

MASTER PLAN STUDY
FOR THE
BEL AIR SCHOOLS CAMPUS

Harford County Public Schools

Bel Air, Maryland

August 2009

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Project No. 2081110.00

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1.0 INTRODUCTION

Property Description

The Bel Air Schools Campus is located south of downtown Bel Air. It is currently a three school complex with an integrated campus including the new Bel Air High School, Bel Air Middle School and Homestead/Wakefield Elementary Schools.

Tax Map	Parcel	Deed Ref.	Owner	Plat	Zoning	Acreage
301	1268	303/176 338/593	Board of Education of Harford County	126/31	R3	31.1
49	132	478/392	Board of Education of Harford County	None	R3	49.5
49	224	459/238	Board of Education of Harford County	100/82	R3	11.5
49	ROW	1175/70	Board of Education of Harford County	47/01	R2 (County)	0.04

The total acreage for the campus is 92.14 acres.

The surrounding land use is a mix of commercial/residential to the east, intense commercial facing US Route 1 to the north, high density residential (townhouses) to the west and single family residential to the south. The corresponding zoning is B1 (limited Business) & R2 (Medium Density Residential) to the east. This area contains an overlay zone called the 'Gateway Zone' which controls the scale and appearance of the development. To the north is B3 (General Business) which is the highest intensity for commercial zoning. The Route 1 overlay zone controls the appearance, signage, and landscape in this area. A apartment development called Wakefield Manor is located to the west and is zoned R3 (high Density Residential). The Town of Bel Air limit corresponds with the property line to the south and R2 (Urban Residential) zoning is found there (Wakefield Meadows).

Beyond the properties immediately adjacent to the campus is Maryland Route 924 (South Main Street) to the east and US Route 1 (Baltimore Pike) to the north. These are the main feeder roads to the site. Atwood Road is located to the west and offers a potential connection to areas west and south.

Bel Air High School

The High School is located at 100 Heighe Street and has recently been replaced by a three-story brick building this year with a capacity of 1668 students. The main entrance to the new High School is located on the east side closest to Kenmore Avenue where parents drop off students and visitors/students/staff park. The buses deliver in the rear of the building through a separate access to Kenmore. A separate entrance for



Bel Air High School

service only accesses Bel Air Road (US Route 1). The service uses are located on the north side of the building. A previous access from Homestead Street has been closed as part of the improvements to the High School. The total number of parking spaces is 425 with an additional 90 spaces striped within the bus parking area and access road for special events.

Pedestrian traffic originates from downtown Bel Air and various parking opportunities which students use in the surrounding neighborhood. There are two main off-campus parking areas; one is located at the Bel Air United Methodist Church to the east and the other is parallel parking along cross campus drive (the frontage road between the middle and elementary schools). There are also pedestrian linkages from the building to the athletic fields, between facilities and to the surrounding neighborhood.

Athletic facilities are sited to the south of the high school and include six tennis courts, two basketball courts, two baseball fields, two softball fields, two soccer/lacrosse fields, one additional field and track located in the old stadium complex and an artificial turf field for football/soccer in the middle of the complex. Some of the fields are for practice use and are shared between fall and spring sports.

Bel Air Middle School

The Middle School is located at 99 Idlewild Street in the middle of the campus and faces the western end Idlewild. The building is one-story brick built in 1961. Most traffic will use this street and the MacPhail entrance to the south via the cross campus connector. Buses deliver pupils to the main entrance with parents dropping off in the parking lot to the north. Service is located on the north side of the building adjacent to the athletic fields. Bel Air Middle School has a capacity of 1318 students with 184 parking spaces for visitors and staff. Overflow parking areas include parallel parking on the cross campus connector and grass areas to the south.



Bel Air Middle School.

Pedestrian traffic is similar to Bel Air High School except it consists of local walkers with most of the students using bus transportation or parent drop-off. It is anticipated that the Middle School will use some of the high school fields, a multi-purpose field and small baseball field to the west and possibly other fields to the south.

Homestead/Wakefield Elementary School

The Homestead / Wakefield Elementary Schools are located at the southern end of the campus. Homestead Elementary School is addressed at 900 South Main Street and is a single-story brick building. Wakefield Elementary

School is also identified by the same address and is also a single-story brick building with a smaller building which houses the kindergarten classrooms.

Both schools combined have a state-rated capacity of 907 students. One relocatable classroom is located on the north side of the main Homestead Elementary School building and six others are located on the west side of the Wakefield Elementary School main building.



Wakefield Elementary School.



Homestead Elementary School.

The Homestead Elementary School building is closest to the Bel Air Middle School. Students are dropped off by parents and buses in a looped access drive on the north side of the building. There are various other ingress/egress points around the building including service on the east side. There are 49 marked spaces with additional parking along the existing access road from cross campus drive and loop in front of the building.

Wakefield Elementary School is primarily accessed on the east side of the building where parents and buses drop off students via a looped driveway. The parking lot has recently been improved to accommodate 78 spaces. There are other ingress/egress points around the building including the service access on the north side.

Both elementary schools are accessed from Maryland Route 924 at the MacPhail Road intersection. This is considered the main access point with a 27 foot paved driveway from Route 924 opposite East MacPhail Road. Another access point is also from Route 924 at Idlewild Street. This entrance (a 39-foot paved public right-of-way) is shared with the Bel Air Middle School. Connecting these entrances is a 27 foot wide paved drive that runs north and south between the Middle School and the Elementary Schools. As a result of the construction of the new Bel Air High School and its athletic fields, the vehicle circulation no longer continues to the connect with Kenmore Avenue.

Pedestrian traffic originates from homes located in close proximity to campus with sidewalks leading to the kindergarten building and play areas as well as between Homestead Elementary School and Wakefield Elementary School. One playground, hard surface play area, and one small baseball / multi-purpose play field are located behind and adjacent to both schools.

Zoning Requirements

The campus is located in the Town of Bel Air and is zoned R-3 (High Density Residential). The bulk requirements for a school use within this district are as follows:

- Minimum Lot Area 15,000 square feet
- Minimum Lot Width 100 feet
- Front Yard Setback 30 feet
- Side Yard Setback 20 feet
- Rear Yard Setback 40 feet
- Maximum Height 40 feet

A Special Exception is required for a school use within the R3 district. This applies to changes to existing uses or new schools. Development must adhere to performance standards outlined in Section 8.04 B 3 (Institutional Uses) of the Town of Bel Air Zoning Code. These requirements include the following:

1. The subject property shall have frontage on and direct vehicular access to an existing street with sufficient capacity to accommodate any traffic generated by the proposed use.
2. All trash and refuse should be stored in a self-enclosed storage area.
3. The site should be of sufficient size to accommodate the use without adversely affecting adjacent land uses.
4. The location of the subject property shall be suitable for the type and scope of the development proposed, taking into account such factors as the existing urbanization of the neighborhood, traffic, the character of surrounding properties and the neighborhood in general.
5. A Lighting Plan shall be submitted to the Director of Public Works for review and approval. When adjacent to an 'R' district, lights shall be shielded to minimize glare on any adjoining residential uses.
6. Proposed development adjoining historic structures or sites shall be compatible in color, size, material, and mass with said historic properties.
7. The proposed development shall be designed to provide a transition near the periphery of the site, either with open space areas and landscaping, or by designing the buildings near the periphery to be harmonious in density and type with the surrounding neighborhood.
8. The applicant should provide a written explanation of the character of the facility, the program's policies, goals and means to accomplish these goals, characteristics of the service population, number of residents served, operating methods and procedures,

and any other aspects pertinent to the facility's program and how the facility will serve the neighborhood.

9. The reviewing agency/body may require a parking impact study if deemed necessary to assure the adequacy of the proposed number of parking spaces.

In addition, a school use must adhere to requirements outlined in Section 8.04 B 3 (xv) (Schools, College's and Universities). These requirements are outlined below.

1. If the school offers general academic instruction below the college level, an outdoor play area shall be required which shall meet minimum state requirements for such outdoor play area. The area shall be located at least twenty-five feet from any adjoining lot.
2. The Board of Appeals may specify the maximum number of students to be enrolled.

The development process in the Town of Bel Air for a Special Exception use first requires a Concept Meeting. At this meeting, a sketch plan is reviewed by representatives of various Town agencies and informal comments are given regarding the design. Following this meeting a formal submission of a Site Plan, Architectural Elevations, Sign Elevations and a Landscape/Lighting Plan to the Board of Appeals is made for review of the proposed use. The Board of Appeals will review the Site Plan and grant approval with conditions (if any) for the use. Following approval by the Board, the Planning Commission will review the materials for approval of the Site and Landscape/Lighting Plans. This process should take approximately three to four months.

Town of Bel Air Comprehensive Master Plan

The Bel Air Comprehensive Plan adopted in 2009 shows the campus as High Density Residential and describes the vision for further growth in the area as apartments and condominiums as well as community service and institutional uses. The Town recognizes the need for schools in their Community Facilities Element and pronounces several goals to ensure quality education.

'Provide quality education for all students in Bel Air through a strong, diverse, public and private school system'

'Maximize use of school facilities to leverage opportunities to partner with libraries, museums, theaters, arts centers and recreational facilities'

The Transportation Element describes the desire to see MacPhail Road extended from Route 924 to Route 24 to provide a bypass and relieve the east/west traffic on US Route 1. This extension is shown on the transportation plan as planned improvement #4 (Possible Extension of MacPhail Road). The connection of MacPhail is also described in the Implementation Summary of the Comprehensive Plan.

In addition, the Town has indicated a perceived need in their Planned Bicycle and Pedestrian Projects plan to extend a trail along the same route as the planned MacPhail Road. This trail is designed to connect walking paths east and west of the campus and would be a positive addition to the pedestrian network on the grounds.

As described in our environmental section, the Bel Air Comprehensive Plan has identified several tree stands in their Sensitive Areas plan which requires protection if possible, especially if several factors are present in the same area such as erodible soils, steep slopes, specimen trees, wetlands and floodplain.

2.0 ENVIRONMENTAL CONSIDERATIONS

Soils

The project area is underlain with the Aldino silt loam (AdB), Aldino very stony silt loam (AsB), Chester silt loam (CcB2, CcC2), Neshaminy silt loam (NeB2), and the Watchung silt loam (WaA) soil types. According to the National Technical Committee on Hydric Soils (NTCHS), the Watchung silt loam is known as a hydric soil, and the Aldino soil types are listed as potentially containing small inclusions of soils noted as hydric in depressions, low areas, drainage ways and seepage areas. In addition, the AdB mapping unit is listed as being potentially erodible due to a combination of high K value and moderate slopes. Specific soil engineering constraints should be evaluated prior to construction by conducting a geotechnical investigation.

Topography / Wetlands / Vegetation

The topography of the project area varies from relatively flat areas in the sports-fields and playgrounds to steeply sloped forested areas. The elevations within the project area range from 317 to 378 feet above sea level. High-points occur at the eastern property line near East MacPhail Road and at the southern-most property corner adjacent to the Wakefield Meadows subdivision. The site is currently sports fields, open grass areas, parking lots, existing school buildings and forested areas. The forested areas contain the majority of the steep slopes found on-site.

This school site was investigated for the presence of nontidal wetlands and waters of the United States. There is an intermittent stream/ ephemeral channel at the northern most corner of the project area carrying storm flow from the adjacent properties to the on-site stormdrain system. This system is then discharged into an existing on-site perennial stream along the western project boundary, which then connects off-site to the main branch of Plumtree Run. In addition, an ephemeral channel carries storm-flow from the area surrounding the basketball court behind Homestead Elementary to the onsite perennial stream.

According to FEMA FIRM map 24025C0163D, there is no 100-year floodplain within the project area. However, on FEMA FIRM 24025C0164D, there is an area of 'Zone A' 100-year floodplain on-site. The floodplain area is located along the stream in the northeastern corner of the project area.



Steep Slopes.

Frederick Ward Associates has inspected the property for specimen trees and forested areas. The school site contains 65 State specimen (>30" diameter at breast height (DBH)) trees, an additional 158 Town trees (individual trees over 10" DBH) and 7.03 ac± of forested area. There are five areas of forest on-site, please see the Site Analysis for forest locations.

Forest Area 1 contains mature trees with the majority of trees having a DBH of 24" or greater. The canopy species found in this forested area include Tulip Poplar, Northern Red Oak, Black Oak, White Oak, American Beech, Hickory spp., Green Ash, Red Maple, and Black Locust. There is an open understory containing seedlings of the above mentioned canopy species, Virginia Creeper, Poison Ivy, Honeysuckle, Multiflora Rose and Christmas Fern.

Forest Area 2 is similar to Area 1, but canopy species White Oak, American Beech, Red Maple, Hickory spp. and Green Ash. The understory consists mainly of grass due to the high amount of foot traffic this area receives as it is adjacent to multiple playground areas.

Forest Area 3 contains smaller diameter trees and has a thick, overgrown understory. Canopy species include Green Ash, Red Maple, Tulip Poplar, Black Walnut, Black Locust, and Black Cherry. The understory includes Greenbrier, Wild Grape, Multiflora Rose, and Honeysuckle.



Specimen Trees.

Forest Area 4 contains both large and small diameter trees with areas of moderately thick understory. American Beech, Tulip Poplar, and Red Maple dominate the canopy species, with additional species including Black Locust, Black Cherry, Musclewood, and Black Walnut. The understory is comprised of Poison Ivy, Wild Grape, Multiflora Rose, May Apple, Arrowwood, Spicebush, and Jack-in-the-Pulpit.

Forest Area 5 contains a large amount of mature trees with diameters of 20" or greater and the understory contains several worn trails. American Beech and Tulip Poplar dominate the canopy species, with additional species including American Elm, Hickory spp., Flowering Dogwood, Black Cherry and Red Maple. The understory contains Multiflora Rose, Poison Ivy, Arrowwood, Staghorn Sumac, and Wild Grape.

Significant landscaping has taken place within the proposed project area and throughout the property. Trees found in these landscaped areas included Red Maple, Pin Oak, Ornamental Cherry, Flowering Dogwood, White Pine, Tulip Poplar, White Oak and Red Oak. See the accompanying Site Analysis for detailed size/species and location information.

Rare, Threatened or Endangered Species

Frederick Ward Associates has contacted the Maryland Department of Natural Resources Natural Heritage Program and the U.S. Fish & Wildlife Service for information regarding the existence of any rare, threatened or endangered species for the subject property and nearby vicinity. The Maryland Natural Heritage Program responded on July 21, 2008, "there are no State or

Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated.” Based on this information along with several field visits and site investigations conducted by Frederick Ward Associates, we are of the opinion that no State or Federally listed plants or animals present.

Landscape and Forest Issues

A ten-foot landscape strip is required between parking areas and road right-of-way. This strip must contain an average of one shade tree and ten shrubs every forty feet. This requirement can vary depending on grade difference, berming, fences and existing vegetation. The same requirement is applied to perimeter buffering between more intensive and less intensive land uses. In this case, buffering existing residential areas will be required. All service areas must be screened by a buffer strip of at least five feet in width. Eight percent of the interior of all parking areas must be landscaped. Shade trees are preferred in these areas when dealing with large expanses of asphalt.

New development in environmentally sensitive areas (properties which contain wetlands or floodplain, are near a stream or have large wooded areas) in the Town of Bel Air will be required to prepare an Environmental Impact Assessment Report. This report should address identification, protection, impact mitigation, and enhancement of environmental resources of the project site. Given the scale of the potential development, a report will be required as part of the Site Plan submission.

The project is subject to the requirements of the Town of Bel Air Forest Conservation Ordinance (529). According to Article VII, Section I-701, this project has an afforestation threshold of 15%, which requires 9.15 acres of forest. This project will need to provide 2.12 acres of afforestation. In addition, there will be some forest and specimen trees removed as part of this overall project. The amount of clearing varies from 2.5 to 4 acres depending on the development option; this means a possibility of 7 to 10 acres of forest planting with the construction of the two schools.

3.0 ENGINEERING CONSIDERATIONS

Utilities

Water services for both schools are provided by the Maryland American Water Company. There is an existing 16 inch water main in South Main Street that is owned by Harford County as well as a 4 inch water main that extends west from the MacPhail/Rt. 942 intersection east of MacPhail Road that provides water services to the Bel Air Senior Center. There are interconnections at the common property line between the Town of Bel Air and Harford County to provide back-up service between the two providers. An 8 inch water main extends west from the Route 924/MacPhail Road intersection that is the

Maryland American Water Company owned line that provides water and fire service to the Bel Air Schools. Two fire hydrants are located near Wakefield Elementary School as well as two fire hydrants are located on the southeast and southwest sides of Homestead Elementary School.

Sanitary sewer service is provided via an existing 8" terracotta sewer main that runs in an existing 50 foot sanitary sewer easement between Bel Air Middle School and Homestead Elementary School. Adjacent to this sanitary sewer easement, there is an existing 30-inch to 36-inch RCP storm drain that picks up the wetlands along the north property line and discharges at the southern wetland area. The existing on-site storm drain system, inlets, manholes, etc. connect to this existing main storm drainage system.

There are existing overhead electric lines, utility poles and gas main located on-site. Dependent upon the various layouts options, existing utilities may need to be relocated or upgraded.



Utilities.

Storm Water Management



Storm Drainage.

Storm Water management was not required when the schools were built. Facility expansions and upgrades have not been comprehensive enough to require quantity management. Because of new regulations adopted by the State of Maryland in 2009 they will be in effect for any development without permits prior to May 4, 2010, any major renovations will require quantity and quality management which will need to meet these new regulations.

Storm water management (SWM) will be provided on site to comply with the "Storm Water Management Ct Of 2007" (Act), which establishes a new procedure for SWM approval within the State of Maryland and all of its jurisdictions. The Act is in the process of development and Codes are being drafted by the Town and County for implementation in 2010. Its ramifications at this time are not fully known. However, given the guidelines set forth in the new "MDE Design Manual Supplement" accompanying the Act, SWM will be provided to mirror natural hydrology to the maximum extent practicable.

Necessary components of the SWM design will include the following:

- Water quality control (WQV to minimize pollutants in SWM runoff. This will require treatment for all new impervious surfaces and 50% of all existing impervious surfaces within the limits of the project.
- Groundwater recharge volume to closely match natural hydrologic conditions
- Channel Protection volume storage to protect downstream channel degradation and erosion
- Potentially manage ten year peak discharge to pre-developed conditions. This criteria is not required by the State but may be required by the local review authority.
- Provide safe conveyance of the 100 year storm water runoff

Two possible quantitative/qualitative SWM facilities are proposed in option three: one near the loading area/service entrance of the John Archer School, and one near the parking area south of the John Archer School. As final design progresses, the type and quantity of SWM facilities will be determined. In addition, bio-swales, micro bio-retention areas and green roof areas are proposed to mitigate pollutants close to the origin of its flow path. Median areas will be depressed within parking lots where feasible to collect and filter runoff. Bio-retention areas near the HWES Day Care area and within the Archer drop off circle are viable and should be pursued.

An existing storm drain system runs through the center of the site and will require relocation or maintenance and repair. It is essential that this system be televised for maintenance issues to determine whether it is viable to remain in place, and analyzed for adequate capacity. This system is located between the Bel Air Middle School and the new John Archer School. The system runs within a 50 foot wide drainage and utility easement.





FREDEWICK MARR ASSOCIATES

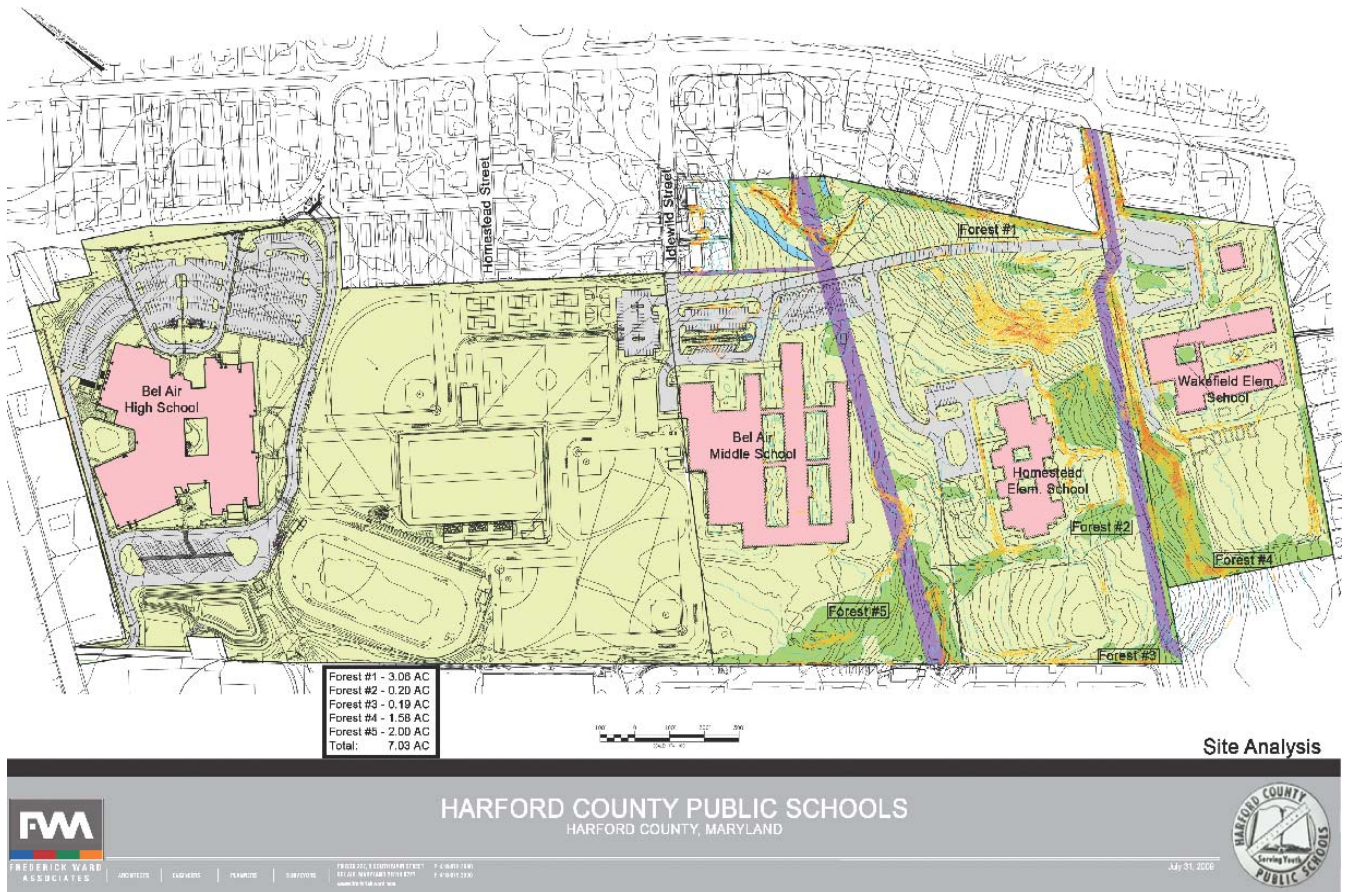
HARFORD COUNTY PUBLIC SCHOOLS
HARFORD COUNTY, MARYLAND



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Aerial Photo



Site Analysis

4.0 PROPOSED DEVELOPMENT

Frederick Ward Associates, Inc. was tasked with the assignment to review the overall Bel Air Schools Campus in the context of the scope studies for Homestead/Wakefield Elementary School and John Archer School addition to the Bel Air Middle School. This effort is centered on creating a cohesive and harmonious campus for all the Bel Air schools where circulation, access, parking, landscape, utilities, recreation and environmental considerations are balanced with the need to provide an attractive and stimulating educational setting.

The Master Plan proposes three options for the future development of the site. These options have combined two separate studies for the John Archer School and the Homestead/Wakefield School. These two scope studies have established program requirements including access needs, parking needs, and recreation requests for their facilities. Many of these program elements are universal to all three options for development. These are listed below:

Facilities and Utilities

- The existing overhead electric line, water lines, storm drain and sewer line running through the property should be respected, but due to the need for programmed space, may be re-aligned around proposed buildings.
- The new 6 inch sanitary sewer line running from the High School athletic complex to the existing sewer line should be avoided if possible.
- Storm Water Management can be located at the low point where there is a ready outfall into the existing wetland system. There is an area adjacent to the existing wetlands available for environmental education projects.



Trails.



Connections.

- Plantings by high school students have been moved to a field northeast of the Middle School and may be utilized for reforestation and education.
- Pedestrian access throughout the campus is given a priority over vehicle traffic.
- The existing kindergarten building adjacent to Wakefield should be removed.

- Sustainable storm water techniques such as green roofs, permeable paving, bio-swales, and bioretention rain garden areas should be incorporated into all designs for both sustainability and educational purposes.
- The parking and buildings will be buffered to the residential areas.
- Area for needed reforestation is provided along the east boundary of the campus. Approximately 2.7 acres are provided for potential planting. Additional required planting can be done along the perimeter where buffers are required and as part of the landscape installation.

Access and Parking

The master plan assumes the need for three access points, the two from Route 924 via Idlewild and MacPhail intersection and one from Atwood/MacPhail.



Idlewild Access.



MacPhail at Rt. 924 Access.

- Access to the Atwood/MacPhail intersection is a high priority due to the severe strain already on the existing intersections and the need to avoid traffic through residential areas. This access also is an integral need for the student population of John Archer to provide easy access to the medical center along Route 24.
- MacPhail and Idlewild access drives will need to be widened as necessary to accommodate the anticipated amount of traffic, the intersection radius should be extended to make easy accommodation for bus and service traffic and sidewalks should be provided for pedestrian linkages to local neighborhoods.
- Service areas must have easy truck access and separation from children and other vehicle traffic if possible.
- Bus parking, staff parking and parent drop-off should separate if possible.
- A 1.5 mile walking/jogging path connects the entire campus between the high school, middle school and elementary schools.
- The entire campus will be made accessible in accordance with the Americans with Disabilities Act (ADA).
- Middle School parking and bus drop-off should be addressed as part of the retrofit of the John Archer facility.
- The visitor/faculty parking areas should be located in a visible and well lit area for security and be convenient to the main entrance.

- The bus parking will allow for substantial queuing and be converted to car parking for athletic and other events.
- A permeable surface area will be provided along the cross campus drive to accommodate 75 overflow parking spaces for special events.
- The existing dirt paths and trails should be eliminated or converted to an accessible surface and integrated into the overall trail system.
- Shade trees will be chosen that will assist in shading parking lot areas for reduction of the heat island effect.

Athletic Fields and Playgrounds

The current athletic fields and recreation areas are not built to regulated size requirements and are difficult to access. Playgrounds should be age appropriate and have proper drainage and built to current safety requirements.

- All the athletic fields must be oriented north/south if possible and constructed to a minimum specification to allow for parks & recreation play and middle school play.
- The John Archer program requires separate play areas to be well secured, however close access to the ball fields and other recreational amenities is not a necessity.
- Each elementary school will have access to a ball field and multi-purpose field, two playgrounds and a hard surface play area. These will be separated from parking and access drives as much as possible.



Playground.



Athletic Fields.

- Each kindergarten will have separate access to a tot lot and the daycare will have its own outdoor play area.
- Athletic fields should be close to parking areas for parks and recreation use.
- No impact will be made to the existing wetland and stream areas and their buffers. Impacts to the steep slope areas and areas of specimen trees should be minimized.
- The proposed walking trail throughout the campus should contain markers and information related to fitness and other education opportunities.

Option Number One

The first option explored eliminates Homestead Elementary School and expands Wake field to the north. The John Archer School is combined with the Bel Air Middle School on the west side. The Homestead/Wakefield Elementary School is positioned for maximum solar gain with the main entrance designed to be the focal point down the entrance drive from Route 924. The north side of the middle school is revised as service is extended further west into the site.

This option provides maximum flexibility for multiple access points and vehicular circulation to all facilities. Access to the Atwood/MacPhail intersection is provided for the John Archer School. The possibility of a MacPhail connection from Route 924 to Route 24 is maintained, however, this connection would most likely be at the cost of two athletic fields. In addition, a link through the parking lots and drives to provide emergency or service connection is also possible.

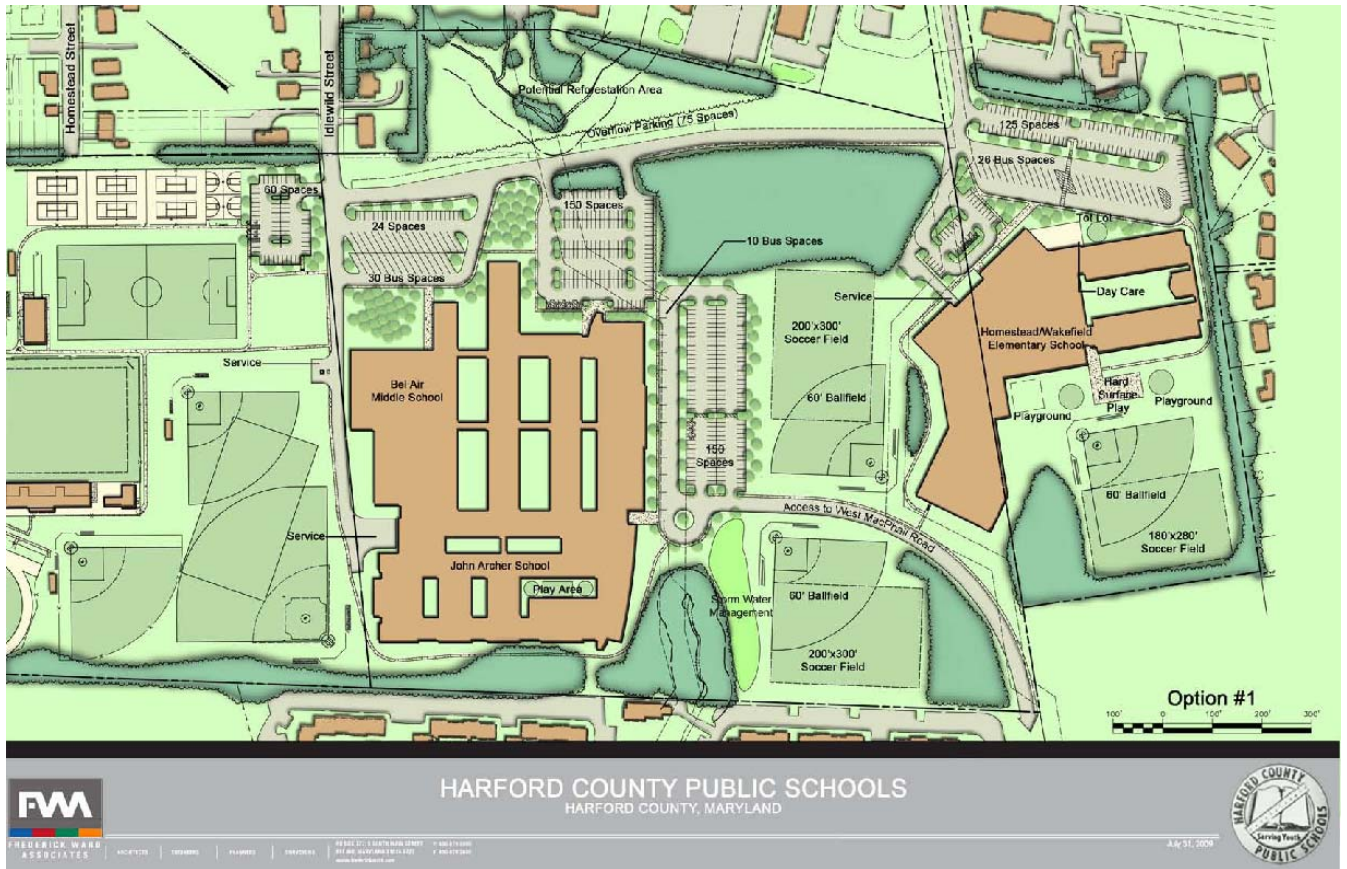
Parking is provided for Homestead/Wakefield on the other side of the bus drop-off requiring a crossing of the bus parking area. This parking is low compared to the desired number but cannot be acquired across the access road. The middle school and John Archer parking areas are in close proximity and may be able to share during special events.

- | | | |
|---------------------------|------------|---------------|
| • Homestead/Wakefield pkg | 125 spaces | 26 bus spaces |
| • John Archer parking | 150 spaces | 10 bus spaces |
| • Bel Air Middle School | 234 spaces | 30 bus spaces |

This option requires the most grading due to the expansion of the Wakefield school to the north and into the severe slope area. This building will be two stories to ease the transition down the slope but the layout still requires a great deal of earthwork.

Only one storm water management area is provided to handle the runoff from the proposed improvements and this is located in the lowest point of the site. The steep slope area adjacent to Wakefield is impacted by the athletic fields and the entrance drop-off area for Wakefield. The sanitary sewer and storm drain must be relocated to accommodate the John Archer expansion. A new 6-inch sanitary sewer also needs to be relocated around the expansion area. Along the elementary school, the water line and overhead electric must be relocated to accommodate the combining Homestead/Wakefield programs.

Six athletic fields are provided with most being readily accessible from parking areas. Pedestrian connectivity is considered with paths linking all facilities, parking areas and surrounding access routes.



Option One Plan

Option Number Two

The second option proposes to renovate Homestead and Wakefield Elementary Schools in place. The John Archer School would combine with the Bel Air Middle School on the east and south side of the existing building. A portion of the middle school would need to be renovated to allow for a reorientation of the main entrance to the southwest corner of the building.

There is no access to the Atwood/MacPhail intersection to the west in this option because of the location of John Archer School on the east side of Bel Air Middle School. All traffic would need to access Route 924 via Idlewild or MacPhail. This will require major upgrades to these intersections and expansions to the entrance drives to accommodate the increase in traffic. The 'T' intersection near Wakefield will be replaced with a more direct curve to make traffic flow better.

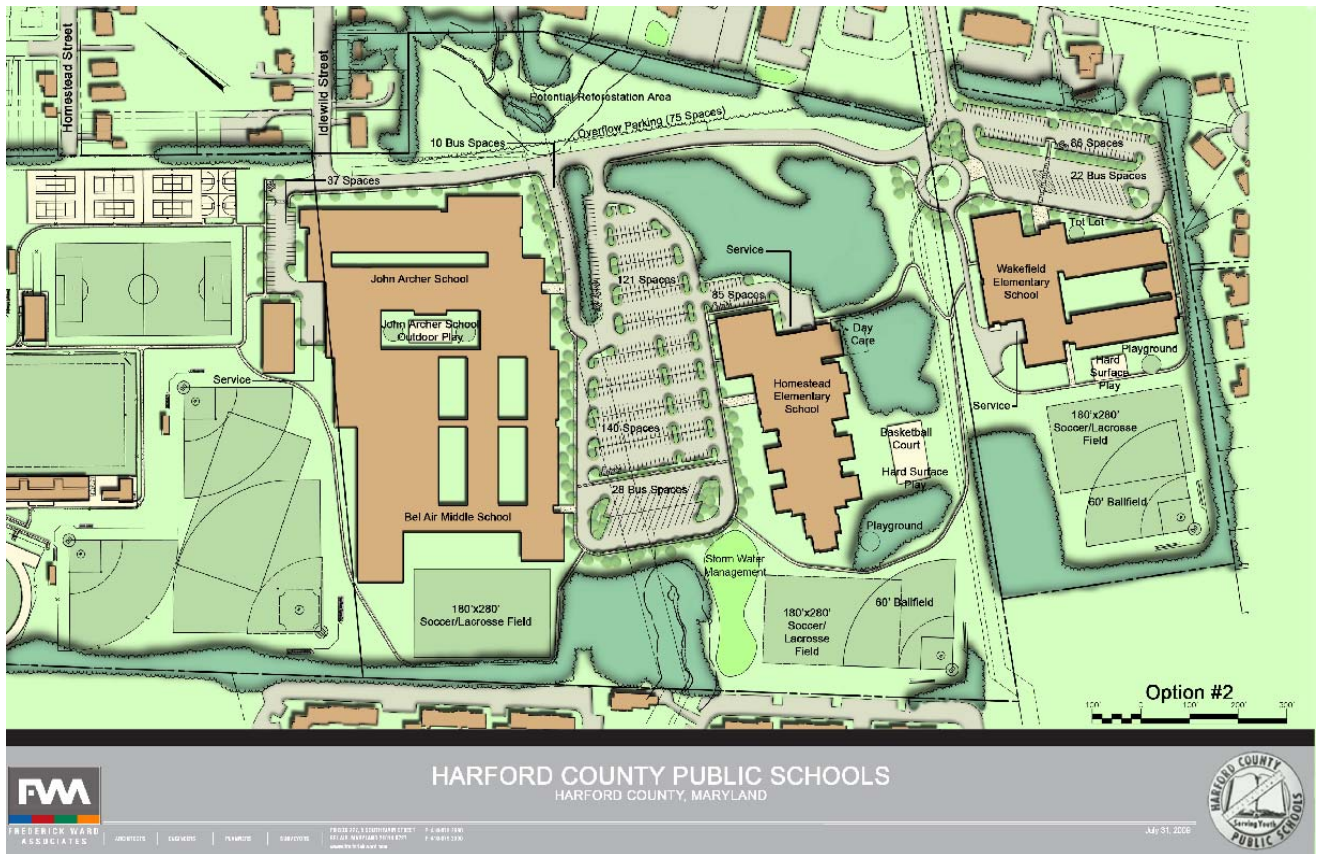
No existing utilities will need to be relocated with the possible exception of the new 6-inch sanitary sewer line running behind the existing middle school.

Many facilities are redundant between Homestead and Wakefield buildings in this option including programmed interior space, bus drop-off, service area, some staff/visitor parking, hard surface play area, and tot lot for the kindergarten. However, the site development costs would most likely be low due to the minimal grading and changes to the parking/access.

Much of the vehicular traffic is brought interior to the campus instead of leaving it on the periphery. All three entrances for John Archer, Bel Air Middle and Homestead would be oriented to the same parking lot. This will allow for parking sharing during times of high use and allow for sharing of the bus drop-off area between Homestead and Bel Air. Unfortunately, all the parking located in the same area prevents maximizing of the desired spaces and creates a 'shopping center' look to this area. This option requires impact to the new 60 space parking area on the northern side of the middle school and replaces it with a parked access to the service area.

• Wakefield parking	86 spaces	22 bus spaces
• Homestead parking	85 spaces	28 bus spaces (shared)
• John Archer parking	121 spaces	10 bus spaces
• Middle School parking	177 spaces	28 bus spaces (shared)

This option provides for the least amount of athletic fields and those provided are limited in size. Access is fair with the fields on the western side somewhat close to parking.



Option Two Plan
Formerly Option Three

Option Number Three

Option Number Three also proposes to demolish Homestead Elementary School and expand Wakefield to the east. The John Archer School is attached to the Bel Air Middle School on the south side. The combined Homestead/Wakefield Elementary School is situated so the main entrance becomes the focal point for those entering the site from the Route 924 and MacPhail intersection. The orientation of the building footprint is chosen for best solar orientation and also to minimize cut and fill on the site.

A connection to the Atwood/MacPhail intersection is a must with this option due to the limited opportunity to wind the road between the schools and provide a Route 924 access. However, the separation of the John Archer traffic is a positive because of its unique traffic requirements such as longer off-loading for buses, large itinerant staff and need for additional security in loading areas.

This option provides for easy expansion of parking and keeps most of the spaces to the perimeter of the campus. All desired parking requirements for each use are met in addition to bus drop-off needs. This is the only option which separates bus and parent drop-off areas and parking areas for every facility. The Homestead/Wakefield parking lot must respect the slope as it falls to the west. The parking will be terraced and the pedestrian path will adjust to not exceed the maximum allowable slope of five percent. Most parking areas are small and have ample landscape areas to provide water quality opportunities for storm water management. Bel Air Middle School receives a much needed bus drop-off area and locates the parking south of the main entrance. Clear pedestrian and vehicular circulation is provided for community connectivity including bike racks and signage.

- Homestead/Wakefield pkg 145 spaces 26 bus spaces
- John Archer parking 150 spaces 10 bus spaces
- Middle School parking 234 spaces 30 bus spaces

Storm water management is split into two areas since the John Archer School divides the campus into east and west zones. There are easy outfalls for both but limited room for expansion.

The existing sanitary sewer and storm drain running south of the middle school must be relocated. Day lighting as much of the stream as possible should be explored for storm water, environmental and cost considerations. The water line running north of Wakefield will most likely need to be relocated for a portion of the alignment. The overhead electric line will also need relocation.

The athletic fields are maximized with three baseball, two multi-purpose and one soccer/lacrosse field. A couple athletic fields have easy access to parking with the others at a fair distance with improved pedestrian paths.





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HARFORD COUNTY PUBLIC SCHOOLS

HARFORD COUNTY, MARYLAND



July 31, 2020

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5.0 MASTER PLAN COMMITTEE RECOMENDATION

After careful review of the impacts to the existing campus, the environmental issues associated with each option, the individual facility needs including parking, access for parents/students/staff and services, and the program needs for each school, the Master Plan team has determined that Option Three best satisfies the criteria described in this report.

ARTICLE XV. Growth Management

§ 267-126. Adequate Public Facilities. [Amended by Bill 09-33, as amended; and Bill 11-04, as amended]

A. Annual growth report.

- (1) The Department of Planning and Zoning shall prepare an annual growth report describing growth and facility capacity in accordance with paragraphs (2) and (3) of this section. The annual growth report shall be submitted by the Director of Planning to the County Council by June 1 and shall become effective July 1.
- (2) Growth trends. The annual growth report shall describe the growth that has occurred in the preceding year. The information in the report shall be aggregated by the appropriate facility service areas, and the report shall include, but need not be limited to, the following information:
 - (a) Number of building permits approved for new dwelling units, by type;
 - (b) Number of residential units for which Preliminary Plan approval has been issued but for which building permits have not yet been issued;
 - (c) The number of building permits approved for nonresidential uses, by type and total floor area;
 - (d) Estimated population, households and employment;
 - (e) Comparisons with the same information for the previous 5 years;
 - (f) Comparison with the same information for the Baltimore region and other political subdivisions; and
 - (g) Population, household and employment projections for 5- and 10-year periods.
- (3) Specific facility analysis. The annual report shall include an analysis of the current and future utilization and capacity of specific public facilities and services. The analysis shall include, but need not be limited to, the following information:
 - (a) Schools.
 - [1] Full-time enrollment for each school district, as of September 30, or as of any other official reporting date as set by the State Board of Education or the County Board of Education;
 - [2] Rated capacity and utilization percentage of each school facility, with capacity based on the State rated capacity;
 - [3] One-year, 2-year and 3-year enrollment projections for each facility, including a description of the method of projecting enrollment in each facility;
 - [4] Pupil yield factor by school level for each type of dwelling unit;

- [5] List of approved capital projects for new or expanded school facilities and the identified schools that will be relieved, including projects enrollment and opening date;
- [6] School districts map for each level of school facilities; and
- [7] Modified enrollment projections for each district which include planned units remaining (recorded lots and units projected from approved Preliminary Plans) and projected units from vacant land zoned for residential purposes.

(b) Sewerage.

- [1] Sewage generation (in gallons per day) for each type of dwelling unit and commercial/industrial use (average);
- [2] Inventory/tabulation of existing flows, including all allocations to the system, and the total system capacity;
- [3] Sewage generation projections for the system, including the basis for their computation; and
- [4] A list of capital projects, contained in the capital improvements program, for expanded sewerage facilities, including project status.

(c) Water.

- [1] Water usage (in gallons per day) for each type of dwelling unit and commercial and industrial use (average);
- [2] Inventory/tabulation of existing water consumption, including all allocations to the system, and the total system capacity;
- [3] Water usage/demand projections for the system, including the basis for their computation; and
- [4] A list of capital projects, contained in the capital improvements program, for expanded water facilities, including project status.

(d) Roads.

- [1] List of approved transportation capital projects outlined in the Harford County Capital Improvement Program and the State Consolidated Transportation Program;
- [2] List of the existing Level of Service (LOS) at major intersections in the County; and
- [3] List of the existing Average Daily Traffic (ADT) on major roadways in the County.

(e) Government facilities.

- [1] An analysis of the need for additional fire, library and public safety services based on the County's population; and
 - [2] List of approved capital projects, contained in the Capital Improvement Program, related to fire, library or public safety facilities.
- (4) Amendments. The Director of Planning may amend the annual growth report to correct factual errors or to include significant changes in facility capacity. Such amendments shall be presented to the County Council within 210 calendar days of the effective date of the report.

B. Adequacy standards (minimum acceptable Level of Service).

- (1) Testing for adequate school capacities as provided under Subsections (2)(a)[1][a] and [b] shall occur on December 1 and June 1 of each year. If such testing reveals that the enrollment at any school exceeds the State rated capacity as provided under (2)(a)[1][a] or [b], the annual growth report shall be amended to reflect these changes and the amendments shall be presented to the County Council.
- (2) Residential development. Approval of residential subdivision plans and Site Plans for multi-family development shall be subject to findings of adequate capacity based on the standards set in this Subsection and the current and projected use level described in the annual growth report:

(a) Schools.

- [1] Preliminary approval. Preliminary subdivision plans exceeding 5 lots and Site Plans for multi-family residential developments exceeding 5 dwelling units shall not be approved at locations where either of the following conditions exists:
 - [a] The enrollment at the elementary school which serves the site is greater than 110% of the State rated capacity or is projected to be greater than 110% within 3 years; or
 - [b] The enrollment of either the middle school or high school which serves the site is greater than 110% of the State rated capacity or is projected to be greater than 110% within 3 years.
- [2] Conditional review. If paragraphs (2)(a)[1][a] or [b] of this Subsection prevent approval of a Preliminary Subdivision Plan or a Site Plan, the Department of Planning and Zoning may proceed with conditional review of the plan and place it on a waiting list arranged by date of completion of the review. Record plats, grading permits and Public Works Agreements for utilities or roads shall not be executed by the County until the plan for the project is

removed from the waiting list and preliminary approval is granted. Removal from the waiting list shall occur only when the condition that prevented approval under paragraphs (2)(a)[1][a] or [b] of this Subsection no longer exists.

[3] Capital project. A Preliminary Plan, or a Site Plan, may be approved when the enrollment of a school serving the site is greater than 110% of the State rated capacity, if the following conditions exist:

[a] The approved capital budget contains a capital project that has appropriations sufficient to fund construction of a new school, a school addition or school renovation which, upon completion, will reduce the enrollment at the school that serves the site to 110% or less of the State rated capacity based on the following:

(i) Information provided by the Board of Education that demonstrates that the enrollment of the school serving the site will be 110% or less due to the capital project; or

(ii) In the event that the Board of Education fails to provide the Department of Planning with the information as provided in subparagraph (i) of this paragraph, prior to the next scheduled testing date for adequacy as provided herein, the Department of Planning shall review the adjacent school attendance areas, as provided in the most recent Annual Growth Report, to determine whether the capital project would provide adequate capacity to allow the Board of Education to reduce enrollment at the school serving the site to 110% or less of the State rated capacity;

[b] Actual construction of the capital project has begun; and

[c] The capital project is scheduled to be completed and operational within 2 years.

[4] Exemptions. The provisions of this Subsection shall not apply to transient housing, housing for the elderly and Continuing Care Retirement Communities.

(b) Sewerage.

[1] The County sewerage system shall be considered adequate if, taking into consideration demands on the system generated or projected to be generated by existing connections, buildings under construction that will be connected to the system, all committed allocations evidenced by payment of area charges and connection fees, all unexpired Public Works Utility

Agreements, all unexpired Preliminary Plans and properties using individual sewerage systems that are anticipated to connect to the system on completion of a capital project then under construction or for which funding has been authorized, right-of-way acquisition completed and construction plans completed:

- [a] Collector system to serve the proposed development are designed to accommodate expected ultimate peak gravity flows from the development and other developable land within the drainage area;
 - [b] Interceptors to serve the proposed development have sufficient available capacity to accommodate expected peak gravity flows from the subdivision;
 - [c] Pumping stations and force mains, receiving flows from the collector system in the drainage/service area, have sufficient available capacity to accommodate ultimate peak flows from the proposed development and other developable land within the drainage area;
 - [d] Pumping stations and force mains, receiving flows from interceptors to serve the proposed development, have sufficient available capacity to accommodate expected peak flow from the proposed development; and
 - [e] Treatment plant(s) have sufficient available capacity to accommodate expected annual average and maximum daily loadings from the proposed development.
- [2] The County sewerage system shall also be considered adequate if there is compliance with [1][a] and [1][c] of this Subsection and the County has funded projects for the improvement of the facilities necessary to comply with requirements of [1][b], [d] and [e] of this Subsection.
- [3] The County sewerage system shall also be considered adequate if there is compliance with [1][e] of this Subsection and the developer agrees to construct the improvements to the system to meet the requirements of [1][a], [b], [c] and [d] of this Subsection or the developer executes an agreement with the County for improvements to the system to meet the requirements of [1][a], [b], [c] and [d] of this Subsection.
- [4] If the County sewerage system is found to be inadequate, then Preliminary Subdivision Plans exceeding 5 lots, Site Plans for multi-family residential developments exceeding 5 dwelling units and extensions of previously approved Preliminary Subdivision Plans shall not be approved.
- [5] Conditional review. If paragraphs [1][a], [b], [c], [d] or [e] of this Subsection prevents approval or the extension of a previous

approval of a Preliminary Subdivision Plan or Site Plan, the Department of Planning and Zoning may proceed with conditional review of the plan and place it on a waiting list arranged by date of completion of the review and, for previously approved plans, by date of the request for extension. Record plats, grading permits and Public Works Agreements for utilities or roads shall not be executed by the County until the plan for the project is removed from the waiting list and preliminary approval or extension of the previous approval is granted. Removal from the waiting list shall occur only when the condition that prevented approval under paragraphs [1][a], [b], [c], [d] or [e] of this Subsection no longer exists.

- [6] Grandfathering. Unless an extension of the approval of the plan is granted in accordance with the Subdivision Regulations, development conducted in accordance with a Preliminary Plan approved before the effective date of Council Bill 93-26 is exempt from the provisions of this Subsection concerning the adequacy of the sewerage system. If an extension of the approval of the plan is granted, the development is subject to the provisions of this Subsection concerning the adequacy of the sewerage system. If development is exempt from the provisions of this Subsection concerning the adequacy of the sewerage system, execution of public works utility agreements for such development is subject to availability of capacity in the sewerage system at the time of application for the Public Works Utility Agreements.

(c) Water.

- [1] The County water system or community water system shall be considered adequate if, taking into consideration demands on the system generated or projected to be generated by existing connections, building under construction that will be connected to the system, all committed allocations evidenced by payment of area charges and connection fees, all unexpired Public Works Utility Agreements, all unexpired Preliminary Plans and properties using individual water supply system that are anticipated to connect to the system on completion of a capital project then under construction or for which funding has been authorized, right-of-way acquisition completed and construction plans completed:
- [a] The water distribution system is capable of providing the required pressures and flows during the maximum day demand and the minimum required pressures for fire flows, resulting from the proposed development, as established in the County's water and sewer design guidelines;
- [b] Booster stations and/or transmission mains in the service area have sufficient available capacity to provide maximum day demand and minimum required pressure for fire flow to the proposed development;

- [c] Storage tanks in the service area have sufficient available capacity to provide peak hour demand in addition to fire flow to the proposed development; and
 - [d] Source and treatment facilities in the service area have sufficient available capacity to provide maximum day demand to the proposed development.
- [2] The County water system or community water system shall also be considered adequate if the County or the operating entity has funded projects for the improvement of the facilities necessary to comply with the requirements of paragraphs [1][a], [b], [c] and [d] of this Subsection.
- [3] The County water system or community water system shall also be considered adequate if there is compliance with [1][c] and [d] of this Subsection and the developer agrees to construct the improvements to the system to meet the requirements of [1][a], [b], [c] and [d] of this Subsection or the developer executes an agreement with the County or the operating entity for improvements to the system to meet the requirements of [1][a] and [b] of this Subsection.
- [4] If the water system serving the proposed development is found to be inadequate, then Preliminary Subdivision Plans exceeding 5 lots, Site Plans for multi-family residential developments exceeding 5 dwelling units and extensions of previously approved Preliminary Subdivision Plans shall not be approved.
- [5] Conditional review. If paragraph [1][a], [b], [c] or [d] of this Subsection prevents approval or the extension of a previous approval of a Preliminary Plan or Site Plan, the Department of Planning and Zoning may proceed with conditional review of the plan and place it on a waiting list arranged by date of completion of the review and, for previously approved plans, by date of the request for extension. Record plats, grading permits and Public Works Agreements for utilities or roads shall not be executed by the County until the plan for the project is removed from the waiting list and preliminary approval or extension of the previous approval is granted. Removal from the waiting list shall occur only when the condition that prevented approval under paragraphs [1][a], [b], [c] or [d] of this Subsection no longer exists.
- [6] Grandfathering. Unless an extension of the approval of the plan is granted in accordance with the Subdivision Regulations, development conducted in accordance with a Preliminary Plan approved before the effective date of Council Bill 93-26 is exempt from the provisions of this Subsection concerning the adequacy of the water system. If an extension of the approval of the plan is granted, the development is subject to the provisions of this Subsection concerning the adequacy of the water system. If development is exempt from the provisions of this Subsection

concerning the adequacy of the water system, execution of public works utility agreements for such development is subject to availability of capacity in the water system at the time of application for the Public Works Utility Agreements.

(d) Roads

- [1] Developments which generate more than 249 trips per day, based on the Institute of Transportation Engineers Trip Generation Manual (current edition), shall have prepared, by the subdivider, a Traffic Impact Analysis (TIA) study to determine the Level of Service (LOS) of road intersections within the study area. The traffic study shall conform to the requirements outlined in the Harford County TIA guideline including:
 - [a] Expansion of the study area for developments which generate 1,500 or more trips per day; or
 - [b] Limiting the study area to 2 miles in all directions or to the area as identified in paragraph [3], whichever is less.
- [2] At the request of and with justification submitted by the subdivider, the Director of Planning, with the concurrence of the Department of Public Works, may eliminate from the impact study those intersections where the County staff find that there will be:
 - [a] Minimal impact on traffic; or
 - [b] Excessive distance between the first arterial road and next intersecting collector road.
- [3] Existing State and County roads shall be considered adequate to accommodate the traffic projected to be generated by the proposed development if:
 - [a] Inside the Development Envelope (the boundary designated as the planned growth area of Harford County as provided in the most recently adopted Land Use Element Plan) the existing County and State roads in all directions from each point of entrance of the site through the intersection with the first arterial roadway to the next intersecting collector or higher functional classification road as defined by the Harford County Transportation Plan are capable of accommodating a projected Level of Service "D" or higher at the intersections as defined by the Highway Capacity Manual, Special Report 209, published by the Transportation Research Board.
 - [b] Outside the Development Envelope (the boundary designated as the planned growth area of Harford County as provided in the most recently adopted Land Use Element Plan) the existing County and State roads in all

directions from each point of entrance of the site to the first intersection of a major collector or higher functional classification road as defined by the Harford County Transportation Plan are capable of accommodating a projected Level of Service "C" or higher at the intersections as defined by the Highway Capacity Manual, Special Report 209, published by the Transportation Research Board.

- [4] Capital projects with 100% of the construction costs allocated in the County's current year adopted Capital Improvement Program or approved for construction in the current year State-Consolidated Transportation Program may be utilized in the traffic analysis. Necessary improvements identified in the TIA to meet the LOS standards in (d)[3] must be provided by the subdivider:
- [a] If the TIA determines that the existing LOS is "E" or lower at an intersection inside the Development Envelope, the subdivider needs only to mitigate the portion of trips generated from the subdivision site; or
 - [b] If the TIA determines that the existing LOS is "D" or lower at an intersection outside the Development Envelope, the subdivider needs only to mitigate the portion of trips generated from the subdivision site; and
 - [c] If the TIA determines a subdivider is subject to mitigate its portion of trips generated from the site, then the subdivider shall construct the improvements as stipulated by the Department of Public Works. In the event that the Department of Public Works determines that the subdivider is unable to provide the improvements because of the inability to acquire the necessary rights-of-way, the physical constraints of the property or State or federal regulations, all of which are beyond the control of the subdivider, then the subdivider shall deposit into an escrow account with the County 125% of the funds necessary to cover the costs of the improvements as determined by the County. Said funds shall be deposited prior to issuance of a building permit. The County shall continue to hold the money in escrow until such time as the improvements are able to be constructed. In no event, however, shall the money be retained by the County for longer than 10 years from date of deposit.
- [5] Conditional review. If paragraphs [3][a] or [b] of this Subsection prevents approval or the extension of a previous approval of a Preliminary Subdivision Plan or Site Plan, the Department of Planning and Zoning may proceed with conditional review of the plan and place it on a waiting list arranged by date of completion of the review and, for previously-approved plans, by date of the request for extension. Record plats, grading permits and Public

Works Agreements for utilities or roads shall not be executed by the County until the plan for the project is removed from the waiting list and preliminary approval or extension is granted. Removal from the waiting list shall occur only when the condition that prevented approval under paragraphs [3][a] or [b] of this Subsection no longer exists.

- [6] Grandfathering. Unless an extension of the approval of the plan is granted in accordance with the Subdivision Regulations, development conducted in accordance with a Preliminary Plan approved before the effective date of Council Bill 94-36 is exempt from the provisions of this Subsection concerning the adequacy of the roadways. If an extension of the approval of the plan is granted, the development is subject to the provisions of this Subsection concerning the adequacy of the roadway system.
- (3) Nonresidential development. Approval of nonresidential development and Site Plans shall be subject to findings of adequate capacity based on the standards set in this Subsection and the current and projected use levels described in the annual growth report:
 - (a) Sewerage.
 - [1] The County sewerage system shall be considered adequate if, taking into consideration demands on the system generated or projected to be generated by existing connections, buildings under construction that will be connected to the system, all committed allocations evidenced by payment of area charges and connection fees, all unexpired Public Works Utility Agreements, all unexpired Preliminary Plans and properties using individual sewerage system that are anticipated to connect to the system on completion of a capital project then under construction or for which funding has been authorized, right-of-way acquisition completed and construction plans completed:
 - [a] Collectors system to serve the proposed development is designed to accommodate expected ultimate peak gravity flows from the development and other developable land within the drainage area;
 - [b] Interceptors to serve the proposed development have sufficient available capacity to accommodate expected peak gravity flows from the development;
 - [c] Pumping stations and force mains, receiving flows from the collector system in the drainage/service area, have sufficient available capacity to accommodate ultimate peak flows from the proposed development and other developable land within the drainage area;
 - [d] Pumping stations and force mains, receiving flows from interceptors to serve the proposed development, have

sufficient available capacity to accommodate expected peak flow from the proposed development; and

- [e] Treatment plant(s) have sufficient available capacity to accommodate expected annual average and maximum daily loadings from the proposed development.
- [2] The County sewerage system shall also be considered adequate if there is compliance with [1][a] and [c] of this Subsection and the County has funded projects for the improvement of the facilities necessary to comply with requirements of [1][b], [d] and [e] of this Subsection.
- [3] The County sewerage system shall also be considered adequate if there is compliance with [1][e] of this Subsection and the developer agrees to construct the improvements to the system to meet the requirements of [1][a], [b], [c] and [d] of this section or the developer executes an agreement with the County for improvements to the system to meet the requirements of [1][a], [b], [c] and [d] of this Subsection.
- [4] If the County sewerage system is found to be inadequate, then Preliminary Subdivision Plans, Site Plans and extensions of previously approved Preliminary Subdivision Plans shall not be approved.
- [5] Conditional review. If paragraphs [1][a], [b], [c], [d] or [e] of this Subsection prevents approval or the extension of a previous approval of a Preliminary Subdivision Plan or Site Plan, the Department of Planning and Zoning may proceed with conditional review of the plan and place it on a waiting list arranged by date of completion of the review and, for previously approved plans, by date of the request for the extension. Record plats, grading permits and Public Works Agreements for utilities or roads shall not be executed by the County until the plan for the project is removed from the waiting list and preliminary approval or extension of the previous approval is granted. Removal from the waiting list shall occur only when the condition that prevented approval under paragraphs [1][a], [b], [c], [d] or [e] of this Subsection no longer exists.
- [6] Grandfathering. Unless an extension of the approval of the plan is granted in accordance with the Subdivision Regulations, development conducted in accordance with a Preliminary Plan or Site Plan approved before the effective date of Council Bill 93-26 is exempt from the provisions of this Subsection concerning the adequacy of the sewerage system. If an extension of the approval of the plan is granted, the development is subject to the provisions of this Subsection concerning the adequacy of the sewerage system. If development is exempt from the provisions of this Subsection concerning the adequacy of the sewerage system,

execution of Public Works Utility Agreements for such development is subject to availability of capacity in the sewerage system at the time of application for the public works utility agreements.

(b) Water.

- [1] The County water system or community water system shall be considered adequate if, taking into consideration demands on the system generated or projected to be generated by existing connections, building under construction that will be connected to the system, all committed allocations evidenced by payment of area charges and connection fees, all unexpired Public Works Utility Agreements, all unexpired Preliminary Plans and properties using individual water supply system that are anticipated to connect to the system on completion of a capital project then under construction or for which funding has been authorized, right-of-way acquisition completed and construction plans completed:
 - [a] The water distribution system is capable of providing the required pressures and flows during the maximum day demand and the minimum required pressures for fire flows, resulting from the proposed development, as established in the County's water and sewer design guidelines;
 - [b] Booster stations and/or transmission mains in the service area have sufficient available capacity to provide maximum day demand and minimum required pressure for fire flow to the proposed development;
 - [c] Storage tanks in the service area have sufficient available capacity to provide peak hour demand in addition to fire flow to the proposed development; and
 - [d] Source and treatment facilities in the service area have sufficient available capacity to provide maximum day demand to the proposed development.
- [2] The County water system or community water system shall also be considered adequate if the County or the operating entity has funded projects for the improvement of the facilities necessary to comply with the requirements of paragraphs [1][a], [b], [c] and [d] of this Subsection.
- [3] The County water system or community water system shall also be considered adequate if there is compliance with [1][c] and [d] of this Subsection and the developer agrees to construct the improvements to the system to meet the requirements of [1][a], [b], [c] and [d] of this section or the developer executes an agreement with the County or the operating entity for improvements to the system to meet the requirements of [1][a] and [b] of this Subsection.

- [4] If the water system serving the proposed development is found to be inadequate, then Preliminary Subdivision Plans, Site Plans and extensions of previously approved Preliminary Subdivision Plans shall not be approved.
- [5] Conditional review. If paragraphs [1][a], [b], [c] or [d] of this Subsection prevents approval or the extension of a previous approval of a Preliminary Plan or Site Plan, the Department of Planning and Zoning may proceed with conditional review of the plan and place it on a waiting list arranged by date of completion of the review and, for previously approved plans, by date of the request for extension. Record plats, grading permits and Public Works Agreements for utilities or roads shall not be executed by the County until the plan for the project is removed from the waiting list and preliminary approval or extension of the previous approval is granted. Removal from the waiting list shall occur only when the condition that prevented approval under paragraphs [1][a], [b], [c] or [d] of this Subsection no longer exists.
- [6] Grandfathering. Unless an extension of the approval of the plan is granted in accordance with the Subdivision Regulations, development conducted in accordance with a Preliminary Plan or Site Plan approved before the effective date of Council Bill 93-26 is exempt from the provisions of this Subsection concerning the adequacy of the water system. If an extension of the approval of the plan is granted, the development is subject to the provisions of this Subsection concerning the adequacy of the water system. If development is exempt from the provisions of this Subsection concerning the adequacy of the water system, execution of public works utility agreements for such development is subject to availability of capacity in the water systems at the time of application for the Public Works Utility Agreements.

(c) Roads.

- [1] Developments which generate more than 249 trips per day, based on the Institute of Transportation Engineers Trip Generation Manual (current edition), shall have prepared, by the subdivider, a Traffic Impact Analysis (TIA) study to determine the Level of Service (LOS) of road intersections within the study area. The traffic study and procedures to be utilized for mitigating roadway impacts shall conform to the requirements outlined in the Harford County TIA guidelines, including:
 - [a] Expansion of the study area for developments which generate 1,500 or more trips per day; or
 - [b] Limiting the study area to 2 miles in all directions or to the area as identified in paragraph [3], whichever is less.

- [2] At the request of and with justification submitted by the subdivider, the Director of Planning, with the concurrence of the Department of Public Works, may eliminate from the impact study those intersections and roadways where the County staff find that there will be:
 - [a] Minimal impact on traffic; or
 - [b] Excessive distance between the first arterial and next intersecting collector.
- [3] Existing State and County roads shall be considered adequate to accommodate the traffic projected to be generated by the proposed development if:
 - [a] Inside the Development Envelope the existing County and State roads in all directions from each point of entrance of the site through the intersection with the first arterial roadway to the next intersecting collector or higher functional classification road as defined by the Harford County Transportation Plan are capable of accommodating a projected Level of Service "D" or higher at the intersections as defined by the Highway Capacity Manual, Special Report 209, published by the Transportation Research Board.
 - [b] Outside the Development Envelope the existing County and State roads in all directions from each point of entrance of the site to the first intersection of a major collector or higher functional classification road as defined by the Harford County Transportation Plan are capable of accommodating a projected Level of Service "C" or higher at the intersections as defined by the Highway Capacity Manual, Special Report 209, published by the Transportation Research Board.
- [4] Capital projects with 100% of the construction costs allocated in the County's current year adopted Capital Improvement Program or approved for construction in the current year State-Consolidated Transportation Program may be utilized in the traffic analysis. Necessary improvements identified in the TIA to meet the LOS standards in (c)[3] must be provided by the subdivider:
 - [a] If the TIA determines that the existing LOS is "E" or lower at an intersection inside the Development Envelope, the subdivider needs only to mitigate the portion of trips generated from the subdivision site; or

- [b] If the TIA determines that the existing LOS is "D" or lower at an intersection outside the Development Envelope, the subdivider needs only to mitigate the portion of trips generated from the subdivision site; and
 - [c] If the TIA determines a subdivider is subject to mitigate its portion of trips generated from the site, then the subdivider shall construct the improvements as stipulated by the Department of Public Works. In the event that the Department of Public Works determines that the subdivider is unable to provide the improvements because of the inability to acquire the necessary rights-of-way, the physical constraints of the property or State or Federal regulations, all of which are beyond the control of the subdivider, then the subdivider shall deposit into an escrow account with the County 125% of the funds necessary to cover the costs of the improvements as determined by the County. Said funds shall be deposited prior to issuance of a building permit. The County shall continue to hold the money in escrow until such time as the improvements are able to be constructed. In no event, however, shall the money be retained by the County for longer than 10 years from date of deposit.
- [5] Conditional review. If paragraphs [3][a] or [b] of this Subsection prevents approval or the extension of a previous approval of a Preliminary Subdivision Plan or Site Plan, the Department of Planning and Zoning may proceed with conditional review of the plan and place it on a waiting list arranged by date of completion of the review and, for previously-approved plans, by date of the request for extension. Record plats, grading permits and Public Works Agreements for utilities or roads shall not be executed by the County until the plan for the project is removed from the waiting list and preliminary approval or extension is granted. Removal from the waiting list shall occur only when the condition that prevented approval under paragraphs [3][a] or [b] of this Subsection no longer exists.
- [6] Grandfathering. Unless an extension of the approval of the plan is granted in accordance with the Subdivision Regulations, development conducted in accordance with a Preliminary Plan approved before the effective date of Council Bill 94-36 is exempt from the provisions of this Subsection concerning the adequacy of the roadways. If an extension of the approval of the plan is granted, the development is subject to the provisions of this Subsection concerning the adequacy of the roadway system.

- [7] Projects located within the Chesapeake Science and Security Corridor developments which have their primary access directly onto U.S. Route 40 and do not generate more than 1,500 trips per day, based on the ITE Manual, shall not be required to submit a traffic impact analysis. Projects that generate more 1,500 trips must have a traffic impact analysis prepared and comply with all standards of this section.
- C. Appeal. Notwithstanding anything to the contrary contained in this Chapter or in the Harford County Subdivision Regulations, it is hereby determined that nothing contained in this section shall be subject to a variance, special exception or an appeal to the Hearing Examiner or Board of Appeals. An aggrieved party may appeal to the Director of Administration in accordance with established procedures.
- D. The provisions of this section pertaining to adequate water and sewer facilities shall apply to the Harford County Sanitary District and all Sanitary Subdistricts.
- E. Compliance with the Harford County Department of Public Works water and sewer rules and regulations addressing adequate capacity is required prior to execution of any Public Works Agreement and/or issuance of any building permit.
- F. A developer shall not avoid the intent of this section by submitting piecemeal applications for Preliminary or Site Plan approvals. This section applies when a parcel of land, as described in the Land Records of Harford County on the effective date of Council Bill 93-23, is developed for nonresidential use or a cumulative total of 6 residential dwelling units/lots or more is created from the parcel. However, a developer may seek approval of only a portion of the subdivision or development, provided that the impact of all previously-approved preliminary or Site Plans from that development shall be considered during the adequate public facilities review of each subsequent portion of the development.