drainage) by revising Plate No. 38-6 (Typical Rainfall Ponding Ring Section) as noted:**

**Amend Chapter 6 (Storm Drainage) by deleting plates 39-6 (Mass Diagram), 40-6 (Unit Inflow Hydrograph – 10-Year – 2-Hour Storm – 1 Impervious Acre), and 41-6 (Unit Hydrograph per Impervious Acre 100-Year Frequency Storm):**

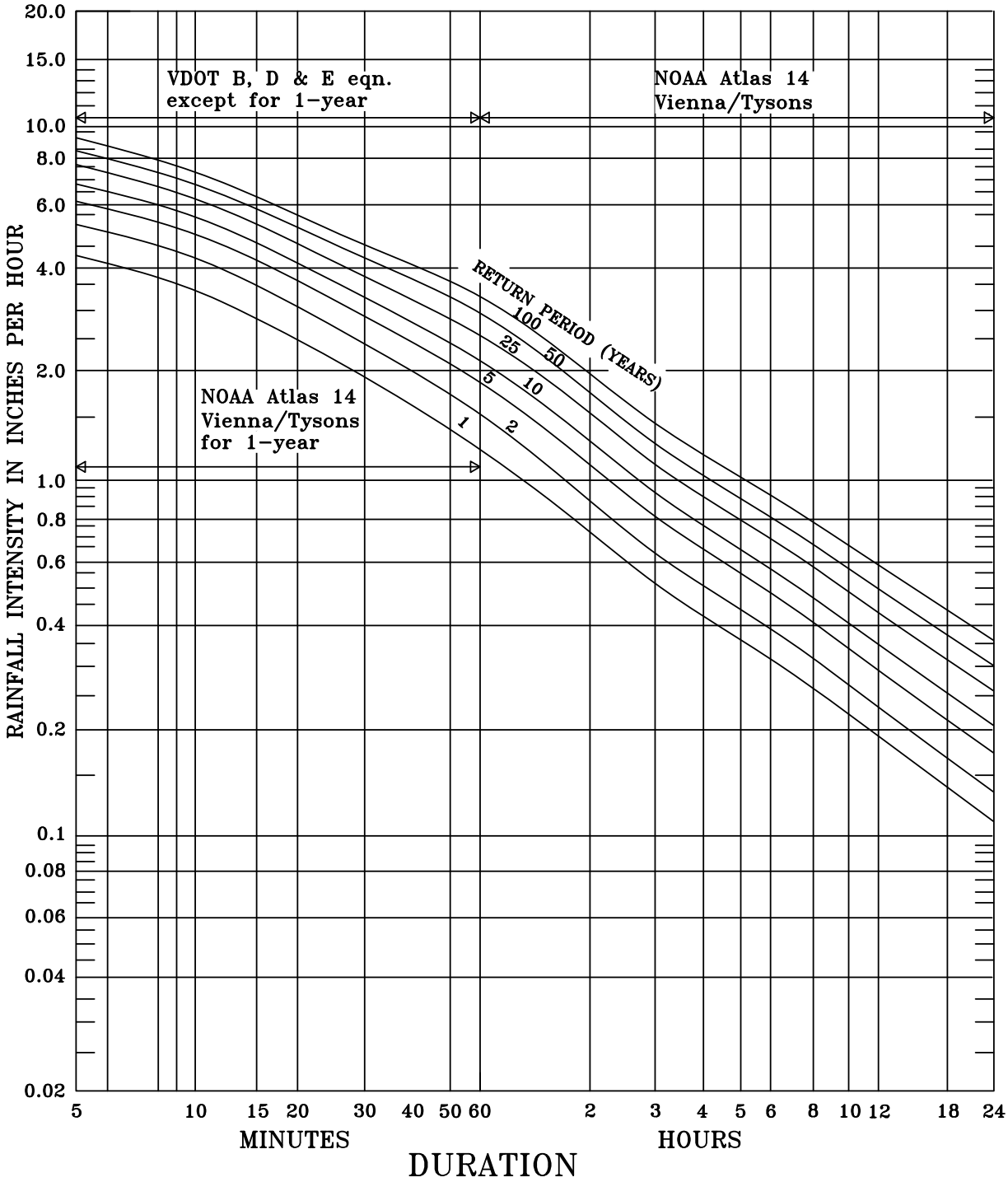
**Amend Chapter 6 (Storm Drainage) by revising Plate No. 46-6 (24 Hour Design Storm Chart for Spillway Design Flood (SDF)) as noted:**

**Amend Chapter 6 (Storm Drainage) by deleting existing Plate No. 47-6 (County 100 Year, 24 Hour Rainfall Distribution) and replacing it with new Plate No. 47A-6 (24 Hour Rainfall Distribution) and Plate 47B-6 (24 Hour Rainfall Distribution):**

**Amend Chapter 6 (Storm Drainage) by deleting existing Plate No. 48-6 (100 Year, 24 Hour Rain Distribution (Hyetograph)) and replacing it with new Plate No. 48-6 (24 Hour Rainfall Distribution (Hyetograph)):**




| | | | |
|---|---|---|---|
| Ref. Sec. 6-0803.2, 6-1305.10A(1), 6-1305.8B<br><br>Rev. 1-00, 2011 Reprint | INTENSITY DURATION FREQUENCY CURVES | PLATE NO.<br>3-6 | STD. NO. |




| Ref. Sec. 6-0803.2 | INTENSITY DURATION FREQUENCY CURVES | PLATE NO. | STD. NO. |
|---|---|---|---|
| | | 3A-6 | |

Rainfall Intensity (in/hr)

| Frequency | 1-year | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
|---|---|---|---|---|---|---|---|
| Duration | | | | | | | |
| 5 minutes | 4.26 | 5.23 | 6.06 | 6.77 | 7.69 | 8.39 | 9.10 |
| 10 minutes | 3.40 | 4.19 | 4.89 | 5.45 | 6.15 | 6.76 | 7.28 |
| 15 minutes | 2.83 | 3.51 | 4.13 | 4.62 | 5.22 | 5.77 | 6.22 |
| 30 minutes | 1.94 | 2.41 | 2.88 | 3.26 | 3.73 | 4.20 | 4.57 |
| 1 hour | 1.21 | 1.53 | 1.87 | 2.16 | 2.54 | 2.93 | 3.25 |
| 2 hours | 0.711 | 0.868 | 1.10 | 1.28 | 1.54 | 1.75 | 1.97 |
| 3 hours | 0.507 | 0.617 | 0.783 | 0.915 | 1.10 | 1.26 | 1.43 |
| 6 hours | 0.312 | 0.379 | 0.479 | 0.560 | 0.682 | 0.785 | 0.897 |
| 12 hours | 0.189 | 0.228 | 0.289 | 0.342 | 0.421 | 0.491 | 0.569 |
| 24 hours | 0.109 | 0.132 | 0.170 | 0.203 | 0.254 | 0.299 | 0.351 |

NOTES:

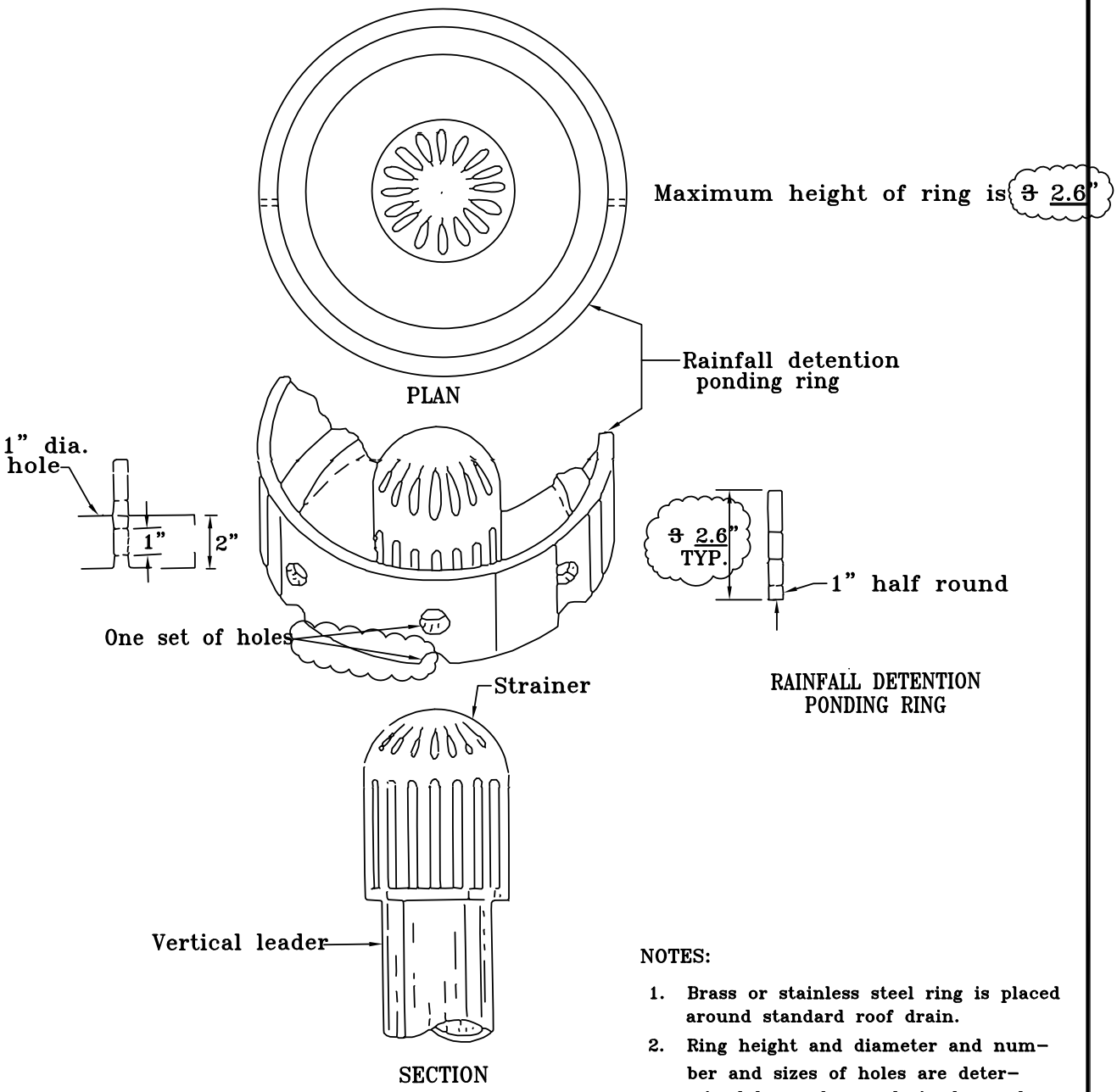
1. VDOT equations (Fairfax County B, D & E values) were used to generate rainfall intensities for storm durations from 5 minutes to 1 hour for the 2, 5, 10, 25, 50 & 100-year storms.

2. NOAA Atlas 14 data for the Vienna/Tysons station was used for storm durations greater than 1 hour.

3. NOAA Atlas 14 data for the Vienna/Tysons station was used for the 1-yr storm. VDOT never performed a regression analysis of the NOAA Atlas 14 data for the 1-year storm.

4. The VDOT equations although developed from a regression analysis of NOAA Atlas 14 data will not yield exacly the same values as the published NOAA Atlas 14 data for the 5, 10, 15, 30 & 60-minute durations because of the curve fitting process.

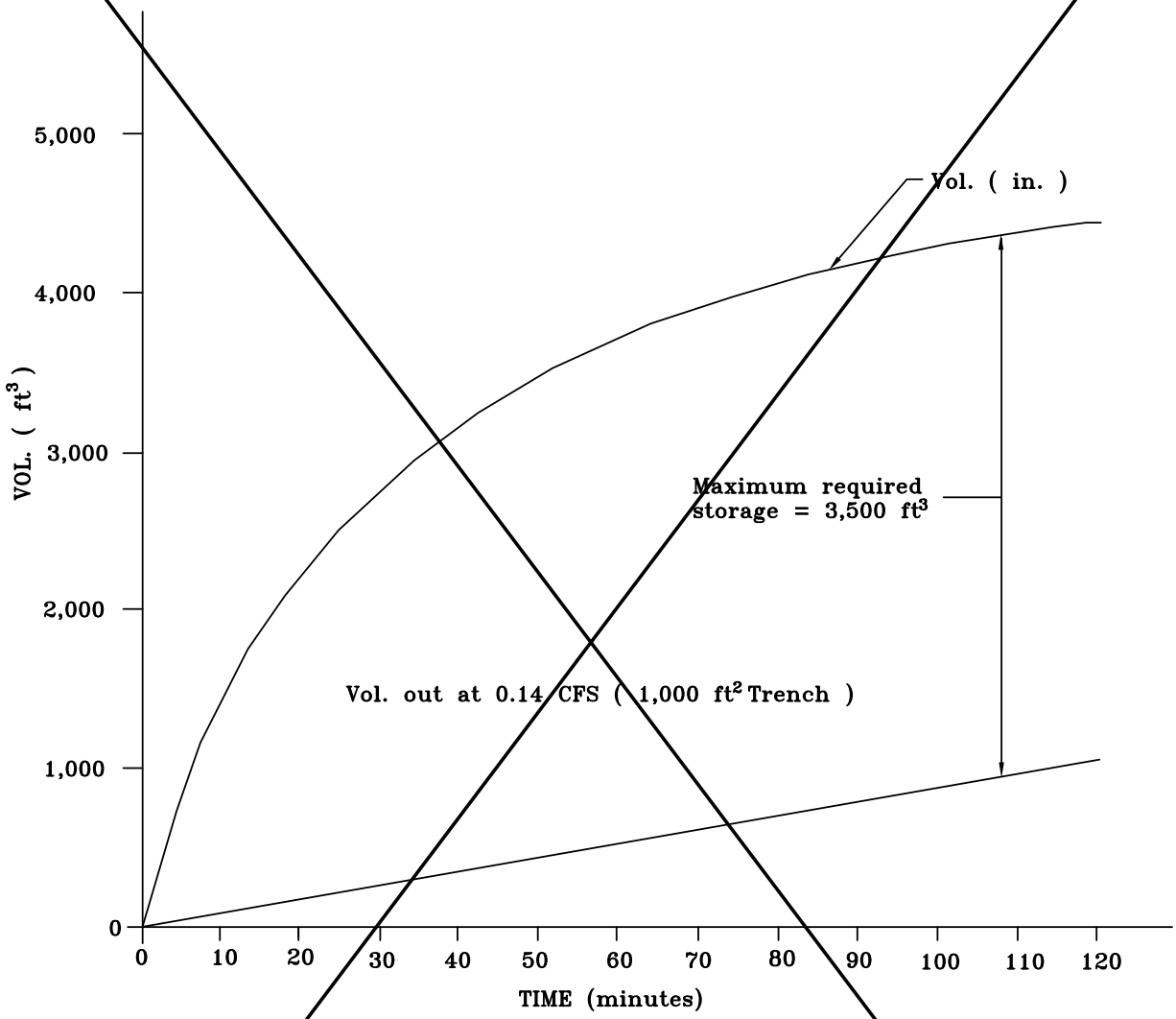
| Ref. Sec. 6-0803.2 | INTENSITY DURATION FREQUENCY VALUES | PLATE NO. | STD. NO. |
|---|---|---|---|
| | | 3B-6 | |




NOTES:

1. Brass or stainless steel ring is placed around standard roof drain.
2. Ring height and diameter and number and sizes of holes are determined by roof area drained, number of drains and rainfall design criteria.

| Ref. Sec. 6-1302.10D<br>Rev. 1-00, 2011 Reprint | TYPICAL RAINFALL PONDING RING SECTIONS | PLATE NO. | STD. NO. |
|---|---|---|---|
| | | 38-6 | |

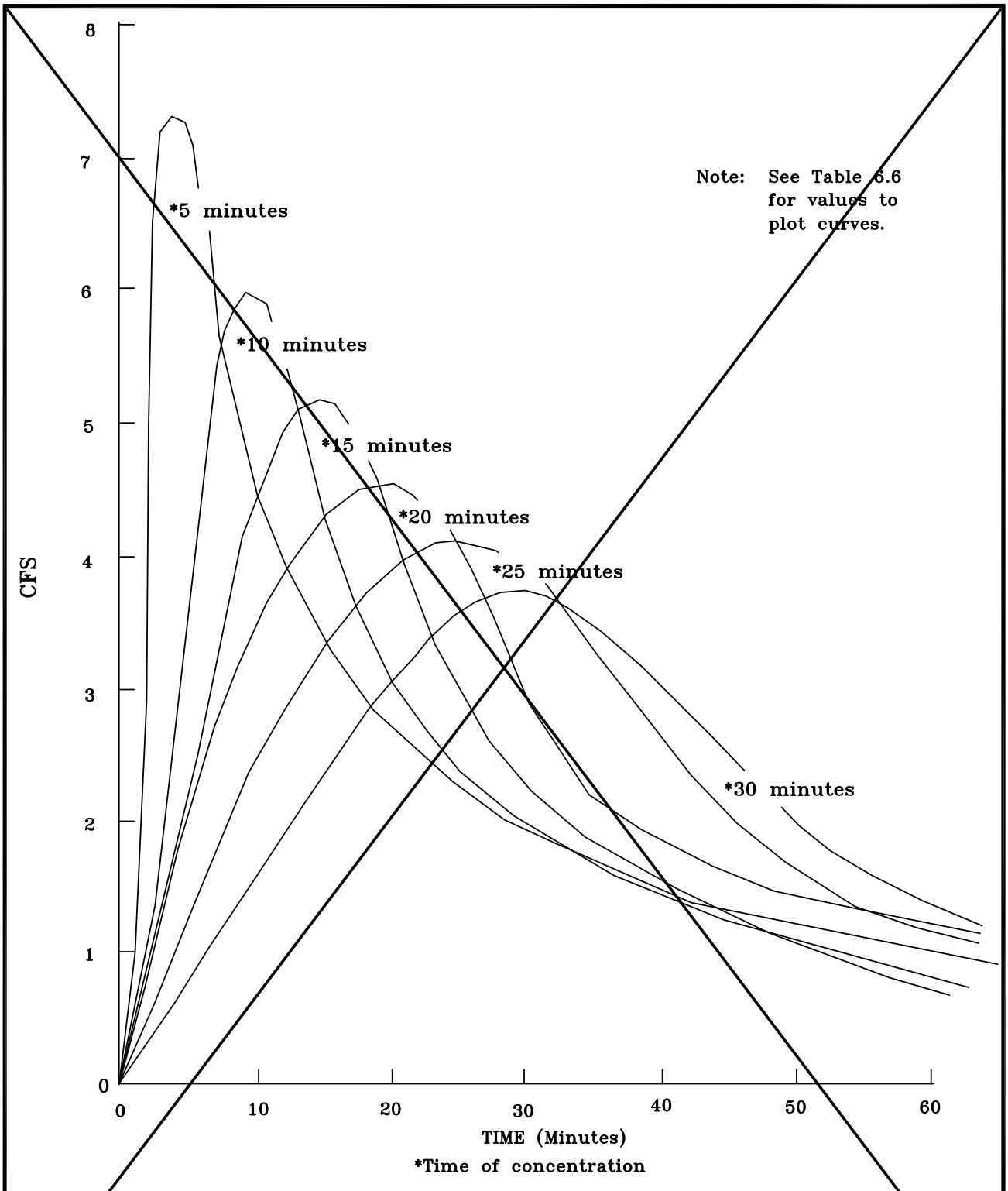



Ref. Sec. 6-1303.6A(3)

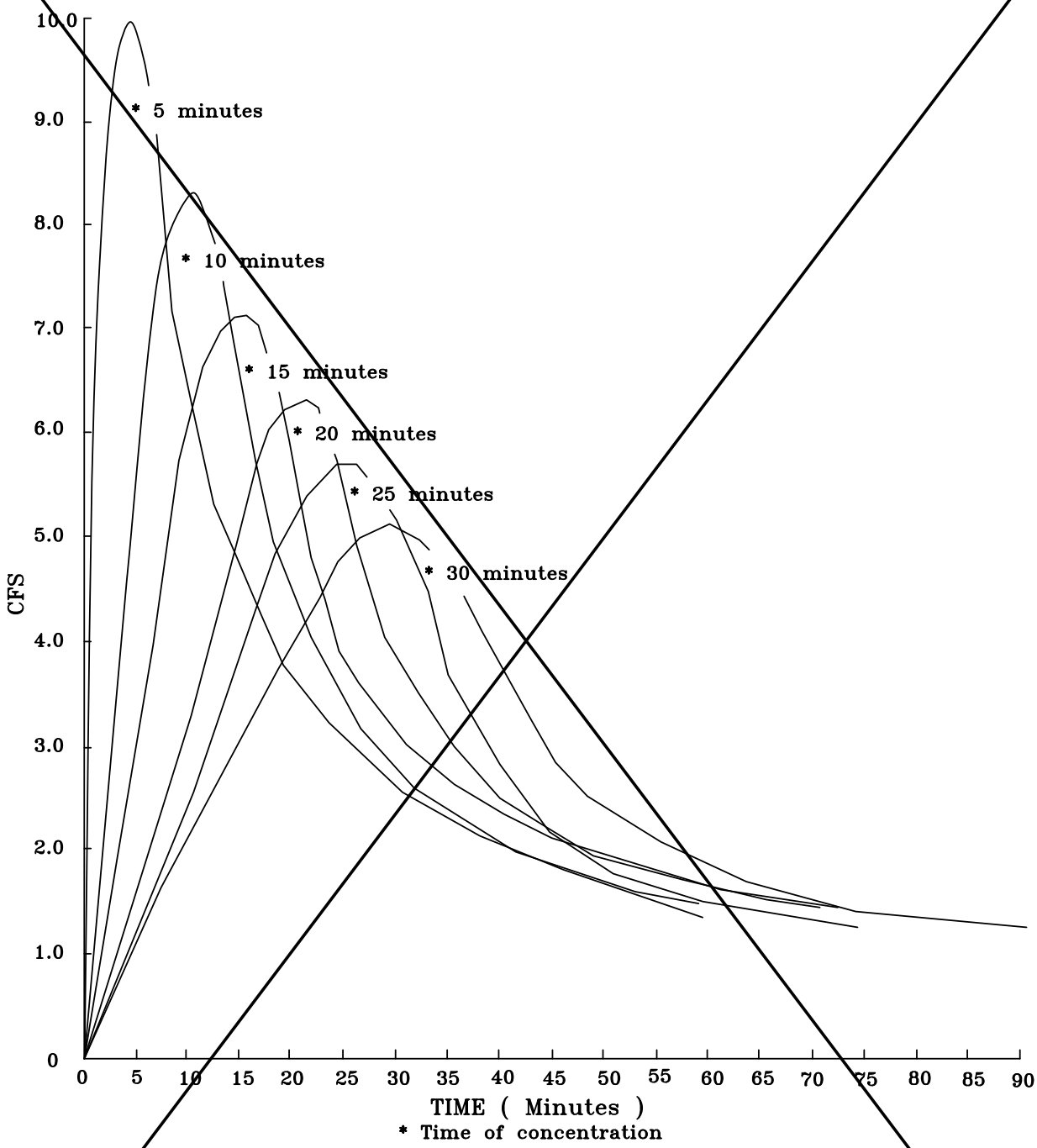
Rev. 1-00

# MASS DIAGRAM

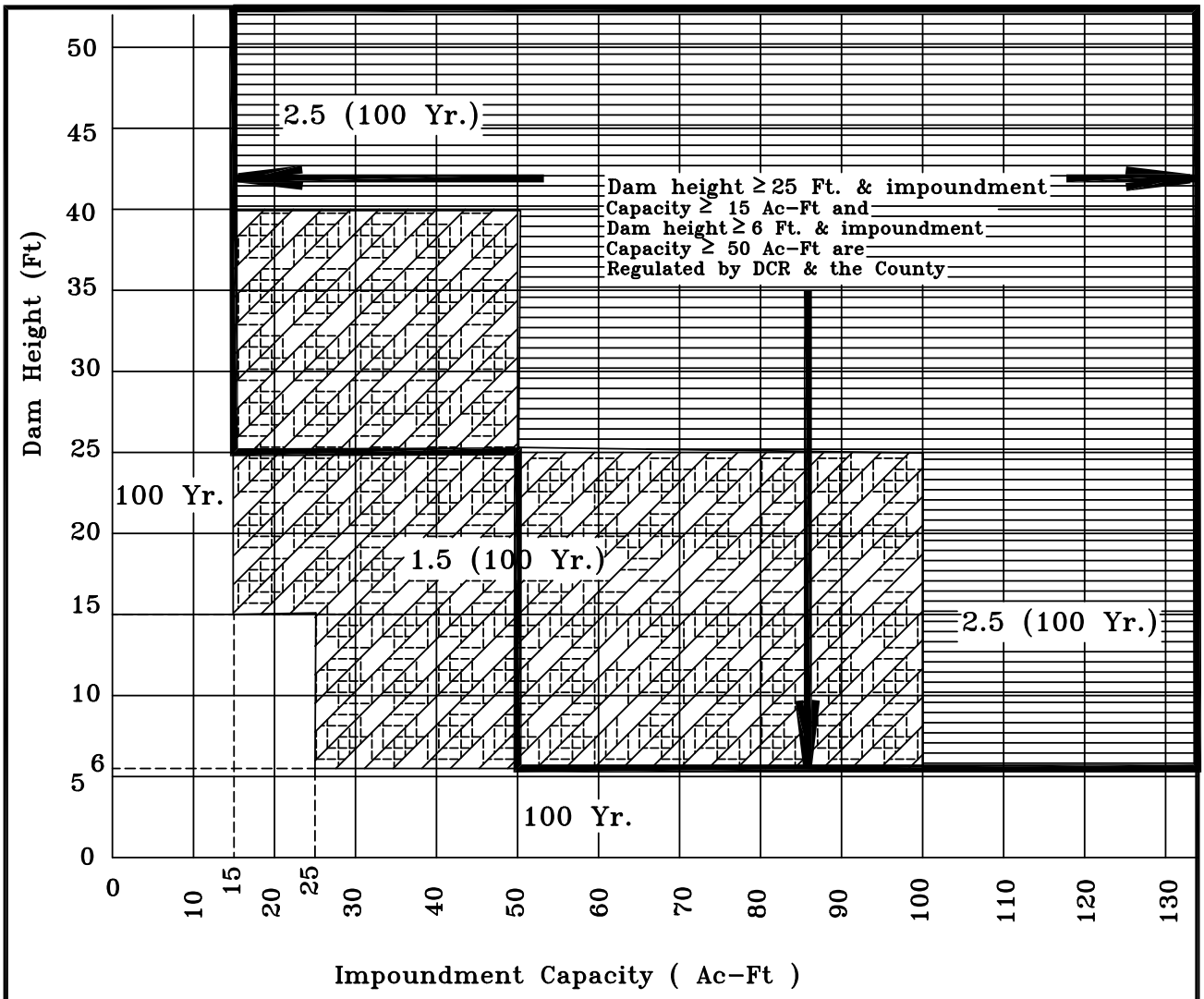
| PLATE NO. | STD. NO. |
|---|---|
| 39-6 | |




| | | | |
|---|---|---|---|
| Ref. Sec. 6-1303.7B, 6-1305.10J, Table 6.6<br><br>Rev. 1-00, 2011 Reprint | UNIT INFLOW HYDROGRAPH<br>10 YEAR - 2 HOUR STORM<br>1 IMPERVIOUS ACRE | PLATE NO.<br>40-6 | STD. NO. |




| | | | |
|---|---|---|---|
| Ref. Sec. 6-1303.7B, Table 6.6<br>Rev. 1-00, 2011 Reprint | UNIT HYDROGRAPH PER IMPERVIOUS ACRE 100 YR FREQUENCY STORM | PLATE NO.<br>41-6 | STD. NO. |




100 Yr., 24 Hr. = ~~7.3~~ 8.41" ( Ref: ~~NWS TP-40~~ NOAA Atlas 14 )
PMP, 24 Hr. = 35.5" ( Ref: NWS HMR-51 )

**Design Storm Ranking***

100 Yr. ≅ 0.2 PMP
1.5 X (100 Yr.) ≅ 0.3 PMP
2.5 X (100 Yr.) ≅ 0.5 PMP
3.5 X (100 Yr.) ≅ 0.7 PMP
5.0 X (100 Yr.) ≅ 1.0 PMP

*The above ranking shall be used when selecting 'Next Highest Storm' for freeboard hydrograph

| | | | |
|---|---|---|---|
| Ref. Sec. 6-1603.1A, 6-1603.1B, 6-1603.4B, 6-1603.4E, 6-1601.1<br><br>Rev. 1-00, 1-04, 2011 Reprint | 24 HOUR DESIGN STORM CHART FOR SPILLWAY DESIGN FLOOD (SDF) | PLATE NO.<br>46-6 | STD. NO. |

| Time (Hr.:Min.) | Incre. Precip. (In.) | Cum. Precip. (In.) | Cum. Precip. (%) | Time (Hr.:Min.) | Incre. Precip. (In.) | Cum. Precip. (In.) | Cum. Precip. (%) | Time (Hr.:Min.) | Incre. Precip. (In.) | Cum. Precip. (In.) | Cum. Precip. (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:00 | 0.00 | 0.00 | 0.0 | 8:00 | 0.04 | 0.88 | 12.0 | 16:00 | 0.04 | 6.43 | 88.1 |
| 0:15 | 0.01 | 0.01 | 0.2 | 8:15 | 0.04 | 0.92 | 12.6 | 16:15 | 0.05 | 6.48 | 88.7 |
| 0:30 | 0.03 | 0.04 | 0.5 | 8:30 | 0.05 | 0.97 | 13.3 | 16:30 | 0.04 | 6.52 | 89.3 |
| 0:45 | 0.02 | 0.06 | 0.8 | 8:45 | 0.05 | 1.02 | 14.0 | 16:45 | 0.04 | 6.56 | 89.8 |
| 1:00 | 0.02 | 0.08 | 1.1 | 9:00 | 0.05 | 1.07 | 14.7 | 17:00 | 0.03 | 6.59 | 90.3 |
| 1:15 | 0.02 | 0.10 | 1.4 | 9:15 | 0.06 | 1.13 | 15.5 | 17:15 | 0.04 | 6.63 | 90.8 |
| 1:30 | 0.02 | 0.12 | 1.7 | 9:30 | 0.06 | 1.19 | 16.3 | 17:30 | 0.03 | 6.66 | 91.3 |
| 1:45 | 0.03 | 0.15 | 2.0 | 9:45 | 0.07 | 1.26 | 17.2 | 17:45 | 0.04 | 6.70 | 91.8 |
| 2:00 | 0.02 | 0.17 | 2.3 | 10:00 | 0.06 | 1.32 | 18.1 | 18:00 | 0.03 | 6.73 | 92.2 |
| 2:15 | 0.02 | 0.19 | 2.6 | 10:15 | 0.07 | 1.39 | 19.1 | 18:15 | 0.03 | 6.76 | 92.6 |
| 2:30 | 0.02 | 0.21 | 2.9 | 10:30 | 0.09 | 1.48 | 20.3 | 18:30 | 0.03 | 6.79 | 93.0 |
| 2:45 | 0.02 | 0.23 | 3.2 | 10:45 | 0.11 | 1.59 | 21.8 | 18:45 | 0.03 | 6.82 | 93.4 |
| 3:00 | 0.03 | 0.26 | 3.5 | 11:00 | 0.13 | 1.72 | 23.6 | 19:00 | 0.03 | 6.85 | 93.8 |
| 3:15 | 0.02 | 0.28 | 3.8 | 11:15 | 0.16 | 1.88 | 25.7 | 19:15 | 0.03 | 6.88 | 94.2 |
| 3:30 | 0.02 | 0.30 | 4.1 | 11:30 | 0.19 | 2.07 | 28.3 | 19:30 | 0.03 | 6.91 | 94.6 |
| 3:45 | 0.02 | 0.32 | 4.4 | 11:45 | 0.76 | 2.83 | 38.7 | 19:45 | 0.03 | 6.94 | 95.0 |
| 4:00 | 0.03 | 0.35 | 4.8 | 12:00 | 2.01 | 4.84 | 66.3 | 20:00 | 0.02 | 6.96 | 95.3 |
| 4:15 | 0.03 | 0.38 | 5.2 | 12:15 | 0.32 | 5.16 | 70.7 | 20:15 | 0.02 | 6.98 | 95.6 |
| 4:30 | 0.03 | 0.41 | 5.6 | 12:30 | 0.21 | 5.37 | 73.5 | 20:30 | 0.02 | 7.00 | 95.9 |
| 4:45 | 0.03 | 0.44 | 6.0 | 12:45 | 0.16 | 5.53 | 75.8 | 20:45 | 0.02 | 7.02 | 96.2 |
| 5:00 | 0.03 | 0.47 | 6.4 | 13:00 | 0.13 | 5.66 | 77.6 | 21:00 | 0.02 | 7.04 | 96.5 |
| 5:15 | 0.03 | 0.50 | 6.8 | 13:15 | 0.11 | 5.77 | 79.1 | 21:15 | 0.03 | 7.07 | 96.8 |
| 5:30 | 0.03 | 0.53 | 7.2 | 13:30 | 0.10 | 5.87 | 80.4 | 21:30 | 0.02 | 7.09 | 97.1 |
| 5:45 | 0.02 | 0.55 | 7.6 | 13:45 | 0.08 | 5.95 | 81.5 | 21:45 | 0.02 | 7.11 | 97.4 |
| 6:00 | 0.03 | 0.58 | 8.0 | 14:00 | 0.07 | 6.02 | 82.5 | 22:00 | 0.02 | 7.13 | 97.7 |
| 6:15 | 0.04 | 0.62 | 8.5 | 14:15 | 0.07 | 6.09 | 83.4 | 22:15 | 0.02 | 7.15 | 98.0 |
| 6:30 | 0.04 | 0.66 | 9.0 | 14:30 | 0.06 | 6.15 | 84.2 | 22:30 | 0.03 | 7.18 | 98.3 |
| 6:45 | 0.03 | 0.69 | 9.5 | 14:45 | 0.05 | 6.20 | 84.9 | 22:45 | 0.02 | 7.20 | 98.6 |
| 7:00 | 0.04 | 0.73 | 10.0 | 15:00 | 0.05 | 6.25 | 85.6 | 23:00 | 0.02 | 7.22 | 98.9 |
| 7:15 | 0.04 | 0.77 | 10.5 | 15:15 | 0.05 | 6.30 | 86.3 | 23:15 | 0.02 | 7.24 | 99.2 |
| 7:30 | 0.03 | 0.80 | 11.0 | 15:30 | 0.04 | 6.34 | 86.9 | 23:30 | 0.02 | 7.26 | 99.5 |
| 7:45 | 0.04 | 0.84 | 11.5 | 15:45 | 0.05 | 6.39 | 87.5 | 23:45 | 0.03 | 7.29 | 99.8 |
| | | | | | | | | 24:00 | 0.01 | 7.30 | 100.0 |

Source: NRCS 24 Hr., Type II Rainfall Distribution

Ref. Sec. 6-1603.1A, 6-1603.2E

Rev. 1-00, 2011 Reprint

COUNTY
100 YEAR, 24 HOUR
RAINFALL DISTRIBUTION

PLATE NO. 47-6

STD. NO.

| Time (hour) | Incre. Precip. (%) | Cum. Precip. (%) | Time (hour) | Incre. Precip. (%) | Cum. Precip. (%) | Time (hour) | Incre. Precip. (%) | Cum. Precip. (%) | Time (hour) | Incre. Precip. (%) | Cum. Precip. (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.000 | 0.000 | 3.0 | 0.131 | 3.528 | 6.0 | 0.161 | 7.925 | 9.0 | 0.281 | 14.605 |
| 0.1 | 0.128 | 0.128 | 3.1 | 0.132 | 3.660 | 6.1 | 0.165 | 8.090 | 9.1 | 0.295 | 14.900 |
| 0.2 | 0.103 | 0.231 | 3.2 | 0.133 | 3.793 | 6.2 | 0.169 | 8.259 | 9.2 | 0.310 | 15.210 |
| 0.3 | 0.104 | 0.335 | 3.3 | 0.134 | 3.927 | 6.3 | 0.173 | 8.432 | 9.3 | 0.326 | 15.536 |
| 0.4 | 0.106 | 0.441 | 3.4 | 0.135 | 4.062 | 6.4 | 0.177 | 8.609 | 9.4 | 0.340 | 15.876 |
| 0.5 | 0.106 | 0.547 | 3.5 | 0.137 | 4.199 | 6.5 | 0.181 | 8.790 | 9.5 | 0.355 | 16.231 |
| 0.6 | 0.107 | 0.654 | 3.6 | 0.137 | 4.336 | 6.6 | 0.185 | 8.975 | 9.6 | 0.371 | 16.602 |
| 0.7 | 0.109 | 0.763 | 3.7 | 0.138 | 4.474 | 6.7 | 0.189 | 9.164 | 9.7 | 0.385 | 16.987 |
| 0.8 | 0.109 | 0.872 | 3.8 | 0.139 | 4.613 | 6.8 | 0.192 | 9.356 | 9.8 | 0.400 | 17.387 |
| 0.9 | 0.110 | 0.982 | 3.9 | 0.140 | 4.753 | 6.9 | 0.197 | 9.553 | 9.9 | 0.416 | 17.803 |
| 1.0 | 0.111 | 1.093 | 4.0 | 0.141 | 4.894 | 7.0 | 0.201 | 9.754 | 10.0 | 0.430 | 18.233 |
| 1.1 | 0.113 | 1.206 | 4.1 | 0.142 | 5.036 | 7.1 | 0.205 | 9.959 | 10.1 | 0.445 | 18.678 |
| 1.2 | 0.113 | 1.319 | 4.2 | 0.143 | 5.179 | 7.2 | 0.209 | 10.168 | 10.2 | 0.461 | 19.139 |
| 1.3 | 0.114 | 1.433 | 4.3 | 0.145 | 5.324 | 7.3 | 0.212 | 10.380 | 10.3 | 0.475 | 19.614 |
| 1.4 | 0.115 | 1.548 | 4.4 | 0.145 | 5.469 | 7.4 | 0.217 | 10.597 | 10.4 | 0.490 | 20.104 |
| 1.5 | 0.117 | 1.665 | 4.5 | 0.146 | 5.615 | 7.5 | 0.221 | 10.818 | 10.5 | 0.506 | 20.610 |
| 1.6 | 0.117 | 1.782 | 4.6 | 0.147 | 5.762 | 7.6 | 0.224 | 11.042 | 10.6 | 0.563 | 21.173 |
| 1.7 | 0.118 | 1.900 | 4.7 | 0.148 | 5.910 | 7.7 | 0.229 | 11.271 | 10.7 | 0.620 | 21.793 |
| 1.8 | 0.119 | 2.019 | 4.8 | 0.149 | 6.059 | 7.8 | 0.232 | 11.503 | 10.8 | 0.678 | 22.472 |
| 1.9 | 0.121 | 2.140 | 4.9 | 0.150 | 6.209 | 7.9 | 0.237 | 11.740 | 10.9 | 0.735 | 23.206 |
| 2.0 | 0.121 | 2.261 | 5.0 | 0.151 | 6.360 | 8.0 | 0.241 | 11.981 | 11.0 | 0.793 | 23.999 |
| 2.1 | 0.122 | 2.383 | 5.1 | 0.152 | 6.512 | 8.1 | 0.244 | 12.225 | 11.1 | 0.900 | 24.899 |
| 2.2 | 0.123 | 2.506 | 5.2 | 0.153 | 6.665 | 8.2 | 0.249 | 12.474 | 11.2 | 1.008 | 25.907 |
| 2.3 | 0.125 | 2.631 | 5.3 | 0.154 | 6.819 | 8.3 | 0.252 | 12.726 | 11.3 | 1.115 | 27.022 |
| 2.4 | 0.125 | 2.756 | 5.4 | 0.155 | 6.974 | 8.4 | 0.256 | 12.982 | 11.4 | 1.223 | 28.245 |
| 2.5 | 0.126 | 2.882 | 5.5 | 0.156 | 7.130 | 8.5 | 0.261 | 13.243 | 11.5 | 1.305 | 29.550 |
| 2.6 | 0.127 | 3.009 | 5.6 | 0.157 | 7.287 | 8.6 | 0.264 | 13.507 | 11.6 | 2.022 | 31.572 |
| 2.7 | 0.128 | 3.137 | 5.7 | 0.158 | 7.445 | 8.7 | 0.269 | 13.776 | 11.7 | 2.128 | 33.700 |
| 2.8 | 0.130 | 3.267 | 5.8 | 0.159 | 7.604 | 8.8 | 0.272 | 14.048 | 11.8 | 2.918 | 36.618 |
| 2.9 | 0.130 | 3.397 | 5.9 | 0.160 | 7.764 | 8.9 | 0.276 | 14.324 | 11.9 | 4.051 | 40.669 |

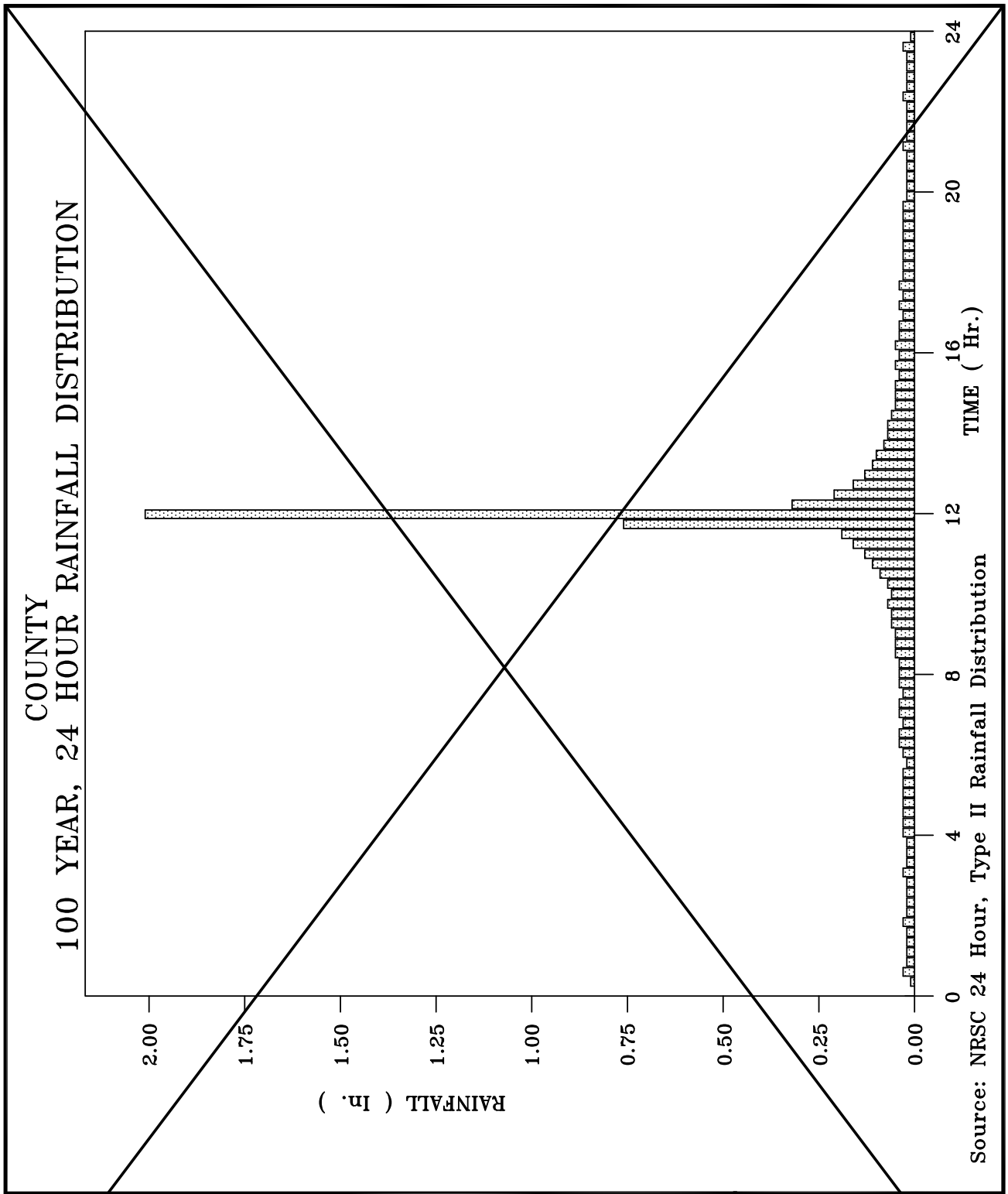
Source: NOAA_C Rainfall Distribution

| Ref. Sec. 6-1603.1A, 6-1603.2E | 24 HOUR RAINFALL DISTRIBUTION | PLATE NO. | STD. NO. |
|---|---|---|---|
| | | 47A-6 | |

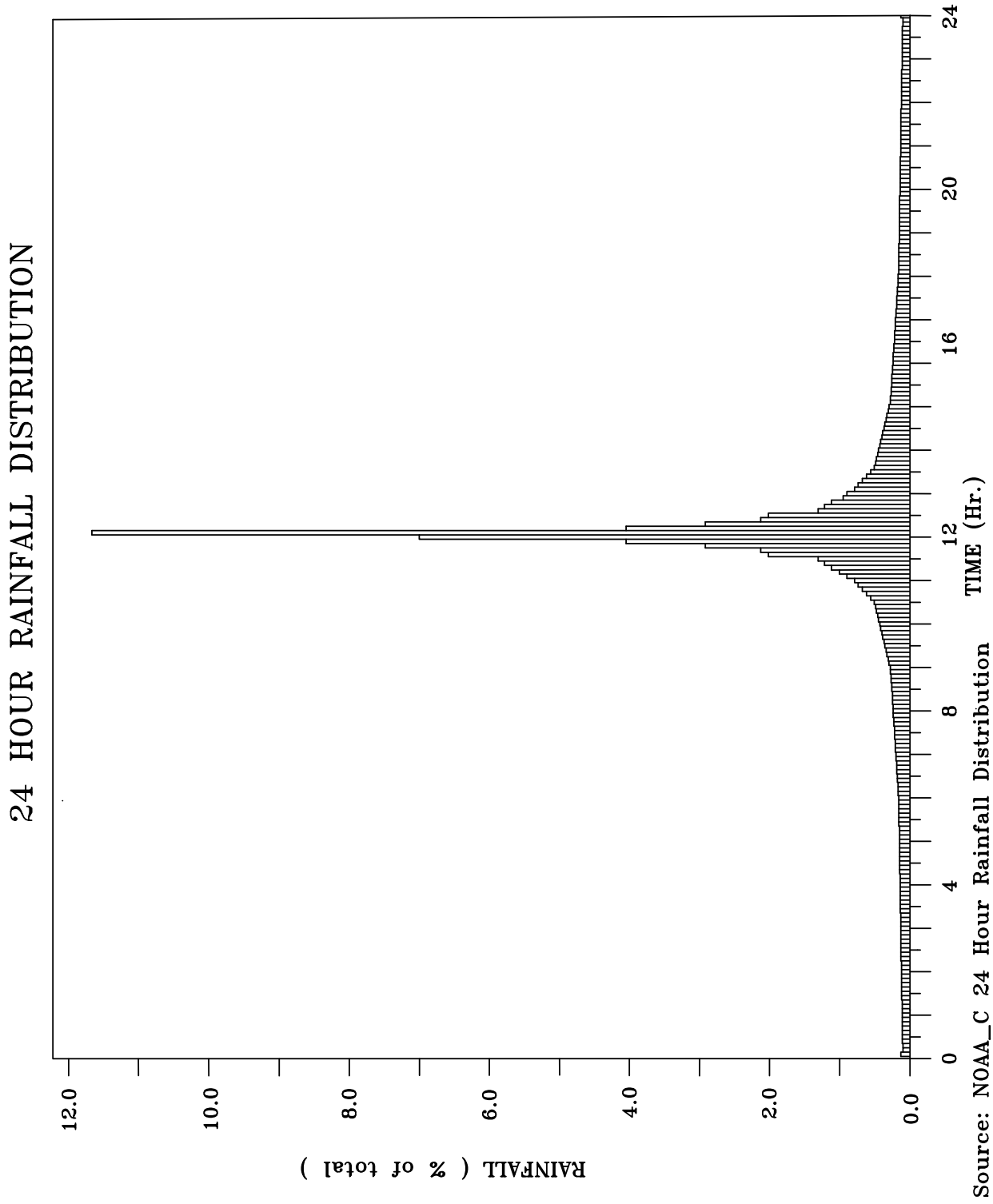
| Time (hour) | Incre. Precip. (%) | Cum. Precip. (%) | Time (hour) | Incre. Precip. (%) | Cum. Precip. (%) | Time (hour) | Incre. Precip. (%) | Cum. Precip. (%) | Time (hour) | Incre. Precip. (%) | Cum. Precip. (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12.0 | 6.991 | 47.660 | 15.0 | 0.295 | 85.395 | 18.0 | 0.165 | 92.075 | 21.0 | 0.132 | 96.472 |
| 12.1 | 11.671 | 59.331 | 15.1 | 0.281 | 85.676 | 18.1 | 0.161 | 92.236 | 21.1 | 0.131 | 96.603 |
| 12.2 | 4.051 | 63.382 | 15.2 | 0.276 | 85.952 | 18.2 | 0.160 | 92.396 | 21.2 | 0.130 | 96.733 |
| 12.3 | 2.918 | 66.300 | 15.3 | 0.272 | 86.224 | 18.3 | 0.159 | 92.555 | 21.3 | 0.130 | 96.863 |
| 12.4 | 2.128 | 68.428 | 15.4 | 0.269 | 86.493 | 18.4 | 0.158 | 92.713 | 21.4 | 0.128 | 96.991 |
| 12.5 | 2.022 | 70.450 | 15.5 | 0.264 | 86.757 | 18.5 | 0.157 | 92.870 | 21.5 | 0.127 | 97.118 |
| 12.6 | 1.305 | 71.755 | 15.6 | 0.261 | 87.018 | 18.6 | 0.156 | 93.026 | 21.6 | 0.126 | 97.244 |
| 12.7 | 1.223 | 72.978 | 15.7 | 0.256 | 87.274 | 18.7 | 0.155 | 93.181 | 21.7 | 0.125 | 97.369 |
| 12.8 | 1.115 | 74.093 | 15.8 | 0.252 | 87.526 | 18.8 | 0.154 | 93.335 | 21.8 | 0.125 | 97.494 |
| 12.9 | 1.008 | 75.101 | 15.9 | 0.249 | 87.775 | 18.9 | 0.153 | 93.488 | 21.9 | 0.123 | 97.617 |
| 13.0 | 0.900 | 76.001 | 16.0 | 0.244 | 88.019 | 19.0 | 0.152 | 93.640 | 22.0 | 0.122 | 97.739 |
| 13.1 | 0.793 | 76.794 | 16.1 | 0.241 | 88.260 | 19.1 | 0.151 | 93.791 | 22.1 | 0.121 | 97.860 |
| 13.2 | 0.735 | 77.529 | 16.2 | 0.237 | 88.497 | 19.2 | 0.150 | 93.941 | 22.2 | 0.121 | 97.981 |
| 13.3 | 0.678 | 78.207 | 16.3 | 0.232 | 88.729 | 19.3 | 0.149 | 94.090 | 22.3 | 0.119 | 98.100 |
| 13.4 | 0.620 | 78.827 | 16.4 | 0.229 | 88.958 | 19.4 | 0.148 | 94.238 | 22.4 | 0.118 | 98.218 |
| 13.5 | 0.563 | 79.390 | 16.5 | 0.224 | 89.182 | 19.5 | 0.147 | 94.385 | 22.5 | 0.117 | 98.335 |
| 13.6 | 0.506 | 79.896 | 16.6 | 0.221 | 89.403 | 19.6 | 0.146 | 94.531 | 22.6 | 0.117 | 98.452 |
| 13.7 | 0.490 | 80.386 | 16.7 | 0.217 | 89.620 | 19.7 | 0.145 | 94.676 | 22.7 | 0.115 | 98.567 |
| 13.8 | 0.475 | 80.861 | 16.8 | 0.212 | 89.832 | 19.8 | 0.145 | 94.821 | 22.8 | 0.114 | 98.681 |
| 13.9 | 0.461 | 81.322 | 16.9 | 0.209 | 90.041 | 19.9 | 0.143 | 94.964 | 22.9 | 0.113 | 98.794 |
| 14.0 | 0.445 | 81.767 | 17.0 | 0.205 | 90.246 | 20.0 | 0.142 | 95.106 | 23.0 | 0.113 | 98.907 |
| 14.1 | 0.430 | 82.197 | 17.1 | 0.201 | 90.447 | 20.1 | 0.141 | 95.247 | 23.1 | 0.111 | 99.018 |
| 14.2 | 0.416 | 82.613 | 17.2 | 0.197 | 90.644 | 20.2 | 0.140 | 95.387 | 23.2 | 0.110 | 99.128 |
| 14.3 | 0.400 | 83.013 | 17.3 | 0.192 | 90.836 | 20.3 | 0.139 | 95.526 | 23.3 | 0.109 | 99.237 |
| 14.4 | 0.385 | 83.398 | 17.4 | 0.189 | 91.025 | 20.4 | 0.138 | 95.664 | 23.4 | 0.109 | 99.346 |
| 14.5 | 0.371 | 83.769 | 17.5 | 0.185 | 91.210 | 20.5 | 0.137 | 95.801 | 23.5 | 0.107 | 99.453 |
| 14.6 | 0.355 | 84.124 | 17.6 | 0.181 | 91.391 | 20.6 | 0.137 | 95.938 | 23.6 | 0.106 | 99.559 |
| 14.7 | 0.340 | 84.464 | 17.7 | 0.177 | 91.568 | 20.7 | 0.135 | 96.073 | 23.7 | 0.106 | 99.665 |
| 14.8 | 0.326 | 84.790 | 17.8 | 0.173 | 91.741 | 20.8 | 0.134 | 96.207 | 23.8 | 0.104 | 99.769 |
| 14.9 | 0.310 | 85.100 | 17.9 | 0.169 | 91.910 | 20.9 | 0.133 | 96.340 | 23.9 | 0.103 | 99.872 |
| | | | | | | | | | 24.0 | 0.128 | 100.000 |

Source: NOAA_C Rainfall Distribution

| Ref. Sec. 6-1603.1A, 6-1603.2E | 24 HOUR RAINFALL DISTRIBUTION | PLATE NO. | STD. NO. |
|---|---|---|---|
| | | 47B-6 | |




| | | | |
|---|---|---|---|
| Ref Sec 6-1603.1A<br>Rev. 1-00, 2011 Reprint | 100 YEAR, 24 HOUR RAIN DISTRIBUTION (HYETOGRAPH) | PLATE NO. | STD. NO. |
| | | 48-6 | |




| Ref Sec 6-1603.1A | 24 HOUR RAINFALL DISTRIBUTION (HYETOGRAPH) | PLATE NO. | STD. NO. |
|---|---|---|---|
| | | 48-6 | |

**Proposed Amendments to Chapter 13 (PFM Structure, Interpretations, Definitions, Abbreviations, and Unit Conversion Tables)**
**of**
**The Fairfax County Public Facilities Manual**

**Amend §13-0300 (Definitions and Abbreviations) by adding the following definition:**

NOAA – National Oceanic and Atmospheric Administration

Attachment 2

# Proposed Amendments to Chapter 6 (Storm Drainage) of The Fairfax County Public Facilities Manual

**Revisions to advertised amendments recommend by staff and the Planning Commission December 9, 2015**

***The following is not the full text of the advertised amendments to the Public Facilities Manual. Only those parts of the advertised amendments for which changes are proposed are set forth below. Advertised amendments (11/17/15) are indicated by single strikethroughs and single underlines. Revisions (12/09/15) to the advertised amendments recommended by staff are indicated by double strikethroughs and double underlines.***

**Amend §6-0800 (Hydrologic Design), by revising 6-0806 (Incremental Unit Hydrograph – 1 Impervious Acre) to read as follows:**

**6-080~~6~~7 Incremental Unit Hydrograph – 1 ~~Impervious Acre~~ Inch of Runoff per Acre**

Two-hour unit hydrographs for use with rational formula hydrology are presented in Table 6.6. To use the unit hydrographs, multiply the total rainfall amount (inches) in Table 6.19 for the 2-hour design storm by the rational formula runoff coefficient, including the correction factor for ground saturation, ~~and drainage area (acres)~~ to obtain the runoff ~~volume in~~ (inches) ~~per acre~~. Multiply the runoff (inches) ~~volume~~ by the unit hydrograph values in Table 6.6 and the drainage area (acres) to generate the hydrograph values (cfs) for the design storm.

Planning Commission Meeting
December 9, 2015
Verbatim Excerpt

PUBLIC FACILITIES MANUAL (PFM) AMENDMENT – NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) ATLAS 14 RAINFALL DATA (Countywide)

After Close of the Public Hearing

Chairman Murphy: Public hearing is closed; recognize Mr. Hart.

Commissioner Hart: Thank you, Mr. Chairman. This is a straightforward amendment. It has staff's favorable recommendation with which I concur. And therefore, Mr. Chairman, I MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS THAT THE BOARD ADOPT THE PROPOSED AMENDMENT TO CHAPTERS 6 AND 13 OF THE PUBLIC FACILITIES MANUAL AS SET FORTH IN THE STAFF REPORT DATED NOVEMBER 17, 2015, WITH THE REVISION TO SECTION 6-0807, INCREMENTAL UNIT HYDROGRAPH, 1 INCH OF RUNOFF PER ACRE, DATED DECEMBER 9, 2015, DISTRIBUTED TO THE PLANNING COMMISSION THIS EVENING.

Commissioner Sargeant: Second.

Chairman Murphy: Seconded by Mr. Sargeant. Is there a discussion of the motion? All those in favor of the motion as articulated by Mr. Hart, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries.

//

(The motion carried by a vote of 12-0.)

JN

Board Agenda Item
February 2, 2016

4:00 p.m.

Public Hearing to Consider Adopting an Ordinance Expanding the West Springfield Residential Permit Parking District, District 7 (Springfield District)

ISSUE:
Public Hearing to consider a proposed amendment to Appendix G, of *The Code of the County of Fairfax*, *Virginia* (Fairfax County Code), to expand the West Springfield Residential Permit Parking District (RPPD), District 7.

RECOMMENDATION:
The County Executive recommends that the Board adopt an amendment (Attachment I) to Appendix G, of the Fairfax County Code, to expand the West Springfield RPPD, District 7.

TIMING:
On January 12, 2016, the Board authorized a Public Hearing to consider the proposed amendment to Appendix G, of the Fairfax County Code, to take place on February 2, 2016, at 4:00 p.m.

BACKGROUND:
Section 82-5A-4(a) of *The Code of the County of Fairfax, Virginia*, authorizes the Board to establish RPPD restrictions encompassing an area within 2,000 feet walking distance from the pedestrian entrances and/or 1,000 feet from the property boundaries of an existing or proposed high school, existing or proposed rail station, or existing Virginia college or university campus if: (1) the Board receives a petition requesting the establishment or expansion of such a District, (2) such petition contains signatures representing at least 60 percent of the eligible addresses of the proposed District and representing more than 50 percent of the eligible addresses on each block face of the proposed District, and (3) the Board determines that 75 percent of the land abutting each block within the proposed District is developed residential. In addition, an application fee of $10 per address is required for the establishment or expansion of an RPPD. In the case of an amendment expanding an existing District, the foregoing provisions apply only to the area to be added to the existing District.

Staff has verified that Cardinal Hill Place from the northern property boundary of 6301 Cardinal Hill Place south to the cul-de-sac; and on the west side from Tuttle Road to the cul-de-sac inclusive, is within 1,000 feet of the property boundary of West Springfield High School, and all other requirements to expand the RPPD have been met.

FISCAL IMPACT:
The cost of sign installation is estimated at $250 to be paid from Fairfax County Department of Transportation funds.

ENCLOSED DOCUMENTS:
Attachment I: Proposed Amendment to the Fairfax County Code
Attachment II: Map Depicting Proposed Limits of RPPD Expansion

STAFF:
Tom Biesiadny, Director, Fairfax County Department of Transportation (FCDOT)
Eric Teitelman, Chief, Capital Projects and Traffic Engineering Division, FCDOT
Neil Freschman, Chief, Traffic Engineering Section, FCDOT
Maria Turner, Sr. Transportation Planner, FCDOT
Charisse Padilla, Transportation Planner, FCDOT

Attachment I

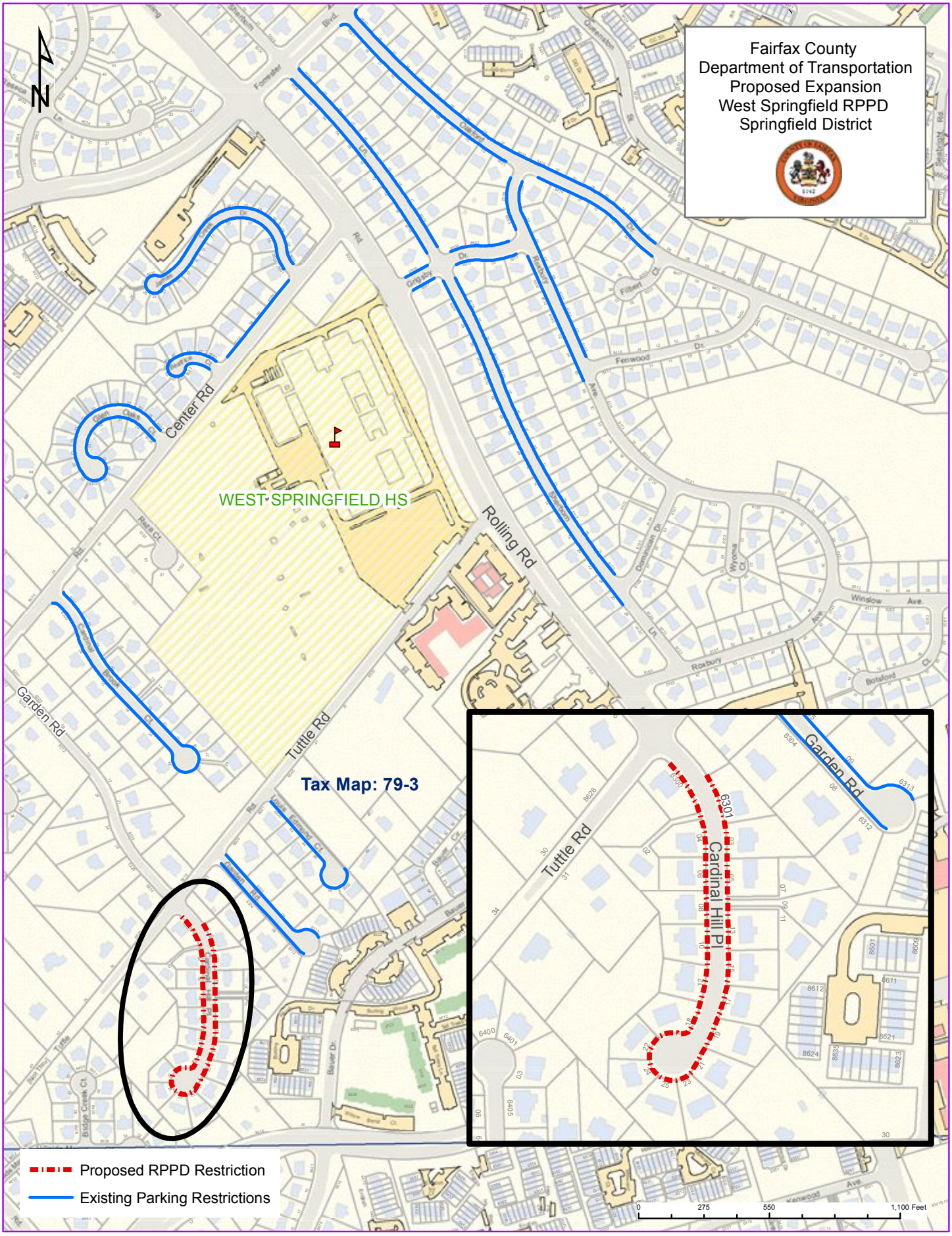
Proposed Amendment

Amend *The Code of the County of Fairfax*, *Virginia*, by amending the following streets in Appendix G-7, Section (b), (2), West Springfield Residential Permit Parking District, in accordance with Article 5A of Chapter 82:

*Cardinal Hill Place (Route 8602):*

From the northern property boundary of 6301 Cardinal Hill Place south to the cul-de-sac, and on the west side from Tuttle Road to the cul-de-sac inclusive

Attachment II



Board Agenda Item
February 2, 2016

4:00 p.m.

Public Hearing to Consider Adopting an Ordinance Expanding the Greenway Downs Residential Permit Parking District, District 13 (Providence District)

ISSUE:
Public Hearing to consider a proposed amendment to Appendix G, of *The Code of the County of Fairfax*, *Virginia* (Fairfax County Code), to expand the Greenway Downs Residential Permit Parking District (RPPD), District 13.

RECOMMENDATION:
The County Executive recommends that the Board adopt an amendment (Attachment I) to Appendix G, of the Fairfax County Code, to expand the Greenway Downs RPPD, District 13.

TIMING:
On January 12, 2016, the Board authorized a Public Hearing to consider the proposed amendment to Appendix G, of the Fairfax County Code, to take place on February 2, 2016, at 4:00 p.m.

BACKGROUND:
Section 82-5A-4(b) of the Fairfax County Code, authorizes the Board to establish or expand an RPPD in any residential area of the County if: (1) the Board receives a petition requesting establishment or expansion of an RPPD that contains signatures representing at least 60 percent of the eligible addresses of the proposed District and representing more than 50 percent of the eligible addresses on each block of the proposed District, (2) the proposed District contains a minimum of 100 contiguous or nearly contiguous on-street parking spaces 20 linear feet in length per space, unless the subject area is to be added to an existing district, (3) 75 percent of the land abutting each block within the proposed District is developed residential, and (4) 75 percent of the total number of on-street parking spaces of the petitioning blocks are occupied, and at least 50 percent of those occupied spaces are occupied by nonresidents of the petitioning blocks, as authenticated by a peak-demand survey. In addition, an application fee of $10 per petitioning address is required for the establishment or expansion of an RPPD. In the case of an amendment expanding an existing District, the foregoing provisions apply only to the area to be added to the existing District.

On June 30, 2015, a peak parking demand survey was conducted for the requested area. The results of this survey verified that more than 75 percent of the total number of on-street parking spaces of the petitioning blocks were occupied by parked vehicles, and more than 50 percent of those occupied spaces were occupied by nonresidents of the petitioning blocks. All other requirements to expand the RPPD have been met.

FISCAL IMPACT:
The cost of sign installation is estimated at $2,000 to be paid from Fairfax County Department of Transportation funds.

ENCLOSED DOCUMENTS:
Attachment I: Proposed Amendment to the Fairfax County Code
Attachment II: Map Depicting Proposed Limits of RPPD Expansion

STAFF:
Tom Biesiadny, Director, Fairfax County Department of Transportation (FCDOT)
Eric Teitelman, Chief, Capital Projects and Traffic Engineering Division, FCDOT
Neil Freschman, Chief, Traffic Engineering Section, FCDOT
Maria Turner, Sr. Transportation Planner, FCDOT
Charisse Padilla, Transportation Planner, FCDOT

Attachment I

Proposed Amendment

Amend *The Code of the County of Fairfax*, *Virginia*, by adding the following streets in Appendix G-13, Section (b), (2), Greenway Downs Residential Permit Parking District, in accordance with Article 5A of Chapter 82:

*Cavalier Trail (Route 1712):*

From Winchester Way to the northern property boundary of 6801 Cavalier Trail; east side only

*Greenway Boulevard (Route 1715):*

From the northern property boundary of 2754 Greenway Boulevard to the southern property boundary of 2804 Greenway Boulevard; west side only

From the northern property boundary of 2757 Greenway Boulevard to the southern property boundary of 2805 Greenway Boulevard; east side only

*Summerfield Road (Route 1713):*

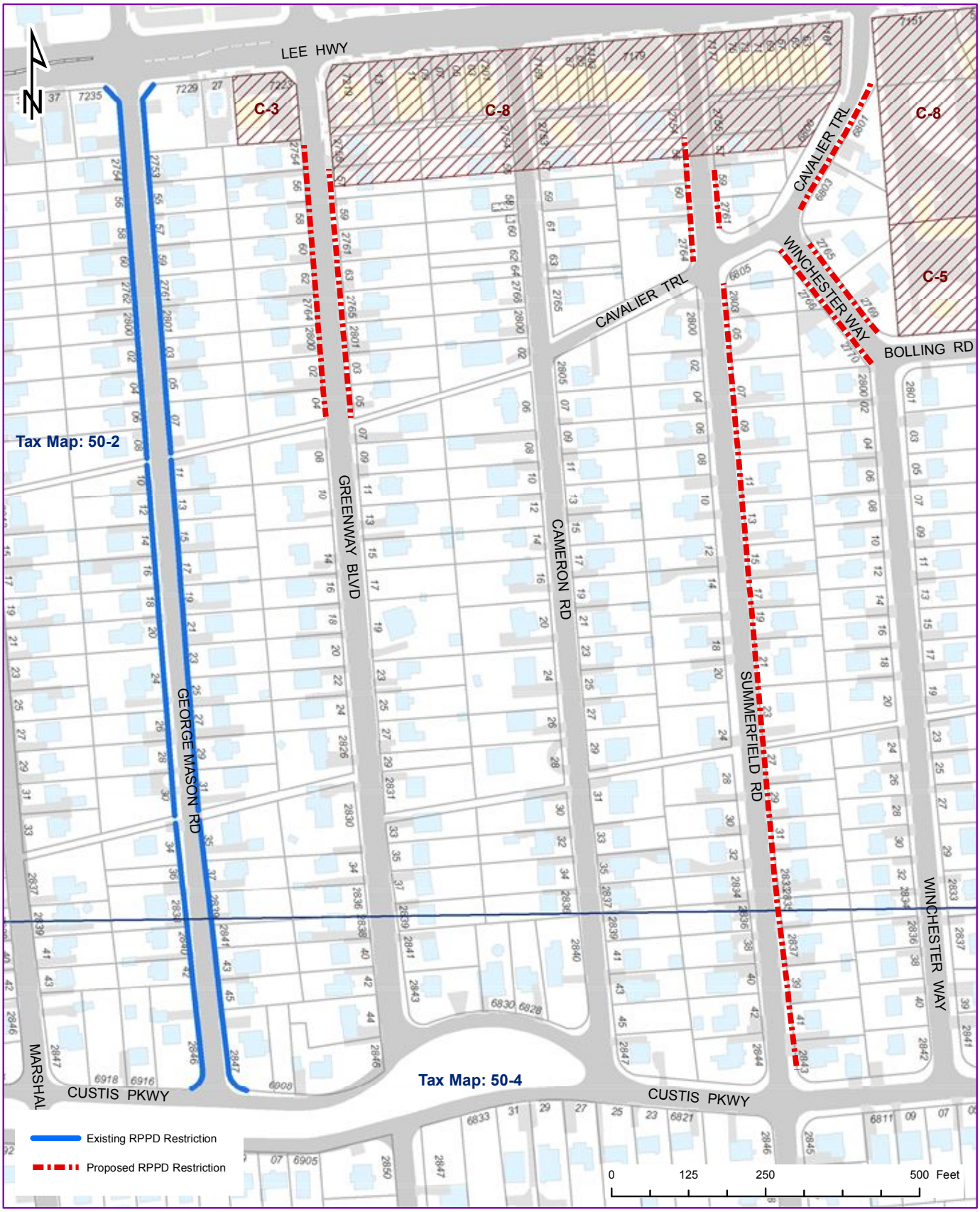
From the northern property boundary of 2756 Summerfield Road to Cavalier Trail; west side only

From the northern property boundary of 2759 Summerfield Road to Custis Parkway; east side only

*Winchester Way (Route 1726):*

From Cavalier Trail to Bolling Road

Attachment II




FAIRFAX COUNTY DEPARTMENT OF TRANSPORTATION
PROPOSED EXPANSION
GREENWAY DOWNS RPPD
PROVIDENCE DISTRICT

Board Agenda Item
February 2, 2016

4:30 p.m.

Public Hearing on SE 2015-HM-013 (Singh Properties II, LLC) to Permit a Medical Care Facility, Located on Approximately 23.81 Acres of Land Zoned R-1 (Hunter Mill District)

This property is located at 10819 Leesburg Pike Reston 20194. Tax Map 12-3 ((1)) 4.

PLANNING COMMISSION RECOMMENDATION:
On Thursday, December 10, 2015, the Planning Commission voted 11-0 (Commissioner Lawrence was absent from the meeting) to recommend the following actions to the Board of Supervisors:

- Approval of SE 2015-HM-013, subject to Development Conditions dated December 7, 2015;

- Approval of modifications of the transitional screening and barrier requirements of Section 13-303 and 304 of the Zoning Ordinance in favor of the landscaping and barriers shown on the Special Exception Plat;

- Approval of a waiver of the service drive requirement of Section 17-201 of the Zoning Ordinance along Leesburg Pike; and

- Approval of a waiver of an increase in the wall height above seven feet, pursuant to Section 10.104(3)(h) of the Zoning Ordinance to permit the walls, as shown on the Special Exception Plat.

ENCLOSED DOCUMENTS:
Attachment 1: Planning Commission Verbatim Excerpt
Staff Report previously furnished and available online at:
http://ldsnet.fairfaxcounty.gov/ldsnet/ldsdwf/4503512.PDF

STAFF:
Barbara Berlin, Director, Zoning Evaluation Division, Department of Planning and Zoning (DPZ),
Carmen Bishop, Planner, DPZ

SE 2015-HM-013 – SINGH PROPERTIES, II, LLC

Decision Only During Commission Matters
(Public Hearing Held on October 21, 2015)

Commissioner de la Fe: Mr. Chairman, on – excuse me – on October 21st, we held a public hearing on SE 2015-HM-013, in the name of Singh Properties II, LLC, and – which is for a medical facility in the Hunter Mill District right off Route – right on Route 7. The – yesterday you received a written response from the applicant addressing the major issues that could be addressed that were raised at the public hearing and new development conditions were passed out tonight to reflect the changes. They're relatively minor. The new condition 12 has been added to limit the hours of trash and/or recycling collection, and food and linen deliveries to 8:00 a.m. to 6:00 p.m., Monday through Friday. Condition 17 has been modified to reflect the applicant's commitment to install a seven foot tall solid wood fence along the rear of the loading area and supplemental evergreens to address concerns from the community regarding light and noise impacts. And a new condition 25 has been added to reflect the applicant's agreement to grant a sanitary sewer easement to serve the residential properties to the west. And before I move to – on this, could I request the applicant's representative come forward.

David Houston, Esquire, Applicant's Agent, Reed Smith, LLP: Yes, Sir. David Houston with [inaudible] representing the applicant.

Commissioner de la Fe: Thank you very much. Mr. Houston, do you as the applicant's representative agree to the development conditions now dated December 7th?

Mr. Houston: Yes, sir.

Commissioner de la Fe: Okay, thank you very much. I have my motions here somewhere. And let me check and see what I did with them.

Chairman Murphy: Here they come. Billy's coming with them.

Commissioner de la Fe: How could they disappear so quickly. Mr. Chairman, I – I MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS APPROVAL OF SE 2015-HM-013, SUBJECT TO CONDITIONS DATED DECEMBER 7TH, 2015.

Commissioners Hart and Flanagan: Second.

Chairman Murphy: Seconded by Mr. Hart and Mr. Flanagan. Is there a discussion of the motion? All those in favor of the motion to recommend to the Board of Supervisors that it approve SE 2015-HM-013, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries.

Commissioner de la Fe: And, Mr. Chairman, I further MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS: 1) APPROVAL OF MODIFICATIONS OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENTS OF SECTION 13-303 AND 304 OF THE ZONING ORDINANCE IN FAVOR OF THE LANDSCAPING AND BARRIERS SHOWN ON THE SPECIAL EXCEPTION PLAT; AND 2) APPROVAL OF A WAIVER OF THE SERVICE DRIVE REQUIREMENT OF SECTION 17-201 OF THE ZONING ORDINANCE ALONG LEESBURG PIKE; THIRD, AN INCREASE IN THE WALL HEIGHT ABOVE SEVEN FEET, PURSUANT TO SECTION 10.104(3)(H) OF THE ZONING ORDINANCE TO PERMIT THE WALLS, AS SHOWN ON THE SPECIAL EXCEPTION PLAT.

Commissioners Hart and Flanagan: Second.

Chairman Murphy: Same seconds. Is there a discussion of the motion? All those in favor of the motion, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries.

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(Each motion carried by a vote of 11-0. Commissioner Lawrence was absent from the meeting.)

JN

Board Agenda Item
February 2, 2016

4:30 p.m.

Public Hearing on RZ 2014-HM-024 (George Family Property Development LLC) to Permit Residential Development with an Overall Density of 1.05 Dwelling Units per Acre and Approval of the Conceptual Development Plan, Located on Approximately 20.09 Acres of Land Comprehensive Plan Recommended Residential 1-2 du/ac (Hunter Mill District)

This property is located West of the Terminus of Crim Dell Lane and North of the Terminus of Higdon Drive. Tax Map 28-4 ((1)) 19, 19A, 21, 21B, 25, 25A, and 25C.

PLANNING COMMISSION RECOMMENDATION:
On Thursday, December 10, 2015, the Planning Commission voted 11-0 (Commissioner Lawrence was absent from the meeting) to recommend to the Board of Supervisors approval of RZ 2014-HM-024 and the associated conceptual Development Plan, subject to the execution of proffers consistent with those dated November 24, 2015.

In a related action, the the Planning Commission voted 11-0 (Commissioner Lawrence was absent from the meeting) to approve FDP 2014-HM-024, subject to the Development Conditions dated November 24, 2015, and the Board of Supervisors' approval of RZ 2014-HM-024 and the associated Conceptual Development Plans.

ENCLOSED DOCUMENTS:
Attachment 1: Planning Commission Verbatim Excerpt
Staff Report previously furnished and available online at:
http://ldsnet.fairfaxcounty.gov/ldsnet/ldsdwf/4508328.PDF

STAFF:
Barbara Berlin, Director, Zoning Evaluation Division, Department of Planning and Zoning (DPZ),
Carmen Bishop, Planner, DPZ

RZ/FDP 2014-HM-024 – GEORGE FAMILY PROPERTY DEVELOPMENT, LLC

After the Close of the Public Hearing

Chairman Murphy: Public hearing is closed; Mr. de la Fe.

Commissioner de la Fe: Thank you very much, Mr. Chairman. This case, I really want to thank staff and the applicant and the neighbors for diligently – who – to come to this, where we have a redevelopment, rezoning in an established neighborhood and there seems to be, you know, no – no major objections, or actually we haven't heard any major objections. There haven't been taken – any objections that haven't been taken care of by the applicant's concessions and proffer changes. So, given that, Mr. Chairman – and as the applicant stated, the land use committee did approve this and I'm happy to say that they actually did approve it - - the land use committee over the last few months has had trouble getting a full quorum. And they – they actually did have one – more than a quorum for – when they considered this application, so it is a recommendation for approval. Could the applicant please step forward?

Scott Adams, Esquire, Applicant's Agent, McGuireWoods, LLP: Yes.

Commissioner de la Fe: Do you agree to the development conditions that are contained in the staff report?

Mr. Adams: Yes, we do.

Commissioner de la Fe: Thank you very much.

Mr. Adams: Thank you.

Commissioner de la Fe: Mr. Chairman, I MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS APPROVAL OF RZ 2014-HM-024 AND THE ASSOCIATED CONCEPTUAL DEVELOPMENT PLAN, SUBJECT TO THE EXECUTION OF PROFFERS CONSISTENT WITH THOSE DATED NOVEMBER 24TH, 2015.

Commissioner Flanagan: Second.

Chairman Murphy: Seconded by Mr. Flanagan. Is there a discussion of the motion? All those in favor of the motion to recommend to the Board of Supervisors that it approve RZ 2014-HM-024, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries.

Commissioner de la Fe: Mr. Chairman, I MOVE THAT THE PLANNING COMMISSION APPROVE FDP 2014-HM-024, SUBJECT TO THE DEVELOPMENT CONDITIONS DATED NOVEMBER 24, 2015, AND THE BOARD OF SUPERVISORS' APPROVAL OF RZ 2014-HM-024 AND THE ASSOCIATED CONCEPTUAL DEVELOPMENT PLANS.

Commissioner Flanagan: Second.

Chairman Murphy: Seconded by Mr. Flanagan. Discussion? All those in favor of the motion to approve FDP 2014-HM-024, subject to the Board's approval of the rezoning and the conceptual development plans, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries.

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(Each motion carried by a vote of 11-0. Commissioner Lawrence was absent from the meeting.)

JN

Board Agenda Item
February 2, 2016

4:30 p.m.

Public Hearing on SE 2015-MV-003 (First Years Learning Center LLC / Claudia Tramontana) to Permit a Home Child Care Facility, Located on Approximately 10,488 Square Feet of Land Zoned PDH-2 (Mount Vernon District)

This property is located at 6614 Winstead Manor Court, Lorton, 22079. Tax Map 99-2 ((17)) 34.

On June 23, 2015, the Board of Supervisors deferred this public hearing to July 28, 2015, at 3:00 p.m.; and then was deferred to September 22, 2015 at 3:00 p.m.; and, then was deferred to October 6, 2015 at 3:00 p.m.; and then deferred to October 20, 2015 at 5:30 p.m.; and once again was deferred to January 12, 2016; at which time it was deferred to February 2, 2016 at 4:30 p.m.

PLANNING COMMISSION RECOMMENDATION:
On Wednesday, July 22, 2015, the Planning Commission voted 10-0 (Commissioners Lawrence and Migliaccio were absent from the meeting) to recommend to the Board of Supervisors approval of SE 2015-MV-003, subject to the development conditions dated July 21, 2015.

ENCLOSED DOCUMENTS:
Attachment 1: Planning Commission Verbatim Excerpt
Staff Report previously furnished and available online at:
http://ldsnet.fairfaxcounty.gov/ldsnet/ldsdwf/4488469.PDF

STAFF:
Barbara Berlin, Director, Zoning Evaluation Division, Department of Planning and Zoning (DPZ)
Mary Ann Tsai, Planner, DPZ

SE 2015-MV-003 - FIRST YEARS LEARNING CENTER LLC/CLAUDIA TRAMONTANA

During Commission Matters

Commissioner Flanagan: Mr. Chairman. I have a decision only tonight, SE 2015-MV-003 First Years Learning Center, and I request that the applicant, come forward to the lectern and confirm for the record, agreement to the proposed development conditions now dated July 21, 2015, with two changes – recent changes - to the conditions and with the inclusion of the following language to condition one, which restricts the special exception approval to the applicant only. Do you agree with the conditions?

Lawrence McClafferty, Applicant's Agent, McCandlish & Lillard, PC: Mr. Flanagan and Mr. Chairman and members of the Commission, we hereby agree with that additional condition.

Commissioner Flanagan: Thank you.

Chairman Murphy: Sir, identify yourself for the record please, just to make it –

Mr. McClafferty: Lawrence McClafferty, of McCandlish & Lillard, here on behalf of the applicant, First Years Learning Center, LLC and Claudia Tramontana.

Chairman Murphy: Thank you very much, Mr. Flanagan.

Commissioner Flanagan: The conditions, are we on – verbatim?

Chairman Murphy: Yes.

Commissioner Flanagan: - okay, the conditions, number one that I refer to, was passed out to all the Commissioners in the handouts so you should all have that text, I will repeat it here. But based upon public testimony not previously available to staff and the applicant's willingness to achieve neighborhood harmony by amending staff's conditions so as to improve pipestem traffic and parking by eventually reducing the number of children on the site from 12 to 9. Second, improve playground safety by adding play equipment ground cover and fencing as recommended by Commissioners Strandlie and Hedetniemi and limiting the SE to the applicant rather than the site, as we are doing this evening. I therefore Mr. Chairman, MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS APPROVAL OF SE 2015-MV-003, SUBJECT TO THE DEVELOPMENT CONDITIONS NOW DATED JULY 21, 2015.

Commissioner Litzenberger: Second.

Chairman Murphy: Seconded by Mr. Litzenberger.

Commissioner Sargeant: Mr. Chairman.

Chairman Murphy: Is there a discussion of the motion?

Commissioner Sargeant: Mr. Chairman.

Chairman Murphy: Mr. Sargeant.

Commissioner Sargeant: I was not present for the public hearing however, I have reviewed the information and also the video recording of the public testimony and I intend to vote.

Chairman Murphy: Further discussion of the motion? All those in favor of the motion to recommend to the Board of Supervisors that it approve SE 2015-MV-003, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries.

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(The motion carried by a vote of 10-0. Commissioner Lawrence and Migliaccio absent from the meeting.)

TMW