



**\*A. Preliminary/Final Water Quality Plan No. 2013025: New Clarksburg-Damascus Middle School No. 2**

*JPP*

Josh Penn, Senior Planner, [Josh.Penn@montgomeryplanning.org](mailto:Josh.Penn@montgomeryplanning.org), 301.495.4546

*Jee*

Jonathan Casey, Senior Planner, [Jonathan.Casey@montgomeryplanning.org](mailto:Jonathan.Casey@montgomeryplanning.org), 301.495.2162

**JAC**

John Carter, Chief, [John.Carter@montgomeryplanning.org](mailto:John.Carter@montgomeryplanning.org), 301.495.4575

Completed: 04/19/13

**Description**

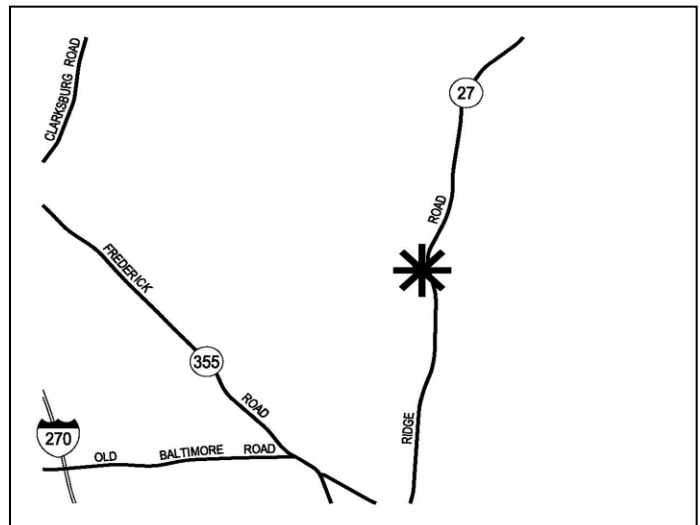
**\*A. Preliminary/Final Water Quality Plan No. 2013025  
Clarksburg-Damascus Middle School No. 2**

New middle school and fields, Greenway Village Subdivision, located between Little Seneca Parkway, Skylark Road, Meadow Mist Drive, and Ridge Road (MD 27), 22.37 acres, PD-4 Zone, Clarksburg Master Plan & Hyattstown Special Study Area

**Staff Recommendation:** *Approval with Conditions*

**Applicant:** Montgomery County Public Schools

**Filing Date:** February 11, 2013 (Complete Submission April 9, 2013)



**Summary**

There are two items for Planning Board review for this project:

- The Mandatory Referral application
- The Special Protection Area (SPA) preliminary/final water quality plan.

This memorandum covers Staff review and recommendations on the SPA preliminary/final water quality plan.

## CONDITIONS

1. The development is subject to Final Water Quality approval conditions dated February 14, 2013, unless amended and approved by the Montgomery County Department of Permitting Services (“MCDPS”) – Water Resources Section, and provided that the amendments do not conflict with other conditions of the final Forest Conservation Plan.
2. If Applicant exceeds 8.95 acres of impervious surface on the Subject Property, the Applicant must demonstrate to Staff that it has made reasonable efforts to minimize the impervious surface levels. If Staff is not satisfied with the impervious surface levels, the Applicant must submit a minor modification to the Water Quality Plan, as described in Section 19-65(3)(B) of the County Code, to the Planning Director for review.

## DISCUSSION

The Clarksburg/Damascus Middle School No. 2 is a proposed school to be constructed on the southern end of the Greenway Village (Arora Hills) subdivision in Clarksburg. The 22.37 acre site is on the west side of Ridge Road, bounded by Skylark Road on the north, Little Seneca Parkway on the south and Meadow Mist Road to the west. The property is zoned PD-4 (Planned Development), and is within the 1994 Clarksburg Master Plan & Hyattstown Special Study Area and Clarksburg Special Protection Area (SPA). Currently the site is rough graded, but undeveloped, and being utilized as a temporary construction staging area for the adjacent Greenway Village development.

The Planning Board’s action on the preliminary/final water quality plan is regulatory and binding. The Planning Board must act on the preliminary/final water quality before it finalizes its recommendations on the Mandatory Referral.

## ANALYSES AND FINDINGS: SPA WATER QUALITY PLAN

This project is within the Clarksburg SPA and on publicly owned property. It is required to obtain approval of a water quality plan under section 19-67 of the Montgomery County Code. This section of the code states:

*(c) Publicly owned property. Before engaging in any land disturbing activity on publicly owned property in an area designated as a special protection area, the applying agency or department should prepare a combined preliminary and final water quality plan.*

### Review for Conformance to the SPA Requirements

As part of the requirements of the SPA law, a SPA water quality plan should be reviewed in conjunction with a mandatory referral.<sup>1</sup> Under the provision of the law, the MCDPS and the Planning Board have different responsibilities in the review of a water quality plan. MCDPS has reviewed and conditionally approved the elements of the water quality plan under its purview. The Planning Board’s responsibility is to determine if environmental buffer protection, SPA forest conservation and planting requirements have been satisfied.

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<sup>1</sup> Section 19-67 of the Montgomery County Code states that “before engaging in any land disturbing activity on publicly owned property in an area designated as a special protection area, the applying agency or department should prepare a combined preliminary and final water quality plan.”

## Planning Board SPA Review Elements

In acting on a final water quality plan, the Planning Board has lead agency responsibility for:

- (i) Conformity with all policies in the Planning Board's Environmental Guidelines which apply to special protection areas;
- (ii) Conformity with any policy or requirement for special protection areas, including limits on impervious area, in a land use plan, watershed plan, or the Comprehensive Water Supply and Sewer System Plan; and
- (iii) Any other element of the plan in which the Planning Board has primary lead agency design, review, and approval responsibility.

## Environmental Guidelines

A Natural Resources Inventory/Forest Stand Delineation (NRI/FSD #420020760) was approved by Environmental Planning staff on October 8, 2001 and revised on April 11, 2002 for the 374 acre Greenway Village Development (Development). The Development is located within the Clarksburg Special Protection Area (SPA) and the Little Seneca Creek watershed, a Use Class IV\_P watershed. The Countywide Stream Protection Strategy (CSPS) rates streams in this watershed as excellent condition.

The Clarksburg Damascus Middle School Site (Site) is a 22.37 acre parcel within the Development. There are no streams, floodplains, wetlands, or environmental buffers on or affecting the Site.

## Imperviousness

A main goal for new development in all SPA's is to reduce the amount of impervious surfaces. However, there are no impervious surface limitations within this portion of the Clarksburg SPA; Special Protection Area regulations allow the M-NCPPC to review imperviousness and to work with the Applicant to reduce imperviousness.

Approximately 8.38 acres or 37.48 percent of impervious surface is proposed for this 22.37 acre site. The proposed impervious surfaces include the building, parking lots, basketball courts, tennis courts, hard play areas and ADA compliant walkways.

To help ensure that the impervious surface coverage does not greatly expand beyond what is currently shown on the proposed plan; Staff recommends that the Planning Board adopt proposed condition #2 which would allow for up to 8.95 acres or 40 percent impervious coverage without any additional approvals. This allows the school some flexibility in design as the plans move forward, but it helps ensure that impervious coverage will remain as low as practicable.

The Applicant has reduced the proposed overall imperviousness while still accommodating the program requirements of the middle school, to meet the impervious considerations for this portion of the Clarksburg SPA.

## Forest Conservation

The final forest conservation plan (FCP) for the Site was previously approved as a part of the overall Development (Greenway Village Preliminary Plan #120020330 and Site Plan #820040220). The proposed plans for the school are in full compliance with the previously approved FCP.

This Site meets all applicable requirements of the Chapter 22A of the County Code (Forest Conservation Law).

*Environmental Planning Staff has reviewed and recommends that the Planning Board approve the elements of the SPA water quality plan under its purview with conditions.*

## **MCDPS SPA Review Elements**

In acting on a preliminary or final water quality plan, the MCDPS has lead agency responsibility for:

- (i) Performance goals or criteria for the approved best management practices;
- (ii) Best management practices monitoring plan;
- (iii) Stormwater management concept plan;
- (iv) Erosion and sediment control concept plan; and,
- (v) Any other element of the plan for which the Department has primary lead agency design, review, and approval responsibility.

## Site Performance Goals

As part of the preliminary/final water quality plan, the following performance goals were established for the site:

1. Minimize storm flow run off increases
2. Minimize sediment loading
3. Minimize nutrient and toxic substance loading on playing fields

## Stormwater Management

The stormwater management concept will provide one inch of on-site treatment with Environmental Site Design (ESD) methods that include micro-bioretenion and bioswales. The Site will then drain into an existing storm drain system that outlets to a channel protection volume (Cpv) dry pond in the Greenway Village Subdivision.

## Sediment and Erosion Control

Redundant sediment controls are to be used throughout the site. The use of sediment traps with forebays that provide 125 percent of the normally required storage volume is acceptable for larger disturbed areas. Silt fence alone will not be allowed as a perimeter control. The use of super silt fence will be acceptable for small areas of disturbance with emphasis on immediate stabilization.

### Monitoring of Best Management Practices

The monitoring requirements must be in accordance with the best management practices protocols which have been established by the MCDPS and the Department of Environmental Protection (DEP). The monitoring requirements are described in the "Attachment to the Final Water Quality Plan" memorandum by DEP dated February 14, 2013.

*MCDPS has reviewed and conditionally approved the elements of the SPA preliminary/final water quality plan under its purview.*

### **CONCLUSION**

Staff recommends the Planning Board approve the preliminary/final water quality plan.

### Attachments:

- A. DPS Final Water Quality approval letter dated February 14, 2013
- B. Forest Conservation Plan of Compliance
- C. Impervious Surface Exhibit

Attachment A: DPS Final Water Quality approval letter dated  
February 14, 2013



DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett  
County Executive

February 14, 2013

Diane R. Schwartz Jones  
Director

Mr. Geoff Campbell  
ADTEK Engineers, Inc.  
97 Monocacy Blvd., Unit H  
Frederick, Maryland 21701

Re: **Final Water Quality Plan for**  
**Clarksburg/Damascus Middle School**  
**SM File #: 249531**  
**Tract Size/Zone: 22.37 acres/PD-4**  
**Watershed: Little Seneca Creek**

**SPECIAL PROTECTION AREA**

Dear Mr. Campbell:

Based on a review by the Department of Permitting Services, the Final Water Quality Plan (FWQP) for the above mentioned site is conditionally approved. This approval is for the elements of the Final Water Quality Plan of which DPS has lead agency responsibility, and does not include limits on imperviousness or stream buffer encroachments.

**Site Description:** The proposal is for the construction of a Middle School and the associated infrastructure on a 22.37 acre property located on Little Seneca Parkway in the Greenway Village Subdivision. This is located within the portion of the Little Seneca Creek watershed which is in the Clarksburg Special Protection Area.

**Stormwater Management:** The stormwater management concept will provide 1" of on site treatment via ESD methods that include micro-bioretenion and bioswales. The site will then drain into an existing storm drain system that outlets to a Cpv dry pond in the Greenway Village Subdivision.

**Sediment Control:** Redundant sediment controls are to be used throughout the site. The use of sediment traps with forebays that provide 125% of the normally required storage volume is acceptable for larger disturbed areas. Silt fence alone will not be allowed as a perimeter control. The use of super silt fence will be acceptable for small areas of disturbance with emphasis on immediate stabilization.

**Performance Goals:** The performance goals that were established at the pre-application meeting still apply. The performance goals are as follows:

1. Minimize storm flow run off increases.
2. Minimize sediment loading.
3. Minimize nutrient and toxic substance loading on playing fields.

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255 Rockville Pike, 2nd Floor • Rockville, Maryland 20850 • 240-777-6300 • 240-777-6256 TTY  
[www.montgomerycountymd.gov](http://www.montgomerycountymd.gov)

**Monitoring:** The monitoring must be in accordance with the BMP monitoring protocols which have been established by the Department of Permitting Services (DPS) and Department of Environmental Protection (DEP). The monitoring requirements are described in the "Attachment to the Preliminary/Final Water Quality Plan" memorandum by DEP and included with this approval letter.

Prior to the start of any monitoring activity, a meeting is to be held on site with DEP, DPS, and those responsible for conducting the monitoring to establish the monitoring parameters.

**Conditions of Approval:** The following **items** will need to be addressed **during** the detailed sediment control/stormwater management plan stage. This list may not be all inclusive and may change based on available information at the time of the subsequent plan reviews:

1. The sediment control plan needs to meet all of the requirements of the new MDE 2011 sediment control manual including limits on disturbed area.
2. A detailed review of the stormwater management computations will occur at the time of detailed plan review.
3. Prior to permanent vegetative stabilization, all disturbed areas must be topsoiled per the latest Montgomery County Standards and Specifications for Topsoiling.

Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 **is not required**.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended Water Quality Plan requirements.

If you have any questions regarding these actions, please feel free to contact Leo Galanko at (240) 777-6242.

Sincerely,



Mark C. Etheridge, Manager  
Water Resources Section  
Division of Land Development Services

MCE:Img:CN249531

cc J. Penn (MNCPPC-ED)  
K. Mack (MCDEP)  
L. Galanko  
SM File # 249531

ESD and on-site 22.37 ac.





DEPARTMENT OF ENVIRONMENTAL PROTECTION

Isiah Leggett  
*County Executive*

Robert G. Hoyt  
*Director*

## **Attachment to the Final Water Quality Plan for Clarksburg/Damascus Middle School - Description of Monitoring Requirements**

Date: 30 January 2013  
SM #249531

The purpose of this attachment is to add specificity to the standard monitoring requirements and procedures contained in the BMP monitoring protocols. Some supplemental QA/QC, data analysis, reporting and record keeping tasks will be explained.

Monitoring efforts and reports must employ scientific approaches in an attempt to determine effectiveness of BMPs and Environmental Site Design (ESD) at mitigating impacts associated with land development. This BMP monitoring, analysis, and reporting is being done to address whether the SPA site performance goals were met. The purpose of the data analysis and reporting is to describe quantitatively how the performance goals were met.

All monitoring locations will be determined in conjunction with DPS and DEP. Monitoring will be done according to DEP BMP Monitoring Protocols and/or methods and protocols approved by DEP. DEP BMP Monitoring Protocols are available online at <http://www.montgomerycountymd.gov/content/dep/downloads/bmpprotocols.pdf>

Consistent methods are to be used so results can be compared with other SPA BMP monitoring projects. Thorough and careful analysis of data is required. Methods and assumptions should be detailed. Annual reports must adhere to the format and contain all required components in the order detailed in the SPA BMP Monitoring Report Checklist, also available online:

<http://www.montgomerycountymd.gov/content/dep/downloads/bmpchecklist.pdf>

### **Specific Monitoring Requirements:**

The micro-bioretenion facilities are designed to manage stormwater runoff from the buildings and surrounding landscapes. The purpose of these requirements is to document the performance of the micro-bioretenion facilities. Prior to initiation of monitoring, applicant and consultants must contact DEP and DPS to review monitoring locations, procedures and requirements. The construction phase is defined as the issuing of the sediment control permit. The post construction monitoring period will begin following as-built certification and approval and issuance of a post construction monitoring permit for up to five years.

1. Sediment removal efficiency of the largest active trap/basin (or approved substitute structure) will be monitored during construction for total suspended solids (TSS) removal efficiency. The beginning of construction is defined as the issuance of the sediment control permit. Exact sampling locations will be determined in conjunction with DEP and DPS. Automated samplers will be used to collect all influent and effluent from storm events. Flow-weighted composite sampling will be conducted; pollutant loadings will be calculated. Sampling will be conducted quarterly. The detection limit is 1 mg/L using SM2450D.

A minimum dry period of 48 hours is required prior to a monitoring event. Storms should produce at least one half inch of rainfall in a 24 hour period to be counted towards meeting this requirement. Storms will be characterized as outlined in Item 4 of this attachment. Storm frequency (return interval) should be reported using the National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Data Server ([http://dipper.nws.noaa.gov/hdsc/pfds/orb/md\\_pfds.html](http://dipper.nws.noaa.gov/hdsc/pfds/orb/md_pfds.html)).

Results should be examined to determine the efficiency of the structure and percent removal of suspended solids. Data should be compared to any past periods and graphs are to be needed to support conclusions. Condition of the structure and associated maintenance activities must be considered in analysis.

2. A record of continuous flow, in five minute intervals, during and following storm events from all inflows and outflows during the post construction period from a micro-bioretenion facility will be provided. The structure should be designed to minimize the number of inlets and outlets accordingly. Precipitation data will be analyzed to determine which storms produce measurable flow exiting the micro-bioretenion facility. The minimum set of storm parameters to provide storm conditions on are storm duration, total storm amount, average rainfall amount per 5 minute interval, maximum rainfall amount per 5 minute interval. Analysis should target what conditions are needed to produce measurable flow. Engineering specifications may be considered as part of the analysis.

As noted above logger locations will be chosen in conjunction with DPS and DEP. The data analysis is to be compared between storms. Total volume of water into the structure and out must be provided. Total amount retained by the structure must be provided. Conclusions regarding retention rates and effectiveness must be included while being supported with graphs. Storms should produce at least one half inch of rainfall in 24 hours. The storm frequency should be reported using the NOAA precipitation frequency data server as noted in above item

3. Pollutant removal efficiency will be determined for one of the micro-bioretenion facilities during the post-construction monitoring period. Pollutants to be analyzed are listed in table 1. The collection of automated flow-weighted storm composite samples at all inflow and outflow points will be required. Qualifying storm events will be at least one half inch of rainfall in 24 hours. Samples are to be collected quarterly for 1 storm per quarter year. Analysis will include the evaluation of the site design and pollutant removal efficiency over time. The drainage area, percent imperviousness and any water quality pre-treatment approaches should be considered in the analysis.

**Table 1. Pollutant parameters, lab methods and detection limits**

Parameter	Method	Detection Limit (mg/L)
Nitrate	EPA 353.2	0.05 mg/L as N
Nitrite	EPA 354.1	0.05 mg/L as N
TKN	EPA 351.3	0.08 mg/L
Total Phosphorus	EPA 365.3	0.05 mg/L
TSS	SM2450D	1.0 mg/L

## Reporting Requirements

1. Progress reports are to be submitted quarterly and follow the format at: <http://www.montgomerycountymd.gov/content/dep/downloads/ProgressReportTemplate.doc>
2. Annual reports must adhere to the format and contain all required components in the order detailed in the SPA BMP Monitoring Report Checklist online: <http://www.montgomerycountymd.gov/content/dep/downloads/bmpchecklist.pdf>
3. BMP monitoring reports must include a table with all major construction activities which take place on the site. For example, groundbreaking, clearing, grading, BMP construction and conversion, pond maintenance, etc. Information should refer to specific structures, drainage areas, and portions of the site. Post construction conditions of SWM BMPs / ESD must also be accounted for in this table.

4. Results should be examined to determine the efficiency of the structure and percent removal of sediment and pollutants. Data are to be compared to past periods and published results for similar structures. Graphs are needed to support conclusions.
  
5. All subsequent annual reports and data are due to DEP by 31 October.

All reports are to be delivered with data in an electronic format to Ken Mack at Montgomery County DEP and to Leo Galanko at Montgomery County DPS. All items, data and reports submitted to DEP will be public information.

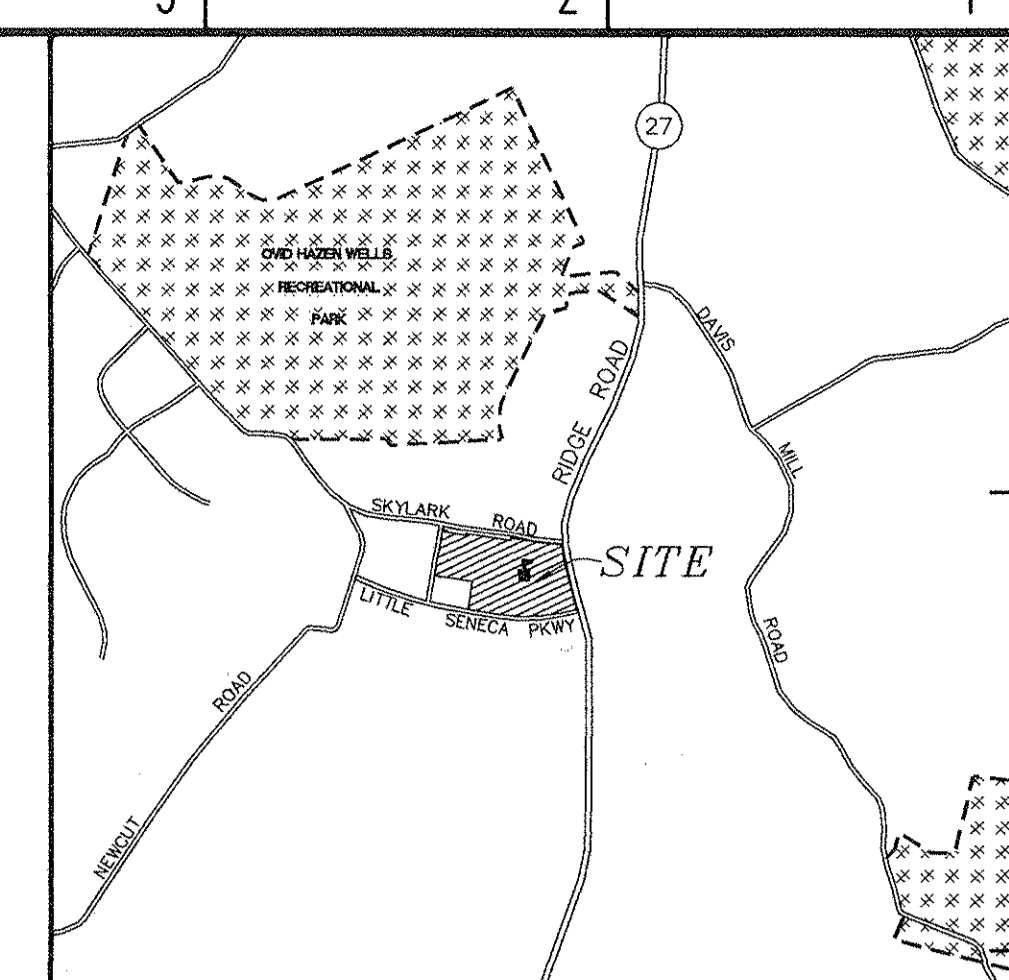
Questions on monitoring requirements and procedures may be directed to:

Ken Mack  
240-777-7729  
[kenny.mack@montgomerycountymd.gov](mailto:kenny.mack@montgomerycountymd.gov)

Leo Galanko  
240-777-6242  
[leo.galanko@montgomerycountymd.gov](mailto:leo.galanko@montgomerycountymd.gov)

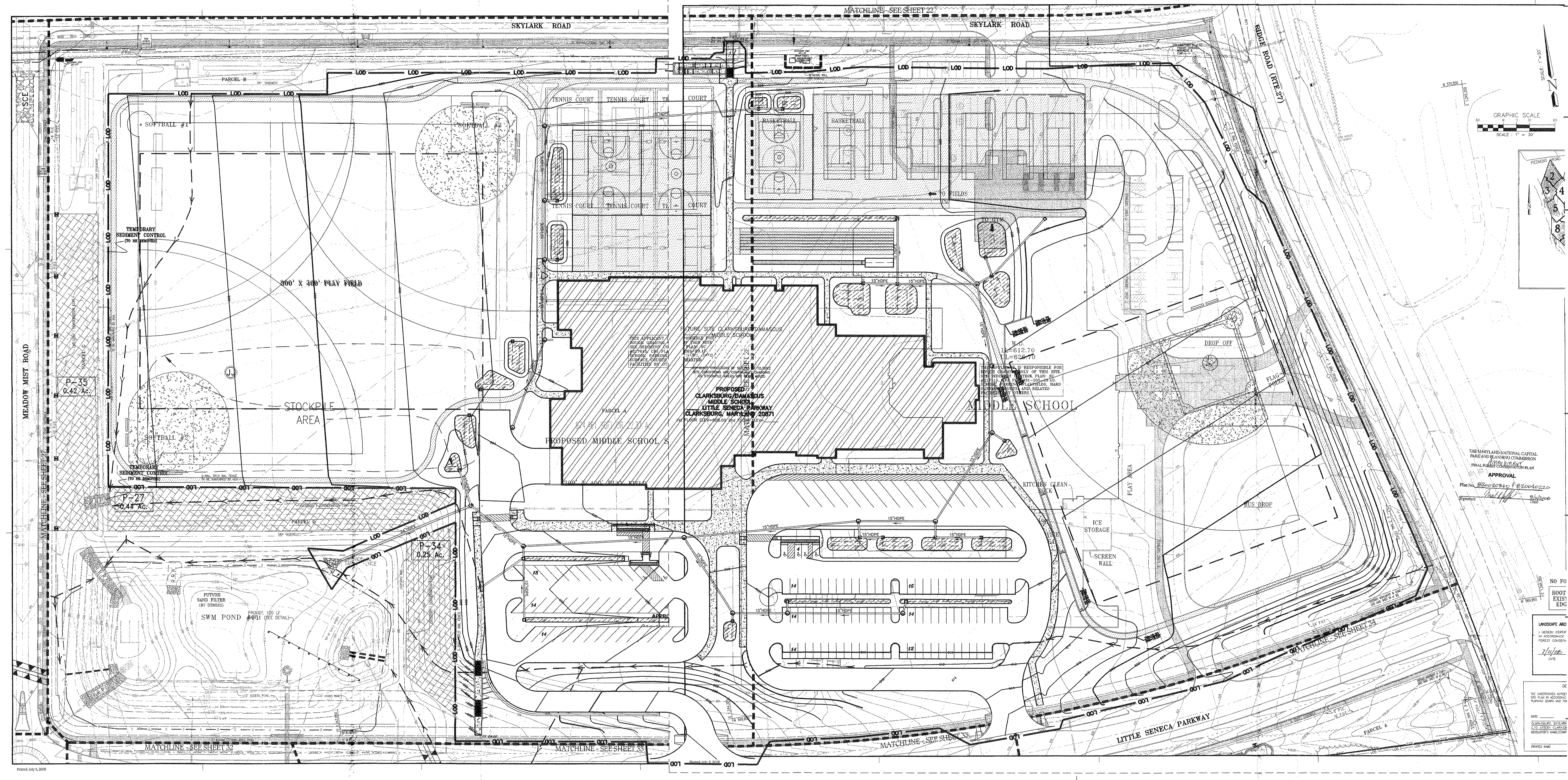
Attachment B: Forest Conservation Plan of Compliance





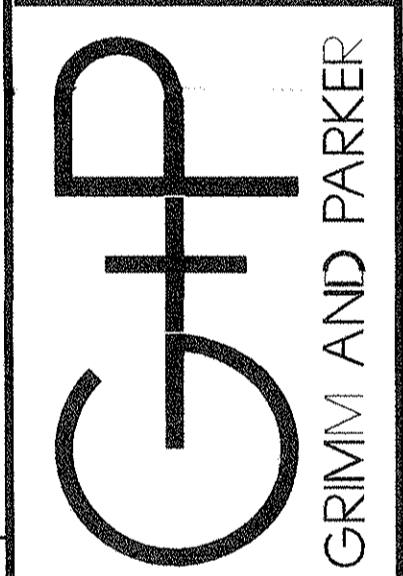
VICINITY MAP  
SCALE: 1" = 2,000'  
(WSSC GRID: 232 NW 11)  
MONTGOMERY COUNTY  
ADC MAP PAGE: 4928  
GRID: J-2&3  
(2008 EDITION)

**ADTEK**  
ARCHITECTURE & LANDSCAPE ARCHITECTURE  
11720 BELTSVILLE DRIVE  
SUITE 600  
CALVERTON, MD 20705  
TEL: 301.595.1000  
WWW.ADTEKARCH.COM



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11720 Beltsville Drive  
Suite 600  
Calverton, Md.  
20705  
Tel 301.595.1000  
www.grimmandparker.com

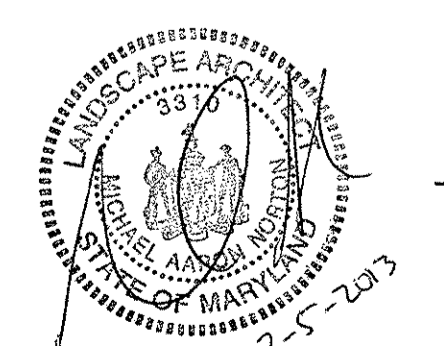
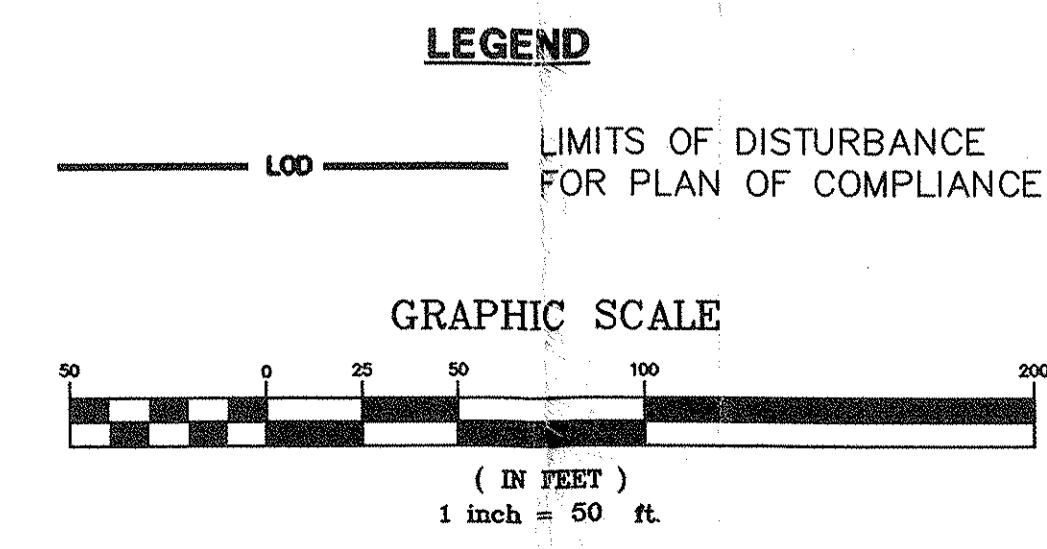


GRIMM AND PARKER

PLAN OF COMPLIANCE  
CLARKSBURG/DAMASCUS SCHOOL  
LITTLE SENECA PARKWAY, CLARKSBURG MD

DATE	DESCRIPTION
	L-0.1

NOTE:  
BASE DRAWINGS SHOWN ARE SHEETS 28 & 29 OF THE APPROVED AMENDED FINAL FOREST CONSERVATION PLAN 'GREENWAY VILLAGE' AT CLARKSBURG #820020360 & #820040220 SIGNED 8/11/2008.

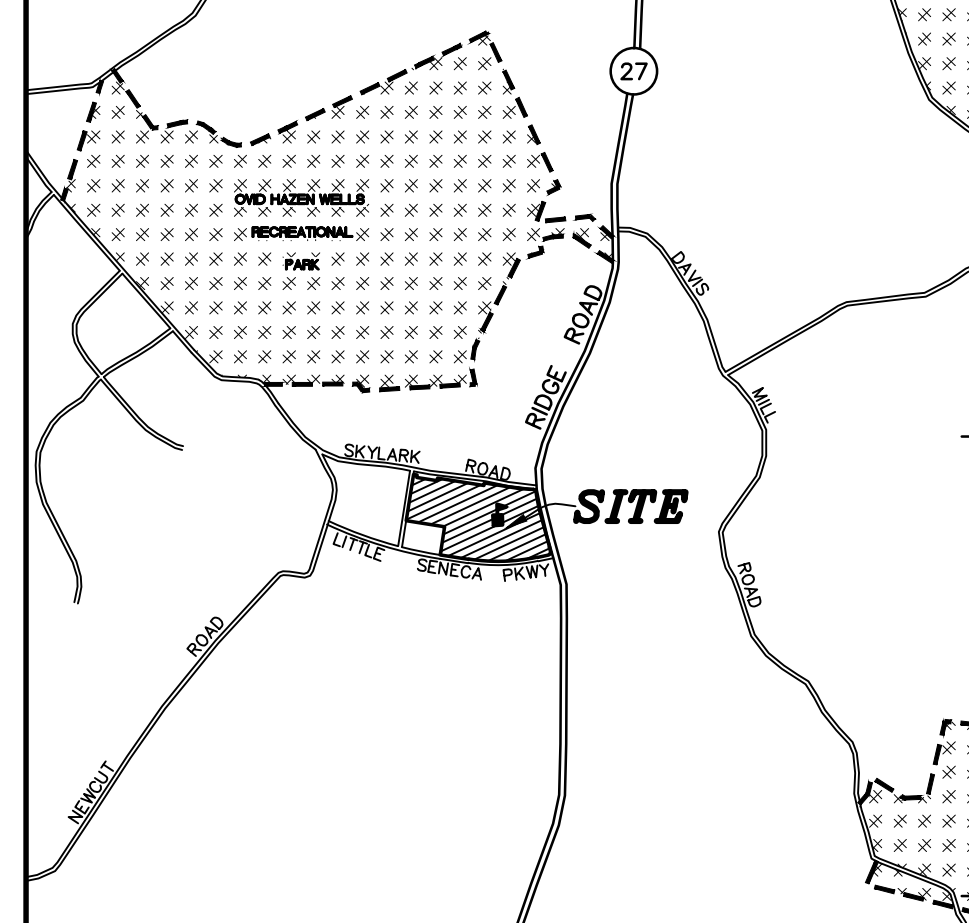
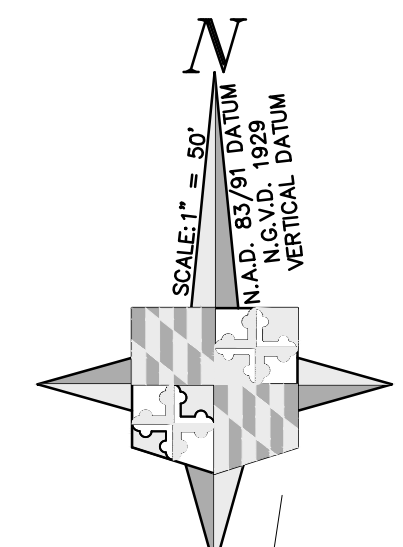
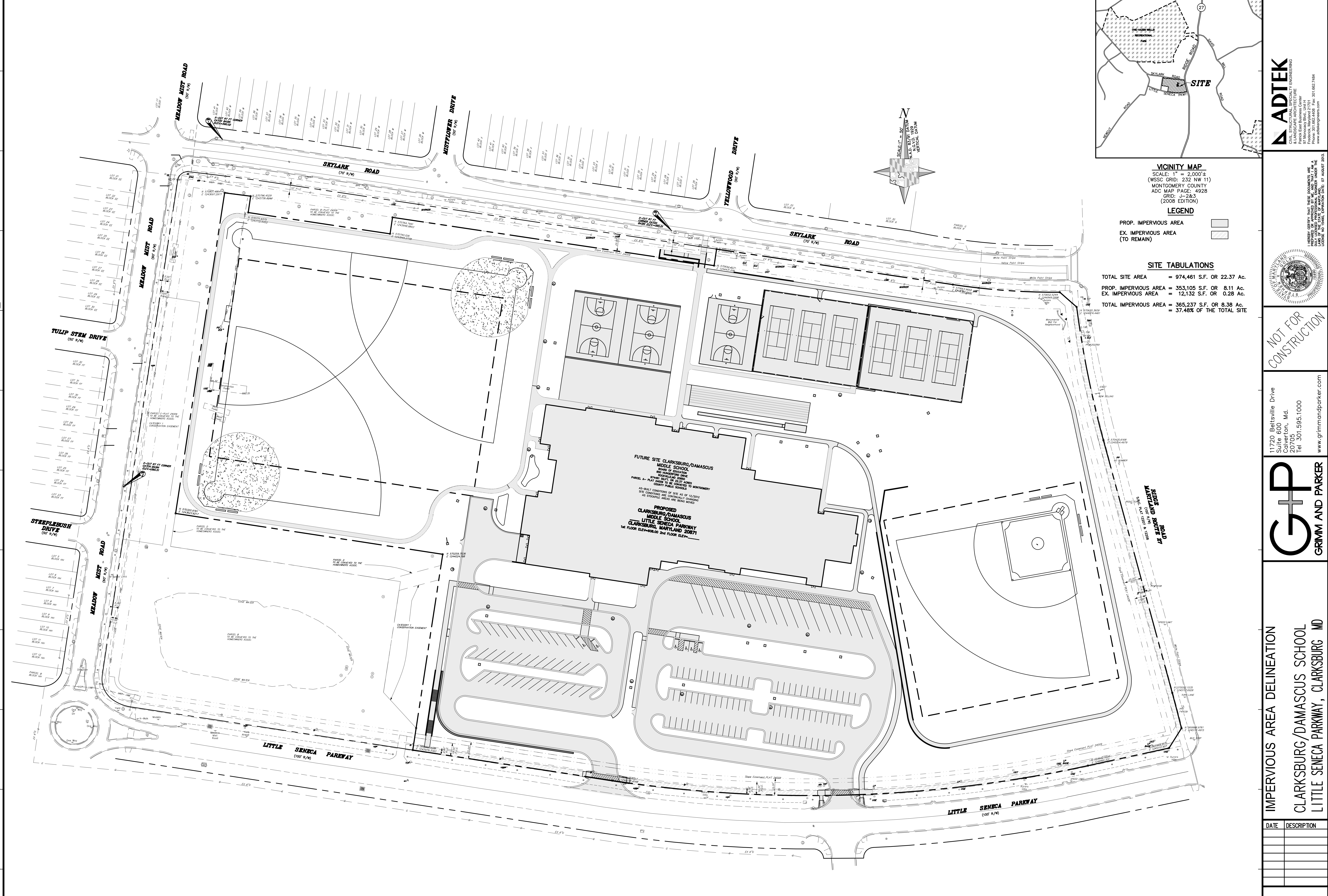


OWNER/APPLICANT  
MONTGOMERY COUNTY PUBLIC SCHOOLS  
45 WEST GUDE DRIVE  
ROCKVILLE, MARYLAND 20850-4038  
ATTN: DENNIS CROSS, AIA  
Dennis\_Cross@mcpsmd.org  
TEL: 240.314.1012 FAX: 301.278.3003

**NORTON LAND DESIGN**  
LANDSCAPE ARCHITECTURE + ENVIRONMENTAL PLANNING  
17830 NEW HAMPSHIRE AVENUE, SUITE 101 ASHTON, MD 20885  
P. 240.342.2329 F. 240.342.2832 WWW.NORTONLANDDESIGN.COM



Attachment C: Impervious Surface Exhibit



**VICINITY MAP**  
 SCALE: 1" = 2,000'  
 (WSSC GRID: 232 NW 11)  
 MONTGOMERY COUNTY  
 ADC MAP PAGE: 4928  
 GRID: J-2&3  
 (2008 EDITION)

**LEGEND**

PROP. IMPERVIOUS AREA	█
EX. IMPERVIOUS AREA (TO REMAIN)	█

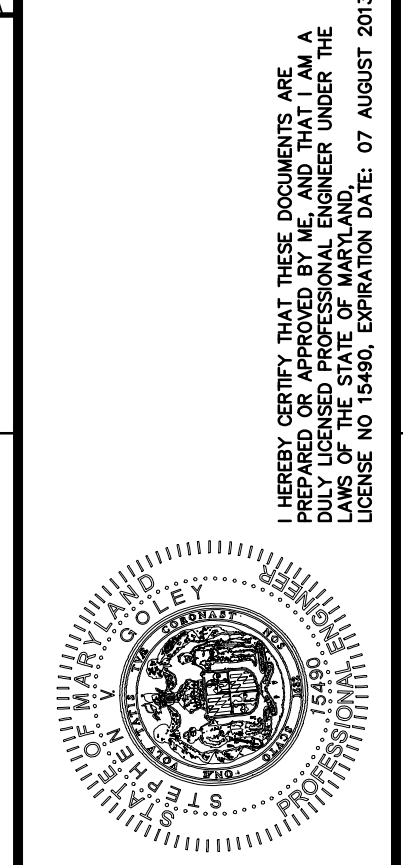
**SITE TABULATIONS**

TOTAL SITE AREA	= 974,461 S.F. OR 22.37 Ac.
PROP. IMPERVIOUS AREA	= 353,105 S.F. OR 8.11 Ac.
EX. IMPERVIOUS AREA	= 12,132 S.F. OR 0.28 Ac.
<b>TOTAL IMPERVIOUS AREA</b>	<b>= 365,237 S.F. OR 8.38 Ac.</b>
	<b>= 37.48% OF THE TOTAL SITE</b>

**FUTURE SITE CLARKSBURG/DAMASCUS MIDDLE SCHOOL**  
 800 CLARKSBURG DRIVE  
 CLARKSBURG, MARYLAND 20871  
 PARCEL A - 874,400 S.F. (20,000 S.F. TO BE DONATED TO MONTGOMERY COUNTY PUBLIC SCHOOLS)  
 AS-BUILT CONDITIONS OF SITE AS OF 10/2003  
 SITE CONDITIONS ARE GENERALLY CHANGING AS STOCKPILE AREAS ARE BEING REMOVED

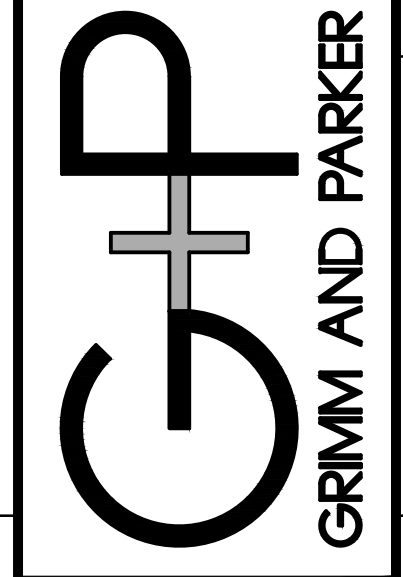
**PROPOSED CLARKSBURG/DAMASCUS MIDDLE SCHOOL**  
 CLARKSBURG, MARYLAND 20871  
 14 FLOOR ELEV=408.00 AND FLOOR ELEV=

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 Fax: 301.595.1001  
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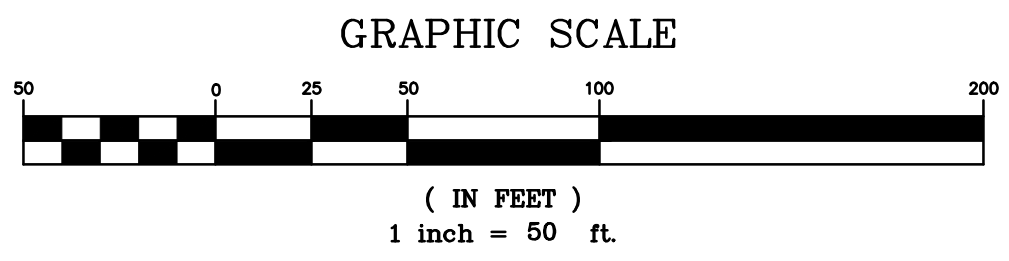
11720 Beltsville Drive  
 Suite 600  
 Calverton, Md. 20705  
 Tel 301.595.1000  
 www.grimmandparker.com



**IMPERVIOUS AREA DELINEATION**  
**CLARKSBURG/DAMASCUS SCHOOL**  
**LITTLE SENECA PARKWAY, CLARKSBURG MD**

DATE	DESCRIPTION

**C-0C**



**OWNER/APPLICANT**  
 MONTGOMERY COUNTY PUBLIC SCHOOLS  
 45 WEST GUDE DRIVE  
 ROCKVILLE, MARYLAND 20850-4038  
 ATTN: DENNIS CROSS, AIA  
 Dennis\_Cross@mcpsmd.org  
 TEL: 240.314.1012 FAX: 301.279.3003