

**FAIRFAX COUNTY  
BOARD OF SUPERVISORS  
November 17, 2015**

**AGENDA**

9:30	<b>Done</b>	Presentations
10:30	<b>Done</b>	Presentation of the 2014 Transportation Advisory Commission Transportation Achievement Award
10:35	<b>Done</b>	Presentation of the Barbara Varon Award
10:40	<b>Report Accepted, referred to staff, staff response requested</b>	Presentation of the Environmental Quality Advisory Council (EQAC) Annual Report
10:50	<b>Done</b>	Items Presented by the County Executive

**ADMINISTRATIVE  
ITEMS**

1	<b>Approved</b>	Authorization to Advertise Proposed Amendments to the Public Facilities Manual Re: National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Rainfall Data
2	<b>Approved</b>	Designation of Plans Examiner Status under the Expedited Land Development Review Program
3	<b>Approved</b>	Authorization to Advertise a Public Hearing for a Spot Blight Abatement Ordinance for 3506 Elmwood Drive, Alexandria, VA 22303 (Lee District)
4	<b>Approved</b>	Installation of a "Watch for Children" Sign as Part of the Residential Traffic Administration Program (Sully District)
5	<b>Approved</b>	Streets into the Secondary System (Dranesville and Providence Districts)
6	<b>Approved</b>	Authorization to Advertise a Public Hearing on the Acquisition of Certain Land Rights Necessary for the Construction of the Hunter Mill @ Mystic Meadow Roundabout (Providence District)
7	<b>Approved</b>	Extension of Review Period for 2232 Application (Mount Vernon District)
8	<b>Approved with amendment</b>	Authorization to Advertise a Public Hearing to Consider an Ordinance to Amend and Readopt Fairfax County Code Sections 7-2-5 and 7-2-13 Relating to Election Precincts and Polling Places (Hunter Mill, Dranesville and Springfield Districts)

**FAIRFAX COUNTY  
BOARD OF SUPERVISORS  
November 17, 2015**

**ADMINISTRATIVE  
ITEMS  
(Continued)**

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| 9  | <b>Approved</b> | Supplemental Appropriation Resolution AS 16115 for Various Fairfax County Agencies to Accept Department of Homeland Security Urban Areas Security Initiative Subgrant Awards from the Government of the District of Columbia Homeland Security and Emergency Management Agency                                 |
| 10 | <b>Approved</b> | Authorization for the Department of Neighborhood and Community Services to Apply for and Accept Grant Funding from the Metropolitan Washington Council of Governments, Enhanced Mobility of Seniors and Individuals with Disabilities Program, in Support of the Purchase of Wheelchair-Lift Equipped Vehicles |
| 11 | <b>Approved</b> | Authorization for the Certification of Consistency with the Consolidated Plan as Required by U.S. Department of Housing and Urban Development In Order to Apply for Continuum of Care Program Funding  |

**ACTION ITEMS  
Approved**

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|---|---------------------------------|---|
| 1 | <b>Approved</b>                 | Adoption of a Resolution Approving the Issuance by the Fairfax County Economic Development Authority of Revenue Bonds for the Benefit of the Oakcrest School  |
| 2 | <b>Approved</b>                 | Approval of State Litter Prevention and Recycling Grant Funding Transfer to Clean Fairfax Council, Incorporated   |
| 3 | <b>Approved with correction</b> | Approval of a Resolution Endorsing Projects Being Submitted for Fiscal Year 2017 Regional Funding through the Northern Virginia Transportation Authority  |
| 4 | <b>Approved</b>                 | Approval of Project Agreement for Northern Virginia Transportation Authority Funding for the Innovation Center Metrorail Station Project (Dranesville District)   |
| 5 | <b>Approved</b>                 | Approval of a Process to Assign, Prioritize, Track, Review, and Consider for Approval or Implementation the Recommendations Contained in the Final Report of the Ad Hoc Police Practices Review Commission, Dated October 8, 2015 |
| 6 | <b>Approved with amendment</b>  | Endorsement of Principles and Interim Comments on the I-66 Inside the Beltway Multimodal Improvement Project Framework Agreement (Dranesville, Mason and Providence Districts)  |

**FAIRFAX COUNTY  
BOARD OF SUPERVISORS  
November 17, 2015**

**INFORMATION  
ITEMS**

1	<b>Noted</b>	Phase 2 - Consulting Support for NG9-1-1 Program Management and Technical Assistance for Regional Procurement Activities
2	<b>Noted</b>	Fairfax-Falls Church Community Services Board Fee Schedule
11:00	<b>Done</b>	Matters Presented by Board Members
11:50	<b>Done</b>	Closed Session

**PUBLIC HEARINGS**

3:00	<b>Approved</b>	Public Hearing to Receive Comment from Citizens on the Proposed Legislative Program to be Presented to the 2016 Virginia General Assembly
3:30	<b>Approved</b>	Decision Only on Amendments to the Fairfax County Code to: Adopt New Chapter 108.1 (Noise Ordinance), Repeal Chapter 108 (Noise Ordinance), and Repeal Article 6 (Excessive Sound Generation in Residential Areas and Dwellings Ordinance) to Chapter 5 (Offenses)
3:30	<b>Approved</b>	Public Hearing on Adoption of a Proposed Amendment to the 2011 Official County Soils Map, Chapter 107 (Problem Soils) of the Code of the County of Fairfax, Virginia Related to the Extent of Naturally Occurring Asbestos (NOA)
3:30	<b>Approved</b>	Public Hearing on a Proposed Amendment to the Zoning Ordinance Re: Donation Drop-Off Boxes
3:30	<b>Approved with amendment</b>	Public Hearing on a Proposed Amendment to Chapter 41.1 of the Fairfax County Code Regarding Cruelty to Animals, Including Dog Tethering
4:00	<b>Approved</b>	Public Hearing on Proposed Plan Amendment S13-CW-T1, Leland Road Extension, Located West of the Current Terminus at Pickwick Road (Sully District)
4:00	<b>Public Hearing deferred to 12/8/2015 at 3:00 p.m.</b>	Public Hearing on Proposed Plan Amendment 2015-IV-T1, Newington Road, Located East of Cinder Bed Road and West of Telegraph Road (Mount Vernon District)

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**PUBLIC HEARINGS  
(Continued)**

4:00	<b>Approved</b>	Public Hearing to Establish the London Towne Community Parking District (Sully District)
4:00	<b>Approved</b>	Public Hearing on a Proposal to Prohibit Through Truck Traffic on Lewinsville Road – Eastern Portion (Dranesville District)
4:30	<b>Approved</b>	Public Hearing on a Proposal to Prohibit Through Truck Traffic on Lewinsville Road – Western Portion (Dranesville District)
4:30	<b>Approved</b>	Public Hearing on a Proposed Zoning Ordinance Amendment Re: Alternative Lending Institutions
4:30	<b>Approved</b>	Public Hearing to Establish the Twinbrook Community Parking District (Braddock District)
4:30	<b>Public Hearing deferred to 1/12/2016 at 4:30 p.m.</b>	Public Hearing to Consider Parking Restrictions on Port Royal Road, Woodruff Court, Forbes Place (Braddock District)
4:30	<b>Approved</b>	Public Hearing to Consider Parking Restrictions on Sullyfield Circle and Parke Long Court (Sully District)



# **REVISED**



## ***Fairfax County, Virginia*** ***BOARD OF SUPERVISORS*** ***AGENDA***

**Tuesday**  
**November 17, 2015**

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9:30 a.m.

### **PRESENTATIONS**

#### **RECOGNITIONS**

- CERTIFICATE – To recognize the Ad Hoc Police Practices Review Commission for its work. Requested by Chairman Bulova.
- RESOLUTION – To recognize Judith Beattie for 48 years of service as director and most recently owner of Hunter Mill Country Day School. Requested by Supervisor Hudgins.
- RESOLUTION – To recognize John Mason for his work as the CEO of the Workhouse Arts Foundation. Requested by Supervisor Hyland.
- RESOLUTION – To recognize Louise Cleveland for her service in the Mount Vernon District. Requested by Supervisor Hyland.

— more —

Board Agenda Item  
November 17, 2015

- CERTIFICATE – To recognize the International Association of Firefighters Local 2068 for its success during the 2015 Fill the Boot Campaign. Requested by Chairman Bulova.

RECOGNITIONS

- PROCLAMATION – To designate December 1, 2015, as HIV/AIDS Awareness Day in Fairfax County. Requested by Chairman Bulova.

STAFF:

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

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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

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Planning Commission Hearing

December 9, 2015

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Board of Supervisors Hearing

February 2, 2016

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Prepared by:

Code Development and  
Compliance Division  
JAF (703) 324-1780  
November 17, 2015

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## 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. 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.

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  $C_f \times C$  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)**

6-08056.1 The lowest range of runoff coefficients may be used for flat areas (areas where the majority of the grades are 2 percent and less).

6-08056.2 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).

6-08056.3 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.

**6-08067 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:**

1

**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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<b>TIME (Minute)</b>	<b><math>t_c=20</math> Minute</b>				<b><math>t_c=25</math> Minute</b>				<b><math>t_c=30</math> Minute</b>			
	<b>2-YR</b>	<b>10-YR</b>	<b>25-YR</b>	<b>100-YR</b>	<b>2-YR</b>	<b>10-YR</b>	<b>25-YR</b>	<b>100-YR</b>	<b>2-YR</b>	<b>10-YR</b>	<b>25-YR</b>	<b>100-YR</b>
—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

2

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<b>Table 6.6 Incremental Unit Hydrograph CFS</b>						
<b>TIME (Minute)</b>	<b><u>t<sub>c</sub>=5 Minute</u></b>	<b><u>t<sub>c</sub>=10 Minute</u></b>	<b><u>t<sub>c</sub>=15 Minute</u></b>	<b><u>t<sub>c</sub>=20 Minute</u></b>	<b><u>t<sub>c</sub>=25 Minute</u></b>	<b><u>t<sub>c</sub>=30 Minute</u></b>
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

2

**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 loam.

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 = ~~440~~ 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.

		<b>Col. 1 No Pavement</b>	<b>Col. 1 + 0.025* 12 ft. Pavement</b>	<b>Col. 1 + 0.050** 24 ft. Pavement</b>	
$\frac{30 \times 100 \times 0.5}{43,560}$	=	0.035	0.060	0.085	<b>*12 ft. Pavement Computations</b>
$\frac{40 \times 100 \times 0.5}{43,560}$	=	0.046	0.071	0.096	<b><math>\frac{12 \times 100 \times 0.9}{43,560} = 0.025</math></b>
$\frac{60 \times 100 \times 0.48}{43,560}$	=	0.066	0.091	0.116	
$\frac{100 \times 100 \times 0.41}{43,560}$	=	0.094	0.119	0.144	<b>**24 ft. Pavement Computations</b>
$\frac{150 \times 100 \times 0.37}{43,560}$	=	0.128	0.153	0.178	<b><math>\frac{24 \times 100 \times 0.9}{43,560} = 0.050</math></b>
$\frac{200 \times 100 \times 0.35}{43,560}$	=	0.161	0.186	0.211	

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

<b><u>Width of strip outside ROW</u></b>	<b><u>CA unpaved area outside ROW</u></b>		<b><u>CA unpaved area in ROW</u></b>		<b><u>CA pavement in ROW</u></b>	<b><u>CA Total</u></b>
<u>W</u>	$\frac{W \times 100 \times 0.3}{43,560}$		$\frac{13 \times 100 \times 0.5}{43,560}$		$\frac{12 \times 100 \times 0.9}{43,560}$	
<u>30</u>	<u>0.021</u>	+	<u>0.015</u>	+	<u>0.025</u>	= <u>0.061</u>
<u>40</u>	<u>0.028</u>	+	<u>0.015</u>	+	<u>0.025</u>	= <u>0.068</u>
<u>60</u>	<u>0.041</u>	+	<u>0.015</u>	+	<u>0.025</u>	= <u>0.081</u>
<u>100</u>	<u>0.069</u>	+	<u>0.015</u>	+	<u>0.025</u>	= <u>0.109</u>
<u>150</u>	<u>0.103</u>	+	<u>0.015</u>	+	<u>0.025</u>	= <u>0.143</u>
<u>200</u>	<u>0.138</u>	+	<u>0.015</u>	+	<u>0.025</u>	= <u>0.178</u>

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
	<u>5.0</u>	<u>4.7</u>	<u>4.5</u>	<u>4.4</u>	<u>4.2</u>			<u>3.8</u>		

**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	$t_c$	14 minutes,	I 3.6 in./hr.

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

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

\* 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)

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

1	Sta. 138+00		<u>0.071/0.131</u>			<u>0.131 x 4.6 = 0.6026 cfs</u>
2		<u>100 feet</u>	<u>0.109</u>	<u>0.238</u>	<u>4.2 in/hr</u>	<u>0.238 x 4.2 = 0.9996 cfs</u>
3	Sta. 139+00		<u>0.119/0.250</u>			<u>0.250 x 4.1 = 1.0250 cfs</u>
4		<u>100 feet</u>	<u>0.109</u>	<u>0.347</u>	<u>4.1 in/hr</u>	<u>0.347 x 4.1 = 1.4227 cfs</u>
5	Sta. 140+00		<u>0.119/0.369</u>			<u>0.369 x 4.0 = 1.4760 cfs</u>
6		<u>40 feet</u>	<u>0.068</u>	<u>0.413</u>	<u>4.0 in/hr</u>	<u>0.413 x 4.0 = 1.6520 cfs</u>
7	Sta. 141+00		<u>0.071/0.440</u>			<u>0.440 x 3.9 = 1.7160 cfs</u>
8		<u>40 feet</u>	<u>0.068</u>	<u>0.481</u>	<u>3.9 in/hr</u>	<u>0.481 x 3.9 = 1.8759 cfs</u>
9	Sta. 142+00		<u>0.071/0.511</u>			<u>0.511 x 3.8 = 1.9418 cfs</u>
10						
11	<u>Ditch #2</u>					
12						
13	<u>Sta. 157+ 50</u>					
14		<u>40 feet</u>	<u>0.068</u>	<u>0.068</u>	<u>4.7 in/hr</u>	<u>0.068 x 4.7 = 0.3196 cfs</u>
15	Sta. 156+50		<u>0.096</u>			<u>0.096 x 4.6 = 0.6228 cfs</u>
16		<u>60 feet</u>	<u>0.081</u>	<u>0.149</u>	<u>4.4 in/hr</u>	<u>0.149 x 4.4 = 0.6556 cfs</u>
17	Sta. 155+50		<u>0.116/0.212</u>			<u>0.212 x 4.3 = 0.9116 cfs</u>
18		<u>100 feet</u>	<u>0.109</u>	<u>0.258</u>	<u>4.2 in/hr</u>	<u>0.258 x 4.2 = 1.0836 cfs</u>
19	Sta. 154+50		<u>0.144/0.356</u>			<u>0.356 x 4.1 = 1.4596 cfs</u>
20		<u>200 feet</u>	<u>0.178</u>	<u>0.436</u>	<u>3.6 in/hr</u>	<u>0.436 x 3.6 = 1.5696 cfs</u>
21	Sta. 153+50		<u>0.211/0.567</u>			<u>0.567 x 3.6 = 2.0412 cfs</u>
22		<u>200 feet</u>	<u>0.178</u>	<u>0.614</u>	<u>3.5 in/hr</u>	<u>0.614 x 3.5 = 2.1490 cfs</u>
23	Sta. 152+50		<u>0.211/0.778</u>			<u>0.778 x 3.5 = 2.7230 cfs</u>
24		<u>150 feet</u>	<u>0.143</u>	<u>0.757</u>	<u>3.4 in/hr</u>	<u>0.757 x 3.4 = 2.5738 cfs</u>
25	Sta. 151+50		<u>0.178/0.956</u>			<u>0.956 x 3.4 = 3.2504 cfs</u>
26		<u>100 feet</u>	<u>0.109</u>	<u>0.866</u>	<u>3.3 in/hr</u>	<u>0.866 x 3.3 = 2.8578 cfs</u>
27	Sta. 150+50		<u>0.119/1.075</u>			<u>1.075 x 3.3 = 3.5475 cfs</u>
28		<u>60 feet</u>	<u>0.081</u>	<u>0.947</u>	<u>3.2 in/hr</u>	<u>0.947 x 3.2 = 3.0304 cfs</u>
29	Sta. 149+50		<u>0.091/1.166</u>			<u>1.166 x 3.2 = 3.7312 cfs</u>
30						

**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.~~

6-1302.64 Detention rings shall be placed around all roof drains that do not have controlled flow.

6-1302.64A The number of holes or size of openings in the rings shall be computed based on the area of roof drained and runoff criteria.

6-1302.64B The minimum spacing of sets of holes is 2 inches center-to-center.

6-1302.64C The height of the ring is determined by the roof slope and shall be ~~3~~ 2.56 inches maximum.

6-1302.64D 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 ~~47~~ 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  $\geq 2.56$  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,  $C = 0.40$ ;

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<sup>2</sup>

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

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

$Q = CIA = (0.4)(5.92 \text{ } \underline{5.45})(927.2 / 0.93)(10,000 / 43,560)$

$Q = 0.54 \text{ } \underline{0.50}$  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~~  $\pi$  x diameter

~~(20 22 sets)~~ (2 inches/set) = ~~B~~  $\pi$  x diameter

D = ~~42.73~~ 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<sup>2</sup>/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~~  $\pi$ D (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 ~~32.56~~-inch high ring.

$Q = CLH^{3/2}$

Q (per drain) = ~~2.26~~ 1.045 cfs = 3.33 ~~B~~  $\pi$ D(~~0.17~~0.21)<sup>3/2</sup>

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 Inches of Rainfall), by revising them to read as follows:**

<b>Table 6.18 Rainfall Distribution</b>				
<b>Time minutes</b>	<b>Total Precip in.</b>	<b>Total Precip ft.</b>	<b>Increment Precip in.</b>	<b>Increment Precip ft.</b>
<b><u>1-Year, 2-Hour Storm</u></b>				
<u>5</u>	<u>.36</u>	<u>.030</u>	<u>.36</u>	<u>.03</u>
<u>10</u>	<u>.57</u>	<u>.047</u>	<u>.21</u>	<u>.018</u>
<u>15</u>	<u>.71</u>	<u>.059</u>	<u>.14</u>	<u>.012</u>
<u>20</u>	<u>.81</u>	<u>.067</u>	<u>.10</u>	<u>.008</u>
<u>30</u>	<u>.97</u>	<u>.081</u>	<u>.16</u>	<u>.014</u>
<u>40</u>	<u>1.06</u>	<u>.089</u>	<u>.09</u>	<u>.008</u>
<u>50</u>	<u>1.14</u>	<u>.095</u>	<u>.08</u>	<u>.007</u>
<u>60</u>	<u>1.21</u>	<u>.101</u>	<u>.07</u>	<u>.006</u>
<u>70</u>	<u>1.25</u>	<u>.105</u>	<u>.04</u>	<u>.004</u>
<u>80</u>	<u>1.29</u>	<u>.108</u>	<u>.04</u>	<u>.003</u>
<u>90</u>	<u>1.33</u>	<u>.111</u>	<u>.04</u>	<u>.003</u>
<u>100</u>	<u>1.36</u>	<u>.113</u>	<u>.03</u>	<u>.003</u>
<u>110</u>	<u>1.39</u>	<u>.116</u>	<u>.03</u>	<u>.003</u>
<u>120</u>	<u>1.42</u>	<u>.119</u>	<u>.03</u>	<u>.002</u>
<b><u>2-Year, 2-Hour Storm</u></b>				
<u>5</u>	<u>.44</u>	<u>.036</u>	<u>.44</u>	<u>.036</u>
<u>10</u>	<u>.70</u>	<u>.058</u>	<u>.26</u>	<u>.022</u>
<u>15</u>	<u>.88</u>	<u>.073</u>	<u>.18</u>	<u>.015</u>
<u>20</u>	<u>1.01</u>	<u>.084</u>	<u>.13</u>	<u>.011</u>
<u>30</u>	<u>1.20</u>	<u>.100</u>	<u>.19</u>	<u>.016</u>
<u>40</u>	<u>1.34</u>	<u>.112</u>	<u>.14</u>	<u>.011</u>
<u>50</u>	<u>1.44</u>	<u>.120</u>	<u>.10</u>	<u>.009</u>
<u>60</u>	<u>1.53</u>	<u>.127</u>	<u>.08</u>	<u>.007</u>
<u>70</u>	<u>1.57</u>	<u>.131</u>	<u>.04</u>	<u>.004</u>
<u>80</u>	<u>1.61</u>	<u>.134</u>	<u>.04</u>	<u>.003</u>
<u>90</u>	<u>1.65</u>	<u>.137</u>	<u>.04</u>	<u>.003</u>
<u>100</u>	<u>1.68</u>	<u>.140</u>	<u>.03</u>	<u>.003</u>
<u>110</u>	<u>1.71</u>	<u>.142</u>	<u>.03</u>	<u>.003</u>
<u>120</u>	<u>1.74</u>	<u>.145</u>	<u>.03</u>	<u>.002</u>
<b><u>10-Year, 2-Hour Storm</u></b>				
<u>5</u>	<u>.60 .56</u>	<u>.05 .047</u>	<u>.60 .56</u>	<u>.05 .047</u>
<u>10</u>	<u>.99 .91</u>	<u>.083 .076</u>	<u>.39 .34</u>	<u>.032 .029</u>
<u>15</u>	<u>1.28 1.15</u>	<u>.107 .096</u>	<u>.29 .25</u>	<u>.024 .020</u>
<u>20</u>	<u>1.52 1.34</u>	<u>.127 .112</u>	<u>.24 .19</u>	<u>.020 .016</u>
<u>30</u>	<u>1.85 1.63</u>	<u>.154 .136</u>	<u>.33 .29</u>	<u>.027 .024</u>
<u>40</u>	<u>2.11 1.84</u>	<u>.176 .154</u>	<u>.26 .21</u>	<u>.022 .018</u>
<u>50</u>	<u>2.33 2.01</u>	<u>.194 .168</u>	<u>.22 .17</u>	<u>.018 .014</u>
<u>60</u>	<u>2.50 2.16</u>	<u>.208 .180</u>	<u>.17 .14</u>	<u>.014 .012</u>
<u>70</u>	<u>2.62 2.24</u>	<u>.218 .187</u>	<u>.12 .08</u>	<u>.010 .007</u>
<u>80</u>	<u>2.72 2.32</u>	<u>.226 .193</u>	<u>.10 .08</u>	<u>.008 .006</u>

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

1

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

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

2

3 **Amend §6-1600 (Design and Construction of Dams and Impoundments), subsection 6-1603**  
4 **(Hydrologic Design Criteria for Dams Regulated by the County), by revising paragraph 6-**  
5 **1603.1A to read as follows:**

6

7 6-1603.1A The SDF shall be determined based on a spillway design storm determined from  
8 Plates 46-6, ~~and 47A-6, and 47B-6.~~ The spillway design storm total rainfall amount shall also be  
9 determined from Plate 46-6. The minimum storm duration shall be 24-hour. A storm hyetograph  
10 shall be constructed using the ~~NRSC NOAA C~~, 24-hour duration, ~~Type II~~ rainfall distribution  
11 shown in Plates 47A-6, ~~47B6~~, and 48-6. Once the spillway design storm hyetograph is  
12 constructed, the SDF hydrograph shall be determined using standard NRCS unit hydrograph  
13 techniques.

14

**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:**

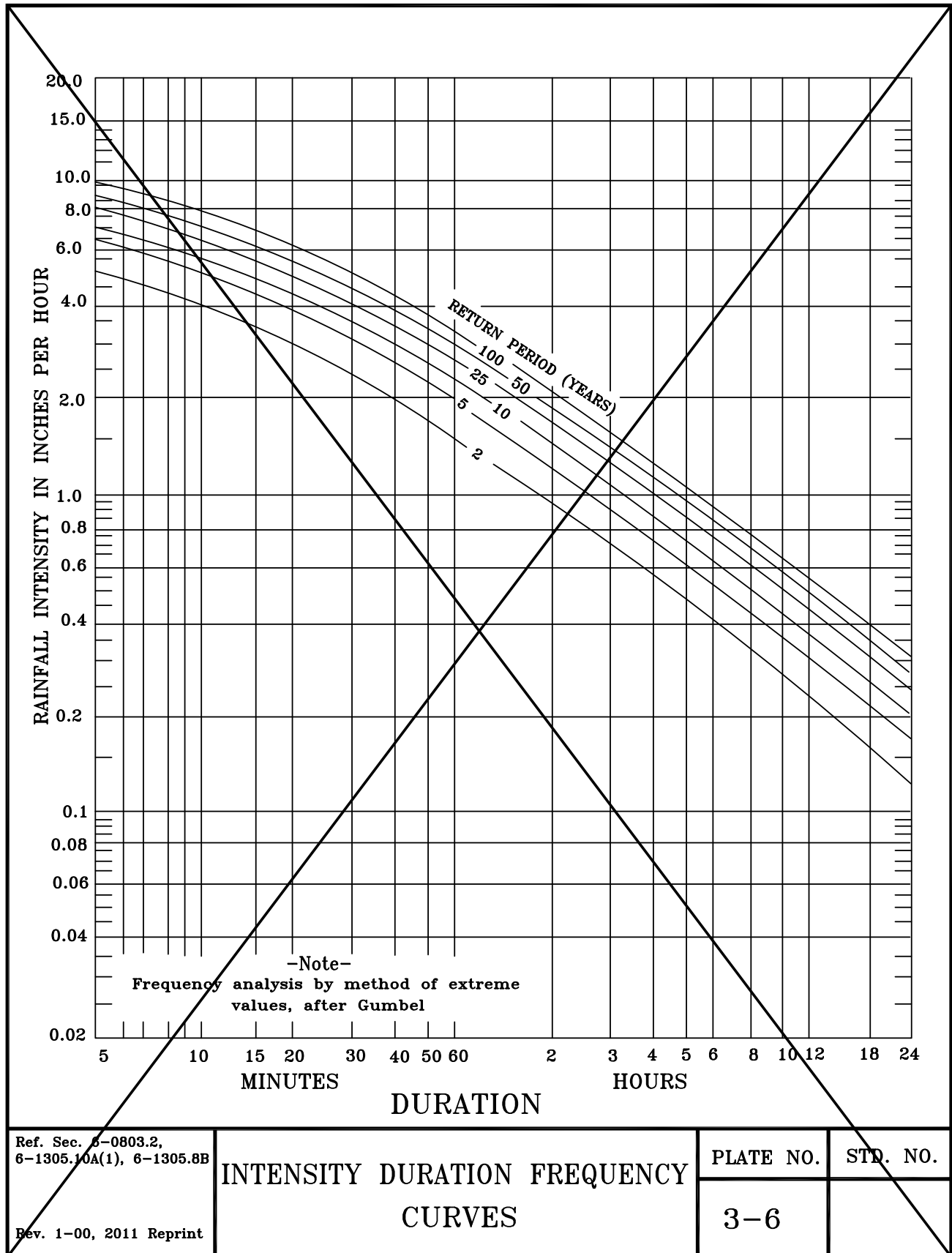
**Amend Chapter 6 (Storm Drainage) by deleting plates 39-6 (Mass Diagram), 40-6 (Unit Inflow Hydrograph – 10-Year – 2-Hour Storm – 1 Impervious Acre), and 41-6 (Unit Hydrograph per Impervious Acre 100-Year Frequency Storm):**

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

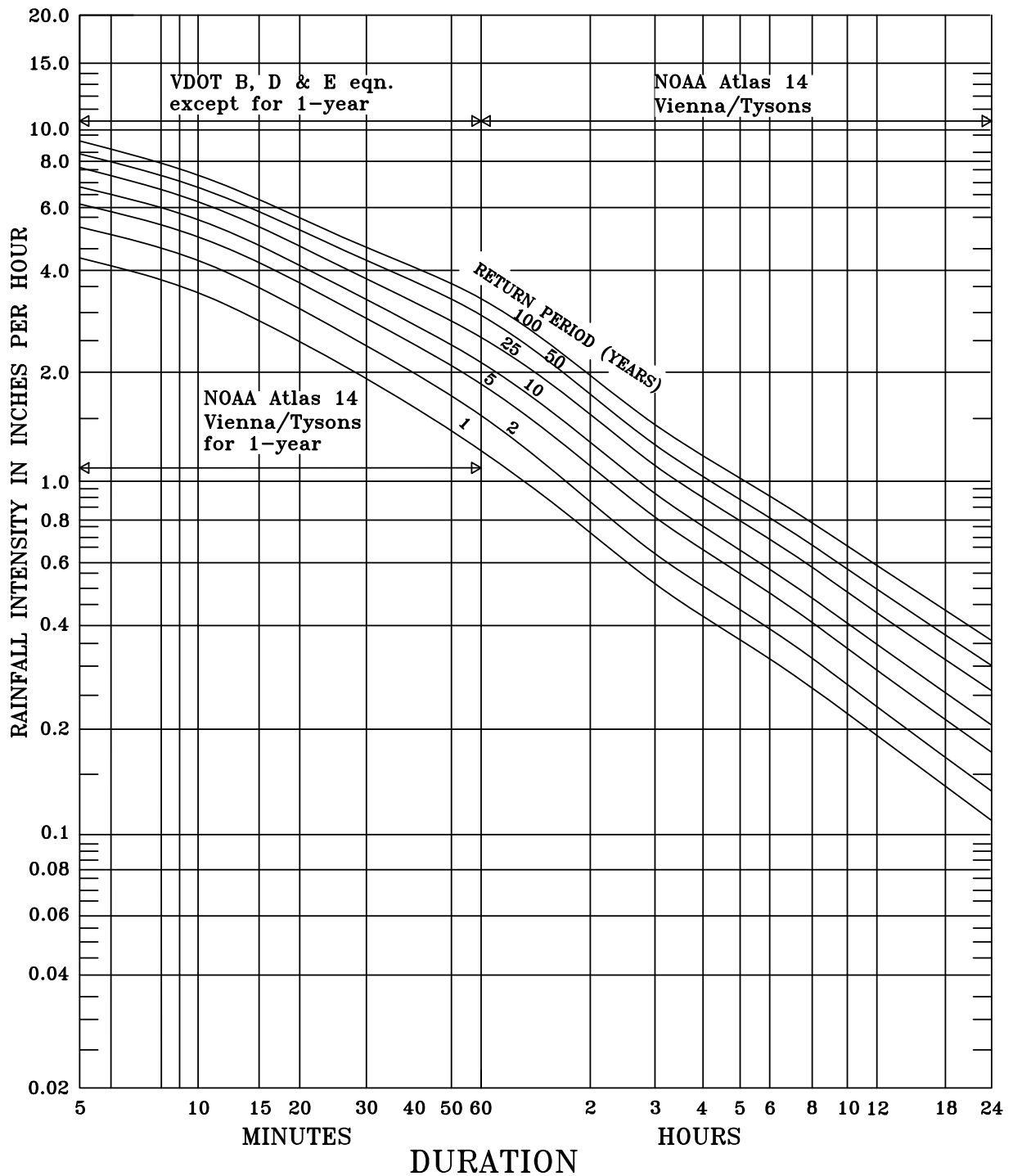
**Amend Chapter 6 (Storm Drainage) by deleting existing Plate No. 47-6 (County 100 Year, 24 Hour Rainfall Distribution) and replacing it with new Plate No. 47A-6 (24 Hour Rainfall Distribution) and Plate 47B-6 (24 Hour Rainfall Distribution):**

**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)):**

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Ref. Sec. 6-0803.2

## INTENSITY DURATION FREQUENCY CURVES

PLATE NO.

STD. NO.

3A-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

## XJinfJZZ Mnt\_nsity □in/Q]%

F]_['_nWy	1-y_J]	2-y_J]	5-y_J]	10-y_J]	25-y_J]	50-y_J]	100-y_J]
;']Jtion							
5 min't_s	4.26	5.23	6.06	6.77	7.6?	8.3?	?10
10 min't_s	3.40	4.1?	4.8?	5.45	6.15	6.76	7.28
15 min't_s	2.83	3.51	4.13	4.62	5.22	5.77	6.22
30 min't_s	1.?4	2.41	2.88	3.26	3.73	4.20	4.57
1 Qo']	1.21	1.53	1.87	2.16	2.54	2.?3	3.25
2 Qo']s	0.711	0.868	1.10	1.28	1.54	1.75	1.?7
3 Qo']s	0.507	0.617	0.783	0.?15	1.10	1.26	1.43
6 Qo']s	0.312	0.37?	0.47?	0.560	0.682	0.785	0.8?7
12 Qo']s	0.18?	0.228	0.28?	0.342	0.421	0.4?1	0.56?
24 Qo']s	0.10?	0.132	0.170	0.203	0.254	0.2??	0.351

### NOTHS:

1. V;OT \_['Jtions □FJ]fJx Co'nty B' ; ! H -JZ' \_s% w \_] \_'s\_Y to g\_n\_]Jt \_]JinfJZZ int\_nsiti\_s fo] sto]m Y']Jtions fJom 5 min't\_s to 1 Qo'] fo] tQ\_ 2'5' 10' 25' 50 ! 100-y\_J] sto]ms.
2. NOAA AtZIs 14 YJtJ fo] tQ\_ Vi\_nnJ/Tysons stJtion wJs 's\_Y fo] sto]m Y']Jtions g\_]\_Jt\_] tQJn 1 Qo'].
3. NOAA AtZIs 14 YJtJ fo] tQ\_ Vi\_nnJ/Tysons stJtion wJs 's\_Y fo] tQ\_ 1-y] sto]m. V;OT n\_-\_] p\_]fo]m\_Y J ]\_g\_]ssion JnJZysis of tQ\_ NOAA AtZIs 14 YJtJ fo] tQ\_ 1-y\_J] sto]m.
4. TQ\_ V;OT \_['Jtions JZtQo'gQ Y\_- \_Zop\_Y fJom J ]\_g\_]ssion JnJZysis of NOAA AtZIs 14 YJtJ wiZZ not yi\_ZY \_xJWZy tQ\_ sJm\_-JZ'\_s Js tQ\_ p'KZisQ\_Y NOAA AtZIs 14 YJtJ fo] tQ\_ 5' 10' 15' 30 ! 60-min't\_Y']Jtions K\_WJ's\_ of tQ\_ W']\_- fitting p]oW\_ss.

Ref. Sec. 6-0803.2

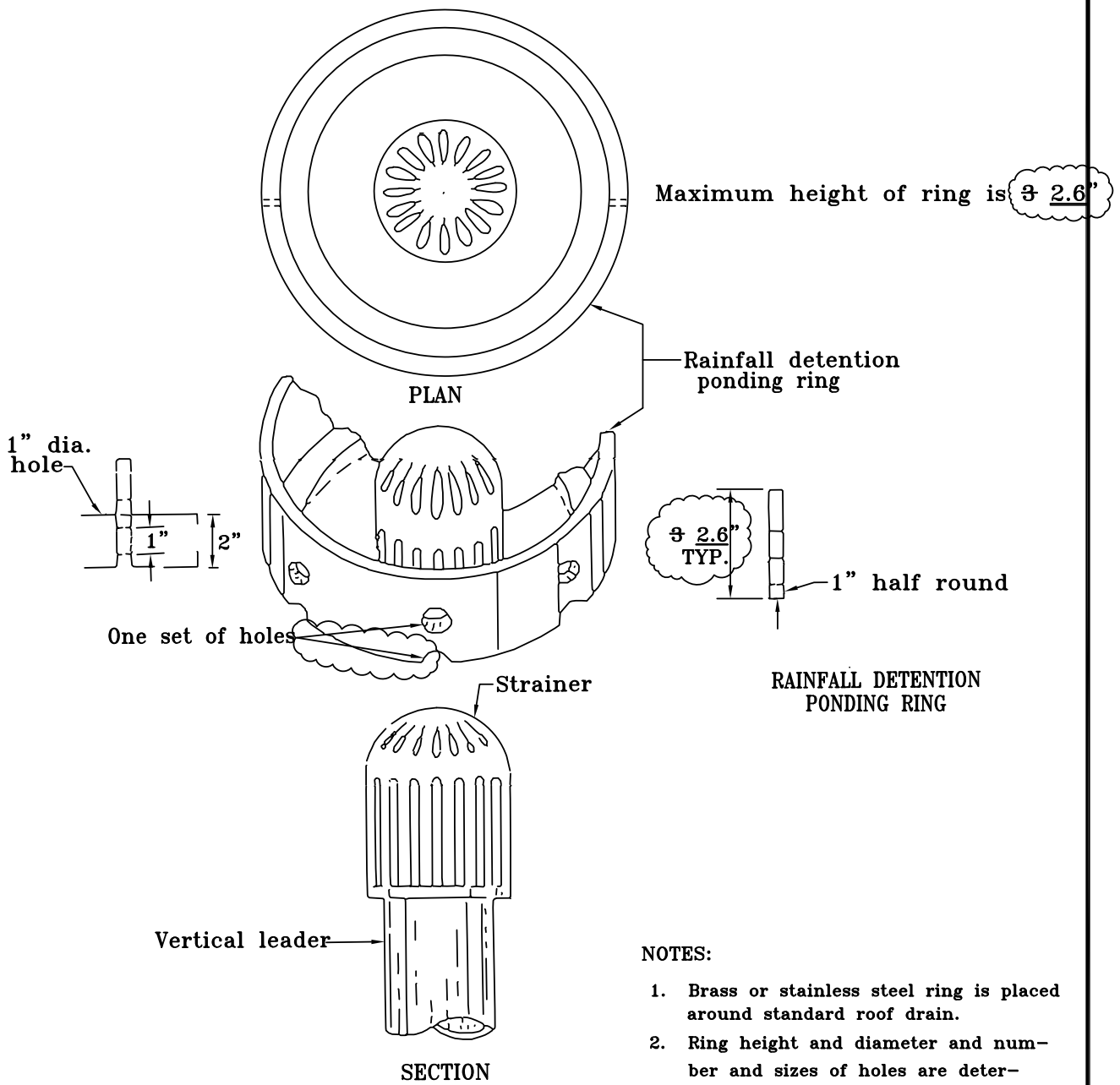
## INTENSITY DURATION FREQUENCY VALUES

PLATE NO.

STD. NO.

3B-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



## 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

## TYPICAL RAINFALL PONDING RING SECTIONS

PLATE NO.

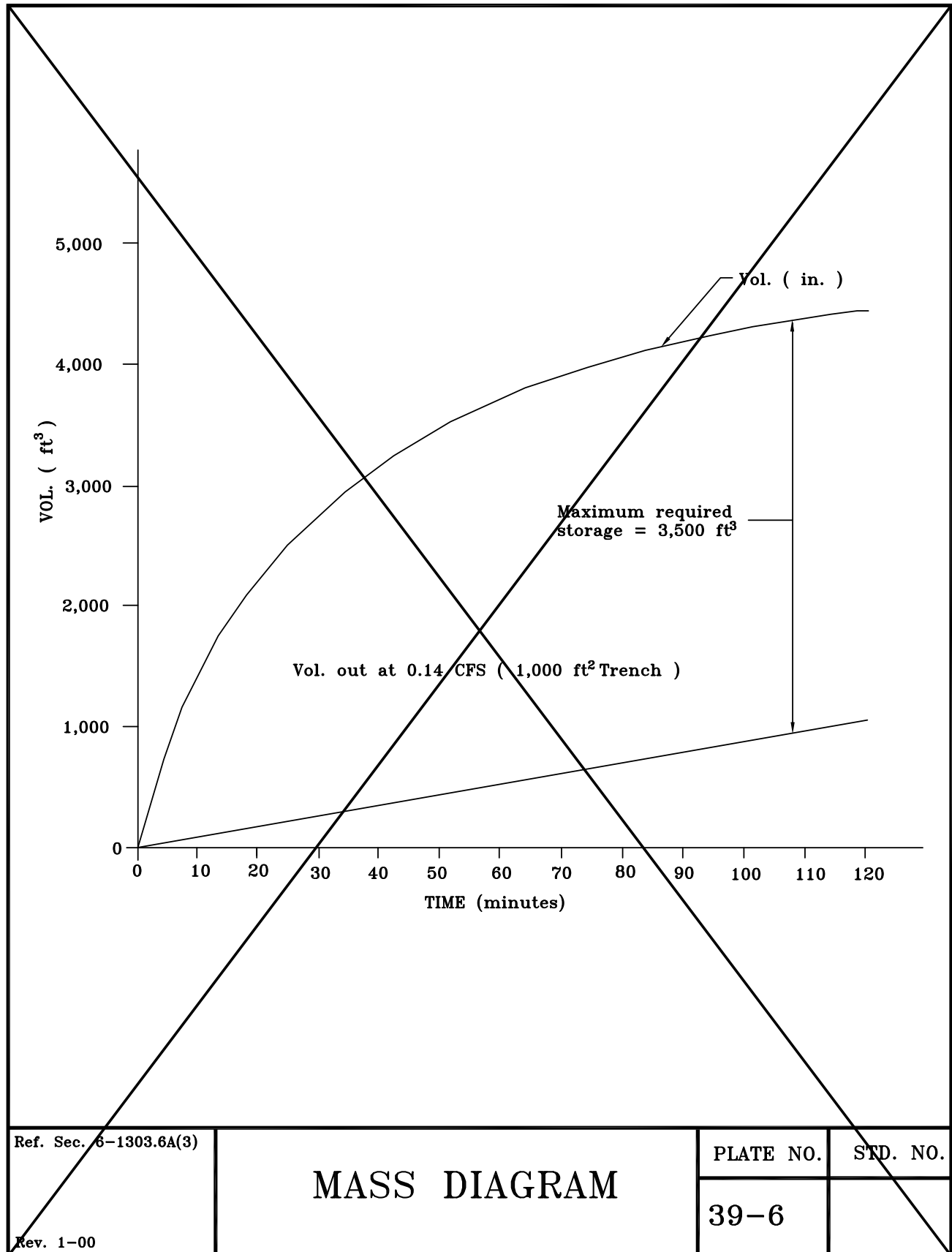
STD. NO.

38-6

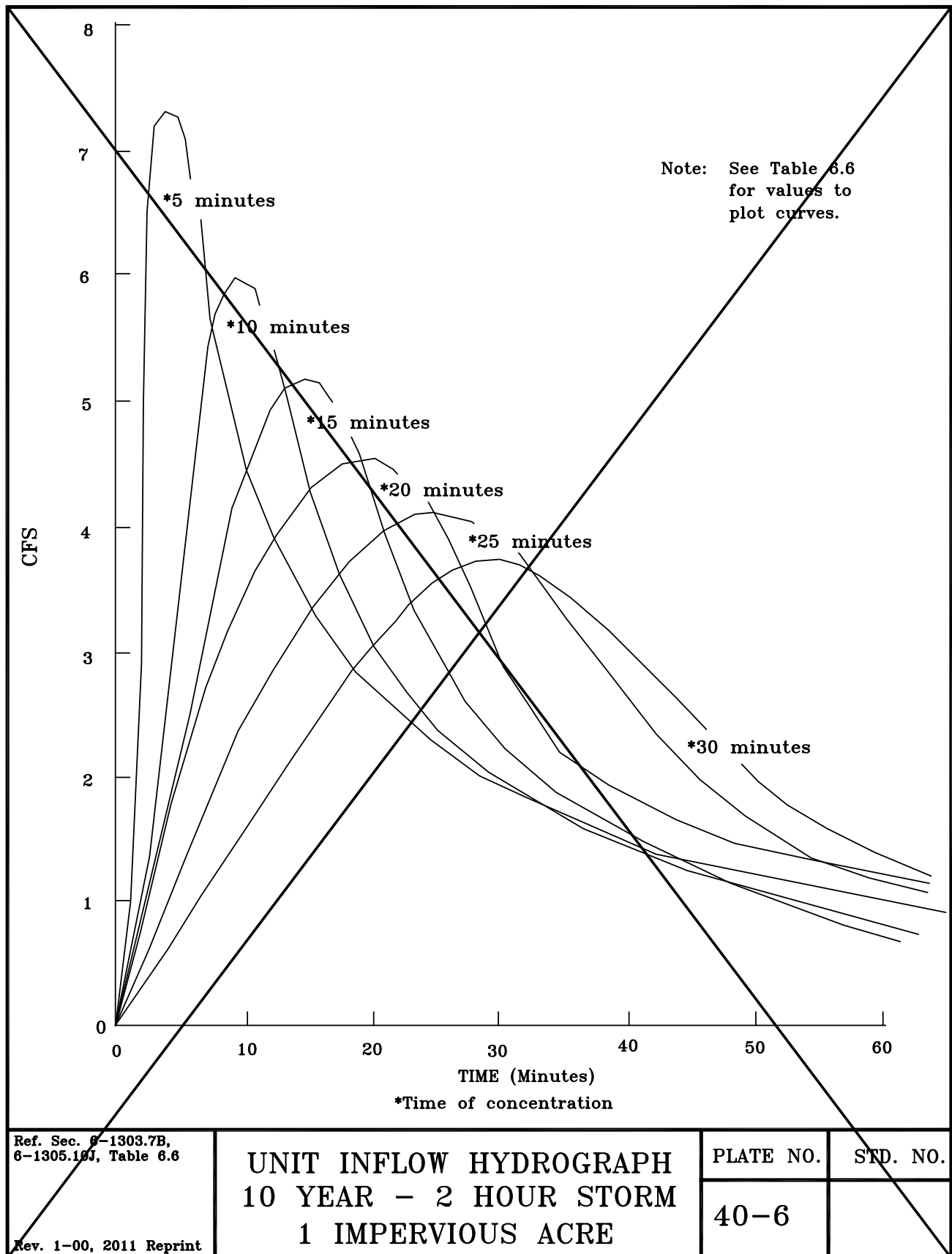
Rev. 1-00, 2011 Reprint



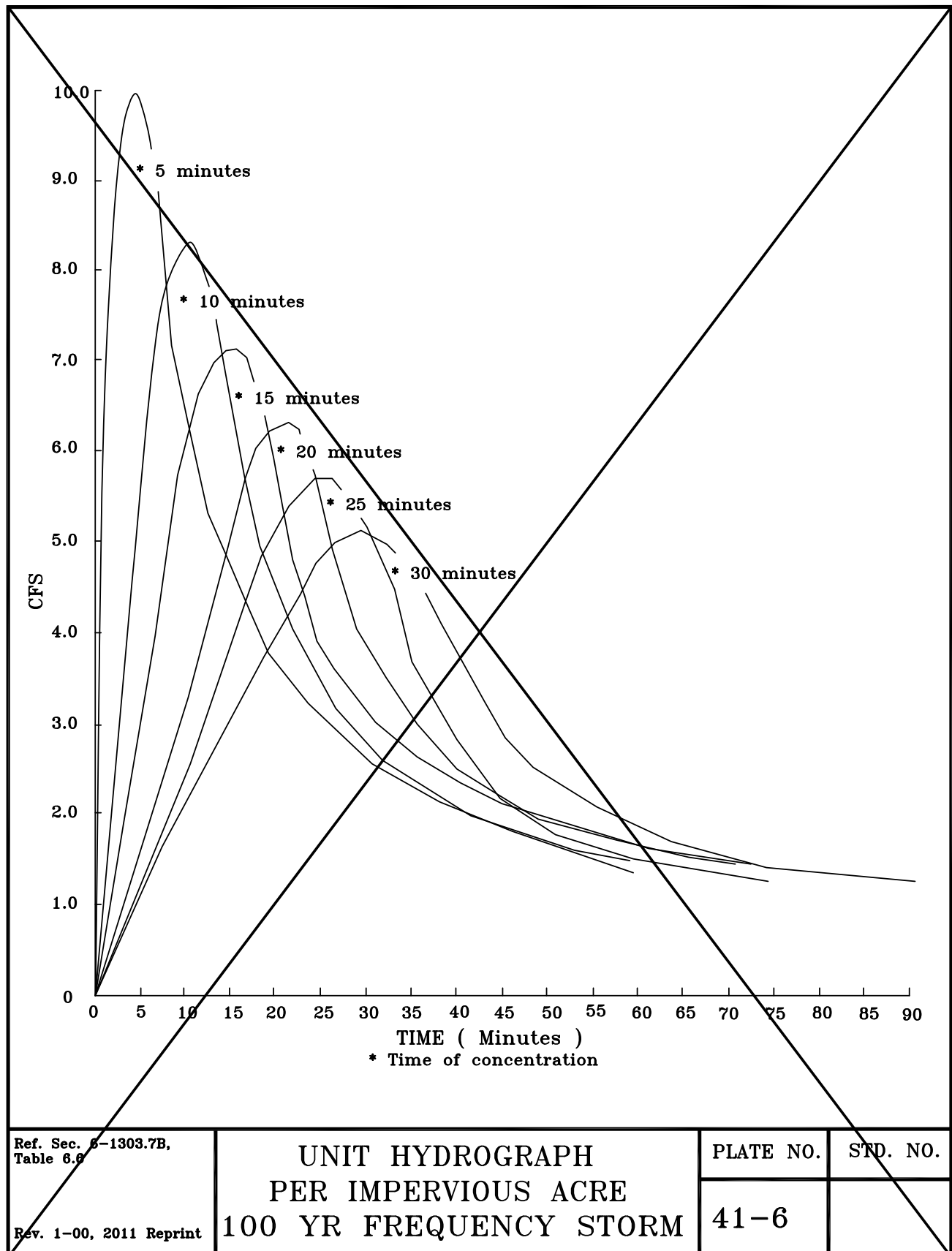
# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



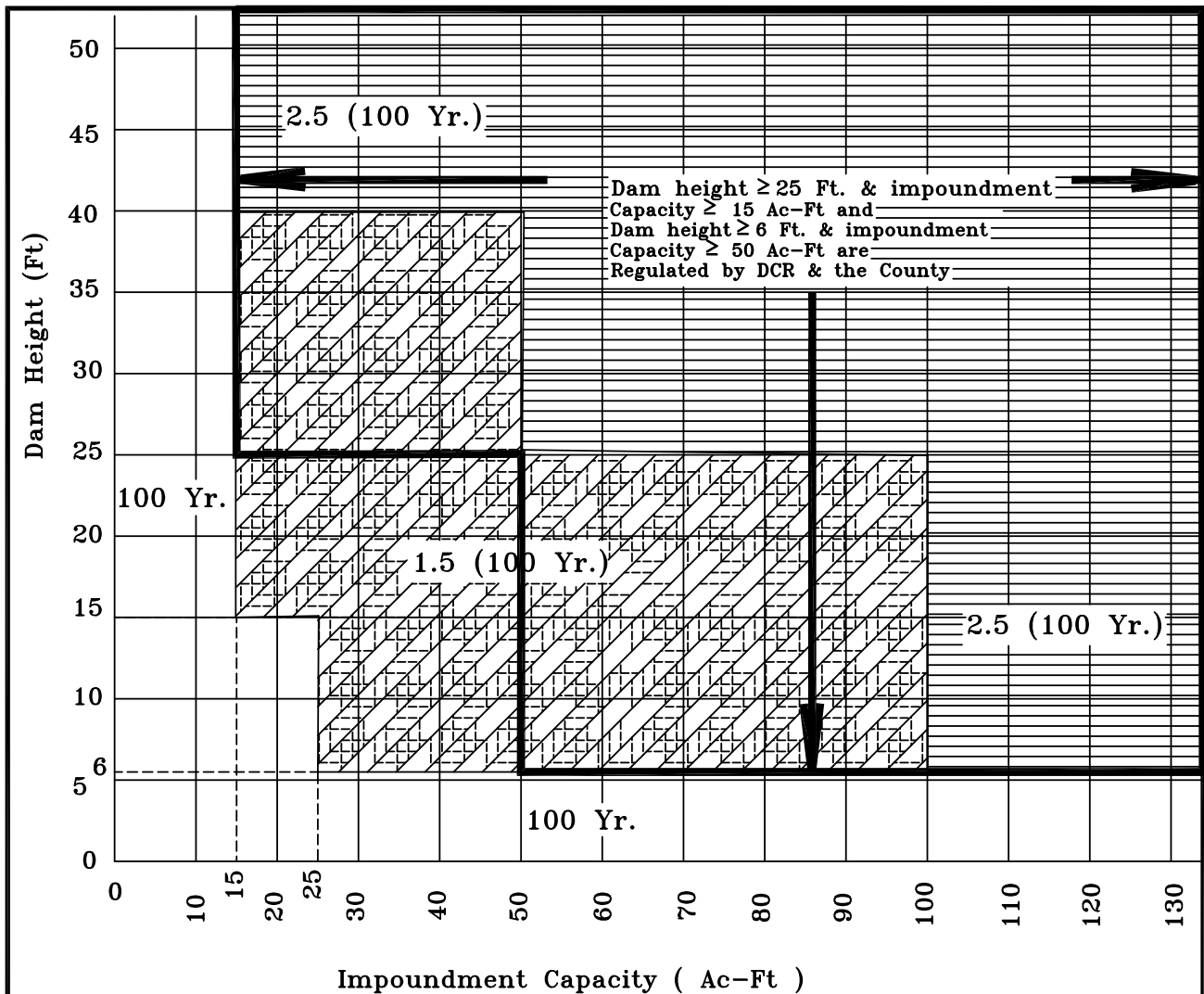
# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



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

Rev. 1-00, 1-04, 2011  
Reprint

## 24 HOUR DESIGN STORM CHART FOR SPILLWAY DESIGN FLOOD (SDF)

PLATE NO.

STD. NO.

46-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

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,  
6-1603.2A

Rev. 1-00, 2011  
Reprint

## COUNTY 100 YEAR, 24 HOUR RAINFALL DISTRIBUTION

PLATE NO.

STD. NO.

47-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

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

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

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

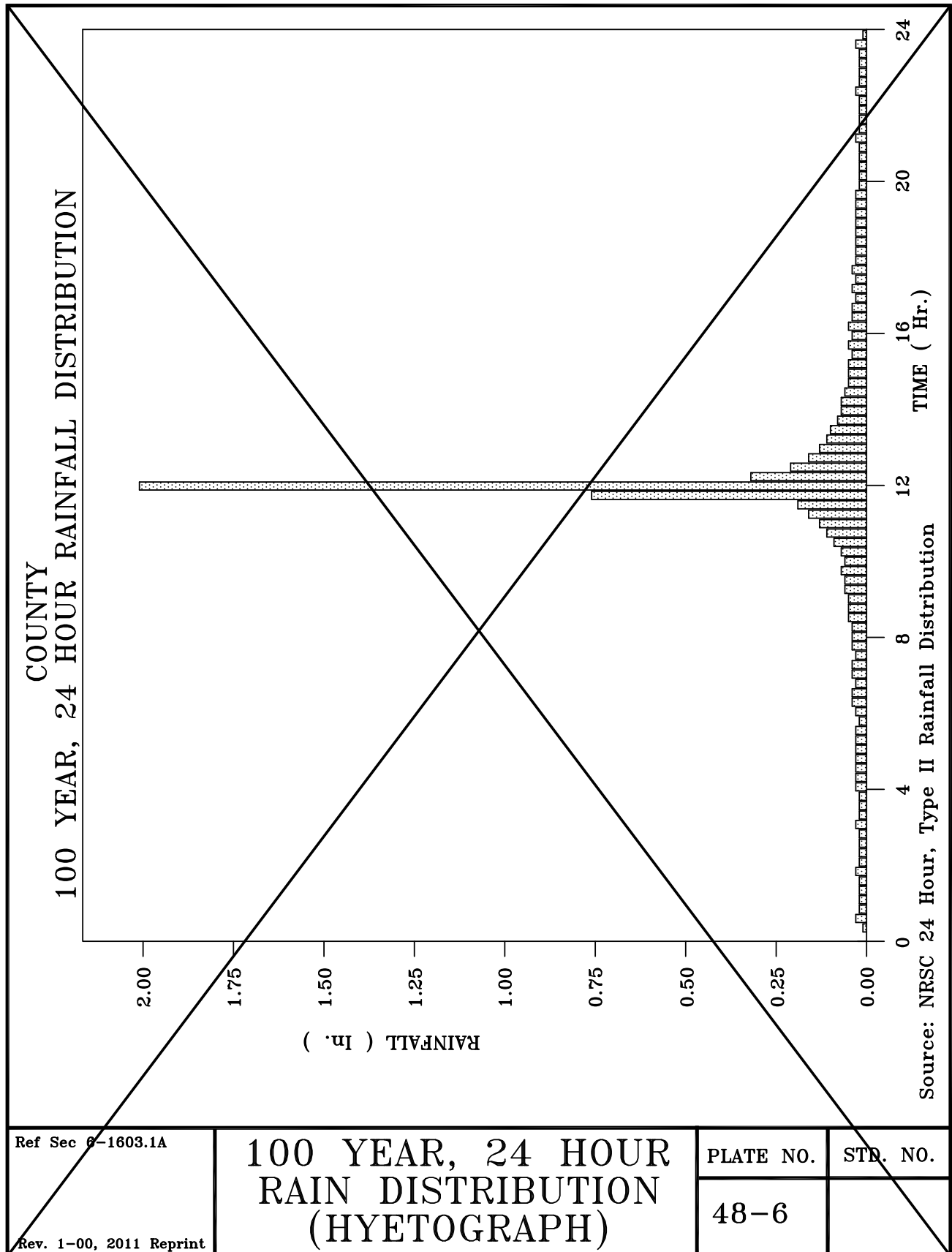
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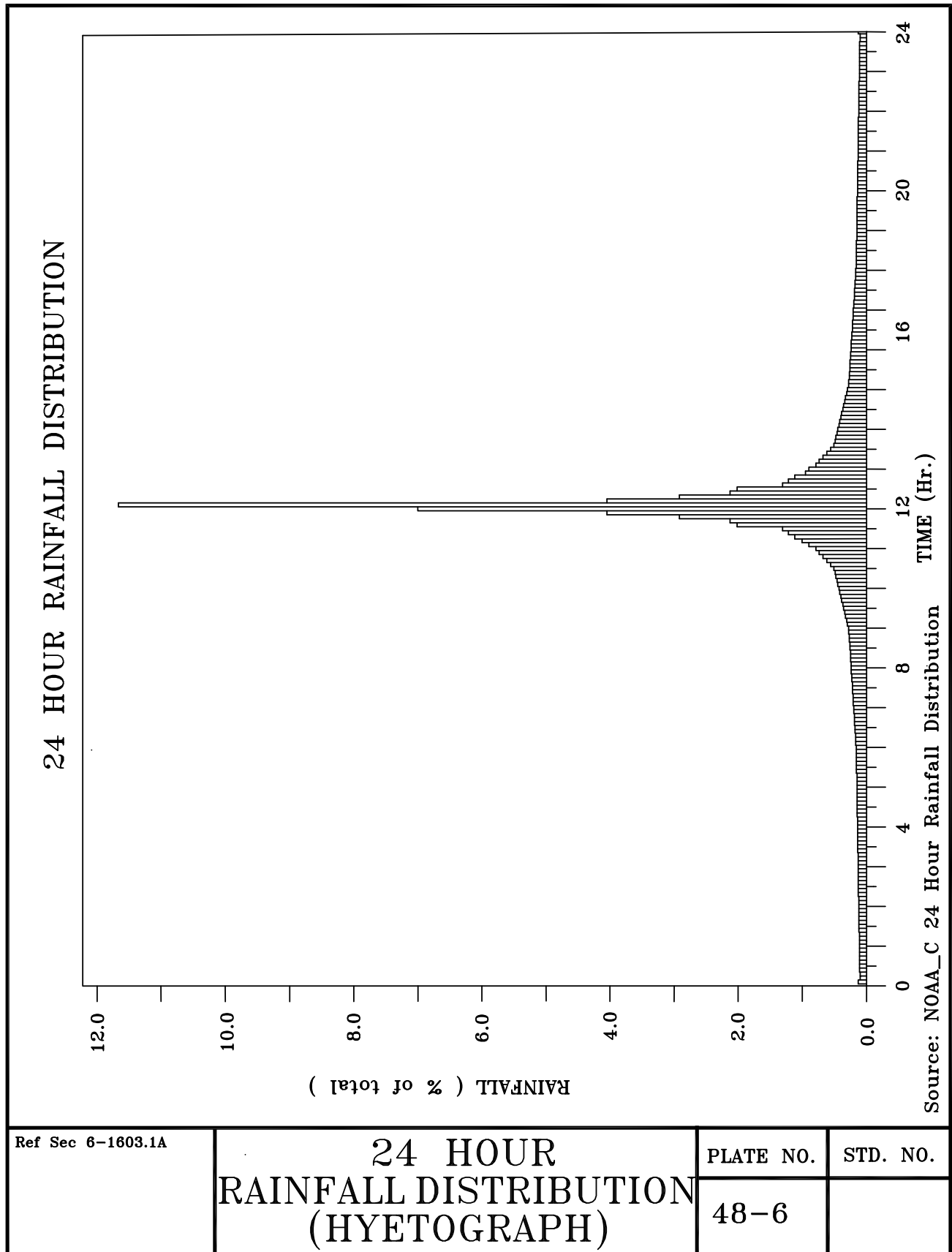
47B-6

# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL





# FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



**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

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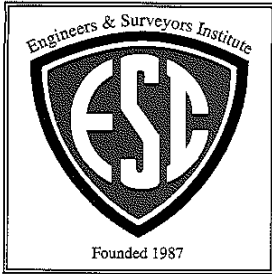
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# Engineers & Surveyors Institute

*"A public/private partnership"*

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September 8, 2015

**Received**

**SEP 29 2015**

**Land Development Services  
Division Office**

Hon. Sharon Bulova, Chairman  
Fairfax County Board of Supervisors  
12000 Government Center Parkway  
Fairfax, VA 22035

Dear Chairman Bulova:

The following named individual, was approved by the Advisory Plans Examiner Board for recommendation as Designated Plans Examiners:

Name	Reg. No.
Alex Blake Holleman	#312

He has been found to meet the qualifications outlined in Chapter 117-1-2 of the Code of Fairfax County and is in accordance with the criteria adopted by the Fairfax County Board of Supervisors on February 11, 1991.

Sincerely,

James H. Scanlon, P.E., L.S.

Chairman

Fairfax County Advisory Plans Examiner Board

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

<b>FAIRFAX COUNTY BOARD OF SUPERVISORS FAIRFAX, VA</b>  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.		<b>VIRGINIA DEPARTMENT OF TRANSPORTATION - OFFICE OF THE ENGINEERING MANAGER, FAIRFAX, VIRGINIA</b>  REQUEST TO THE ENGINEERING MANAGER, FOR INCLUSION OF CERTAIN SUBDIVISION STREETS INTO THE STATE OF VIRGINIA SECONDARY ROAD SYSTEM.  <b>PLAN NUMBER:</b> 6848-SP-008 <b>SUBDIVISION PLAT NAME:</b> Dulles Station at Dulles Corner (Sayward Boulevard) <b>COUNTY MAGISTERIAL DISTRICT:</b> Dranesville	
<b>ENGINEERING MANAGER:</b> Imad A. Salous, P.E. <b>BY:</b> <u>Nadia Alphonse</u>		<b>FOR OFFICIAL USE ONLY</b>  <b>DATE OF VDOT INSPECTION APPROVAL:</b> <u>09/11/2015</u>	

STREET NAME	LOCATION		LENGTH MILE
	FROM	TO	
Sayward Boulevard	CL Sunrise Valley Drive (Route 5320) - 2,626' NE CL Coppermine Road (Route 665)	956' SE to CL Carta Way	0.18
Sunrise Valley Drive (Route 5320) (Supplemental Right-of-Way Only)	2,349' NE CL Coppermine Road (Route 665)	376' NE to End of Dedication	0.0
<b>NOTES:</b>			<b>TOTALS:</b> 0.18
Sayward Boulevard: 5' Concrete Sidewalk; North Side to be maintained by Fairfax County; South Side to be maintained by VDOT.			
Sunrise Valley Drive: 8' Asphalt Trail on East Side to be maintained by Fairfax County.			



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

<b>FAIRFAX COUNTY BOARD OF SUPERVISORS</b> <b>FAIRFAX, VA</b> 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.		<b>VIRGINIA DEPARTMENT OF TRANSPORTATION - OFFICE OF THE ENGINEERING MANAGER, FAIRFAX, VIRGINIA</b> REQUEST TO THE ENGINEERING MANAGER, FOR INCLUSION OF CERTAIN SUBDIVISION STREETS INTO THE STATE OF VIRGINIA SECONDARY ROAD SYSTEM.	
		<b>PLAN NUMBER:</b> 5544-SP-011	
		<b>SUBDIVISION PLAT NAME:</b> Willow Oaks Corporate Center (Willow Oaks Corporate Drive)	
		<b>COUNTY MAGISTERIAL DISTRICT:</b> Providence	
<b>ENGINEERING MANAGER:</b> Imad A. Salous, P.E. <b>BY:</b> <u>Nadia Alphonse</u>		<b>FOR OFFICIAL USE ONLY</b> <b>DATE OF VDOT INSPECTION APPROVAL:</b> <u>08/27/2015</u>	
STREET NAME	LOCATION		LENGTH MILE
	FROM	TO	
Willow Oaks Corporate Drive	CL Williams Drive (Route 5162) - 353' N CL Pennell Street (Route 6485)	722' E to Existing Willow Oaks Corporate Drive - 1,390' NW CL Gallows Road (Route 650)	0.14
Willow Oaks Corporate Drive (Route 8200) (Supplemental Right-of-Way Only)	1,290' NW CL Gallows Road (Route 650)	100' W to End of Dedication	0.0
Williams Drive (Route 5162) (Supplemental Right-of-Way Only)	431' S CL Arlington Boulevard (Route 50)	451' S to End of Dedication	0.0
<b>NOTES:</b>			<b>TOTALS:</b>
Willow Oaks Corporate Drive: 6' Concrete Sidewalk on South Side to be maintained by VDOT.			0.14
Williams Drive: 5' Concrete Sidewalk on East Side to be maintained by Fairfax County.			

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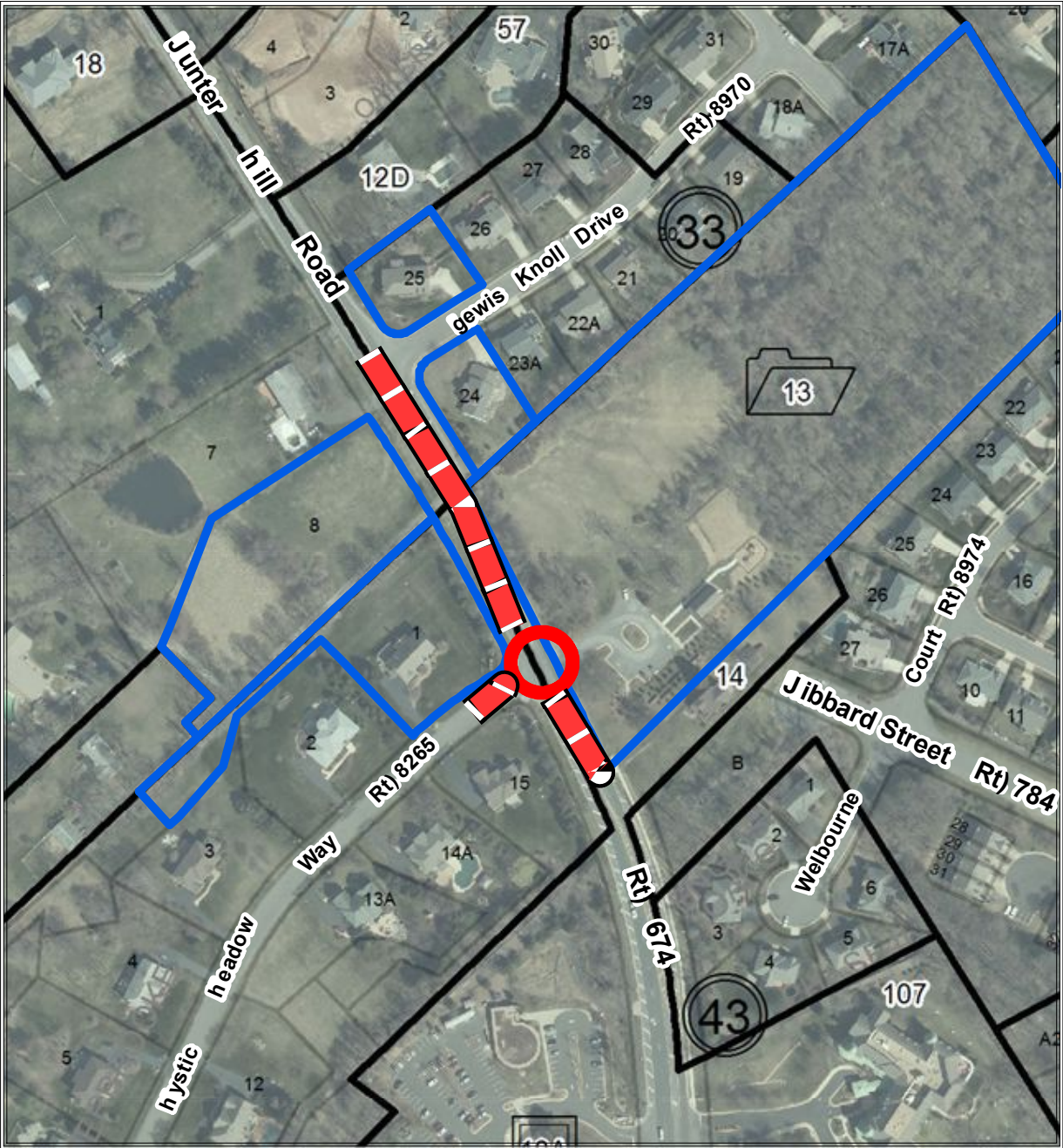
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## Attachment 1: Virginia Code pertaining to Election Precincts and Polling Places

**§ 24.2-305. Composition of election districts and precincts.**

A. Each election district and precinct shall be composed of compact and contiguous territory and shall have clearly defined and clearly observable boundaries.

B. A "clearly observable boundary" shall include (i) any named road or street, (ii) any road or highway which is a part of the federal, state primary, or state secondary road system, (iii) any river, stream, or drainage feature shown as a polygon boundary on the TIGER/line files of the United States Bureau of the Census, or (iv) any other natural or constructed or erected permanent physical feature which is shown on an official map issued by the Virginia Department of Transportation, on a United States Geological Survey topographical map, or as a polygon boundary on the TIGER/line files of the United States Bureau of the Census. No property line or subdivision boundary shall be deemed to be a clearly observable boundary unless it is marked by a permanent physical feature that is shown on an official map issued by the Virginia Department of Transportation, on a United States Geological Survey topographical map, or as a polygon boundary on the TIGER/line files of the United States Bureau of the Census.

(1986, c. 593, § 24.1-40.7; 1990, c. 500; 1992, c. 425; 1993, c. 641; 2001, c. [614](#).)

**§ 24.2-307. Requirements for county and city precincts.**

The governing body of each county and city shall establish by ordinance as many precincts as it deems necessary. Each governing body is authorized to increase or decrease the number of precincts and alter precinct boundaries subject to the requirements of this chapter.

At the time any precinct is established, it shall have no more than 5,000 registered voters. The general registrar shall notify the governing body whenever the number of voters who voted in a precinct in an election for President of the United States exceeds 4,000. Within six months of receiving the notice, the governing body shall proceed to revise the precinct boundaries, and any newly established or redrawn precinct shall have no more than 5,000 registered voters.

At the time any precinct is established, each precinct in a county shall have no fewer than 100 registered voters and each precinct in a city shall have no fewer than 500 registered voters.

Each precinct shall be wholly contained within any election district used for the election of one or more members of the governing body or school board for the county or city.

The governing body shall establish by ordinance one polling place for each precinct.

(Code 1950, §§ 24-45, 24-46; 1954, c. 375; 1956, c. 378; 1962, cc. 185, 536; 1970, c. 462, §§ 24.1-36, 24.1-37; 1971, Ex. Sess., c. 119; 1976, c. 616; 1977, c. 30; 1978, c. 778; 1980, c. 639; 1992, c. 445; 1993, c. 641; 1999, c. [515](#).)

**§ 24.2-310. Requirements for polling places.**

A. The polling place for each precinct shall be located within the county or city and either within the precinct or within one mile of the precinct boundary. The polling place for a county precinct may be located within a city (i) if the city is wholly contained within the county election district served by the precinct or (ii) if the city is wholly contained within the county and the polling place is located on property owned by the county. The polling place for a town precinct may be located within one mile of the precinct and town boundary. For town elections held in November, the town shall use the polling places established by the county for its elections.

B. The governing body of each county, city, and town shall provide funds to enable the electoral board to provide adequate facilities at each polling place for the conduct of elections. Each polling place shall be located in a public building whenever practicable. If more than one polling place is located in the same building, each polling place shall be located in a separate room or separate and defined space.

C. Polling places shall be accessible to qualified voters as required by the provisions of the Virginians with Disabilities Act (§ [51.5-1](#) et seq.), the Voting Accessibility for the Elderly and Handicapped Act (42 U.S.C. § 1973ee et seq.), and the Americans with Disabilities Act relating to public services (42 U.S.C. § 12131 et seq.). The State Board shall provide instructions to the local electoral boards and general registrars to assist the localities in complying with the requirements of the Acts.

D. If an emergency makes a polling place unusable or inaccessible, the electoral board shall provide an alternative polling place and give notice of the change in polling place, including to all candidates, or such candidate's campaign, appearing on the ballot to be voted at the alternative polling place, subject to the prior approval of the State Board. The electoral board shall provide notice to the voters appropriate to the circumstances of the emergency. For the purposes of this subsection, an "emergency" means a rare and unforeseen combination of circumstances, or the resulting state, that calls for immediate action.

E. It shall be permissible to distribute campaign materials on the election day on the property on which a polling place is located and outside of the building containing the room where the election is conducted except as specifically prohibited by law including, without limitation, the prohibitions of § [24.2-604](#) and the establishment of the "Prohibited Area" within 40 feet of any entrance to the polling place. However, and notwithstanding the provisions of clause (i) of subsection A of § [24.2-604](#), and upon the approval of the local electoral board, campaign materials may be distributed outside the polling place and inside the structure where the election is conducted, provided that the "Prohibited Area" (i) includes the area within the structure that is beyond 40 feet of any entrance to the polling place and the area within the structure that is within 40 feet of any entrance to the room where the election is conducted and (ii) is maintained and enforced as provided in § [24.2-604](#). The local electoral board may approve campaigning activities inside the building where the election is conducted when an entrance to the building is from an adjoining building, or if establishing the 40-foot prohibited area outside the polling place would hinder or delay a qualified voter from entering or leaving the building.

F. Any local government, local electoral board, or the State Board may make monetary grants to any non-governmental entity furnishing facilities under the provisions of § [24.2-307](#) or [24.2-308](#) for use as a polling place. Such grants shall be made for the sole purpose of meeting the accessibility requirements of this section. Nothing in this subsection shall be construed to obligate any local government, local electoral board, or the State Board to appropriate funds to any non-governmental entity.

(Code 1950, §§ 24-45, 24-46, 24-171, 24-179 through 24-181; 1954, c. 375; 1956, c. 378; 1962, cc. 185, 536; 1970, c. 462, §§ 24.1-36, 24.1-37, 24.1-92, 24.1-97; 1971, Ex. Sess., c. 119; 1976, c. 616; 1977, c. 30; 1978, c. 778; 1980, c. 639; 1981, c. 425; 1984, c. 217; 1985, c. 197; 1986, c. 558; 1992, c. 445; 1993, cc. 546, 641; 1994, c. [307](#); 2003, c. [1015](#); 2004, c. [25](#); 2005, c. [340](#); 2008, cc. [113](#), [394](#); 2010, cc. [639](#), [707](#); 2012, cc. [488](#), [759](#).)

#### **§ 24.2-310.1. Polling places; additional requirement.**

The requirement stated in this section shall be in addition to requirements stated in §§ [24.2-307](#), [24.2-308](#), and [24.2-310](#), including the requirement that polling places be located in public buildings whenever practical. No polling place shall be located in a building which serves primarily as the headquarters, office, or assembly building for any private organization, other than an organization of a civic, educational, religious, charitable, historical, patriotic, cultural, or similar nature, unless the State Board has approved the use of the building because no other building meeting the accessibility requirements of this title is available.

(1993, c. 904, § 24.1-37.1; 1993, c. 641.)

<b>2016 PROPOSED PRECINCT BOUNDARY and POLLING PLACE CHANGES</b>								
<b>SUPERVISOR DISTRICT</b>	<b>EXISTING PRECINCT(S)</b>	<b>ACTIVE REGISTERED VOTERS*</b>	<b>EXISTING POLLING PLACE(S)</b>	<b>PROPOSED PRECINCT(S)</b>	<b>PROJECTED REGISTERED VOTERS</b>	<b>PROPOSED POLLING PLACE(S)</b>	<b>NOTES ON CHANGES</b>	
HUNTER MILL	ALDRIN NORTH POINT	4,602 4,664	Aldrin Elementary School Armstrong Elementary School	ALDRIN ARMSTRONG NORTHPOINT	2,892 3,376 2,998	Aldrin Elementary School Armstrong Elementary School St. Thomas à Becket Church	Divides 2 precincts to create a new precinct to reduce the number of voters in Aldrin and North Point.	
DRANESVILLE	MCLEAN	2,468	Lewinsville Center	MCLEAN	2,468	Lewinsville Presbyterian Church	Moves the polling place during renovations at the Lewinsville Senior Center and clarifies the precinct description along its boundary with Kirby precinct.	
DRANESVILLE	KIRBY	2,044	McLean High School	KIRBY	2,044	McLean High School	Clarifies the precinct description along its boundary with McLean precinct. Change does not affect voters.	
SPRINGFIELD	FOUNTAINHEAD	4,004	Silverbrook Elementary School	FOUNTAINHEAD	4,004	Christ Church	Moves a polling place to eliminate crowding due to co-located polling places at Silverbrook Elementary.	

\* Registered voters as of October 14, 2015

## Attachment 3: Proposed Descriptions and Maps

Commonwealth of Virginia  
**COUNTY OF FAIRFAX**  
**Hunter Mill District**

**PRECINCT 234:       ALDRIN**

**CONGRESSIONAL DISTRICT:       ELEVENTH**  
**VIRGINIA SENATORIAL DISTRICT:   THIRTY-SECOND**  
**HOUSE OF DELEGATES DISTRICT:   THIRTY-SIXTH**

**DESCRIPTION:**

Beginning at the intersection of Reston Parkway and ~~Leesburg Pike (Route 7)~~, thence with ~~Leesburg Pike~~ Wiehle Avenue, thence with Wiehle Avenue in a southeasterly direction to its intersection with Baron Cameron Avenue, thence with Baron Cameron Avenue in a southwesterly direction to its intersection with Reston Parkway, thence with Reston Parkway in a northeasterly direction to its intersection with Leesburg Pike, point of beginning.

**POLLING PLACE:**               Aldrin Elementary School  
   11375 Center Harbor Road, Reston

**MAP GRIDS:** 11-4, 12-1, 17-2

**NOTES:**               Established March 1996  
                               Precinct description revised and readopted – March 2003  
                               Congressional District changed from 8<sup>th</sup> to 11<sup>th</sup> – January 2012  
                               Precinct divided – December 2015

**Commonwealth of Virginia**  
**COUNTY OF FAIRFAX**  
**Hunter Mill District**

**PRECINCT 233:            NORTH POINT**

**CONGRESSIONAL DISTRICT:            ELEVENTH**  
**VIRGINIA SENATORIAL DISTRICT:    THIRTY-SECOND**  
**HOUSE OF DELEGATES DISTRICT:    THIRTY-SIXTH**

**DESCRIPTION:**

Beginning at the intersection of Sugarland Road and Leesburg Pike (Route 7), thence with Leesburg Pike in a southeasterly direction to its intersection with ~~Reston Parkway~~, ~~thence with Reston Parkway in a southwesterly direction to its intersection with~~ Baron Cameron Avenue, thence with Baron Cameron Avenue in a westerly direction to its intersection with Wiehle Avenue, thence with Wiehle Avenue in a generally northwesterly direction to its intersection ~~the Fairfax County Parkway (Route 286), thence with the Fairfax County Parkway in a northerly direction to its intersection with the Virginia Power Easement,~~ thence with the Virginia Power Easement in a northerly direction to its intersection with ~~Stuart Road at the Virginia Power Substation, thence with Stuart Road and a projection of Stuart Road crossing the Fairfax County Parkway in a northerly direction to its intersection~~ with Shaker Woods Road, thence with Shaker Woods Road in a generally northeasterly direction to its intersection with Sugarland Road, thence with Sugarland Road in a northeasterly direction to its intersection with Leesburg Pike, point of beginning.

**POLLING PLACE:**            ~~Armstrong Elementary School~~  
                                      St. Thomas à Becket Catholic Church  
                                      ~~11900 Lake Newport Road~~ 1421 Wiehle Avenue, Reston

**MAP GRIDS:**    11-1, 11-2, 11-4, 12-1, 12-3

**NOTES:**            Established May 1988  
                                      Boundaries adjusted in 1993 and 1996  
                                      The southern portion of Stuart Road was consumed by construction of the Fairfax County Parkway and the northern portion of Stuart Road was renamed Shaker Woods Road in 2001. Stuart Road and Shaker Woods Road both dead-end on opposite sides of the Fairfax County Parkway.  
                                      Precinct description revised and readopted – March 2003  
                                      Congressional District changed from 8<sup>th</sup> to 11<sup>th</sup> – January 2012  
                                      Precinct divided – December 2015

**Commonwealth of Virginia**  
**COUNTY OF FAIRFAX**  
**Hunter Mill District**

**PRECINCT 201:        ARMSTRONG**

**CONGRESSIONAL DISTRICT:        ELEVENTH**  
**VIRGINIA SENATORIAL DISTRICT:    THIRTY-SECOND**  
**HOUSE OF DELEGATES DISTRICT:   THIRTY-SIXTH**

**DESCRIPTION:**

Beginning at the intersection of Shaker Woods Road and Wiehle Avenue, thence with Wiehle Avenue in a southeasterly direction to its intersection with Reston Parkway, thence with Reston Parkway in a southwesterly direction to its intersection with Baron Cameron Avenue, thence with Baron Cameron Avenue in a westerly direction to its intersection with the Fairfax County Parkway (Route 286), thence with the Fairfax County Parkway in a northerly direction to its intersection with the Virginia Power Easement, thence with the Virginia Power Easement in a northerly direction to its intersection with Stuart Road at the Virginia Power Substation, thence with Stuart Road and a projection of Stuart Road crossing the Fairfax County Parkway in a northerly direction to its intersection with Shaker Woods Road, thence with Shaker Woods Road in a northeasterly direction to its intersection with Wiehle Avenue, point of beginning.

**POLLING PLACE:**                Armstrong Elementary School  
   11900 Lake Newport Road, Reston

**MAP GRIDS:**    11-3, 11-4, 17-1, 17-2

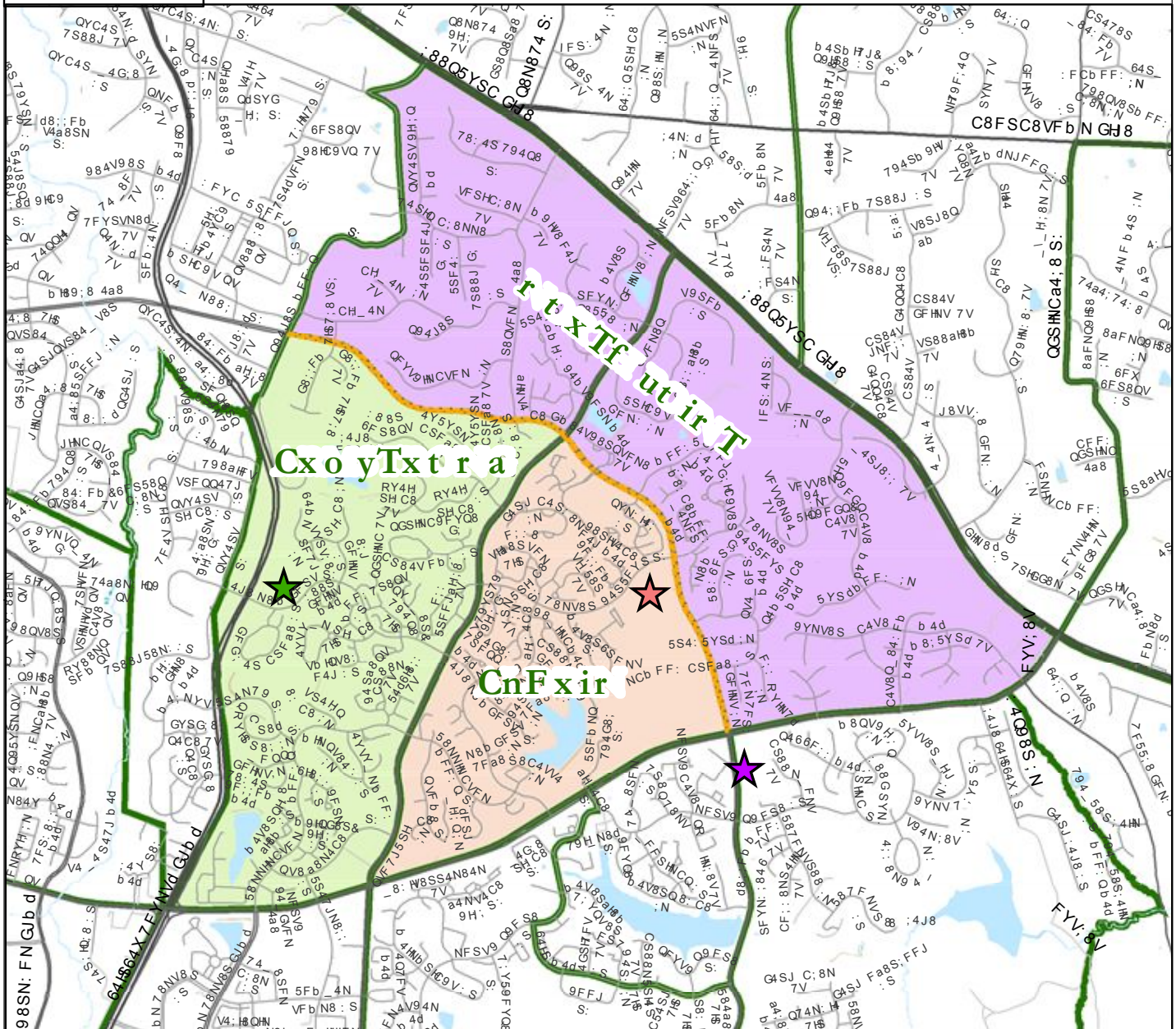
**NOTES:**            Established December 2015





# Commonwealth of Virginia County of Fairfax

## Proposed Precinct Change



**New Proposed Precinct Boundary**

**AHw CSOpOVHG CSHFlnFtV**

**Pre in tb2F1 ARv STRONG**

**Pre in tb234 ALDRIN**

**Pre in tb233 NORTH POINT**

**AHw CSOpOVHG COWhI CMEFHV**

**Armstrong Elementary**

**Aldrin Elementary**

**Saint Thomas a' Be ket**



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Commonwealth of Virginia  
**COUNTY OF FAIRFAX**  
**Dranesville District**

**PRECINCT 314:        MCLEAN**

**CONGRESSIONAL DISTRICT:        TENTH**  
**VIRGINIA SENATORIAL DISTRICT:    THIRTY-SECOND**  
**HOUSE OF DELEGATES DISTRICT:   FORTY-EIGHTH**

**DESCRIPTION:**

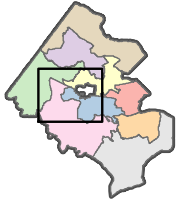
Beginning at the intersection of the Capital Beltway (I-495) and Old Dominion Drive, thence with Old Dominion Drive in a southeasterly direction to its intersection with Chain Bridge Road, thence with Chain Bridge Road in a southwesterly, then westerly direction to its intersection with ~~a projection of Evers Drive~~, thence with ~~this projection and~~ Evers Drive (including an unpaved portion of Evers Drive) in a southeasterly direction to its intersection with an unimproved drainage area (behind the houses fronting on Davis Court, thence with the unimproved drainage area in a southwesterly direction to its intersection with Great Falls Street, thence with Great Falls Street in a southeasterly direction to its intersection with Magarity Road, thence with Magarity Road in a southwesterly direction to its intersection with the Washington Dulles Access and Toll Road, thence with the Washington Dulles Access and Toll Road in a northwesterly direction to its intersection with the Capital Beltway, thence with the Capital Beltway in a northeasterly direction to its intersection with Old Dominion Drive, point of beginning.

**POLLING PLACE:**                ~~Lewinsville Center~~ Lewinsville Presbyterian Church  
   ~~1609 Great Falls Street,~~ 1724 Chain Bridge Road, McLean

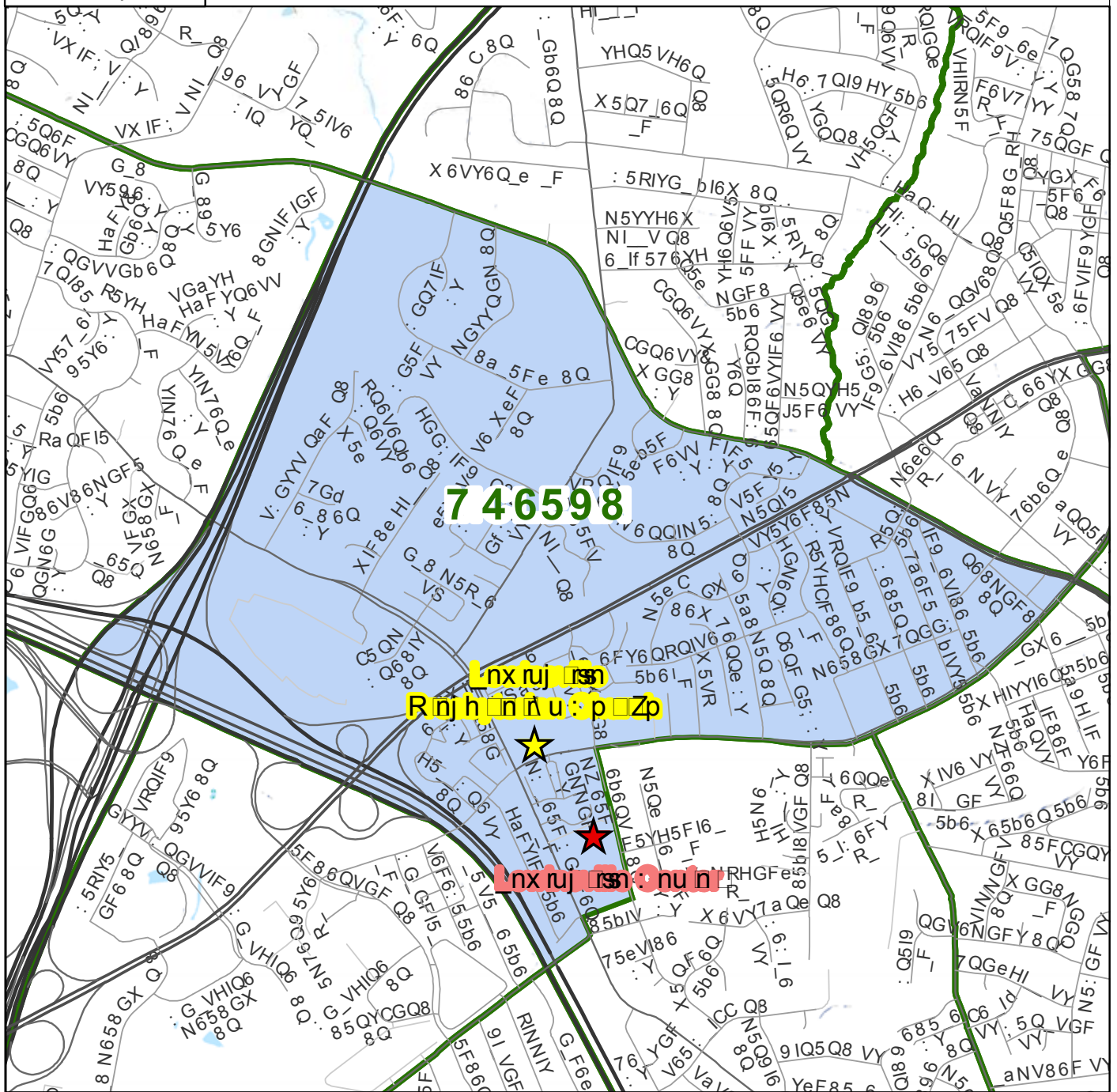
**MAP GRIDS:**    21-3, 29-2, 30-1, 30-2, 30-3, 30-4

**NOTES:**            Established June 1955  
                         Precinct description revised and readopted – March 2003  
                         Delegate District changed from 53<sup>rd</sup> to 48<sup>th</sup> - July 2011  
                         Polling Place moved temporarily – December 2015  
                         Precinct description corrected and readopted – December 2015





Commonwealth of Virginia  
**County of Fairfax**  
Municipal District



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2014-2015 1st Annual Report

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Commonwealth of Virginia  
**COUNTY OF FAIRFAX**  
**Dranesville District**

**PRECINCT 310: KIRBY**

CONGRESSIONAL DISTRICT: EIGHTH  
VIRGINIA SENATORIAL DISTRICT: THIRTY-SECOND  
HOUSE OF DELEGATES DISTRICT: FORTY-EIGHTH

**DESCRIPTION:**

Beginning at the intersection of ~~the projection of~~ Evers Drive and Chain Bridge Road, thence with Chain Bridge Road in an easterly direction to its intersection with Westmoreland Street, thence with Westmoreland Street in a southeasterly direction to its intersection with Pimmit Run (stream), thence with the meanders of Pimmit Run in a southwesterly, then northwesterly direction to its intersection with the Washington Dulles Access and Toll Road, thence with the Washington Dulles Access and Toll Road in a northwesterly direction to its intersection with Magarity Road, thence with Magarity Road ~~and a projection of Magarity Road~~ in a northeasterly direction to its intersection with Great Falls Street, thence with Great Falls Street in a northwesterly direction to its intersection with an unimproved drainage area (behind the houses fronting on Davis Court), thence with the unimproved drainage area in a northeasterly direction to its intersection with Evers Drive, thence with Evers Drive (including an unpaved portion of Evers Drive) in a northwesterly direction to its intersection with Chain Bridge Road, point of beginning.

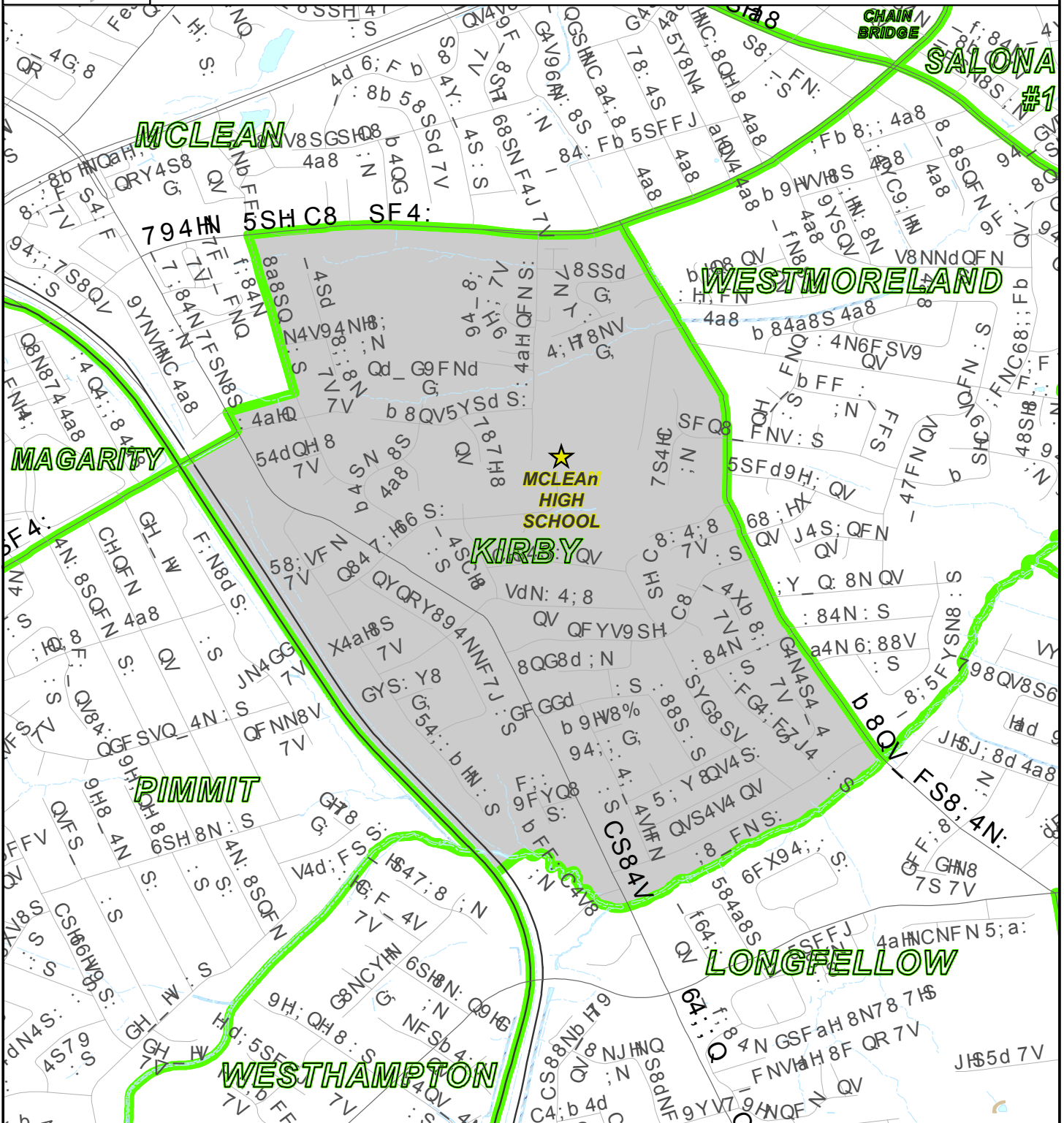
**POLLING PLACE:** McLean High School  
1633 Davidson Road, McLean

**MAP GRIDS:** 30-3, 30-4, 40-1, 40-2

**NOTES:** Established June 1971  
Precinct description revised and readopted – March 2003  
Delegate District changed from 53<sup>rd</sup> to 48<sup>th</sup> - July 2011  
Congressional District changed from 10<sup>th</sup> to 8<sup>th</sup> – January 2012  
Precinct description corrected and readopted – December 2015



Commonwealth of Virginia  
**County of Fairfax**  
Dranesville District

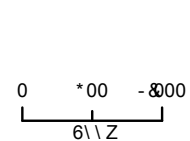


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Fairfax County Voting Precincts

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Commonwealth of Virginia  
**COUNTY OF FAIRFAX**  
**Springfield District**

**PRECINCT 845:            FOUNTAINHEAD**

**CONGRESSIONAL DISTRICT:            TENTH**  
**VIRGINIA SENATORIAL DISTRICT:    THIRTY-NINTH**  
**HOUSE OF DELEGATES DISTRICT:   FORTY-SECOND**

**DESCRIPTION:**

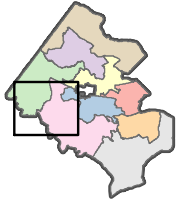
Beginning at the intersection of Wolf Run (stream) and Henderson Road, thence with Henderson Road in a northeasterly direction to its intersection with Ox Road (Route 123), thence with Ox Road in a southeasterly direction to its intersection with Silverbrook Road, thence with Silverbrook Road in an easterly, then southeasterly direction to its intersection with the Virginia Power Easement, thence with the Virginia Power Easement in a southwesterly direction to its intersection with the Prince William County/Fairfax County Line (Occoquan River), thence with the Prince William County/Fairfax County Line in a generally northwesterly direction to its intersection with Wolf Run, thence with the meanders of Wolf Run in a northerly direction to its intersection with Henderson Road, point of beginning.

**POLLING PLACE:**                      ~~Silverbrook Elementary School~~ Christ Church  
   ~~9350 Crosspointe Drive,~~ 7600 Ox Road, Fairfax Station

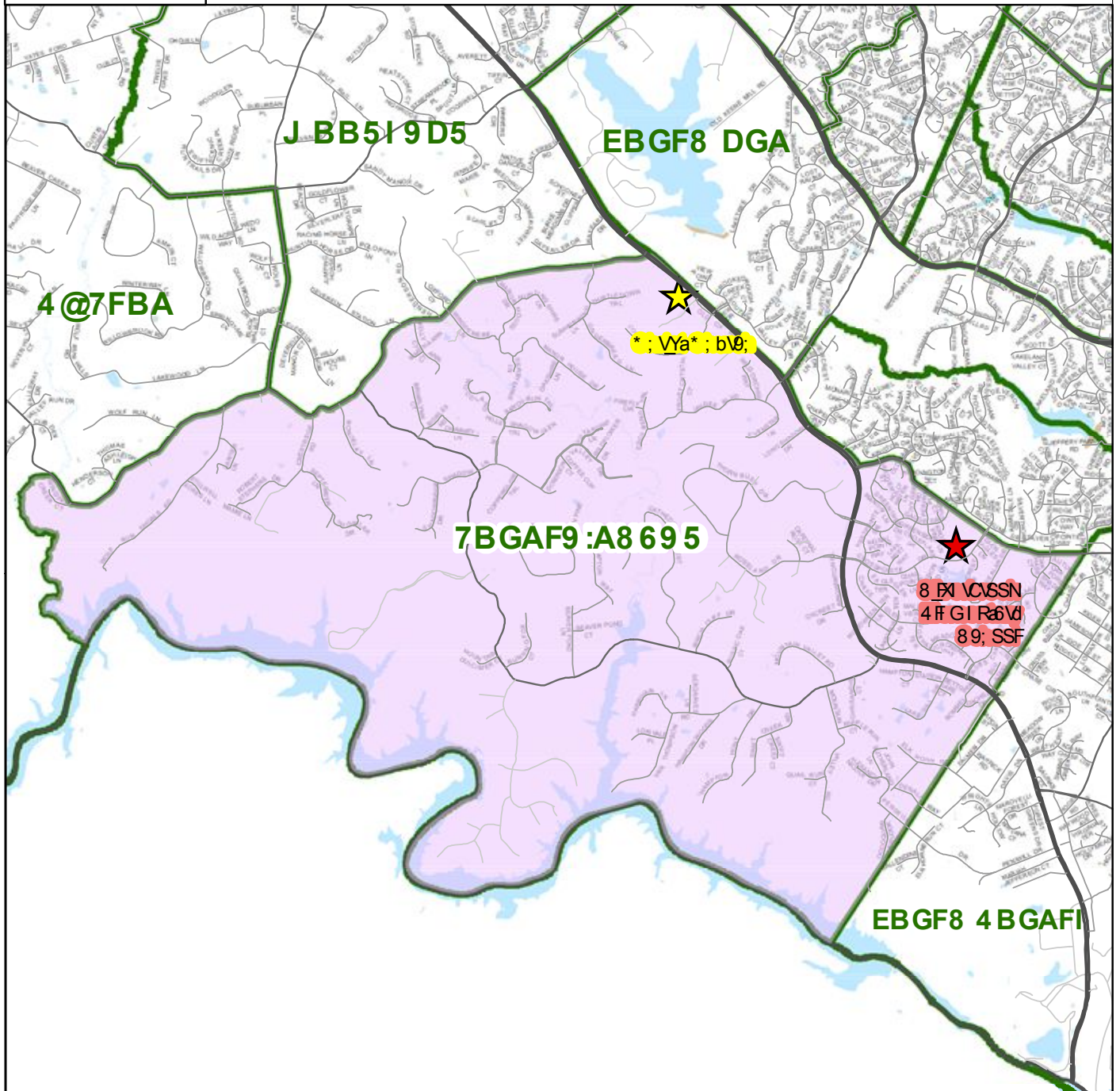
**MAP GRIDS:**    87-3, 87-4, 95-2, 95-3, 95-4, 96-1, 96-2, 96-3, 96-4, 97-1, 97-3, 97-4, 104-2  
   105-1, 105-2, 105-3, 105-4, 106-1, 106-2, 106-3


**NOTES:**            Established August 2001  
                         Precinct description revised and readopted March 2003  
                         Congressional District changed from 11<sup>th</sup> to 10<sup>th</sup> – January 2012  
                         Polling place moved – December 2015







Commonwealth of Virginia  
**County of Fairfax**  
Fountainhead District



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**PROPOSED ORDINANCE TO AMEND AND READOPT SECTIONS OF CHAPTER 7 OF THE FAIRFAX COUNTY CODE TO ESTABLISH A NEW PRECINCT AND POLLING PLACE IN THE HUNTER MILL DISTRICT, ADJUST THE BOUNDARIES OF TWO PRECINCTS IN THE HUNTER MILL DISTRICT AND MOVE A POLLING PLACE FOR ONE OF THOSE PRECINCTS, RELOCATE POLLING PLACES IN THE DRANESVILLE AND SPRINGFIELD DISTRICTS, AND AMEND THE DESCRIPTION OF TWO PRECINCTS IN THE DRANESVILLE DISTRICT**

**Draft of October 19, 2015**

AN ORDINANCE to amend and readopt Sections 7-2-5 and 7-2-13 of the Fairfax County Code to reflect an election precinct change and polling place changes in the Hunter Mill, Dranesville, and Springfield Districts.

Be it ordained that the Board of Supervisors of Fairfax County:

**1. That Sections 7-2-5 and 7-2-13 of the Fairfax County Code are amended and readopted:**

**Section 7-2-5. Hunter Mill District.**

The Hunter Mill District shall consist of these election precincts: Aldrin, Armstrong, Cameron Glen, Colvin, Dogwood, Flint Hill, Floris, Fox Mill, Frying Pan, Glade, Hunters Woods, Madison, McNair, North Point, Reston No. 1, Reston No. 2, Reston No. 3, South Lakes, Stuart, Sunrise Valley, Terraset, Vienna No. 1, Vienna No. 2, Vienna No. 4, Vienna No. 6, Westbriar, and Wolftrap.

**Section 7-2-13. General provisions.**

All references to election precincts shall refer to those precincts, together with the descriptions and maps of the boundaries and polling places for each of those precincts, which were adopted by the Board of Supervisors on March 24, 2003, as amended on March 8, 2004, March 21, 2005, March 27, 2006, March 26, 2007, September 10, 2007, March 10, 2008, January 12, 2009, March 9, 2010, July 27, 2010, April 26, 2011, July 26, 2011, January 10, 2012, July 10, 2012, March 19, 2013, and July 9, 2013, ~~September 9, 2014, November 18, 2014<sup>1</sup>, and June 23, 2015, and December 8, 2015,<sup>2</sup>~~ and kept on file with the clerk to the Board of Supervisors. Whenever a road, a stream, or other physical feature describes the boundary of a precinct, the center of such road, stream, or physical feature shall be the dividing line between that precinct and any adjoining precinct.

<sup>1</sup> Corrects date on which 2014 amendments were adopted.

<sup>2</sup> In addition to the establishment of a new precinct as shown in Section 7-2-5 and the establishment or relocation of polling places specifically shown in the second and third enactment clauses, this amendment captures the revised boundaries of the Aldrin and North Point precincts in the Hunter Mill District and the readoption of the descriptions of McLean and Kirby precincts in the Dranesville District to more accurately identify part of the boundary between those two precincts.



**2. That the polling place location for the newly-created precinct identified in the first clause of this ordinance is established at:**

<u>Supervisor</u>		
<u>District</u>	<u>Precinct</u>	<u>Polling Place</u>
Hunter Mill	Armstrong (new precinct)	Armstrong Elementary School 11900 Lake Newport Road Reston, Virginia 20194

**3. That the polling place locations for the following existing precincts are established at:**

<u>Supervisor</u>		
<u>District</u>	<u>Precinct</u>	<u>Polling Place</u>
Dranesville	McLean (polling place relocated)	<u>From:</u> Lewinsville Center 1609 Great Falls Street McLean, Virginia 22101
		<u>To:</u> Lewinsville Presbyterian Church 1724 Chain Bridge Road McLean, Virginia 22101
Hunter Mill	North Point (existing precinct; boundary adjusted and polling place relocated)	<u>From:</u> Armstrong Elementary School 11900 Lake Newport Road Reston, Virginia 20194
		<u>To:</u> St. Thomas à Becket Catholic Church 1421 Wiehle Avenue Reston, Virginia 20190
Springfield	Fountainhead (polling place relocated)	<u>From:</u> Silverbrook Elementary School 9350 Crosspointe Drive Fairfax Station, Virginia 22039
		<u>To:</u> Christ Church 7600 Ox Road Fairfax Station, Virginia 22039

**4. That this ordinance shall become effective upon adoption.**

GIVEN under my hand this \_\_\_\_\_ day of December, 2015.

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Catherine A. Chianese  
Clerk to the Board of Directors

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GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency



Muriel Bowser  
Mayor

Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Department of Information  
Technology

SUBAWARD TITLE  
GIS Data Exchange and INDEX (Continuation)

SUBAWARD ID  
15UASI583-03

SUBAWARD AMOUNT  
\$565,000.00

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program

STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

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- FY 2015 Homeland Security Grant Program Notice of Funding Opportunity
- FY 2015 District of Columbia Homeland Security and Emergency Management Agency Terms and Conditions
- FY 2015 DHS Homeland Security Grant Program Agreement Articles
- FY 2015 DHS Standard Terms and Conditions
- 2 CFR 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards
- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
\_\_\_\_\_  
Signature

09/22/2015  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

## Subaward

SUBPROGRAM FY 2015 Urban Areas Security Initiative	FEDERAL AWARD IDENTIFICATION NUMBER EMW-2015-SS-00019
SUBRECIPIENT Fairfax County Department of Information Technology	FEDERAL AWARD DATE 08/11/2015
SUBAWARD TITLE CAD to CAD Maintenance (Continuation)	FEDERAL AWARDDING AGENCY U.S. Department of Homeland Security Federal Emergency Management Agency
SUBAWARD ID 15UASI583-01	FEDERAL AWARD TOTAL AMOUNT \$58,141,500.00
SUBAWARD AMOUNT \$948,000.00	CFDA 97.067 Homeland Security Grant Program
SUBAWARD PERFORMANCE PERIOD 09/01/2015-05/31/2017	STATE ADMINISTRATIVE AGENT / PASS-THROUGH ENTITY District of Columbia Homeland Security and Emergency Management Agency
SUBRECIPIENT DUNS 074837626 Fairfax County Virginia	

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- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature \_\_\_\_\_ Date 09/22/2015

Signature \_\_\_\_\_ Date \_\_\_\_\_

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency



Muriel Bowser  
Mayor

Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Fire and Rescue Department

SUBAWARD TITLE  
Bi-Directional Amplifier (BDA) Deployment

SUBAWARD ID  
15UASI529-06

SUBAWARD AMOUNT  
\$325,000.00

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program

STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

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AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 10/13/2015

\_\_\_\_\_  
Signature Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

## Subaward

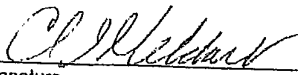
SUBPROGRAM FY 2015 Urban Areas Security Initiative	FEDERAL AWARD IDENTIFICATION NUMBER EMW-2015-SS-00019
SUBRECIPIENT Fairfax County Fire and Rescue Department	FEDERAL AWARD DATE 08/11/2015
SUBAWARD TITLE Technical Rescue PPE - Fairfax County (Continuation)	FEDERAL AWARING AGENCY U.S. Department of Homeland Security Federal Emergency Management Agency
SUBAWARD ID 15UASI529-05	FEDERAL AWARD TOTAL AMOUNT \$58,141,500.00
SUBAWARD AMOUNT \$111,300.00	CFDA 97.067 Homeland Security Grant Program
SUBAWARD PERFORMANCE PERIOD 09/01/2015-05/31/2017	STATE ADMINISTRATIVE AGENT / PASS-THROUGH ENTITY District of Columbia Homeland Security and Emergency Management Agency
SUBRECIPIENT DUNS 074837626 Fairfax County Virginia	

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- FY 2015 DHS Standard Terms and Conditions
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- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature \_\_\_\_\_ Date 09/22/2015

Signature \_\_\_\_\_ Date \_\_\_\_\_

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

## Subaward

SUBPROGRAM FY 2015 Urban Areas Security Initiative	FEDERAL AWARD IDENTIFICATION NUMBER EMW-2015-SS-00019
SUBRECIPIENT Fairfax County Fire and Rescue Department	FEDERAL AWARD DATE 08/11/2015
SUBAWARD TITLE Capital Shield Exercise Support (Continuation)	FEDERAL AWARDING AGENCY U.S. Department of Homeland Security Federal Emergency Management Agency
SUBAWARD ID 15UASI529-04	FEDERAL AWARD TOTAL AMOUNT \$58,141,500.00
SUBAWARD AMOUNT \$267,000.00	CFDA 97.067 Homeland Security Grant Program
SUBAWARD PERFORMANCE PERIOD 09/01/2015-05/31/2017	STATE ADMINISTRATIVE AGENT / PASS-THROUGH ENTITY District of Columbia Homeland Security and Emergency Management Agency
SUBRECIPIENT DUNS 074837626 Fairfax County Virginia	

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- FY 2015 DHS Standard Terms and Conditions
- 2 CFR 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards
- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

\_\_\_\_\_  
Signature Date

2720 Martin Luther King Jr Ave SE • Washington, DC 20032

202.727.6161

hsema.dc.gov

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

SUBRECIPIENT  
Fairfax County Office of Emergency  
Management

FEDERAL AWARD DATE  
08/11/2015

SUBAWARD TITLE  
Text Alert Notifications (Continuation)

FEDERAL AWARDOING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

SUBAWARD ID  
15UASI631-05

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

SUBAWARD AMOUNT  
\$875,000.00

CFDA  
97.067 Homeland Security Grant Program

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

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- FY 2015 DHS Standard Terms and Conditions
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- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

Signature Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency



Muriel Bowser  
Mayor

Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Office of Emergency  
Management

SUBAWARD TITLE  
Regional Planning - Fairfax County  
(Continuation)

SUBAWARD ID  
15UASI531-04

SUBAWARD AMOUNT  
\$114,672.00

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-12/31/2016

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program

STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

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- FY 2015 DHS Standard Terms and Conditions
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- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

Signature

09/22/2015  
Date

Signature

Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

SUBRECIPIENT  
Fairfax County Office of Emergency  
Management

FEDERAL AWARD DATE  
08/11/2015

SUBAWARD TITLE  
Volunteer & Citizen Corps Programs - Fairfax  
County (Continuation)

FEDERAL AWARDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

SUBAWARD ID  
15UASI531-03

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

SUBAWARD AMOUNT  
\$282,000.00

CFDA  
97.067 Homeland Security Grant Program

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

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- FY 2015 DHS Standard Terms and Conditions
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- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

\_\_\_\_\_  
Signature Date



GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency



Muriel Bowser  
Mayor

Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Office of Emergency  
Management

SUBAWARD TITLE  
WebEOC (Maintenance)

SUBAWARD ID  
15UASI531-06

SUBAWARD AMOUNT  
\$1,360,479.00

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program


STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

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- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

\_\_\_\_\_  
Signature Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Office of Emergency  
Management

SUBAWARD TITLE  
Exercise and Training Officer - Fairfax County  
(Continuation)

SUBAWARD ID  
15UASI531-01

SUBAWARD AMOUNT  
\$130,609.13

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-12/31/2016

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program

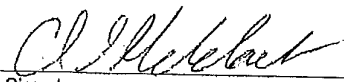
STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

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- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

\_\_\_\_\_  
Signature Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency



Muriel Bowser  
Mayor

Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Office of Emergency  
Management

SUBAWARD TITLE  
NIMS Compliance Officer - Fairfax County  
(Continuation)

SUBAWARD ID  
15UASI531-02

SUBAWARD AMOUNT  
\$119,214.91

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-12/31/2016

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program

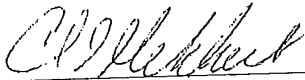
STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

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- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

\_\_\_\_\_  
Signature Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

## Subaward

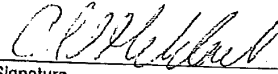
SUBPROGRAM FY 2015 Urban Areas Security Initiative	FEDERAL AWARD IDENTIFICATION NUMBER EMW-2015-SS-00019
SUBRECIPIENT Fairfax County Fire and Rescue Department	FEDERAL AWARD DATE 08/11/2015
SUBAWARD TITLE Incident Management Team (Continuation)	FEDERAL AWARDING AGENCY U.S. Department of Homeland Security Federal Emergency Management Agency
SUBAWARD ID 15UASI529-03	FEDERAL AWARD TOTAL AMOUNT \$58,141,500.00
SUBAWARD AMOUNT \$268,000.00	CFDA 97.067 Homeland Security Grant Program
SUBAWARD PERFORMANCE PERIOD 09/01/2015-05/31/2017	STATE ADMINISTRATIVE AGENT / PASS-THROUGH ENTITY District of Columbia Homeland Security and Emergency Management Agency
SUBRECIPIENT DUNS 074837626 Fairfax County Virginia	

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AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

\_\_\_\_\_  
Signature Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency



Muriel Bowser  
Mayor

Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative  
SUBRECIPIENT  
Fairfax County Fire and Rescue Department  
SUBAWARD TITLE  
Fire Intelligence Analyst (Continuation)  
SUBAWARD ID  
15UASI529-02  
SUBAWARD AMOUNT  
\$206,513.00  
SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017  
SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

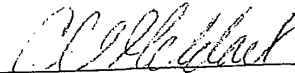
FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019  
FEDERAL AWARD DATE  
08/11/2015  
FEDERAL AWARDDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency  
FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00  
CFDA  
97.067 Homeland Security Grant Program  
STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

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- FY 2015 DHS Standard Terms and Conditions
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AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

\_\_\_\_\_  
Signature Date

3730 Martin Luther King Jr Ave SE • Washington, DC 20032

202.727.6161

hsema.dc.gov

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

**Subaward**

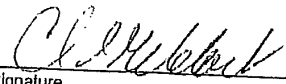
SUBPROGRAM FY 2015 Urban Areas Security Initiative	FEDERAL AWARD IDENTIFICATION NUMBER EMW-2015-SS-00019
SUBRECIPIENT Fairfax County Fire and Rescue Department	FEDERAL AWARD DATE 08/11/2015
SUBAWARD TITLE Radio Cache - Virginia (Maintenance)	FEDERAL AWARDING AGENCY U.S. Department of Homeland Security Federal Emergency Management Agency
SUBAWARD ID 15UASI529-01	FEDERAL AWARD TOTAL AMOUNT \$58,141,500.00
SUBAWARD AMOUNT \$164,947.00	CFDA 97.067 Homeland Security Grant Program
SUBAWARD PERFORMANCE PERIOD 09/01/2015-05/31/2017	STATE ADMINISTRATIVE AGENT / PASS-THROUGH ENTITY District of Columbia Homeland Security and Emergency Management Agency
SUBRECIPIENT DUNS 074837626 Fairfax County Virginia	

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- FY 2015 DHS Standard Terms and Conditions
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- Subrecipient Handbook

AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

Signature Date

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202.727.6161

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GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency



Muriel Bowser  
Mayor

Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Health Department

SUBAWARD TITLE  
Public Health Planning and MRC Program  
Sustainment - Fairfax County (Continuation)

SUBAWARD ID  
15UASI530-01

SUBAWARD AMOUNT  
\$148,000.00

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

SUBRECIPIENT DUNS  
192897820 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program

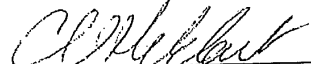
STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
Emergency Management Agency

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AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature Date 09/22/2015

\_\_\_\_\_  
Signature Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

## Subaward

SUBPROGRAM FY 2015 Urban Areas Security Initiative	FEDERAL AWARD IDENTIFICATION NUMBER EMW-2015-SS-00019
SUBRECIPIENT Fairfax County Department of Information Technology	FEDERAL AWARD DATE 08/11/2015
SUBAWARD TITLE NCRnet Fiber Replacement for City of Alexandria	FEDERAL AWARING AGENCY U.S. Department of Homeland Security Federal Emergency Management Agency
SUBAWARD ID 15UASI583-04	FEDERAL AWARD TOTAL AMOUNT \$58,141,500.00
SUBAWARD AMOUNT \$340,000.00	CFDA 97.067 Homeland Security Grant Program
SUBAWARD PERFORMANCE PERIOD 09/01/2015-05/31/2017.	STATE ADMINISTRATIVE AGENT / PASS-THROUGH ENTITY District of Columbia Homeland Security and Emergency Management Agency
SUBRECIPIENT DUNS 074837626 Fairfax County Virginia	

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AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature \_\_\_\_\_ Date 09/22/2015

Signature \_\_\_\_\_ Date \_\_\_\_\_



GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency



Muriel Bowser  
Mayor

Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Department of Information  
Technology

SUBAWARD TITLE  
Interoperable Communications Infrastructure  
(ICI) Sustainment

SUBAWARD ID  
15UASI583-02

SUBAWARD AMOUNT  
\$3,000,000.00

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program

STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
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AWARDING OFFICIAL  
Chris T. Geldart  
Director

SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

Signature

09/22/2015

Date

Signature

Date

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency

Muriel Bowser  
Mayor



Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Department of Public Safety  
Communications

SUBAWARD TITLE  
Next Generation 9-1-1 Call Processing Network  
(Continuation)

SUBAWARD ID  
15UASI546-01

SUBAWARD AMOUNT  
\$1,725,000.00

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDOING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program

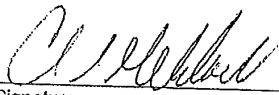
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Chris T. Geldart  
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SUBRECIPIENT OFFICIAL  
Edward L. Long  
County Executive  
Fairfax County Government

  
Signature \_\_\_\_\_ Date 09/22/2015

Signature \_\_\_\_\_ Date \_\_\_\_\_

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
Homeland Security and Emergency Management Agency



Muriel Bowser  
Mayor

Chris T. Geldart  
Director

## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

SUBRECIPIENT  
Fairfax County Police Department

SUBAWARD TITLE  
Intelligence Analysis - VA (Continuation)

SUBAWARD ID  
15UASI533-01

SUBAWARD AMOUNT  
\$1,091,584.00

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

SUBRECIPIENT DUNS  
074837626 Fairfax County Virginia

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

FEDERAL AWARD DATE  
08/11/2015

FEDERAL AWARDOING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

CFDA  
97.067 Homeland Security Grant Program

STATE ADMINISTRATIVE AGENT /  
PASS-THROUGH ENTITY  
District of Columbia Homeland Security and  
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Date

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Date

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## Subaward

SUBPROGRAM  
FY 2015 Urban Areas Security Initiative

FEDERAL AWARD IDENTIFICATION NUMBER  
EMW-2015-SS-00019

SUBRECIPIENT  
Fairfax County Police Department

FEDERAL AWARD DATE  
08/11/2015

SUBAWARD TITLE  
AFIS Maintenance

FEDERAL AWARDOING AGENCY  
U.S. Department of Homeland Security  
Federal Emergency Management Agency

SUBAWARD ID  
15UASI533-02

FEDERAL AWARD TOTAL AMOUNT  
\$58,141,500.00

SUBAWARD AMOUNT  
\$2,000,000.00

CFDA  
97.067 Homeland Security Grant Program

SUBAWARD PERFORMANCE PERIOD  
09/01/2015-05/31/2017

STATE ADMINISTRATIVE AGENT /  
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Fairfax County Government

  
Signature Date 09/22/2015

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Signature Date

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## **Enhanced Mobility of Seniors and Individuals with Disabilities Program SUMMARY OF GRANT PROPOSAL**

<b>Grant Title:</b>	<u>Enhanced Mobility of Seniors and Individuals with Disabilities Program</u>
<b>Funding Agency:</b>	Metropolitan Washington Council of Governments
<b>Applicant:</b>	Fairfax County Department of Neighborhood & Community Services (NCS)
<b>Purpose of Grant:</b>	This grant opportunity, created under the MAP-21 Federal Surface Transportation Act, offers limited funding to certain qualifying organizations to enhance mobility for seniors and persons with disabilities by providing matching grants for programs to serve the special needs of transit-dependent populations beyond traditional public transportation services and Americans with Disabilities Act (ADA) complementary paratransit services. Funding will assist in the purchase of five new wheelchair equipped buses.
<b>Funding Amount:</b>	Funding in the amount of \$300,000, including \$60,000 in Local Cash Match which is available in Fund 60010, Department of Vehicle Services, FASTRAN Replacement Reserve. No new County funding will be necessary.
<b>Proposed Use of Funds:</b>	Funding will support the purchase of five wheelchair lift-equipped vehicles needed to replace high-mileage vehicles currently owned by the County.
<b>Target Population:</b>	Seniors and individuals with disabilities.
<b>Performance Measures:</b>	The purchasing of five new buses does not have a set of independent performance measures; however, the utilization of these buses is part of NCS's Human Services Transportation performance measures.
<b>Grant Period:</b>	Tentatively July 2016, based on Federal Transit Administration approval. The grant period is for two years.

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<b>otal</b>	<b>\$8,88S,2M2</b>

**Certification of Consistency  
with the Consolidated Plan**U.S. Department of Housing  
and Urban Development

I certify that the proposed activities/projects in the application are consistent with the jurisdiction's current, approved Consolidated Plan.  
(Type or clearly print the following information:)

Applicant Name: Fairfax County CoCProject Name: List AttachedLocation of the Project: Fairfax County, VA  
  
Name of the Federal  
Program to which the  
applicant is applying: HUD CoC ProgramName of  
Certifying Jurisdiction: Fairfax County, VirginiaCertifying Official  
of the Jurisdiction  
Name: Edward L. Long Jr.Title: County Executive

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



**Attachment to Form HUD-2991**  
**Certification of Consistency with the Consolidated Plan**  
**2015 Fairfax County Continuum of Care (CoC)**  
**Grant Process Applicant and Project Names**

**FEDERAL PROGRAM:** Continuum of Care Program

***Applicant and Project Name:***

1. Fairfax County Dept. of Family Services; Community Housing Resource Program (CHRP)
2. Fairfax County Dept. of Family Services; Reaching Independence thru Support and Education (RISE)
3. Fairfax County Dept. of Housing and Community Development; DHCD/Pathway Homes SPC Grant #1
4. Fairfax County Dept. of Housing and Community Development; DHCD/Pathway Homes SPC Grant #2
5. Fairfax County Dept. of Housing and Community Development; DHCD/Pathway Homes SPC Grant #9
6. Fairfax County Dept. of Housing and Community Development; DHCD/Pathway Homes SPC Grant #10
7. Fairfax-Falls Church Community Services Board; Welcome Home
8. Fairfax County Office to Prevent and End Homelessness; Planning Grant
9. Christian Relief Services of Virginia Inc.; 1994 CRS/Pathway Homes/PRS SHP
10. Christian Relief Services of Virginia Inc.; 1995 CRS/Pathway Homes/PRS SHP
11. Christian Relief Services Charities, Inc.; 1991 CRS/Pathway Homes SHP
12. Pathway Homes, Inc.; 1991 Pathway Homes SHP
13. Pathway Homes, Inc.; 2007 Pathway Homes SHP
14. Pathway Homes, Inc.; 2009 Pathway Homes SHP
15. Pathway Homes, Inc.; 2011 Pathway Homes SHP
16. Pathway Homes, Inc.; 2014 Pathway Homes SHP
17. Pathway Homes, Inc.; 2015 Pathway Homes SHP
18. PRS, Inc.; PRS Intensive Supportive Housing
19. FACETS, Inc.; TRIUMPH II
20. FACETS, Inc.; TRIUMPH
21. FACETS, Inc.; TRIUMPH III
22. FACETS, Inc.; Linda's Gateway
23. Volunteers of America Chesapeake, Inc.; VOAC Bailey's PSH
24. New Hope Housing, Inc.; PSH Group Homes
25. New Hope Housing, Inc.; Milestones
26. New Hope Housing, Inc.; Just Home Fairfax
27. The Alternative House, Inc.; TAY Rapid Rehousing
28. Shelter House Inc.; Rapid Rehousing Project
29. Shelter House, Inc.; NOVACO Transitional Housing for Victims of Domestic Abuse
30. United Community Ministries, Inc.; Journeys

**Name of Certifying Jurisdiction:** Fairfax County, Virginia

**Certifying Official Name and Title:** Edward L. Long, Jr., County Executive

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

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RESOLUTION OF THE BOARD OF SUPERVISORS OF THE  
COUNTY OF FAIRFAX, VIRGINIA

WHEREAS, the Fairfax County Economic Development Authority ("Authority"), has approved the application of Oakcrest School ("Applicant"), a nonprofit, 501(c)(3) entity, requesting that the Authority issue its revenue bonds to assist the Borrower in constructing new school facilities, including a new 100,000 square foot complex to house two academic wings located in Fairfax County, Virginia;

WHEREAS, Section 147(f) of the Internal Revenue Code of 1986, as amended (the "Code") provides that the governmental unit having jurisdiction over the issuer of private activity bonds and over the area in which any facility financed with the proceeds of private activity bonds is located must approve the issuance of the bonds.

WHEREAS, the Authority issues its bonds on behalf of the County of Fairfax, Virginia ("County"); the New Money Project is located in the County and the Board of Supervisors of Fairfax County, Virginia (the "Board"), constitutes the highest elected governmental unit of the County;

WHEREAS, the Authority has recommended that the Board approve the Plan of Finance and the issuance of the Bonds; and

WHEREAS, a copy of the Authority's resolution approving the issuance of the Bonds, subject to the terms to be agreed upon, a certificate of the public hearing and a Fiscal Impact Statement have been filed with the Board.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF THE COUNTY OF FAIRFAX, VIRGINIA.

1. The Board approves the Plan of Financing and the issuance of the Bonds by the Authority for the benefit of the Oakcrest School, as required by Section 147(f) of the Code and Section 15.2-4906 of the Code of Virginia of 1950 as amended ("Virginia Code").

2. The approval of the issuance of the Bonds does not constitute an endorsement to a prospective purchaser of the Bonds of the creditworthiness of the Plan of Finance or the Company.

3. This resolution shall take effect immediately upon its adoption.

Adopted by the Board of Supervisors of the County of Fairfax, Virginia this 17<sup>th</sup> day of November 2015.

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Clerk, Board of Supervisors, Fairfax County,

Virginia

[SEAL]

CERTIFICATE

The undersigned Secretary of the Fairfax County Economic Development Authority (the "Authority") certifies as follows:

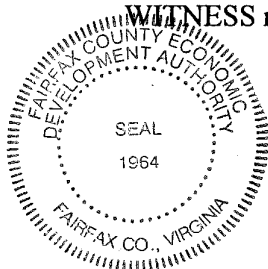
1. A meeting of the Authority was duly called and held on October 20, 2015, at 6:00 p.m. at 8300 Boone Boulevard, Suite 450 in Vienna, Virginia, pursuant to proper notice given to each Commissioner of the Authority before such meeting. The meeting was open to the public. The time of the meeting and the place at which the meeting was held provided a reasonable opportunity for persons of differing views to appear and be heard.

2. The Chairman announced the commencement of a public hearing on the application of the Oakcrest School, and that a notice of the hearing was published once a week for two successive weeks in a newspaper having general circulation in the County of Fairfax, Virginia (the "Notice"), with the second publication appearing not less than seven days nor more than twenty-one days prior to the original hearing date. A certified copy of the Notice has been filed with the minutes of the Authority and is attached.

3. A summary of the statements made at the public hearing is attached.

4. Attached is a true, correct and complete copy of a resolution (the "Resolution") adopted at such meeting of the Authority by a majority of the Commissioners present at such meeting. The Resolution constitutes all formal action taken by the Authority at such meeting relating to matters referred to in the Resolution. The Resolution has not been repealed, revoked, rescinded or amended and is in full force and effect on this date.

WITNESS my hand and the seal of the Authority, this 20<sup>th</sup> day of October 2015.



A handwritten signature in cursive script, reading "Ronald C. Johnson", is written over a horizontal line.

Secretary Fairfax County Economic Development Authority

[SEAL]

Exhibits:

- A - Proof of Publication
- B - Summary of Statements
- C - Resolution

**AFFIDAVIT OF PUBLICATION**

AD # 14845171

TO WIT:

I hereby certify that on the 3rd day of September, 2015, before me, the subscriber, DASCHELLE D. ADDISON, a notary public, that the matters of facts set forth are true. JANICE WRIGHT, who being duly sworn according to law, and oath says that he is an AUTHORIZED AGENT of THE WASHINGTON TIMES, L.L.C., publisher of

**The Washington Times**

Circulated daily, in the State of Virginia County of Fairfax, and that the advertisement, of which the annexed is a true copy, was published in said newspaper 2 times(s) on the following dates:

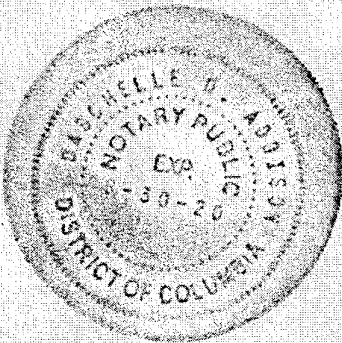
Thursday, August 27, 2015

Thursday, September 3, 2015

Total cost \$553.28 Dollars

As witness, my hand and notarial seal.

Notary Public



DASCHELLE D. ADDISON  
NOTARY PUBLIC DISTRICT OF COLUMBIA  
My Commission Expires June 30, 2020

**NOTICE OF PUBLIC HEARING  
ON PROPOSED REVENUE BOND PLAN  
OF FINANCING BY FAIRFAX COUNTY  
ECONOMIC DEVELOPMENT AUTHORITY**

Notice is hereby given that the Fairfax County Economic Development Authority ("Authority") will hold a public hearing on the application of Oakcrest School ("Borrower"), a Section 501(c)(3) nonstock nonprofit District of Columbia corporation authorized to do business in the Commonwealth of Virginia, whose current address is 850 Balls Hill Road, McLean, Virginia 22101. The Borrower requests the Authority to issue up to \$12,000,000 of its revenue bonds at one time or from time to time to assist the Borrower in financing all or part of the following plan of financing (collectively, "Plan of Financing") for the benefit of the Borrower: (i) new construction of facilities including the Main Academic Building (Manor House, Administrative Offices, Library, Technology Lab and the East and West Academic Wings), miscellaneous hard and soft costs related thereto, and furnishing of a secondary single sex school for grades 6 through 12 to fulfill its mission at 1619 Crowell Road, Vienna, Virginia 22182 located in Fairfax County; and (ii) certain other costs associated with the foregoing Plan of Financing, which may include, but may not be limited to, costs of issuance and other eligible expenditures.

The issuance of revenue bonds as requested by the Borrower will not constitute a debt or pledge of the faith and credit of the Commonwealth of Virginia, nor the County of Fairfax, Virginia, and neither the full faith and credit nor the taxing power of the Commonwealth of Virginia or any political subdivision thereof will be pledged to the payment of such bonds.

The public hearing, which may be continued or adjourned, will be held at 6:00 o'clock p.m. on September 15, 2015, before the Authority at the Fairfax County Government Center, 12000 Government Center Parkway, Fairfax, Virginia 22035, in Room 232 (instead of the previously noted address of 8300 Boone Boulevard, Suite 450, Vienna, Virginia 22182-2633). Any person interested in the issuance of the bonds or the location or nature of the proposed projects may appear at the hearing and present his or her views. A copy of the Borrower's application is on file and is open for inspection at the office of the Authority's counsel, Thomas D. Lawson, Esquire at 10805 Main Street, Suite 200, Fairfax, Virginia 22090 during normal business hours.

Fairfax County Economic Development Authority

Run Date: August 27 and September 3, 2015  
AD#14845171R

EXHIBIT B

Summary of Statements

Representatives of the Oakcrest School appeared before the Authority to explain the proposed revenue bond issue. No one appeared in opposition to the revenue bond issue.

RESOLUTION OF THE FAIRFAX COUNTY ECONOMIC DEVELOPMENT AUTHORITY  
AUTHORIZING THE ISSUANCE OF UP TO \$12,000,000  
REVENUE BONDS FOR THE BENEFIT OF  
OAKCREST SCHOOL  
October 20, 2015

WHEREAS, the Fairfax Economic Development Authority, a political subdivision of the Commonwealth of Virginia ("Authority"), is empowered by the Acts of Assembly, 1964, Ch. 643, p. 975, as amended ("Act"), to issue its revenue bonds for, among other purposes, the financing of facilities for nonprofit institutions to provide secondary single sex education school, the financing of facilities for use by organizations (other than organizations organized and operated exclusively for religious purposes) that are described in Section 501(c)(3) of the Internal Revenue Code of 1986, as amended ("Code"), and are exempt from federal income taxation pursuant to Section 501(a) of such Code, and to promote the health and welfare of the inhabitants of Virginia.

WHEREAS, the Authority has received a request from Oakcrest School ("Oakcrest"), an organization which is not organized exclusively for religious purposes and is described in Section 501(c)(3) of the Code requesting that the Authority issue its revenue bonds for up to \$12,000,000 tax exempt bonds for the construction of academic buildings for its new campus, and costs and expenses related thereto to fulfill its mission in (a) constructing facilities located at 1619 Crowell Road, Vienna, Virginia 22182, in Fairfax County, and (b) certain other costs associated with the foregoing plan of financing ("Plan of Financing") which may include, but not limited to, costs of issuance and other eligible expenditures (collectively, the "Project").

WHEREAS, such assistance will benefit the inhabitants of the County of Fairfax, Virginia and the Commonwealth of Virginia by protecting and promoting their health and welfare.

WHEREAS, the Project has been described to the Authority and a public hearing has been held as required by Section 147(f) of Code and Section 15.2-4906 of the Act; and

WHEREAS, Oakcrest has represented that the estimated cost of the Project and all expenses of issue will require an issue of revenue bonds in the aggregate principal amount not to exceed \$12,000,000 which will be tax exempt bonds.



NOW, THEREFORE, BE IT RESOLVED BY THE FAIRFAX COUNTY  
ECONOMIC DEVELOPMENT AUTHORITY:

1. It is hereby found and determined that the financing of the Project will be in the public interest and will protect and promote the health and welfare of the Commonwealth of Virginia, the County of Fairfax, Virginia and their citizens.

2. The Authority hereby agrees to assist Oakcrest by undertaking the issuance of its revenue bonds in an amount not to exceed \$12,000,000 which will be tax exempt bonds upon terms and conditions mutually agreeable to the Authority and Oakcrest. The bonds will be issued pursuant to documents satisfactory to the Authority. The bonds may be issued in one or more series at one time or from time to time.

3. It having been represented to the Authority that it is necessary to proceed immediately with the Project, the Authority agrees that Oakcrest may proceed with plans for the Project and its Plan of Financing, enter into contracts for acquisition, construction, and materials for the Project, and take such other steps as it may deem appropriate in connection therewith; provided, however, that nothing in this resolution shall be deemed to authorize Oakcrest to obligate the Authority without its consent in each instance to the payment of any moneys or the performance of any acts in connection therewith. The Authority agrees that Oakcrest may be reimbursed from the proceeds of the bonds for all expenditures and costs so incurred by it, provided such expenditures and costs are properly reimbursable under the Act and applicable federal laws.

4. At the request of Oakcrest, the Authority approves Reed Smith LLP, Falls Church, Virginia, as Bond Counsel in connection with the issuance of the bonds.

5. All costs and expenses in connection with the financing of the Project, including the fees and expenses of Bond Counsel and Authority Counsel, may be paid by Oakcrest, or, to the extent permitted by applicable law, from the proceeds of the bonds. If for any reason such bonds are not issued, it is understood that all such expenses shall be paid by Oakcrest and that the Authority shall have no responsibility therefor.

6. In adopting this resolution the Authority intends to take "official action" toward the issuance of the bonds and to evidence its "official intent" to reimburse from the proceeds of the bonds any expenditures paid by Oakcrest to finance the Project, all within the meaning of regulations issued by the Internal Revenue Service pursuant to Section 103 and 141 through 150 and related sections of the Code.

7. The Authority recommends that the Board of Supervisors of the County of Fairfax, Virginia, approve the issuance of the bonds.


8. No bonds may be issued pursuant to this resolution until such time as the issuance of the bonds has been approved by the Board of Supervisors of the County of Fairfax, Virginia.

9. The resolution shall take effect immediately upon its adoption.

CERTIFICATE

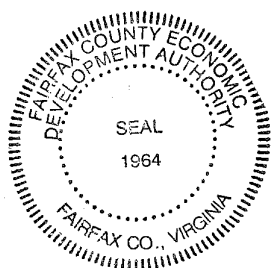
The undersigned Secretary of the Fairfax County Economic Development Authority ("Authority") certifies that the foregoing is a true, correct and complete copy of a resolution adopted by a majority of the Commissioners of the Authority present and voting at a meeting duly called and held on October 20, 2015, in accordance with the law, and that such resolution has not been repealed, revoked, rescinded, or amended but is in full force and effect on this date.

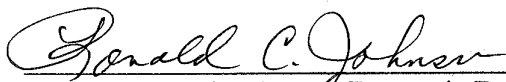
WITNESS the following signature and seal of the Authority, the 20<sup>th</sup> day of October, 2015.

  
Secretary, Fairfax County  
Economic Development Authority

## CERTIFICATE

The undersigned Secretary of the Fairfax County Economic Development Authority (the "Authority") certifies that the foregoing is a true, correct and complete copy of a resolution adopted by a majority of the members of the Authority present and voting at a meeting duly adopted by a majority of the member of the Authority present and voting at a meeting duly called and held on October 20, 2015, in accordance with law, with a quorum present and acting throughout, and that such resolution has not been repealed, revoked, rescinded or amended but is in full force and effect on the date hereof.



  
Secretary, Fairfax County Economic Development Authority

[SEAL]

# FAIRFAX COUNTY

## ECONOMIC DEVELOPMENT AUTHORITY

### Industrial Revenue Bonds

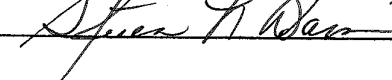
#### Fiscal Impact Statement

Applicant: Oakcrest school

Facility: New Campus

Date: June 3, 2015

1. Maximum amount of financing sought: \$ 12,000,000
2. Estimated taxable value of the facility's real property to be constructed in the municipality: \$ 33,000,000
3. Estimated real property tax per year using present tax rates: \$ N/A
4. Estimated personal property tax per year using present tax rates: \$ 25,000
5. Estimated merchants' capital tax per year using present tax rates: \$ N/A
6. Estimated dollar value per year of:
  - a. goods and services that will be purchased locally within the locality \$ 3,000,000
  - b. goods that will be purchased from non-Virginia companies within the locality \$ 100,000
  - c. services that will be purchased from Virginia companies within the locality \$ 1,000,000
  - d. services that will be purchased from non-Virginia companies within the locality \$ 50,000
7. Estimated number of regular employees on year-round basis: 85
8. Average annual salary per employee: \$ 43,517

Authority Chairman 

Name of Authority

8300 Boone Boulevard | Suite 450 | Vienna, Virginia 22182-2633 USA

t: 703.790.0600 | f: 703.893.1269 | e: info@fceda.org

[www.FairfaxCountyEDA.org](http://www.FairfaxCountyEDA.org)

Offices worldwide: San Francisco | Bangalore | Frankfurt | London | Seoul | Tel Aviv

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January 2015

## Virginia Department of Environmental Quality

FY 2016 APPLICATION AND CONTRACT FOR A  
VIRGINIA LITTER PREVENTION AND RECYCLING GRANT

Grant Period: July 1, 2015 through June 30, 2016

Deadline for application: June 30, 2015

Applicant Status: Are you applying as a single locality? ☐ Yes or ☒ No (If yes, fill in ONLY your local government name on the line for The Primary Agency)

OR -

Are you applying as a co-op? ☒ Yes or ☐ No (If yes, fill in your agency as the primary agency and the localities that you are representing in addition to your own on the "Localities of" line)The Primary Agency Dept of Public Works and Environmental Services representing the  
Localities of Fairfax County and Town of Clifton (via Clean Fairfax Council, Inc.)

The Agency is applying for FY 2016 grant funding and agrees to use these grant funds to perform the litter prevention and recycling activities listed below: (Note: for an agency to qualify, a minimum of two items must be selected.)

Yes	No	Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Planning & Organization		Adopt-A Programs (if more than one, please list)	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Adopt-a-Spot</u>	
Recycling			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youth Education		Other activities (List)	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>SpringFest Fairfax</u>	
Cleanups		<u>MS4 Outreach Team</u>	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Law Enforcement			
<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Public Communication			

I certify that the above information is correct and agree to the terms and conditions contained herein and in the Guidelines (DEQ-LPR-2) for this grant program. For Co-op applications, I certify that a written agreement between the Coordinating Agency and each participating locality is on file.Name of Organization: County of FairfaxName of Authorized Official: Edward Long Edward.Long@fairfaxcounty.gov  
(Please print) Email Address for Grant NotificationsSecondary email address, if needed, for grant notifications: jen@cleanfairfax.org

Circle correct title: (County Administrator, City Manager, Town Manager or Coordinating Agency's Executive Director)

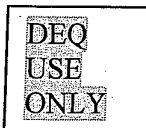
Signature: Edward Long Date: 5/5/2015  
Address: 12000 Government Center Pkwy Suite 552  
Fairfax, VA 22035FIN# 54-0787833  
FIPS# \_\_\_\_\_

Phone: \_\_\_\_\_

As long grant funds are committed by June 30, they can be reported as committed funds (outstanding invoices) on your accounting report as having been spent. Unspent funds will be deducted from the locality's FY 2015 - 2016 grant.

Do you expect to have any unspent grant money remaining? ☐ Yes ☒ No**INFORMATION BELOW IS FOR DEPARTMENT OF ENVIRONMENTAL QUALITY USE ONLY**

Signature of DEQ Official: \_\_\_\_\_ Date: \_\_\_\_\_



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INVOICE NUMBER		PROJECT CODE 90024		DESCRIPTION			
GRANTS				LITTER PREVENTION AND RECYCLING			

Mail to: Steve Coe, DEQ, Litter and Recycling Grant, P.O. Box 1105, Richmond, VA 23218





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## **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, November 17, 2015, at which meeting a quorum was present and voting, the following resolution was adopted.

### **RESOLUTION**

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of Fairfax County, Virginia, hereby approves the submission to the Northern Virginia Transportation Authority requests for regional funding for FY 2017 for the following projects:

- Route 7 Widening Phase I (Colvin Forest to Jarrett Valley Drive) - \$10,000,000
- I-66/Route 28 Interchange Improvements - \$370,000,000
- Route 1 Widening (Mt Vernon Highway to Napper Road) - \$5,000,000
- Route 28 Widening (Prince William County Line to Route 29) - \$5,000,000
- Fairfax County Parkway Widening (Ox Road to Route 29) and Popes Head Road Interchange Improvements - \$10,000,000
- Seven Corners Ring Road - \$5,000,000
- Fairfax County Parkway Spot Roadway Improvements (I-95 to Route 1) - \$8,000,000
- Frontier Drive Extension - \$15,000,000
- Braddock Road HOV Widening (Burke Lake Road to I-495) - \$6,200,000
- Fairfax Connector Capital (Buses) Purchase - \$5,500,000
- Metrorail traction power upgrades on Blue Line associated with the Eight Car Train Project

Adopted this 17<sup>th</sup> day of November 2015, Fairfax, Virginia

ATTEST \_\_\_\_\_  
Catherine A. Chianese  
Clerk to the Board of Supervisors

**List of Recommended Projects for NVTa Consideration (FY2017)**

<b>PROJECT</b>	<b>PROJECT DESCRIPTION</b>	<b>CURRENT COST ESTIMATE</b>	<b>REQUESTED FUNDING</b>
Route 7 Widening Phase I (Colvin Forest to Jarrett Valley Drive)	<p>This project aims to increase capacity, decrease congestion and improve safety along a 3.6-mile segment of Route 7 between Jarrett Valley Drive and Colvin Forest Drive, and includes:</p> <ul style="list-style-type: none"> <li>• Widening from four to six lanes.</li> <li>• Intersection improvements along the corridor, with careful focus on community access.</li> <li>• A 10-foot shared-use path on both sides of Route 7, with connections to local trails.</li> </ul>	\$135,872,000	\$10,000,000
I-66/Route 28 Interchange Improvement	<p>The Six-Year Improvement Program approved by the Commonwealth Transportation Board in June 2014 provided \$15 million to begin design, right of way and construction for Phase 1 improvements to the I-66 interchange at Route 28. A preliminary study identified interchange alternatives, created a concept-level operational analysis, developed cost estimates and identified key implementation constraints. Study results were shared with the community and stakeholders, and next steps included identifying funding.</p> <p>The study considered:</p> <ul style="list-style-type: none"> <li>• Traffic volumes at the year 2040</li> <li>• Right-of-way impacts and property access issues for the Fairfax County Park Authority</li> <li>• Braddock and Walney Roads</li> <li>• Community concerns</li> <li>• Possible phasing opportunities</li> </ul> <p>This cost estimate includes the base interchange, as well as Express Lanes connections.</p>	\$385,000,000	\$370,000,000

Route 1 Widening (Mt Vernon Memorial Highway to Napper Road)	The Richmond Highway widening project is 2.9 miles in length and is located between Mt. Vernon Memorial Highway (south) and Napper Road. This project will provide a six-lane facility complementing the existing Richmond Highway project currently under construction from Telegraph Road to Mt. Vernon Memorial Highway. This project will tie into the section of Richmond Highway north of Napper Road which is also a six lane facility, resulting in a six lane facility from Ft. Belvoir to I-95/I-495 in Alexandria. This project includes both pedestrian and bicycle facilities and provision for future bus rapid transit.	\$215,000,000	\$5,000,000
Route 28 Widening (Prince William County Line to Old Centreville Road)	The project consists of widening the existing four lanes (divided) to six lanes (divided) for approximately 2.3 miles, from north of the existing bridge over Bull Run to the intersection with Old Centreville Road/ Upperridge Drive. The typical section will include a shared use path on both sides of the roadway. The project also seeks to eliminate split phase signals at all intersections by expanding turning lane approaches. Existing traffic signals will be upgraded; bike and pedestrian crossings will be improved at all intersections.	\$69,000,000	\$5,000,000
Fairfax County Parkway Widening (Ox Road to ~2,000 Feet North of Lee Highway), and Fairfax County Parkway/Popes Head Road Interchange Improvement	<p>The project provides for the widening of Route 286 from Route 123 to 2,000 feet north of Route 29 from four lanes (divided) to six lanes (divided). This improvement will provide or improve pedestrian and bicycle amenities including a major paved trail on the east side and major paved regional trail on the west side. Conceptual design assumes that all existing lanes will be salvaged and that 12 feet of pavement will be added to the inside median and two feet will be added to the outside to accommodate the future HOV lanes. Intersection improvements and access management will be considered in the design.</p> <p>The project provides for an interchange at the intersection of Fairfax County Parkway, Popes Head Road and Shirley Gate Extension. The project also includes shared use paths, bicycle accommodations, and future connection to Shirley Gate Road to the east.</p>	\$194,000,000	\$10,000,000

Seven Corners Ring Road (Phase 1A/Segment 1A)	The Board of Supervisors adopted an updated Comprehensive Plan for the Seven Corners area that includes a concept for a new Seven Corners Interchange. This project will design and construct the first phase of the new Interchange. This phase consists of a new road connecting Route 7, on the western side of the existing Seven Corners Interchange, with a bridge over Route 50, around the Interchange to Sleepy Hollow Road, back to Route 7 on the eastern side of the Interchange and terminating with a bridge that goes over Route 50. Both bridges over Route 50 would include ramps connecting the area to eastbound and westbound Route 50. The entire project includes wide sidewalks and a bi-directional cycle track.	\$52,045,000	\$5,000,000
Fairfax County Parkway Spot Roadway Improvements (I-95 to Route 1)	The project consists of modifications to the Fairfax County Parkway, including spot improvements and the addition of auxiliary lanes. Project limits are from just north of the Loisdale Road intersection to just north of the Route 1 intersection, a distance of just under 3 miles. Typical modifications will include the extension of existing turn lanes, the addition of auxiliary turn lanes and intersection reconfiguration.	\$8,000,000	\$8,000,000
Frontier Drive Extension	Extend Frontier Drive from Franconia-Springfield Parkway to Loisdale Road, including access to Franconia-Springfield Metrorail Station and braided ramps to and from the Parkway. Provide on-street parking along Frontier Drive as well as pedestrian and bicycle facilities. Supports future relocation of the FBI to Springfield and access between Loisdale Road Medical Campus and Franconia-Springfield Metrorail.	\$89,500,000	\$15,000,000
Braddock Road HOV Widening (Burke Lake to I-495)	Widen Braddock Road from four lanes to six lanes plus 1-HOV lane in each direction, from I-495 to Burke Lake Road. The project would include intersection improvements such as turn lanes and signalization improvements, as well as pedestrian and bicycle facilities. There is an ongoing multi-modal study for Braddock Road. These funds may be used in the implementation of the recommendations from the multi-modal study.	\$62,300,000	\$6,200,000

<p>Fairfax Connector Capital Bus Purchase</p>	<p>Fairfax Connector is planning to commence service on two routes offering new connections between Fair Oaks and Springfield via George Mason University, and the County government and judicial centers; and between the Richmond Highway Corridor and Springfield via Beulah Street and the Hilltop and Landsdowne village center areas. In addition to the new connections, service is anticipated to be improved and expanded on Springfield Circulator routes to improve on-time performance and reduce crowding. The \$5.5 million requested would fund the purchase of 11 buses needed to operate the expanded service, which includes spares for service when buses are offline for maintenance.</p>	<p>\$5,500,000</p>	<p>\$5,500,000</p>
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**Standard Project Agreement for Funding and Administration  
between  
Northern Virginia Transportation Authority  
and**

\_\_\_\_\_  
**(Recipient Entity)**

Project Name: \_\_\_\_\_

NVTA Project Number: \_\_\_\_\_

This Standard Project Agreement for Funding and Administration ("this Agreement") is made and executed in duplicate on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, as between the Northern Virginia Transportation Authority ("NVTA") and \_\_\_\_\_ ("Recipient Entity").

**WITNESSETH**

WHEREAS, NVTA is a political subdivision of the Commonwealth of Virginia created by the Northern Virginia Transportation Authority Act ("the NVTA Act"), Chapter 25 of Title 33.2 of the Code of Virginia, as amended;

WHEREAS, Section 33.2-2500(4) of the Code of Virginia authorizes NVTA to enter into project agreements with certain statutorily designated entities for the provision of transportation facilities and services to the area embraced by NVTA;

WHEREAS, Section 33.2-2509 of the Code of Virginia authorizes NVTA to use funds from a fund established pursuant to that Code section (the "NVTA Fund") in order to assist in the financing, in whole or in part, of certain regional transportation projects in accordance with Code Section 33.2-2510;

WHEREAS, the NVTA Fund provides for the deposit therein of certain dedicated revenues and other funds appropriated by the Virginia General Assembly;

WHEREAS, Section 33.2-2510 of the Code of Virginia authorizes the use of funds from the NVTA Fund and the use of proceeds from NVTA debt issuances ("NVTA Bond Proceeds") to be used by NVTA solely for transportation purposes benefitting those counties and cities embraced by NVTA;

WHEREAS, the Project set forth and described on Appendix A to this Agreement ("the Project") satisfies the requirements of Virginia Code Section 33.2-2510;

WHEREAS, the Project is to be financed, as described in Appendix B, in whole or in part, by funds from the NVTA Fund and/or from NVTA Bond Proceeds, is located within a locality embraced by NVTA's geographical borders, or is located in an adjacent locality, but only to the extent that any such extension is an insubstantial part of the Project and is essential to the viability of the Project within the localities embraced by NVTA;

WHEREAS, \_\_\_\_\_ formally requested that NVTA provide funding to the Project by timely submitting an application for NVTA funding in response to NVTA's call for projects;

WHEREAS, NVTA has reviewed \_\_\_\_\_'s application for funding and has approved \_\_\_\_\_'s administration and performance of the Project's described scope of work;

WHEREAS, based on the information provided by \_\_\_\_\_, NVTA has determined that the Project complies with all requirements of the NVTA Act related to the use of moneys identified in Virginia Code Sections 33.2-2510(A),(C)1 and all other applicable legal requirements;

WHEREAS, the funds to be provided by NVTA described in Appendix B have been duly authorized and directed by \_\_\_\_\_ to finance the Project;

WHEREAS, NVTA agrees that \_\_\_\_\_ will design and/or construct the Project or perform such other specific work for the Project and \_\_\_\_\_ agrees that it will perform such work on the terms and conditions set forth in this Agreement and the Appendices appended thereto;

WHEREAS, both parties have concurred in the \_\_\_\_\_'s administration, performance, and completion of the Project on the terms and conditions set forth in this Agreement and its Appendices and in accordance with all applicable federal, state, and local laws and regulations; and

WHEREAS, NVTA's governing body and \_\_\_\_\_'s governing body have each authorized that their respective designee(s) execute this agreement on their respective behalf(s) as evinced by copies of each such entity's clerk's minutes which are appended hereto as Appendix E;

NOW THEREFORE, in consideration of the promises made mutual covenants, and agreements contained herein, the parties hereto agree as follows:

A. Recipient Entity's Obligations

\_\_\_\_\_ shall:

- I. Complete or perform all said work as described in Appendix A, advancing such work diligently and ensuring that all work is completed in accordance with all applicable federal, state, and local laws and regulations, and all terms and conditions of this Agreement.
2. Ensure that all work performed or to be performed under this Agreement is in accordance with the Project Description Sheets attached to Appendix A and complies with Va. Code Ann. Sections 33.2-2510(A), (C)1.
3. Perform or have performed, and remit all payment requisitions and other requests for funding for design and engineering, including all environmental work, right-of-way acquisition, construction, contract administration, testing services, inspection services, or capital asset acquisitions for the Project, as is required by this Agreement and that may be necessary for completion of the Project.
4. Not use the NVT A funds specified on Appendix B to pay any Project cost if the NVT A Act does not permit such Project cost to be paid with NVT A funds.
5. Recognize that, if the Project contains "multiple phases" (as such "multiple phases" are defined for the Project on Appendix A), for which NVT A will provide funding for such multiple phases (as set forth on Appendix B), NVT A may not provide funding to \_\_\_\_\_ to advance the Project to the next phase until the current phase is completed. In any circumstance where \_\_\_\_\_ seeks to advance a Project to the next phase using NVT A funds, \_\_\_\_\_ shall submit a written request to NVT A's Executive Director explaining the need for NVT A's funding of an advanced phase. NVT A's Executive Director will thereafter review the circumstances underlying the request in conjunction with Appendix B and NVT A's current and projected cash flow position and make a recommendation to NVT A whether to authorize the requested advance phase funding. Nothing herein, however, shall prohibit \_\_\_\_\_ from providing its own funds to

advance a future phase of the Project and from requesting reimbursement from NVTA for having advance funded a future phase of the Project. However, \_\_\_\_\_ further recognizes that NVTA's reimbursement to \_\_\_\_\_ for having advance funded a Project phase will be dependent upon NVTA's cash flow position at the time such a request for reimbursement is submitted and to the extent that any such advanced funding is consistent with Appendix B.

6. Acknowledge that NVTA's Executive Director will periodically update NVTA's project cash flow estimates with the objective toward keeping those estimates accurate throughout the life of the Project. \_\_\_\_\_ shall provide all information required by NVTA so as to ensure and facilitate accurate cash flow estimates and accurate updates to those cash flow estimates throughout the life of the Project as described in Appendix B.
7. Provide to NVTA requests for payment consistent with Appendix B and the most recently approved NVTA cash flow estimates that include NVTA's standard payment requisition(s), containing detailed summaries of actual project costs incurred with supporting documentation as determined by NVTA and that certify all such costs were incurred in the performance of work for the Project as authorized by this Agreement. Each payment requisition shall be in substantially the same form as set forth in Appendix C of this Agreement. If approved by NVTA, \_\_\_\_\_ can expect to receive payment within twenty (20) days upon receipt by NVTA. Approved payments may be made by means of electronic transfer of funds from NVTA to or for the account of \_\_\_\_\_.
8. Promptly notify NVTA's Executive Director of any additional project costs resulting from unanticipated circumstances and provide to NVTA detailed estimates of additional costs associated with those circumstances. \_\_\_\_\_ understands that it will be within NVTA's sole discretion whether to provide any additional funding to the Project in such circumstances and that NVTA will do so only in accordance with NVTA's approved Project Selection Process and upon formal action and approval by NVTA. \_\_\_\_\_ shall timely provide to NVTA a

complete and accurate update to Appendix B, if NVTA approves funding of any additional Project costs for the Project under this Paragraph.

9. Release or return any unexpended funds to NVTA no later than 90 days after final payment has been made to the contractors.
10. Review and acknowledge the requirements of NVTA Resolution No. 14-08 adopted January 23, 2014; to wit that, if applicable to \_\_\_\_\_'s Project: a) Prior to any NVTA funds being released for a project that may be part of a larger project, projects, or system undertaken with an extra-territorial funding partner, all such extra-territorial funding partners must commit to pay their appropriate, respective proportionate share or shares of the larger project or system cost commensurate with the benefits to each on a basis agreed upon by the NVTA member localities; b) any such funds released by NVTA for such project will be in addition to the funds that the NVTA member locality is to receive from or be credited with by the extra-territorial funding partner for the project or system; and c) there shall be no funding made available by NVTA until such time as all extra-territorial funding partners for such project or system pay or officially commit to fund their appropriate, respective proportionate shares of such large project or system commensurate with the benefits to each on a basis agreed upon with NVTA.
11. Should \_\_\_\_\_ be required to provide matching funds in order to proceed or complete the funding necessary for the Project, \_\_\_\_\_ shall certify to NVTA that all such matching funds have been either authorized and/or appropriated by \_\_\_\_\_s governing body or have been obtained through another, independent funding source;
12. Maintain complete and accurate financial records relative to the Project for all time periods as may be required by the Virginia Public Records Act and by all other applicable state or federal records retention laws or regulations, unless superseded by the laws that govern \_\_\_\_\_ and provide copies of any such financial records to NVTA, free of charge, upon request.



13. Maintain all original conceptual drawings and renderings, architectural and engineering plans, site plans, inspection records, testing records, and as built drawings for the Project for the time periods required by the Virginia Public Records Act and any other applicable records retention laws or regulations, unless superseded by the laws that govern \_\_\_\_\_; and provide to NVTA copies of all such drawings and plans free of charge, upon request.
14. Reimburse NVTA for all NVTA funds (with interest earned at the rate earned by NVTA) that \_\_\_\_\_ misapplied or used in contravention of Sections 33.2-2500 *et. seq.* of the Virginia Code (“the NVTA Act”) Chapter 766 of the 2013 Virginia Acts of Assembly (“Chapter 766”), or any term or condition of this Agreement.
15. Name NVTA and its Bond Trustee or require that all \_\_\_\_\_’s contractors name NVTA or its Bond Trustee as an additional insured on any insurance policy issued for the work to be performed by or on behalf of \_\_\_\_\_ for the Project and present NVTA with satisfactory evidence thereof before any work on the Project commences or continues.
16. Give notice to NVTA that \_\_\_\_\_ may use NVTA funds to pay outside legal counsel services (as opposed to utilizing the services of its own in-house counsel or NVTA’s in-house legal counsel) in connection with the work performed under this Agreement \_\_\_\_\_ so as to ensure that no conflict of interest may arise from any such representation.
17. Provide certification to NVTA, that upon final payment to all contractors for the Project, \_\_\_\_\_ will use the Project for its intended purposes for the duration of the Project’s useful life. Under no circumstances will NVTA be considered responsible or obligated to operate and/or maintain the Project after its completion.
18. Comply with all requirements of the Virginia Public Procurement Act and other applicable Virginia Code provisions, or local ordinances which govern the letting of public contracts, unless superseded by the laws that govern \_\_\_\_\_.

19. Acknowledge that if the Project is being funded in whole or in part by NVTA Bond Proceeds, comply with the tax covenants attached as Appendix D.
20. Acknowledge that if \_\_\_\_\_ expects and/or intends that the Project is to be submitted for acceptance by the Commonwealth into its system that \_\_\_\_\_ agrees to comply with the Virginia Department of Transportation's ("VDOT's") "Standards, Requirements and Guidance."
21. Recognize that \_\_\_\_\_ is solely responsible for obtaining all permits and permissions necessary to construct and/or operate the Project, including but not limited to, obtaining all required VDOT and local land use permits, applications for zoning approvals, and regulatory approvals.
22. Recognize that if \_\_\_\_\_ is funding the Project, in whole or in part, with federal and/or state funds, in addition to NVTA funds and/or NVTA Bond Proceeds that \_\_\_\_\_ will need to comply with all federal and Commonwealth funding requirements, including but not limited to, the completion and execution of VDOT's Standard Project Administration Agreement and acknowledges that NVTA will not be a party or signatory to that Agreement; nor will NVTA have any obligation to comply with the requirements of that Agreement.
23. Provide a certification to NVTA no later than 90 days after final payment to the contractors that \_\_\_\_\_ adhered to all applicable laws and regulations and all requirements of this Agreement.

B. NVTA's Obligations

NVTA shall:

- I. Provide to \_\_\_\_\_ the funding authorized by NVTA for design work, engineering, including all environmental work, all right-of-way acquisition, inspection services, testing services, construction, and/or capital asset acquisition(s) on a reimbursement basis as set forth in this Agreement and as specified in the Project Budget and Cash Flow contained in

Appendix B to this Agreement or the most updated amendment thereto, as approved by NVTA.

2. Assign a Program Coordinator for the Project. NVTA's Program Coordinator will be responsible for monitoring the Project on behalf of NVTA so as to ensure compliance with this Agreement and all NVTA's requirements and with overseeing, managing, reviewing, and processing, in consultation with NVTA's Executive Director and its Chief Financial Officer ("CFO") , all payment requisitions submitted by \_\_\_\_\_ for the Project. NVTA's Program Coordinator will have no independent authority to direct changes or make additions, modifications, or revisions to the Project Scope of Work as set forth on Appendix A or to the Project Budget and Cash Flow as set forth on Appendix B.
3. Route to NVTA's assigned Program Coordinator all \_\_\_\_\_'s payment requisitions, containing detailed summaries of actual Project costs incurred which are in substantially the same form as shown on Appendix C submitted to NVTA for the Project. After submission to NVTA, NVTA's Program Coordinator will conduct an initial review of all payment requisitions and supporting documentation for the Project in order to determine the submission's legal and documentary sufficiency. NVTA's Program Coordinator will then make a recommendation to the NVTA's CFO and Executive Director whether to authorize payment, refuse payment, or seek additional information from \_\_\_\_\_. If the payment requisition is sufficient as submitted, payment will be made within twenty (20) days from receipt. If the payment requisition is deemed insufficient, within twenty (20) days from receipt, NVTA's Program Coordinator will notify \_\_\_\_\_ in writing and set forth the reasons why the payment requisition was declined or why and what specific additional information is needed for processing the payment request. Payment will be withheld until all deficiencies identified by NVTA have been corrected. Under no circumstances will NVTA authorize payment for any work performed by or on behalf of \_\_\_\_\_ that is not in conformity with the requirements of the NVTA Act, Chapter 766, or this Agreement.

4. Route all \_\_\_\_\_'s supplemental requests for funding from NVTA under Paragraphs A.5 and A.8 of this Agreement to NVTA's Executive Director. NVTA's Executive Director will initially review those requests and all supporting documentation with NVTA's CFO. After such initial review, NVTA's Executive Director will make a recommendation to NVTA's Finance Committee for its independent consideration and review. NVTA's Finance Committee will thereafter make a recommendation on any such request to NVTA for final determination by NVTA.
5. Conduct periodic compliance reviews scheduled in advance for the Project so as to determine whether the work being performed remains within the scope of this Agreement, the NVTA Act, Chapter 766, and other applicable law. Such compliance reviews may entail review of \_\_\_\_\_'s financial records for the Project and on -site inspections.
6. Acknowledge that if, as a result of NVTA's review of any payment requisition or of any NVTA compliance review, NVTA staff determines that \_\_\_\_\_ has misused or misapplied any NVTA funds in derogation of this Agreement or in contravention of the NVTA Act, Chapter 766 or applicable law, NVTA staff will promptly advise NVTA's Executive Director and will advise \_\_\_\_\_'s designated representative in writing. \_\_\_\_\_ will thereafter have thirty (30) days to respond in writing to NVTA's initial findings. NVTA's staff will review \_\_\_\_\_'s response and make a recommendation to NVTA's Finance Committee. NVTA's Finance Committee will thereafter conduct its own review of all submissions and make a recommendation to NVTA. Pending final resolution of the matter, NVTA will withhold further funding on the Project. If NVTA makes a final determination that \_\_\_\_\_ has misused or misapplied funds in contravention of this Agreement, the NVTA Act, Chapter 766, or other applicable law, NVTA will cease further funding for the Project and will seek reimbursement from \_\_\_\_\_ of all funds previously remitted by NVTA (with interest earned at the rate earned by NVTA) which were misapplied or misused by \_\_\_\_\_. Nothing herein shall, however, be construed as denying, restricting or limiting the pursuit of either party's legal rights or available legal remedies.

7. Make guidelines available to \_\_\_\_\_ to assist the parties in carrying out the terms of this Agreement in accordance with applicable law.
8. Upon recipient's final payment to all contractors, retain copies of all contracts, financial records, design, construction, and as-built project drawings and plans for the Project for the time periods required by the Virginia Public Records Act and as may be required by other applicable records retention laws and regulations.
9. Be the sole determinant of the amount and source of NVTA funds to be provided and allocated to the Project and the amounts of any NVTA funds to be provided in excess of the amounts specified in Appendix B.

C. Term

1. This Agreement shall be effective upon adoption and execution by both parties.
2. \_\_\_\_\_ may terminate this Agreement, for cause, in the event of a material breach by NVTA of this Agreement. If so terminated, NVTA shall pay for all Project costs incurred through the date of termination and all reasonable costs incurred by \_\_\_\_\_ to terminate all Project related contracts. The Virginia General Assembly's failure to appropriate funds to NVTA as described in paragraph F of this Agreement or repeal of the legislation establishing the NVTA fund created pursuant to Chapter 766 shall not be considered material breaches of this Agreement by NVTA. Before initiating any proceedings to terminate under this Paragraph, \_\_\_\_\_ shall give NVTA sixty (60) days written notice of any claimed material breach of this Agreement; thereby allowing NVTA an opportunity to investigate and cure any such alleged breach.
3. NVTA may terminate this Agreement, for cause, resulting from \_\_\_\_\_'s material breach of this Agreement. If so terminated, \_\_\_\_\_ shall refund to NVTA all funds NVTA provided to \_\_\_\_\_ for the Project (including interest earned at the rate earned by NVTA). NVTA will provide \_\_\_\_\_ with sixty (60) days written notice that NVTA is exercising its rights to terminate this Agreement and the reasons for termination. Prior to termination, \_\_\_\_\_ may

request that NVTa excuse \_\_\_\_\_ from refunding all funds NVTa provided to \_\_\_\_\_ for the Project based upon \_\_\_\_\_'s substantial completion of the Project or severable portions thereof; and NVTa may, in its sole discretion, excuse \_\_\_\_\_ from refunding all or a portion of the funds NVTa provided to \_\_\_\_\_ for the Project. No such request to be excused from refunding will be allowed where \_\_\_\_\_ has either misused or misapplied NVTa funds in contravention of applicable law.

4. Upon termination and payment of all eligible expenses as set forth in Paragraph C.3 above, \_\_\_\_\_ will release or return to NVTa all unexpended NVTa funds with interest earned at the rate earned by NVTa no later than sixty (60) days after the date of termination.

D. Dispute

In the event of a dispute under this Agreement, the parties agree to meet and confer in order to ascertain if the dispute can be resolved informally without the need of a third party or judicial intervention. NVTa's Executive Director and \_\_\_\_\_'s Chief Executive Officer or Chief Administrative Officer shall be authorized to conduct negotiations on behalf of their respective entities. If a resolution of the dispute is reached via a meet and confer dispute resolution method, it shall be presented to NVTa and to \_\_\_\_\_'s governing body for formal confirmation and approval. If no satisfactory resolution can be reached via the meet and confer method, either party is free to pursue whatever remedies it may have at law, including all judicial remedies.

E. NVTa's Financial Interest in Project Assets

\_\_\_\_\_ agrees to use the real property and appurtenances and fixtures thereto, capital assets, equipment and all other transportation facilities that are part of the Project and funded by NVTa under this Agreement ("Project Assets") for the designated transportation purposes of the Project under this Agreement and in accordance with applicable law throughout the useful life of each Project Asset. NVTa shall retain a financial interest in the value of each of the of the Project Assets, whether any such Project Asset may have depreciated or appreciated, throughout its respective useful life proportionate to the amount of the cost of the Project Asset funded by NVTa under this

Agreement. In the event that \_\_\_\_\_ fails to use any of the Project Assets funded under this Agreement for the transportation purposes as authorized by this Agreement or applicable law throughout its respective useful life, \_\_\_\_\_ shall refund to NVTA with interest at the rate earned by NVTA the amount attributable to NVTA's proportionate financial interest in the value of said Project Asset. If \_\_\_\_\_ refuses or fails to refund said monies to NVTA, NVTA may recover its proportionate financial interest from \_\_\_\_\_ by pursuit of any remedies available to NVTA, including but not limited to NVTA's withholding of commensurate amounts from future distributions of NVTA funds to \_\_\_\_\_.

F. Appropriations Requirements

1. Nothing herein shall require or obligate any party to commit or obligate funds to the Project beyond those funds that have been duly authorized and appropriated by their respective governing bodies.
2. The parties acknowledge that all funding provided by NVTA pursuant to Chapter 766 is subject to appropriation by the Virginia General Assembly. The parties further acknowledge that: (i) the moneys allocated to the NVTA Fund pursuant to Va. Code Ann. Sections 58.1-638, 58.1-802.2, and 58.1-1742 and any other moneys that the General Assembly appropriates for deposit into the NVTA Fund are subject to appropriation by the General Assembly and (ii) NVTA's obligations under this Agreement are subject to such moneys being appropriated for deposit in the NVTA Fund by the General Assembly.

G. Notices

All notices under this Agreement to either party shall be in writing and forwarded to the other party by U.S. mail, care of the following authorized representatives:

- 1) to: NVTA, to the attention of its Executive Director;  
3040 Williams Drive, Suite 200  
Fairfax, VA 22031
- 2) to \_\_\_\_\_, to the attention of \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (address)

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O. Governing Law

This Agreement is governed by the laws of the Commonwealth of Virginia.

IN WITNESS WHEREOF, each party hereto has caused this Agreement to be executed as of the day, month, and year first herein written by their duly authorized representatives.

Northern Virginia Transportation Authority

By: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_ (Name of Recipient Entity)

By: \_\_\_\_\_

Date: \_\_\_\_\_



## **FY 2015-16 PROJECT DESCRIPTION FORM (1Q)**

### **Basic Project Information**

**Submitting Agency:** Fairfax County

**Project Title:** Innovation Center Metrorail Station (1Q)

**Project Type (check one):**

Roadway ( )    Transit (X)

**VA State Route Number (if applicable) and NVT Authority Corridor Number (1-8):** VA 28 (Sully Road, Corridor 3) and VA 267 (Dulles Toll Road, Corridor 1)

1. **Project Description:** The Metropolitan Washington Airports Authority, in cooperation with the Washington Metropolitan Area Transit Authority, is constructing a 23.1 mile extension of the Metrorail system in the growing Dulles Corridor area of Northern Virginia. The Metropolitan Washington Airports Authority is constructing the Metrorail line in two phases; Phase 1, the extension to Wiehle Avenue, has already been constructed and is now open for revenue operation and Phase 2, the Extension to Dulles Airport/Route 772, is currently undergoing design and construction. Innovation Center Metrorail Station is one of the three stations being constructed in Fairfax County as part of Phase 2. The station will include pavilion entrances, covered pedestrian bridges, dual elevators and escalators, and bicycle accommodations.
2. **Requested NVT Authority Funds:** \$28,000,000
3. **Phase(s) of Project Covered by Requested NVT Authority Funds:** Construction
4. **Total Cost to Complete Project:** \$89,000,000
5. **Project Milestone -Study Phase:** November 2011 - Preliminary Engineering; April 2012 – Environmental Assessment
6. **Project Milestone -Preliminary Engineering (30% Design):** Start of PE - November 2013
7. **Project Milestones -Final Design:** Start of Final Design - June 2014
8. **Project Milestones -Right-of-Way:** January 2016
9. **Project Milestone – Construction:** Start of Construction - Construction for Dulles Rail Phase II has already started, and is scheduled for completion by summer 2018.



**Northern Virginia Transportation Authority**  
*The Authority for Transportation in Northern Virginia*

**10. Project Milestone – Mass Transit Vehicle Acquisition: N/A**

**11. Is Project in Transaction 2040:**

Yes (X)      No ( )

**12. Project in 2010 CLRP:** Yes. CLRP, ID #1981

**13. Project Leverages other Funding:** (please state amount)

- Local ( )
- State ( )
- Federal ( )
- Other:



**Innovation Center Metrorail Station 1Q**

## Stated Benefits

- **What Regional benefit(s) does this project offer?**

The Innovation Center Metrorail Station provides access to the Silver Line extension of the rail system from Washington DC, to and beyond the Dulles International Airport. In addition to the station itself, the facility will include a separate parking garage with bus bays, kiss-and-ride spaces, and bicycle lockers.

This station provides rail and bus travel options throughout the Washington DC metropolitan region, including two states and the District of Columbia.

- **How does the project reduce congestion?**

The project removes single-occupant vehicle (SOV) trips from the highly congested roadways, provides a connection to air, rail and bus travel modes, as well as promotes carpooling.

- **How does project increase capacity? (Mass Transit Projects only )**

Innovation Metrorail Station is one of three new stations in Fairfax County being constructed as part of Phase 2 of the Silver Line. As such, it provides access to the additional capacity in the corridor provided by the Silver Line.

- **How does project improve auto and pedestrian safety?**

By reducing congestion on the roadways, the project will increase safety for both vehicles and pedestrians by reducing vehicle conflicts.

- **List internet links below to any additional information in support of this project:**

<http://www.fairfaxcounty.gov/fcdot/silverline/>  
<http://www.dullesmetro.com/about/phase-2.cfm.html>  
<http://www.metwashairports.com/380.htm>



# **Northern Virginia Transportation Authority** *The Authority for Transportation in Northern Virginia*



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**Innovation Center Metrorail Station 1Q**

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barY\*Uanale@fairfaxUounty\*.gov

NLTA Prograb 9oorOinator 9ontaUt inforbation: Keith Jasper, "703' 612-1655,  
Keith\*Jasper@thenovaaauthority\*.org

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ACTION – 5

Approval of a Process to Assign, Prioritize, Track, Review, and Consider for Approval or Implementation the Recommendations Contained in the Final Report of the Ad Hoc Police Practices Review Commission, Dated October 8, 2015

ISSUE:

The Ad Hoc Police Practices Review Commission's final report was presented to and accepted by the Board on October 20, 2015. The report contains 142 primary recommendations of varying scope, complexity, and requirements that impact not only the Police Department, but multiple agencies or stakeholders. A process is required to ensure all recommendations are assigned, tracked, and considered appropriately for approval and implementation if adopted and that status updates are provided to the Board and the public.

RECOMMENDATION:

The County Executive recommends that the Board approve this process designed to assign, track, and consider all of the recommendations of the Ad Hoc Police Practices Review Commission's final report, dated October 8, 2015. A process was requested by the Board at its Public Safety Committee meeting of October 27, 2015.

TIMING:

Board of Supervisors' approval is requested on November 17, 2015.

BACKGROUND:

The creation of an Ad Hoc Police Practices Review Commission was moved by Chairman Sharon Bulova and approved by the Board on March 3, 2015. The purpose of the Commission was to engage the community in an open and transparent process to recommend changes to help the Board and the Police Department achieve the goals of maintaining a safe community, ensuring a culture of public trust, providing for the fair and timely resolution of police-involved incidents and information release, and reviewing Crisis Intervention Training (CIT) and police responses for cases involving mental health.

The Commission met as a whole and in five subcommittees created to focus their efforts. These subcommittees were Communications; Recruitment, Diversity, and Vetting; Mental Health and CIT; Use of Force; and Independent Oversight and Investigations. The Commission and the subcommittees held 40 meetings and two public hearings, ultimately developing and adopting 142 primary recommendations. A number of these also contain additional sub recommendations.

The Commission's final report was presented to and accepted by the Board on October 20, 2015. The recommendations were discussed at the Board's Public Safety Committee meeting on October 27, 2015, with the five subcommittee chairs or a delegate providing an overview of the primary recommendations. The Chief of Police also presented on the Police Department's engagement in the Commission's work and initial efforts on some of the recommendations. Recognizing the complexity of this effort, the Public Safety Committee requested a process to assign, prioritize, review, track, and consider the Commission's recommendations be developed for Board consideration and approval at its meeting of November 17, 2015.

The Commission's recommendations vary in scope, complexity, and requirements. Some are straightforward; however, many will require further review, cross-agency or cross-discipline collaboration, significant public policy discussion by the Board, approval of one-time or recurring funding for programs or positions, or legislative changes. Even if considered or recommended for adoption, some may have to be planned and implemented over several calendar or fiscal years depending on legislative requirements or any phased implementation of associated costs. Therefore, it is difficult to define one process through which all will be considered or achieved.

The Police Department is the primary agency for most of the Commission's recommendations, with some that require no additional resources or funding and that are within the authority of the Chief of Police to implement already underway or near completion. Some of these recommendations mirror those contained within the *Use-of-Force Policy and Practice Review of the Fairfax County Police Department* report conducted by the Police Executive Research Forum (PERF), dated June 2015. Others are related to standards required to be met by the Police Department to achieve accreditation through the Commission on Accreditation for Law Enforcement Agencies (CALEA), an initiative also already underway. The Chief of Police formed an internal Policy and Directives Change Team to facilitate these two efforts, and the team is now also assigned as the Department's lead on the Commission's recommendations.

However, in addition to the Police Department, there are other agencies and stakeholders already engaged or which will need to be engaged throughout this process. These include, but are not limited to, the Department of Management and Budget, the County Attorney's Office, the Office of Public Affairs, the Department of Information Technology, the Sheriff's Office, the Commonwealth's Attorney's Office, the courts, and the Fairfax-Falls Church Community Services Board. Some of the recommendations are also embedded in Diversion First, a County mental health initiative already underway.

The Deputy County Executive for Public Safety will be responsible and accountable for ensuring the assignment of each recommendation to a lead entity, identifying and connecting other agencies and stakeholders, facilitating continuing cross-agency or cross-discipline collaboration as needed, establishment of any required work groups,

and the scheduling of items for appropriate Board committee meetings or other meetings or forums for discussion.

To move forward on consideration of the Commission's report it is recommended that more frequent Public Safety Committee meetings be scheduled so issues may be prioritized and set on future agendas. Some issues such as independent review or body worn cameras are more complex, including not only potential funding and position requirements, but significant public policy discussion and debate, and may require a full meeting or multiple meetings for consideration and discussion. Some of the recommendations will also require discussion or consideration at other Board committee meetings, to include the Human Services or Legislative Committees. Many recommendations will require final Board consideration and action through, for example, Board Items or the budget process.

Staff believes it is important to continue to engage Commission members as recommendations are discussed and considered. It is recommended that this be accomplished through the creation of a small ad hoc Police Practices Implementation Advisory Committee to include the chairs of the five Commission subcommittees or a designee of the Commission Chairman. This committee will be asked to participate in relevant discussions in order to clarify recommendations or provide guidance to staff and/or members of the Board, and will be updated on progress and status of the recommendations. Committee members may assign or designate other members of the Commission or subcommittees when needed. The Deputy County Executive for Public Safety will be the primary point of contact between this committee and the respective agencies or stakeholders and will have the responsibility to facilitate continued communication, collaboration, and engagement.

For accountability, an Excel assignment and tracking spreadsheet (Attachment 1) has been developed and will be used to track and report the status for each primary and sub recommendation, and to identify the lead entity, other agencies or stakeholders required, other related initiatives to which they may be linked, potential funding or position requirements, legal review or legislative change requirements, and to identify the approving authority.

The Deputy County Executive for Public Safety will be responsible and accountable for maintaining the tracking spreadsheet and for ensuring status updates are provided to the Board and the public. The Excel form will be posted online, but due to the complexity and breadth of the spreadsheet, staff will work with the Office of Public Affairs to develop a more web friendly "report card" to also post online and share status of the recommendations with the public.

Finally, the Deputy County Executive for Public Safety will be responsible for the completion of a final summary report to the Board when all of the recommendations have been considered and acted on, with the action taken on each listed.

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If approved, staff will work with the Chairman to schedule future Public Safety Committee meetings.

FISCAL IMPACT:

None. There is no fiscal impact for this item and its defined process. However, there will be future fiscal impacts, one-time and recurring, for some of the recommendations if later adopted by the Board.

ENCLOSED DOCUMENTS:

Attachment 1 - Ad Hoc Practices Review Commission Recommendations Assignment and Tracking Spreadsheet

STAFF:

David M. Rohrer, Deputy County Executive  
Edwin C. Roessler Jr., Chief of Police, Police Department

DRAFT

AD HOC POLICE PRACTICES REVIEW COMMISSION REPORT RECOMMENDATIONS ASSIGNMENT AND TRACKING SPREADSHEET (SAMPLE PAGE - NOT TO SCALE)														
NUMBER	TOPIC	REPORT PAGE	RECOMMENDATION NARRATIVE	LEAD AGENCY / ENTITY	OTHER AGENCIES / STAKEHOLDERS	LINK TO PERF REPORT / CALEA	LINK TO OTHER INITIATIVE (i.e., Diversion First)	POTENTIAL LEGAL REVIEW / LEGISLATIVE CHANGE REQUIRED	POTENTIAL FUNDING REQUIREMENT (Range)	POTENTIAL POSITIONS REQUIRED (Number)	PUBLIC SAFETY COMMITTEE AGENDA ITEM (Y/N, Date)	TIMELINE / OTHER COMMENTS	APPROVING AUTHORITY (i.e., BOS, PD, CSB, etc.)	STATUS
Communications Subcommittee														
Recruitment, Diversity, and Vetting Subcommittee														
Mental Health and CIT Subcommittee														
Use of Force Subcommittee														
Independent Oversight and Investigations Subcommittee														

ACTION – 6

Endorsement of Principles and Interim Comments on the I-66 Inside the Beltway Multimodal Improvement Project Framework Agreement (Dranesville, Mason and Providence Districts)

ISSUE:

Board endorsement of principles and interim comments on the I-66 Inside the Beltway Multimodal Improvement Project Framework Agreement.

RECOMMENDATION:

The County Executive recommends that the Board endorse the following principles and interim comments on the I-66 Inside the Beltway Multimodal Improvement Project Framework Agreement which are contained in a letter to Secretary of Transportation Aubrey Layne and Northern Virginia Transportation Commission (NVTC) Chairman David Snyder (Attachment I):

Principles Related to the Framework Agreement

- The Board supports the goals of the I-66 Inside the Beltway Multimodal Improvement Project which are:
  - Increasing person throughput in the corridor;
  - Improving travel times;
  - Reducing congestion;
  - Increasing travel choices for Single Occupant Vehicle (SOV) drivers and transit users; and
  - Improving travel conditions on local roads
- If local governments are not party to the Framework Agreement between the Commonwealth and NVTC related to this project, a second agreement between NVTC and the jurisdictions specifically outlining project selection procedures should be developed;
- The effects of tolling I-66 inside the Beltway on adjacent and parallel roadways should be considered when determining when to widen I-66 inside the Beltway;
- Addressing negative impacts on the adjacent and parallel roadway network should be high priorities for the selection and implementation of multimodal projects to be supported by toll revenues, and to the extent possible, these projects should be completed before tolling is implemented; and
- Toll rates should be kept reasonable.



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Interim Comments on the Framework Agreement

- The current form of the Framework Agreement includes language in various places that allows the Commonwealth to interrupt the flow of funding to NVTC. These exclusions should be reduced to a minimum level to prevent impacts on the implementation of multimodal projects, and the Commonwealth should consider incorporating additional language and/or strategies (such as limiting the amount of toll revenue spent on operations and maintenance of the toll equipment) to improve the marketability of I-66 Inside the Beltway bonds that NVTC may consider issuing. Otherwise, it is unclear whether bonds issued by NVTC and supported by toll revenues will be marketable;
- The Commonwealth Transportation Board (CTB) should not be able to veto the projects NVTC selects for funding with excess toll road revenues, so long as the projects meet the requirements of the federal court decision related to the use of toll road revenues, federal and state law and the Framework Agreement;
- Funding created by this project should not be used to reduce the amount of statewide maintenance and operations funding the region or local jurisdictions receive; and
- Limits should be considered on the amount of toll road revenues used for the operation and maintenance of the facility, based upon VDOT's experience on the operations and maintenance of tolling equipment used on the I-95 and I-495 Express Lanes.

TIMING:

The Board should act on this item on November 17, 2015, because NVTC and the CTB will be voting on the Framework Agreement on December 3, 2015, and December 9, 2015, respectively.

BACKGROUND:

The McAuliffe Administration is interested in proceeding with multimodal improvements, including High Occupancy Toll (HOT) Lanes, on I-66 inside the Beltway. These improvements will include dynamically tolling I-66 inside the Beltway during peak periods in the peak direction only, and using the proceeds for a package of multimodal improvements that will benefit the toll payers, including, for example, bus service, eight-car trains for Metrorail, roadway spot improvements, transportation demand management projects in the corridor, and eventually, widening the interstate between the Dulles Connector Road and Fairfax Drive in Arlington. The tolling of the interstate inside the Beltway is scheduled to be implemented by 2017, and may include some initial multimodal projects. High Occupancy Vehicle (HOV)-2 and higher vehicles will continue to be able to use I-66 Inside the Beltway for free initially in the peak direction. This policy will then transition to HOV-3 and higher vehicles being free in 2020, as has

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been outlined in the Washington region's Constrained Long Range Plan. All vehicles that are allowed to use the facility today would be allowed to use the facility outside the peak periods.

The goals of the project include:

- Increasing person throughput in the corridor;
- Improving travel times;
- Reducing congestion;
- Increasing travel choices for Single Occupant Vehicle (SOV) drivers and transit users; and
- Improving travel conditions on local roads

Virginia Department of Transportation (VDOT) staff briefed the Board on this project at the Board Transportation Committee meeting on January 20, 2015. Subsequently, Secretary of Transportation Aubrey Layne contacted Arlington Board Chairman Mary Hynes, Fairfax County Board Chairman Sharon Bulova and City of Falls Church Mayor David Tarter requesting assistance in identifying a partner agency in Northern Virginia to assist with the implementation of the multimodal improvement project and manage future revenues generated by the project. Since VDOT intends to implement the toll facility inside the Beltway without a private sector partner, a public sector partner is needed to receive and manage the revenues and facilitate the implementation of the multimodal improvements in the future. The governing bodies of the three jurisdictions requested that the Northern Virginia Transportation Commission (NVTC) serve as the regional partner agency for this project. (The Board of Supervisors acted on this request on March 3, 2015). The Secretary subsequently agreed with this request.

The Board was briefed on the initial version of the Framework Agreement on July 14, 2015, and asked that staff schedule time for the Board to discuss the project itself and consider comments on the project to send to the Secretary. This meeting was held on September 11, 2015, and the Board adopted comments related to the project on September 22, 2015. A copy of the Board's comments is attached as Attachment II.

Since January 2015, County staff have been working with staff from Arlington County, Falls Church, VDOT, the Virginia Department of Rail and Public Transportation (DRPT), and NVTC in pursuing various aspects of this project. These efforts included the development of a framework agreement to guide the process for managing the toll road revenues and selecting projects to be implemented with these revenues. While progress has been made on the Framework Agreement, the agreement is not complete. In addition, the draft agreement does not include the local jurisdictions as parties. As a result, County staff recommends that the Board approve principles and comments related to the agreement and the project, since NVTC is expected to act on the agreement on December 3. The CTB is expected to act on the agreement on December 9.

The major components of the current draft of the Framework Agreement are:

- The parties will be NVTC and the CTB;
- The agreement covers multimodal improvements to I-66 from the intersection with I-495 and Route 29 in the Rosslyn area of Arlington County;
- The agreement is intended to facilitate implementation of recommendations included in VDOT's June 2012 Final Report of the I-66 Multimodal Study Inside the Beltway; the August 2013 Supplemental Report; and the Department of Rail and Public Transportation's 2009 Transportation Demand Management/Transit Report, as well as projects in the corridor that are included in the region's Constrained Long Range Plan;
- The agreement specifies that improvements implemented must benefit the toll payers, per Federal and Virginia law;
- The agreement provides \$5 million from the Toll Road Revolving Fund to initiate the initial list of components;
- The agreement specifically outlines that VDOT will convert the existing facility to a dynamically tolled facility in the peak direction, during the peak period, and that HOV-2+ vehicles will be permitted to use the facility for free until 2020 or upon any increase to HOV-3 occupancy requirements for HOV lanes of I-66 outside the Beltway. After 2020, HOV-3+ vehicles will be able to use the facility for free. All vehicles current permitted to use this section of I-66 will be permitted to use the facility for free in the off-peak periods. It also includes widening I-66 eastbound from the Dulles Connector Road to Fairfax Drive, subject to certain conditions;
- The conditions for widening I-66 eastbound are:
  - The eastbound lanes of the Facility between the Dulles Connector Road and Exit 71 are operating at an average speed of 50 miles per hour for 90 percent of the time during tolling periods. The average operating speed of I-66 will be reported every 180-days (bi-annually) to NVTC.
  - The average travel times do not experience a 10 percent increase on the eastbound lanes of Route 50 or Route 29 between I-495 and Route 120 (Glebe Road). (Other roadways are also being discussed). Data will be collected daily and reported quarterly, beginning toll day one.
- VDOT will control and manage the toll facility and collect the tolls;
- The first use of the toll revenues will be to operate and maintain the toll equipment and signage; however, VDOT agrees to continue to allocate the same amount of funding for the operation and maintenance of I-66 inside the Beltway as it has in the past from other sources;
- Other uses of toll revenues in priority order are: repayment of Toll Facilities Revolving Account for funding provided for initial components; debt service on any bonds issued by NVTC; the pay-as-you-go cost of other components, including NVTC implementation costs; the costs associated with widening I-66;

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- Excess toll road revenues will be used for multimodal improvement project components selected by NVTC that benefit the toll road users;
- The CTB delegates the authority to NVTC to select the multimodal improvement projects, and the CTB will subsequently provide funding for these projects;
- The agreement does not grant NVTC any authority over I-66 or other roadways in the I-66 corridor;
- The agreement specifies that NVTC must develop evaluation factors and a selection process to identify which components will be funded. This process must include a public hearing;
- The agreement outlines the conditions under which VDOT can suspend tolling;
- The agreement outlines the types of components that NVTC can fund with toll revenues;
- The agreement requires NVTC to allocate toll revenues within two years and expend the revenues within five years;
- The agreement notes that the Commonwealth will not be responsible for any debt issued by NVTC to fund components of the project; and
- The agreement outlines monitoring requirements.

At the same time, VDOT and DRPT staff and their consultant team have been working on a traffic and revenue study that will estimate the impacts of the I-66 Inside the Beltway Multimodal Project on the roadway network parallel and adjacent to I-66 inside the Beltway. This study was originally expected to be completed in mid-August 2015; however, work on the study is continuing, particularly in light of the Governor's recent decision not to toll traffic in the counter-flow direction.

Based on the review of the data received so far, County staff has reached the following conclusions:

- In 2017, allowing HOV-2+ vehicles to use the facility for free and allowing the tolling of non-HOV-2+ vehicles reduces traffic on parallel roadways in the peak direction;
- The conversion from HOV-2+ to HOV-3+ vehicles being free in 2020, results in some increases in volumes on parallel roadways, particularly along U.S. Route 50 in Fairfax County; and
- The Governor's decision not to toll traffic in the counter-flow direction has significantly reduced impacts of the project on adjacent and parallel roadways in Fairfax County.

County staff is continuing to work with the inter-jurisdictional technical working group and the VDOT consultant team to identify the ability of the existing infrastructure to handle the increases upon conversion to HOV-3+ and to identify mitigation measures that may be needed. Additional analyses will be conducted on 2040 traffic data to determine any mitigation that may be needed.

A revised schedule of major milestone actions is included in this item as Attachment III.

Since neither the Framework Agreement nor the traffic and revenue study are complete and several key provisions, such as termination language and the priorities for use of toll road revenues, are still being negotiated, County staff has developed a recommended list of principles and interim comments related to the project for the Board's consideration. Additional work still needs to be done during the next three weeks to complete a document for consideration by NVTC and the CTB. These comments are in addition to the original list of comments the Board approved on September 22, 2015 (Attachment II). They are:

#### Principles Related to the Framework Agreement

- The Board supports the goals of the I-66 Inside the Beltway Multimodal Improvement Project which are:
  - Increasing person throughput in the corridor;
  - Improving travel times;
  - Reducing congestion;
  - Increasing travel choices for Single Occupant Vehicle (SOV) drivers and transit users; and
  - Improving travel conditions on local roads
- If local governments are not party to the Framework Agreement between the Commonwealth and NVTC related to this project, a second agreement between NVTC and the jurisdictions specifically outlining project selection procedures should be developed;
- The effects of tolling I-66 inside the Beltway on adjacent and parallel roadways should be considered when determining when to widen I-66 inside the Beltway;
- Addressing negative impacts on the adjacent and parallel roadway network should be high priorities for the selection and implementation of multimodal projects to be supported by toll revenues, and to the extent possible, these projects should be completed before tolling is implemented; and
- Toll rates should be kept reasonable.

#### Interim Comments on the Framework Agreement

- The current form of the Framework Agreement includes language in various places that allows the Commonwealth to interrupt the flow of funding to NVTC. These exclusions should be reduced to a minimum level to prevent impacts on the implementation of multimodal projects, and the Commonwealth should consider incorporating additional language and/or strategies (such as limiting the amount of toll revenue spent on operations and maintenance of the toll equipment) to improve the marketability of I-66 Inside the Beltway bonds that NVTC may consider issuing. Otherwise, it is unclear whether bonds issued by NVTC and supported by toll revenues will be marketable;

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- The CTB should be not able to veto the projects NVTC selects for funding with excess toll road revenues, so long as the projects meet the requirements of the federal court decision related to the use of toll road revenues, federal and state law and the Framework Agreement;
- Funding created by this project should not be used to reduce the amount of statewide maintenance and operations funding the region or local jurisdictions receive; and
- Limits should be considered on the amount of toll road revenues used for the operation and maintenance of the facility, based upon VDOT's experience on the operations and maintenance of tolling equipment used on the I-95 and I-495 Express Lanes.

FISCAL IMPACT:

This action has no direct fiscal impact on Fairfax County. The toll road revenues collected on I-66 inside the Beltway will be used for multimodal improvement projects that benefit the toll payers. Some of these projects may be located in Fairfax County. Additionally, these toll road revenues may fund additional bus service starting in Fairfax County.

ENCLOSED DOCUMENTS:

Attachment I: Letter to Secretary of Transportation Aubrey L. Layne, Jr., and NVTC Chairman David Snyder transmitting the Board's principles and comments on the I-66 Inside the Beltway Multimodal Improvement Project and Framework Agreement  
Attachment II: September 22, 2015, Letter to Secretary of Transportation Aubrey L. Layne, Jr., transmitting the Board's comments on the I-66 Inside the Beltway Multimodal Improvement Project  
Attachment III: Draft Schedule for I-66 Inside the Beltway Activities

STAFF:

Robert A. Stalzer, Deputy County Executive  
Tom Biesiadny, Director, Fairfax County Department of Transportation (FCDOT)  
Bob Kuhns, Transportation Planning Division, FCDOT  
Karyn Moreland, Capital Projects and Traffic Operations Division, FCDOT  
Todd Wigglesworth, Acting Chief, Coordination and Funding Division, FCDOT  
Noelle Dominguez, Coordination and Funding Division, FCDOT  
Malcolm Watson, Coordination and Funding Division, FCDOT  
Ellen Posner, Coordination and Funding Division, FCDOT  
James McGettrick, Assistant County Attorney  
Emily Smith, Assistant County Attorney

November 18, 2015

The Honorable Aubrey L. Layne, Jr.  
Secretary of Transportation  
Commonwealth of Virginia  
1111 East Broad Street, Room 3054  
Richmond, Virginia 23219

The Honorable David F. Snyder, Chairman  
Northern Virginia Transportation Commission  
2300 Wilson Boulevard, Suite 620  
Arlington, Virginia 22201

Reference: Fairfax County Principles and Additional Comments on the I-66 Inside the  
Beltway Multimodal Improvement Project

Dear Secretary Layne and Chairman Snyder:

Thank you for your leadership in seeking improvements to I-66 inside the Beltway and the roadway adjacent and parallel to I-66. As you know, this portion of I-66 is extremely congested in both directions during the morning and evening peak periods. The Fairfax County Board of Supervisors appreciates your willingness to pursue solutions to address this congestion.

While the Board has briefed on the project several times, since the Framework Agreement governing the project and the traffic and revenue study associated with the project are not complete, the Board is not able to take a formal position on the project. However, on November 17, 2015, the Board adopted the principles and interim comments of the Framework Agreement below. These comments supplement the comments on the project approved by the Board on September 22, 2015 (attached).

Principles Related to the Framework Agreement

- The Board supports the goals of the I-66 Inside the Beltway Multimodal Improvement Project which are:
  - Increasing person throughput in the corridor;
  - Improving travel times;
  - Reducing congestion;
  - Increasing travel choices for Single Occupant Vehicle (SOV) drivers and transit users; and
  - Improving travel conditions on local roads
- If local governments are not party to the Framework Agreement between the Commonwealth and NVTC related to this project, a second agreement between NVTC and the jurisdictions specifically outlining project selection procedures should be developed;

The Honorable Aubrey L. Layne, Jr.  
The Honorable David F. Snyder  
November 18, 2015  
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- The effects of tolling I-66 inside the Beltway on adjacent and parallel roadways should be considered when determining when to widen I-66 inside the Beltway;
- Addressing negative impacts on the adjacent and parallel roadway network should be high priorities for the selection and implementation of multimodal projects to be supported by toll revenues, and to the extent possible, these projects should be completed before tolling is implemented; and
- Toll rates should be kept reasonable.

#### Interim Comments on the Framework Agreement

- The current form of the Framework Agreement includes language in various places that allows the Commonwealth to interrupt the flow of funding to NVTC. These exclusions should be reduced to a minimum level to prevent impacts on the implementation of multimodal projects, and the Commonwealth should consider incorporating additional language and/or strategies (such as limiting the amount of toll revenue spent on operations and maintenance of the toll equipment) to improve the marketability of I-66 Inside the Beltway bonds that NVTC may consider issuing. Otherwise, it is unclear whether bonds issued by NVTC and supported by toll revenues will be marketable;
- The Commonwealth Transportation Board (CTB) should be not able to veto the projects NVTC selects for funding with excess toll road revenues, so long as the projects meet the requirements of the federal court decision related to the use of toll road revenues, federal and state law and the Framework Agreement;
- Funding created by this project should not be used to reduce the amount of statewide maintenance and operations funding the region or local jurisdictions receive; and
- Limits should be considered on the amount of toll road revenues used for the operation and maintenance of the facility, based upon VDOT's experience on the operations and maintenance of tolling equipment used on the I-95 and I-495 Express Lanes.

Thank you, again, for your leadership in pursuing multimodal improvements to I-66 that will benefit the residents, businesses and visitors of the region. In addition, thank you for including us in the process of selecting the multimodal projects that will be supported with the toll road revenues. We appreciate your collaborative approach to this effort!

If you have any questions or need additional information, please call Tom Biesiadny, Director of Fairfax County's Department of Transportation at (703) 877-5663 or me at (703) 324-2321.

Sincerely,

Sharon Bulova  
Chairman



The Honorable Aubrey L. Layne, Jr.  
The Honorable David F. Snyder  
November 18, 2015  
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Attachments: a/s

Cc: Members, Fairfax County Board of Supervisors  
Edward L. Long Jr., County Executive, Fairfax County  
Robert A. Stalzer, Deputy County Executive  
Catherine A. Chianese, Assistant County Executive  
Nicholas Donohue, Deputy Secretary of Transportation  
Helen Cuervo, Administrator, Northern Virginia District, VDOT  
Amanda Baxter, Project Manager, VDOT  
Kelley Coyner, Executive Director, Northern Virginia Transportation Commission



SHARON BULOVA  
CHAIRMAN

COMMONWEALTH OF VIRGINIA  
**County of Fairfax**  
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[chairman@fairfaxcounty.gov](mailto:chairman@fairfaxcounty.gov)

September 23, 2015

The Honorable Aubrey L. Layne, Jr.  
Secretary of Transportation  
Commonwealth of Virginia  
1111 East Broad Street, Room 3054  
Richmond, Virginia 23219

Reference: Fairfax County Comments on the I-66 Inside the Beltway Multimodal Improvement Project

Dear Secretary Layne:

Thank you for your leadership in seeking improvements to I-66 inside the Beltway. As you know, this portion of I-66 is extremely congested in both directions during the morning and evening peak periods. The Fairfax County Board of Supervisors appreciates your willingness to pursue solutions to address this congestion.

While the Board has not taken a formal position on the project, on September 22, 2015, the Board endorsed the following concerns about the project:

- The multimodal projects supported by the toll revenues should address transit operating costs, including service to and from the Dulles Corridor;
- Addressing negative impacts on the adjacent and parallel roadway network should be high priorities for toll road revenues, and to the extent possible, these projects should be completed before tolling is implemented;
- The impacts of tolling I-66 on local roadways should be monitored regularly and these impacts should be considered in the decision making process for widening I-66 inside the Beltway;
- The timing of widening I-66 Inside the Beltway should be flexible;
- Impacts on Washington Dulles International Airport traffic should be addressed;
- Viable free options to using I-66 during the peak periods should be provided, particularly in the counter-flow direction;
- The impact of widening I-66 without implementing the other multimodal improvements should be modeled for comparison purposes; and
- More data on the impacts of tolling traffic in the counter-flow direction, particularly eastbound I-66 in the evening, should be provided before final votes on the framework agreement for the project are taken.

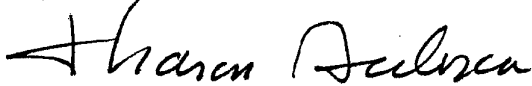
The Honorable Aubrey L. Layne, Jr.  
September 23, 2015  
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These comments and concerns are discussed in more detail in the attachment to this letter. The Board wanted to formally transmit these concerns to you, so that they can be considered and addressed as you develop this project.

Thank you, again, for your leadership in pursuing multimodal improvements to I-66 that will benefit the residents, businesses and visitors of the region. In addition, thank you for including us in the process of selecting the multimodal projects that will be supported with the toll road revenues. We appreciate your collaborative approach to this effort!

If you have any questions or need additional information, please call Tom Biesiadny, Director of Fairfax County's Department of Transportation at (703) 877-5663 or me at (703) 324-2321.

Sincerely,

A handwritten signature in black ink, appearing to read "Sharon Bulova". The signature is fluid and cursive, with the first name "Sharon" being more prominent than the last name "Bulova".

Sharon Bulova  
Chairman

Cc: Members, Fairfax County Board of Supervisors  
Edward L. Long Jr., County Executive, Fairfax County  
Robert A. Stalzer, Deputy County Executive  
Catherine A. Chianese, Assistant County Executive  
The Honorable Nicholas Donohue, Deputy Secretary of Transportation  
Helen Cuervo, Administrator, Northern Virginia District, Virginia Department of  
Transportation  
Renee Hamilton, Deputy Administrator, Northern Virginia District, VDOT  
Amanda Baxter, Project Manager, VDOT

Fairfax County Comments about the I-66 Inside the Beltway Multimodal Improvement Project  
September 22, 2015

**Multimodal Projects should Address Transit Operating Costs, including service to and from the Dulles Corridor**

The list of multimodal projects that might be implemented with the toll road revenues includes a variety of capital and operating projects, such as intersection improvements on roadways near I-66; bus and Metrorail car purchases; transit operating support; and bike and pedestrian projects. There has been some uncertainty about whether or not transit operating expenses can be funded with the toll road revenues. Staff believes that providing support for transit operating costs is one of the most cost-effective ways to increase person throughput in the corridor and reduce congestion. As a result, transit operating costs should be considered for toll road revenues. Drivers in the Dulles Corridors are already paying multiple tolls, and this project will add another one. Consequently, some of the toll revenues should be used to support additional transit service in the corridor to provide an attractive alternatives for these drivers.

**Addressing Impacts on the Adjacent and Parallel Roadway Network should be High Priorities for Toll Road Revenues, and to the extent possible, these projects should be completed before tolling is implemented**

There have been concerns about the impact of tolling I-66 on the adjacent and parallel roadway network. In some cases, the tolls might result in High Occupancy Vehicle (HOV-2) vehicles shifting away from I-66 to the adjacent roadway network in the future; however, the ability for Single Occupant Vehicles (SOVs) to pay to use the facility and increased transit service might also attract users to the facility. In the absence of complete updated toll and revenue study information, the Board recommends that addressing any negative impacts of tolling on the adjacent and parallel roadway network should be a high priority for the toll road revenues. Recognizing that transportation infrastructure projects can take years to implement, every effort should be made to complete these projects before tolling begins, and before the conversion from HOV-2 to HOV-3. Otherwise, the negative impacts of diversion on specific intersections could be substantial.

**The Impacts of Tolling I-66 on Local Roadways should be Monitored and should be Considered in the Decision Making Process for Widening I-66**

In theory, congestion pricing should ensure that traffic on I-66 inside the Beltway operates at 55 miles per hour. This could result in extremely high tolls, but not demonstrate the need for widening when looked at in isolation. However, these tolls could push some travelers to use parallel roadways. In assessing the impact of the tolls, the local and parallel roads should be monitored regularly, and any negative impacts on these roads should be considered in the decision making process for widening I-66.

### **The Timing of Widening I-66 Inside the Beltway should be Flexible**

Toll revenues are being considered for the widening of I-66 from the Dulles Connector Road to Fairfax Drive. The Constrained Long Range Plan project submission approved by the Transportation Planning Board for I-66 Inside the Beltway includes this widening after other multimodal improvements have been implemented and their impacts have been assessed. The Board believes that the timing of this widening should remain flexible. If multimodal investments are made, and these investments do not relieve congestion on I-66 inside the Beltway, the widening of the roadway, particularly eastbound from the Dulles Connector Road to Fairfax Drive, should occur as soon as possible.

### **Impacts on Washington Dulles International Airport Traffic should be Addressed**

Currently, SOV traffic to and from Dulles Airport is allowed to use I-66 inside the Beltway even during the restricted HOV time periods. This policy has been important to ensuring reasonable access to the airport from Arlington, the District of Columbia and Maryland at all times. Unfortunately, the policy has also lead to a significant number of violators and difficulty enforcing HOV restrictions east of the Dulles Connector Road entrance to I-66. These factors have contributed to congestion on I-66 inside the Beltway. VDOT is proposing to toll all users of I-66 inside the Beltway, including those with origins and destinations at Dulles Airport, if they are not HOV-2 initially or HOV-3 in the future. While this change in policy should improve travel times to and from Dulles Airport during these peak periods for all users, VDOT should continue to work with the Metropolitan Washington Airports Authority to ensure that this change in policy does not discourage travelers from using Dulles Airport or discourage workers from taking jobs at Dulles Airport.

### **Viable Free Options to Using I-66 during the Peak Periods should be Provided, particularly in the Counter-flow Direction**

While I-66 inside the Beltway is currently restricted to HOV-2 and higher during the peak period in the peak direction, there is no such restriction on travel in the opposite direction. Adding tolling in both directions will ensure 55 mile per hour speeds for HOV-2 and greater initially and HOV-3 in the future, and it will allow people who currently cannot use I-66 at these times to pay to use the facility. However, in the reverse direction, it will mean tolling SOV trips that are currently free. As a result of these proposed new tolling requirements, parallel routes should be improved through techniques such as intersection improvements, enhanced signal timing, increased transit service and improved pedestrian and bicycle facilities to provide viable alternative for SOVs who decide not to pay the toll.

### **The Impact of Widening I-66 Without Implementing the Other Multimodal Improvements should be Modeled**

The traffic modeling work that VDOT is undertaking assumes that multimodal improvements are implemented before I-66 is widening; however, the results do not demonstrate in impacts of widening I-66 inside the Beltway without the multimodal improvements. It would be helpful to see this analysis to ensure that the most cost effective solutions are being implemented.

### **More Data on the Impacts of Tolling Traffic in the Counter-flow Direction should be Provided**

The impacts of tolling the counter-flow traffic on I-66 inside the Beltway, particularly on eastbound I-66 in the evening peak period remain unclear. Intuitively, it does not seem that an average toll of \$1.00 to \$2.00 would be sufficient to address congestion on eastbound I-66 east of the Dulles Connector Road in the evening peak period. Additional efforts should be made to verify this information before final decisions about the project are made.

Draft Schedule for I-66 Inside the Beltway Activities  
November 17, 2015

- November 17, 2015: Board Meeting; Board consideration of I-66 Inside the Beltway Project Principles and Additional Comments
- December 3, 2015: Northern Virginia Transportation Commission Meeting; Consideration of I-66 Inside the Beltway Project and Framework Agreement
- December 9, 2015: Commonwealth Transportation Board; Consideration of I-66 Inside the Beltway Project and Framework Agreement

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2016 CSB FEE SCHEDULE			ATTACHMENT 1
Service	Subject to Ability to Pay Scale	Effective Prior to Feb 2016	Effective Feb 1, 2016
Addiction Medicine Physician Assessment	Yes	\$161 per event	Deleted; using other procedural codes
Addiction Medicine Physician-Monitoring (follow up)	Yes	\$54 per event	Deleted; using other procedural codes
Adolescent Day Treatment- MH	Yes	\$36.53 per unit	\$36.53 per unit
Adolescent Day Treatment - SA	Yes	\$4.80 per 15 minutes	\$4.80 per 15 minutes
Adult Day Treatment - MH	Yes	\$34.78 per unit	\$34.78 per unit
Adult Day Treatment- SA	Yes	\$4.80 per 15 minutes	\$4.80 per 15 minutes
A New Beginning Residential Treatment	Yes	\$238.30 per day	\$238.30 per day
GAP Case Management - Regular Intensity	Yes	\$195.90 per month	\$195.90 per month
GAP Case Management - High Intensity	Yes	\$220.90 per month	\$220.90 per month
Case Management - ID	Yes	\$326.50 per month	\$326.50 per month
Case Management - MH	Yes	\$326.50 per month	\$326.50 per month
Case Management - SA	Yes	\$16.50 per 15 minutes	\$16.50 per 15 minutes
Congregate Residential ID Waiver Services	No	\$17.71 per hour	\$17.71 per hour
Contracted Residential Treatment - Intermediate Rehabilitation/Reentry Services	Yes	\$163 per day	\$163 per day
Crisis Intervention	Yes	\$30.79 per 15 minutes	\$30.79 per 15 minutes
Crisis Stabilization - Adult Residential	Yes	\$89 per hour	\$89 per hour
Crossroads Adult Residential Treatment	Yes	\$186.52 per day	\$186.52 per day
Detoxification, Medical, Residential-setting	Yes	\$750 per day	\$750 per day
Detoxification, Social, Residential-setting	Yes	\$371 per day	\$495 per day
Drop-In Support Services, ID	Yes	Rate set by vendor(s) but no less than \$2 per hour and for those with incomes above 150% of FPL, apply 20% liability (based on ATP Scale) of the CSB contracted negotiated rate. If below 150% of FPL, charge \$2 per hour.	Rate set by vendor(s) but no less than \$2 per hour and for those with incomes above 150% of FPL, apply 20% liability (based on ATP Scale) of the CSB contracted negotiated rate. If below 150% of FPL, charge \$2 per hour.
Family Therapy	Yes	\$80.00 per hour	\$80.00 per hour
Group Therapy/Counseling	Yes	\$4.80 per 15 minutes	\$4.80 per 15 minutes
Head Start - Services to	No	\$25 per 15 minutes	\$25 per 15 minutes
Independent Evaluations	No	\$75 each	\$75 each
Individual Therapy/Counseling	Yes	\$80.00 per hour	\$80.00 per hour
Initial Evaluation/Assessment	Yes	\$150 per event	\$150 per event
Injection Procedure	Yes	\$20.00	\$20.00
Intensive Community Treatment	Yes	\$153 per hour	\$153 per hour
Intensive Outpatient - Individual or Group	Yes	\$4.80 per 15 minutes	\$4.80 per 15 minutes
Interactive Complexity*	Yes	n/a	\$15 add on to other clinic services when there is a factor that complicates the psychiatric service or increases the work intensity of the psychotherapy service
Lab Tests	No	Actual Cost	Actual Cost
Late Cancellation or No Show	Yes	\$25.00	\$25.00
Legal Testimony	Yes	\$25 per 15 minutes	\$25 per 15 minutes
Medication Management	Yes		
Mental Health Skill-building Service	Yes	\$91 per unit	\$91 per unit
Multi-Family Group Therapy	Yes	\$25 per event	\$25 per event
Neurological Testing	Yes	\$1168 per event	\$1168 per event
New Generations Residential Treatment	Yes	\$120 per day	\$120 per day
Nursing Assessment	Yes	\$58 per event	Deleted; using other procedural codes
Nursing Subsequent Care	Yes	\$29 per event	\$29 per event
Physical Exam (Physician)	Yes	\$95 per event	\$167 per event
Psychiatric Evaluation	Yes	\$107 per event	\$219 per event
Psychiatric Evaluation & Management High Complexity	Yes	\$144 per event	\$144 per event

2016 CSB FEE SCHEDULE		ATTACHMENT 1	
Service	Subject to Ability to Pay Scale	Effective Prior to Feb 2016	Effective Feb 1, 2016
Psychiatric Evaluation & Management Low Complexity	Yes	\$54 per event	\$54 per event
Psychiatric Evaluation & Management Moderate Complexity	Yes	\$90 per event	\$90 per event
Psychological Testing	No	\$150 per event	\$150 per event
Psychological Testing Battery	Yes	\$851 per event	\$851 per event
Psychosocial Rehabilitation	Yes	\$24.23 per unit	\$24.23 per unit
Release of Information: Individual	No	50¢ per pg up to 50 pgs; 25¢ per pg for > = 51 pgs	50¢ per pg up to 50 pgs; 25¢ per pg for > = 51 pgs
Release of Information: Research	No	\$10.00	\$10.00
Release of Information: Third Party	No	\$10 admin fee 50¢ per pg up to 50 pgs; 25¢ per pg for > = 51 pgs	\$10 admin fee 50¢ per pg up to 50 pgs; 25¢ per pg for > = 51 pgs
Release of Information: Worker's Compensation	No	\$15.00	\$15.00
Residential Fee ID Community Living Services	No	75% of gross income	75% of gross income
Residential Fee MH/SA Community Living Services	No	30% of gross income	30% of gross income
Returned Check (due to insufficient funds or closed account)	No	\$50.00	\$50.00
Skilled Nursing Waiver LPN Services	No	\$7.82 per 15 min	\$7.82 per 15 min
Skilled Nursing Waiver RN Services	No	\$9.02 per 15 min	\$9.02 per 15 min
Telehealth Facility Fee	No	\$20.00	\$20.00
Transportation	No	\$100 per month	\$100 per month
Turning Point Program	Yes	\$285.71 per month	\$285.71 per month
Urine Collection & Drug Screening- Retests Only	Yes	\$25.00	\$25.00
Wraparound Fairfax	No	\$1230 per month	\$1230 per month
* Interactive Complexity factors may include: evidence or disclosure of sentinel event; manage maladaptive communication among participants that complicates delivery of care; and use of interpreter to overcome barriers to diagnostic or therapeutic interaction with a person who is not fluent in the same language or who has not developed or lost expressive or receptive language skills to use or understand typical language.			

## Summary of Changes to CSB 2016 Fee Related Documents

Proposed Changes to CSB Fee Related Documents were posted for public review and comment on September 25, 2015. Written comments on the Proposed Changes to CSB Fee Related Documents were accepted until 5 p.m., October 28, 2015. The CSB Board held a Public Hearing on the Proposed Changes at its meeting on October 28, 2015 and then approved all changes.

Changes to the Policy and the Regulation will become effective in November 2015. The changes to the Ability to Pay Scale and Fee Schedule will not become effective before February 1, 2016.



### Reimbursement for Services Policy 2120

- **Updates** Appendix A referenced in Purpose with the 10/22/14 version of the Guidelines for Assigning Priority Access to CSB Services. The primary change is the inclusion of a fourth Special Priority Population – individuals requesting treatment for opioid drug abuse.
- **Clarifies** #7 to state that services shall not be refused to any individual solely on the basis of financial issues.
- **Grammatical corrections** to #8 and #9.

### Ability to Pay Scale

- **Synchronizes** the Ability to Pay Scale income levels with the Federal Poverty Levels published by the federal government every January.

### Fee Schedule

- **Adds** new nominal fee for Interactive Complexity of services provided (paid by Medicare and Medicaid)
- **Incorporates** cost-based rate changes for Social Detoxification, Physical Exam, and Psychiatric Evaluation Services
- **Removes** unused service fees where other service fees are applied instead (Addiction Medicine, Nursing Assessment)

### Fee and Subsidy Related Procedures Regulation 2120.1

- **Adds** privacy and use of protected health information section related to insurance verification
- **Clarifies** liability for fees for individuals under 26 years of age or full-time students
- **Adds** subsidy for individuals with out of state Medicaid plans
- **Defines** several terms and provides examples
- **Changes** the practice of setting the Ability to Pay Scale income levels to now coincide with Federal Poverty Levels published every January
- **Adds** notification to individuals about services not covered by their insurance plans
- **Updates** Medicaid terms

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**2016 Transportation Fact Sheet**

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**Lcbg □ Ugb Ghg/gVghgpu Ujb A □ □ coo pq EU □ c**

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**Lcbg □ Ugb WUgsc □ o**

□ wrrptv gwoejoh boe f'rboujpo gpt □ jthjojb □ u jdfje ybjxftu vibv rtpxjef dtjvjdbm ipnf  
boe dpnnwojv-,cbufe uftxjdfu gpt qwbmjgje joejxjewbmu-

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□□z<sup>1</sup>/<sub>2</sub>□-w-□ts□w-□z□s□□s□w□□□w□□x□w-□s□s□□s□z□'w□□s□□w□□xz□□n□□y□□□s□□8  
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-w½w □ z □ □ s □ □ □ z □ x □ □ - □ s □ - □ □ □ w □ y □ □ w □ □ w □ □ s □ w □ □ x □ s □ □ □ □ w □ xz □ z □ - □  
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w½w □ □ z □ w □ - □ w □ w □ w □ w □ s □ □ w □ □ □ s □ w □ □ x □ s □ □ □ □ z □ w □ □ w □ ' □ w □ □ z □ □ x □ □ / □ □ □ ws □ - □ □  
□ □ y □ □ x □ ' □ s □ □ □ w½ □ □ □ w □ □ ½ □ ' □ w □ □ xz □ y □ □ □ □ s □ □ w □ □ 1 □ z □ □ □ z □ ' □ sy □ w □ - □ □ w □ s □ ' □ □ □ -  
□ □ □ □ s □ w □ s □ □ ½w □ / □ □ □ □ - □ w □ x □ s □ w □ □ s □ □ z □ □ z □ w □ w □ w □ z □ / □ □ z½ □ - □ □ y □ tw □ □ w □

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tw □ □ ww □ □ □ w □ s □ w □ □ □ s □ - □ □ w □ s □ □ □ □ ' □ s □ w □ y □ □ ½w □ □ 1 □ ' □ V □ □ z □ - □ □ □ □ z □ s □ z □  
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st □ □ □ □ □ z □ s □ w □ w □ - □ ' □ s □ z □ w □ - □ ' □ s □ □ z □ w □ - □ w □ □ - □ w □ z □ w □ s □ xz □ □ w □ □ □ □ □ w □  
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□ wrrptv mfhjumbvjpo vibv ypwme bumpy –pwvifjdbtf vp cf beprvfe cfvyffo vif bhfu pg  
07,M/ boe f'vfoe vif bxbjmbejmjv- pg uwcuje- gpt viju rprwmbvjpo-

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*;hbc□Abkhp□Ujb□Ocqmhc□tgp□fDgoUVghgpgco*

N□□st□□□□□iw□<sup>1</sup>/<sub>2</sub>□'w□Fzs□-NiF.

□wrrptv tfjouvbvfnfov pg uvbvfgjoh uwggjdjfov vp fobcmffx mpdbmjv-) fjvift ujohm- pt tflhjpbomm-) vp ibxf b □jubicmjftxjdfu □pbte \$□□□() **bp** vif lf- rtpxjujpou pg §40-4,:7 dbo cf jnrmfnfovfe-

NiF□w□st□w□z's□□□□w□□z□s□□ww□□s□z'ss□<sup>1</sup>/<sub>2</sub>□w□w/<sup>1</sup>/<sub>2</sub>□'ws□w□s□-□z's□syw□'□w□x□□-□□y□;□w□<sup>1</sup>/<sub>2</sub>w□s□s's□s□□w□xz□zx□□□w□w/<sup>1</sup>/<sub>2</sub>ws□z□□□□<sup>1</sup>/<sub>2</sub>s□w□x□□-□□y□z□w□'□s□yw□□xz□□s□□z□z's□tzs□z□□wys□w□<sup>1</sup>/<sub>2</sub>□y'w□□z□w□□z□□□□□□□□w□□z□□-□□st□□□□□w'w□s□□tw□□□w□ws□□<sup>1</sup>/<sub>2</sub>□'xx□1□□z□w□z□□□□'□s□w□zx□z's□□w□□w□w□□s□w/<sup>1</sup>/<sub>2</sub>w□□□w□□□w□w□□□□w□xz□□<sup>1</sup>/<sub>2</sub>z□st□z□w□□s□'z□□stz□s□□z□□*(NbUccfmin□lmbqfkpn lknfofkj-)*

V□-w□w□-w□'ws□-iw□x0i□xx□'□w□□□xz□\$□-wgwz□□w□□□□N□□st□□□□□w□  
□wrrptv gwoejoh gpt rtphthnu vibv rtpnpvf vif joefrfoefodf) ufmg,uwggjdjfov-) boe dpnnwojv- fohbhfnfov pg pmeft bewmhoe rfprmf yjvi ejubicmjvjfu-

iw□<sup>1</sup>/<sub>2</sub>□'w□□z□ww□z□-ws□s-s-□□□st□□□□□w□□□z□w□w-□□□z□s□□w□□z□s□□□□□s□'w/□□□□□□□z□s□-□□□sw0-w□z□<sup>1</sup>/<sub>2</sub>ws□w-zz□ws□ws/<sup>1</sup>/<sub>2</sub>□z□w'□s□-s-□□□-s□2□w□□□□w□□□□tz□□□w□Mz□z/<sup>1</sup>/<sub>2</sub>z-w□ws□□□<sup>1</sup>/<sub>2</sub>w□H□□ws□Hyw□0x□w□z□Hy□□y-HHH□.□s<sup>1</sup>/<sub>2</sub>w□n□□y□□□s□s□□s□w□□□□z□ywz□-w□nx□wy'w□z□s□□□□-w□w□-w□□□ww□□□y□□w□□□□w□ws□y□zx□w□w□□□'□z□<sup>1</sup>/<sub>2</sub>w/y□tz□w□xs□□□□□□□z□-w'□ws□□□y□□w□□□□s□zw□□□s□□□z□/□s□□□z□s□□□□□□□z<sup>1</sup>/<sub>2</sub>□□y□z<sup>1</sup>/<sub>2</sub>w□s□□□xs'□□z□1H-□□□z□s□□□/□'□□□z□iw□M□□zw□ws□□Mz□□□w□□y□t□w□z□-w□wz□□w□□□□□-□□st□□<sup>1</sup>/<sub>2</sub>□□□□w□□zx□-s□□□s'□□yw<sup>1</sup>/<sub>2</sub>□□□y□y-□ts□ws□□w□y/□□-□z□□w□ww□□□y□s□-□s□X□□□w□w□<sup>1</sup>/<sub>2</sub>z'wy□1□□sz□w□ss□□/□z's□w□w<sup>1</sup>/<sub>2</sub>□□s□/□z's□-□□□□□□w□w-□w□<sup>1</sup>/<sub>2</sub>□'w□□□ww□tw□w□w□ys□z□w□□zy□-w□s□-s□z□y□□z□w□□□w□□y□t□w□xz□'z□□s□st□w□w□<sup>1</sup>/<sub>2</sub>□'w□w□□w□□w□w□1

m□xz□□□□s□w□□/□s□□□z□0□□z□w□n□□st□□□□s□□w□□w□□w'□□-w-□x□□□'□0□ww□w-□w□<sup>1</sup>/<sub>2</sub>□'w□tw's□□w□zx□n□w□y□□□s'□□□<sup>1</sup>/<sub>2</sub>w□y□w□t□'s□□□w□□w□□□□v□Z□w□n□□y□□□s□Nw□s□□□w□□□zx□t□Hy□□□□ys□s□□<sup>1</sup>/<sub>2</sub>□wiws□<sup>1</sup>/<sub>2</sub>□'w□'□-NHQi.□□□ww□ξ□H□□□□□s□'w□iw□<sup>1</sup>/<sub>2</sub>□'w□-gHi.□□zy□s□s□□'w□xz<sup>1</sup>/<sub>2</sub>□□-wzs□□□w□□□□□-□□st□□□□□□□s□□□x□xz□z□□w□□z□w□0ts□Nww□□yw□w<sup>1</sup>/<sub>2</sub>□xz'□w□□□g□w□□□z□□w□-s□□□□w□□z□□□□y□s□-w<sup>1</sup>/<sub>2</sub>w□□□y□-s□□□z□w□-w□□□□y□□s□□w□zy□s□□w□st□w□□-□□st□□□□□w□□z□□z□s□□s□□wy<sup>1</sup>/<sub>2</sub>□w□w□□w□□□□y□l□w□w□s□w□<sup>1</sup>/<sub>2</sub>□'w□□□□□□□w□w□□w□-t□HNH0'z□□□□□s□□□s□□s□xs□□□z□□s□w□w□□z□w□□□z□□-<sup>1</sup>/<sub>2</sub>□-□s□'s□tw□s'□□<sup>1</sup>/<sub>2</sub>w/□w□x0□□xx□□w□□w/<sup>1</sup>/<sub>2</sub>s□□□s□□□w'□□s□□□□*(Nbqfnbn□Ujia□□□□□□□mbUccfmin□lmbqfkpn lknfofkj-)*



F□s□□ V□□□□□

□wrrptv f'rboujpo pg ru-dijbvtjd boe cfibxjpbm uftxjdfu gpt joejxjewbmu yjvi ctbjjo  
jokwtjfu-

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zx□w□□w□□□□□□y n□□y□□□s□z□□□zx□□t□s□s□w□xz□'z□□□□□/wz yz w□-w-□□s□  
□□ws□□w□□xz□□w□□ztw□s½□z□s□'z□□□□'s□□z□□1 o□□□w□□w□w s□w  
'z□□□□'s□w-□□□□s□□z□□/□z□□□□wz□□w's□□tw□□zt□w□wxxw'□□½w□□□□ws  
'z□□□□□□0□□□wy□s□w-w□□½zy□ws□□1 V s□□□□□z□□s□□□□s□□□w Mz□□z  
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□□□□*Jbr lknfbfjkj-*)

*IceUhpj, Wehh Bcgj], Ujb ZU[cpu*

Zw□□z□s□□ H□□□□□s□'w xz□□\_ww-□ Xs□□□□w□ -ZH\_X.

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Z□w□□'□ws□w□ 518 □w□'w□□□□s□534?1 wxxw'□w□□□□Js□□□□ss□□wz□'z□w□□w□□□  
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n□□y□□□s□w'w□½w□□w□□□ws□s□□w/33 □w□s□□s□w□w□w□w□□z□z½w□□□□w½w  
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*mbUcefmin lmbqfkpn lknfbfjkj-*)

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□wrrptv beejvjpbom uvbv f gwoe jphrtpxjef dpwoufmjoh boe pñt uftxjdfu vp dijemtfo yip  
btf f'rpufe vp epnfuvjd xjpmfodf-

Qw□ws□'□□□-□'s□w□□□s□□□z□w□w'w's□□tw-w□w□□w□w'½□□□s□□s□□'xz□  
□z□w□□□s□□□□ws-□□y□z -w□□w□w□□z□□-ss's-w□w□□□□□y□□□□□z□□1 V□  
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s''z□-□□y□□w 5344 Xs□□xs□ Mz□□□□□p/z□w½w□□□w'w□□zx XMgi □□□-w□□  
w□□□□s□w- 46/333 □□□-w□□□. □½w□'s□w□-□w□s□w□□w□□□s□'s□½□z□w□'w tw  
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oeb 7aqfnkmt Akiifoobb kj PbspUh Uja BkibnofOTfkhbjOb MmkdmUin, refOe rUn mbOkiibjaba  
Vt oeb TfmdffjU PoUob Amfib Akiifnnfkj fj E./4, fj kmabm ok Ufa fj oeb lmbqbjofkj Uja mbapOofkj  
kc nbspUh Uja akibnofO qfkhbjOb-)



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□ wrrptv jodtbfufe gwoejoh gpt uf'wbm xjpmfufffovjpo) furfdjb mm– rtphbtbn u gpt K,0M  
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uvtbvfhjfu vp nffv vif htpyjoh offe gpt uwcuwbodf wuf ejupteft uftxjdfu gpt pmeft bewmvu)  
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 vif tfurpouxfofuu pg vif nfovbm ifbmvi u-uvfa □ mup) uwrptv uvbv gwoejoh vp befqwbvfm-  
 uvbgg boe dtfbvf nptf Ctjuju □ uufuunfov boe □ vbcjmjbvjpo Cfovftu gpt buufuunfov pg boe  
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□□z–□'w–□s□y□t□w□z□w□□□½w□z□w□Mz□□□z□□x□s'□□□k□i□y–□□□y□w–□'□□z□  
□w'w□□□ws□□□s½w□w□□□□w–□□□zy□□s□w□w□□□□z□w□□□z□□zx□–□'□□z□□s□  
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**F □ H □ F □ Z C □ □ Q □ a**  
**3.2? D □ U/p IkiUj Zc □ sg □ co HU □ p Zfccp**

gz<sup>1</sup>/<sub>2</sub>w □ □ □ □ Xs □ □ xs □ Mz □ □ □ □ □ 5348 □ s □ -yz<sup>1</sup>/<sub>2</sub>w □ w- □ w □ □ w □ s □ □ □ - □ <sup>1</sup>/<sub>2</sub> □ - □ s  
□ w □ □ □ □ s □ 44::3 □ w □ □ □ ws □ □ zx □ xz □ □ □ □ □ □ □ □ s'z □ sw □ zx □ □ sw □ □ □ □ s □ 57/5831 V □  
5347/ □ □ w □ z<sup>1</sup>/<sub>2</sub>w □ □ □ □ s □ w □ □ □ Xs □ ?19% □ xz □ Mz □ w □ □ z □ □ □ s □ □ z □ / □ z □ :7/543 □ wz □ □ w1

V □ Xs □ □ xs □ Mz □ □ (*hUobno a5347 UqUfhUWllmoba PblobiVbm E./3*):

- 56/66B -z □ A1:%. zx s □ □ □ w □ sy w 4A. □ □ □ 1/2w □ □ □ z 1/2w □ □ □;
- ?/B46 -z □ 817%. zx s □ □ □ w □ □ z □ w sy w 28 □ □ □ 1/2w □ □ □ z 1/2w □ □ □;
- 47/?6B -z □ 461?%. zx Hx □ □ □ s □ Hs □ w □ □ □ 1/2w □ □ □ z 1/2w □ □ □;
- 53/784 -z □ 4413%. zx T □ □ □ s □ s □ □ □ -z □ w. □ □ □ 1/2w □ □ □ z 1/2w □ □ □;
- 55/?6A -z □ 61B%. zx \_z □ 0T □ □ □ o □ s □ □ w □ □ □ 1/2w □ □ □ z 1/2w □ □ □;
- 8/675 -z □ 581?%. zx xs □ □ □ □ w □ □ wsw □ z □ w □ □ □ y □ □ □ □ □ □ - □ w □ □ □ -w □ 4A □ □ □ z 1/2w □ □ □;
- 4A4/568 -z □ 4?14%. zx Mz □ □ □ □ □ w □ □ □ □ w □ □ s 1/2w □ 533% zx □ z 1/2w □ □ □ - □ 7A/83 □ ws □ xz □ s xs □ □ □ □ zx xz □ □.;
- 84% zx □ wz □ □ w □ w'w □ 1/2 □ □ y Mz □ □ □ □ s □ w □ 1/2 □ □ w □ xz □ □ □ w t □ □ s □ 'w □ □ w - □ □ □ □ w □ □ w' □ □ s Xp.5348 □ □ □ □ □ □ □ □ w □ □ fw □ z □ 43/3331

□ nrmp-nfov

- Z w w z w s w 61.7% - y x 5348.13% J 533A/t -z x z s y zx 81% Js s zx 5343.1 Z w w w w 54/55? w zz y xz z 1

**Gpwujoh**

- V 5347/ □ □ w s<sup>1</sup>/<sub>2</sub>w □ syw □ z □ □ □ 0tw—□ wz □ s □ xs □ z □ □ w □ w □ 4/78?/ s □ □ □ ' □ ws □ w  
zx 56% □ □ □ 'w 533A1
- V 5344/ z<sup>1</sup>/<sub>2</sub>w □ 4/483 □ □ —□ <sup>1</sup>/<sub>2</sub>□ —□ s □ z □ □ □ □ z □ □ w' □ w □ <sup>1</sup>/<sub>2</sub>w □ M □ xz □ □ w □ □ s □ □ □ □ □ v  
□ □ □ w □ □ w' □ □ s □ s □ —2z □ st □ □ t □ □ s □ 'w □ □ ww—w—z □ z □ w □ □ □ y t □ □ 'z □ □ —□ s □ □ z  
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Gfbmvi

- H w s w- 44:3:7 z 4317% zx Mz w ww w z ws 53471

☐ **cjmjv- vp**   ☐ **rfbl**   ☐ **ohmjui**

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## Cijme Cbtf

- $Z \square w'z \square \square zx \square x \square \square 0 \square \square \square w' \square w \square \square \square - \square z \square w \square xz \square s \square yw \square x \square z \square \square A/333 \square z \square z^{1/2}w \square \square 46/333 \square$   
 $\square ws \square \square 1 \square X \square \square \square 0 \square \square \square w's \square w \square xz \square s \square \square \square xs \square \square \square 'z \square \square \square \square 47/833 \square z \square 47/333 \square w \square \square ws$   
 $\square 'z \square \square s \square \square \square z \square / \square \square \square \square z \square sw \square - \square sw \square w'z \square xz \square w \square sw \square s^{1/2} \square n \square \square y \square \square \square s'z \square \square \square \square A/A331$

**Fppe**

- V 534705348 ' ' zz ws / Xs xs Mz ' ' zz ' ' g w z w- s 84/B?A  
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- Os' □ □ z □ □ □ □ □ Xs □ □ xs □ Mz □ □ w □ □ w - z □ z □ w □ □ □ w □ □ z □ w □ w □ □ 1/2 w □ □ z □ □ 543 's □ 1/2 ' □ □ □ □ □ w □ □ w □ □ 8? xs □ □ □ - w □ □ □ □ / z □ z □ w □ □ 4? 3 w □ □ z □ w □ □ z □ w □ □ ' w □ □ □ w □ □ □ s □ □ □ s - w / s □ □ - 4? xs □ □ □ □ w □ □ w □ ' s □ w □ □ z □ s - z □ w □ □ y □ 1/2 □ z □ w □ ' w □ □ w □ □ w □ □ - Xp 534
- Z □ w - w □ s □ □ - xz □ w □ w □ yw □ ' □ □ □ w □ z □ - w □ □ w □ □ z □ □ 1/2 □ 1/2 □ z □ w □ ' w □ w □ s □ □ □ □ □ y □ □ z □ □ w □ □ z □ □ syw □ z □ w □ w □ yw 55A w □ □ □ y □ t □ w □ □ t w □ □ □ / w □ z □ □ - □ □ w □ w □ □ □ □ v Xp 53481
- 7A% zx w □ w □ yw □ ' □ □ □ w □ □ w □ □ w □ □ w □ □ 45 □ ws □ □ □ s □ □ - □ z □ □ yw □ - Xp 5348.1
- V □ Xp 5348/ □ □ w Mz □ □ □ □ □ Nz □ □ w □ □ z □ ' □ Mz □ □ w □ w □ w □ w □ 1/2 w - A: 6 1/2 ' □ □ □ □ / □ w □ z □ □ w - s □ □ s - □ □ □ z □ s □ 4/386 ' □ □ □ - □ w □ □ □ □ s' □ w - 1
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- X □ z □ Xp 5347 □ z Xp 5348 / □ □ w □ □ □ z □ w □ □ z □ w ' s □ □ □ □ w □ s □ w - □ z □ w □ □ s □ 1/2 □ □ □ ' □ ws □ w - t □ 67% - x □ z □ 54: □ z 5B3. □ □ w □ □ □ □ w □ □ □ □ w □ □ □ y □ w □ □ s □ ' z □ □ □ w □ □ □ y □ □ □ ' ws □ w - t □ 4B% - x □ z □ : 5 □ z A? . 1

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- Z□w Mz□□□□□ Yw-□'s□-'sw-w□zs□ 6:/463□ws□ Xp 533A □z ??/:3A □□ Xp 5348 □s :B% □□'□ws□w.l
- Z□w Mz□□□□□ i\_Hg -Xzz- i□s w□zs□w□sy □'s□w□zs- □□'□ws□w- x□z□ 44/?4 Xp 533A □z 57/364 □□ Xp 5348 -s 43:% □□'□ws□w.l
- V□ Xp 5348/ □□w Mz□□□□□ Tw□z□□ MTM\_w□z□z/2□-w- 7A/433 1/2□□□□□ 46:/B8 □□-□□□□'s□w- □s□□w□z□s□s 7/658 □s□□w□z□□w□tw□w□w□z□□ww□□w-□'s□'s□w-□□□□y □□w□ws□MTM\_w□z□□□w□w□□w□s□ws'□□□□z□□w□'□s□□w□□□x□ww-w-.1 fx□s□w□wyws□□w□tw□zx□z/2□w□□□□/□w□□s□□w□tw□□ww□ 615 □713/□□□□'□□□□zx□□s□□s□-□'w□w□z□zw□□□□□z□□□s□□
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- Fw□□ww□ Xp 5343 s□- Xp 5348/ □□w s□z/2w□syw □z□□□□□□□tw□zx'□□□-□w□w'w□□1/2□□y ws□□□□□1/2□w□1/2w□-w□z□w□w□□s□-w□s□□x□z□□w Mz□s□- Zz-□w□ Mz□□w'□□z□ -VZM. t□□□zy□sw□y□sw□8B □w□□'w□□□/x□z□ B3B □w□□z□□□□z 4/77B □w□□z□□□□1

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'8- /ScMeac □tmxx y[m □ □t[ M' □[o □ □ □ □] □t[ Om' □]m □ F □z □ □ □ M[ □m □ □y[ □ □  
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'35- 3OdecfVMOetmxx y[m m yz 'omx 'mp'zy[t s m t. o y mo p' o x  
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'37- :SiMJfdM GcMq[ m [ t[ [ m [ o[x [ t'ot y [ 'β- [ p [ 'mx p [xx' s m p n  
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'38- :aeac gMRSIUM tmxx y[m m [t'ox[ t'x]/ [xx[p p[ 's[p ] [x  
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'42- AUGSOUj GfJSHUmym □ t[ □ □ z □ p om □ n[ t[m[ tpy m □ □ m □ □ ' □ t □ □ □ ' □ t □ z □ m  
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'43- *AahMcMJ VaJMU gMRSILmMx* y[m m y[otm 'omxx[p [t'ox[. [ ' t[ m' n [ .  
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'44- *BMicMGeSaOGU PcafOth* xx y[m m x m s z p. m txh w] xp. m [w  
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'45- *BMdSJMOeSGU GmG* y[m m m o[x p[t'ot m mx[p 'xx' s ' x om [p m p m o 'sz z 'st ] m . mp'p[ mxw[ xm[ t[ zot y[m ] [s [ 's [ m zot m o[x0

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63 □ □ ' □ □ □ □ ? m0y0 □ □ m' □ □ oxz p' □ □ s □ [ □ s □ x] o □ z □ □ [ □ 0

64

65 'y- K □ [ □ m □ ' □ □ □ y[otm □ □ □ p[ □ □ □ □ [ □ □ □ ox[ m □ m □ w' □ s □ □ [p[ □ □ □ 'm □ m □ p1 □  
66 x □ mp' □ s m □ [m □ . [ □ o[ □ □ ' □ □ tmxx n[ m □ ' □ xm □ ' □ □ □ ] □ t' □ Ftm □ □ [ □ □ □ □ □ [ □ m □  
67 □ ' □ t' □ 322 □ m □ p □ □ ] m □ [ □ x p[ □ s n[ 'mx p[ □ A □ 0y0 m □ p ? m0y0

68

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A

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 42 ~~vu yh □vvs vx xjhxjft □ovufs mxvu uig, m□ □Oo□'□'□□ □□ □[o□[m□'□□mx s□□z□p□ oz~~  
 43 ~~m□□□o'm□[p□'□t'□□□'□ xx□[p[□z n[□ □zm□o□□□ □t[□□] □t'□□ Ftm□□[□ n[□□[[□~~  
 44 ~~? m0y0 □ □232□0y0 □□ \_z□pm□ □t□□zst ftz□□□m□□[[□ ? m0y0244□p030 □□ O□'pm□~~  
 45 ~~m□p \_m□z□pm□ □□ □t[ pm□ n[□□[ m □O□p[□] □uxyt□qx3p□0□[mw[□□ □□ '□□□□zy[□~~  
 46 ~~m□□□o'm□[p□ □mot□□zot□'□[□ □ungp1ht□ t vt □j qvssvw □ongut □jkgit w jju A? □2t2 fui~~  
 47 ~~I f2t2 fui y□fss gj yu gpjht t v j Vfx otu t bv u ui Ujv jsv cfgsj d1ht 2 A?J.A2D2B g1t w jju~~  
 48 ~~I f2t2 fui A? □2t2~~

(A) ~~□vt w ot □yt fuioum t □j vt □jx □xvv oyovuy vq t □oy □□f□t jx, t □j u yj vq sv~~  
 4A ~~ouyt xu tjut y y□fss uvt gj □jxtot t jilf2t2ovv bfv u xify y, bu uify y fui Sijjxfs~~  
 52 ~~□vsoify y; fui~~

(B) ~~Zjt w jju I f2t2 fui L f2t2 vu bft u xify bu uify y fui Sijjxfs Wvsoify y, t □j vv jxfss~~  
 54 ~~yvu ui sjv js qxvt yu h □svu iy □jfkjx fui3vt ouu tjut fui t □j fyyvhoft ji fht □ov ot oiy y□fss~~  
 55 ~~gj yu gpjht t vt □j tfx otu t ijhogjs sjv jsv hvut fouji ou t □j Vfx otu t bv u ui Ujv jsv~~  
 56 ~~efgsj ou bjht 2 A?J2A.D.B fgvv j2~~

(E) ~~e□j vv jxfss uvoyj sjv jsv qvx t □j syhijy fui3vx ouyt xu tjut y fui t □j fyyvhoft ji~~  
 5: ~~fht □ov ot oiy y□fss uvt jx hiji HG iZOvt jxt y j gva uifxy vq t □j uvoyj yvu xhj, jx hj □t~~  
 5A ~~w □ju f xjyoijut ofs iw jssoum oy svhft jbw □bqt□y (G?) y fxiy vq yu h □svu iy □jfkjx~~  
 62 ~~fui3vx ouyt xu tjut , t □j yvu ui sjv js jsmut iy □jfkjx fui3vx ouyt xu tjut y□fss gj~~  
 63 ~~yu gpjht t vt □j tfx otu t ijhogjs sjv jfoujivtu t □j Vfx otu t bv u ui Ujv jsv efgsj~~  
 64 ~~ou bjht 2 A?J2A.D.B fgvv j2 [e□j fiv jxt oyji xfumj oy g1t w jju H? fui IB iZO]~~

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 66 ouyt xu tjut y2





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 5 □□p[□ m □ □tmxx n[ □[o[□ zm□[□□t[ □□][□o□'□'□□□ □] □t'□ \_[o□'□□□0

8 ;□□H□X□ R, Qpnffeped amd Ceuelemq □ nmdiqinm ;ookicabikiqx

A □ ecqinm /.S,/R)/ Qpnffeped amd Ceuelemq □ nmdiqinm ;ookicabikiqx,

33 ft[ □□□□'□'□□□ □] □t'□ Ftm□□[□ □tmxx □□□ □[sm□[ m□□ m□□x'omnx[  
 34 p[□[x□□y[□□ o□□p'□'□□. □□[o'mx x[□□y[□□□□□□□[□□m'□h'□'□s[□□ □□'□[□□  
 35 □□z□p0 ;□□ o□□p'□'□□ □tm□ □[□□□□□□tmxx n[ p[□□p'□m □[□□□□□t[ □[□□  
 36 □t[ J□'□[ K□p'□m□o[ '□□][□□'ym □t[ o□□p'□'□□ □m□ m□□□□□□[p0

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43 S] m□□ □] □t[ ;□□'ox[□.. W□□ms□m□t□. □[□□[□o[□. oxmz□[□□ □] □t'□ Ftm□□[  
 44 □tmxx n[ p[oxm□[p z□o□□□x □□'z□□mx□p n□ □t[ □mx'p -zpsy[□□ □□ p[o□[□ □] m o□  
 45 o□y□[□[□□ -z□'□p'o□'□□. □zot z□o□□□mx'p z□□□tmxx□□□□□m]]□o□ □t[ □mx'p'□  
 46 Ftm□□[□'□'□□[□□'□[□□[ym'□m□s; □□□ox[□. \_[o□'□□□□W□□ms□[□m□xmz□[□.  
 47 m□p □t□m□[□0



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8irc □gefigefpo Wnc ;fWkeco ogkpf2)R).-M □cq( □nlacoo ;ljggppcc

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'3- G- □komn'kj yu □tj -xkyy □xk rk□□tmxx y[m□ □t[ □□z□p □□[□□z□[ x[□[x m□ y[m□z□  
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'4- Hugxj □tmxx y[m□ □t[ Om' □]m□ F□z□□□ H□m□p □]\_z□[□□'□□□□0



'35- *Sty*'x □ *skt*' □ tmxx y[m □ m □ □ yz □ 'omx ' □ □ mp' □ zy[□ □ □ □ s □ m □ t. o □ y □ mo □ p' □ o □ x] my □ x']' [□ □ m □ □ □ t[□ p[□ pzo[□ t. of □ □ □ □ pzo[□ □ □ my □ x']]' [□ □ □ z □ p0

[illegible]

'37- Uo □ kj □ yk g x k g m □ □ t[ □ m □ o[x □ □ t'ot y □ □ ['β- □ □ p[ □ □ 'mx p □ [xx' □ s □ m □ p n  
x[m □ □ □ □ ['3- □ □ t[ □ 'p[ □ □ □ 'mx z □ [ m □ [ x □ om □ □ p' m □ p' s m z □ □ 'st □ □ / □ ] □ m □ □ . □ □  
□ □ □ [ □ □ . x m □ [ □ . □ p[ □ t h x w z o t y m □ □ □ [ s p ' □ [ s □ f m □ □ □ m □ □ □ z o t □ m □ o[x 0

'38- *Uu'ux* □ *knoirk* □ *tmxx* *y*[*m* □ *m* □ □ □ *t'*ox[ □ *t'ox*]/□ □ □ □ *[xx*[*p* □ □ *p* □ *'s* □ *p* ] □ □ □ *x*]  
□ □ □ □ *zx* □ ' □ □ ' □ *oxzp* ' □ *s* □ *nz* □ □ *mz* □ *x'y* □ *[p* □ *x* □ . □ □ □ □ *zowm* □ *x* □ □ □ *zow* □ *[y* □ □ *m* □ *x* □ □ □ *omy* □ *[*  
*y* □ □ □ □ *o* □ *ox* □ . □ *y* □ ' □ *'n* □ *w* □ □ . □ *y* □ □ □ □ *o* □ *n* □ *m* □ □ □ □ *0* □ *M* □ *p* □ *y* □ □ □ □ *t'*ox[ □ □ *tmxx* □ □ □ ' □ *o* :  
*y* □ □ □ □ □ □ □ □ *t* □ □ *xm* □ □ □ □ *z* □ ' □ *y* □ *[* □ □ □ □ *m* □ □ *tmxx* □ *o* □ *t* □ □ □ *s* □ *o* □ □ ' □ *t* □ □ *m* □ □ *xm* □ *0*

'3?- Vuoyk □ t m x x y [m □ □ t[ ' □ □ [ □ □ ' □ □ . ] □ □ [ ' z [ □ □ o □ □ p z m m m o z [ p □ □ ] □ □ y m □ ' s x [ □ □ z □ o [ □ □ y z x □ ' x [ □ □ z □ o [ □ □ t n [ v m x ' o u f s n x m p [ □ m ] [ □ □ □ □ [ x ] m □ [0

'3:- *Vut-xkyojki'ogr gxkg* □tmxx y[m □ m □ m □ o[x ' □ nx p' [□□p'□op' m□tm□□ □ o □□ □ m' □ m □ [□'p [□□'mx p □ [xx' □ s m □ p o □□ □ m' z □ [□ □□zot m □ 'p [ot □'m□□. □ m □ w □. □ xmo [□ □ ] (□) □ [□ □ m □' □□ □ m □□ p m □□ yms □□ □ xm □□ □ 0

'3A- akxyut □tmxx y[m □ m □ □ '□p'□'pzmx□'o□□□□o□□□[□m□'□[. □m□□□[□□t'  
m□□□o'm□'□[□□m□ž.□□□.'□m□[ '□z□□msž□ó□□□s□m□zoo□[smx□□. □[□□[□[□□m□'  
ms[□□. □□ms[□o□□t[□[□]0

'42- argotr □ g □ johrktmxx □ m □ t[ □ □ z □ p om □ n[ t[m □ tpy □ m □ m □ □ ' □ t □ □ □ ' □ t □ z □ m  
y[p'omxx □ m □ □ □ □ □ [sptm □ □ ' □ p[ □ 'o]0

'43- *au* □ *kxkj* *sujkr* □ *knoirky* □ *tmxx* *y* [m □ m □ □ *y* [otm □ 'om [xx [p □ [t'ox [ . [ ' □ t [ □ m' □ n □ □ □ .  
□ m □ [ □ n □ □ □ [ □ □ xm □ pn □ □ □ □ □ . p [ t'ots' □ [p □ □ om □ ' □ oxzp' □ [s.nz □ □ □ □ x'y' □ [p □ □ .  
y □ p [x m' □ □ xm □ [ □ . n □ □ m p □ □ om [ □ m □ p □ □ ow [ □ □ 0

'44- *bkixkg'outgr mxu* □ *tjy* □ tmxx y[m □ m □ □ □ xm □ s □ □ z □ p. m □ tx[ □ 'o ]'[xp. □ m □ w □ □ □ □  
□ tm □ ' □ □ znx'ox □ □ □ □ □ 'm □ [x s □ xm □ p □ [p □ ' □ [p x □ p □ m t □ y □ □ □ □ □ □ □ □ o □ □ p □  
m □ □ □ o'm □ ' □ 0 Y[o □ [m □ ' □ tmxx □ s □ □ □ z' □ p x □ p □ m □ [m □ om □ tnp □ m □ ' □ p z □ p □ x □ ' □ sx[  
□ my'x □ □ □ [ □ 'p □ [ □ □ 'mx p □ [xx' □ s x □ □ □ □ □ p □ s □ m □ w □ 0

'45- *bkyojkt'ogr gxkg* □tmxx y[m □ m □m □o[x □ □ p[t'ot nmx[p □ ]xx' □s' □ x □om □[p m □p m □  
o □ □ □'sz □z □ □'st □ □ □] □m □. □ □mp'p[ □mxw[□ □ □xm □[t] □ □zot y[m □ □ □] [s □[ □ □  
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'46- *bkyojkt'ogr j □ krrotm □ tmxx y[m □ m □ □ □ □ zot □ z □ [ '3- □ □ t'oy □ □ □ □ □ x' □ [ □ □ m □ [ □ ym □ [ □ □ □ □ □ [y □ □ □ m □ □ nm □ ' □ . ' □ oxzp' □ s. nz □ □ □ □ □ x'y' □ [p □ □ . □ ' □ sx[ ] n ] my'x □ p □ [xx' □ s □ . t □ □ [x □ m □ p y □ □ [x □ 0*

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44  $\square\square\frac{1}{2}\square y\square\square\square\square\square-z y\square\square zz\square\square\square-\square y x\square\square\square\frac{1}{2}z\square x\square\frac{1}{2}z-\frac{1}{2}\frac{1}{2}x\square0\square\square z\frac{1}{2}/\square y\square\square\square\square\frac{1}{2}/-zz-x\frac{1}{2}/\frac{1}{2}/\square\square\square$   
45  $\frac{1}{2}\square-\square\square\square\square\frac{1}{2}-\square y\frac{1}{2}\square\square-\square\square\square\square\square\square\square\square\square\square\square\square\square z-\square\square\frac{1}{2}1$   
46  
47 -4B.  $GUjkgf\frac{1}{2}\square-zz\square\square-\square-\square\square\square\square\square y\square\square\square yx\square-\frac{1}{2}/x\square\square\square\square\square-\square\square-\square\square\square\square\square-\square\square\square\square\square\square\frac{1}{2}\square\square\square/\square\square$   
48  $\square\square\square\frac{1}{2}\square/\square\frac{1}{2}\square-\square\square/\square\square\square\square-\square\square\square\square\square\frac{1}{2}\square\square\square\square\square\square\square\square\square/\square\square\square\square\square\square/\square\square\square\square x\square/\square\square-\square(\square$   
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54 -54.  $GgoUjUT\ egTUd\ nUabSdUk-\bar{z}z\square\square-\square-\square\square\square\square x\square-\square\square\square x-yzz\square\square\square\square\square xz\square/\square\square\square\square\square\square-\square$   
55  $\square-\square\square\square w\square\square\square\square\square\square z-\square yw\square\square\square\square/\square x-\square\square x\square\square\frac{1}{2}\square\frac{1}{2}\square y\frac{1}{2}\frac{1}{2}\square\square xz\square y\square y\square\square/\square w\square\square\square\square\square z$   
56  $-\square\square\square z-\square\square\frac{1}{2}/\square w\square-\square\frac{1}{2}/x-\square\frac{1}{2}/y\square\square\square\square\square\frac{1}{2}-\square y\square\square x\square\square\square\frac{1}{2}1$   
57  
58 -55.  $HUSjUPlbgfPd\ OjgmfTk-\bar{z}z\square\square-\square-\square\square\square\square z-\square\square\square\square\square\square\square\square\square z y//-\square-\square z\square\square\square x\square\square\square\frac{1}{2}\square-x\frac{1}{2}$   
5?  $\square\square-\square\square\frac{1}{2}\square\square w z\square xz\square\square\square\square\square\square\square\square\square\square\square\square z-\square z y\square\square\square\square\square y/w\square-\square x z\square y\square\square\square\square\square\square\square\square\square\square\square\frac{1}{2}\square\square x\square$   
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63 -56.  $HUkbTUflbPd\ PfUP-\bar{z}z\square\square-\square-\square-\square x\square z\square\square\square\square\square\square\square x\square-\square\square\frac{1}{2}\square y\square\square\square\square-\square z y\square\square zz\square$   
64  $x\square\square\square\square\square\square\square\square\frac{1}{2}\square\square\square\square\square\frac{1}{2}\square\square\square-\square/\square z-\square\frac{1}{2}/\frac{1}{2}/\square\square\square\square\square\square\square\square\square\frac{1}{2}/\frac{1}{2}-\square x\square\frac{1}{2}/\frac{1}{2}\square y\frac{1}{2}\square\square\square\square\square\square$   
65  $\square\square-\square\square\frac{1}{2}\square x\square\square-\square x\square z1$   
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67 -57.  $HUkbTUflbPd\ ToUddbfO-\bar{z}z\square\square-\square-\square\square\frac{1}{2}\square\square\square x\square\square\square\square\square\square\square\square\square\square\square\square\square x\square\square\square\square\square-4.\square\square\square$   
68  $\square\square\square\square-\square\square\square\square\square\square\square\square\square\square\square\square-\square\square w-\frac{1}{2}\square\frac{1}{2}/y\square\square\square xz\frac{1}{2}y\square\square\square z/\square w-\square\square z\square\square y z\square\square z z\square\square\square\frac{1}{2}/(\square$   
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74 -5?.  $IgmfT\ \frac{1}{2}\square-zz\square\square-\square-\square\square\frac{1}{2}x\square z z-\square\square\square\square\square\square xz\square\square y\square\frac{1}{2}\frac{1}{2}\frac{1}{2}x\square\square\square\square\square\square\square/\square-\square\square\square\square xz\square$   
75  $\square\square\square\square\square\square\square\square\frac{1}{2}\square x-z\square-\square-\square\square\square\square\square/\square z-\square\square\square\square x\square y/\square\square\square-\square x-\square\square\frac{1}{2}\square\frac{1}{2}x\square\square\square\square\square\square\square\square\square\frac{1}{2}\frac{1}{2}\square\square\square-$   
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48/ ly □ W □ □ □ □	Xx □ □ y □ q □ n ry □ u □ qs x □ □ □ x □ y □ yx □ □ / □ qs □ □ s xt ru □ □ x jy □ yx □ □ / □ qs □ □ s xt ru □ n j □ os □ □ ss □ r □ j n r I n4 □ 4 x □ os □ □ ss □ I n4 □ 4 n r r □ j bx □ 4 ‘ \ □ □ 4 ’hq □ □ 4N x □ os □ □ ss □ Qr □ y4 /j n r os □ □ ss J n4 □ 4 n r n r J n4 □ 4 x □ Q □ y4 \ n □ 4 n r r □ qs j x □ \ n □ 4 / \ □ □ 4 n r Qsr4 rm- ostx □ s n Qsr4 Vx □ yrn-	x □ □ y □ q □ n ry □ u □ qs x □ qs □ □ □ x □ y □ yx □ □ / □ qs □ □ s xt ru □ □ x jy □ yx □ □ / □ qs □ □ s xt ru □ n j □ os □ □ ss □ I n4 □ 4 n r r □ j bx □ 4 ‘ Qr □ y4 /j n r os □ □ ss J n4 □ 4 n r r □ qs j x □ \ n □ 4 / \ □ □ 4 n r Qsr4 Vx □ yrn-	F □ □ x □ qs □ □ x □ □ r □ x □ □ ps □ □ x □ nox □ s4
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½ M ½ zz w “ x ½ y x x x ½ -zz

½ w ½ z x ½ z z ½ - ½ ½ x

-570:804?H; 4B?4 M y / § 4?H14151.

ecqinm . R).)0, emakqier,

H z ½ M ½ -zz x

z ½ M ½ zz / ½ wx w x ½ w

63. y ½ w y x zz y ½ %4/333133 / ½ w 1 O x ½ -

½ zz w z y y ½ M ½ ½ / - y

z ½ y x w y ½ -zz w y

-570:804?H; 4B?4 M y / § 4?H14161.

ecqinm . R).)M, euepabikiqx,

V H xz ½ Z x x ½ xg ½ ½ ½ ½ ½ ½

w y xz y x ½ z y z y w y x z y x

½ y x / ½ x x ½ zz z x z y z y ½

H xz ½ Z x ½ g -

-570:804?H; 4B?4 M y / § 4?H14171.

ecqinm . R).)2, Cmfnpcelemq,

p s Hy w z ½ z ½

½ M z ½ z ½ ½ y /

4  $\frac{1}{2}$  x z  $\frac{1}{2}$  M x yz y  $\frac{1}{2}$  y  
 5  $\frac{1}{2}$  x x x  $\frac{1}{2}$   $\frac{1}{2}$   $\frac{1}{2}$  x  $\frac{1}{2}$   $\frac{1}{2}$  -  $\frac{1}{2}$   
 6  
 7 Z x x x y  $\frac{1}{2}$   $\frac{1}{2}$  w zz w  $\frac{1}{2}$  y  $\frac{1}{2}$  zz  
 8 y x y/ w y/ w z x  
 ? z x w y y x  $\frac{1}{2}$  x  $\frac{1}{2}$  z  $\frac{1}{2}$   $\frac{1}{2}$   $\frac{1}{2}$   $\frac{1}{2}$  x / x y  
 : y y l  
 A  
 B V  $\frac{1}{2}$  x  $\frac{1}{2}$  z  $\frac{1}{2}$  x  $\frac{1}{2}$   $\frac{1}{2}$  y y y s Hy  
 43  $\frac{1}{2}$   $\frac{1}{2}$  x x  $\frac{1}{2}$   $\frac{1}{2}$  x  $\frac{1}{2}$   $\frac{1}{2}$  -  
 44  $\frac{1}{2}$  y z x  $\frac{1}{2}$  x  $\frac{1}{2}$  x  $\frac{1}{2}$  y x  
 45  
 46 X z  $\frac{1}{2}$   $\frac{1}{2}$  x x  $\frac{1}{2}$  z  $\frac{1}{2}$   $\frac{1}{2}$  y  
 47 y y  $\frac{1}{2}$  zz x  $\frac{1}{2}$   $\frac{1}{2}$  z  
 48 x z  $\frac{1}{2}$   $\frac{1}{2}$  x y x z /  
 4? y/ w x z x  $\frac{1}{2}$  zz w y y w  
 4: z l  
 4A  
 4B w. V  $\frac{1}{2}$   $\frac{1}{2}$  x  $\frac{1}{2}$  w z x xz 0 0 / z -  
 53  $\frac{1}{2}$  zz w x  $\frac{1}{2}$  s Hy  $\frac{1}{2}$  w - x  
 54  
 55 x. O'x  $\frac{1}{2}$  w y y  $\frac{1}{2}$  ZZ wx / -  
 56 z z H xz 8  $\frac{1}{2}$  M z  
 57 z x x 5. w  $\frac{1}{2}$   $\frac{1}{2}$   $\frac{1}{2}$   $\frac{1}{2}$  zy -  
 58  $\frac{1}{2}$  x x z x zw y / x z  $\frac{1}{2}$   
 5?  $\frac{1}{2}$  wz  $\frac{1}{2}$  w z -  
 5:  $\frac{1}{2}$  x  $\frac{1}{2}$  l g y y /  $\frac{1}{2}$  w zy  
 5A z  $\frac{1}{2}$   $\frac{1}{2}$  x  $\frac{1}{2}$  y w x z -  
 5B -zz -  $\frac{1}{2}$   
 63  
 64 y. Z x 43A0805 w.  $\frac{1}{2}$  zz z  $\frac{1}{2}$  w y w N x N -  
 65  $\frac{1}{2}$  y z " y - l  
 66 :04:0?A/ § 4:08; 570:804?H; 4B?4 M y / § 4?H1418; 60:8043A1.  
 67  
 68  
 6? 8 G HC/, efimiqinmr,  
 6:  
 6A ecqinm . R)/), efimiqinmr,  
 6B  
 73 m zz y  $\frac{1}{2}$  y  $\frac{1}{2}$  M  $\frac{1}{2}$   $\frac{1}{2}$  y zz  
 74 M / y  $\frac{1}{2}$  x z  $\frac{1}{2}$  xw / 'x  
 75  $\frac{1}{2}$   $\frac{1}{2}$  x ' xz z y x -  $\frac{1}{2}$  - y  
 76  
 77 4. E oUbOalUT kgmfT hjUkkmjU dVnUdzz  $\frac{1}{2}$  y  $\frac{1}{2}$   $\frac{1}{2}$  z z -!  
 78  $\frac{1}{2}$  y z z  $\frac{1}{2}$  l m H0 z z  $\frac{1}{2}$  y y  $\frac{1}{2}$  zz w  $\frac{1}{2}$   
 7? yF H. yFH1

4  
5  
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7?



4  
 5 -w. Y x y x 1/2 wy x y x x 1/2 1/2 y x x 1/2  
 6 1/2 1/2 w / yx x x wz x  
 7 z y wz x - 1/2  
 8  
 ? -x. Y x y 1/2 zx x z x y y 1/2 1/2  
 : M y y 1/2 y x 1/2 y z / x 1/2 x  
 A z x z z 1/2 1/2 x 1/2  
 B X y z / y y 1/2 1/2 y 1/2 1/2 x 1/2  
 43 1/2 M - 1  
 44  
 45 -y. Z zz 1/2 1/2 1/2 x y 1/2 z z 1/2 1/2 y y 1/2  
 46 y z 1/2 1/2 w x 1/2 1/2 1/2 1/2  
 47 1/2 w zz y 1/2 - y y x z  
 48  
 4? -Y x y 1/2 F y Z 1/2  
 4: x 1/2 1/2 zz Z - y X y  
 4A  
 4B -Y y 1/2 x 1/2 z x / 1/2 -wz  
 53 1/2 1/2 x x z 1/2 x 1/2 M -  
 54 1/2 1/2 w / 1/2 1/2 wz 1/2  
 55 l p 1/2 1/2 w 1/2 w 1/2 y y x 1/2 - x -  
 56 w y x M 1/2 y x 1/2  
 57 z 1/2 M - ' 1/2 1  
 58  
 5? -Y y 1/2 1/2 wy 1/2 x y - -  
 5: Z y X y z x 1/2 1/2  
 5A 1/2 M - 1  
 5B  
 63 -Y 1/2 x x 1/2 1/2 1/2 x x / x x z y 1/2  
 64 xz y z w x z 1/2 w x - x  
 65  
 66 -Y w 1/2 z 1/2 1/2 M -  
 67 x x 1/2 y x z 1/2 x 1/2 -zz w  
 68 x z- 1/2 1/2 M - 1  
 6?  
 6: -Z zz z F y Z 1/2  
 6A f y x / xz y 1/2 1/2 wz 1/2 - y - y 1/2  
 6B / y 1/2 zz x y 1/2  
 73  
 74 -Y 1/2 x x 1/2 1/2 x w x 1/2 1/2 x x 1/2  
 75 y 1/2 x x 1/2 1/2 w 1/2 x y x zz 1- 570:804?H; 4B?4 M  
 76 4?H1615; 60:B043A1.

8  $\square\square$  G  $\square$  HC M, Knirer  $\square$  pnhibiqed,

$\square$  ecqinm . R)M),  $\square$  oecific opnhibiqinmr,

m  $\square\square\square\square$  zz  $\square\square\square\square$  x  $\square\frac{1}{2}$   $\square\square\square\square$  z-  $\square\square\square\square\frac{1}{2}$   $\square\square\square\square\frac{1}{2}$  M  $\square$ -  $\square\square\square\square$  C

— n  $\frac{1}{2}$   $\square\square\square\square$   $\square\square\square\square$  z  $\square\square$  y  $\frac{1}{2}$  y  $\square\square$  z  $\square\square$  x  $\square\square\square\square$  y  $\frac{1}{2}$   $\square$  x  $\square\square\square\square$  -  $\square\square$   
 $\square\square\frac{1}{2}$   $\square\square\square\square$  '  $\square\square\square\square$   $\square\square$  w  $\square$  zy  $\square\square\square\square$  /  $\square\square\square\square$   $\square$  y  $\square\square\square\square$  -  
 x  $\square\square\square\square$  x  $\square$  z y  $\square\square\square\square$   $\frac{1}{2}$   $\square\square$  /  $\square\square\square\square$   $\square\square\square\square\frac{1}{2}$  y  $\square\square$  x  $\square$  x  $\square\square$   $\frac{1}{2}/\frac{1}{2}$   $\square$  - z  $\square\frac{1}{2}$   
 z  $\square$  x  $\square\square\square\square\frac{1}{2}$  /  $\square\square\square\square$  y  $\square\square\square\square\frac{1}{2}$   $\square\square\frac{1}{2}$   $\square\square$   $\frac{1}{2}/\frac{1}{2}$  wz  $\square\square$   $\square\square$   $\square\square\square\square\frac{1}{2}$   
 $\square\square\square\square$   $\square\square\square\square$  wz  $\square$  x  $\square\square\square\square$  / w  $\square\square\square\square$   $\square\square\square\square\frac{1}{2}$   $\square\square$  44

-w. f  $\square\square\square\square$   $\square\square\square\square$  x  $\square\frac{1}{2}$   $\square\square\square\square$  w  $\square\square\square\square$   $\frac{1}{2}$  xy  $\square\square$  x /  $\square\frac{1}{2}$   $\square\square$  / - z  $\square\square$   
 $\square\square$  y  $\square\square$  z  $\square\square\square\square$   $\square\square\square\square$  w  $\square\frac{1}{2}$  zyzz  $\square\square\frac{1}{2}$   $\frac{1}{2}$   $\square\square$  x  $\square\frac{1}{2}$   $\square\square\frac{1}{2}/\frac{1}{2}$   $\square\square$   $\square\square$  |  
 $\square\square$  y  $\square\square\frac{1}{2}$  w  $\square\square\square\square$   $\square\square\square\square$  l  $\square\square\frac{1}{2}$   $\square\square$  Bzz l  $\square$  l  $\square$  y y l / ' x  $\square\square\square\square$   
 -x  $\square\square\square\square$   $\frac{1}{2}$  zz x  $\square\square\square\square$  x  $\square\square\square\square$  B 1  $\square$  1  $\square$  Z  $\square$  y-  $\frac{1}{2}$  -  $\square$  y X  $\square$  y

-x. i  $\square\square$   $\square\square\square\square$  /  $\square\square$  w  $\square\square$  zy  $\square\square$  /  $\square\square$  y  $\square\square$  xz  $\square\square$  /  $\square\square\square\square$   $\square$  x  $\square$ -  $\square$  x-  
 $\square\square$  y  $\square\square\frac{1}{2}$  w  $\square\square\square\square$   $\square\square\square\square$   $\frac{1}{2}$   $\square\square$  B 1  $\square$  1 -  $\square$  y : - 1  $\square$  1  $\square\square\square\square$  zz [

-y. f  $\square\square\square\square$   $\square\square\square\square$   $\square\square\square\square$   $\square\square\square\square$  y  $\square\square$  y  $\square$  z  $\square\square$  xz  $\square\frac{1}{2}$   $\square\square$   $\square\square$   $\square\square$  y  
 $\square\square\square\square$   $\frac{1}{2}$   $\square\square$  B 1  $\square$  1  $\square$  y : 1  $\square$  1  $\square\square\square\square$  zz  $\square\square\square\square$  y-  $\square$  1

- $\square$ . m  $\square\square$  x  $\square$  zz x  $\square\square\square\square$   $\square\square\square\square$   $\frac{1}{2}$   $\square\square$  z  $\square\frac{1}{2}$  y  $\square\frac{1}{2}$   $\square\square$  x  $\square\frac{1}{2}$  w y  $\square\square$   $\square\square\square\square$  |  
 ? 1  $\square$  1  $\square\square\square\square$  zz  $\square\square\square\square$  y-  $\square$  1

- $\square$ . W  $\square$  y  $\square\square\square\square$   $\square\square\square\square$  z  $\square$  y  $\square\square\square\square$   $\square\square$  x  $\square\frac{1}{2}$   $\square\square\square\square$  yy  $\square$  y 433.  $\square$ -  $\square$  y  $\frac{1}{2}$   $\square\square$   
 w  $\square\square\square\square$   $\square\square\square\square$   $\frac{1}{2}$   $\square\square$  B 1  $\square$  bz  $\square$  y ? 1  $\square$  1 y  $\square$  1 : 04:02A/ § 4:1B; 570:804?  
 4B?4 M  $\square$  y  $\square$  / § 4?H1714; 670:2043A; 570BA043A1.

$\square$  ecqinm . R)M)/,  $\square$  kaer nf otbkic emqepqaimlemq np arrelbkx,

V  $\square\frac{1}{2}$   $\square$  zz w  $\square\square$  z  $\square\square$  z  $\square\square\square\square$   $\square\square$  s  $\square\frac{1}{2}$   $\square\square$  Hy  $\square\square$   $\frac{1}{2}$   $\square\square$   $\square\square$  -  $\square\square$   $\square$   
 -w  $\square\square\square\square$  /  $\square\square$   $\square\square$   $\frac{1}{2}$   $\square\square$  w  $\square\square\square\square$   $\square\square$  y /  $\square\square$  z  $\square\square$  y  $\frac{1}{2}$   $\square\square$   $\square\square$   $\square\square$  |  
 $\square\square$   $\square\square$  y  $\square$  x  $\square\square\square\square$   $\frac{1}{2}$   $\square\square$  y  $\square\square\square\square$  z x  $\square\square\square\square$  wz  $\square$  x  $\square$  x  $\square\square\square\square$  wz  $\square$  x-  
 $\square\square$  y  $\square$  x  $\square\frac{1}{2}$   $\frac{1}{2}$   $\square\square$  y  $\square\square$   $\frac{1}{2}/\frac{1}{2}$   $\square\square$  z  $\square\square$  z  $\frac{1}{2}$   $\square\square$  B3 yF H  $\square\square$  zz  $\square\square$  x  $\square$   $\square\square$  y w  $\square$  .  
 $\square\square$   $\frac{1}{2}$   $\square\square$  /  $\frac{1}{2}$   $\square\square$  y  $\square\square\square\square$   $\frac{1}{2}$  z  $\square\square$  z  $\frac{1}{2}$   $\square\square$   $\frac{1}{2}$   $\square\square$  z  $\square\frac{1}{2}$  x  $\square\frac{1}{2}$  y  $\frac{1}{2}$  z  $\square\square$  wz  $\square\frac{1}{2}$  |  
 $\square\frac{1}{2}$  z  $\square$  x  $\square\square$  y  $\square\square$   $\frac{1}{2}$  y  $\square\frac{1}{2}$  x  $\square$  z  $\square$  x  $\square\frac{1}{2}$   $\square\square$   $\square$  pHi\_V\_S! gifWf\_SON O[gfZniO  
 mfZfn\_NO\_oVif\_YO\_m pVmTV\_YH]MHnZ OTOHiV\_SVYgHViYO\_m1 570:804?H;  
 4B?4 M  $\square$  y  $\square$  / § 4?H1715; 60:B43A1.

$\square$  ecqinm . R)M)0, Qtieq ynme,

— V  $\square\frac{1}{2}$   $\square$  zz w  $\square\square$  z  $\square\square$  z  $\square\square\square\square$   $\square\square$   $\frac{1}{2}$   $\square\square$  x  $\square\square$   $\square\square$   $\square\square\frac{1}{2}$   $\square$   
 $\square\square$   $\square\square$  y  $\square\frac{1}{2}$   $\square\square$   $\square$  y  $\frac{1}{2}$   $\square\square\square\square$  x  $\square\square\square\square$  x  $\square\square\square\square\frac{1}{2}$   $\square\square$   $\frac{1}{2}$   $\square$







~~□ecqinm . R)M):, □iui k qpamronpq cacegnpx aipokame noepaqinmr7 mnire kiliaqinmr,~~

$$\frac{1}{2} \frac{ZZ}{x-y} \frac{ZZ}{x-z} \frac{1}{2} \frac{1}{x-z} \frac{1}{z} \frac{1}{2} C$$

4. m — z — x — z —  $\frac{1}{2}$  — z —  $\frac{1}{2}$  — X  
Hy —  $\frac{1}{2}$  — 47 MXi/g — 6? —  $\frac{1}{2}$  — w $\frac{1}{2}$  — x — - — z-

~~5. m z y z w N x w 64/4B:71~~

~~w. m 1/2 y 1/2 zz y x zz z x z 1/2 x - 1/2  
 1/2 1/2 y yw XHH 1/2 y y 1/2 44 wz 1/2 XHH Hxxy x \$ w x y  
 w x " X- - ' M 1~~

[illegible]

~~□ ecqinm . R)M)4, Hamdfikkr7 lawiltl rntmd operrtpe keuekr,~~

— p —  $\frac{1}{2}$  y —  
— zz — z —  $\frac{1}{2}$  yz —  $z\frac{1}{2}$  -W .C

4.  $g \frac{1}{2} y \frac{1}{2} y - z W$  88 yF-H.1

[illegible][illegible]

~~w. p  $\frac{1}{2}$  y z y w z z y x y w y  $\frac{1}{2}$  x y y  $\frac{1}{2}$   $\frac{1}{2}$  z z~~

[illegible]

~~□ ecqinm . R)M)R, Xeartpelemq opneedtper,~~
$$\text{---} \cdot X \square \square zy \square \square \frac{1}{2} \square \square \square \square \square \square \square \square x \square y \square \square \square \square \frac{1}{2} \square \square \square \square \frac{1}{2} \square \square \square \square y \square z \frac{1}{2} \frac{1}{2} \frac{1}{2} x_2 \text{---} \square \square \square \square z \square \square \square \square$$
[illegible]~~$$-w. \quad \square \square \frac{1}{2} \square \frac{1}{2} \square \quad zz \quad w \quad \square \square \quad \frac{1}{2} \square \square \square \quad y \quad \square \square \square \square \quad \frac{1}{2} \square \square \square \square \quad yz \quad \square \square \square \square \quad z \quad \square \square \square \square \square \square - \square y \quad \square x \square - \square \square$$~~

~~570:804?H; 4B?4 M □ y □ / § 4?H160?;043A; 60:B043A; 6:0A4043A1.~~

~~8 □ □ G □ HC 2, □ erepued,~~

~~8 □ G HC :, apiamcer amd Cweloginmr epliqged,~~

~~□ ecqinm . R):)., Clepgemeier,~~

[illegible]
$$\square \square \square \square \square \square x \square \square \square \square 1 \square \square \square \square zz w \square x \square \square \frac{1}{2} \square \frac{1}{2} Z \square y \square \square \square \square \square \square \frac{1}{2} \square \square z - \square$$
[illegible]
$$y \square \square \square \square \square \frac{1}{2} \square \square \square \square \square \frac{1}{2} \square x \square \square \square \square \square \frac{1}{2} \square \square \frac{1}{2} xz \square - \square z \square \square \square \square \square x \square \frac{1}{2} \frac{1}{2} - \square \square 1$$

~~570:804?H; 4B?4 M□y□/ § 4?H1?141.~~

~~□ ecqinm . R):)/, □ mdte hapdrhio,~~

— H —  $\frac{1}{2}$  —  $\frac{1}{2}$  —  $\frac{1}{2}$  — WZ — z —  $\frac{1}{2}$  —  $\frac{1}{2}$  — S — x — Hy —  $\frac{1}{2}$

$$\frac{1}{2}x - x - z - x - y^{\frac{1}{2}} - C$$

4. m        $\frac{1}{2}$  y        $\frac{1}{2}$              w z x   -z   /  $\frac{1}{2}$  -

[illegible][illegible]~~$$w, \frac{V}{y} \frac{1}{s} \frac{1}{H y x_2} \frac{z z x^{1/2}}{1/2 x y}$$~~

$y \quad \frac{1}{2} \quad zz \quad xx \quad \frac{1}{2} // y \quad \frac{1}{2} z \quad y \quad \frac{1}{2} \frac{1}{2} \quad z$

[illegible]

A number line from 0 to 10 with tick marks every  $\frac{1}{2}$  unit. The labels 0,  $\frac{1}{2}$ , 1,  $\frac{3}{2}$ , 2,  $\frac{5}{2}$ , 3,  $\frac{7}{2}$ , 4,  $\frac{9}{2}$ , 5, and 10 are placed below the corresponding tick marks. The labels  $x$ ,  $y$ , and  $x$  are placed above the tick marks for 1, 2, and 3 respectively.

□ □ □ □ □  $\frac{1}{2}$  □ □ □ □  $\frac{1}{2}$  □ □ □ □ □  $\frac{1}{2}$  M □ - □ □ □ □ 1

$$\frac{x}{x^2 - z^2} = \frac{1}{2} \left( \frac{1}{z-x} + \frac{1}{z+x} \right) = \frac{1}{2} \left( \sum_{n=0}^{\infty} \left( \frac{z}{-x} \right)^n + \sum_{n=0}^{\infty} \left( \frac{-z}{x} \right)^n \right)$$
$$x^2y^2 - 4. \frac{w}{x} - \frac{1}{2}x^2z - x^2z - x^2z$$
$$\text{---} \square \square \square \text{ s } \square \square \square \text{ Hy } \square \square \square \frac{1}{2} \square \square \square \square \square \square \frac{1}{2} \square \square \square \text{ zz } \text{ z } \square \square \frac{1}{2} \text{ y } \square \square \frac{1}{2} \square \square \square \frac{1}{2} \square \square \text{ x } \square \text{ y } \square \square \square \square \text{ ---}$$
[illegible]



4 8 8 FXCK

6 C K W C 8XCK XCK

8 8lemd haoqep 2( ffemrer( 8pqicke :( 8m mdince qn egtkaqe epqaim Cwcerriue ntmd  
? emepaqinm im eridemqiaq 8pear amd vekkimg( bx peoeaking iq im iqr emqipeqx,  
:  
A 2):,, eekapaqinm nf findimgr amd onkicx,  
B  
43 m F y w y $\frac{1}{2}$  y y xy wz $\frac{1}{2}$  y y  $\frac{1}{2}$ x wz $\frac{1}{2}$  y $\frac{1}{2}$  -  
44 " y wz x z / z y x  $\frac{1}{2}$  z  
45 X ' M ; y $\frac{1}{2}$  z zy w  $\frac{1}{2}$  y  
46  $\frac{1}{2}$ x  $\frac{1}{2}$  y y 'z / wz x y $\frac{1}{2}$  z / y -y  
47 z ; y  $\frac{1}{2}$  F y z x  $\frac{1}{2}$ x  $\frac{1}{2}$  y  
48 x  $\frac{1}{2}$   $\frac{1}{2}$  x "  $\frac{1}{2}$  X  $\frac{1}{2}$  H y  $\frac{1}{2}$ l  
4?  
4: 2):)/, efimiqinmr,  
4A  
4B m zz y $\frac{1}{2}$   $\frac{1}{2}$  y  $\frac{1}{2}$   $\frac{1}{2}$   $\frac{1}{2}$ xz  $\frac{1}{2}$  zz $\frac{1}{2}$  y -  
53 x / 'x x ' xz - z  
54  
55 EmTbRdU  $\frac{1}{2}$   $\frac{1}{2}$  y x w y w y x-zz  
56 y y x l  
57  
58 LbkSUjfbRdU  $\frac{1}{2}$   $\frac{1}{2}$  y  $\frac{1}{2}$   $\frac{1}{2}$  x x z  $\frac{1}{2}$  y $\frac{1}{2}$   $\frac{1}{2}$  x x- w  
5? y y l  
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Fairfax County Public Schools  
Public Address and Amplification System Guidelines

September 11, 2015

The following guidelines shall be followed by Fairfax County Public High Schools when using outdoor stadium (rectangle and diamond) public address (PA) systems.

- PA systems are only to be accessed under FCPS staff supervision. All announcers are to be trained on the use of the system with specific attention paid to maximum allowable volume.
- Maximum allowable volume is to be clearly marked on the PA system directly adjacent to the volume control.
- Stadium PA systems are not to be used to play music prior to or during athletic practice sessions.
- The DSA at each school will monitor the working condition of each PA system to ensure the direction of the speakers and the volume is in line with Fairfax County Noise Ordinance standards.

Issues regarding the use of PA systems on FCPS High School property can be referred to the High School in question or to the Student Activities and Athletics Program office at 571-423-1260.

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2 □ □ WQ 2bd □ □ □ □ ,)# 2 □ □ □ ccZbh Hc □ c#A □ □ □ dZbhKWKQ 8Z □ □ C □ □ eaKd □ ZWc# □ I  
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 ./ dZ b □ KQ Kc □ Z □ □ ZgcM

23- ;w-g □ [w- Z □ wx'wnn Qw □ m □ % Q □ □ □ Q]mi □ □ w □ pm nwtw □ [-o?

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!3 □ Wpm- □ pm Zw-g □ [w- Z □ wx'wnn Qw □ m □ □ pgtt Zm-x □ [n [mZ w- g- gxx □ w □ mZ  
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1       twig □mZ [- giw □Zg-im □~~gxp[gt~~Qtm □□[tZ[-o g-Z n[~~Zm~~ □mo □tg □[w- □nw □ □pm  
2       x □ □xw □m wn m- □ □ □[-o □gnm [-o ~~gim~~ □□g-Zwmo □~~it~~ □□z% p □ □'wnn □gt □m □  
3       nw □ n[ □m x □w □mi □w[~~g~~[-~~ip~~i □ □pgtt gt Qm Qm □w □pm □[op □Z[ □ □g-im  
4       x □w □[□[w- □wn Jmi □- l'4/4-

5  
6       H- ;w-g □[w- Z □wx'wnn Qw □m □ □pgtt Qm ~~wm~~g □ipm □ □ □i □mZ wn xg[- □mZ 'm □g  
7       xtg □ □[i% w □w □pm □ □['tg □tz -w'giw □□[gt% □Qtm xw □tz 'g[- □g[-mZ [- owwZ  
8       □mxg[ □g-Z [- g 'g-m □ □pg □iw'xgtmgxt[~~ig~~Qtm B □[tZ[-o CwZm g-Z F[ □m  
0/       CwZm □mo □tg □[w- □% g-Z □mi □ □mZ n □w' □-g □ □pw □[□mZ giim □ □-

01       F- Att Zw-g □mZ [□m' □ □pgtt Qm iwttmi □mZ gnZ [- □~~pm~~ Zw-g x'wnn Qw □ □p[ip  
02       □pgtt Qm m'x □□mZ g □-mmZmZ3w pw □[□p[-wn g □my □m □ □Qz □pm x □wxm □ □z  
03       w □ g □ □pw □[□mZ gom- □- N ~~gn~~' □[-gt Z Zg-om □[g □p □pgtt -w □Qm twig □mZ  
04       w □ □□[Zm w □[- x □w □[' □z Z w ~~g~~Zwng Q[w- nw □ 'w □m □pg- 13 pw □ □ □g-Z  
05       □pgtt Qm □m'w □mZ Qz □pm x □w ~~xm~~ □g ~~w~~ □mwn% pm Zw-g □[w- Z □wx'wnn Qw □  
06       g-Zm □[-g □mZ □pm □[g □ □pw □[□mZ gom- □-

07  
08       M- ;w-g □[w- Z □wx'wnn Qw □m □ □pgtt Z[ □xtgz □pm nwttw □[-o [-nw □'g □[w- [-g xm □  
1/       g-Z tmo[Qtm nw □'g □ □pg □[□~~Qtm~~gn □zv □[~~pf~~n □w- □wn □pm iw- □g[-m □?

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11       !1 □Kpm -g'm wn □pm wxm □g □w □w □w □-m □wn □pm iw- □g[-m □:

12       !2 □Kpm m- □[□z □m □xw- □[Qtm nw □im ~~wm~~g □m iw- g[-m □g-Z □pm □m'w □gt w  
13       Zw-g □mZ [□m' □% [-it □Z[-o g-z g ~~Qg~~ Zw-~~it~~ □g-Z □ □g □p twig □mZ w □ □□[Z  
14       □pm Zw-g □[w- Z □wx'wnn Qw □:

15       !3 □A □mtmxpw-m - □'Qm □ □pm □mw ~~xm~~g □wn □w% gom- □wn □pm w □-m □w □  
16       wxm □g □w □'gz Qm □mgipmZ g □g-z □['m-

17       !4 □A -w □[im □ □g □[-o □pg □-w [□m' □wpgtt Qm ~~tm~~n [gtw □ □□[Zm wn □pm Zw-g □  
18       Z □wx'wnn Qw □g-Z □pm □ □g □m'm- □% □Xw □nw □ □mn □ □mZ[ □xw □gt- C  
19       x □wp[Q[□mZ- □

20       2 □ □WQ 2bd □ □ □ □-)# CbQ ~~bv~~Kw □# ;~~Fdd~~ bab □dKd □ZWc KWQ R □ □ □W □d □ZW  
21       R □ □ □W □d □ZWc# F □ □d( -)\$.)# □h KQQ □W □d KZW □g ~~Q~~ K □a □KWe □ □b □ □ZbQ □b  
22       □Z □ □ZgcM

23       3/  
24       ;SXAKNSX ;VST'SFF BSY? A-z xw □ □gQtm w □ □Zww □ iw- □g[-m □ [-□m-ZmZ w □ □□  
25       iwttmi □[w- g-Z □ □w □gom ~~wm~~Z-~~ng~~ □[tm g-Z pw □ □mpwiz ~~g~~ □mitw □p[-o% □wz □%  
26       Qwws □% g-Z □pwm □% □p[ip g □m □m'w-~~ng~~ □m w □g ~~xm~~ □wZ[i Qg □[□- Fw □x □ □xw □  
27       □p[□ S □Z[-g-im% g Zw-g □[w- Z □wx'wnn Qw Qm ~~Zm~~gtmZ □w [-it □Zm g VHC\_CONXM  
28       CHXKHV w □JSON; WAJK~~ES~~OOHCKNSX FACNONK\_-



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 o o o - s w o ] o z o o o o z w o o o o o ] o o ] z t w ] s [ o w o o z s o o [ s o o ] o o s o o z t o o  
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 o o - s o x o o w z] w [ o w o o z-

<i>HiW o f i h</i>	<i>: V b p f o f i h ?</i>	<i>I V o c i U</i>	<i>L V m g / o : V q p / m V U ?</i>	<i>E h i m W V g V h o</i>
Fow o to o Cw o o	V o			
Fo o o z C - o o [ -	msz	w o s K o o	V o	C o o o o o w o o
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f o o o o t N s o o ] o o	V o ' p o	o o o s] ; s o ] w o s V 6.20.03 t o o o s o o o o : o o o ] o o o w o o ] o o o ' t t p o o s z o o s o o o - w p w o s]		C o o o o o w o o p o z w z
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T□z□ □s[s□□□□% z□ott □□s□o□s]oo□]o□]z □s-o□□t□z□s ]wz[□zsz] □w□- □-s B□o□  
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 z□pxs[□□□ □w□w□o□w□□ z- f-wz o □z□s]wtw[□w□□□w]sz □z □w□- □s'o□] □□ □-  
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 18 prZW- n □ □ □ jWux □ n xpW Z □ o □ □ hfx\* ; □ r □ ufxr □ y □ n xpr □ □ □ \ □ Whxr □ y r □ f Nuf □ □  
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Planning Commission Meeting  
September 30, 2015  
Verbatim Excerpt

PA S13-CW-T1 – COMPREHENSIVE PLAN AMENDMENT (LELAND ROAD  
CONNECTOR)

After the close of the Public Hearing

Chairman Murphy: Without objection, the public hearing is closed; recognize Mr. Litzenberger.

Commissioner Litzenberger: Thank you, Mr. Chairman, I'll summarize for the staff. This amendment would modify the Fairfax County Comprehensive Plan and the Fairfax County Transportation Plan Map by removing the Leland Road Extension. The Leland Road Extension has been shown on the Comprehensive Plan since 1990. Staff has indicated that the Leland Road Extension was added to the Plan to support the development of an active historic village surrounding the historic resources located within the Centreville Historic Overlay District; however, a subsequent expansion of the Centreville Historic District and update to the Comprehensive Plan have emphasized the need to preserve the known and unknown historic resources in this area. In light of these overarching preservation goals, Fairfax County Department of Transportation staff recommends the removal of the Leland Road Extension from the Fairfax County Comprehensive Plan and from the Fairfax County Transportation Plan Map. Therefore, Mr. Chairman, I MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS THE ADOPTION OF THE STAFF RECOMMENDATION FOR PLAN AMENDMENT S13-CW-T1, AS SHOWN ON THE STAFF REPORT DATED SEPTEMBER 2ND, 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 represent to the Board – to – all those in favor of the motion to – to represent to – ask the Board of Supervisors to adopt S13-CW-T1, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries.

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(The motion carried by a vote of 10-0. Commissioners Lawrence and Strandlie were absent from the meeting)

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**RESOLUTION**

FAIRFAX COUNTY DEPARTMENT OF TRANSPORTATION  
RESIDENTIAL TRAFFIC ADMINISTRATION PROGRAM (RTAP)  
THROUGH TRUCK TRAFFIC RESTRICTION  
LEWINSVILLE ROAD (EASTERN PORTION)  
DRANESVILLE DISTRICT

**WHEREAS**, the residents who live along Lewinsville Road have expressed concerns regarding the negative impacts associated with through truck traffic on this road; and

**WHEREAS**, a reasonable alternate route has been identified for Lewinsville Road starting at Lewinsville Road and Dolley Madison Boulevard to the intersection of the Dulles Toll Road and Dolley Madison Boulevard, and from the intersection of the Dulles Toll Road and Dolley Madison Boulevard to the intersection of the Spring Hill Road and Dulles Toll Road and then on to the intersection of Lewinsville Road and Spring Hill Road; and

**WHEREAS**, it is the intent of the Fairfax County Board of Supervisors to ensure that the proposed through truck restriction be enforced by the Fairfax County Police Department; and

**WHEREAS**, a public hearing was held pursuant to Section 46.2-809 of the *Code of Virginia*;

**NOW THEREFORE BE IT RESOLVED**, that the Board of Supervisors of Fairfax County, Virginia, has determined that in order to promote the health, safety, and general welfare of the citizens of Fairfax County, it is beneficial to prohibit through truck traffic on Lewinsville Road, between Dolley Madison Boulevard and Spring Hill Road, as part of the County's Residential Traffic Administration Program (RTAP).

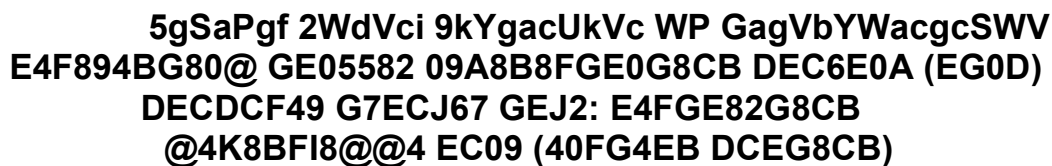
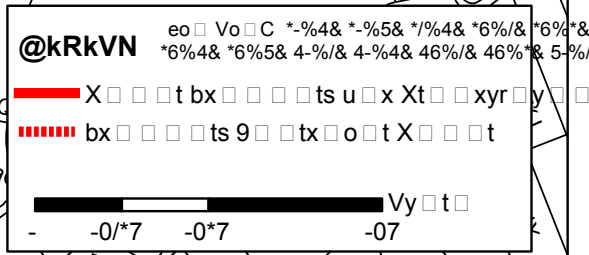
**FURTHER BE IT RESOLVED**, that the Commonwealth Transportation Board is hereby formally requested to take necessary steps to enact this prohibition.

**ADOPTED** this 17th day of November, 2015.

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Catherine A. Chianese  
Clerk to the Board of Supervisors



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**RESOLUTION**

FAIRFAX COUNTY DEPARTMENT OF TRANSPORTATION  
RESIDENTIAL TRAFFIC ADMINISTRATION PROGRAM (RTAP)  
THROUGH TRUCK TRAFFIC RESTRICTION  
LEWINSVILLE ROAD (WESTERN PORTION)  
DRANESVILLE DISTRICT

**WHEREAS**, the residents who live along Lewinsville Road have expressed concerns regarding the negative impacts associated with through truck traffic on this road; and

**WHEREAS**, a reasonable alternate route has been identified for Lewinsville Road starting at Lewinsville Road and Leesburg Pike to the intersection of the Dulles Toll Road and Leesburg Pike, and from the intersection of the Dulles Toll Road and Leesburg Pike to the intersection of the Spring Hill Road and Dulles Toll Road and then on to the intersection of Lewinsville Road and Spring Hill Road; and

**WHEREAS**, it is the intent of the Fairfax County Board of Supervisors to ensure that the proposed through truck restriction be enforced by the Fairfax County Police Department; and

**WHEREAS**, a public hearing was held pursuant to Section 46.2-809 of the *Code of Virginia*;

**NOW THEREFORE BE IT RESOLVED**, that the Board of Supervisors of Fairfax County, Virginia, has determined that in order to promote the health, safety, and general welfare of the citizens of Fairfax County, it is beneficial to prohibit through truck traffic on Lewinsville Road, between Leesburg Pike and Spring Hill Road, as part of the County's Residential Traffic Administration Program (RTAP).

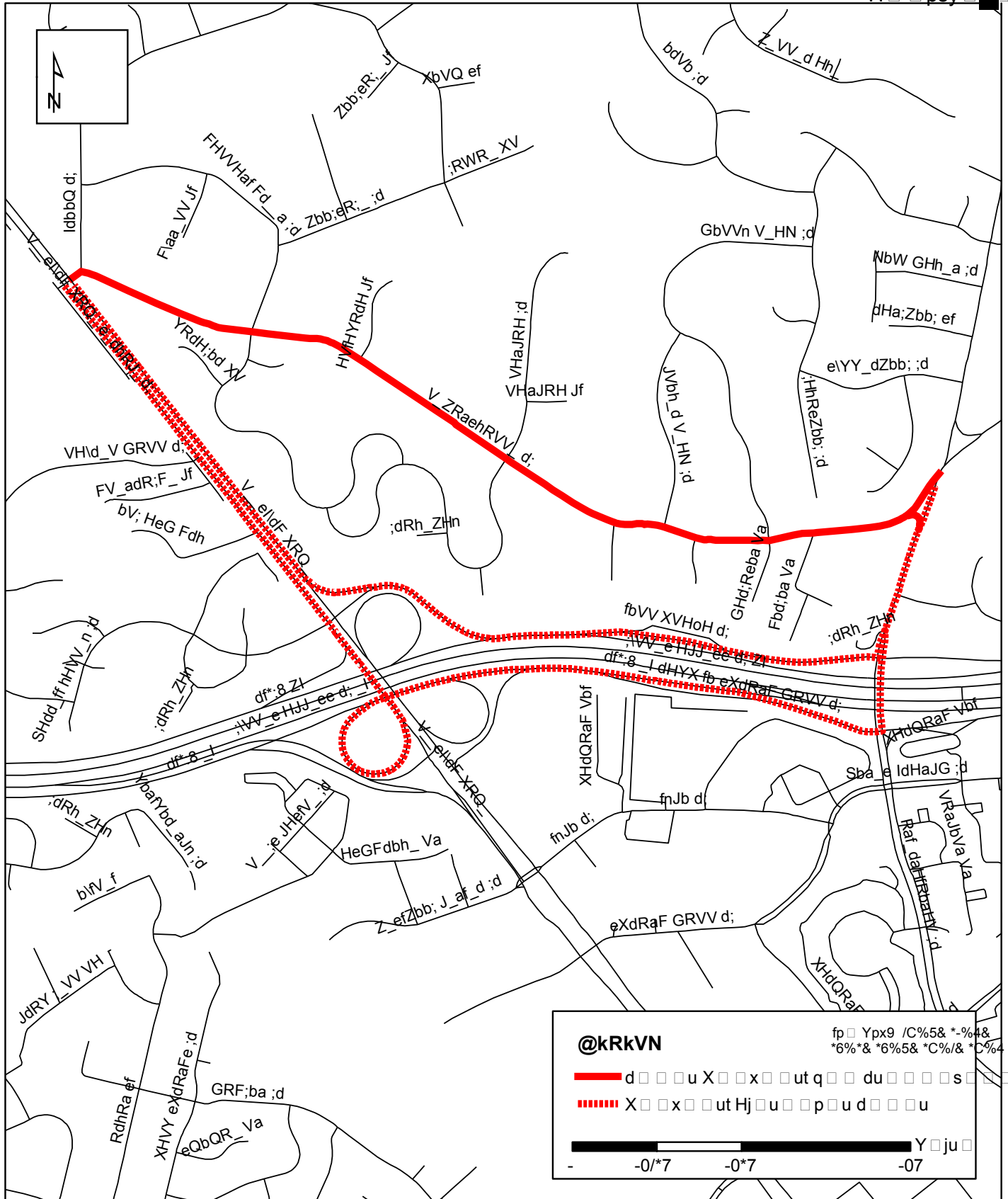
**FURTHER BE IT RESOLVED**, that the Commonwealth Transportation Board is hereby formally requested to take necessary steps to enact this prohibition.

**ADOPTED** this 17th day of November, 2015.

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Catherine A. Chianese  
Clerk to the Board of Supervisors



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**FAIRFAX  
COUNTY**

**ATTACHMENT 1  
STAFF REPORT**

V I R G I N I A

**PROPOSED ZONING ORDINANCE AMENDMENT**

Articles 4 and 20 – Alternative Lending Institutions

**PUBLIC HEARING DATES**

**Planning Commission**

October 21, 2015 at 8:15 p.m.

**Board of Supervisors**

November 17, 2015 at 4:30 p.m.

**PREPARED BY  
ZONING ADMINISTRATION DIVISION  
DEPARTMENT OF PLANNING AND ZONING  
703-324-1314**

September 22, 2015

ABH



Americans With Disabilities Act (ADA): Reasonable accommodation is available upon 7 days advance notice.  
For additional information on ADA call 703-324-1334 or TTY 711 (Virginia Relay Center).

## STAFF COMMENT

The proposed amendment is on the 2015 Priority 1 Zoning Ordinance Amendment Work Program and is in response to an October 29, 2013, Board of Supervisor's (Board) request directing staff to research possible regulatory or land-use strategies to regulate, specifically, motor vehicle title lending companies. Since that time, Zoning Administration staff has been researching the topic of car title lending, to also include similar business establishments commonly referred to as 'payday lenders', and has prepared this Zoning Ordinance Text Amendment to regulate such uses, collectively, as "alternative lending institutions". The purpose of this amendment is to define and establish *alternative lending institutions* as a distinct land use in select commercial zoning districts with proposed use limitations. The amendment was presented in a conceptual format to the Board's Development Process Committee on June 9, 2015.

### **Background**

Staff's review and analysis of the proposed amendment includes both motor vehicle title and payday lending businesses. While the Board specifically requested information on car title lending companies, staff believes the uses are similar enough in nature to warrant review and possible regulation together, especially since both business types typically favor those same, specific land areas within the County – a trend that is also repeated in other communities nationwide. Both payday lending (*Va. Code Ann. § 6.2-1800 et seq.*) and motor vehicle title lending (*Va. Code Ann. § 6.2-2200 et seq.*) are regulated by the Code of Virginia, and require licensing statewide by the Virginia State Corporation Commission (SCC), Bureau of Financial Institutions. Staff relied on reports published by the SCC to identify the locations of payday lending and motor vehicle title lending business within Fairfax County. A review of this data, along with information compiled from County records such as the issuance date of a Non-residential Use Permit (Non-RUP), shows that starting in January 2012, there were approximately 16 establishments that offered motor vehicle title and/or payday loans operating within the County. However, in the roughly 3.5 years since then, the number of business establishments has nearly doubled, to 31 locations as of August 24, 2015. Of these 31 locations, 5 are regulated by the SCC as pay day lenders, 22 as motor vehicle title lenders and 4 locations are regulated as both payday and motor vehicle title lenders. A significant number of those new locations within the County in the last two years are the result of a single nationwide chain that began operating locations for the first time within the jurisdiction. The oldest location in Fairfax County began operating in February 1996, and new businesses opened only sporadically throughout the early 2000's with a significant increase in the number of new locations opening beginning in the 2011-2012 timeframe. A list of the existing locations within the County has been included as Attachment 1 of the Staff Report.

### **Current Provisions**

While Alternative Lending Institutions are not specifically defined in the Zoning Ordinance, they have been deemed to be most similar to financial institutions for purposes of regulation under the Zoning Ordinance. Financial Institutions are permitted by right, without limitations, in most of the Commercial and Industrial zoning districts, specifically in the C-1 through C-9 Districts and the I-2

through I-6 Districts. Indeed, a review of the existing alternative lending institution locations shows businesses operating in almost exclusively Commercial Zoning Districts, with nearly three quarters of the locations within the C-6, C-7, or C-8 Zoning Districts. More importantly, staff has identified that 19 of the 31 locations are within a designated Commercial Revitalization District (CRD) and 28 of 31 locations are within a Highway Corridor Overlay District (HC). Staff's research has identified that this is also a similar trend that can be noted nationwide, in which both motor vehicle title lenders and payday lenders tend to select locations on major streets and/or within those areas that have been developed with what is generally characterized as highway commercial development. In addition, based on a study of payday lenders done by California State University, Northridge, in 2009, such businesses also tend to cluster disproportionately in low to moderate income areas/neighborhoods, around concentrations of lower wage workers, and also in proximity to military bases. The same study finds that not only do individual lenders tend to open locations in specific neighborhoods but multiple lenders tend to tightly collocate in the same areas. This has been evidenced in staff's research of alternative lending institutions in Fairfax County, where one can find multiple lenders doing business on heavily traveled arterial roadways such as Arlington Boulevard, Little River Turnpike and Richmond Highway, all within close proximity of one another, and some even directly adjacent to one another.

### **Proposed Amendment**

In response to the Board's request, and acknowledging the particular land use impacts associated with the influx of these businesses that have opened in the last 3.5 years, staff believes that distinct regulations for this specific use are appropriate. Based on the locations of existing businesses within Fairfax County, as well as research into what other communities throughout the United States have proposed and/or adopted in the way of zoning based regulations for car title and/or payday lenders, staff has drafted the framework presented in this Zoning Ordinance Text Amendment – to include the newly defined land use of alternative lending institution, the zoning districts in which it is permitted by-right, and applicable use limitations.

As previously mentioned, both payday and car title lenders are governed by provisions in the Code of Virginia. However, despite these regulations, many jurisdictions in Virginia, including Fairfax County, have seen a dramatic increase in the number of such businesses that have opened in the last 3 to 5 years. According to a 2009 working paper by researchers at George Washington University and California State University, Northridge, fringe banking institutions such as payday lenders have increased significantly in recent years, locating at high concentrations in already distressed communities, and thereby adding to their hardship. As stated in the study “[m]oreover, a concentration of payday lenders may constitute a visible sign of neighborhood decline and signal to potential troublemakers that informal social control is weak at best.” When social control is weak in a community, social science studies show that one is more likely to find increases in crime, poverty and unemployment – interrelated concepts that are most often linked together by geography in that where you find one, you will likely find the others.

### *Definition*

Staff's proposal consists of the creation of a new land use designation, referred to as an “alternative

lending institution,” which includes both motor vehicle title and payday lenders. As proposed, an alternative lending institution is defined as “[a]n establishment providing short term loans to individuals, to include, but not limited to, pay day lenders, as regulated by Chapter 18, Title 6.2, Code of Virginia, and/or motor vehicle title lenders, as regulated by Chapter 22, Title 6.2, Code of Virginia. For purposes of this Ordinance, an alternative lending institution shall not be deemed to include an OFFICE, PAWNSHOP, DRIVE-IN FINANCIAL INSTITUTION, FINANCIAL INSTITUTION or any other state or federally chartered bank, savings and loan institution, or credit union.” The proposed definition seeks to clearly distinguish between more common financial institutions, like a bank, and those businesses offering less traditional, typically short-term loan services like unsecured loans, such as a payday loan, or a motor vehicle title loan, which operates in similar fashion as a pawn shop, whereby the short-term loan is secured with collateral – the title to the borrowers vehicle. Given its similarities to both financial institutions and pawnshops, the definition includes the last sentence to qualify that alternative lending institutions are not to be deemed such uses for purposes of zoning.

#### *Permitted Districts*

As proposed, the use would only be allowed by-right in the Regional Retail (C-7) and Highway Commercial (C-8) Zoning Districts, with use limitations, and these districts have been identified because of their location adjacent to heavily traveled arterial highways, as well as to major transportation facilities – locations that seem to be preferred by these type of lending companies. It is staff’s position that a by-right use with use limitations is more appropriate than requiring legislative approval in the form of a special permit or special exception, since the land use impacts associated with alternative lending institutions, while unique in their own right as discussed in more detail below, are not so dissimilar than those of financial institutions, which are permitted by-right in the Zoning Ordinance. In addition, staff strongly recommends that while allowed in the C-7 & C-8 Districts by-right, that the use be prohibited in the Commercial Revitalization Districts (CRDs) and the Commercial Revitalization Areas (CRAs) for reasons further discussed below. Generally speaking, this is most similar to, and is really an amalgamation of, the approaches taken by both Chesterfield County and the City of Manassas to regulate alternative lending institutions. Of the two approaches, the Chesterfield County Ordinance is the most recent and was adopted in 2013. It identifies “alternative financial institutions” as:

“Any establishment, other than a bank, credit union, or savings and loan, engaged in the business of making short-maturity loans on the security of (i) a check, (ii) any form of assignment of an interest in the account of an individual at a depository institution, or (iii) any form of assignment of income payable to an individual, other than loans based on income tax refunds.”

These uses are deemed conditional uses in Chesterfield County’s General Business (C-5) District, and require approval by the Chesterfield County Board of Supervisors, subject to their review against a set of guidelines that sets forth criteria such as proximity to residential uses and separation distance between two similar uses. Most notably, the Chesterfield guidelines prohibit alternative financial institutions in identified revitalization areas. It is noted that Chesterfield County’s C-5 District is most similar to the C-8 District in Fairfax County, and a conditional use permit is what the Fairfax

County Zoning Ordinance refers to as a special exception.

Similarly, the City of Manassas identifies “short-term loan establishments” as:

“...a business licensed to make payday loans under Chapter 18 of Title 6.2, Code of Virginia, licensed to sell money orders or engage in the business of money transmission under Chapter 19 of Title 6.2, Code of Virginia, registered as a check casher under Chapter 21 of Title 6.2, Code of Virginia, or licensed to make motor vehicle title loans under Chapter 22 of Title 6.2, Code of Virginia. Under those provisions, banks, savings and loans institutions, credit unions, and retail stores, among others, are exempted and therefore are not "short-term loan establishments" for purposes of this chapter.”

For the City of Manassas, these uses are allowed by-right only in the General Commercial (B-4) District. Although allowed by-right, the use is deemed to be a “high impact business,” and is therefore subject to further use limitations that prohibit their location within a certain distance of residential uses, as well as other sensitive uses such as schools, church, etc. It is noted that Manassas’s B-4 District is its highest intensity commercial district, also similar in that respect to the C-8 District in Fairfax County.

As previously stated, the C-7 & C-8 Districts provide land area that is either directly accessible to, or in close proximity to, major roadways, criteria that appears to be preferred by alternative lending institutions throughout Virginia, and which are more appropriate to handle the traffic generated by such a use. Therefore, these zoning districts have been identified as the only appropriate by-right districts for such businesses, with specified use limitations to be discussed later in the report. In evaluating the possible districts for inclusion, staff concluded that such uses would not be appropriate in the commercial office districts, C-1 through C-4 Districts, as these districts either typically serve as transitional districts between residential areas and higher intensity non-residential uses, such as that in the C-1 and C-2 Districts, or are for predominantly office type uses, such as the C-3 and C-4 Districts. It is staff’s belief, as discussed in more detail below, that alternative lending institutions are more similar in their characteristics to a quick service retail use, than that of a traditional office, such as a financial institution. Furthermore, areas zoned to the lower commercial districts do not always possess direct frontage on preferred, high traffic volume roadways, as evidenced by the lack of existing businesses in these districts. Moreover, with regard to the higher intensity commercial districts, the C-5 to C-9 Districts, staff believes that the C-5 and C-6 Districts are also inappropriate for alternative lending institutions as these districts were established to provide commercial opportunities for smaller, neighborhood scale communities, with an emphasis on serving pedestrian oriented traffic. Therefore, such areas are encouraged to develop or redevelop as compact, unified centers, which is much different in scale and scope than those commercial centers that are promoted in the C-7 & C-8 Districts. That being said, the C-7 & C-8 Districts provide the most appropriate zoning categories, since they provide for the full range of commercial service uses on land that has been planned and designed for appropriate transportation access for a larger market.

Regarding the C-9 District, staff notes that there is no present land in Fairfax County zoned to this

particular district and, therefore, it has not been included. Regarding the Industrial Districts, the I-I and I-1 through I-6 Districts, while financial institutions are allowed by-right in certain Industrial Districts, staff maintains that alternative lending institutions are more similar in their characteristics to a quick service retail use, than that of a traditional office, such as a financial institution. Given that purely retail uses are generally prohibited in the Industrial Districts, staff believes that alternative lending institutions would also be inappropriate in these districts.

While staff believes that the C-7 & C- 8 Districts are appropriate locations for alternative lending institutions, staff believes that the use should be prohibited in the CRDs, and the similar CRAs, and a use limitation has been proposed to this effect. The purpose and intent of the CRD set forth in Section 7-1001 of the Ordinance, states, with emphasis added:

“The Commercial Revitalization Districts *are established to encourage economic development activities in the older commercial areas of the County* in order to provide desirable employment and enlarge the tax base consistent with the provisions of Sections 15.2-200, 2283 and 2284 of the Code of Virginia, as amended. *The districts are intended to enhance the older commercial areas of the County by providing for specific regulations which are designed to facilitate the continued viability and redevelopment of these areas.*”

In its research, staff has found both empirical and anecdotal evidence suggesting that particular land uses actually work contrary to the purpose and intent of the CRDs as identified above. Regarding payday lenders, specifically, there are academic studies that suggest the use is a financial drain on the local economies in which they operate. Simply put, when community members enter into a potential cycle of continued debt, the money paid in excessive interest rates is exported out of the local community. A 2003 study conducted by the Southwest Center for Economic Integrity of Pima County, Arizona, ( a county with a population of nearly 1 million persons that surrounds the City of Tucson), estimated that nearly \$20 million in fees for payday loans were paid out by County citizens. More importantly, these fees were collected from those areas/neighborhoods within the County that were the subject of nearly \$8 million in federal revitalization grants. The compounding effect in such instances is that money used to service the debt is not only being sent out of the community, a community that is already economically depressed and trying to redevelop, it also means that an individual then has less income to actually spend in their local economy, thereby hurting local businesses, especially small, “mom and pop” type operations. Staff believes that this is contrary to the rationale behind the establishment of the CRDs in the first place, and, furthermore, that the introduction of a less desirable land use in such sensitive areas would in no way further the goals set forth in Section 7-1001 of the Ordinance. For these reasons, staff believes that this limitation is appropriate, for both the CRDs and the CRAs, and it is noted that this is the same approach taken by Chesterfield County.

#### *Use Limitations*

In addition to the prohibition of alternative lending institutions within the CRDs and CRAs, which is identified as the first use limitation in the draft text, staff is also proposing five other use limitations. A discussion of each use limitation follows, and for ease of reference, the discussion is presented in the format and order found in Sections 4-705 and 4-805 of the proposed text amendment language.

The main purpose of the proposed use limitations is to mitigate potential impact of the proposed land use on adjacent and surrounding areas.

*Alternative lending institutions shall be permitted by right in accordance with the following:*

- A. When such use is located on a lot that is not in a Commercial Revitalization District or a Commercial Revitalization Area.*

This use limitation has been discussed above.

- B. When such use is located in the building of a shopping center, with all uses within that building being connected by party walls or partitions to form one continuous structure; and*

This use limitation is similar to the provisions found in the C-7 and C-8 Districts for auto-oriented uses, such as a quick service food stores, and allows these uses to operate by-right when located in a shopping center. Staff believes that a similar use limitation is necessary for alternative lending institutions given the type and speed of the services rendered – most alternative lending institutions emphasize *ease and convenience* of borrowing to consumers. Applicants have the option to complete the loan information in person or online, and, likewise, may have the option of picking up approved funds in person or having the funds digitally transferred to their bank accounts. For customers that seek service in person, there is a minimum of a single visit and possibly an additional, brief visit to pick up approved loan funds if there is any wait period to process the loan. Given this “quick stop” characteristic, allowing the use only within a shopping center and not as a freestanding use is appropriate to minimize the potential negative impact of frequent vehicle trips on parcels with direct access to high traffic volume roadways.

- C. The shopping center is not located adjacent to or across a public right-of-way from land developed with any public use, place of worship, child care center, private school of general education, or quasi-public athletic fields and related facilities; and*

The main purpose of any use limitation is to mitigate the potential negative impacts of a single land use on other adjacent land uses, and this particular provision explicitly seeks to address issues of incompatibility. Staff has selected these specific land uses due to their sensitive nature and this approach is similar to that taken by the City of Manassas.

- D. The daily hours of operation for such uses shall be limited to between 8:00 AM and 6:00 PM; and*

As mentioned above, there has been little discussion at this point as to the impact of alternative lending institutions on residentially zoned and/or developed areas. Proximity to and impact of any non-residential land use on residential uses requires little discussion, as it is the theoretical hallmark of zoning. However, in this particular instance staff has opted for an alternative means to address potential incompatibility concerns by limiting the hours of operation of alternative lending institution. In evaluating the location of existing businesses in the County, as well as identifying those areas in which future businesses are likely to operate, staff found that much of the property zoned to the C-8



District located along heavily traveled Richmond Highway tends to be only a single lot in depth – meaning that many of the parcels zoned to these commercial districts are adjacent to residentially zoned land. Therefore, by adopting a use limitation that seeks to prohibit alternative lending institutions on property adjacent to residentially zoned areas, the amount of viable C-7 and C-8 zoned land area outside of the CRDs is greatly reduced. In order to aid in countering this effect, staff is proposing the limits on hours of operation, as this will provide some needed mitigation for adjacent residentially zoned and/or developed areas. As proposed, the hours of operation are limited to 8:00 AM until 6:00 PM, which are customary hours of many business operations and represents a window of time when residents are less likely to be at home.

*E. There shall be no storage and/or sale of automobiles on site.*

This specific use limitation is intended to address potential activity of motor vehicle title lenders in particular. When such a loan is taken out, the consumer typically offers the title of the vehicle as collateral. While staff has not found specific examples in which the lender actually takes physical possession of the vehicle itself, requiring that the vehicle be stored throughout the duration of the loan cycle should default occur and a new loan is not taken out, the lender is in a legal position to take ownership of the vehicle and resell it. In the current Zoning Ordinance, this activity would be deemed to be a vehicle sale, rental and ancillary service establishment, which requires a special exception in the C-7 and C-8 Districts. In order to ensure that this activity does not occur on the site of an alternative lending institution, staff believes this use limitation is essential.

*Other Considerations*

As part of Staff's ongoing research and discussion with the Board, the issue of signage for alternative lending institutions, and its possible regulation, has been identified as an item for consideration. The Chesterfield County Ordinance includes some limitations for signage as part of its accompanying guidelines but these are limited to restrictions on neon signage and a provision that any signage conform to the approved sign plan for the shopping center in which the uses are located. Neither of these provisions appears to be addressing any unique characteristic of alternative lending institutions. For this reason, staff has not included any such limitations at this time, as signage for this particular use does not appear to be distinguishable from that of any other commercial business that may be operating in the C-7 or C-8 Districts, all of which would be uniformly regulated by the current Article 12, Signs, of the Zoning Ordinance. Therefore, staff believes that this discussion would be more appropriate as part of the Sign Ordinance amendment, for which staff will begin working on in early 2016.

Staff also considered whether additional transitional screening and barrier requirements were necessary for alternative lending institutions. For existing land uses, these requirements are found in Sect.13-300 of the Zoning Ordinance, and its accompanying matrix. As proposed, since alternative lenders are to be located as part of a shopping center, staff does not believe use-specific transitional screening and barrier requirements are necessary, as the center itself would be already regulated since the presence of land uses such as retail, office or personal services have triggered the prescribed screening and barrier elements for those uses. Therefore, additional provisions would be redundant.

Currently, motor vehicle title and payday lenders do not fit squarely within an existing use classification and are deemed to be most similar to financial institutions. They have been permitted to establish their operations by-right in the zoning districts in which financial institutions are permitted, including those parcels within a Commercial Revitalization District. If the proposed text amendment is adopted, most of the existing alternative lenders' sites, which are currently prevalent in the Commercial Revitalization Districts, will become non-conforming uses and may continue business operations provided they are operating lawfully and not expanded or enlarged in any manner.

### **Conclusion**

The proposed amendment seeks to establish *alternative lending institutions* as a distinct land use in select commercial zoning districts with proposed use limitations. Staff believes the definition of the term, its by-right inclusion in only the C-7 and C-8 Districts and prohibition in the Commercial Revitalization Districts and Commercial Revitalization Areas, and the proposed use limitations are appropriate given the nature of the use and its potential impacts. Therefore, staff recommends approval of the proposed amendment with an effective date of 12:01 a.m. on the day following adoption.

## PROPOSED AMENDMENT

*This proposed Zoning Ordinance amendment is based on the Zoning Ordinance in effect as of September 22, 2015 and there may be other proposed amendments which may affect some of the numbering, order or text arrangement of the paragraphs or sections set forth in this amendment, which other amendments may be adopted prior to action on this amendment. In such event, any necessary renumbering or editorial revisions caused by the adoption of any Zoning Ordinance amendments by the Board of Supervisors prior to the date of adoption of this amendment will be administratively incorporated by the Clerk in the printed version of this amendment following Board adoption.*

1 **Amend Article 20, Ordinance Structure, Interpretations and Definitions, Part 3, Definitions,**  
2 **by adding a new ALTERNATIVE LENDING INSTITUTION definition in its proper**  
3 **alphabetical sequence to read as follows:**

4  
5 ALTERNATIVE LENDING INSTITUTION: An establishment providing short term loans to  
6 individuals, to include, but not limited to, pay day lenders, as regulated by Chapter 18, Title 6.2,  
7 Code of Virginia, and/or motor vehicle title lenders, as regulated by Chapter 22, Title 6.2, Code of  
8 Virginia. For purposes of this Ordinance, an alternative lending institution shall not be deemed to  
9 include an OFFICE, PAWNSHOP, DRIVE-IN FINANCIAL INSTITUTION, FINANCIAL  
10 INSTITUTION or any other state or federally chartered bank, savings and loan institution, or credit  
11 union.  
12

13 **Amend Article 4, Commercial District Regulations, Part 7, Regional Retail Commercial**  
14 **District, Sect. 4-700, and Part 8, Highway Commercial District, Section 4-800, as follows:**

15  
16 - **Amend Sections 4-702 and 4-802, Permitted Uses, by placing Alternative Lending**  
17 **Institution in its appropriate alphabetical sequence as a new Par. 2, and renumbering all**  
18 **subsequent paragraphs accordingly, as follows:**

19  
20 2. Alternative Lending Institution, limited by the provisions of Sect. 705 or 805  
21 below.  
22

23 - **Amend Sect. 4-705, Use Limitations, by adding a new Par. 15, and Sect. 4-805, Use**  
24 **Limitations, by adding a new Par. 16, both to read as follows:**

25  
26 15. and 16. Alternative lending institutions shall be permitted by right in accordance with  
27 the following:

28 A. When such use is located on a lot that is not in a Commercial Revitalization  
29 District or a Commercial Revitalization Area; and  
30

- 1 B. When such use is located in the building of a shopping center, with all uses  
2 within that building being connected by party walls or partitions to form one  
3 continuous structure; and
- 4  
5 C. The shopping center is not located adjacent to or across a public right-of-way  
6 from land developed with any public use, place of worship, child care center,  
7 private school of general education, or quasi-public athletic fields and related  
8 facilities; and
- 9  
10 D. The daily hours of operation for such uses shall be limited to between 8:00  
11 AM and 6:00 PM; and
- 12  
13 E. There shall be no storage and/or sale of automobiles permitted from the site.  
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Staff Report - Attachment 1

LENDER/DBA	ADDRESS	ZONING	MAGESTERIAL DISTRICT	CRD	HC
Advance America	6244-J Little River Turnpike	C-6	Mason	No	Yes
Advance America	14260-C Centreville Square	C-7	Sully	No	Yes
Advance America	2855 Gallows Road	C-6	Providence	No	Yes
Advance America	7289 Commerce Street	C-6	Lee	Yes	Yes
LoanMax	2401 Fairhaven Avenue	C-8	Mount Vernon	yes	yes
LoanMax	7109 Columbia Pike	C-6	Mason	Yes	Yes
LoanMax	7221 Little River Turnpike	C-6	Mason	Yes	yes
LoanMax	4004 Walney Road	C-8	Sully	No	Yes
LoanMax	7181 Lee Highway	C-8	Providence	No	Yes
Fast Auto Loans, Inc.	8368 Richmond Highway	C-8	Lee	Yes	Yes
Fast Auto Loans, Inc.	7345 Little River Turnpike	C-6	Mason	Yes	Yes
Fast Auto Loans, Inc.	6541 Arlington Boulevard	C-5	Mason	No	Yes
Fast Auto Loans, Inc.	7185 Lee Highway	C-8	Providence	No	Yes
EZ Title Loan	8218 Richmond Highway	C-8	Mount Vernon	Yes	Yes
Prime Auto Loan, Inc.	6715-C Backlick Road	C-6	Lee	Yes	Yes
TitleMax	6325 Richmond Highway	C-8	Mount Vernon	Yes	Yes
TitleMax	7516 Richmond Highway	C-8	Lee	Yes	Yes
TitleMax	8723-A Cooper Road	C-8	Mount Vernon	Yes	Yes
TitleMax	7409 Little River Turnpike	C-8	Mason	Yes	Yes
TitleMax	6030 Burke Commons Road	PRC	Braddock	No	No
TitleMax	5870 Leesburg Pike	C-6	Mason	Yes	Yes
TitleMax	8213 Lee Highway	I-5	Providence	No	Yes
TitleMax	6198-C Arlington Boulevard	C-7	Mason	Yes	No
TitleMax	6526 Arlington Boulevard	C-3	Providence	No	Yes
TitleMax	6802 Commerce Street	C-8	Lee	Yes	Yes
TitleMax	8200 Leesburg Pike	C-7	Providence	No	Yes
ACE Cash Express	2254 Huntington Avenue	C-5	Mount Vernon	No	No
ACE Cash Express	6911 Richmond Highway	C-3	Mount Vernon	Yes	Yes
ACE Cash Express	5624 Columbia Pike	C-8	Mason	Yes	Yes
Advance America	5100 Leesburg Pike	C-2	Mason	Yes	Yes
Advance America	7611-C Richmond Highway	C-8	Mount Vernon	Yes	Yes

ZONING ORDINANCE AMENDMENT (ALTERNATIVE LENDING INSTITUTIONS)  
(Countywide)

After Close of the Public Hearing

Chairman Murphy: Public hearing is closed – Mr. Sargeant.

Commissioner Sargeant: Mr. Chairman, I am prepared to move on this Zoning Ordinance Amendment this evening. I think this has been a very, very candid – very helpful and useful discussion. I want to thank both witnesses who attended, who contributed tremendously to this discussion. I think I still continue to support the hours of operation we are proposing within this Zoning Ordinance Amendment, simply because it does not prevent current – the 32 current car title lender operations from operating beyond those hours for the foreseeable future. So I'm going to go ahead and – but if you want to propose that as a separate amendment or not, so be it – but thank you. Let me begin by thanking Drew Hushour and Leslie Johnson for their very meticulous research and preparation for this Zoning Ordinance Amendment. And many thanks as well to Beth Teare in the County Attorney's office for contributing to a very thorough review of the legal and regulatory issues surrounding this proposed Amendment. Let me also thank those citizens and organizations who have participated in this process through letters and public comment. As Planning Commissioners, we do not have the authority to determine whether a particular use should be outlawed or banned. That authority rests, at least, with the General Assembly. What we can do is define and establish alternative lending institutions as a distinct land use in certain commercial zoning districts with recommended use limitations. That is what this proposed Zoning Ordinance Amendment does and, I believe, does well. The proposed Amendment distinguishes alternative lending establishments from more common financial institutions for the purposes of zoning and charts a regulatory course that reflects the experience of other jurisdictions. As highlighted in the staff report and presentation, there has been a proliferation of alternative lending institutions in Fairfax County. And as academic studies referenced in the staff report suggest, these types of use can be a financial drain on the local economies in which they operate. That is certainly contrary to the vision that the County for its Commercial Revitalization Districts and Commercial Revitalization Areas. As such, I support this Zoning Ordinance Amendment to prohibit these uses in CRDs and CRAs. I believe this is a positive step forward as we plan for the future of Fairfax County. And with that, Mr. Chairman, I MOVE THAT THE PLANNING COMMISSION RECOMMEND TO THE BOARD OF SUPERVISORS THE ADOPTION OF THE PROPOSED ZONING ORDINANCE AMENDMENT ENTITLED "ALTERNATIVE LENDING INSTITUTIONS," AS ADVERTISED.

Commissioner Migliaccio: Second.

Chairman Murphy: Seconded by –

Commissioner Strandlie: Second. I'd like to second –  
Chairman Murphy: Pardon?

ZONING ORDINANCE AMENDMENT (ALTERNATIVE LENDING INSTITUTIONS)

Commissioner Strandlie: Second.

Commissioner Hedetniemi: She wants to second it.

Chairman Murphy: Seconded by Mr. Migliaccio and Ms. Strandlie. Is there a discussion of the motion? All those in favor of the motion to recommend to the Board of Supervisors that it adopt the proposed Zoning Ordinance Amendment Articles 4 and 20, Alternative Lending Institutions, say aye.

Commissioners: Aye.

Chairman Murphy: Opposed? Motion carries. Chair abstains, as I said before. I said I didn't know enough about it. Now I know too much about it and I'm still going to abstain.

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(The motion carried by a vote of 9-0-1. Commissioner Murphy abstained. Commissioners Flanagan and Lawrence were absent from the meeting.)

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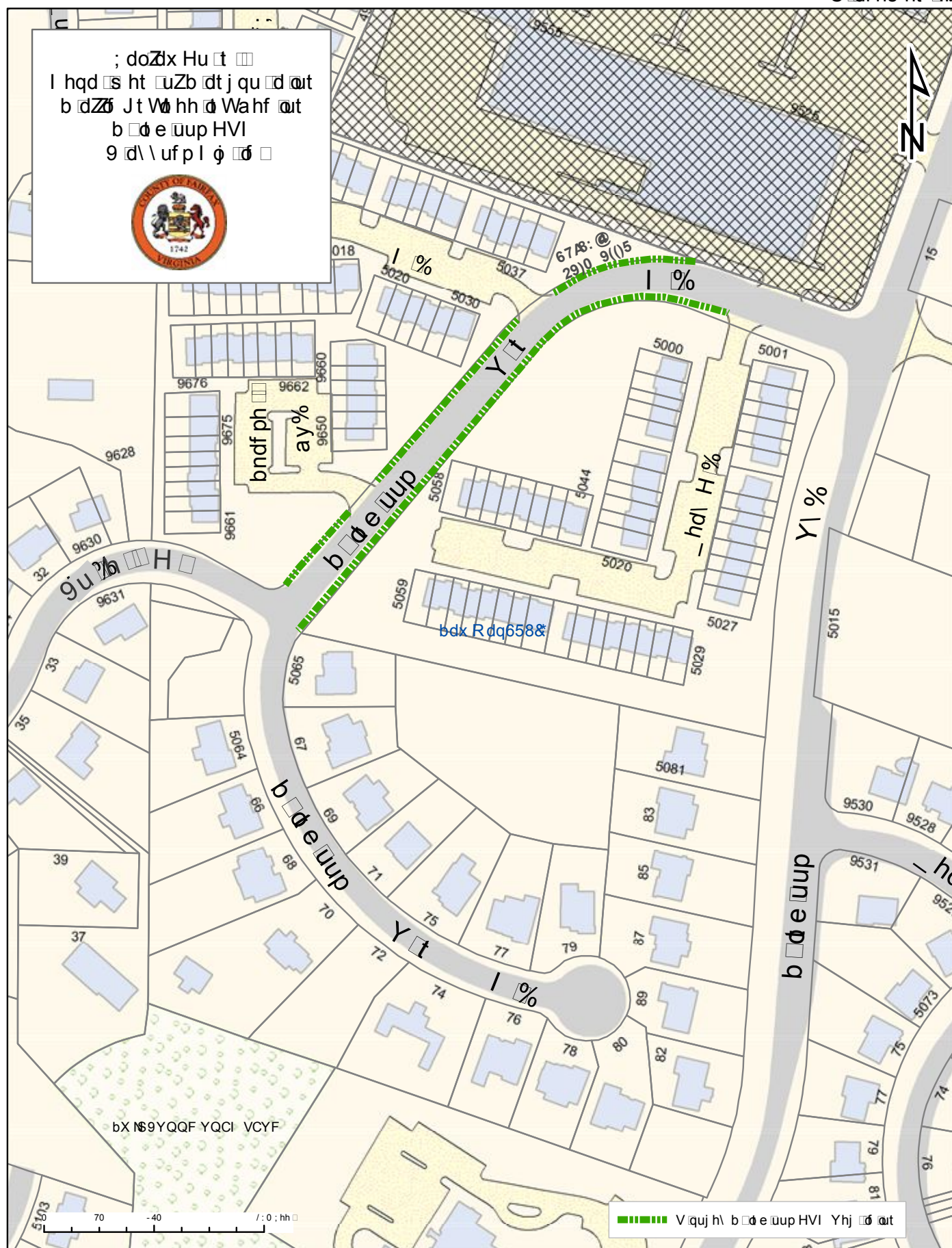
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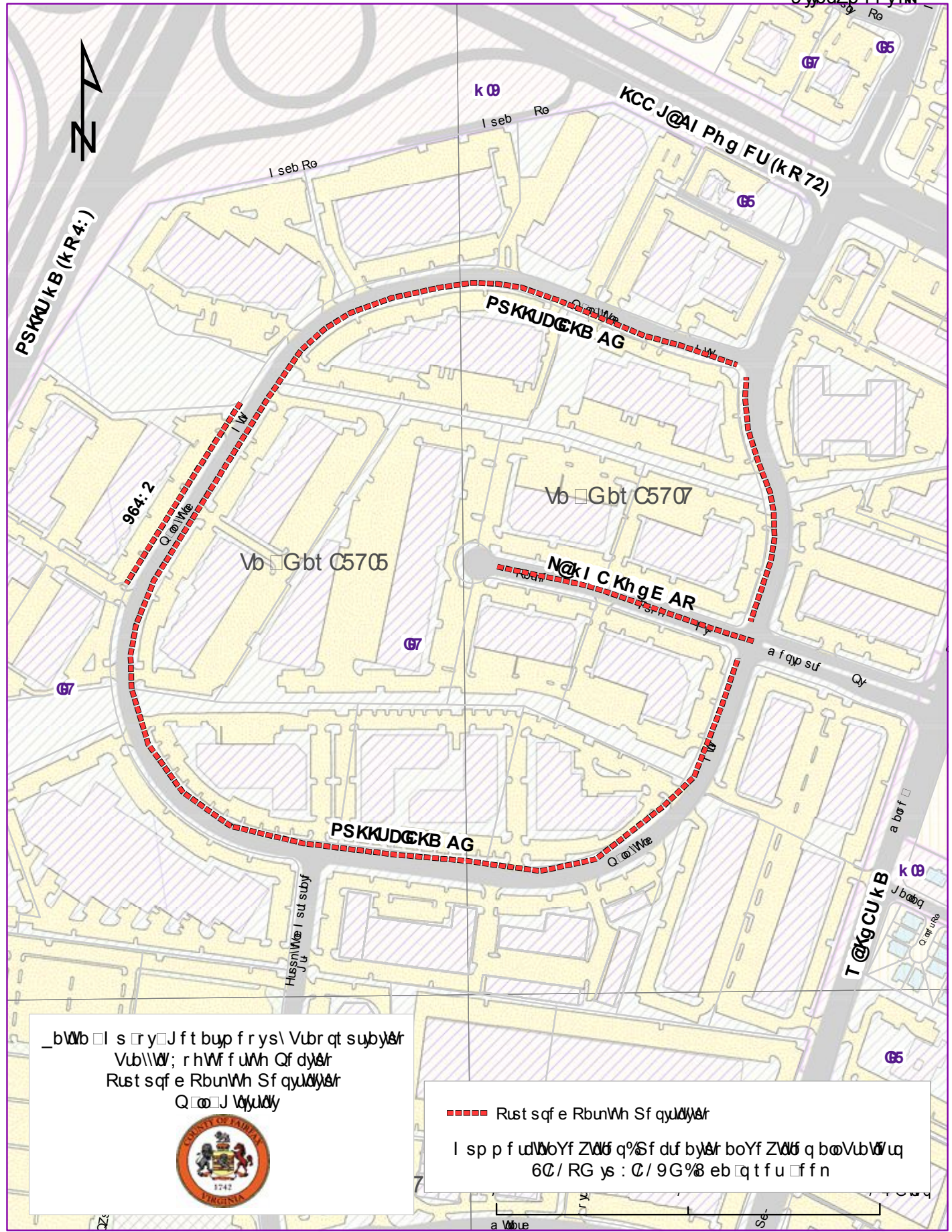
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