



September 24, 2008

Mr. Scott W. Kudlas, Director  
Office of Surface and Ground Water Supply Planning  
Department of Environmental Quality  
P. O. Box 1105  
Richmond, VA 23218-1105

RE: Participation in the Regional Water Supply Plan

Dear Mr. Kudlas,

At its September 22, 2008 meeting, the Vienna Town Council approved the attached motion. This resolution authorizes the Northern Virginia Regional Commission to develop a Regional Water Supply Plan in accordance with the Code of Virginia, Title 9 VAC 25-780 Local and Regional Water Supply Planning for Fairfax County, under the terms of the attached Memorandum of Agreement.

As stated in the resolution, the Town of Vienna intends to participate within a water supply planning region consisting of:

the **Towns of:** Clifton, Dumfries, Hamilton, Haymarket, Herndon, Hillsboro, Leesburg, Lovettsville, Middleburg, Occoquan, Purcellville, Quantico, Round Hill, Vienna;

the **Cities of:** Alexandria, Fairfax, Falls Church, Manassas, Manassas Park, and

the **Counties of:** Arlington, Fairfax, Loudoun and Prince William.

We understand that the regional water supply plan and programs must be submitted no later than November 2, 2011.

Sincerely,

John H. Schoeberlein  
Town Manager

## CLERK'S CERTIFICATION

I, Carol A. Orndorff, the duly appointed Municipal Town Clerk for the Town of Vienna, Commonwealth of Virginia, do hereby certify that the following individuals are the duly elected members of the Vienna Town Council: Mayor, M. Jane Seeman; Council Members, Laurie G. Cole, Daniel M. Dellinger, Edythe F. Kelleher, George E. Lovelace, Michael J. Polychrones, and Maud F. Robinson. I hereby further certify that the Motion cited below is a true and accurate extract of the Minutes of the Vienna Town Council Regular Meeting of September 22, 2008:

"I move for approval to participate in the development of a regional water supply plan described in the Memorandum of Agreement between the Northern Virginia Regional Commission and the Local Governments of Northern Virginia and authorize the Mayor to sign for the Town."

Motion: Dellinger

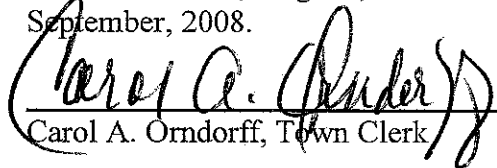
Second: Robinson

Motion carried: 6/1 absent - Poll vote

Voting Aye: Cole, Dellinger, Kelleher, Lovelace, Robinson, Mayor Seeman

Absent: Polychrones

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Seal of the Town of Vienna, Virginia, this 24th day of September, 2008.

  
Carol A. Orndorff, Town Clerk

**MEMORANDUM OF AGREEMENT**

**BETWEEN**

**THE NORTHERN VIRGINIA REGIONAL COMMISSION**

**AND**

**THE LOCAL GOVERNMENTS OF NORTHERN VIRGINIA**

**(Including the Towns of Clifton, Dumfries, Hamilton, Haymarket, Herndon, Hillsboro, Leesburg, Lovettsville, Middleburg, Occoquan, Purcellville, Quantico, Round Hill, Vienna, the Cities of Alexandria, Fairfax, Falls Church, Manassas, Manassas Park, the Counties of Arlington, Fairfax, Loudoun and Prince William)**

**FOR**

**THE DEVELOPMENT OF A REGIONAL WATER SUPPLY PLAN IN  
CONFORMANCE WITH THE COMMONWEALTH OF VIRGINIA'S  
REGULATION 9 VAC 25-780-10**

**February 15, 2007**

## **PART I INTRODUCTION**

This Memorandum of Agreement (hereinafter, this "MOA") is entered into this 22nd day of March 2007, by and among the Northern Virginia Regional Commission (hereinafter, "NVRC"), and the Towns of Clifton, Dumfries, Hamilton, Haymarket, Herndon, Hillsboro, Leesburg, Lovettsville, Middleburg, Occoquan, Purcellville, Quantico, Round Hill, Vienna, the Cities of Alexandria, Fairfax, Falls Church, Manassas, Manassas Park, the Counties of Arlington, Fairfax, Loudoun and Prince William OR their respective designee (hereinafter, collectively known as the "local governments" and individually known as a "local government") (NVRC and the local governments are hereinafter collectively known as the "Parties" and individually known as a "Party").

## **PART II OVERVIEW/PROJECT GOALS AND OBJECTIVES**

The purpose of this MOA is to establish the roles, responsibilities, and procedures between the Parties for the development of a Northern Virginia Water Supply Plan (hereinafter the "Plan"), that shall be developed with funds contributed by the local governments. The Plan aims to address all requirements as stipulated by the Local and Regional Water Supply Planning Regulation (9 VAC 25-780-10). Specifically, this MOA shall allow the Parties to develop a regional water supply plan that contains information on: (i) existing water sources; (ii) existing water use; (iii) existing water resource conditions; (iv) an assessment of projected water demand; (v) a description of water management actions; (vi) a statement of need if demands exceed source availability within the planning horizon; (vii) an analysis of alternatives to address projected source water deficits; and (viii) maps detailing program elements. In addition, each local government will hold a public hearing on the Plan consistent with § 15.2-1427 of the Code of Virginia. Local governments must adopt the Plan and any necessary revisions to their comprehensive plan or other local programs necessary to implement the Plan prior to submitting it to the Virginia Department of Environmental Quality ("DEQ") by November 2, 2011.

### **WITNESSETH:**

**WHEREAS**, the Commonwealth of Virginia, pursuant to Regulation 9 VAC 25-780-10, requires that all incorporated municipalities develop and adopt, either individually or regionally, a water supply plan; and

**WHEREAS**, the Towns of Clifton, Dumfries, Hamilton, Haymarket, Herndon, Hillsboro, Leesburg, Lovettsville, Middleburg, Occoquan, Purcellville, Quantico, Round Hill, and Vienna; the Cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park; and the Counties of Arlington, Fairfax, Loudoun, and Prince William have all agreed to finance and participate in the development of a regional water supply plan; and

**WHEREAS**, the local governments have designated NVRC as the lead agency in coordinating and developing this regional water supply plan; and

**WHEREAS**, pursuant to Regulation 9 VAC 25-780-50(B)(4), local governments intending to participate in the submittal of a regional WSP must notify DEQ of that intent on or before November 2, 2008; and

**WHEREAS**, adoption of this MOA by a local government constitutes notice of intent to participate in a regional plan consistent with Regulation 9 VAC 25-780-50(B)(4),

**WHEREAS**, the regional water supply plan must be adopted by each local government and delivered to DEQ on or before November 2, 2011; and

**WHEREAS**, the Parties recognize the need for consensus through communications, cooperation, and coordination and shall work cooperatively to successfully complete the regional water supply plan; and

**WHEREAS**, this MOA seeks to establish the responsibilities and procedures by which NVRC and the local governments shall complete and adopt the water supply plan.

**NOW, THEREFORE**, the Parties, pursuant to the authority contained in Regulation 9 VAC 25-780-10 of the Virginia Administrative Code and in consideration of the mutual promises herein expressed, do hereby agree as follows:

### **PART III SCOPE OF SERVICES AND RESPONSIBILITIES**

The Parties shall work cooperatively to develop a regional water supply plan (the "Plan") that encompasses the following components: (1) an inventory of existing water sources; (2) an assessment of existing water use; (3) an assessment of existing water resource conditions; (4) an assessment of projected water demand; (5) a description of water management actions; (6) a statement of need if demands exceed source availability within the planning horizon; (7) an analysis of alternatives to address projected source water deficits; and (8) maps detailing program elements. Full details of the Plan can be found in the attached scope of work.

#### **A. RESPONSIBILITIES OF THE NORTHERN VIRGINIA REGIONAL COMMISSION**

1. As Project Manager, NVRC shall, throughout the duration of this MOA:
  - a. Provide staff and report to the Executive Steering Committee (the "Steering Committee"). The Steering Committee will:
    - Be composed of chief administrative officers and utility general managers from participating jurisdictions;
    - Meet semi-annually or as needed to review status of the Plan's development;
    - Communicate status of the Plan to political bodies and/or their designated agents or representatives;
    - Approve project work and overall budget;
    - Appoint appropriate staff resources to participate in work groups;
    - Ensure jurisdiction resources as needed to develop the Plan;
    - Serve as the liaison to local governments for input and be responsible for jurisdictional plan approval;
    - Provide general guidance and policy input; and
    - Secure revisions to comprehensive plans, water and sewer plans, or any other jurisdiction plans necessary to implement the Plan in accordance with the regulation.
  - b. Manage and oversee the development of the Plan; review and approve all billings and related Plan expenses; manage financial record keeping (consultant

invoices, billings to jurisdictions, etc.), establish project schedules; and monitor the status of the Plan's development.

- c. Retain the services of the Interstate Commission on the Potomac River Basin (the "ICPRB") and monitor all work and deliverables as specified in a separate contract and scope of work.
  - d. Serve as the focal point for the collection and organization of all local government and utility information for use and incorporation into the Plan.
  - e. Consolidate and format all information and prepare the final report. Be responsible for submitting the report to DEQ on or before November 2, 2011.
  - f. When requested, provide technical assistance to the local governments in developing alternative water supply scenarios.
  - g. When requested, attend local governments' public hearings on the Plan and provide, if necessary, background or clarifying information on the Plan.
  - h. Organize and staff the Northern Virginia Water Supply Work Group (the "NVWSWG"). The NVWSWG will:
    - Be composed of planning, engineering, and other appropriate technical staff from water utilities serving jurisdictions participating in the Plan
    - Compile and provide system technical data as assigned from DEQ guidance documents and approved work plan
    - Participate in quarterly or as-needed meetings
    - Identify and evaluate alternatives for future required potential sources
    - Communicate plan status and issues to respective general managers
    - Review and provide comments on draft Plan
  - i. Organize and staff a local government technical advisory committee that will:
    - Be composed of jurisdiction staff from planning/zoning, demographic, and health departments
    - Compile and provide data as assigned from DEQ guidance and as specified within this MOA and the approved work plan
    - Participate in quarterly or as-needed meetings
    - Communicate plan status and issues to the chief administrative officers
    - Review and provide comments on draft Plan
    - Assist with scheduling necessary public hearings
2. NVRC will serve as the primary contact for development of the Plan for all jurisdictions that are a party to this MOA. NVRC will be responsible for the following components of the study: 1) data collection (as specified in the Scope of Work); 2) developing an inventory of existing water sources; 3) producing an assessment of existing water use; 4) developing an assessment of existing water resource conditions; 5) conducting an assessment of projected water demand; 6) writing a description of water management actions; and 7) developing a statement of need if demands exceed source availability within the planning horizon.

3. NVRC will obtain population, housing and employment growth data, water use data and water use information from local governments and the Commonwealth of Virginia.
  - a. NVRC will be tasked with obtaining GIS data layers of the current and projected 2040 service areas.
  - b. NVRC will obtain or estimate current dwelling ratios and forecasts of 2040 dwelling unit ratios (dwelling unit ratios describe the ratio of single family households to multi-family households) for each of the jurisdictions.
  - c. NVRC will obtain daily raw water withdrawal rates from the jurisdictions. If such data is unavailable, NVRC will obtain monthly data.
  - d. For all other surface reservoirs, NVRC will report the name of the reservoirs, the sub-basins in which the reservoirs are located, the drainage area, the amount of on-stream storage available for water supply, the design capacity for average daily and maximum daily withdrawals from the reservoirs, the safe yield of the reservoirs, the capacity of any associated water treatment plant, the Department of Health permitted capacity of the systems, and any limitations on withdrawal established by permits issued by the board.
  - e. For all intakes, other than Potomac River intakes, NVRC will provide the drainage area of the intake, the sub-basin in which the intake is located, the design capacity for average daily and maximum daily withdrawal from the stream, the safe yield, the design capacity of the pump station, the design capacity of the water treatment plant, the capacity of the system permitted by the Department of Health, and any limitation on withdrawals established by permits issued by the board. NVRC will obtain average annual water billing data for 2004, 2005 and 2006, from the jurisdictions as disaggregated by customer categories appropriate for the system such as residential use, multi-family use, commercial and light industrial use, heavy industrial use, and military water use.
  - f. NVRC will provide a qualitative description of existing in-stream beneficial uses within the planning area or outside the planning area that may be affected by the point of stream withdrawal.
4. NVRC will collect existing resource information.
  - a. NVRC will develop a description of the existing geologic, hydrologic, and meteorological conditions.
  - b. NVRC will develop a description of existing environmental conditions that pertain to, or may affect, in-stream flow, in-stream uses, and sources that provide the current supply. The description of conditions shall include the following items, if they are applicable:
    - 1) State or federal listed threatened or endangered species or habitats of concern
    - 2) Anadromous, trout, and other significant fisheries
    - 3) River segments that have recreational significance, including state scenic river status
    - 4) Sites of historic or archaeological significance
    - 5) Unusual geologic formations or special soil types

- 6) Wetlands
  - 7) Riparian buffers and conservation easements
  - 8) Land use and land coverage including items such as percentage of impervious cover within an watershed and areas where new development may impact water quality of the source
  - 9) The presence of impaired streams and the type of impairment
  - 10) The locations of point source discharges
  - 11) Potential threats to the existing water quantity and quality, other than those from above
5. NVRC will produce water demand forecasts through 2040.
- a. NVRC to develop a projection of water demand within the planning area on an annual average basis for each existing and any proposed self-supplied nonagricultural user of more than 300,000 gallons per month of surface and groundwater located outside the service areas of community water systems.
  - b. Include a projection of the amount of water use on an annual average basis for each existing and any projected self-supplied agricultural user of more than 300,000 gallons per month of surface and ground water located outside the service areas of community water systems.
  - c. Include a projection of the number of self-supplied users of less than 300,000 gallons per month of ground water and a projection of the amount of water used on an annual average basis outside the service areas of community water systems
6. Statement of Needs and Alternatives. NVRC will determine the adequacy of existing water sources to meet current and projected demand. The local governments in conjunction with the public utilities and the NVWSWG will be responsible for developing all alternative scenarios as specified in Section B of this MOA.
7. NVRC will address water demand management information as required.
- a. NVRC will address conservation as a part of overall water demand management in accordance with the following requirements:
    - 1) Include information that describes practices for more efficient use of water that are used within the locality. The type of measure to be described may included the adoption and enforcement of the Virginia Uniform Statewide Building Code sections that limit maximum flow of water closets, urinals, and appliances; use of lower-water use landscaping; and increases in irrigation efficiency.
    - 2) Include information describing the water conservation measures used within the planning area to conserve water through the reduction of use. The types of measures to be described my include technical, educational, and financial programs.
    - 3) Include information that describes, within the locality, the practices to address water loss in the maintenance of water systems to reduce

unaccounted for water loss. The types of items to be described may include leak detection and repair and old distribution line replacement.

8. NVRC will address drought response and contingency plans for all jurisdictions and programs for community water systems and self-supplied users who withdraw more than an average of 300,000 gallons per month of surface water and ground water. These plans shall contain drought response and contingency plans in accordance with the following requirements:
  - a. Drought response and contingency plans shall be structured to address the unique characteristics of the water source that is being utilized and the nature of the beneficial use of water.
  - b. Drought response and contingency plans shall contain at a minimum, the following three graduated stages of responses to the onset of drought conditions:
    - 1) Drought watch stage responses are generally intended to increase awareness to climatic conditions that are likely to precede the occurrence of a significant drought event. Public outreach activities shall be identified to inform the population served by a community water system of the potential for drought conditions to intensify and potential water conservation activities that may be utilized.
    - 2) Drought warning stage responses are generally required when the onset of a significant drought event is imminent. Voluntary water conservation activities shall be identified with the goal of reducing water use by 5-10%.
    - 3) Drought emergency stage responses are generally responses that are required during the height of a significant drought event. Mandatory water conservation activities shall be identified with the goal of reducing water use by 10-15%.

Existing drought response and contingency plans will be examined to ascertain fulfillment of previous requirements.

- c. References shall be made to local ordinances, if adopted, and procedures for the implementation and enforcement of drought response and contingency plans.

## **B. RESPONSIBILITIES OF LOCAL GOVERNMENTS**

1. Unless otherwise amended, the local government participants in this MOA agree to provide NVRC with funds to manage the project, prepare the Plan, and engage consultant services as required. The local government participants will fund the Plan with up to \$430,000 in local contributions in accordance to the revenue sharing scenario specified below. Each participating local government agrees to provide the necessary funds as specified in the following table and in accordance with Part VIII. Funding Provisions, on page 17 of this MOA.

**Water Supply Funding Scenario  
(2007 - 2011)**

Large Population Jurisdictions (Pop. > 100,000)	Proposed Total Contribution	Funding Methodology
Alexandria	\$50,000	Large Jurisdictions split 65% of \$385,000
Arlington	\$50,000	
Fairfax	\$50,000	
Loudoun	\$50,000	
Prince William	\$50,000	
<b>Subtotal</b>	<b>\$250,000</b>	
<b>Medium Population Jurisdictions (Pop. 3,501 to 99,999)</b>		
Fairfax City	\$15,000	Medium jurisdictions split 35% of \$385,000
Falls Church	\$15,000	
Manassas	\$15,000	
Manassas Park	\$15,000	
Dumfries	\$15,000	
Herndon	\$15,000	
Leesburg	\$15,000	
Purcellville	\$5,000*	
Vienna	\$15,000	
<b>Subtotal</b>	<b>\$125,000</b>	
<b>Small Population Jurisdictions (Pop. &lt; 3,500)</b>		
Clifton	\$5,000	Minimum Threshold \$5,000
Hamilton	\$5,000	
Haymarket	\$5,000	
Hillsboro	\$5,000	
Lovettsville	\$5,000	
Middleburg	\$5,000	
Occoquan	\$5,000	
Quantico	\$5,000	
Round Hill	\$5,000	
<b>Subtotal</b>	<b>\$45,000</b>	

**Total      \$420,000**

\*Reduced contribution reflects ongoing water supply study and analysis that is being funded by the Town.

2. As a participant to this MOA, each local government (each, a "participating jurisdiction") also agrees to the following:

- a. Its chief administrative officer, or his/her appointee, shall serve on the Steering Committee and participate in all meetings as needed.
- b. One staff person from each of the following disciplines shall participate on the Local Government Work Group (the "Work Group"):
  - Well permitting
  - Population and employment forecasting
  - Drinking water supply

These representatives will be required to provide information to NVRC as outlined within this MOA. Each locality must submit to NVRC the name, title and contact information for each respective Work Group representative no later than **March 1, 2007**. All requested data will be provided to NVRC in Excel Spreadsheet format (unless otherwise agreed upon beforehand by all parties).

3. **Unless otherwise specified, all participating jurisdictions agree to provide NVRC all information and data identified in Part III. B. Sections 2 – 19 by no later than September 1, 2007. If a participating jurisdiction does not possess the information requested, it will be that participating jurisdiction's responsibility to contract with an appropriate entity to create the specified information and the costs of which are to be borne by the locality and are not included as part of the scope of work under this MOA. Those participating jurisdictions which rely solely on private individual subsurface wells will be exempt from being required to supply any of the information outlined in Sections 4-18. However, all participating jurisdictions will be responsible for fulfilling work tasks outlined in Sections 19 – 26. Moreover, they must assist NVRC in the collection of the necessary information required to the extent possible.**

4. Local governments will provide GIS based population and employment data for planning areas and dwelling unit ratios.

- a. All participating jurisdictions will provide NVRC with current and projected 2040 service areas by **September 1, 2007**.
- b. All participating jurisdictions will provide NVRC with estimated current dwelling ratios and forecasts of 2040 dwelling unit ratios (dwelling unit ratios describe the ratio of single family households to multi-family households).

5. Local governments will provide water use data and water use information.

- a. All participating jurisdictions with surface reservoirs or community well systems will provide NVRC daily raw water withdrawal rates from for the period 2000 through 2005 by **September 1, 2007**. If such data is unavailable, monthly data will be provided.

- b. All participating jurisdictions with surface reservoirs, will report to NVRC the name of the reservoirs, the sub-basins in which the reservoirs are located, the drainage area, the amount of on-stream storage available for water supply, the design capacity for average daily and maximum daily withdrawals from the reservoirs, the safe yield of the reservoirs, the capacity of any associated water treatment plant, the Department of Health permitted capacity of the systems, and any limitations on withdrawal established by permits issued by the board.
  - c. All participating jurisdictions with stream intakes will provide NVRC with the drainage area of the intake, the sub-basin in which the intake is located, the design capacity for average daily and maximum daily withdrawal from the stream, the safe yield, the design capacity of the pump station, the design capacity of the water treatment plant, the capacity of the system permitted by the Department of Health, and any limitation on withdrawals established by permits issued by the board.
  - d. All participating jurisdictions with surface reservoirs or community well systems will obtain average annual water billing data for 2004, 2005 and 2006, as disaggregated by customer categories appropriate for the system such as residential use, multi-family use, commercial and light industrial use, heavy industrial use, and military water use, and will provide to NVRC by **September 1, 2007**.
- 6. Based on the analysis of supply and demand a statement of needs and alternative scenarios will be developed. Using information and data developed by NVRC that determines the adequacy of existing water sources to meet current and projected demand, the local governments will be required to develop alternative scenarios if shortfalls in water supply are indicated.
  - a. A separate analysis is required to consider the ability of the Loudoun County Sanitation Authority ("LCSA") system to meet future demand for that portion of demand not met by Fairfax Water and the City of Fairfax. The LCSA assumes responsibility for conducting this analysis.
  - b. **A separate analysis is required for the Cities of Fairfax and Manassas and is not contemplated as part of this MOA.**
  - c. All participating jurisdictions will be responsible for developing alternative scenarios if water supply shortfalls are predicted. If requested, NVRC will provide data and technical assistance to localities in developing these alternative supply scenarios.
- 7. All participating jurisdictions with community water systems using groundwater will provide NVRC with well data, including the following information:
  - a. Location (Address, GPS coordinates, or GIS mapped)
  - b. Well Name
  - c. Well ID Number
  - d. Well Depth

- e. Casing Depth
  - f. Screen depth (ft.) or Water Zones
    - 1) Top
    - 2) Bottom
  - g. Well Diameter (in)
  - h. Design Capacity for Withdrawal
    - 1) Average Daily
    - 2) Maximum Daily
  - i. VDH Permitted System Capacity
  - j. Groundwater Withdrawal Permit Amount (GWWP)
    - 1) Annual
    - 2) Monthly
8. Where applicable, participating jurisdictions will provide NVRC with a list of nonagricultural groundwater use information for all self-supplied users of more than 300,000 gallons per month. Information to be provided includes:
- a. Location of self-supplied users (Address, GPS coordinates, or GIS mapped)
  - b. Well Name
  - c. Well ID Number
  - d. Well Depth
  - e. Casing Depth
  - f. Screen depth (ft.) or Water Zones
    - 1) Top
    - 2) Bottom
  - g. Well Diameter (in)
  - h. Design Capacity for Withdrawal
    - 1) Average Daily
    - 2) Maximum Daily
9. Where applicable, participating jurisdictions will provide NVRC with a list of water systems, source, withdrawal, and contract information for all ground or surface water purchased from outside the geographic boundaries of your jurisdiction (or service area). Information to be provided includes:
- a. Community Water System
  - b. Ground water source

- 1) Well name
    - 2) Well ID Number
  - c. Surface Water Source (water body utilized)
  - d. Amount to be purchased
    - 1) Maximum daily
    - 2) Average annual
  - e. Contractual Limitations on Ground or Surface Water Purchase
    - 1) Contract or Agreement Term
    - 2) Recipient(s) or Areas Served
    - 3) Name(s) of Supplier(s)
    - 4) Limitations on Purchase
    - 5) Other
  - f. Location of source (address, GPS coordinates, or GIS mapped)
- 10. Where applicable, participating jurisdictions will provide NVRC with a list of water systems, source, withdrawal, and contract information for all ground or surface water that could potentially be purchased from outside the geographic boundaries of your jurisdiction (or service area) with the capacity to draw more than 300,000 gallons per month. This shall include those facilities planned for but not yet constructed. Information to be provided includes:
  - a. Community Water System
  - b. Ground water source
    - 1) Well name
    - 2) Well ID Number
  - c. Surface Water Source (water body utilized)
  - d. Amount to be purchased
    - 1) Maximum daily
    - 2) Average annual
  - e. Contractual Limitations on Ground or Surface Water Purchase
    - 1) Contract or Agreement Term
    - 2) Recipient(s) or Areas Served
    - 3) Name(s) of Supplier(s)
    - 4) Limitations on Purchase
    - 5) Other
  - f. Location of source (Address, GPS coordinates, or GIS mapped)

11. Where applicable, participating jurisdictions will provide NVRC with a list of source and use information for all agricultural users who utilize more than 300,000 gallons per month of ground or surface water. Information to be provided includes:
  - a. User
  - b. Agricultural Usage by Source
    - 1) Ground Water
      - i. Well Name
      - ii. Well ID Number
      - iii. Total Estimated Use
    - 2) Surface Water
      - i. Water Body Utilized
      - ii. Total Estimated Use
    - 3) Purpose
      - i. Irrigation
      - ii. Non-irrigation
  - c. Location of source (Address, GPS coordinates, or GIS mapped)
12. Where applicable, participating jurisdictions will provide NVRC with individual well use information. Including:
  - a. Number of residence that are self-supplied by individual wells withdrawing less than 300,000 gallons per month.
  - b. Number of businesses that are self-supplied by individual wells withdrawing less than 300,000 gallons per month.
  - c. Estimate of the population served by individual wells.
13. Where applicable, participating jurisdictions will provide NVRC with the estimated average annual surface and ground water use by self-supplied, non-agricultural users of more than 300,000 gal./month for each community water system within the locality (or service area). Information to be provided includes:
  - a. Name Community Water System
  - b. Estimate Average Annual Surface Water Usage
  - c. Estimated Average Annual Ground Water Usage
14. Where applicable, participating jurisdictions will provide NVRC with a list of the estimated average annual surface and ground water use by self-supplied, agricultural users of less than 300,000 gal./month for each community water system within the locality (or service area). Information to be provided includes:
  - a. Name Community Water System

- b. Estimate Average Annual Surface Water Usage
  - c. Estimated Average Annual Ground Water Usage
15. Where applicable, participating jurisdictions will provide NVRC with a list of the total ground water use, on an average annual basis, by self-supplied users of less than 300,000 gal./month for each community water system within the locality (or service area). Information to be provided includes:
- a. Name Community Water System
  - b. Number of Self-supplied Users
  - c. Total Amount of Ground Water Usage (Average Annual)
16. Where applicable, participating jurisdictions will provide NVRC with a list of the estimated average annual surface and ground water use by self-supplied, nonagricultural users of more than 300,000 gal./month for each community water system outside the locality (or service area). Information to be provided includes:
- a. Name Community Water System
  - b. Estimate Average Annual Surface Water Usage
  - c. Estimated Average Annual Ground Water Usage
17. Where applicable, participating jurisdictions will provide NVRC with a list of the estimated average annual surface and ground water use by self-supplied, agricultural users of less than 300,000 gal./month for each community water system outside the locality (or service area). Information to be provided includes:
- a. Name Community Water System
  - b. Estimate Average Annual Surface Water Usage
  - c. Estimated Average Annual Ground Water Usage
18. Where applicable, participating jurisdictions will provide NVRC with a list of the total ground water use, on an average annual basis, by self-supplied users of less than 300,000 gal./month for each community water system outside the locality (or service area). Information to be provided includes:
- a. Name Community Water System
  - b. Number of Self-supplied Users
  - c. Total Amount of Ground Water Usage (Average Annual)
19. Where applicable, participating jurisdictions will provide NVRC with reports, findings or pertinent information that pertains to existing source water or wellhead protection programs that exist for the locality.
20. All participating jurisdictions will provide NVRC with population and employment projections through 2040. These population projections should conform to the existing boundaries of the Washington Metropolitan Council of Governments Analysis Zones. The population and employment forecasts will be submitted to NVRC no later than **September 1, 2007**. NVRC will work with those parties responsible for developing the projections to ensure a consistent approach.

21. All participating jurisdictions, with NVRC and ICPRB assistance, will be responsible for developing alternative analysis in the instance that the needs analysis determines that existing sources of water are inadequate to meet future growth projections. The local government will provide:
- a. A description of potential water savings from water demand management actions including an estimated volume for each action.
  - b. A description of potential sources for new supplies including an estimated volume from each source.
  - c. A description of potential resource issues or impacts known for each potential new source that any future water project will need to consider in its development.

If an alternative source analysis is conducted, the local government, with NVRC assistance if requested, will be responsible for developing recommendations that include water demand management alternatives, as well as the more traditional means of increasing supply, such as wells, reservoirs, impoundments and stream intakes. Where appropriate, the program shall consider nontraditional means of increasing supplies, such as interconnection, desalination, recycling and reuse.

22. All participating jurisdictions will be responsible for supplying to NVRC information on their existing water demand management strategies. The type of information to be supplied will include:
- a. Conservation as a part of overall water demand management in accordance with the following requirements:
    - 1) Include information that describes practices for more efficient use of water that are used within the locality. The type of measure to be described may include the adoption and enforcement of the Virginia Uniform Statewide Building Code sections that limit maximum flow of water closets, urinals, and appliances; use of lower-water use landscaping; and increases in irrigation efficiency.
    - 2) Include information describing the water conservation measures used within the planning area to conserve water through the reduction of use. The types of measures to be described may include technical, educational, and financial programs.
    - 3) Include information that describes, within the locality, the practices to address water loss in the maintenance of water systems to reduce unaccounted for water loss. The types of items to be described may include leak detection and repair and old distribution line replacement.
23. All participating jurisdictions will be required to supply to NVRC copies of their drought response and contingency plans. If no plan currently exists, it will be the responsibility of the local government to develop such a plan, with assistance of

NVRC if requested, by **November 15, 2009**. Each drought response and contingency plan needs to include the following elements:

- a. A program that includes community water systems and self-supplied users who withdraw more than an average of 300,000 gallons per month of surface water and ground water shall contain drought response and contingency plans in accordance with the following requirements:
    - 1) Drought response and contingency plans shall be structured to address the unique characteristics of the water source that is being utilized and the nature of the beneficial use of water.
    - 2) Drought response and contingency plans shall contain at a minimum, the following three graduated stages of responses to the onset of drought conditions:
      - i. Drought watch state responses are generally intended to increase awareness to climatic conditions that are likely to precede the occurrence of a significant drought event. Public outreach activities shall be identified to inform the population served by a community water system of the potential for drought conditions to intensify and potential water conservation activities that may be utilized.
      - ii. Drought warning stage responses are generally required when the onset of a significant drought event is imminent. Voluntary water conservation activities shall be identified with the goal of reducing water use by 5-10%.
      - iii. Drought emergency stage responses are generally responses that are required during the height of a significant drought event. Mandatory water conservation activities shall be identified with the goal of reducing water use by 10-15%.
    - 3) Include references to local ordinances, if adopted, and procedures for the implementation and enforcement of drought response and contingency plans.
24. The Cities of Fairfax and Manassas and the Town of Purcellville, who currently operate surface water community supply operations, will be required to supply NVRC with the following, additional information:
- a. GIS coverages for current and projected 2040 service areas and dwelling unit ratios for the jurisdictions/utilities. The jurisdictions will also provide estimated current and 2040 dwelling unit ratios by service area (dwelling unit ratios describe the ratio of single family households to multi-family households) for each respective service area.

- b. The jurisdictions will provide daily raw water withdrawal rates from there respective surface water supplies for the period 2000 through 2005.
  - c. Each jurisdiction will report the name of the reservoirs, the sub-basins in which the reservoirs are located, the drainage area, the amount of on-stream storage available for water supply, the design capacity for average daily and maximum daily withdrawals from the reservoirs, the safe yield of the reservoirs, the capacity of any associated water treatment plant, the Department of Health permitted capacity of the systems, and any limitations on withdrawal established by permits issued by the board.
  - d. Each jurisdiction will provide the average annual water billing data from 2004, 2005 and 2006 as disaggregated by customer categories appropriate for the system such as residential use, multi-family use, commercial and light industrial use, heavy industrial use, and military water use.
  - e. Based on the difference between billed and withdrawn water, each jurisdictions will calculate un-metered ("Unaccounted for losses") water use rates using 2004, 2005 and 2006 data.
  - f. Each jurisdiction will provide a qualitative description of existing in-stream beneficial uses within the planning area or outside the planning area that may be affected by the point of stream withdrawal.
25. All participating jurisdictions will be required to supply to NVRC a record of the local public hearing, a copy of all written comments and the submitter's response to all written comments received by **June 30, 2011**.
26. All participating jurisdictions will be required to supply to NVRC a resolution approving the plan from each local government that is party to the plan by **June 30, 2011**.

#### **PART IV. DURATION OF MOA**

This MOA shall become effective on the date the last signature is affixed hereto and shall remain in effect after all Parties have signed this MOA until December 31, 2011, or completion and acceptance of the Plan by DEQ.

#### **PART V. MODIFICATION OF THE MOA**

Any amendments or modifications of this MOA must be approved in writing by all of the Parties to this MOA.

#### **PART VI. SPECIAL PROVISION FOR WITHDRAWAL OR TERMINATION OF MOA**

Any Party may withdraw from this MOA in whole or in part by giving thirty (30) days written notice to the other parties, when based on one or more of the following grounds:

- 1 Lack of Funding for NVRC or the Plan;
- 2 Changes in the applicable law;
- 3 Changes in the structure or nature of the Plan;

- 4 Failure of a local jurisdiction in providing the necessary data as outlined in Part III, Section B of this MOA will result in that jurisdiction being removed from the Plan;
- 5 Elimination of the Plan or services described herein;
- 6 Failure to adopt the Regional Plan; and
- 7 Failure of any party to follow local, state or federal laws, rules or regulations.

Upon withdrawal from this MOA by a local government or Public Utility, the withdrawing party will notify DEQ that it is no longer participating in the development of the regional plan and will be required to submit an individual jurisdictional water supply plan of their own development and be subject to any deadlines or provisions as established by DEQ. If withdrawal from the MOA occurs within 3 months of signing, all funds will be refunded to the respective locality or utility. If termination occurs after 3 month of signing the MOA no funds will be refunded to the locality or utility.

Any termination based upon this provision shall not be deemed a breach of this MOA except when the ground for termination includes Section 6 listed above. The Parties shall comply with all applicable laws and rules, whether now in force or hereafter enacted or promulgated. Nothing in this MOA shall be construed, in any way, as impairing the general powers of each Party to supervise, regulate, and/or control its property under any applicable law, regulation and/or rule.

## **PART VII. INSPECTION OF WORK, BOOKS AND RECORDS**

Any party to this MOA shall be afforded the opportunity to inspect, at any time, any and all work contemplated by this MOA, any and all financial records, and any other supporting documentation, and to participate in any and all meetings and field reviews in furtherance of or as a result of this MOA.

## **PART VIII. FUNDING PROVISIONS**

### **A. COST OF SERVICES**

It is estimated that the total amount of all services to be provided under this MOA cost local governments \$430,000. On an annual basis, NVRC will provide the Steering Committee with a fiscal overview and summary of actions and costs incurred as a method of providing fiscal benchmarks throughout the projected timeframe.

### **B. PAYMENT**

Participating local governments will be invoiced for the amounts specified within this MOA within 30 days of signing the MOA. Participating local governments are expected to remit payment to NVRC within 6 months of receiving the invoice. NVRC retains the right to work out payment plans based on a jurisdiction's capacity to pay. The amount specified for a participating local jurisdiction may be offset by the provision of grant funding if a local government obtains such funding from the Commonwealth.

## **PART IX. RIGHTS TO WORK PRODUCT**

NVRC will retain the unlimited right to use all material and work items produced under this MOA including, but not limited to, all materials, work products, reports, textual materials, maps, graphs, diagrams, charts or other illustrative material and textual material prepared by any consultant retained under this MOA.

## **PART X. SEVERANCE OF TERMS AND COMPLIANCE WITH APPLICABLE LAW**

The Parties shall comply with all applicable laws, regulations, and rules. This MOA is subject to all laws, regulations, and rules governing Commonwealth of Virginia property, whether now in force or hereafter enacted or promulgated. Nothing in this MOA shall be construed as in any way impairing the general powers of NVRC for supervision, regulation, and control of its property under such applicable laws, regulations, and rules.

If any term or provision of this MOA is held to be invalid or illegal, such term or provision shall not affect the validity or enforceability of the remaining terms and provisions of this MOA. Meeting the terms of this MOA shall not excuse any failure to comply with all applicable laws, regulations, and rules of the Commonwealth of Virginia whether or not these laws and regulations are specifically listed in this MOA.

## **PART XI. RESOLUTION OF DISPUTES**

All disputes arising from services provided under this MOA shall be resolved by the Steering Committee (as defined on page 4) to the NVWSWG and the local governments, or their authorized representatives.

## **PART XII. LIABILITY**

NVRC is reliant upon local and state governments to provide accurate and verifiable information. NVRC will not be held liable for any erroneous or incorrect information or data that is published as a result of being provided erroneous information. Moreover, NVRC will not be held liable or responsible for completing sections of the Plan if local and state government agencies are not forthcoming in supplying the appropriate information in the specified timeframes as set forth in this MOA.

## **PART XIII. DATA SENSITIVY AND SECURITY**

During the compilation of data and publication of any products associated with the Plan if it is determined that the "public" dissemination of certain facts, figures or data may pose a local, state or national security concern, the parties of this MOA may determine to keep such information from being distributed or presented in a public manner. Members of the Steering Committee will be notified in such an event and will be responsible for making the final determination of whether information should or should not be made public for security purposes.

## **PART XIV. EFFECTIVE DATE**

This Agreement shall be effective as of the 22nd day of March, 2007.

# The Northern Virginia Regional Water Supply Plan Memorandum of Agreement

This Agreement shall be effective as of the 22nd day of March, 2007. IN WITNESS WHEREOF, the Parties have executed this Memorandum of Agreement as of the day and year written above.

## NORTHERN VIRGINIA REGIONAL COMMISSION

By: Barbara A. Favola  
Honorable, Barbara A. Favola, Chairman

### COUNTIES

#### ARLINGTON COUNTY

APPROVED: Paul Ferguson  
By: Paul Ferguson  
Authorized Representative

#### FAIRFAX COUNTY

APPROVED: Heaven Aulisa  
By: Heaven Aulisa  
Authorized Representative

#### LOUDOUN COUNTY

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### PRINCE WILLIAM COUNTY

APPROVED: \_\_\_\_\_  
By: Hilda B. Berg  
Authorized Representative

### CITIES

#### CITY OF ALEXANDRIA

APPROVED: \_\_\_\_\_  
By: Redella S. Pepper  
Authorized Representative

#### CITY OF FAIRFAX

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### CITY OF FALLS CHURCH

APPROVED: \_\_\_\_\_  
By: Robert Starks  
Authorized Representative

#### CITY OF MANASSAS

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### CITY OF MANASSAS PARK

APPROVED: \_\_\_\_\_  
By: Byron E. Polk  
Authorized Representative

### TOWNS

#### TOWN OF CLIFTON

APPROVED: \_\_\_\_\_  
By: John  
Authorized Representative

#### TOWN OF DUMFRIES

APPROVED: \_\_\_\_\_  
By: Fred C. Yohay  
Authorized Representative

#### TOWN OF HAMILTON

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### TOWN OF HAYMARKET

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### TOWN OF HERNDON

APPROVED: \_\_\_\_\_  
By: Stephen J. Roberts  
Authorized Representative

#### TOWN OF HILLSBORO

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### TOWN OF LEESBURG

APPROVED: \_\_\_\_\_  
By: John  
Authorized Representative

#### TOWN OF LOVETTSVILLE

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### TOWN OF MIDDLEBURG

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### TOWN OF OCCOQUAN

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### TOWN OF PURCELLVILLE

APPROVED: \_\_\_\_\_  
By: John  
Authorized Representative

#### TOWN OF QUANTICO

APPROVED: \_\_\_\_\_  
By: Albert R. Benson  
Authorized Representative

#### TOWN OF ROUND HILL

APPROVED: \_\_\_\_\_  
By: \_\_\_\_\_  
Authorized Representative

#### TOWN OF VIENNA

APPROVED: \_\_\_\_\_  
By: John  
Authorized Representative

**Memorandum of Agreement for the development of a Regional Water Supply Plan in  
Conformance with the Commonwealth of Virginia's Regulation 9 VAC 25-780-10.**

TOWN OF VIENNA

APPROVED: .

By:

  
Authorized Representative

Date:

9/23/08