

**ST. MARY'S COUNTY**  
**DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION**  
**POLICY & GUIDELINES FOR STREET AND SECURITY LIGHTING**  
**(Updated: October 2000)**

**AUTHORITY**

In order to provide street lights in subdivisions and neighborhoods, the following policies and guidelines are established in accordance with Article 25, § 2B of the Annotated Code of Maryland and supersedes prior Lighting Policies adopted on November 27, 1984.

**INTRODUCTION**

Good visibility under day or night conditions is one of the fundamental requirements enabling motorists to move on roadways in a safe and coordinated manner. Properly designed and maintained street lighting will produce comfortable and accurate visibility at night, which will facilitate and encourage both vehicular and pedestrian traffic. Thus, where adequate illumination is provided, efficient night use can be made of the large investment in roadway construction and motor vehicles. Determinations of need for lighting should be coordinated with crime prevention programs and other community needs.

Warrants for the justification of street lighting involve more than just identifying a roadway classification as being local, rural, collector, arterial or major. Pedestrian and vehicular volume, night-to-day accident ratios, roadway geometry, merging lanes, curves and intersections all require careful consideration in establishing illumination levels and priorities.

**PURPOSE**

Lighting may improve the safety of a highway or street and the ease and comfort of operation. Statistics indicate that the nighttime accident rate is higher than that during daylight hours, which to a large degree, may be attributed to impaired visibility. There is evidence that in urban and suburban areas, where there are concentrations of pedestrians and roadside intersectional interferences, fixed-source lighting tends to reduce accidents. Lighting on rural highways may be desirable, but the need for it is much less than on streets in urban areas. The general consensus is that lighting of rural highways seldom is justified except on certain critical portions, such as interchanges, intersections, railroad grade crossings, narrow or long bridges, tunnels, sharp curves, and areas where roadside interference is a factor.

**GENERAL PROVISIONS**

1. These Standards & Guidelines describe the Policy of St. Mary's County with respect to street lighting and security lighting. Site lighting fixtures are used to illuminate parking lots, school campuses, parks, walkways, sports and recreation areas, airport areas, facades, bridge approaches and highways. They are also used for spot lighting, architectural accent lighting and special effect lighting.
2. Installation of County streetlights and County security lights requires specific approval by the Board of County Commissioners for St. Mary's County (BOCC). Recommendations concerning such lights shall be prepared by the Department of Public Works & Transportation in conjunction with the Southern Maryland Electric Cooperative, Inc. (SMECO).
3. The County has an obligation to ensure that requests for lighting improvements are handled fairly and consistently. Only such lights as are essential for the public's health, safety and welfare, or required for security of County property, shall be approved by the BOCC. Consideration shall be given to the average daily traffic counts and the accident history at the intersection.
4. The BOCC may establish a "Special Lighting District" under provisions of Article 25, Section 2B of the Annotated Code of Maryland. Upon receipt of a petition signed by 60% of the property owners within a proposed district, the BOCC may proceed to establish the district, and shall have power to levy on all "benefitted" property, which is subject to ordinary County taxes at a rate sufficient to pay the respective cost. The procedure for establishing a Special Lighting District is attached as **Exhibit A**.

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### **GENERAL PROVISIONS** (Cont'd.)

5. For street lighting installations within a new subdivision, commercial or industrial development, all associated installation costs shall be paid by the developer or subdivider; and the electrical energy costs for systems approved in advance by the County shall be paid by the BOCC. Lighting plans and specifications shall be submitted to the Director of Public Works & Transportation and SMECO for approval.
6. For street lighting of County roads other than in subdivisions, the BOCC shall pay all associated installation and electrical energy costs in accordance with the Street Light Service Schedule (**Exhibit B**), which may be amended from time to time.
7. Street lights and security lights shall not be installed by the County specifically for illumination of private roads or private property. Intersections of County roadways and State Highways Administration routes shall be reviewed by both agencies to determine if warrants are met for installation.
8. Citizens are asked to assist in making their neighborhoods safe by reporting inoperative streetlights to SMECO. Homeowners' Associations may contract directly with SMECO for all installation and energy costs.
9. In order to ensure that requests for residential street lighting improvements are properly prioritized and are efficiently and effectively provided, all requests for additional residential street lighting will be subject to this Policy.
10. An Evaluation Form for Intersection Lighting (**Exhibit C**) will be utilized by the Department of Public Works & Transportation to determine if the warrants exist.
11. These standards shall be reviewed and amended as necessary by the BOCC to provide for the flexibility of their application to changing conditions in subdivision development, and change in types and styles of streetlight materials and other contributing factors.
12. Consideration should be given to making visible at night by roadway lighting (or reflectorizing devices) the parts or grade separation that may be hazardous – such as curbs, piers and abutments. Illumination should also be considered where turning movements to and from roadside developments are considered hazards.
13. Whether or not rural intersections at grade should be lighted depends on the layout and the traffic volumes involved. Intersections that normally do not require channelization are frequently left unlighted. On the other hand, intersections with substantial channelization, particularly multi-road layouts and those designed on a broad scale, often are lighted.

### **LIGHTS IN SUBDIVISIONS**

1. Street lighting may be provided in conjunction with all New Developments as a voluntary or required element of subdivision and site plan development for the purpose of increasing crime deterrence, improving pedestrian safety, and reducing potentially hazardous intersections. The extent of street lighting required for each development shall be based on actual proposed density and proposed use. The developer will pay the cost for installation of the streetlights by the utility company.
2. The developer shall bond 100% of the estimated streetlight installation cost as part of the overall bond required by the County prior to plan approval. All easements required by SMECO for street lighting shall be provided by the developer.
3. All street lighting systems shall be installed by the electric utility company serving the new development. The necessary permits from the St. Mary's County Department of Public Works & Transportation, etc. shall be acquired by the applicant for the purpose of street lighting within existing rights-of-way in the County's Highway Maintenance System. These street lighting systems shall be owned and maintained by SMECO.

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**LIGHTS IN SUBDIVISIONS (Cont'd.)**

4. After the streetlights are installed and energized, the County shall be responsible to make payment to the electric utility company for the monthly operating and maintenance costs.
5. Single Family Residential Development: This installation standard shall apply to neighborhood roadways within existing recorded subdivisions in St. Mary's County.
  - a. Light Level Requirements – All streets that warrant lighting shall be in accordance with the Lighting Levels shown as **Exhibits D**. Due to the unlimited variations in the geometrics and traffic counts, the design of streetlights is very specific. Illumination levels are determined based on area and roadway classification.
  - b. Location and Spacing – A streetlight shall be installed at every intersection and cul-de-sac of the subdivision. In addition, in subdivisions having average road front lot widths of less than 150 feet, streetlights shall be placed with an average spacing of 175 feet, staggered on either side of the street or as otherwise determined by SMECO. The streetlights shall be placed on property lines extended, or as near as possible, to minimize conflict with site development. The determination of the final spacing and arrangements shall be predicted on the block lengths and geometrics of the individual streets, and any alterations and changes shall be approved by the Director of Public Works. No streetlight shall be placed immediately adjacent to ground mounted transformers.
  - c. Supports and Mounting Arrangements – The pole materials shall be restricted to concrete, aluminum alloy, galvanized steel, wood, or other equal, non-corrosive metals. Final approval of the type, mounting, height, bracket length and other design parameters of the pole shall be made by SMECO. On median installations, dual-mast arms should be used for which 40 or 50 ft. mounting heights are favored. These should be protected with a suitable longitudinal barrier. On narrow medians, it is usually preferable to place the lighting standards so they are integral with the median barrier.
  - d. Mounting Height – All streetlights shall be placed at the appropriate mounting heights for the recommended level of illumination.
  - e. Location Adjacent to Roadway – Streetlights placed on curb and gutter streets, or roads, shall be placed not less than two (2) feet nor more than ten (10) feet back from the curb. Variations to the above shall not be permitted when physical obstructions, sidewalk locations, or in the opinion of the Director of Public Works & Transportation/SMECO, it is deemed necessary to change these dimensions. Streetlights placed on streets without curb and gutter shall be generally placed not more than five (5) feet in front of the property line (right-of-way line). This dimension is required to prohibit the placement of a streetlight in the flow line or side slope of open drainage ways. Most arms shall not overhang narrow streets without parking and shall be at least 5 feet on streets with a parking lane.
  - f. Luminaries – Luminaries shall be of a traditional type approved by SMECO and the Director of Public Works & Transportation. Recommended lighting levels for proposed and existing streets are shown on **Exhibit E**.
6. Multi-Family Residential Developments
  - a. Light Source – Same as 1-a.
  - b. Location and Spacing – Same as 1-b, except that spacing shall be an average of 125 feet staggered either side of the street, unless otherwise approved by SMECO. If the developer installs yard lights within the property line limits of a multi-family development, the distribution of these light sources onto public right-of-ways and onto streets will be considered when determining the spacing of the streetlights adjacent to the roadway. Any alterations to the general spacing standards as listed above shall be approved by the Director of Public Works & Transportation.
  - c. Supports and Mounting Arrangements – Same as 1-c.
  - d. Mounting Heights – Same as 1-d.
  - e. Location to Roadway – Same as 1-e as it pertains to location away from curb or the property line.
  - f. Luminaries – Same as 1-f.

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**COMMERCIAL AND INDUSTRIAL DEVELOPMENT**

1. Light Level Requirements – The selection of lamp size shall be determined by the type and intensity of commercial and industrial development being considered. Any existing street lighting in these areas will be taken into consideration. Any changes or alternations shall be approved by the Director of Public Works & Transportation/SMECO.
2. Location and Spacing – A streetlight shall be installed at every intersection; and if in the judgment of the County or SMECO an additional streetlight is required, it shall be located diagonally opposite the aforementioned streetlight. In general, an average range of spacing shall be between 125 and 150 feet on an opposite arrangement, unless otherwise specified.
3. Supports and Mounting Arrangements – The pole materials shall be restricted to concrete, aluminum alloys, wood, galvanized steel, or other non-corrosive metals. The poles shall have a hand hole to accommodate circuitry components and for simplification of maintenance. Final approval of the type and design of pole shall be made by the Director of Public Works & Transportation.
4. Mounting Height – All streetlights on commercial or industrial streets shall be placed at a minimum height of 25 feet.
5. Location Adjacent to Roadway – Streetlights shall be placed not less than two (2) feet back from the curb. All luminaries shall be placed not less than five (5) feet out from the curb. This latter placement shall be obtained by variable length brackets.
6. Luminaries – Street lighting luminaries for commercial or industrial streets shall be of the pendant type. The list of approved luminaries will be on file with the Director of Public Works & Transportation.

**COUNTY ROAD LIGHTING**

1. Lighting may affect the safety of highway and street intersections, as well as efficiency of traffic operations. Statistics show that the evening accident rate is higher than during the daylight hours. This fact, due to a large degree, may be attributed to impaired visibility. In urban and suburban areas where there are concentrations of pedestrians and roadside and intersectional interferences, fixed source lighting tends to reduce accidents. Whether or not rural-at-grade intersections should be lighted depends on the planned geometrics and the turning volumes involved. Intersections that generally do not require channelization are seldom lighted. However, for the benefit of non-local users, lighting at rural intersections is desirable to aid the driver in ascertaining sign messages during non-daylight periods.
2. The planned location of intersection luminaries supports should be designed to present the least possible hazard to out-of-control vehicles. The breakaway support base should not be used within the limits of an at-grade intersection, particularly in densely developed areas with adjacent sidewalks. When struck, these standards could be a problem for pedestrians and compound damage to adjacent property and other vehicles.
3. These standards shall apply to County roads other than those located within subdivisions.
  - a. Light Source – All road lighting shall be specified by SMECO via a Street Lighting Change Order executed by the Board of County Commissioners.
  - b. Location and Spacing – A road light shall be installed on existing power poles where possible and staggered from side to side provided poles are so located. The determination of the final spacing and arrangements shall be predicated on the pole location and geometrics of the individual road. No road lighting shall be placed immediately adjacent to ground mounted transformers.

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**COUNTY ROAD LIGHTING** (Cont'd.)

- c. Supports and Mounting Arrangements – Existing poles utilized with the mountings approved by SMECO and the Director of Public Works & Transportation.
- d. Mounting Height – In accordance with SMECO requirements.
- e. Intersection Lighting – An Evaluation Form for Intersection Lighting will be completed by the Department of Public Works as shown on the attached.
- f. Luminaries – Road lighting luminaries shall be of a traditional type approved by SMECO and the Director of Public Works & Transportation.

**SECURITY LIGHTS**

County Security Lights may be approved by the Board of County Commissioners as required for the protection of County buildings and facilities. Security lights shall not be installed or paid for by the County for the security or protection of property or facilities not owned, rented or leased by the Board of County Commissioners. In urban residential roadways, Colonial type, fiberglass poles (black) with luminaries of 5,000 – 8,000 lumens, mounted at a height of 12 to 14 feet and placed a minimum of two (2) feet behind the face of curb, may be utilized.

**MISCELLANEOUS**

County/State intersections requiring lighting shall be 400-Watt Mercury Vapor Color corrected with a rated output of 20,000 lumens or high-pressure sodium luminaries of equal candle power. The type of luminaries location mounting shall be in accordance with local power company, local electric code and be approved by the Director of Public Works & Transportation. A permit to install same shall be obtained from St. Mary's County and the Maryland State Highway Administration as may be required. Any proposed installation trenching or open cutting by SMECO shall be covered under a Department of Public Works & Transportation Right-of-Way Construction Permit.

- 1. Trees - Wherever possible, efforts should be made to trim trees in such a way that the obstructing branches will grow above the fixture. For the appropriate species, this would involve removing lower branches and keeping upper branches intact, even if they are currently obstructing light distribution. With time, when the trees grow taller, these branches should create a canopy above the fixtures.
- 2. Crime Prevention - In certain circumstances, lighting improvements may compliment neighborhood crime prevention efforts. Increased lighting in itself, however, will not solve crime problems. Lights should be added only where there is a visibility problem, and where the neighborhood is organized to make use of the added visibility from new lights to actively fight crime.
- 3. Additional Lighting - Adding lighting should be considered only after all other reasonable crime prevention measures have been employed. These costs are borne by the requesting individual(s) via direct billing from SMECO.
- 4. Street Lighting in Pedestrian Areas - Installation of pedestrian lighting in above-ground, utility residential areas should be considered only in extreme situations due to the large cost implications of installing individual lampposts and separate wiring for this purpose.
- 5. Restoration - Four (4) years after installation pursuant to this policy, there may be a re-evaluation of the lighting needs by the Department of Public Works & Transportation, SMECO and the Sheriff's Department. If there is still a need for the upgraded lighting, the improvements will be left in place. If the circumstances that lead to the lighting increase have been resolved, SMECO will restore any high wattage lamps to lower watt lamps and may remove fixtures that exceed the standard specified in this policy.

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### **MISCELLANEOUS** (Cont'd.)

6. Clear Zones - Lighting standards (poles) should be placed outside the Clear Zones whenever practical. The appropriate clear zone dimensions for the various functional classifications will be found in the horizontal clearance to obstruction guidelines in AASHTO. Where poles are located within the Clear Zone, regardless of distances from the traveled way, they should be designed to have a suitable impact attenuation feature; normally a breakaway design is used. Breakaway poles should not be used on streets in densely developed areas, particularly with sidewalks.
7. Conduits - Where street lighting is being considered for future installation, considerable savings can be effected through design and installation of necessary Conduits under pavements and curbs as part of initial construction.
8. Glare - To minimize the effect of Glare and to provide the most economical lighting installation, luminaries are mounted at heights of at least 25 feet. Lighting uniformity is improved with higher mounting heights; and in most cases, mounting heights of 30 to 50 feet are usually preferable.

**PROCEDURE FOR ESTABLISHING A SPECIAL LIGHTING DISTRICT**

1. Letter of Interest or Draft First Petition submitted by Property Owners to the Board of County Commissioners/Department of Public Works & Transportation.
2. Prepare Preliminary Design and Construction Cost Estimate(s)
  - Coordinate Site Inspection with Southern Maryland Electric Cooperative (SMECO)
  - Establish Limits of District and Method of Assessment
  - Notification to Property Owners of Record
3. Public Information Meeting
  - Submit Package to Board of County Commissioners
  - Presentation to Residents – Estimated Installation and Energy Costs, Assessment(s) and Timing
  - Written Follow-Up to Citizens' Questions (if required)
4. Final Confirming Petition by Property Owners Submitted to the Board of County Commissioners
  - Verify Adequacy of Signatures Obtained (i.e. 60% vs. 100%)
  - Confirmation of "Benefitted" Properties
5. Prepare Draft Ordinance for Taxing District in Accordance with Final Petition
  - Prepare Deed, or Plat, for Right-of-Way(s), if required
  - Legal Review(s)
6. Approval of Final Petition and Draft Ordinance by the Board of County Commissioners
  - Schedule Public Hearing
  - Notice Requirements
  - Ordinance will note that taxes are subject to Annual Adjustments based on the Energy Costs charged by SMECO
7. Public Hearing on Taxing District Ordinance by the Board of County Commissioners
  - Ten (10) Day Comment Period
  - Fully Execute Deed(s), or Plat, for Right-of-Way(s) and Street Lighting Change Order
8. Adoption of Ordinance by the Board of County Commissioners by Resolution
  - Formal notification to Property Owners with copy of Approved Ordinance
9. Recordation of Deed(s), or Plat, for Right-of-Way(s), if required
10. Preparation of Final Plans and Specifications (if required)
11. Scheduling and Construction
  - Dependent on Capital and Operational Funding and Department Workload
  - Contract with SMECO for Installation, Maintenance and Operation of Streetlights
12. Final Assessment of Costs
  - Project Closeout
  - Verification of Assessment by Finance Department
  - Levy Ordinance and Hearing

**ST. MARY'S COUNTY  
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION**

**LIGHTING LEVELS FOR PROPOSED STREETS**

AREA / ROADWAY CLASSIFICATION	ROADWAY CATEGORY/ TRAFFIC COUNT (VPD)	LUMINAIRE SIZE (LUMEN)	MAXIMUM SPACING (FEET)	POLE (1,2) PLACEMENT (FEET)	BRACKET LENGTH (FEET)	MOUNTING HEIGHT (FEET)	INSTALLATION PATTERN (SEE TABLE BELOW)	
LOCAL	0-250	5,000	245	10.5	12	25	A	
	251-500	5,000	245	10.5	12	25	A	
	251-400	5,000	245	8	10	25	A	
	401-3000	5,000	250	8	10	25	A	
	3001-5000	8,000	200	8.5	10	30	A	
	Over 5000	8,000	225	11.5	12	30	D	
<b>RESIDENTIAL</b>								
COLLECTOR	401-3000	14,000	220	8	10	35	C	
	3001-5500	14,000	225	8.5	10	35	C	
	Over 5500	8,000	180	11.5	12	30	D	
ARTERIAL	401-3000	14,000	220	8	10	35	C	
	3001-5500	14,000	225	8	10	35	C	
	Over 5500	14,000	180	11.5	12	40 (3)	D	
LOCAL	0-250	14,000	195	10.5	12	35	A	
	251-500	14,000	195	10.5	12	35	A	
	251-400	8,000	215	8	10	30	B	
	INDUSTRIAL	8,000	220	8	10	30	B	
	3001-5000	23,000	285	8.5	10	35	C	
	Over 5000	23,000	285	8.5	10	35	C	
URBAN / COMMERCIAL / INDUSTRIAL	14,000	220	11.5	12	35	D		
	COLLECTOR	401-3000	14,000	180	8	10	35	A
		INDUSTRIAL	23,000	240	8.5	10	35	C
		3001-5500	23,000	240	8.5	10	35	C
		Over 5500	14,000	185	11.5	12	35	D
	ARTERIAL	401-3000	23,000	215	8	10	35	C
INDUSTRIAL		42,000	280	8.5	10	45 (3)	C	
3001-5500		42,000	280	8.5	10	45 (3)	C	
Over 5500		23,000	190	11.5	12	40 (3)	D	

(VPD) - Vehicles Per Day

- (1) Measured from face to pole to face of curb.
- (2) When luminaire is proposed at a section of curb and gutter roadway where no sidewalk is provided, pole shall be placed six (6) feet behind face of curb. Bracket length shall be eight (8) feet.
- (3) Specified mounting height exceeds normal streetlight fixture height above the roadway. Special streetlight design may be submitted by the engineer to reduce the specified mounting height. Approval of this special design by the Department of Public Works & Transportation is required.

**INSTALLATION PATTERN**

**Pattern Type**

**Code**

Same Side of Road	A - up to 35' spacing
Both Sides of Road and Opposite each Other	B
Staggered Along Both Sides of Road	C - 30' to 65' spacing
Opposite Each Other Across Median	D



**ST. MARY'S COUNTY  
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**LIGHTING LEVELS FOR EXISTING STREETS**

AREA CLASSIFICATION	ROADWAY SECTION TYPE	WIDTH OF ROADWAY	LUMINAIRE SIZE (LUMENS)	MAXIMUM SPACING (FEET)	MOUNTING HEIGHT (FEET)
	CURB & GUTTER (Urban)	30	8,000	170 (A)	25
		36	8,000	170 (B)	25
		44	8,000	175 (B)	25
RESIDENTIAL	DITCH SECTION (Rural)	24	8,000	170 (A)	25
		36	8,000	170 (B)	25
		48	8,000	225 (B)	25
	CURB & GUTTER	30	14,000	205 (A)	30
		36	8,000	220 (B)	35
		48	23,000	300 (B)	30
INDUSTRIAL / COMMERCIAL	DITCH SECTION (Rural)	24	14,000	185 (A)	30
		36	8,000	220 (B)	25
		48	8,000	225 (B)	25

NOTE:

- (A) All luminaires to be installed on one (1) side of the road, unless otherwise noted.
- (B) Luminaires to be installed staggered along both sides of the road.
- (C) Bracket lengths to provide a minimum of five (5) feet overhang of the road surface. Due to the many variables associated with the geometric of existing roads, bracket lengths shall be determined by the SMECO Engineer and shown on the plans.

SOURCE: Fairfax County 1988 Public facilities Manual (as modified).

**EXHIBIT E**

**ST. MARY'S COUNTY  
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION**

**EVALUATION FORM FOR INTERSECTION LIGHTING**

**LOCATION:** \_\_\_\_\_

	<b>CRITERIA</b>	<b>SCORE MET = 1 NOT MET = 0 (A)</b>	<b>WEIGHT (B)</b>	<b>TOTAL (A x B)</b>
A	Is the intersection Signalized?		5	
B	Does the intersection have medians on any approach?		4	
C	Does the intersection have left turn bays and/or auxiliary lanes?		3	
D	Is the intersection a freeway ramp terminal?		4	
E	Does the intersection involve two (2) or more State-maintained highways?		1	
F	Does the ADT of the roadway exceed 15,000?		2	
G	Ratio of Night To Total Accidents Min. 5 Accidents	0.35 - 0.40 0.40 - 0.45 0.45 - 0.50	1 3 5 8	
H	Is the intersection a school entrance?		3	
I	Is the operating speed on any road approach greater than 50 MPH?		4	
J	Is the intersection sight distance restricted?		5	
K	Are there any brightly light areas (i.e. parking lots, commercial areas, etc.) within 300 feet of the intersection?		4	
L	Are any of the road approaches continuously light?		4	
<b>TOTAL</b>				

**NOTES:**

1. Intersection lighting is to be considered by a score of 13 or more.
2. Potential for intersection lighting will be prioritized based on score.
3. Crime deterrence or "Hot Spot" areas may warrant lighting irrespective of score.

**SOURCE:** Maryland State Highway Administration, as modified.

**EXHIBIT C**