

**St. Mary's County Government
Department of Land Use
and Growth Management**

*Phillip J. Shire, Director
William B. Hunt, AICP, Deputy Director*



Board of County Commissioners
Francis Jack Russell, President
Lawrence D. Jarboe, Commissioner
Cynthia L. Jones, Commissioner
Todd B. Morgan, Commissioner
Daniel L. Morris, Commissioner

ST. MARY'S COUNTY PLANNING COMMISSION
AGENDA

6:30 P.M. Monday, April 28, 2014
St. Mary's County Governmental Center
Chesapeake Building Public Meeting Room
Located at 41770 Baldrige Street, Leonardtown, Maryland

- I. Call to Order
- II. Agenda Review/Additions – Deletions
- III. Review/Approval of Minutes for April 14, 2014
- IV. Development Review
 1. **CONCEPT SITE PLAN # 12-13200003, SOUTH POINT CHURCH**
(Zoning Ordinance 10-02) (Use # 38)
OWNER: Southpoint Church Inc.
AGENT: Mehaffey & Associates, Pc
LOCATION: 43160 Saint Andrews Church Rd. Leonardtown, 20650
TM-041 GRID-04 PAR-0297 ED-03 TAX ID-088731
ZONING: RPD
ACREAGE: 49.65
ACTION REQUESTED: Approval of a concept plan, for **Phase 1**, of a 50,000sq.ft.church.
 2. **CONCEPT SITE PLAN # 13-13200015, DAVIS BUILDING, COTTONWOOD PARKWAY**
(Zoning Ordinance 10-02) (Use # 65)
OWNER: W.M. Davis, INC
AGENT: Mehaffey & Associates, PC
LOCATION: 23540 Cottonwood Pkwy, California, MD 20619
TM-034 GRID-14 PAR-0576 –3 ED-08 TAX ID-072523
ZONING: OBP / AE
ACREAGE: 5.76
ACTION REQUESTED: Approval of a concept plan review of a 20,000 square foot Flex Space Building
- V. Discussion
 3. **Update on potential sewerage in Charlotte Hall/Golden Beach**
- VI. Adjournment

***Please scroll down for the Power Point that will be shown at the PC meeting**

The Next Scheduled Planning Commission Meeting is May 12, 2014

For more information, contact Brandy Glenn, Department of Land Use and Growth Management at (301) 475-4200, X-1529 or at Brandy.Glenn@co.saint-marys.md.us

The meeting may be videotaped and aired live and may be rebroadcast on Cable Channel 95. To view the schedule for Channel 95, please log on to <http://www.co.saint-marys.md.us/docs/ch95/>.

Update on Potential Sewerage in Charlotte Hall and Golden Beach

There are two parts to this presentation:

1. The kinds of sewage treatment plants possible, in general.
2. How much sewage (GPD and EDUs) could be produced by:
 - A. Mixed Use and Industrial-zoned properties based on the existing zoning in Charlotte Hall, plus
 - B. Existing single family homes in Charlotte Hall and Golden Beach.

This presentation is a report to the Planning Commission on the research staff has been conducting regarding the possibilities for providing public sewer in Charlotte Hall and Golden Beach. The research is an overview and is not in- depth at this point. Staff could proceed with an inventory of existing businesses in Charlotte Hall for an estimate on the sewage currently being produced. This inventory would require a good deal of staff time and is not warranted pending further discussion with the Planning Commission regarding how the Commission would like to proceed with the Charlotte Hall Plan. What this presentation does do is show that the existing zoning and existing single-family homes in Golden Beach and Charlotte Hall can produce a sufficient volume of sewage to warrant public sewer.

On April 4th County staff met with representatives from MDE and MDP. One of the most important things staff learned at the April 4th meeting is that a sewage treatment plant would not have to be located within a priority funding area. This allows much more flexibility in a future search for a suitable location, a point that will be returned to later in this report.

Part 1: Update on Public Sewer Research
for Charlotte Hall and Golden Beach

- Meeting of LUGM director Phil Shire and staff, Dan Ichniowski of MetCom, Bruce Young, Soil Conservation District, Daryl Calvano, Health Department, and Don Hammerlund of MDE to discuss types of land application, wastewater treatment systems for the Charlotte Hall / Golden Beach area. (March 10, 2014)
- Consensus: Rapid infiltration basin (RIB) first choice
- Reasons: MetCom owns / operates RIBs at St. Clement's Shores and Wicomico Shores
- Some soils in the Charlotte Hall / Golden Beach area are "somewhat limited" for RIBs
- RIBs require less acreage than other land application systems
- Staff's information was discharge into the Patuxent River was not a possibility

On March 10, 2014 LUGM director Phil Shire and staff – David Chapman, Bill Hunt, Jeff Jackman, and Sue Veith – met with Dan Ichniowski of MetCom, Bruce Young, Soil Conservation District, Daryl Calvano, Health Department, and Don Hammerlund, MDE, to discuss what types of land application, wastewater treatment systems might be possible for the Charlotte Hall / Golden Beach area.

Consensus: Rapid Infiltration Basin RIB was the first choice.

Disposal of Treated Wastewater by Rapid Infiltration

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the groundwater. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; thus, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of groundwater pollution.

Source: USDA Web Soil Survey
[Http://websoilsurvey.nrcs.usda.gov/app/](http://websoilsurvey.nrcs.usda.gov/app/)

This is the description of rapid infiltration from the USDA Web Soil Survey. It accompanies the soils map that identifies “somewhat limited” soils for RIBs.

Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Source: USDA Web Soil Survey

The soils map of the Charlotte Hall / Golden Beach area is on an upcoming slide.

Capacity of Selected Sewage Treatment Plants

	GPD Design	EDUs
St. Clement's Shores RIB	200,000	800
Wicomico Shores RIB	141,000	564
Marlay – Taylor & Leonardtown included for reference		
Marlay – Taylor	6,000,000	24,000
Leonardtown	680,000	2,720

The two RIB plants operating in the County are St. Clement's Shores and Wicomico Shores. Marlay – Taylor and Leonardtown are shown for comparison. The potential volume of sewage from the properties with Mixed Use and Industrial-zonings in Charlotte Hall plus the existing single family homes in Charlotte Hall and Golden Beach is described in the upcoming slides.

If a sewage treatment plant is built in the northern part of the County, it could be designed to handle the volume of sewage that would come from Mechanicsville and New Market, and not just Charlotte Hall and Golden Beach.

This is the “Area of Interest” referred to on the next slide. The Yellow areas are soils that are “Somewhat Limited” for RIB.



Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

Source: USDA Web Soil Survey

This slide and the supporting information from the USDA Web Soil Survey are included to show the Planning Commission the kind of soils data that are available. According to the Maryland Department of Planning a public sewage treatment plant does not have to be located within a Priority Funding Area. This being the case, the types of soils within the Charlotte Hall and Golden Beach area are not as important a factor as they would be if the treatment plant had to be within the PFA. The search for a location for a sewage treatment plant for Charlotte Hall and Golden Beach can extend to areas outside the area shown on this slide.

Most of the area of Yellow-colored, Somewhat Limited soils in the western part of this graphic are built on.

Map unit symbol	Map unit name	Rating	Drainage class	Depth to water table	Acres in Area of Interest	Percent of Area of Interest
EvB	Evesboro loamy sand, 0 to 8 percent slopes	Somewhat limited	Excessively drained	More than 80 inches	1,083.2	8.5%
RuB	Rumford loamy sand, 0 to 5 percent slopes	Somewhat limited	Well drained	More than 80 inches	275.7	2.2%
WeB2	Westphalia fine sandy loam, 2 to 6 percent slopes, moderately eroded	Somewhat limited	Well drained	More than 80 inches	309.1	2.4%

Total for Somewhat Limited Soils	1,668 Acres	13.1%
Total for Area of Interest	12,745.7 Acres	100.0%

Source: USDA Web Soil Survey
[Http://websoilsurvey.nrcs.usda.gov/app/](http://websoilsurvey.nrcs.usda.gov/app/)

The area of interest shown in the previous slide contains approximately 13,000 acres. The soil types that are Somewhat Limited are Evesboro loamy sand, 0 to 8 percent slopes, Rumford loamy sand, 0 to 5 percent slopes, and Westphalia fine sandy loams, 2 to 6 percent slopes. Approximately 1,700 acres, 13%, are Somewhat Limited soils.

LUGM and MetCom Staff Met with MDE and MDP

- LUGM staff and Dave Elberti, MetCom chief engineer, met with representatives from MDE and MDP to discuss sewer (April 4, 2014).
- An RIB would be possible, but MDE said a new RIB has not been approved in the last ten years, if not longer.
- MDE recommended remaining open to any type of land application system.
- County staff learned from MDP that a sewage treatment plant did not have to be within the PFA, but the properties to be served had to be in the PFA.
- A new sewage treatment plant with discharge to the Patuxent River was not “absolutely” prohibited, but it would be very difficult to obtain approval.
- Connection of existing septic systems to a public sewer system could give the County WIP credits.

Staff took the results from the March 10th meeting in St. Mary’s County and met with representatives from MDE and MDP on April 4th.

MDE

Joe Bieberich
Brian Cooper
Dan Laird
Jay Prager

MDP

John Leocha
Mike Paone

The main spokesman for MDE was Jay Prager, Wastewater Permits Program (WWPP), Deputy Program Manager, Bay Restoration/On-Site Disposal Systems.

John Leocha, MDP, was asked if a wastewater treatment plant would have to be located within a primary funding area (PFA). He replied that a treatment plant could be built outside a PFA, but it could only be used by properties within the PFA.

Allowing a treatment plant to be located outside a PFA means the County has much more flexibility in the location and the type of system.

Part 2: How much sewage might be produced?

THE
ST. MARY'S COUNTY
COMPREHENSIVE ZONING ORDINANCE



ADOPTED AUGUST 31, 2010
EFFECTIVE SEPTEMBER 14, 2010
(AMENDED AUGUST 2, 2011)
(AMENDED SEPTEMBER 6, 2011)
(AMENDED JULY 31, 2012)
(AMENDED OCTOBER 2, 2012)
(AMENDED DECEMBER 18, 2012)
(AMENDED FEBRUARY 5, 2013)
(AMENDED DECEMBER 31, 2013)
(AMENDED FEBRUARY 20, 2014)

<http://www.stmarysmd.com/docs/ComprehensiveZoningOrdinance22014.pdf>

This is the cover of the County zoning ordinance. The ordinance is on the County website at the address at the bottom of the slide. This ordinance has the descriptions of the zoning districts and the development standards. The development standards have the information on the allowable Floor Area Ratios (FAR).

*St. Mary's County Comprehensive Zoning Ordinance
Article 3. ZONING DISTRICTS*

1 Schedule 32.1 Development Standards:

	RPO	RCC	RCL	RL-T	RL	RH	RNC ²	RMX	VMX	TMX	DMX	CMX	CC	OBP	I	CM
Residential Density																
Base Density (units per acre)	1 dwelling per 6 acres subject to Section 3	none ¹¹	none ¹¹	1 ¹⁰	1	10	1	1	1	1	20	1	none	none	none	none ¹¹
Maximum Density (units/acre) (see Table 32.2 for methods to achieve Residential Density increase)	1 dwelling per 1 acre	none	none	3 ¹¹	5	20	2	5	5	5	20	15	none	none	none	none
Development Intensity (per acre)																
Base Floor Area Ratio	0.06	0.10	0.20	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.30
Maximum Floor Area Ratio (see Table 32.2 for methods to achieve FAR increase (per acre)	0.18	0.30	0.30	0.20	0.20	0.30	0.18	0.35	0.40	0.40	none	0.80	0.60	0.60	0.60	0.30
Minimum Lot Dimensions	These standards do not apply for detached, two-house and multi-family development in accordance with cluster provisions in Section 32.3.3.															
Minimum Lot Area	none	none	none	None ¹	none	none	none	none	none	none	none	none	none	none	none	1 ac.
Depth	100	none	none	75	75	none	75	none	80	80	none	80	175	100	100	none
Width	100	none	none	100	100	60	100	none	100	100	none	100	100	200	200	none
Frontage	75	none	none	80	80	none	80	none	80	80	none	80	100	none	none	none
Minimum Structure Minimum Setbacks (feet)																
Front	25	25	25	25	25	25	25	25	25	25	8	20	25	25	25	25
Rear	15	15	15	15	15	15	15	15	15	15	10	30	15	15	15	15
Side	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Corner	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Minimum Separation between detached principal structures on a site	2 times the side yard setback															
Other Requirements																
Maximum Footprint of a Commercial structure on a site by right	6,000	10,000	18,000	20,000	20,000	none	8,000	20,000	18,000	80,000	80,000	80,000	80,000	80,000	none	none
Maximum Footprint of a Commercial structure on a site by special use	See Schedule 32.1	11,000	20,000	20,000	20,000	none	6,200	20,000	20,000	80,000	80,000	80,000	80,000	80,000	none	none
Maximum height ¹²	40'	40'	40'	40'	40'	75'	40'	40'	40'	40'	100'	100'	100'	100'	100'	80'
Minimum Landscaping	none	18%	18%	none	none	18%	20%	20%	20%	20%	20%	20%	none	20%	20%	20%
Minimum Open Space¹³																
Minimum Open Space for Public and Semi-public or Commercial Use Classifications, (percent of developable footprint)	8%	none	none	8%	8%	8%	none	8%	8%	2%	2%	8%	8%	8%	2%	none
Minimum Open Space (sq. ft. per residential unit in developments with 20 units or more)	2000	none	none	2000	2000	200	none	2000	200	200	200	200	none	none	none	none
Unimproved Open Space	80%	none	none	80%	80%	80%	80%	80%	80%	20%	20%	18%	20%	20%	none	none

2 Footnotes:

1. Use fronting on main identified as existing or future Arterial Roads in the 2002 Transportation Plan in the Comprehensive Plan shall meet the 80 foot setback.
2. On Great Mills Road (Route 246), from Route 236 to Garolaga Street the minimum front yard setback is 50 feet and the maximum shall be 25 feet.
3. Permitted applications in required yards are defined in Section 61.7.
4. In DMX, CMX, and OBP, the minimum front and rear yard setbacks shall be based on the depth and frontage of a 75' buffer. Reduction of side or rear setbacks requirements defined in Section 61.7.4. Minimum Accessory Structure setbacks shall be 5 feet from a side or rear set line. If front setback may be increased with TDRs by 2,000 sq. ft. per TDR up to 6,000 sq. ft.
5. Additional sq. ft. of footprint above 60,000 sq. ft. in the Development Districts may be achieved @ 1,000 sq. ft. per additional TDR.
6. Precise structures may be erected to a maximum height of 80 feet when the side and rear yards are increased 1' for each foot of height in excess of the height restrictions for the zone. Existing buildings constructed as of May 8, 2007 are not considered a non-conforming building height.
7. RESIDUAL.
8. RESIDUAL.
9. In the RNC District, setback averaging, as defined in Chapter 91 Rules for Measurement, may be used to determine these yard requirements.
10. An open space credit may be granted as determined by the Planning Commission if a project is sited in, and located within 1/4 mile of, an improved public park by a continuous sidewalk.
11. Accessory structures may be increased to 20,000 square feet with TDRs in the RNC, DMX, CMX, and OBP. Height of all structures subject to site-specific analysis for compliance with Chapter 43 AGLC and all height restrictions. Structures with a building height greater than 45 feet shall install an approved antenna system. Height of communication towers is exempt from height restrictions of Schedule 32.1 and regulated by the provisions contained in Chapter 61 of this ordinance.
12. TDRs required after initial residential lot or dwelling per Section 24.4.
13. One single-family dwelling is permitted per site.
14. Minimum undeveloped open space may be reduced in these zones per Section 32.1.4.
15. Density in the RL-T in the Office Area shall not exceed 1 dwelling per 2 acres in the Office Area, minimum lot size shall be 2 acres.
- 16.
- 17.

Page 12-3

This is the page of the County Zoning Ordinance with Schedule 32.1, Development Standards. The allowable FARs are on this page. The next slide is an enlargement.

Floor Area Ratio - FAR

*St. Mary's County Comprehensive Zoning Ordinance
Article 3, ZONING DISTRICTS.*

1 **Schedule 32.1 Development Standards:**

	RPD	RSC	RCL	RL-T	RL	RH	RNC ⁸	RMX	VMX	TMX	DMX	CMX	CC	OBP	I	CM
Residential Density																
Base Density (units per acre)	1 dwelling per 5 acres subject to footnote 3	none ¹¹	none ¹¹	1 ¹⁸	1	10	1	1	1	1	20	1	none	none	none	none ¹¹
Maximum Density (units/acre) See Table 32.2 for methods to achieve Residential Density increase	1 dwelling per 3 acres	none	none	3 ¹⁸	5	20	2	5	5	5	20	15	none	none	none	none
Development Intensity (per acre)																
Base Floor Area Ratio	0.05	0.10	0.25	0.10	0.10	0.30	0.10	0.20	0.20	0.20	0.60	0.40	0.35	0.40	0.40	0.20
Maximum Floor Area Ratio (see Table 32.2 for methods to achieve FAR increase) (per acre)	0.15	0.30	0.30	0.20	0.20	0.30	0.15	0.35	0.45	0.60	none	0.50	0.50	0.50	0.60	0.30

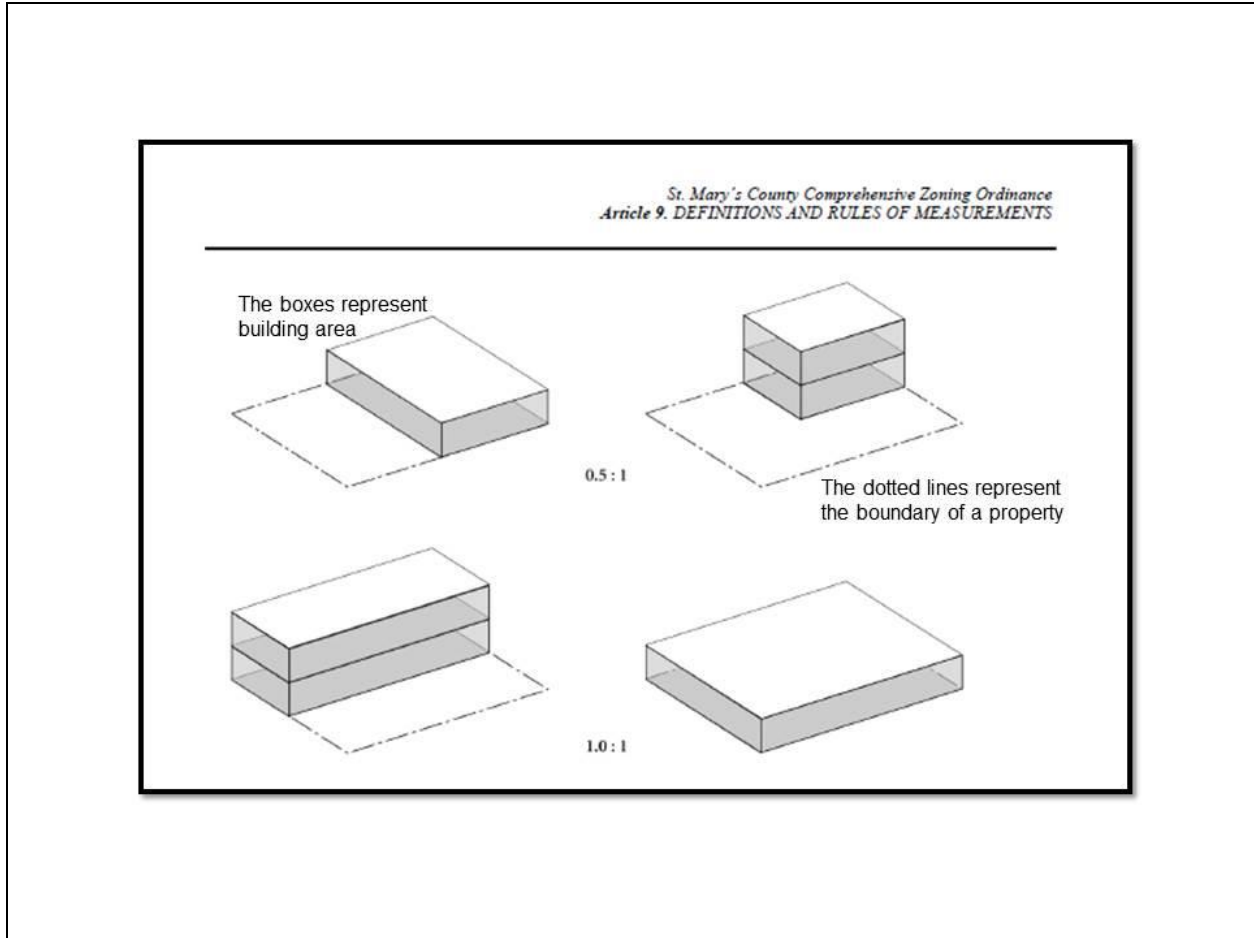
RMX
Base = 0.20
Max = 0.35

TMX
Base = 0.20
Max = 0.60

I
Base = 0.40
Max = 0.60

This is an enlargement of the FARs in the zoning categories. The three Mixed Use and Industrial zoning categories that exist in the Charlotte Hall area are Residential Mixed Use – RMX, Town Center Mixed Use – TMX, and Industrial – I.

The base floor area ratios and the maximum floor area ratios are in the red ovals and then displayed in the white boxes below the chart for legibility.



This is an illustration of the concept of floor area ratio from the County Zoning Ordinance. Floor area ratio is the amount of building structure compared with the area of the lot. You will notice that all stories of a building are used in the calculation.

Building Square Footage on a One Acre Site with Base and Maximum FAR				
	Base Floor Area Ratio	Building Size on a 1 Acre Site	Maximum FAR	Building Size with Max. FAR 1 Acre Site
31.8 Purpose of the Residential Mixed Use District (RMX). The regulations for the Residential Mixed Use District provide opportunities for residential, office, personal, and business development and services subject to standards that will ensure land use compatibility with adjacent residential areas.	0.20	.2 X 43,560 = 8,712 square feet	0.35	.35 X 43,560 = 15,246 square feet
31.10 Purpose of the Town Center Mixed Use District (TMX). The regulations for the Town Center Mixed Use District provide opportunities for residential and commercial development within town centers, consistent with the Comprehensive Plan. Standards are intended to create an urban character and make the core area safe, pedestrian friendly, and visually attractive.	0.20	8,712 square feet	0.60	.6 X 217,800 = 26,136 square feet
31.15 Purpose of the Industrial District (I). The regulations for the Industrial District provide and protect sites for industrial use and office uses.	0.40	.4 X 43,560 = 17,424 square feet	0.60	26,136 square feet

The first column on the left has the descriptions from the Zoning Ordinance for the Mixed Use and Industrial zoning categories that currently are in Charlotte Hall. The second column has the base floor area ratio from the table of Development Standards that was shown in earlier slides. The middle column gives the possible size of a building on a one acre site using the base floor area ratio for the various zoning districts.

The Maximum FAR column has the increased FAR that can be achieved if LEED building guidelines are followed or TDRs are purchased. The Max FAR is included for information. Only the base FAR was used in calculating potential sewage for this presentation.

Table of Equivalent Dwelling Units EDUs	
CLASSIFICATIONS	Gallons Per Day/EDU ^{1,2}
INSTITUTIONAL	
Elementary School	4 gpd/person
Middle School	6 gpd/person
High School	8 gpd/person
Child Day Care/Nursery School	6 gpd/person
Hospital or Nursing Group Home	125 gpd/bed
SUBDIVISION RESIDENTIAL - One Dwelling	
	250 gpd
MULTI-UNIT RESIDENTIAL*	
1 Trailer Space	250 gpd
1 Apartment unit	250 gpd
1 Condominium unit	250 gpd
*Apartments, residential condominiums, housing projects for the aged can be designed based on 200 gpd/unit, but will be billed based on 250 gpd/unit	
COMMERCIAL/INDUSTRIAL	
Auto Dealership	Gross s.f. x 0.08= gpd
Bakery/Food Retail Store (No seating)	Gross s.f. x 0.15= gpd
Bank	Gross s.f. x 0.04= gpd
Bar - No Health Dept. Food Permit required (see Restaurant or Social Hall if food service are provided)	5 gpd/seat
Barber Shop	Gross s.f. x 0.20= gpd
Beauty Salon	Gross s.f. x 0.35= gpd
Car Wash - Self Service Bay	250 gpd/bay
Car Wash - Recycled Bay	2,500 gpd/bay
Car Wash - Non-Recycled Bay	4,000 gpd/bay
Church (Worship center 1 EDU, add for accessory uses such as schools, etc.)	250 gpd
Commercial Condominium (Billing charges based on 250 gpd/unit)	Gross s.f. x 0.03= gpd
Drug Store (Not to exceed 2 EDUs)	Gross s.f. x 0.13= gpd
Food Carryout (With no indoor seating, i.e. donut, ice cream, some fast food)	Gross s.f. x 1.00= gpd
Funeral Home (With embalming services)	Gross s.f. x 0.31= gpd
Funeral Home (No embalming service)	Gross s.f. x 0.02= gpd
Garage Service Station (No Food Service)	Gross s.f. x 0.04= gpd
Gas Station/Convenience Store (With Food Service)	Gross s.f. x 0.35= gpd
Laundry & Cleaner (Professional service facilities)	Gross s.f. x 0.31= gpd
Laundromat (Self-serve facilities)	Gross s.f. x 2.00= gpd
Library	Gross s.f. x 0.03= gpd
Marina (per slip)	25 gpd/slip
Medical Office Building ³	Gross s.f. x 0.13= gpd
Motel/Hotel Unit	63 gpd/room
Motel/Hotel Unit Efficiencies (with kitchen facilities; extended stay)	125 gpd/room
Office Building	Gross s.f. x 0.03= gpd
Post Office (Community - not to exceed 2 EDUs)	Gross s.f. x 0.09= gpd
Recreational Facility	
Theatre/Sports Arena/Recreational Facility (No food service)	1 gpd/seat
Theatre/Sports Arena/Recreational Facility (With food service)	5 gpd/seat
Health Club or Public Park based on fixture table below	Fixture Table Below

ST. MARY'S COUNTY METROPOLITAN COMMISSION TABLE OF EQUIVALENT DWELLING UNITS Adopted March 1, 2009	
CLASSIFICATIONS	Gallons Per Day/EDU ^{1,2}
Restaurant (Require: Health Dept. Food Permit)	13 gpd/seat
Retail/Dept. Store (stand-alone) less than 12,000 s.f. (Sq. ft. for accessory uses subtracted from store total and calculated by category of use)	Gross s.f. x 0.03= gpd
Retail/Dept. Store (stand-alone) greater than 12,000 s.f. (Sq. ft. for accessory uses subtracted from store total and calculated by category of use)	Gross s.f. x 0.02= gpd
Shopping Center/Strip Mall (mixed use or uncertain) ³	Gross s.f. x 0.18= gpd
Social Hall/Meeting Rooms (for rental i.e. Elks, Knights of Columbus etc.)	Gross s.f. x 0.07= gpd
Supermarket	Gross s.f. x 0.05= gpd
Swimming Pool 500 gpd/pool minimum or based on fixture table below	500 gpd minimum
Warehouse	Gross s.f. x 0.015= gpd
AGRICULTURAL - No properties currently being served	

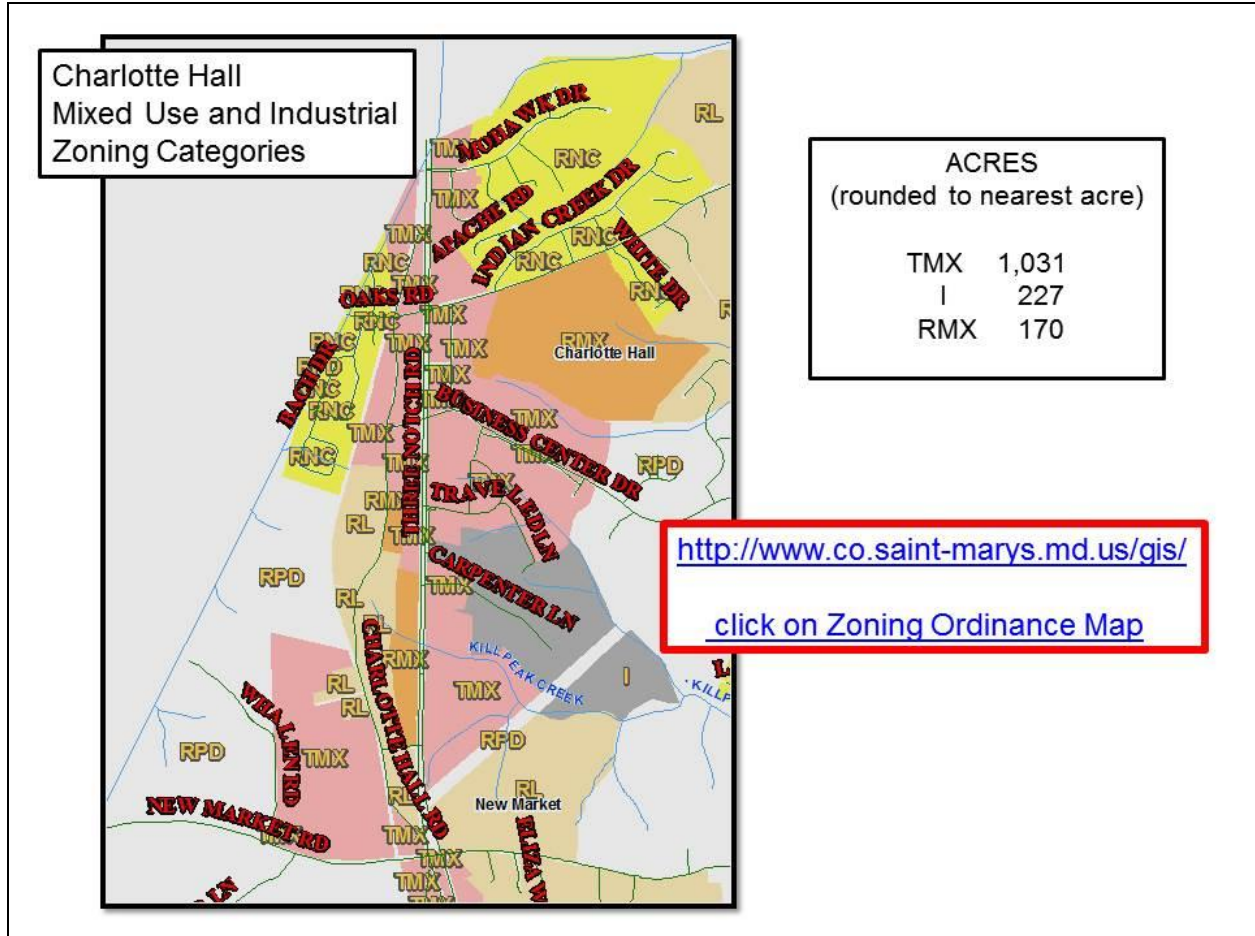
Shopping Center = 0.18

Equivalent Dwelling Unit (EDU) is based on the average daily water use (300 gpd) and the average daily sewage produced (250 gpd) by a single family home.

<http://www.metcom.org/Documents/EDU.pdf>

Adopted 10/1/1997; revised 3/1/2009

This is the chart used by MetCom to estimate the amount of sewage based on the square footage of a building. The Internet address is on the slide. For this exercise the factor .18 was selected: 0.18 is used for a Shopping Center / Strip Mall with a mix of uses or unknown uses. The factor of 0.18 is lower than that of a Gas Station / Convenience Store (With Food Service) which is 0.35; higher than a Supermarket, 0.05, or Warehouse, 0.015.



This is a portion of the zoning map for the county that is online on the County's website. The address is on the slide. Note the Mixed Use and Industrial zoning districts – TMX, I, and RMX. The acreage for the zones is on the box on the slide. For this analysis, staff has not subtracted developed lots from the total. The analysis was done just to illustrate how much sewage would be generated, using the formula, if the Mixed Use and Industrial-zoned properties were developed to the base FAR for that zoning district. As the Charlotte Hall Town Center Plan proceeds, staff can do an inventory of existing sites to get a more accurate estimate of the range of sewage volume that could be produced.

**Gallons Per Day and EDUs for Mixed Use and Industrial Zoning
Using Base FAR and Factor of .18**

Zoning	Acres	Acres @ Base FAR .2 or .4 FAR ("FAR Acres")	Acres X FAR X 43,560 = Gross Sq. Ft.	Gross Sq. Ft. X 0.18 = GPD	GPD / 250 = EDUs
TMX	1,030.529	206.1057 (.2)	8,977,964.29	1,616,063.57	6464.1343
RMX	169.8151	33.96202 (.2)	1,479,429.15	266,297.247	1065.18899
I	227.061	90.824 (.4)	3,956,293.4	712,132.819	2848.53128
Mixed Use and Industrial GPD Total @ Base FAR				2,594,494	
Mixed Use and Industrial EDUs Total @ Base FAR					10,378

The acreage for the Mixed Use and Industrial zoning categories was taken from the data used to make the zoning map in the previous slide. The acres are multiplied by the base FAR and the results are in the third column. The "FAR acres" are converted into gross square feet by multiplying the FAR acres by 43,560 (the number of square feet in an acre). This result is in the fourth column. In the fifth column, the gross square feet are multiplied by the MetCom factor, which is 0.18 for this analysis. The total gallons per day of TMX, RMX, and I sewage is 2,594,494. An extra step has been carried out to find out the number of EDUs. EDUs are found by dividing the gallons of sewage per day by 250 gallons. The EDUs in this example are 10,378.

Gallons Per Day for Existing Housing Units (2010 Census)

	Housing Units	Housing Units X 250 GPD
Charlotte Hall	344	86,000
Golden Beach	1,389	347,250
Existing Residential GPD		433,250

The existing number of housing units in Charlotte Hall and Golden Beach were included in the analysis. The slide with the MetCom chart had a note that MetCom uses 250 gallons of sewage per day as the amount of sewage produced by a single family home. This chart has the number of existing housing units using 2010 Census data. A future analysis will include the number of unbuilt residential lots in the Charlotte Hall / Golden Beach area.

Mixed Use and Industrial GPD @ Base FAR	2,594,494	Mixed Use and Industrial EDUs	10,378
Current Residential GPD	433,250	Existing Housing Units EDUs	1,733
Total GPD for Sewer	3,027,744	Total Sewer EDUs	12,111

Marlay – Taylor capacity is 6 million gallons per day

In this chart the Mixed Use and Industrial sewage is added to the sewage from existing single family homes. The result is just over 3 million gallons of sewage per day. This is the equivalent of 12,000 EDUs. Marlay-Taylor has a capacity of 6 million gallons, which is 24,000 EDUs.