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# MD 85 (BUCKEYSTOWN PIKE) IMPROVEMENTS PHASE 1: I-270 INTERCHANGE RECONSTRUCTION

## AIR QUALITY ANALYSIS TECHNICAL REPORT

AUGUST 2013

**Frederick County, Maryland**



**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION**



**MARYLAND DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION**

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## I. INTRODUCTION

This report presents the results of a review of air quality impacts associated with the proposed Phase 1 improvements along MD 85 (Buckeystown Pike) at the I-270 interchange in Frederick County, Maryland (see **Figure 1**). This study is intended as an evaluation of the project level air quality impacts of the proposed improvements. This evaluation is provided to meet the requirements of the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA).

The project limits are along MD 85, from Spectrum Drive to Pegasus Court. The limits also include I-270 from approximately 3000' to the east and the west of MD 85. Presently, MD 85 intersects I-270 at mile point 9.06. MD 85 runs north-south and is classified an urban arterial throughout the limits of the project (mile point 8.35 to 9.38). I-270 is classified as a rural interstate throughout the project (mile point 8.14 to 9.39). The Average Daily Traffic (ADT) on MD 85 (south of I-270) was 50,425 vehicles per day (VPD) in 2010, and is projected to be 76,800 VPD in 2030 No-Build conditions. Trucks accounted for 8% of the ADT north of I-270 and 21% of the ADT south of I-270 in both 2010 and the 2030 under No-Build conditions along MD 85. I-270 (from I-70 to MD 85) had an ADT of 113,300 VPD in 2010 and is projected to have 156,100 VPD by 2030 in the No-Build conditions. Trucks account for 11% of the ADT along I-270 in both 2010 and the 2030 under No-Build conditions.

The purpose of the MD 85 Corridor Planning Study is to improve safety and traffic operations for vehicles, pedestrians, and bicycles using MD 85, and to address future traffic congestion predicted by 2030 projections. While this study is a break out project from the I-270/US 15 Multi-Modal Corridor Study, it is necessary in the short-term to address projected unsatisfactory operational and capacity conditions anticipated as a result of planned residential, commercial and industrial office development in the study area. Proposed roadway improvements involve the reconstruction of the I-270 interchange, including realignment of ramps, removing and replacing the two I-270 bridges over MD 85 with longer, wider structures to accommodate the additional lanes added to MD 85, and the addition of bicycle lanes. Tie in improvements will be proposed at the intersections of Spectrum Drive and Crestwood Boulevard.

The interchange will consist of a 118'-0" wide (out-to-out, including parapets) bridge. The newly constructed bridge will be wide enough to allow for the future widening of US 15 with the I-270 Multi-Modal Corridor Study. The existing single lane ramp from NB MD 85 to NB I-270 will be reconstructed to provide a two-lane typical section. This ramp will be widened and shifted south to accommodate double-turn lanes from MD 85. The existing loop ramp from NB I-270 to SB MD 85 will be removed. This movement will be accommodated by a ramp which will also include the movement from NB I-270 to NB MD 85. The existing loop ramp from SB I-270 to NB MD 85 will be rebuilt with a deceleration lane extending along the mainline of SB I-270 to meet AASHTO design criteria. The existing single-lane ramp from MD 85 to SB I-270 will be reconstructed to provide a two-lane typical section. This ramp will be widened from MD 85 to SB I-270 to accommodate a direct right turn from NB MD 85 and a double left from SB MD 85. The existing single lane from SB I-270 to SB MD 85 will be reconstructed to provide a two-lane typical section. This ramp will be widened and shifted slightly to the north to accommodate a two-lane exit ramp from SB I-270. The existing single lane from SB MD 85 to NB I-270 will be reconstructed to provide a two-lane typical section. This ramp will be widened and shifted south to accommodate double-turn lanes from MD 85.



**FIGURE 1 – PROJECT AREA**

The project will also include widening of MD 85 to a divided 6-lane roadway with ramp auxiliary lanes, a 6-foot bike lane in each direction, and a varying 4 to 30-foot median. Both the MD 85 at Crestwood Boulevard/Shockley Drive intersection and the MD 85 at Spectrum Drive intersection will be modified and improved to match the proposed MD 85 typical section. The proposed improvements at Spectrum Drive will provide a triple left from Spectrum Drive to SB MD 85 (right-most lane directs traffic to NB I-270, middle lane is a choice lane between NB I-270 or SB MD 85, and the inside lane directs traffic to SB MD 85. The inside lane also puts the driver in line for making the SB I-270 movement).

Pedestrians will be accommodated along MD 85 with the installation of a 5-foot sidewalk along the east side throughout the project limits, which will separate pedestrians from traffic and eliminate conflict with the ramp crossovers located on the west side of MD 85. The sidewalk will provide access to many pedestrian destinations, such as the Francis Scott Key Mall, restaurants, hotels, and an educational facility.

The area surrounding MD 85 is rapidly converting from a mostly agricultural area to an urban area. Improved access to and from I-270, as well as improved traffic flow along MD 85, are essential to accommodating the current and future planned land uses. The existing and proposed-land use surrounding the MD 85 Phase 1 project limits is a mixture of medium-density residential, commercial, industrial, institutional, brush, and deciduous forest. North of the interchange, between MD 85 and I-270, is a discount club store, a church and the Grove Road Business Complex. West of I-270 in this location are businesses, and this area is also nearest to residential properties within the MD 85 Phase 1 project limits, which are

located along Crestwood Boulevard and adjacent to southbound I-270. North of the interchange, fronting MD 85 and along Spectrum Drive is a mix of fast food restaurants and gas stations, auto service stores, a bank, car dealership, hotel and home improvement store.

East of the interchange is predominantly comprised of the Francis Scott Key Mall and another hotel, while west of the interchange is comprised mostly of more hotels and an athletic club. Just south of the interchange are additional commercial and institutional properties, including a hotel, Business College, restaurant, two car dealerships, the Monocacy Business Center, and the SHA District 7 Office. South of the interchange, along MD 85 is the Westview Entertainment, Westview Village and two additional hotels.

Construction of a hotel at Executive Way and Westview Drive is currently under construction. Proposed commercial and residential developments include a County Waste to Energy Plant (open by approximately 2015), Westview South Mixed Development with office and industrial sites (partially built), and will be revising the plan to include 500 dwellings (expected construction 2015+). The Russell property (St. John Properties), which is comprised of limited industrial/office uses, has preliminary subdivision approvals.

## II. AIR QUALITY BACKGROUND

The Clean Air Act (CAA) Amendments of 1990 and the Final Transportation Conformity Rule [40 CFR Parts 51 and 93] direct the U.S. Environmental Protection Agency (EPA) to implement environmental policies and regulations that will ensure acceptable levels of air quality. Both the Clean Air Act and the Final Transportation Conformity Rule affect proposed transportation projects.

According to the CAA Title I, Section 176 (c) 2; *“No federal agency may approve, accept, or fund any transportation plan, program, or project unless such plan, program, or project has been found to conform to any applicable State Implementation Plan (SIP) in effect under this act.”* The Final Conformity Rule defines conformity as; *“Conformity to an implementation plan’s purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of such standards; and that such activities will not:*

- *Cause or contribute to any new violation of any NAAQS in any area;*
- *Increase the frequency or severity of any existing violation of any NAAQS in any area; or*
- *Delay timely attainment of any NAAQS or any required interim emission reductions or other milestones in any area.”*

To comply with the CAA, the Environmental Protection Agency (EPA) has issued Proposed Rules, Guidance Clarifications, and Final Rules concerning the Conformity Determination of fine and coarse particulates (PM<sub>2.5</sub> and PM<sub>10</sub>); and Draft and Final Rules concerning quantitative analysis of CO and PM<sub>2.5</sub>, and guidance on analysis of Mobile Air Source Toxics (MSATs). Following is a summary of recent rules and clarifications:

- Transportation Conformity Rule PM<sub>2.5</sub> and PM<sub>10</sub> Amendments; March 10, 2006
- Final PM Qualitative Guidance Clarification; June 12, 2009
- Final PM Conformity Rule; March 10, 2010
- Draft Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas, May 26, 2010
- Final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas, December 20, 2010.

Final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in CO Nonattainment and Maintenance Areas, December 2010  
Transportation Conformity Rule Restructuring Amendments, March 2012  
Transportation Conformity Regulations as of April 2012  
Interim Guidance Update on MSAT Analysis in NEPA, December 6, 2012  
Revised Air Quality Standards for Particle Pollution, Annual PM<sub>2.5</sub> NAAQS, December 14, 2012

As required by the Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants. These pollutants, known as criteria pollutants, are carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> & PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (pb). These federal standards are summarized in **Table 1**. The "primary" standards have been established to protect the public health. The "secondary" standards are intended to protect the nation's welfare, and they account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare.

Section 107 of the 1977 Clean Air Act Amendment requires that EPA publish a list of all geographic areas in compliance with the NAAQS, as well as those areas not in compliance with the NAAQS. The designation of an area is made on a pollutant-by-pollutant basis. EPA's area designations consist of: Attainment, Unclassified, Maintenance, and Nonattainment. Ambient air quality is monitored through a network of stations to determine conditions throughout the country. EPA reviews the monitoring data, and areas where air pollution levels persistently exceed the NAAQS may be designated "nonattainment" for one or more pollutants. After a nonattainment area improves conditions to meet the standard for a pollutant, it is redesignated as a maintenance area. Typically these designations are applied to entire counties or groups of counties.

In addition to the criteria pollutants for which there are NAAQS, EPA also regulates air toxics. Toxic air pollutants are those pollutants known or suspected to cause cancer or other serious health effects. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries). The Clean Air Act (CAA) identified 188 air toxics. In 2001 EPA identified a list of 21 Mobile Source Air Toxics (MSAT), and highlighted six of these MSATs as "priority" MSAT.

Gases that trap heat in the atmosphere are often referred to as greenhouse gases (GHG). Greenhouse gases are necessary to life, as we know it, because they keep the planet's surface warmer than it otherwise would be. This is referred to as the Greenhouse Effect. As concentrations of greenhouse gases are increasing, the Earth's temperature appears to be increasing. The principal greenhouse gases that enter the atmosphere because of human activities include carbon dioxide, methane, nitrous oxide, and fluorinated gases.

**TABLE 1  
NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)**

Pollutant	Primary/ Secondary	Primary Standards		Form
		Level	Averaging Time	
Carbon Monoxide 76 FR 54294	Primary	9 ppm	8-hour	Not to be exceeded more than once per year
		35 ppm	1-hour	
Lead 73 FR 669964	Primary and Secondary	0.15 µg/m <sup>3</sup>	Rolling 3-Month Average	Not to be exceeded
Nitrogen Dioxide 75 FR 6464	Primary	100 ppb	1-hour	98 <sup>th</sup> percentile, averaged over 3 years
	Primary and Secondary	53 ppb	Annual	Annual Mean
Particulate Matter (PM <sub>10</sub> ) 71 FR 61144	Primary and Secondary	150 µg/m	24-hour	Not to be exceeded more than once per year on average over 3 years
Particulate Matter (PM <sub>2.5</sub> ) 71 FR 61144	Primary	12 µg/m <sup>3</sup>	Annual	Annual mean averaged over 3 years
	Secondary	15 µg/m <sup>3</sup>	Annual	Annual mean averaged over 3 years
	Primary and Secondary	35 µg/m <sup>3</sup>	24-hour	98 <sup>th</sup> percentile, averaged over 3 years
Ozone 73 FR 16436	Primary and Secondary	0.075 ppm	8-hour	Annual fourth highest daily maximum 8-hour concentration, averaged over 3 years
Sulfur Dioxide 75 FR 35520	Primary	75 ppb	1-hour	Not to be exceeded more than once per year
	Secondary	0.5 ppm	3-hour	

### III. ENVIRONMENTAL ANALYSIS

The MD 85/I-270 Interchange project is located in Frederick County, Maryland, which is included as a part of the Washington, DC-MD-VA Metropolitan Statistical Area (MSA). The region has been classified as marginal nonattainment with respect to the 2008 eight-hour ozone standard and nonattainment of the 1997 fine particulate (PM<sub>2.5</sub>) annual standard. A portion of the MSA, election districts 4, 7 and 13 in Montgomery County, had been nonattainment for carbon monoxide; however, this area has been re-designated as a CO Maintenance Area. Frederick County is not a nonattainment area for carbon monoxide (CO).

Transportation programs and plans must be evaluated for “conformity” to the applicable State Implementation Plan (SIP) provisions before projects can receive Federal funding. In addition, they must be in the current Constrained Long Range Plan (CLRP) and Transportation Improvement Program (TIP). A

TIP generally presents projects anticipated over the next several years while the CLRP covers a longer period. A Metropolitan Planning Organization (MPO) is designated to develop the TIP and CLRP for a region, and to document their conformity with SIP provisions. For the Washington, DC-MD-VA MSA region, the National Capital Region Transportation Planning Board (NCRTPB), which is part of the Metropolitan Washington Council of Governments (MWCOCG), serves as the MPO for the MSA.

As the MPO, NCRTPB develops the TIP and CLRP for the region, including Frederick County. Furthermore, it performs the related regional conformity analysis. The current CLRP, referred to as the *2012 National Capital Region's Financially Constrained Long-Range Transportation Plan*, was adopted by NCRTPB on July 18, 2012. The latest TIP, covering the period FY 2013 to 2018, was adopted by NCRTPB on July 18, 2012. An updated regional conformity analysis covering both the TIP and LRP was also adopted on July 18, 2012.

At a regional level, a project is considered to be conforming if it is a part of a conforming TIP and CLRP. The proposed project is listed in the December 19, 2012 Air Quality Conformity Inputs to the 2012 CLRP and the FY 2013-2018 TIP (Project ID FP2) for the Washington Metropolitan Region with Completion Date of 2020.

#### IV. ENVIRONMENTAL CONSEQUENCES

In addition to the regional conformity analysis, any Federally funded project within a nonattainment or maintenance area for carbon monoxide or particulate matter must be analyzed at the project-level. At the project level, the pollutants could possibly have localized (“hot-spot”) levels above the criteria. To satisfy the NEPA air quality assessment purpose, it has been common to analyze project-level CO conditions. The MD 85/I-270 Interchange project is not in a CO nonattainment area; therefore, a qualitative CO assessment has been included. Since Frederick County is a nonattainment area for PM<sub>2.5</sub>, a project-specific PM<sub>2.5</sub> assessment has also been provided.

The Division of Air Quality, within the Maryland Department of the Environment is responsible for implementing and enforcing regulations to ensure that the air that Maryland citizens breathe is clean and healthful. This mission is accomplished through several methods, including air pollution monitoring. The MDE CO air monitoring stations nearest to the study area are located at the Howard University Laboratory in Beltsville, Maryland and the NARSTO (North American Research Strategy for Tropospheric Ozone) site in Arendtsville, Pennsylvania. The MDE PM<sub>2.5</sub> air monitoring stations nearest to the study area are located at 18530 Roxbury Road in Hagerstown, Maryland and the Lathrop E. Smith Environmental Education Center in Rockville, Maryland. These sites are in EPA Region 3. Monitored air quality data within or near the study area for the years 2010-2012 is presented in **Table 2**. For details of monitored data see Appendix A.

TABLE 2

Ambient Air Quality Monitoring Data 2010-2012								
			Site 42-001-0001 Arendtsville Adams County, PA			Site 24-033-0030 12003 Old Baltimore Pike Beltsville, Maryland		
			2010	2011	2012	2010	2011	2012
Carbon Monoxide (CO) [ppm]	1-Hour	Maximum	0.8	0.7	0.8	1.5	1.7	1.3
		2nd Maximum	0.7	0.2	0.7	1.3	1.3	1.2
		# of Exceedances	0	0	0	0	0	0
	8-Hour	Maximum	0.5	0.3	0.7	1	1.1	1.2
		2nd Maximum	0.4	0.3	0.6	1	0.8	0.9
		# of Exceedances	0	0	0	0	0	0
			Site 24-043-0009 18530 Roxbury Road Hagerstown, Maryland			Site 24-031-3001 5110 Meadows Lane Rockville, Maryland		
			2010	2011	2012	2010	2011	2012
Particulate Matter [ug/m <sup>3</sup> ]	PM2.5	98th Pct. 24-Hour	31	28	27	28	25	23
		# of Exceedances	0	0	0	0	0	0
		Mean Annual	12.6	11.5	10.8	11.1	10.9	10.3
		# of Exceedances	0	0	0	0	0	0

## 1. Carbon Monoxide (CO) Assessment

The project area was included in the analysis completed for the MD 85 Buckeystown Pike from English Muffin Way to north of Grove Road Air Quality Analysis, Final Report January 2003, and a microscale CO analysis was completed. An air quality analysis was conducted at 60 receptor locations within the study area to determine which locations may experience adverse air quality impacts due to the project. The maximum one-hour and eight-hour CO levels were predicted at these receptor locations at the MD 85/I-270 interchange and at the MD 85/Spectrum Dr. intersection. The analysis indicated that carbon monoxide (CO) impacts would result in no violations of the State and National Ambient Air Quality Standards (S/NAQS) 8-hour concentration (9.0 parts per million (ppm)) or the S/NAQS 1-hour concentration (35 ppm), as displayed by the results presented in **Table 3**.

As mentioned, a portion of the Washington, DC-MD-VA Metropolitan Statistical Area (MSA) is considered to be a moderate maintenance area in terms of carbon monoxide (CO). This maintenance area only encompasses Election Districts 4, 7 and 13 in Montgomery County and Election Districts 2, 6, 12, 16, 17 and 18 in Prince George's County. The project area is in Fredrick County. There has not been a local violation of the CO standard since 1988. Code of Federal Regulations Title 40, Part 93-Subpart A (40CFR93A) implements section 176(c) of the Clean Air Act (CAA), as amended (42 U.S.C. 7401 *et seq.*). Paragraph 40CFR93.102 (b):*Geographic Applicability* states that the provisions of the subpart apply in all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan. Since the study area is not in a CO nonattainment or maintenance area, a project level hot-spot conformity determination in conformance with 40 CFR 93.116 is

not required. Therefore, a qualitative assessment considering local factors in conformance with 40 CFR 93.123(a)(2)(ii) is provided hereinafter.

TABLE 3  
MAXIMUM PREDICTED PEAK CO CONCENTRATIONS (PPM)

Location	Existing			No Build (2025)			Build (2025)	
	1- Hr		8-Hr	1- Hr		8-Hr	1-Hr	8 Hr
	AM	PM		AM	PM			
MD 85 / I-270 Interchange	6.9	6.6	4.7	6.6	9.8	4.4	5.7	4.0
MD 85 / Spectrum Dr. Intersection	5.6	10.4	7.1	6.5	6.3	6.7	7.3	5.1
<b>NAAQS</b>	<b>35</b>		<b>9</b>	<b>35</b>		<b>9</b>	<b>35</b>	<b>9</b>

As shown in **Table 2**, the maximum 1-hour monitored CO concentration between 2010 and 2012 is 1.7 ppm at MDE site 24-0330030 in 2011, located in Beltsville, Maryland. This concentration is only 4.9 percent of the 1-hour CO NAAQS of 35.0 ppm. The maximum 8-hour monitored CO concentration between 2010 and 2012 is 1.2 ppm at this same site in 2012, which is only 13.3 percent of the 8-hour NAAQS of 9.0 ppm.

A review of data provided, including traffic data and operational analysis summarized in **Tables 4 and 5** (see Appendix B for details), demonstrates that while the MD 85/I-270 Interchange project will reduce LOS in two instances it avoids LOS conditions that would be much worse without the proposed improvements and does not result in significant traffic volumes, changes in vehicle mix, or other factors that would cause an increase in CO emissions relative to the No-build conditions. Without constructing the proposed MD 85 Phase 1 improvements, several intersections along MD 85 will operate at LOS “F” during peak hours in the design year 2030. Vehicle delay, as compared to the 2030 No-Build conditions, will improve along MD 85 in the 2030 Build conditions. This project has been designed to address current safety deficiencies along MD 85 and the proposed and approved economic development needs within the surrounding areas, rather than increase corridor capacity; therefore, there is no change expected in the no-build and build traffic volumes or vehicle mix.

TABLE 4  
TRAFFIC DATA

Scenario	Roadway	2015 ADT	2015 Truck Percentage	2015 # of Trucks	2030 ADT	2030 Truck Percentage	2030 # of Trucks
No Build	MD 85 (N/S)	48,450 / 45,850	8% / 21%	3,876 / 9,629	62,300 / 51,900	8% / 21%	4,984 / 10,899
	I-270 (N/S)	124,100 / 97,100	11%	13,651 / 10,681	161,800 / 129,575	11%	17,798 / 14,253
	<b>Combined (N/S)</b>	<b>172,550 / 142,950</b>	<b>10% / 14%</b>	<b>17,527 / 20,310</b>	<b>224,100 / 181,475</b>	<b>10% / 14%</b>	<b>22,782 / 25,152</b>
Build	MD 85 (N/S)	48,450 / 45,850	8% / 21%	3,876 / 9,629	62,300 / 51,900	8% / 21%	4,984 / 10,899
	I-270 (N/S)	124,100 / 97,100	11%	13,651 / 10,681	161,800 / 129,575	11%	17,798 / 14,253
	<b>Combined (N/S)</b>	<b>172,550 / 142,950</b>	<b>10% / 14%</b>	<b>17,527 / 20,310</b>	<b>224,100 / 181,475</b>	<b>10% / 14%</b>	<b>22,782 / 25,152</b>

TABLE 5  
TRAFFIC OPERATION SUMMARY

MD 85 Intersection	Peak Hour	Existing (2010)		2030 No-Build		2030 Build	
		LOS	Delay*	LOS	Delay*	LOS	Delay*
Spectrum Dr.	AM	D	24.7	D	49.6	D	43.7
	PM	D	53.5	F	141.3	E	66.9
NB Ramp	AM	D	3.9	D	10.4	D	20.4
	PM	F	104.7	F	203.3	E	61.9
SB Ramp	AM	D	5.1	F	139.5	D	10.0
	PM	D	14.1	F	113.5	D	12.3
Crestwood Dr.	AM	D	17.8	E	75.2	D	27.5
	PM	D	40.0	F	101.7	F	107.9

\* = seconds per vehicle

In conclusion, because the monitored data in **Table 2** demonstrates monitored CO concentrations are a small percentage of the CO NAAQS, and improvements to the calculated intersection Level of Service along this portion of the MD 85 corridor due to proposed project, this project will not cause or contribute to a new violation of the CO NAAQS.

## 2. Particulate Matter (PM<sub>2.5</sub>) Assessment

The project is located in Frederick County, which is in the Washington DC-MD-VA Fine Particulate Matter (PM<sub>2.5</sub>) nonattainment Area. This area was designated as nonattainment for PM<sub>2.5</sub> based on 1997 NAAQS on January 5, 2005 by EPA. This designation became effective on April 5, 2005, 90 days after EPA's published action in the Federal Register. Transportation conformity for the PM<sub>2.5</sub> standards applied on April 5, 2006, after the one-year grace period provided by the Clean Air Act. On November 13, 2009 EPA designated nonattainment areas based on the 2006 24-hour PM<sub>2.5</sub> NAAQS. The Washington DC-MD-VA region was not designated as nonattainment for the 2006 standard, therefore the designations based on the 1997 NAAQS remain in effect.

On March 10, 2006, EPA issued amendments to the Transportation Conformity Rule to address localized impacts of particulate matter: "*PM<sub>2.5</sub> and PM<sub>10</sub> Hot-Spot Analyses in Project-level Transportation Conformity Determinations for the New PM<sub>2.5</sub> and Existing PM<sub>10</sub> National Ambient Air Quality Standards*" (71 FR 12468). These rule amendments require the assessment of localized air quality impacts of Federally funded or approved transportation projects in PM<sub>10</sub> and PM<sub>2.5</sub> nonattainment and maintenance areas. On December 20, 2010, EPA issued "*Final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas*", (75 FR 79370), which helps state and local agencies complete quantitative PM<sub>2.5</sub> and PM<sub>10</sub> hot-spot analyses for project-level transportation conformity determinations of certain highway and transit projects. This guidance included a two-year grace period until December 20, 2012. Because this project was commenced prior to the end of the grace period, a quantitative analysis is not required for this project.

Projects that require hotspot analysis for PM<sub>2.5</sub> are those that are *Projects of Air Quality Concern* as enumerated in 40 CFR 93.123(b)(1):

- (i) *New highway projects that have a significant number of diesel vehicles, and expanded projects that have a significant increase in the number of diesel vehicles;*

- (ii) *Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;*
- (iii) *New bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location;*
- (iv) *Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and*
- (v) *Projects in or affecting locations, areas, or categories of sites which are identified in the PM<sub>10</sub> or PM<sub>2.5</sub> applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violations.*

As discussed in the examples of the preamble to the March 10, 2006 Final Rule for PM<sub>2.5</sub> and PM<sub>10</sub> Hot-Spot Analyses in Project-Level Transportation Conformity Determinations (71 FR 12491), for projects involving the expansion of an existing highway, 40 CFR 93.123(b)(1)(i) has been interpreted as applying only to projects that would involve a significant increase in the number of diesel transit buses and diesel trucks on the existing facility.

Determination as to whether the MD 85/I-270 Interchange project is a *Project of Air Quality Concern* will be finalized by Interagency Consultation. To assist with the Interagency Consultation process, SHA has prepared the following assessment of the proposed improvements:

- The US 85/I-270 Interchange project is considered under the following paragraphs of 40 CFR 93:
  - 40 CFR 92.123(b)(1)(i), as amended, which includes *“New highway projects that have a significant number of diesel vehicles, and expanded projects that have a significant increase in the number of diesel vehicles.”*
  - 40 CFR 92.123(b)(1)(ii), as amended, which includes *“Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles **related to the project**”.*
- The proposed improvements do not meet the criteria set forth in 40 CFR 93.123(b)(1)(i) to be considered a project of “air quality concern” based on the following considerations:
  - The project consists of roadway improvements including the reconstruction of the I-70 interchange, including realignment of ramps, removing and replacing the two I-270 bridges over MD 85 with longer, wider structures to accommodate the additional lanes added to MD 85, and the addition of bicycle lanes. Tie in improvements will be proposed at the intersections of Spectrum Drive and Crestwood Boulevard. Pedestrians will be accommodated along MD 85 with the installation of a 5-foot sidewalk along the east side throughout the project limits, which will separate pedestrians from traffic and eliminate conflict with the ramp crossovers located on the west side of MD 85.
  - As shown in **Table 4**, there will not be a significant increase in trucks between the No-Build and Build conditions. From **Table 4** the combined truck percentage on I-270 and MD 85 is projected to remain the same at 10% and 14% between the No-Build and Build conditions. There is no expected increase in the number of trucks on these two facilities between the No-Build and Build conditions.
  - There are no additional through lanes proposed on I-270 with this project.
  - The construction will not result in meaningful changes between No-Build and Build traffic volumes or vehicle mix.
- The proposed improvements do not meet the criteria set forth in 40 CFR 93.123(b)(1)(ii) to be considered a project of “air quality concern”.
  - As shown in **Table 5**, while four less intersections will experience failing LOS and two intersections will have better LOS, two intersections will experience lower LOS in the Build

versus No-Build conditions.

- o Therefore, the project does not meet the requirement that the change in LOS is caused by an increase in diesel vehicles “**related to the project**”.
  - o Compared to the No-Build configuration, the proposed Build alternative provides benefits during both peak hours. Refer to Appendix B for additional information.
- A review of the traffic data discussed above demonstrates that there will not be a "significant" increase in the number of trucks from the No-Build condition to the Build. This project has been designed to address current safety deficiencies along MD 85 within the vicinity of I-270, and to address the proposed and approved economic development needs within the surrounding areas, rather than increase corridor capacity; therefore, there is no noticeable change expected in the no-build and build traffic volumes or vehicle mix.
  - Section 176(c) of the Clean Air Act and the Federal Conformity Rule require that transportation plans and programs conform to the intent of the air quality state implementation plan (SIP) through a regional emissions analysis in PM<sub>2.5</sub> nonattainment areas. The National Capital Regional Transportation Planning Board (NCRTPB) serves as the Metropolitan Planning Organization (MPO), and therefore it is responsible for the regional conformity determination.
  - The currently approved NCRTPB Constrained Long Range Plan (CLRP), referred to as the *2012 Constrained Long Range Plan*, and the *2013-2018 Transportation Improvement Program (TIP)*, have been determined to conform to the requirements of the Clean Air Act Amendments of 1990. These represent the currently conforming CLRP and TIP in accordance with 40 CFR 93.114. The proposed project is listed in the December 19, 2012 Air Quality Conformity Inputs to the 2012 CLRP and the FY 2013-2018 TIP (Project ID FP2) for the Washington Metropolitan Region with Completion Date of 2020.
  - The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. Conformity to the requirements of the Clean Air Act Amendments of 1990 means that the transportation activity will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS.
  - Based on review and analysis as discussed above, it is determined that the proposed MD 85/I-270 Interchange project in Frederick County will meet the Clean Air Act and 40 CFR 93.109 requirements for Fine Particulate Matter – PM<sub>2.5</sub>. These requirements are met without a hot-spot analysis because the project has not been found to be a project of air quality concern as defined under 40 CFR 93.123(b)(1). The project will not cause or contribute to a new violation of the PM<sub>2.5</sub> NAAQS, or increase the frequency or severity of an existing violation.

### 3. MSAT Assessment

The Federal Highway Administration (FHWA) *Guidance Update on Mobile Source Air Toxic Analysis in NEPA* requires an assessment of Mobile Source Air Toxics (MSAT) under specific conditions. The EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers. These seven MSATs are: acrolein; benzene; 1, 3-butadiene; diesel exhaust (organic gases and diesel particulate matter); formaldehyde; naphthalene; and polycyclic organic matter. On May 20, 2004, FHWA concurred with SHA's recommendation that in accordance with CEQ Regulation 23 CFR 771, the proposed improvements to MD 85 from south of English Muffin Way to north of Grove Rd, which includes the MD 85/I-270 Interchange project in Frederick County be classified as a Categorical Exclusions (CE). Therefore in accordance with the above referenced FHWA guidance, the project would be considered a **Project with No Meaningful Potential MSAT Effects**.

The purpose of this project is to improve safety and traffic operations for vehicles, pedestrians, and bicycles using MD 85, and to address future traffic congestion predicted by 2030 projections. Proposed

roadway improvements involve the reconstruction of the I-270 interchange, including realignment of ramps, removing and replacing the two I-270 bridges over MD 85 with longer, wider structures to accommodate the additional lanes added to MD 85, and the addition of bicycle lanes. Tie in improvements will be proposed at the intersections of Spectrum Drive and Crestwood Boulevard.

The interchange will consist of a 118'-0" wide (out-to-out, including parapets) bridge. The newly constructed bridge will be wide enough to allow for the future widening of US 15 with the I-270 Multi-Modal Corridor Study. The existing single lane ramp from NB MD 85 to NB I-270 will be reconstructed to provide a two-lane typical section. This ramp will be widened and shifted south to accommodate double-turn lanes from MD 85. The existing loop ramp from NB I-270 to SB MD 85 will be removed. This movement will be accommodated by a ramp which will also include the movement from NB I-270 to NB MD 85. The existing loop ramp from SB I-270 to NB MD 85 will be rebuilt with a deceleration lane extending along the mainline of SB I-270 to meet AASHTO design criteria. The existing single-lane ramp from MD 85 to SB I-270 will be reconstructed to provide a two-lane typical section. This ramp will be widened from MD 85 to SB I-270 to accommodate a direct right turn from NB MD 85 and a double left from SB MD 85. The existing single lane from SB I-270 to SB MD 85 will be reconstructed to provide a two-lane typical section. This ramp will be widened and shifted slightly to the north to accommodate a two-lane exit ramp from SB I-270. The existing single lane from SB MD 85 to NB I-270 will be reconstructed to provide a two-lane typical section. This ramp will be widened and shifted south to accommodate double-turn lanes from MD 85.

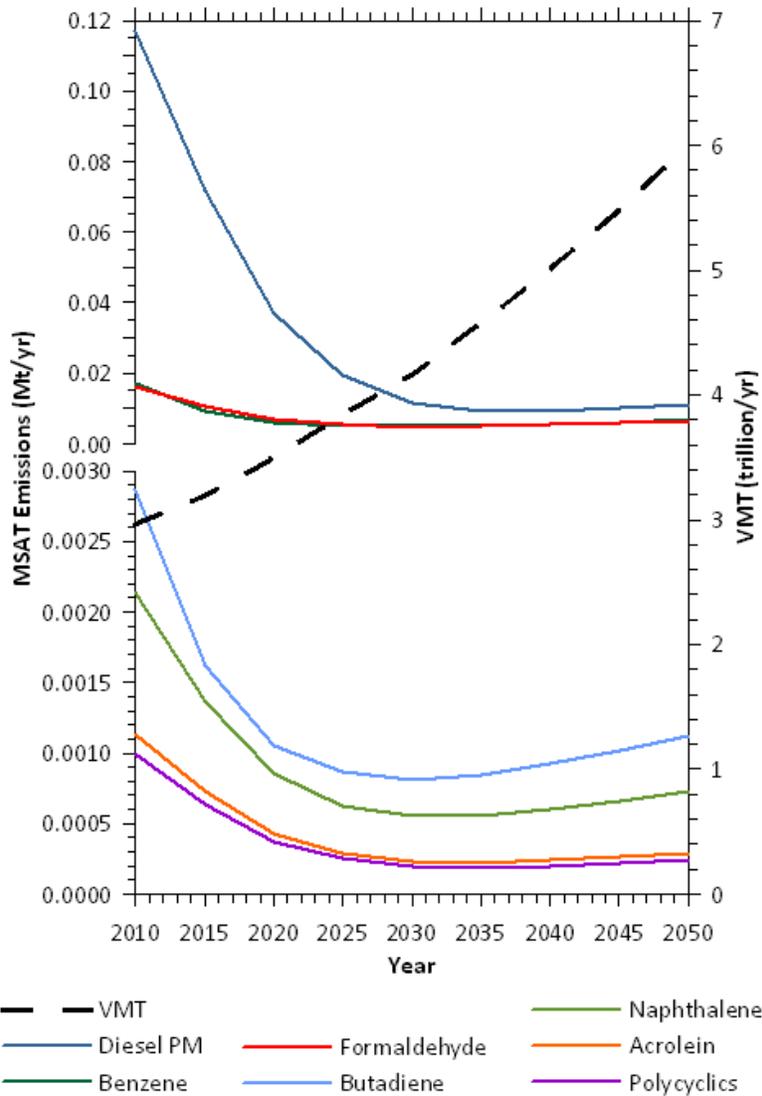
The project will also include widening of MD 85 to a divided 6-lane roadway with ramp auxiliary lanes, a 6-foot bike lane in each direction, and a varying 4 to 30-foot median. Both the MD 85 at Crestwood Boulevard/Shockley Drive intersection and the MD 85 at Spectrum Drive intersection will be modified and improved to match the proposed MD 85 typical section. The proposed improvements at Spectrum Drive will provide a triple left from Spectrum Drive to SB MD 85 (right-most lane directs traffic to NB I-270, middle lane is a choice lane between NB I-270 or SB MD 85, and the inside lane directs traffic to SB MD 85. The inside lane also puts the driver in line for making the SB I-270 movement).

Pedestrians will be accommodated along MD 85 with the installation of a 5-foot sidewalk along the east side throughout the project limits, which will separate pedestrians from traffic and eliminate conflict with the ramp crossovers located on the west side of MD 85. The sidewalk will provide access to many pedestrian destinations, such as the Francis Scott Key Mall, restaurants, hotels, and an educational facility.

This project has been determined to generate minimal air quality impacts for CAAA criteria pollutants and has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES model forecasts a combined reduction of over 80 percent in the total annual emission rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 100 percent (see **Figure 2**). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

**FIGURE 2:**  
**NATIONAL MSAT EMISSION TRENDS 1999 - 2050**  
**FOR VEHICLES OPERATING ON ROADWAYS**  
**USING EPA'S MOVES2010b MODEL**



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors. Source: EPA MOVES2010b model runs conducted during May - June 2012 by FHWA.

#### 4. Greenhouse Gas Assessment

From a NEPA perspective, it is analytically problematic to conduct a project level cumulative effects analysis of greenhouse gas emissions on a global-scale problem. Also, while Criteria Pollutant emissions last in the atmosphere for months, CO<sub>2</sub> emissions remain in the atmosphere far longer - over 100 years - and therefore require a much more sustained, intergenerational effort. Finally, due to the interactions between elements of the transportation system as a whole, project-level emissions analyses would be less informative than ones conducted at regional, state, or national levels. Because of these concerns, FHWA concluded that the CO<sub>2</sub> emissions cannot be usefully evaluated in the same way that other vehicle emissions are addressed. However, it can be stated that estimates of CO<sub>2</sub> emissions, a primary factor in

greenhouse gases, are based on the amount of direct energy required. The direct energy values represent the energy required for vehicle propulsion. This energy is a function of traffic characteristics such as volume, speed, distance traveled, vehicle mix, and thermal value of the fuel being used. A review of traffic data for the project reveals that, because there will not be a significant change in traffic volumes from the No-build to Build conditions, CO<sub>2</sub> emission burdens will most likely result in almost no change as compared to the existing conditions.

In 2009, Maryland Governor Martin O'Malley and the Maryland General Assembly passed the Greenhouse Gas Emission Reduction Act of 2009 (GGRA). The law requires the State to develop and implement a Plan (the GGRA Plan or the Plan) to reduce greenhouse gas (GHG) emissions 25 percent from a 2006 baseline by 2020. The Draft Plan in response to the GGRA was published on December 31, 2011. The Draft Plan puts the State on track to achieve the 25 percent GHG reduction required by the law while also creating jobs and improving Maryland's economy. The Plan also will help with other environmental priorities, including restoration of the Chesapeake Bay, improving air quality and other critical energy and national security issues. The Final Plan was due to be published December 31, 2012.

## 5. Construction Impacts

The construction phase of the proposed project has the potential to impact the local ambient air quality by generating fugitive dust through activities such as demolition and materials handling. The State Highway Administration has addressed this possibility by establishing "Specifications for Construction and Materials" which specifies procedures to be followed by contractors involved in site work. The Maryland Air and Radiation Management Administration was consulted to determine the adequacy of the "Specifications" in terms of satisfying the requirements of the "Regulations Governing the Control of Air Pollution in the State of Maryland". The Maryland Air and Radiation Management Administration found the specifications to be consistent with the requirements of these regulations. Therefore, during the construction period, all appropriate measures (Code of Maryland Regulations 10.18.06.03 D) would be incorporated to minimize the impact of the proposed transportation improvements on the air quality of the area. Mobile source emissions can also be minimized during construction by not permitting idling delivery trucks or other equipment during periods of unloading or other non-active use. The existing number of traffic lanes should be maintained during construction, to the maximum extent possible, and construction schedules should be planned in a manner that will not create traffic disruption and increase air pollutants. Application of these measures will ensure that construction impact of the project is insignificant.

## V. AGENCY COORDINATION / INTERAGENCY CONSULTATION

By email dated July 17, 2013, copies of this air quality analysis were circulated to the Federal Highway Administration (FHWA), the Environmental Protection Agency (EPA), the Maryland Department of the Environment (MDE), and MDCOG (NCRTPB) for a 15-day Interagency Consultation review and comment period. Response emails were received from EPA, FHWA and MDE. EPA agreed that the project was not of air quality concern. FHWA had minor editorial comments but concurred the project does not need additional quantitative hot-spot analysis, and MDE had no comments on the analysis. As no other comments were received during the comment period, this Air Quality Analysis will be placed on SHA's website for a 15 day public review and comment period. Refer to Appendix C for Interagency Consultation emails.

## **APPENDIX**

- A: MONITORED AMBIENT AIR QUALITY DATA 2010-2012**
- B: TRAFFIC DATA**
- C: INTERAGENCY CONSULTATION CORRESPONDENCE**
- D: PROJECT MAPPING**

**APPENDIX A: MONITORED AMBIENT AIR QUALITY DATA 2010-2012**

## Monitor Values Report

**Geographic Area:** Prince Georges County, MD

**Pollutant:** CO

**Year:** 2010

**Exceptional Events:** Included (if any)

**Duration Description=1 HOUR**

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	8107	1.5	1.3	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

AirData reports are produced from a direct query of the AQS Data Mart. The data represent the best and most recent information available to EPA from state agencies. However, some values may be absent due to incomplete reporting, and some values may change due to quality assurance activities. The AQS database is updated daily by state, local, and tribal organizations who own and submit the data. Please contact the appropriate air quality monitoring agency to report any data problems.

<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Prince Georges County, MD

**Pollutant:** CO

**Year:** 2010

**Exceptional Events:** Included (if any)

### Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	8103	1	1	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Prince Georges County, MD

**Pollutant:** CO

**Year:** 2011

**Exceptional Events:** Included (if any)

**Duration Description=1 HOUR**

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	8183	1.7	1.3	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Prince Georges County, MD

**Pollutant:** CO

**Year:** 2011

**Exceptional Events:** Included (if any)

### Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	8145	1.1	0.8	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Prince Georges County, MD

**Pollutant:** CO

**Year:** 2012

**Exceptional Events:** Included (if any)

**Duration Description=1 HOUR**

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	8571	1.3	1.2	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Prince Georges County, MD

**Pollutant:** CO

**Year:** 2012

**Exceptional Events:** Included (if any)

### Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	8651	1.2	0.9	0	None	1	240330030	Howard University'S Beltsville Laboratory, 12003 Old Baltimore Pike	Beltsville	Prince George's	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Adams County, PA

**Pollutant:** CO

**Year:** 2010

**Exceptional Events:** Included (if any)

**Duration Description=1 HOUR**

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	5109	0.8	0.7	0	None	1	420010001	Narsto Site - Arendtsville	Not in a city	Adams	PA	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Adams County, PA

**Pollutant:** CO

**Year:** 2010

**Exceptional Events:** Included (if any)

### Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	5108	0.5	0.4	0	None	1	420010001	Narsto Site - Arendtsville	Not in a city	Adams	PA	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

Readers are cautioned not to rank order geographic areas based on AirData reports. Air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area.

This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Adams County, PA

**Pollutant:** CO

**Year:** 2011

**Exceptional Events:** Included (if any)

**Duration Description=1 HOUR**

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	5372	0.7	0.2	0	None	1	420010001	Narsto Site - Arendtsville	Not in a city	Adams	PA	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Adams County, PA

**Pollutant:** CO

**Year:** 2011

**Exceptional Events:** Included (if any)

### Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	5360	0.3	0.3	0	None	1	420010001	Narsto Site - Arendtsville	Not in a city	Adams	PA	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Adams County, PA

**Pollutant:** CO

**Year:** 2012

**Exceptional Events:** Included (if any)

**Duration Description=1 HOUR**

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
1 HOUR	6361	0.8	0.7	0	None	1	420010001	Narsto Site - Arendtsville	Not in a city	Adams	PA	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Adams County, PA

**Pollutant:** CO

**Year:** 2012

**Exceptional Events:** Included (if any)

### Duration Description=8-HR RUN AVG END HOUR

Duration Description	Obs	First Max	Second Max	Actual Exc	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
8-HR RUN AVG END HOUR	6358	0.7	0.6	0	None	1	420010001	Narsto Site - Arendtsville	Not in a city	Adams	PA	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

Readers are cautioned not to rank order geographic areas based on AirData reports. Air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area.

This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Washington County, MD

**Pollutant:** PM2.5

**Year:** 2010

**Exceptional Events:** Included (if any)

**Duration Description=24 HOUR**

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24 HOUR	58	30.2	21.2	20.3	19.5	21	10.5	None	1	240430009	18530 Roxbury Road	Hagerstown	Washington	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

Readers are cautioned not to rank order geographic areas based on AirData reports. Air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area.

This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Washington County, MD

**Pollutant:** PM2.5

**Year:** 2010

**Exceptional Events:** Included (if any)

### Duration Description=24-HR BLK AVG

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24-HR BLK AVG	161	39	36.8	34.1	31	31	12.6	None	3	240430009	18530 Roxbury Road	Hagerstown	Washington	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

Readers are cautioned not to rank order geographic areas based on AirData reports. Air pollution levels measured at a particular monitoring site are not necessarily representative of the air quality for an entire county or urban area.

This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Washington County, MD

**Pollutant:** PM2.5

**Year:** 2011

**Exceptional Events:** Included (if any)

### Duration Description=24-HR BLK AVG

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24-HR BLK AVG	340	34.7	32.6	32.5	31.7	28	11.5	None	3	240430009	18530 Roxbury Road	Hagerstown	Washington	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Washington County, MD

**Pollutant:** PM2.5

**Year:** 2012

**Exceptional Events:** Included (if any)

### Duration Description=24-HR BLK AVG

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24-HR BLK AVG	349	38.3	31.8	29.3	29	27	10.8	None	3	240430009	18530 Roxbury Road	Hagerstown	Washington	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Montgomery County, MD

**Pollutant:** PM2.5

**Year:** 2010

**Exceptional Events:** Included (if any)

**Duration Description=24 HOUR**

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24 HOUR	50	18.6	17.7	17.2	16.9	19	9.1	None	1	240313001	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	Rockville	Montgomery	MD	03

Get detailed information about this report, including column descriptions, at [http://www.epa.gov/airquality/airdata/ad\\_about\\_reports.html#mon](http://www.epa.gov/airquality/airdata/ad_about_reports.html#mon)

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<[http://www.epa.gov/airquality/airdata/ad\\_contacts.html](http://www.epa.gov/airquality/airdata/ad_contacts.html)>

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Montgomery County, MD

**Pollutant:** PM2.5

**Year:** 2010

**Exceptional Events:** Included (if any)

### Duration Description=24-HR BLK AVG

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24-HR BLK AVG	352	35.8	33.8	33.1	29.6	28	11.1	None	3	240313001	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	Rockville	Montgomery	MD	03

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This report is based on monitor-level summary statistics. Air quality standards for some pollutants (PM2.5 and Pb) allow for combining data from multiple monitors into a site-level summary statistic that can be compared to the standard. In those cases, the site-level statistics may differ from the monitor-level statistics upon which this report is based.

Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Montgomery County, MD

**Pollutant:** PM2.5

**Year:** 2011

**Exceptional Events:** Included (if any)

### Duration Description=24-HR BLK AVG

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24-HR BLK AVG	331	31.8	30.5	30.2	29.9	25	10.9	None	3	240313001	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	Rockville	Montgomery	MD	03

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## Monitor Values Report

**Geographic Area:** Montgomery County, MD

**Pollutant:** PM2.5

**Year:** 2012

**Exceptional Events:** Included (if any)

### Duration Description=24-HR BLK AVG

Duration Description	Obs	First Max	Second Max	Third Max	Fourth Max	98th Percentile	Weighted Annual Mean	Exc Events	Monitor Number	Site ID	Address	City	County	State	EPA Region
24-HR BLK AVG	356	33.1	30.2	29	25	23	10.3	None	3	240313001	Lathrop E. Smith Environmental Education Center, 5110 Meadowside Lane	Rockville	Montgomery	MD	03

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Source: U.S. EPA AirData <<http://www.epa.gov/airdata>>

Generated: April 15, 2013

## APPENDIX B: TRAFFIC DATA



Martin O'Malley, Governor  
Anthony G. Brown, Lt. Governor

Beverley K. Swaim-Staley, Secretary  
Neil J. Pedersen, Administrator

Maryland Department of Transportation

**MEMORANDUM**

**TO:** Mr. Dennis German, Chief  
Community Design Division

**ATTN:** Mr. Matt Harrell  
Project Engineer

**FROM:** Morteza Tadayon, Chief  
Travel Forecasting and Analysis Division  
Office of Planning and Preliminary Engineering

**DATE:** May 6, 2010

**SUBJECT:** Frederick County  
MD 85 – English Muffin Way (MP: 7.25)  
to Guilford Road (MP: 9.90)  
FMIS: FR388B21  
Traffic Data

In response to your recent request for Title Sheet Traffic and Loadometer Data for the subject site, we offer the following:

**I 270 – North of MD 85**

	<u>2010</u>	<u>2030</u>
Average Daily Traffic (ADT):	111,550	161,800
Design Hour Volume (DHV):	7%	7%
Directional Distribution of DHV:	63%	63%
Percent Trucks – ADT:	11%	11%
Percent Trucks – DHV:	7%	7%

**Truck Breakdown:**

	<b>2A</b>	<b>3D</b>	<b>2S1</b>	<b>2S2</b>	<b>3S2</b>	<b>3S3</b>	<b>Total</b>
2010 ADT:	6113	1215	149	595	3773	426	12270
2030 ADT:	8866	1763	216	863	5473	617	17798

We recommend using WIM station 3111-88 to produce the needed loadometer data.

My telephone number/toll-free number is \_\_\_\_\_

Maryland Relay Service for Impaired Hearing or Speech: 1.800.735.2258 Statewide Toll Free

Street Address: 707 North Calvert Street • Baltimore, Maryland 21202 • Phone: 410-545-0300 • www.marylandroads.com



Mr. Dennis German, Chief  
Page Two

**MD 85 – South of I 270**

	<u>2010</u>	<u>2030</u>
Average Daily Traffic:	43,800	51,900
Design Hour Volume:	8%	8%
Directional Distribution of DHV:	61%	61%
Percent Trucks – ADT:	21%	21%
Percent Trucks – DHV:	12%	12%

We recommend using WIM Station 5010-88 to produce the needed loadometer data.

A copy of this memorandum and the loadometer data has been sent to the Pavement Division. If we can be of any further help, please feel free to contact the writer at 410-545-5645 or Ms. Lisa Shemer, Assistant Division Chief at 410-545-5640.

By:   
Robert L. Piazza  
Travel Forecasting and Analysis Division

cc: Mr. John Concannon  
Mr. Geoffrey Hall  
Mr. Roberto Barcena



Martin O'Malley, Governor  
Anthony G. Brown, Lt. Governor

Beverley K. Swaim-Staley, Secretary  
Neil J. Pedersen, Administrator

Maryland Department of Transportation

**MEMORANDUM**

**TO:** Mr. Dennis Atkins  
Assistant Division Chief  
Environmental Planning Division

**ATTN:** Ms. Jessica Silwick  
Environmental Manager

**FROM:** Morteza Tadayon, Chief  
Travel Forecasting and Analysis Division

**DATE:** May 10, 2010

**SUBJECT:** Frederick County  
MD 85 – English Muffin Way to North of Grove Road  
Project Number: FR388B21  
Environmental Traffic

In response to your recent request for Environmental Traffic Data for the subject project, we offer the following:

<u>I-270 – North of MD 85</u>	<u>2010</u>	<u>2015 No-Build/ Build</u>	<u>2030 No-Build/ Build</u>
Average Daily Traffic (ADT):	111,550	124,100	161,800
Design Hour Volume (DHV):	7%	7%	7%
Directional Distribution of DHV:	63%	63%	63%
Percent Trucks – ADT:	11%	11%	11%
Percent Trucks – DHV:	7%	7%	7%
<u>I-270 – South of MD 85</u>	<u>2010</u>	<u>2015 No-Build/ Build</u>	<u>2030 No-Build/ Build</u>
Average Daily Traffic (ADT):	86,300	97,100	129,575
Design Hour Volume (DHV):	7%	7%	7%
Directional Distribution of DHV:	63%	63%	63%
Percent Trucks – ADT:	11%	11%	11%
Percent Trucks – DHV:	7%	7%	7%

My telephone number/toll-free number is \_\_\_\_\_  
Maryland Relay Service for Impaired Hearing or Speech: 1.800.735.2258 Statewide Toll Free



<b><u>MD 85 – Between English Muffin Way and Crestwood Boulevard</u></b>	<b><u>2010</u></b>	<b><u>2015 No-Build/Build</u></b>	<b><u>2030 No-Build/Build</u></b>
Average Daily Traffic (ADT):	22,900	24,450	29,050
Design Hour Volume (DHV):	8%	8%	8%
Directional Distribution of DHV:	61%	61%	61%
Percent Trucks – ADT:	21%	21%	21%
Percent Trucks – DHV:	12%	12%	12%
<b><u>MD 85 – Between Crestwood Boulevard and I-270</u></b>	<b><u>2010</u></b>	<b><u>2015 No-Build/Build</u></b>	<b><u>2030 No-Build/Build</u></b>
Average Daily Traffic (ADT):	43,800	45,850	51,900
Design Hour Volume (DHV):	8%	8%	8%
Directional Distribution of DHV:	61%	61%	61%
Percent Trucks – ADT:	21%	21%	21%
Percent Trucks – DHV:	12%	12%	12%
<b><u>MD 85 – Between I-270 And Spectrum Drive</u></b>	<b><u>2010</u></b>	<b><u>2015 No-Build/Build</u></b>	<b><u>2030 No-Build/Build</u></b>
Average Daily Traffic (ADT):	43,800	48,450	62,300
Design Hour Volume (DHV):	8%	8%	8%
Directional Distribution of DHV:	61%	61%	61%
Percent Trucks – ADT:	8%	8%	8%
Percent Trucks – DHV:	5%	5%	5%
<b><u>MD 85 – Spectrum Drive And Guilford Drive</u></b>	<b><u>2010</u></b>	<b><u>2015 No-Build/Build</u></b>	<b><u>2030 No-Build/Build</u></b>
Average Daily Traffic (ADT):	43,800	45,650	51,100
Design Hour Volume (DHV):	8%	8%	8%
Directional Distribution of DHV:	61%	61%	61%
Percent Trucks – ADT:	8%	8%	8%
Percent Trucks – DHV:	5%	5%	5%

**LOS D Volumes/Operating Speeds:**

- One-Way - Two-lane highway (one lane) – 580 vph / 31.8 mph
- One-Way – Four Lane Multilane Undivided (two lanes) – 2,808 vph / 41.2 mph
- One-Way – Four Lane Multilane Divided (two lanes) – 2,890 vph / 42.6 mph
- One-Way – Six Lane Multilane Undivided (three lanes) – 4,212 vph / 41.2 mph
- One-Way – Six Lane Multilane Divided (three lanes) – 4,335 vph / 42.6 mph
- Two Freeway Lanes (one-way) - 3,428 vph / 55.1 mph
- Four Freeway Lanes (one-way) - 7,084 vph / 56.9 mph

**ADT and Design Hour Breakdown of Trucks:**

***I-270***

<u>Average Daily Traffic</u>	<u>LIGHT</u>	<u>MEDIUM</u>	<u>HEAVY</u>	<u>TOTAL</u>
Gasoline powered	0.649%	2.090%	0.276%	3.015%
Diesel powered	0.649%	2.090%	5.246%	7.985%
Total	1.298%	4.180%	5.522%	11.000%

<u>Design Hour Volume</u>	<u>LIGHT</u>	<u>MEDIUM</u>	<u>HEAVY</u>	<u>TOTAL</u>
Gasoline powered	0.431%	1.600%	0.147%	2.178%
Diesel powered	0.431%	1.600%	2.791%	4.822%
Total	0.862%	3.200%	2.938%	7.000%

***MD 85 south of I-270***

<u>Average Daily Traffic</u>	<u>LIGHT</u>	<u>MEDIUM</u>	<u>HEAVY</u>	<u>TOTAL</u>
Gasoline powered	1.355%	4.379%	0.477%	6.211%
Diesel powered	1.355%	4.379%	9.055%	14.789%
Total	2.710%	8.758%	9.532%	21.000%

<u>Design Hour Volume</u>	<u>LIGHT</u>	<u>MEDIUM</u>	<u>HEAVY</u>	<u>TOTAL</u>
Gasoline powered	0.840%	2.454%	0.271%	3.565%
Diesel powered	0.840%	2.454%	5.141%	8.435%
Total	1.680%	4.908%	5.412%	12.000%

Mr. Dennis Atkins, ADC  
Page Four

***MD 85 north of I-270***

<u>Average Daily Traffic</u>	<u>LIGHT</u>	<u>MEDIUM</u>	<u>HEAVY</u>	<u>TOTAL</u>
Gasoline powered	0.604%	2.260%	0.114%	2.978%
Diesel powered	0.604%	2.260%	2.158%	5.022%
Total	1.208%	4.520%	2.272%	8.000%

<u>Design Hour Volume</u>	<u>LIGHT</u>	<u>MEDIUM</u>	<u>HEAVY</u>	<u>TOTAL</u>
Gasoline powered	0.500%	1.500%	0.050%	2.050%
Diesel powered	0.500%	1.500%	0.950%	2.950%
Total	1.000%	3.000%	1.000%	5.000%

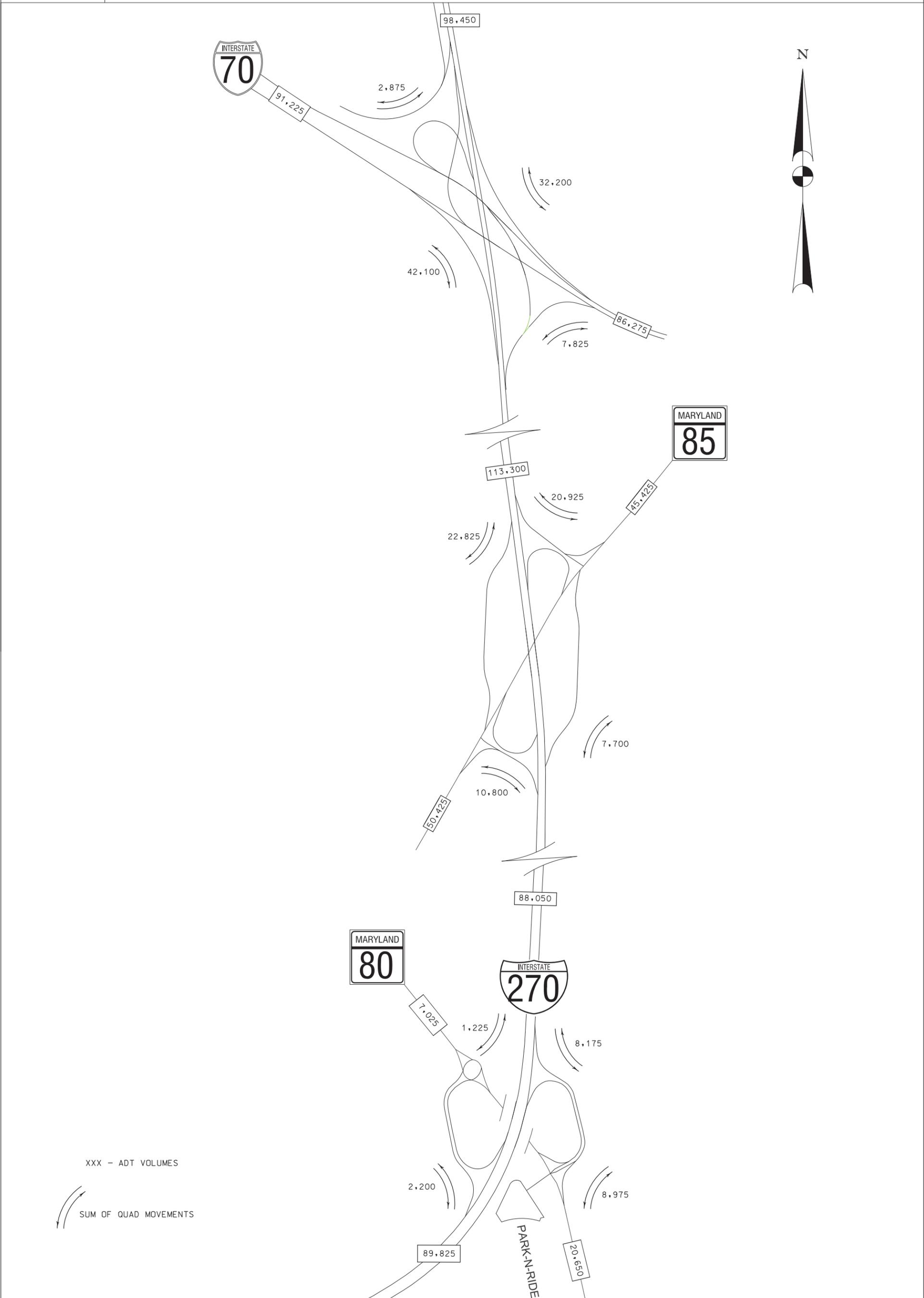
The diurnal traffic data and detailed peak hour volumes are attached for your use. If you have any questions on this information, please contact the writer or Mr. Robert Piazza at 410-545-5645.

By:  FOR:  
Scott Holcomb, P.E.  
Travel Forecasting and Analysis Division

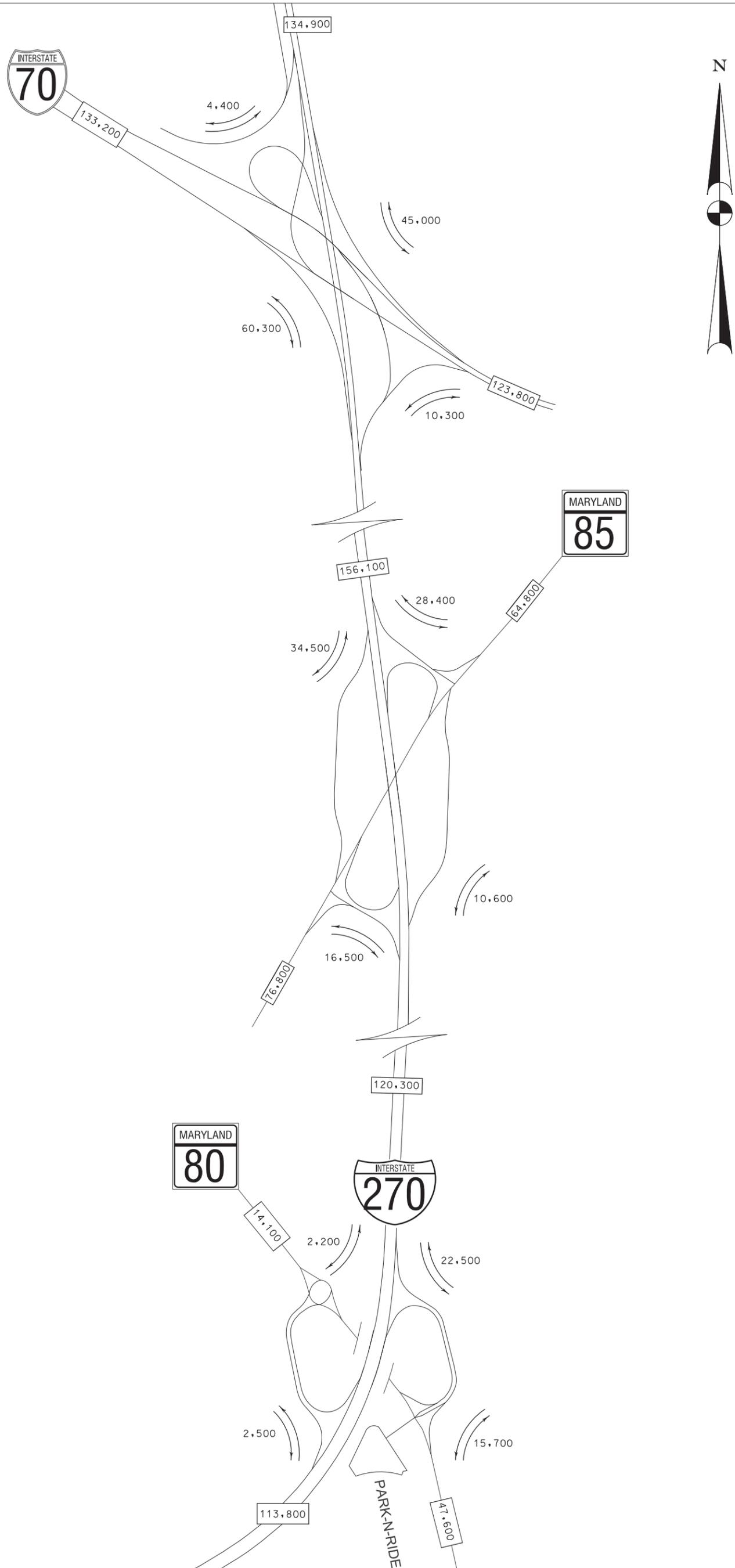
Attachments

- cc: Mr. Russ Anderson  
Mr. John Concannon  
Mr. Gary Green  
Mr. Mathew Harrell  
Mr. Ken Polcak

2010 ADT VOLUMES



2030 ADT VOLUMES



**APPENDIX C: INTERAGENCY CONSULTATION CORRESPONDENCE**

**Shawn Burnett**

---

**From:** Christina Brandt [CBrandt@sha.state.md.us]  
**Sent:** Monday, July 22, 2013 2:09 PM  
**To:** Shawn Burnett  
**Cc:** Jennifer Rohrer (SHA); Nicole M. Hebert  
**Subject:** FW: MD 85 @ I-270 - Air Quality Interagency Consultation

---

**From:** Khadr, Asrah [mailto:Khadr.Asrah@epa.gov]  
**Sent:** Monday, July 22, 2013 2:06 PM  
**To:** Christina Brandt  
**Cc:** Rudnick, Barbara; McCurdy, Alaina; Becoat, gregory  
**Subject:** FW: MD 85 @ I-270 - Air Quality Interagency Consultation

I concur with the recommendation provided in the Air Quality Analysis Technical Report that this project does not require a hot-spot analysis.

Asrah Khadr, Environmental Engineer, EIT  
U.S. Environmental Protection Agency, Region III  
Air Protection Division  
Office of Air Program Planning  
1650 Arch Street  
Philadelphia, PA 19103  
Phone: 215-814-2071

---

**From:** Christina Brandt [mailto:CBrandt@sha.state.md.us]  
**Sent:** Wednesday, July 17, 2013 3:29 PM  
**To:** 'bhug@mde.state.md.us'; 'jeanette.mar@dot.gov'; McCurdy, Alaina; Rudnick, Barbara; 'Joan Rohlf's'; Becoat, gregory; Khadr, Asrah; 'mrutkowski@mde.state.md.us'  
**Cc:** 'Jen Rohrer'; 'Shawn Burnett'; 'Nicole M. Hebert'  
**Subject:** MD 85 @ I-270 - Air Quality Interagency Consultation

Good Afternoon,

Attached is the PM2.5 Conformity Determination for the MD 85/I-270 interchange reconstruction project located in Frederick County, Maryland.

SHA is requesting concurrence that this project meets the requirements of the Clean Air Act and 40 CFR 93 without an additional quantitative hot-spot analysis.

The proposed project is listed in the December 19, 2012 Air Quality Conformity Inputs to the 2012 CLRP and the

FY 2013-2018 TIP (Project ID FP2) for the Washington Metropolitan Region with Completion Date of 2020.

Please review and provide concurrence/comments prior to August 2, 2013.

Thank you,

Chrissy

**Shawn Burnett**

**From:** Jeanette.Mar@dot.gov  
**Sent:** Friday, August 02, 2013 4:34 PM  
**To:** CBrandt@sha.state.md.us; bhug@mde.state.md.us; McCurdy.Alaina@epa.gov; Rudnick.Barbara@epamail.epa.gov; jrohlf@mwkog.org; becoat.gregory@epa.gov; Khadr.Asrah@epa.gov; mrutkowski@mde.state.md.us  
**Cc:** Jen Rohrer; Shawn Burnett; Nicole M. Hebert  
**Subject:** RE: MD 85 @ I-270 - Air Quality Interagency Consultation

Chrissy:

I concur that this project meets the requirements of the CAA and 40 CFR 93 and does not need an additional quantitative hot-spot analysis.

I just have a few minor editorial comments:

- 1) Page 3 – “Mobile Air Source Toxins” should be “Mobile Source Air Toxics”
- 2) Page 6 – 2<sup>nd</sup> paragraph – take out “in”
- 3) Page 6 – last paragraph – spell out “NARSTO” site
- 4) Appendix B, C and D – could not print these cover pages due to formatting problems

Let me know if you have any questions on my comments.

Thanks!

*Jeanette*

Jeanette Mar  
 Environmental Program Manager  
 FHWA - DelMar Division  
 10 South Howard Street, Suite 2450  
 Baltimore, MD 21201  
 phone (410) 779-7152  
 fax (410) 962-4054

---

**From:** Christina Brandt [<mailto:CBrandt@sha.state.md.us>]  
**Sent:** Wednesday, July 17, 2013 3:29 PM  
**To:** 'bhug@mde.state.md.us'; Mar, Jeanette (FHWA); 'McCurdy.Alaina@epa.gov'; 'Rudnick.Barbara@epamail.epa.gov'; 'Joan Rohlfs'; 'Becoat, gregory'; Khadr, Asrah; 'mrutkowski@mde.state.md.us'  
**Cc:** 'Jen Rohrer'; 'Shawn Burnett'; 'Nicole M. Hebert'  
**Subject:** MD 85 @ I-270 - Air Quality Interagency Consultation

Good Afternoon,

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FY 2013-2018 TIP (Project ID FP2) for the Washington Metropolitan Region with Completion Date of 2020.

Please review and provide concurrence/comments prior to August 2, 2013.

Thank you,

Chrissy

Christina Brandt

Environmental Manager

OPPE-Environmental Planning Division

MD State Highway Administration

707 North Calvert Street, Mail Stop C-301

Baltimore, MD 21202

Phone: 410-545-2874

E-mail: [cbrandt@sha.state.md.us](mailto:cbrandt@sha.state.md.us)



Maryland now features 511 traveler information!  
Call 511 or visit: [www.md511.org](http://www.md511.org)



Please consider the environment before printing this email

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**Shawn Burnett**

**From:** Brian Hug -MDE- [brian.hug@maryland.gov]  
**Sent:** Friday, August 16, 2013 9:53 AM  
**To:** Christina Brandt  
**Cc:** bhug@mde.state.md.us  
**Subject:** Re: FW: MD 85 @ I-270 - Air Quality Interagency Consultation  
no comments from us

On Fri, Aug 16, 2013 at 9:18 AM, Christina Brandt <[CBrandt@sha.state.md.us](mailto:CBrandt@sha.state.md.us)> wrote:

Hi Brian,

I just wanted to make sure you didn't have any comments on this before I post it for public comment.

Thanks,

Chrissy

---

**From:** Christina Brandt  
**Sent:** Wednesday, July 17, 2013 3:29 PM  
**To:** '[bhug@mde.state.md.us](mailto:bhug@mde.state.md.us)'; '[jeanette.mar@dot.gov](mailto:jeanette.mar@dot.gov)'; '[McCurdy.Alaina@epa.gov](mailto:McCurdy.Alaina@epa.gov)'; '[Rudnick.Barbara@epamail.epa.gov](mailto:Rudnick.Barbara@epamail.epa.gov)'; 'Joan Rohlf's'; 'Becoat, gregory'; Khadr, Asrah; '[mrutkowski@mde.state.md.us](mailto:mrutkowski@mde.state.md.us)'  
**Cc:** 'Jen Rohrer'; 'Shawn Burnett'; 'Nicole M. Hebert'  
**Subject:** MD 85 @ I-270 - Air Quality Interagency Consultation

Good Afternoon,

Attached is the PM2.5 Conformity Determination for the MD 85/I-270 interchange reconstruction project located in Frederick County, Maryland.

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Please review and provide concurrence/comments prior to August 2, 2013.

Thank you,

Chrissy

## **APPENDIX D: PROJECT MAPPING**



INDEX OF SHEETS  
SEE SHEET 2

**Maryland Department of Transportation**  
**STATE HIGHWAY ADMINISTRATION**  
**PLANS OF PROPOSED HIGHWAY**  
**S.H.A. CONTRACT NO. FR3885171**  
**FEDERAL AID PROJECT NO.**  
**MD 85 (PHASE 1)**  
**I-270 INTERCHANGE RECONSTRUCTION**

**AASHTO DESIGN CRITERIA**

THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH THE 2001 PUBLICATION OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."

**STANDARD SPECIFICATIONS BOOK, BOOK OF STANDARDS AND MUTCD**

ALL WORK ON THIS PROJECT SHALL CONFORM TO THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION SPECIFICATIONS ENTITLED STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JULY 2008 REVISIONS THEREOF OR ADDITIONS THERETO; THE SPECIAL PROVISIONS INCLUDED IN THE INVITATION FOR BIDS BOOK; THE ADMINISTRATIONS BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES AND THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

**RIGHT OF WAY**

RIGHT OF WAY AND EASEMENT LINES SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THEY ARE NOT OFFICIAL. FOR OFFICIAL FEE RIGHT OF WAY AND EASEMENT INFORMATION, SEE APPROPRIATE RIGHT OF WAY PLATS.

**UTILITIES**

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS.

**COMPLETENESS OF DOCUMENTS**

THE STATE HIGHWAY ADMINISTRATION SHALL ONLY BE RESPONSIBLE FOR THE COMPLETENESS OF DOCUMENTS OBTAINED DIRECTLY FROM THE STATE HIGHWAY ADMINISTRATION'S CASHIER'S OFFICE. FAILURE TO ATTACH ADDENDA MAY CAUSE THE BID TO BE IRREGULAR.

**ADA COMPLIANCE**

THE DESIGN OF THIS PROJECT HAS INCORPORATED FACILITIES FOR THE ELDERLY AND HANDICAPPED IN COMPLIANCE WITH THE STATE AND FEDERAL LEGISLATION.

**ENVIRONMENTAL INFORMATION**

**MDE # 13-SF-0287**

ALL STORMWATER MANAGEMENT FACILITIES CONSTRUCTED FOR CONTRACT NO. FR3885171 SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE STATE HIGHWAY ADMINISTRATION'S BEST MANAGEMENT PRACTICES (BMP) INSPECTION AND REMEDIATION PROGRAM.

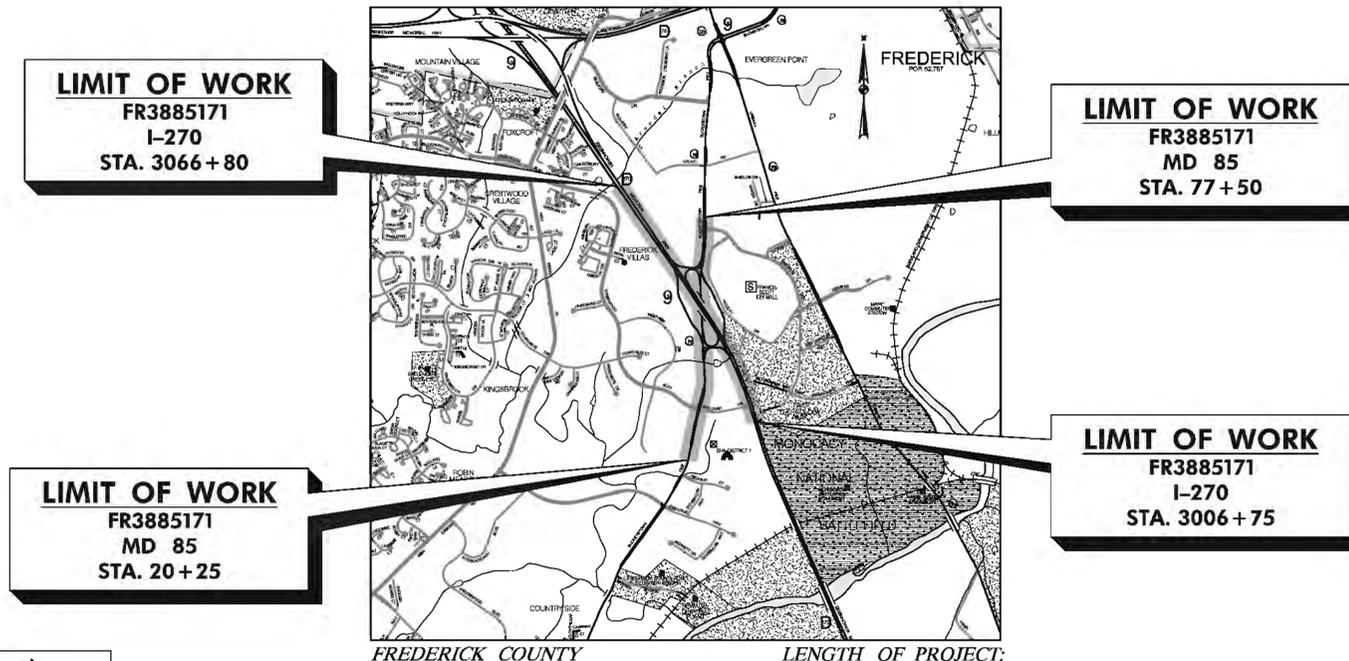
SEDIMENT AND EROSION CONTROL REGULATIONS WILL BE STRICTLY ENFORCED DURING CONSTRUCTION.

**STANDARD STABILIZATION NOTE :**

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND FOURTEEN DAYS (14) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

**OWNERS / DEVELOPERS CERTIFICATION :**

WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS.



HORIZONTAL DATUM	NAD 83 / 91
VERTICAL DATUM	NAVD 88



ROADWAY	DESIGN DESIGNATION		I-270	
	MD 85		2010	2030
CONTROLS / YEARS	2010	2030	2010	2030
AVERAGE DAILY TRAFFIC (A.D.T.) (N / S)*	43,800 / 43,800	62,300 / 51,900	111,550 / 86,300	161,800 / 129,575
DESIGN HOURLY VOLUME (D.H.V.)	8%	8%	7%	7%
DIRECTIONAL DISTRIBUTION	61%	61%	63%	63%
% TRUCKS - A.D.T. (N / S)*	8% / 21%	8% / 21%	11%	11%
% TRUCKS - D.H.V. (N / S)*	5% / 12%	5% / 12%	7%	7%
DESIGN SPEED M. P. H.	45 MPH		70 MPH (ACROSS BRIDGE) / 60 MPH	
FUNCTIONAL CLASSIFICATION	URBAN ARTERIAL		URBAN INTERSTATE	
CONTROL OF ACCESS	PARTIAL		FULL	
INTENSITY OF DEVELOPMENT	URBAN			
TERRAIN	ROLLING			
ANTICIPATED POSTED SPEED	40 MPH		55 MPH	

REVISIONS	
NOTE: See Sheet No. 2 for List of Revised Sheet Numbers	

REVIEWED AND APPROVAL RECOMMENDED	DATE
CHIEF, HIGHWAY DESIGN DIVISION	
APPROVAL RECOMMENDED	DATE
DIRECTOR, OFFICE OF HIGHWAY DEVELOPMENT	
APPROVED	DATE
DEPUTY ADMINISTRATOR / CHIEF ENGINEER FOR PLANNING, ENGINEERING, REAL ESTATE AND ENVIRONMENT	

Maryland Department of Transportation  
State Highway Administration

**Office of Highway Development**  
**SEMI-FINAL REVIEW**  
 DATED MAY 28, 2013

SIGNATURE: RICHARD FEUSTLE

PROFESSIONAL CERTIFICATION:  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 20645

EXPIRATION DATE: 11/19/2014

R-O-W PLAT NUMBERS	SURVEY BOOK NUMBERS
	11173
	20505
	25409
	18639
	31163

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-1	19°00'00"	4°46'29"	1200.00'	200.81'	397.94'	16.69'

QUANTITY NOTES

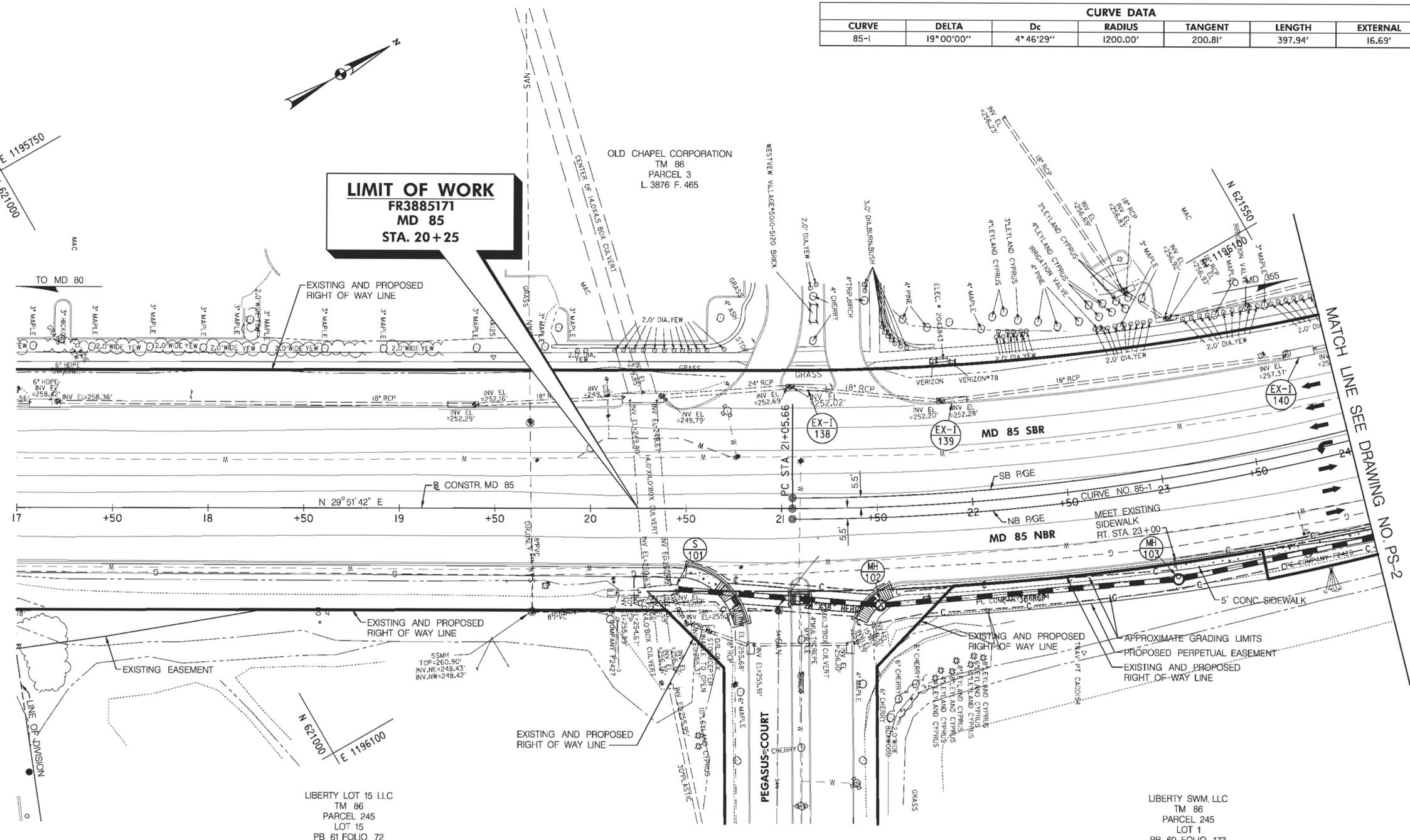
TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH	
LOCATION - STATION	LF
MD 85 FILLET RT. STA. 20+75	30
MD 85 FILLET RT. STA. 21+45	17
MD 85 RT. STA. 21+05	10
MD 85 RT. STA. 21+44	10

TYPE A CURB 8"X16" (MD-620.02)	
LOCATION - STATION	LF
MD 85 RT. STA. 21+04 TO STA. 21+14	20

5" CONCRETE SIDEWALK	
LOCATION - STATION	SF
MD 85 RT. STA. 20+50 TO STA. 20+80	250
MD 85 RT. STA. 21+04 TO STA. 21+14	45
MD 85 RT. STA. 21+37 TO STA. 21+56	130
MD 85 RT. STA. 23+00 TO STA. 24+00	500

SIDEWALK RAMPS	
LOCATION - STATION	TYPE
MD 85 RT. STA. 20+66	PARALLEL
MD 85 RT. STA. 21+10	CUT THROUGH
MD 85 RT. STA. 21+56	PARALLEL

DETECTABLE WARNING SURFACE	
LOCATION - STATION	SF
MD 85 RT. STA. 20+77	10
MD 85 RT. STA. 21+04	10
MD 85 RT. STA. 21+14	10
MD 85 RT. STA. 21+45	10



THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

NOTE:  
STORMDRAIN IMPROVEMENTS, INCLUDING  
MINOR ROADWAY RECONSTRUCTION,  
SHOWN SOUTH OF MD 85 LIMIT OF WORK  
STATION 24+50 ARE PART OF THIS CONTRACT.

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS.....	4 - 14
	SUPERELEVATION SHEETS.....	23 - 26
	PIPE & DRAINAGE SCHEDULE.....	101 - 143
	GEOMETRIC LAYOUT SHEETS.....	17 - 22
	ROADWAY PLAN SHEETS.....	27 - 53
	ROADWAY PROFILE SHEETS.....	54 - 84
	TRAFFIC CONTROL SHEETS.....	161 - 226
	EROSION & SEDIMENT CONTROL.....	228 - 471
	SIGNING & MARKING PLANS.....	509 - 521
	LANDSCAPE PLAN SHEETS.....	522 - 549
	UTILITIES.....	

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD LOGMILE \_\_\_\_\_  
CHECKED BY ERF  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-1 OF 26 SHEET NO. 27 OF 577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-1	19° 00' 00"	4° 46' 29"	1200.00'	200.81'	397.94'	16.69'
SHA-1	30° 30' 03"	91° 40' 24"	62.50'	17.04'	33.27'	2.28'

QUANTITY NOTES

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH	
LOCATION - STATION	LF
MD 85 RT. STA. 24+50 TO STA. 26+95	257
MD 85 RT. STA. 27+55 TO STA. 29+00	137
MD 85 MEDIAN STA. 27+82 TO STA. 29+00	232
MD 85 LT. STA. 24+56 TO STA. 27+00	225
WESTVIEW ENTRANCE MEDIAN STA. 10+77 TO STA. 11+10	68
MD 85 LT. STA. 27+54 TO STA. 29+00	134

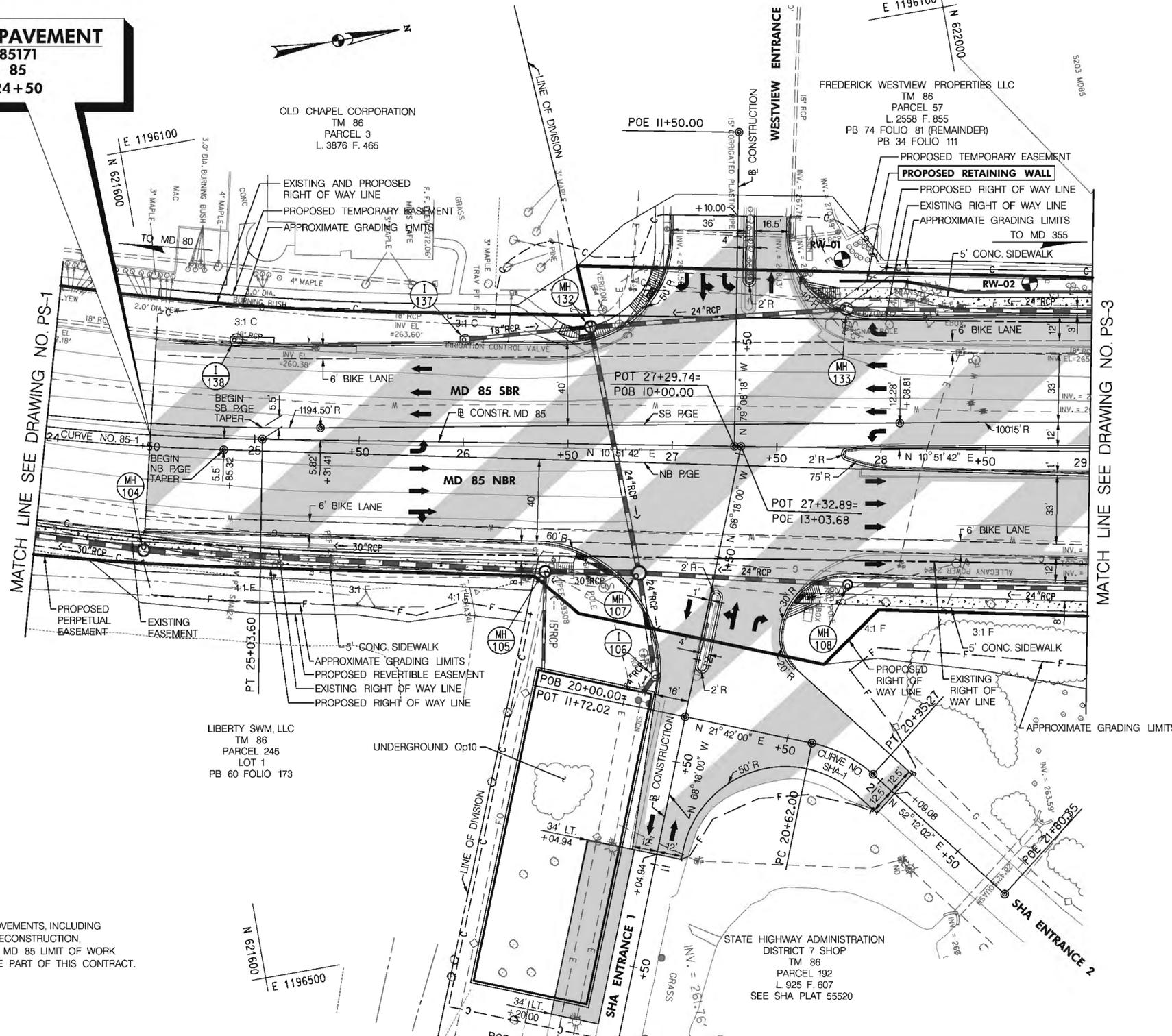
5" CONCRETE SIDEWALK	
LOCATION - STATION	SF
MD 85 RT. STA. 24+00 TO STA. 26+57	1285
MD 85 RT. STA. 27+72 TO STA. 29+00	640
WESTVIEW ENTRANCE LT. STA. 10+50 TO 10+95	250
MD 85 LT. STA. 27+79 TO STA. 29+00	605
MD 85 MEDIAN STA. 27+95 TO STA. 28+00	40

SIDEWALK RAMPS	
LOCATION - STATION	TYPE
MD 85 RT. STA. 26+46	MOD. PERPENDICULAR
MD 85 RT. STA. 27+72	PERPENDICULAR
WESTVIEW ENTRANCE LT. STA. 10+70	PARALLEL
MD 85 LT. STA. 26+58	COMBINATION
MD 85 LT. STA. 27+79	PERPENDICULAR

DETECTABLE WARNING SURFACE	
LOCATION - STATION	SF
MD 85 RT. STA. 26+58	10
MD 85 RT. STA. 26+70	18
MD 85 RT. STA. 27+65	14
WESTVIEW ENTRANCE LT. STA. 10+70	10
MD 85 LT. STA. 26+58	10
MD 85 LT. STA. 27+70	10

MONOLITHIC CONCRETE MEDIAN (MD-645.01)		
LOCATION - STATION	LF	TYPE
SHA ENTRANCE MEDIAN STA. 11+95 TO STA. 12+23	28	A-1, 4' WIDE

**LIMIT OF PAVEMENT**  
FR3885171  
MD 85  
STA. 24+50



NOTE:  
STORMDRAIN IMPROVEMENTS, INCLUDING  
MINOR ROADWAY RECONSTRUCTION,  
SHOWN SOUTH OF MD 85 LIMIT OF WORK  
STATION 24+50 ARE PART OF THIS CONTRACT.

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
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**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

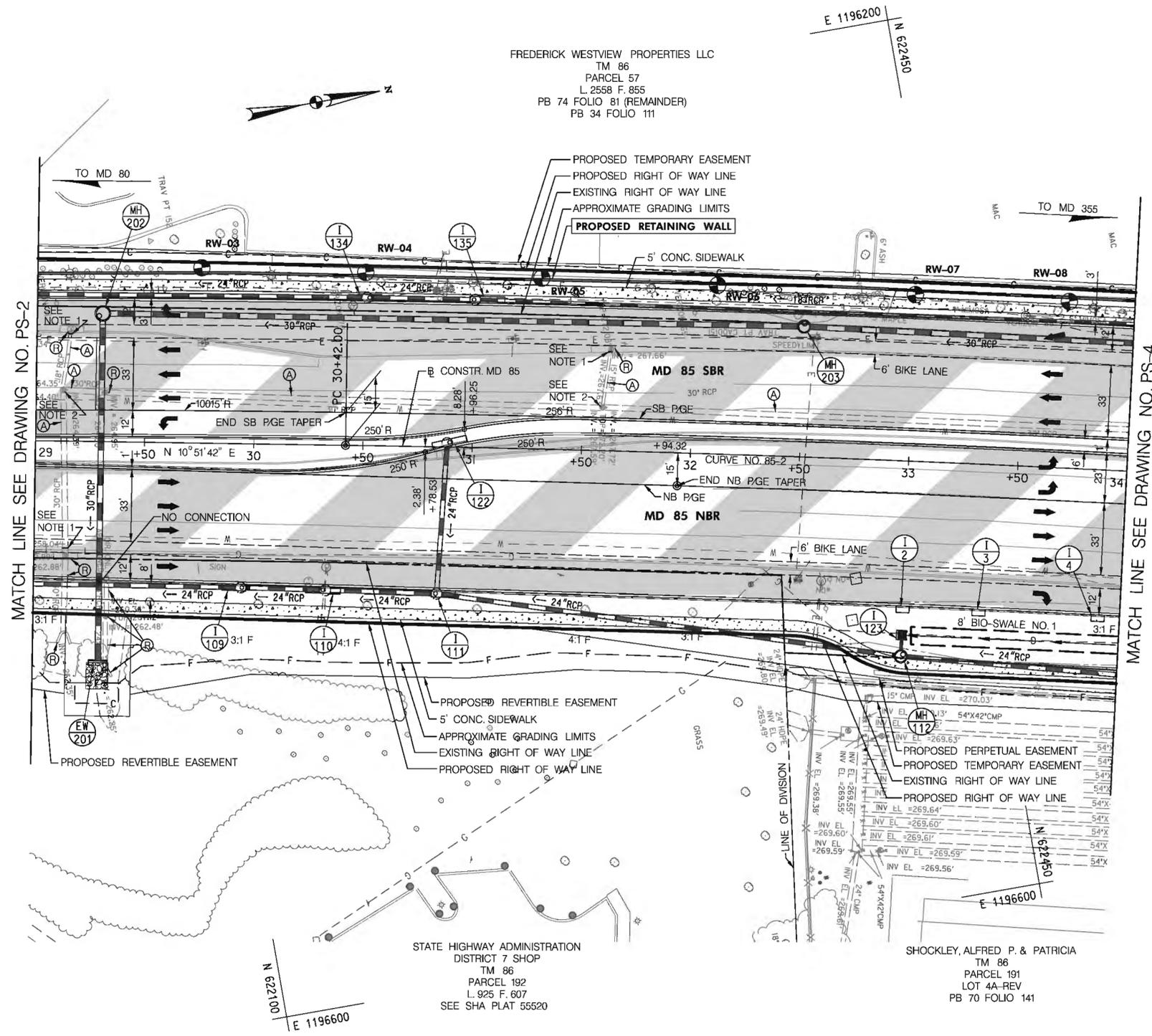
**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD LOGMILE \_\_\_\_\_  
CHECKED BY ERF  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-2 OF 26 SHEET NO. 28 OF 577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-2	2° 47' 47"	0° 34' 23"	10000.00'	244.07'	488.05'	2.98'



QUANTITY NOTES		
<b>TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH</b>		
LOCATION - STATION		LF
MD 85 RT. STA. 29+00 TO STA. 34+00		444
MD 85 MEDIAN STA. 29+00 TO STA. 30+98		377
MD 85 LT. STA. 29+00 TO STA. 34+00		473
<b>5" CONCRETE SIDEWALK</b>		
LOCATION - STATION		SF
MD 85 RT. STA. 29+00 TO STA. 34+00		2500
MD 85 LT. STA. 29+00 TO STA. 34+00		2500
<b>MONOLITHIC CONCRETE MEDIAN (MD-645.01)</b>		
LOCATION - STATION		LF
MD 85 MEDIAN STA. 30+98 TO STA. 34+00	302	A-1, 6' WIDE
<b>REMOVAL OF EXISTING PIPES</b>		
LOCATION - STATION		LF
30" RCP MD 85 RT. STA. 29+15		38
<b>REMOVE MANHOLE FRAME AND COVER</b>		
LOCATION - STATION		EA
MD 85 LT. STA. 29+14		1
MD 85 LT. STA. 31+59		1
<b>REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES</b>		
LOCATION - STATION		EA
HEADWALL MD 85 RT. STA. 29+15		1
<b>REMOVE EXISTING INLET</b>		
LOCATION - STATION		EA
MD 85 RT. STA. 29+15		1
MD 85 LT. STA. 29+15		1
MD 85 LT. STA. 31+60		1
<b>BRICK MASONRY FOR MISCELLANEOUS STRUCTURES</b>		
LOCATION - STATION		CY
30" RCP MD 85 RT. STA. 29+15		1
18" RCP MD 85 LT. STA. 29+15		1
15" RCP MD 85 LT. STA. 31+60		1
<b>SOIL STABILIZATION MATTING - TYPE A (MD-389.06 &amp; MD-389.07)</b>		
LOCATION - STATION		SY
BIOSWALE MD 85 RT. STA. 33+00 TO STA. 34+00		156
<b>CLASS I RIPRAP</b>		
LOCATION - STATION		SY
EW-201 MD 85 RT. STA. 29+30		12
<b>FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES</b>		
LOCATION - STATION		CY
30" RCP MD 85 LT., RT. STA. 29+15 (60 LF)		13
MANHOLE MD 85 LT. STA. 29+15		3
18" RCP MD 85 LT. STA. 29+15 (22 LF)		2
30" RCP MD 85 STA. 29+15 TO STA. 34+00 (485 LF)		89
MANHOLE MD 85 LT. STA. 31+59		3
15" RCP MD 85 LT. STA. 31+59 (22 LF)		1

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

- NOTES:**
- BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.
  - REMOVE EXISTING MANHOLE FRAME AND COVER AND FILL WITH FLOWABLE FILL.

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
	ROADWAY PLAN SHEETS	27 - 53
	ROADWAY PROFILE SHEETS	54 - 84
	TRAFFIC CONTROL SHEETS	161 - 228
	EROSION & SEDIMENT CONTROL	229 - 471
	SIGNING & MARKING PLANS	509 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical



MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD LOGMILE \_\_\_\_\_  
CHECKED BY ERF  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-3 OF 26 SHEET NO. 29 OF 577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-2	2° 47' 47"	0° 34' 23"	10000.00'	244.07'	488.05'	2.98'
85-3	14° 32' 45"	2° 16' 41"	2515.00'	320.97'	638.49'	20.40'
CS-2	26° 34' 35"	6° 21' 58"	900.00'	212.55'	417.46'	24.76'

FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES		
LOCATION - STATION		CY
24" RCP MD 85 RT. STA. 35+42 TO STA. 36+26 (83 LF)		10
30" RCP MD 85 LT. STA. 34+00 TO STA. 34+62 (61 LF)		12
MANHOLE MD 85 LT. STA. 34+63		3
24" RCP MD 85 LT. STA. 34+80 (40 LF)		5
18" RCP MD 85 LT. STA. 36+60 (48 LF)		4
18" RCP MD 85 LT. STA. 37+15 (10 LF)		1
18" RCP MD 85 LT. STA. 37+00 TO STA. 38+33 (133 LF)		9
MANHOLE MD 85 LT. STA. 38+35		3
18" RCP MD 85 LT. STA. 38+35 (10 LF)		1
18" RCP MD 85 LT. STA. 38+35 TO STA. 39+20 (84 LF)		6

REMOVAL OF EXISTING PIPES		
LOCATION - STATION		LF
18" RCP MD 85 RT. STA. 34+85		18
24" RCP MD 85 RT. STA. 35+18		10
24" RCP MD 85 RT. STA. 35+35		17
24" RCP MD 85 RT. STA. 36+33		11
24" RCP MD 85 LT. STA. 35+08		33
24" RCP MD 85 LT. STA. 36+50		14
18" RCP MD 85 LT. STA. 39+30		24

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH		
LOCATION - STATION		LF
MD 85 RT. STA. 34+00 TO SHOCKLEY DRIVE LT. STA. 405+00		117
MD 85 ISLAND RT. STA. 35+30		76
SHOCKLEY DR. RT. STA. 405+00 TO BP ENTR. LT. STA. 10+50		300
MD 85 ISLAND RT. STA. 39+10		67
BP ENTRANCE RT. STA. 10+50 TO MD 85 RT. STA. 40+50		169
MD 85 MEDIAN STA. 36+27 TO STA. 40+50		817
MD 85 LT. STA. 34+00 TO CRESTWOOD BLVD. LT. STA. 408+50		223
MD 85 ISLAND LT. STA. 35+30		92
MD 85 ISLAND LT. STA. 36+50		192
CRESTWOOD BLVD. RT. STA. 408+50 TO MD 85 LT. STA. 40+50		342

5" CONCRETE SIDEWALK		
LOCATION - STATION		SF
MD 85 RT. STA. 34+00 TO STA. 34+95		475
MD 85 ISLAND RT. STA. 35+30		88
SHOCKLEY DRIVE MEDIAN STA. 405+54		30
MD 85 RT. STA. 36+38 TO STA. 38+72		1170
MD 85 ISLAND RT. STA. 39+10		67
MD 85 RT. STA. 39+45 TO STA. 40+50		560
MD 85 LT. STA. 34+00 TO CRESTWOOD BLVD. LT. STA. 408+05		1031
MD 85 ISLAND RT. STA. 35+30		70

SIDEWALK RAMPS		
LOCATION - STATION		TYPE
MD 85 RT. STA. 34+95		PERPENDICULAR
SHOCKLEY DRIVE MEDIAN STA. 405+54		CUT THROUGH
MD 85 RT. STA. 36+38		PERPENDICULAR
MD 85 RT. STA. 38+72		PERPENDICULAR
MD 85 RT. STA. 39+45		PERPENDICULAR
MD 85 LT. STA. 35+05		COMBINATION
MD 85 LT. STA. 36+85		PERPENDICULAR
MD 85 LT. STA. 38+00		PERPENDICULAR

DETECTABLE WARNING SURFACE		
LOCATION - STATION		SF
MD 85 RT. STA. 35+00		11
MD 85 ISLAND RT. STA. 35+30		31
MD 85 RT. STA. 35+73		25
MD 85 RT. STA. 36+30		11
MD 85 RT. STA. 38+80		11
MD 85 ISLAND RT. STA. 39+10		21
MD 85 RT. STA. 39+36		11
MD 85 LT. STA. 35+08		10
MD 85 ISLAND LT. STA. 35+30		21

TYPE 'A' CURB 8"X16" (MD-620.02)		
LOCATION - STATION		LF
MD 85 ISLAND RT. STA. 35+30		49
MD 85 RT. STA. 35+73		12
MD 85 ISLAND RT. STA. 39+10		40
MD 85 ISLAND LT. STA. 35+30		40
MD 85 ISLAND LT. STA. 36+45		80
MD 85 LT. STA. 38+00		21

MONOLITHIC CONCRETE MEDIAN (MD-645.01)		
LOCATION - STATION	LF	TYPE
MD 85 MEDIAN STA. 34+00 TO STA. 35+28	128	A-1, 6' WIDE
SHOCKLEY DRIVE MEDIAN STA. 405+00 TO STA. 405+67	60	A-1, 6' WIDE
CRESTWOOD BLVD. MEDIAN STA. 406+90 TO STA. 408+50	160	A-1, 6' WIDE

6" CONCRETE BIKE PATH		
LOCATION - STATION		SF
MD 85 ISLAND LT. STA. 36+45		220
MD 85 LT. STA. 36+90 TO STA. 37+90		640

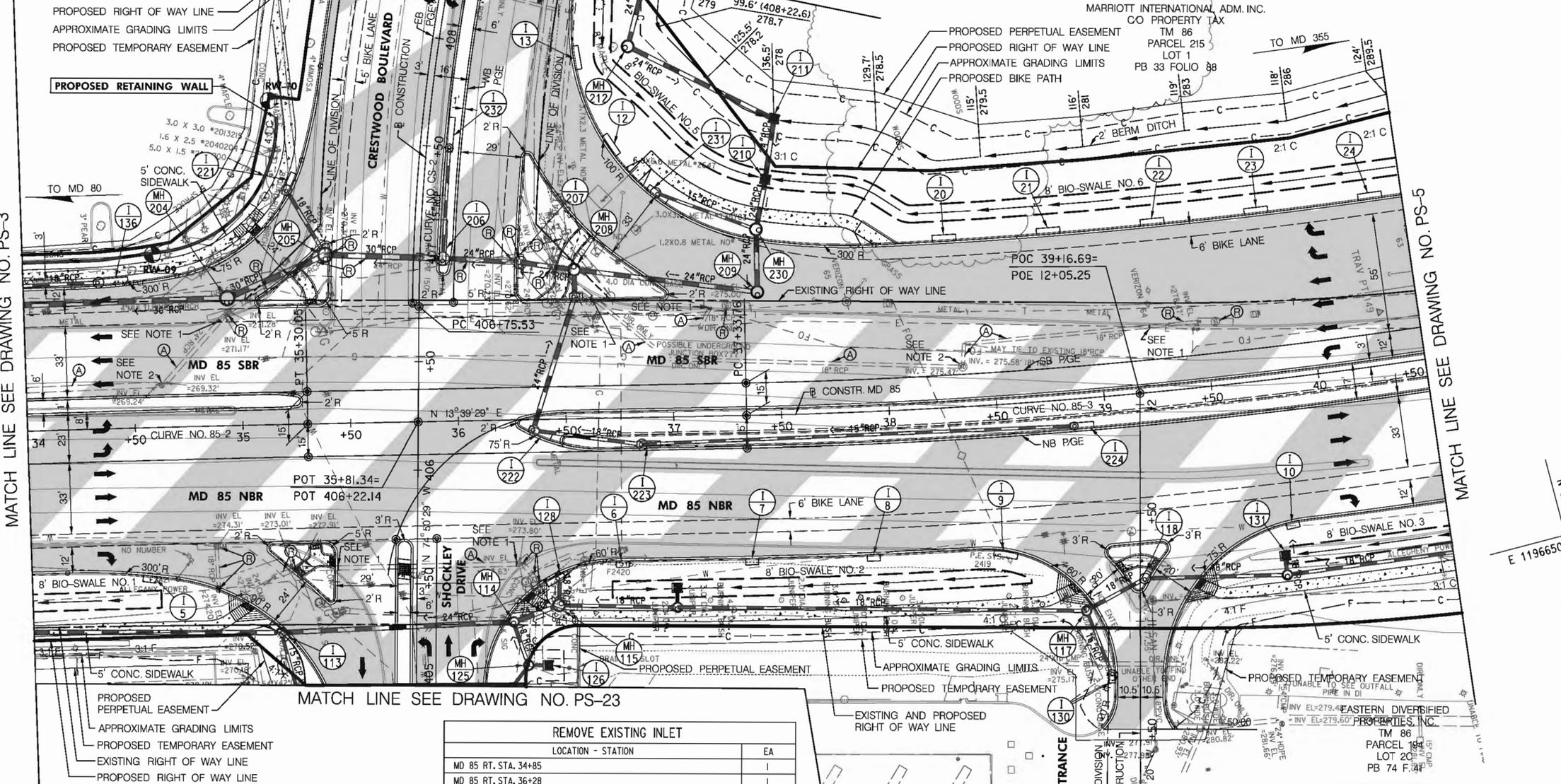
FREDERICK WESTVIEW PROPERTIES LLC  
 TM 86  
 PARCEL 57  
 L 2558 F. 855  
 PB 74 FOLIO 81 (REMAINDER)  
 PB 34 FOLIO 111

MARRIOTT INTERNATIONAL ADM. INC.  
 CO PROPERTY TAX  
 TM 86  
 PARCEL 215  
 LOT 1  
 PB 33 FOLIO 88

ROUTE 85 SYNERGY LLC  
 TM 86  
 PARCEL 194  
 LOT 2D  
 PB 20 F. 164

REMOVE MANHOLE FRAME AND COVER		
LOCATION - STATION		EA
MD 85 LT. STA. 34+63		1
MD 85 LT. STA. 38+35		1

REMOVAL OF EXISTING MANHOLE		
LOCATION - STATION		EA
MD 85 RT. STA. 35+23		1



- NOTES:
- BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.
  - REMOVE EXISTING MANHOLE FRAME AND COVER AND FILL WITH FLOWABLE FILL.

LEGEND	
	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

THE WILSON T. BALLARD CO.  
 CONSULTING ENGINEERS  
 OWINGS MILLS, MARYLAND

REMOVE EXISTING INLET		
LOCATION - STATION		EA
MD 85 RT. STA. 34+85		1
MD 85 RT. STA. 36+28		1
MD 85 RT. STA. 36+36		1
MD 85 LT. STA. 34+90		1
MD 85 LT. STA. 36+52		1
MD 85 LT. STA. 37+25		1
MD 85 LT. STA. 39+50		1

BRICK MASONRY FOR MISCELLANEOUS STRUCTURES		
LOCATION - STATION		CY
24" RCP MD 85 RT. STA. 35+42		1
24" RCP MD 85 RT. STA. 36+26		1
24" RCP MD 85 LT. STA. 34+90		1
18" RCP MD 85 LT. STA. 36+60		1
18" RCP MD 85 LT. STA. 37+15		1
18" RCP MD 85 LT. STA. 39+20		1

SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)		
LOCATION - STATION		SY
2' DITCH CRESTWOOD BLVD. RT. STA. 408+50 TO MD 85 LT. STA. 40+50		335

DATUM: NAD 8391 Horizontal  
 NAVD 88 Vertical

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
	ROADWAY PLAN SHEETS	27 - 53
	ROADWAY PROFILE SHEETS	54 - 84
	TRAFFIC CONTROL SHEETS	161 - 226
	EROSION & SEDIMENT CONTROL	229 - 471
	SIGNING & MARKING PLANS	600 - 921
	LANDSCAPE PLAN SHEETS	922 - 949
	UTILITIES	

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
 I-270 INTERCHANGE RECONSTRUCTION

ROADWAY PLAN			
SCALE 1" = 30'	ADVERTISED DATE	CONTRACT NO.	FF3885171
DESIGNED BY	JED	COUNTY	FREDERICK
DRAWN BY	KLD	LOGMILE	
CHECKED BY	ERF		
F.A.P. NO.	SEE TITLE SHEET		
DRAWING NO.	PS - 4	OF	26
SHEET NO.	30	OF	577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-3	14° 32' 45"	2° 16' 41"	2515.00'	320.97'	638.49'	20.40'
85-6	3° 19' 12"	2° 17' 31"	2500.00'	72.45'	144.87'	1.05'
85-11	1° 28' 20"	0° 34' 23"	10000.00'	128.49'	256.97'	0.83'
H-1	92° 57' 39"	104° 10' 27"	55.00'	57.92'	89.24'	24.87'
RPI-1	5° 43' 39"	3° 26' 31"	1664.61'	83.27'	166.40'	2.08'

QUANTITY NOTES

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH		
LOCATION - STATION	LF	
MD 85 RT. STA. 40+50 TO HAMPTON INN ENTR. LT. STA. 11+34	71	
MD 85 ISLAND RT. STA. 41+35	108	
HAMPTON INN ENTR. RT. STA. 11+34 TO MD 85 RT. STA. 47+00	512	
MD 85 NBR/RAMP I MEDIUM STA. 2046+40 TO STA. 2047+01	125	
MD 85 MEDIAN STA. 40+50 TO STA. 47+00	1252	
MD 85 LT. STA. 40+50 TO STA. 47+00	579	

5" CONCRETE SIDEWALK		
LOCATION - STATION	SF	
MD 85 RT. STA. 40+50 TO STA. 40+98	252	
MD 85 ISLAND RT. STA. 41+35	91	
MD 85 RT. STA. 41+76 TO STA. 47+00	2681	

SIDEWALK RAMPS		
LOCATION - STATION	TYPE	
MD 85 RT. STA. 41+00	PERPENDICULAR	
MD 85 RT. STA. 41+76	PERPENDICULAR	

DETECTABLE WARNING SURFACE		
LOCATION - STATION	SF	
MD 85 RT. STA. 41+05	10	
MD 85 ISLAND RT. STA. 41+35	21	
MD 85 RT. STA. 41+70	10	

TYPE 'C' TRAFFIC BARRIER TREATMENT (MD-605.03)		
LOCATION - STATION	EA	
MD 85 RT. STA. 44+95	1	

TYPE 'A' CURB 8"X16" (MD-620.02)		
LOCATION - STATION	LF	
MD 85 ISLAND RT. STA. 41+35	49	

TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)		
LOCATION - STATION	LF	
MD 85 RT. STA. 44+95 TO STA. 47+00	205	
MD 85 LT. STA. 45+25 TO STA. 47+00	175	

SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)		
LOCATION - STATION	SY	
2' DITCH MD 85 LT. STA. 40+50 TO STA. 44+65	369	
4' DITCH MD 85 LT. STA. 46+27 TO STA. 47+00	81	

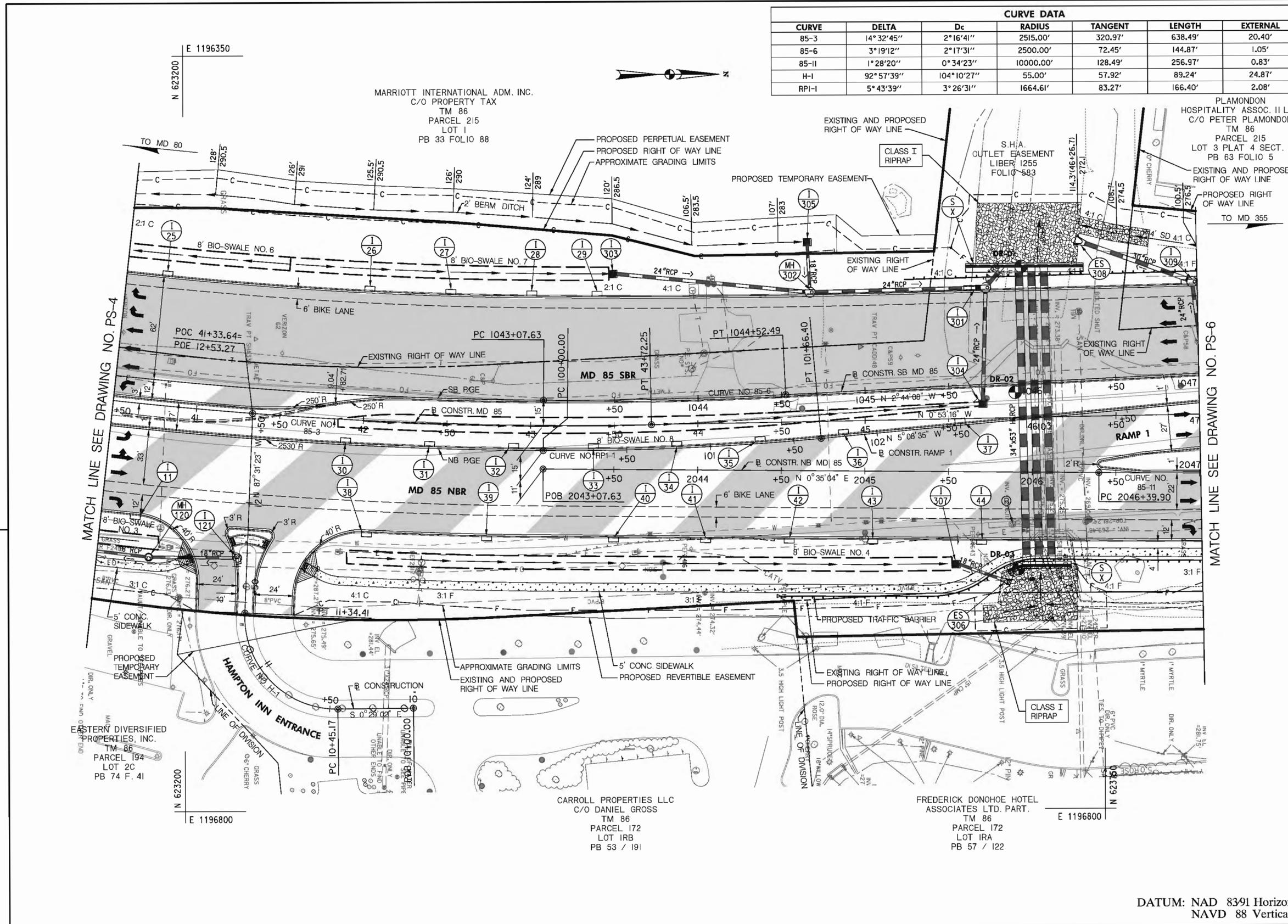
CLASS I RIPRAP		
LOCATION - STATION	SY	
MD 85 RT. STA. 46+00	170	
MD 85 LT. STA. 46+00	302	

TYPE K TRAFFIC BARRIER END TREATMENT (MD-650.10)		
LOCATION - STATION	EA	
MD 85 RT. STA. 45+25	1	

STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

ROADWAY PLAN			
SCALE 1" = 30'	ADVERTISED DATE	CONTRACT NO.	FR3885171
DESIGNED BY	JED	COUNTY	FREDERICK
DRAWN BY	KLD	LOGMILE	
CHECKED BY	ERF		
F.A.P. NO.	SEE TITLE SHEET		
DRAWING NO.	PS-5	OF	26
SHEET NO.	31	OF	577



THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

LEGEND

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET Nos.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
	ROADWAY PLAN SHEETS	27 - 53
	ROADWAY PROFILE SHEETS	54 - 84
	TRAFFIC CONTROL SHEETS	161 - 226
	EROSION & SEDIMENT CONTROL	228 - 471
	SIGNING & MARKING PLANS	503 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

DATUM: NAD 8391 Horizontal NAVD 88 Vertical		
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42 INCH F SHAPE CONCRETE MEDIAN TRAFFIC BARRIER (BIFURCATED) (MD-648.44-01)	
LOCATION - STATION	LF
RAMP 3 LT. STA. 303+27 TO STA. 304+25	98

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH	
LOCATION - STATION	LF
MD 85 RT. STA. 47+00 TO RAMP 5 RT. STA. 507+50	295
MD 85 ISLAND RT. STA. 49+45	109
MD 85 ISLAND RT. STA. 50+40	250
RAMP 3 RT. STA. 303+27 TO MD 85 RT. STA. 53+50	355
MD 85 NBR/RAMP 1 MEDIAN STA. 2047+00 TO STA. 2050+49	706
MD 85 SBR/RAMP 1 MEDIAN STA. 1047+00 TO STA. 1053+50	1262
MD 85 LT. STA. 47+00 TO STA. 53+50	602

5" CONCRETE SIDEWALK	
LOCATION - STATION	SF
MD 85 RT. STA. 47+00 TO STA. 49+00	1024
MD 85 ISLAND RT. STA. 49+45	104
MD 85 ISLAND RT. STA. 50+40	182
MD 85 RT. STA. 50+70 TO STA. 53+50	1369

SIDEWALK RAMPS	
LOCATION - STATION	TYPE
MD 85 RT. STA. 49+00	COMBINATION
MD 85 ISLAND RT. STA. 49+30	PERPENDICULAR
MD 85 ISLAND RT. STA. 49+52	PERPENDICULAR
MD 85 ISLAND RT. STA. 50+20	PERPENDICULAR
MD 85 ISLAND RT. STA. 50+55	PERPENDICULAR
MD 85 RT. STA. 50+70	COMBINATION

DETECTABLE WARNING SURFACE	
LOCATION - STATION	SF
MD 85 RT. STA. 49+10	10
MD 85 ISLAND RT. STA. 49+27	10
MD 85 ISLAND RT. STA. 49+55	11
MD 85 ISLAND RT. STA. 50+10	13
MD 85 ISLAND RT. STA. 50+60	10
MD 85 RT. STA. 50+70	10

MONOLITHIC CONCRETE MEDIAN (MD-645.01)		
LOCATION - STATION	LF	TYPE
MD 85 NBR/RAMP 5 MEDIAN STA. 2050+87 TO STA. 2053+51	264	A-1, 6' WIDE
MD 85 (RAMP 5/RAMP 1) MEDIAN STA. 50+48 TO STA. 53+50	302	A-1, 4' WIDE

6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	LF
MD 85 RT. STA. 47+50 TO RAMP 5 RT. STA. 507+50	204
RAMP 6 RT. STA. 615+00 TO STA. 615+75	100

TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	EA
MD 85 RT. STA. 47+50 TO RAMP 5 RT. STA. 507+50	4
RAMP 6 RT. STA. 615+00 TO STA. 615+75	1

TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)	
LOCATION - STATION	LF
MD 85 RT. STA. 47+00 TO RAMP 5 RT. STA. 507+50	315
RAMP 3 RT. STA. 303+27 TO MD 85 RT. STA. 53+50	390

REMOVAL OF EXISTING PIPES	
LOCATION - STATION	LF
15" CMP MD 85 RT. STA. 49+10	22
24" RCP MD 85 RT. STA. 48+90	38
15" CMP MD 85 RT. STA. 49+35	46

REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES	
LOCATION - STATION	EA
CONCRETE FLUME MD 85 RT. STA. 49+02	1
HEADWALL MD 85 RT. STA. 49+55	1

REMOVAL OF EXISTING MANHOLE	
LOCATION - STATION	EA
MD 85 RT. STA. 49+12	1

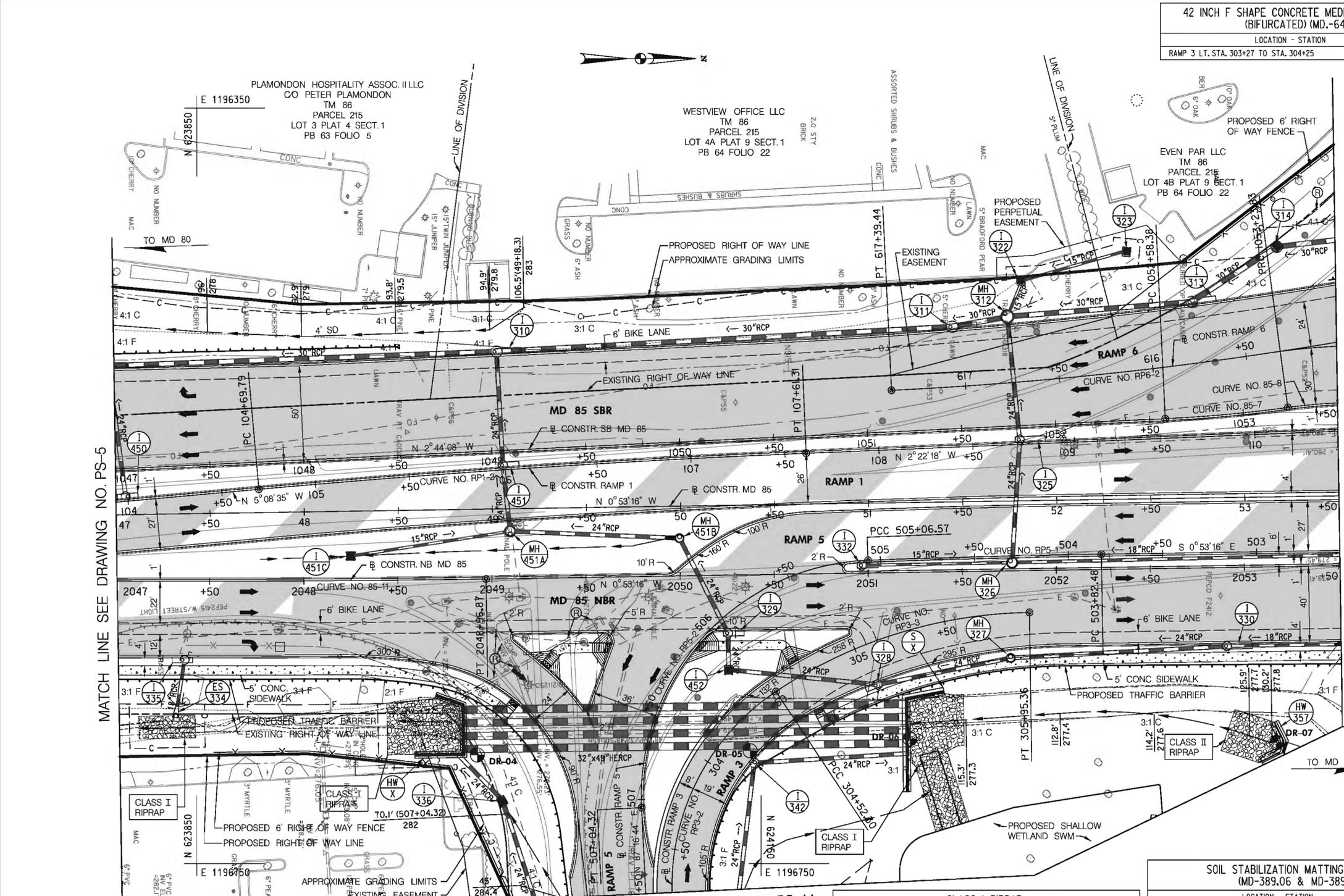
**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)	
LOCATION - STATION	SY
SSD RAMP 5 RT. STA. 507+00 TO STA. 507+50	47
10' DITCH MD 85 RT. STA. 51+20 TO STA. 53+15	320
4' DITCH MD 85 LT. STA. 47+00 TO STA. 49+18	245

REMOVAL OF EXISTING FENCE	
LOCATION - STATION	LF
RAMP 6 RT. STA. 615+00 TO STA. 615+15	26

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical



MATCH LINE SEE DRAWING NO. PS-14

TYPE K TRAFFIC BARRIER END TREATMENT (MD-605.10)	
LOCATION - STATION	EA
RAMP 6 RT. STA. 615+00	1

CLASS I RIPRAP	
LOCATION - STATION	SY
MD 85 RT. STA. 47+25	40
MD 85 RT. STA. 48+60	140
MD 85 RT. STA. 51+35	105
MD 85 RT. STA. 52+40	5

CLASS II RIPRAP	
LOCATION - STATION	SY
MD 85 RT. STA. 53+00	69

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-7	5°00'00"	7°38'22"	750.00'	32.75'	65.45'	0.71'
85-8	28°29'22"	19°05'55"	300.00'	76.16'	149.17'	9.52'
85-11	1°28'20"	0°34'23"	10000.00'	128.49'	256.97'	0.83'
RP1-2	2°46'17"	0°57'02"	6027.00'	145.79'	291.52'	1.76'
RP3-2	150°10'54"	46°12'23"	124.00'	465.73'	325.02'	357.95'
RP3-3	32°47'12"	22°55'06"	250.00'	73.55'	143.06'	10.59'
RP5-1	1°11'28"	0°57'36"	5969.00'	62.05'	124.10'	0.32'
RP5-2	90°38'31"	45°50'12"	125.00'	126.41'	197.75'	52.78'
RP6-2	12°07'14"	2°51'53"	2000.00'	212.33'	423.09'	11.24'

**LEGEND**

- CONCRETE SIDEWALK
- FULL DEPTH CONSTRUCTION
- RESURFACING

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

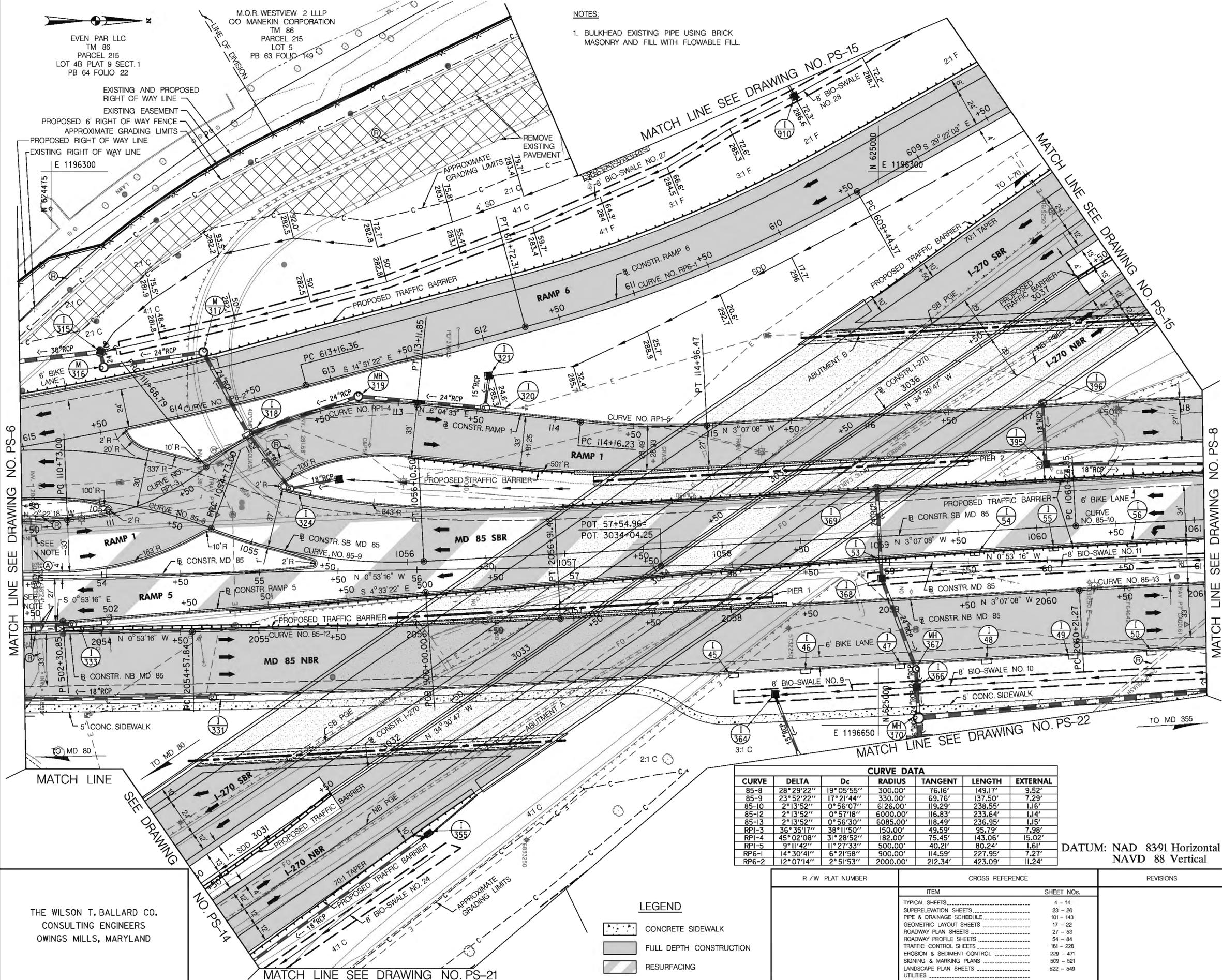
ROADWAY PLAN	
SCALE 1" = 30'	ADVERTISED DATE CONTRACT NO. FR3885171
DESIGNED BY JED	COUNTY FREDERICK
DRAWN BY KLD	LOGMILE
CHECKED BY ERF	
F.A.P. NO. SEE TITLE SHEET	
DRAWING NO. PS-6	OF 26 SHEET NO. 32 OF 577

SEE PS-7A FOR QUANTITIES LISTING

EVEN PAR LLC  
TM 86  
PARCEL 215  
LOT 4B PLAT 9 SECT.1  
PB 64 FOLIO 22

M.O.R. WESTVIEW 2 LLLP  
CO MANEKIN CORPORATION  
TM 86  
PARCEL 215  
LOT 5  
PB 63 FOLIO 149

NOTES:  
1. BULKHEAD EXISTING PIPE USING BRICK  
MASONRY AND FILL WITH FLOWABLE FILL.



MATCH LINE SEE DRAWING NO. PS-6

MATCH LINE SEE DRAWING NO. PS-8

MATCH LINE

SEE DRAWING NO. PS-14

MATCH LINE SEE DRAWING NO. PS-22

MATCH LINE SEE DRAWING NO. PS-21

CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-8	28°29'22"	19°05'55"	300.00'	76.16'	149.17'	9.52'
85-9	23°52'22"	17°21'44"	330.00'	69.76'	137.50'	7.29'
85-10	2°13'52"	0°56'07"	6126.00'	119.29'	238.55'	1.16'
85-12	2°13'52"	0°57'18"	6000.00'	116.83'	233.64'	1.14'
85-13	2°13'52"	0°56'30"	6085.00'	118.49'	236.95'	1.15'
RP1-3	36°35'17"	38°11'50"	150.00'	49.59'	95.79'	7.98'
RP1-4	45°02'08"	31°28'52"	182.00'	75.45'	143.06'	15.02'
RP1-5	9°11'42"	11°27'33"	500.00'	40.21'	80.24'	1.61'
RP6-1	14°30'41"	6°21'58"	900.00'	114.59'	227.95'	7.27'
RP6-2	12°07'14"	2°51'53"	2000.00'	212.34'	423.09'	11.24'

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

- LEGEND**
- CONCRETE SIDEWALK
  - FULL DEPTH CONSTRUCTION
  - RESURFACING



STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

**ROADWAY PLAN**

SCALE 1" = 30'	ADVERTISED DATE	CONTRACT NO.	FR3885171
DESIGNED BY	JED	COUNTY	FREDERICK
DRAWN BY	KLD	LOGMILE	
CHECKED BY	ERF		
F.A.P. NO.	SEE TITLE SHEET		
DRAWING NO.	PS-7	OF	26
SHEET NO.	33	OF	577

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

BY: daw

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-4	6°14'24"	0°56'21"	6100.00'	332.51'	664.35'	9.06'
85-10	2°13'52"	0°56'07"	6126.00'	119.29'	238.55'	1.16'
85-13	2°13'52"	0°56'30"	6085.00'	118.49'	236.95'	1.15'
RPI-6	62°02'17"	22°55'06"	250.00'	150.33'	270.69'	41.72'
RP2-3	99°56'08"	48°58'15"	117.00'	139.28'	204.07'	64.90'
RP8-1	33°28'00"	38°11'50"	150.00'	45.10'	87.62'	6.63'
RP8-2	79°17'59"	50°15'34"	114.00'	94.48'	157.78'	34.06'

REMOVAL OF EXISTING PIPES		
LOCATION - STATION		LF
24" X 12" PIPE MD 85 LT., RT. STA. 61+10		70
18" CMP MD 85 LT., RT. STA. 61+75		32
15" RCP MD 85 RT. STA. 61+95		8
24" RCP MD 85 LT., RT. STA. 65+85		70
24" RCP RAMP 8 RT. STA. 801+00		58
15" RCP MD 85 LT. STA. 66+50		51
24" RCP MD 85 LT. STA. 66+50		87

FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES		
LOCATION - STATION		CY
24" RCP MD 85 LT. STA. 65+90 (29 LF)		4

REMOVE EXISTING PAVEMENT		
LOCATION - STATION		CY
RAMP 2 RT. STA. 215+00		151
MD 85 LT. STA. 66+50		459

REMOVAL OF EXISTING MANHOLE		
LOCATION - STATION		EA
MD 85 LT. STA. 61+55		1

TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)		
LOCATION - STATION		LF
MD 85 RT. STA. 63+50 TO STA. 67+00		350
MD 85 LT. STA. 61+00 TO STA. 61+98		98

REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES		
LOCATION - STATION		EA
ENDWALL RAMP 8 RT. STA. 801+15		1
HEADWALL MD 85 RT. STA. 65+80		1
ENDWALLS MD 85 LT. STA. 65+95		2
END SECTIONS MD 85 LT. STA. 66+13 & 66+17		2

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH		
LOCATION - STATION		LF
MD 85 RT. STA. 61+00 TO RAMP 2 LT. STA. 215+00		106
MD 85 ISLAND RT. STA. 62+30		85
RAMP 2 RT. STA. 215+00 TO MD 85 RT. STA. 67+00		433
MD 85 MEDIAN STA. 61+00 TO STA. 61+50		115
MD 85 MEDIAN STA. 61+85 TO STA. 67+00		977
MD 85 LT. STA. 61+00 TO STA. 65+12		381
RAMP 1 RT. STA. 118+12 TO STA. 121+52		340
RAMP 1 LT. STA. 118+12 TO RAMP 8 LT. STA. 803+85		419
MD 85 LT. STA. 67+00 TO RAMP 8 RT. STA. 803+50		252
RAMP 8 LT. STA. 801+38 TO STA. 802+65		121

5" CONCRETE SIDEWALK		
LOCATION - STATION		SF
MD 85 RT. STA. 61+00 TO STA. 61+75		399
MD 85 ISLAND RT. STA. 62+30		89
MD 85 RT. STA. 62+65 TO STA. 67+00		2175

SIDEWALK RAMPS		
LOCATION - STATION		TYPE
MD 85 RT. STA. 61+75		PERPENDICULAR
MD 85 RT. STA. 62+65		PERPENDICULAR
MD 85 LT. STA. 63+82		MODIFIED PERPENDICULAR
MD 85 LT. STA. 64+75		PERPENDICULAR
MD 85 LT. STA. 65+11		PERPENDICULAR
MD 85 LT. STA. 66+49		MODIFIED PERPENDICULAR

DETECTABLE WARNING SURFACE		
LOCATION - STATION		SF
MD 85 RT. STA. 61+85		10
MD 85 RT. STA. 62+23		10
MD 85 RT. STA. 62+43		11
MD 85 RT. STA. 62+58		10

TYPE 'C' TRAFFIC BARRIER TREATMENT (MD-605.03)		
LOCATION - STATION		EA
MD 85 RT. STA. 63+50		1
MD 85 LT. STA. 61+98		1

TYPE 'A' CURB (MD-620.02), 8"X16"		
LOCATION - STATION		LF
MD 85 ISLAND RT. STA. 62+30		49
MD 85 LT. STA. 63+75		21
MD 85 LT. STA. 66+60		21

REMOVE EXISTING TRAFFIC BARRIER		
LOCATION - STATION		LF
RAMP 8 RT. STA. 802+00 TO STA. 804+00		170

6' CONCRETE BIKE PATH		
LOCATION - STATION		SF
MD 85 LT. STA. 63+82 TO STA. 64+75		580
MD 85 LT. STA. 65+11 TO STA. 66+49		870

6' GALVANIZED CHAIN LINK FENCE (MD-690.01)		
LOCATION - STATION		LF
RAMP 2 RT. STA. 215+00 TO MD 85 RT. STA. 63+50		82
MD 85 LT. STA. 67+00 TO RAMP 8 RT. STA. 804+00		78

TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)		
LOCATION - STATION		EA
RAMP 2 RT. STA. 215+00 TO MD 85 RT. STA. 63+50		1
MD 85 LT. STA. 67+00 TO RAMP 8 RT. STA. 804+00		2

SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)		
LOCATION - STATION		SY
2' DITCH MD 85 LT. STA. 65+50 TO STA. 66+00		61

BRICK MASONRY FOR MISCELLANEOUS STRUCTURES		
LOCATION - STATION		CY
MD 85 LT. STA. 65+88		1
MD 85 LT. STA. 65+92		1

CLASS I RIPRAP		
LOCATION - STATION		SY
MD 85 RT. STA. 64+85		50
MD 85 LT. STA. 67+00		15

REMOVAL OF EXISTING FENCE		
LOCATION - STATION		LF
RAMP 2 RT. STA. 215+00 TO MD 85 RT. STA. 67+00		445
MD 85 LT. STA. 67+00 TO RAMP 8 RT. STA. 804+00		115

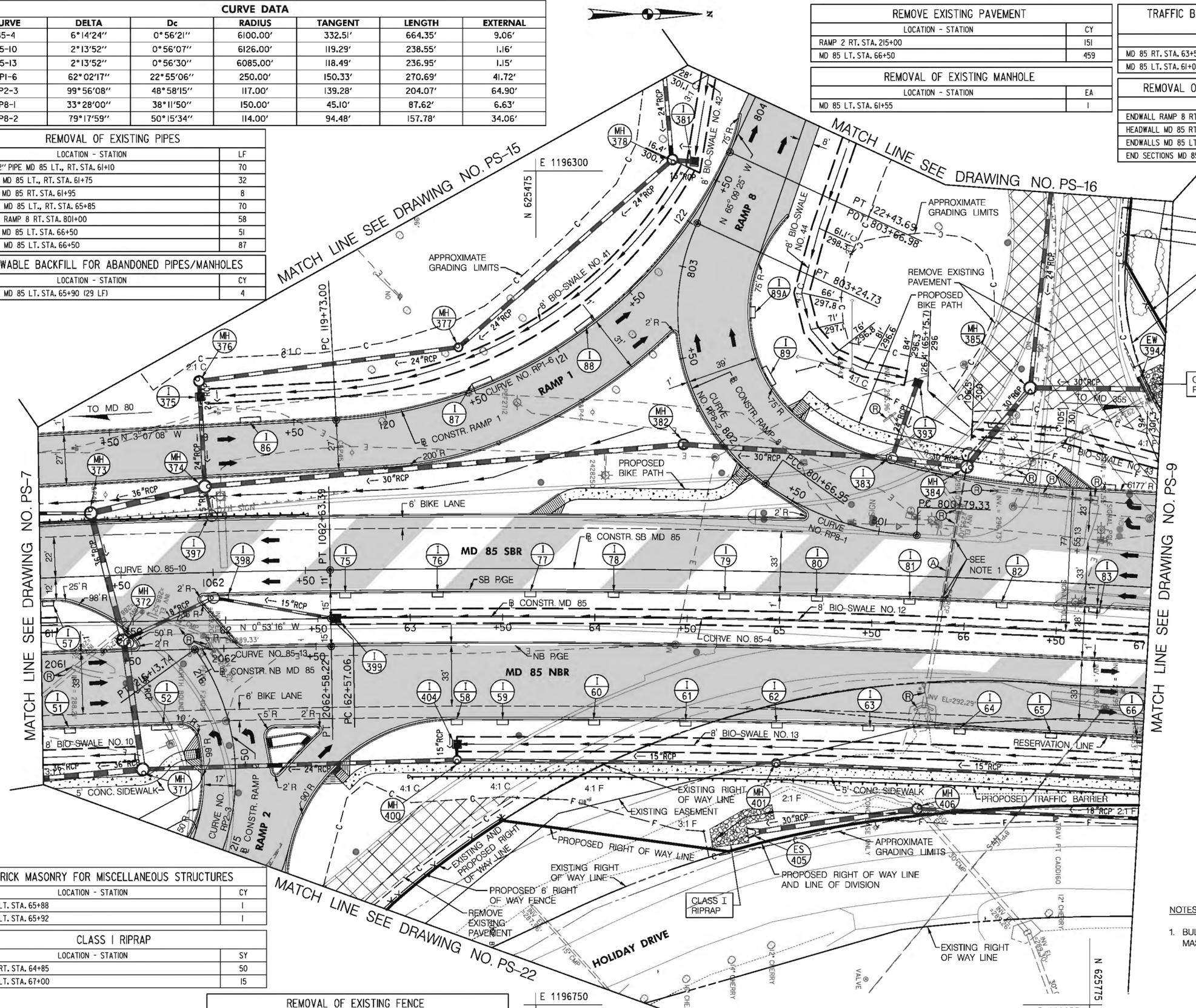
LEGEND	
	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

REMOVE EXISTING INLET		
LOCATION - STATION		EA
MD 85 RT. STA. 61+20		1
MD 85 RT. STA. 61+90		1
MD 85 RT. STA. 61+95		1
MD 85 LT. STA. 66+65		1

PR FINANCING LIMITED PARTNERSHIP  
 CO PASQUERILLA PLAZA  
 CROWN AMERICAN REALTY TRUST  
 (FRANCIS SCOTT KEY MALL)  
 TM 77  
 PARCEL 187  
 LOT 1-R  
 PB 29 FOLIO 140  
 PB 45 FOLIO 164

THE WILSON T. BALLARD CO.  
 CONSULTING ENGINEERS  
 OWINGS MILLS, MARYLAND

BY: dbw



NOTES:  
 1. BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.

DATUM: NAD 8391 Horizontal  
 NAVD 88 Vertical

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	SUPERELEVATION SHEETS	4 - 14
	PIPE & DRAINAGE SCHEDULE	23 - 26
	GEOMETRIC LAYOUT SHEETS	101 - 143
	ROADWAY PLAN SHEETS	17 - 22
	ROADWAY PROFILE SHEETS	27 - 53
	TRAFFIC CONTROL SHEETS	54 - 84
	EROSION & SEDIMENT CONTROL	161 - 228
	SIGNING & MARKING PLANS	229 - 471
	LANDSCAPE PLAN SHEETS	509 - 521
	UTILITIES	522 - 549

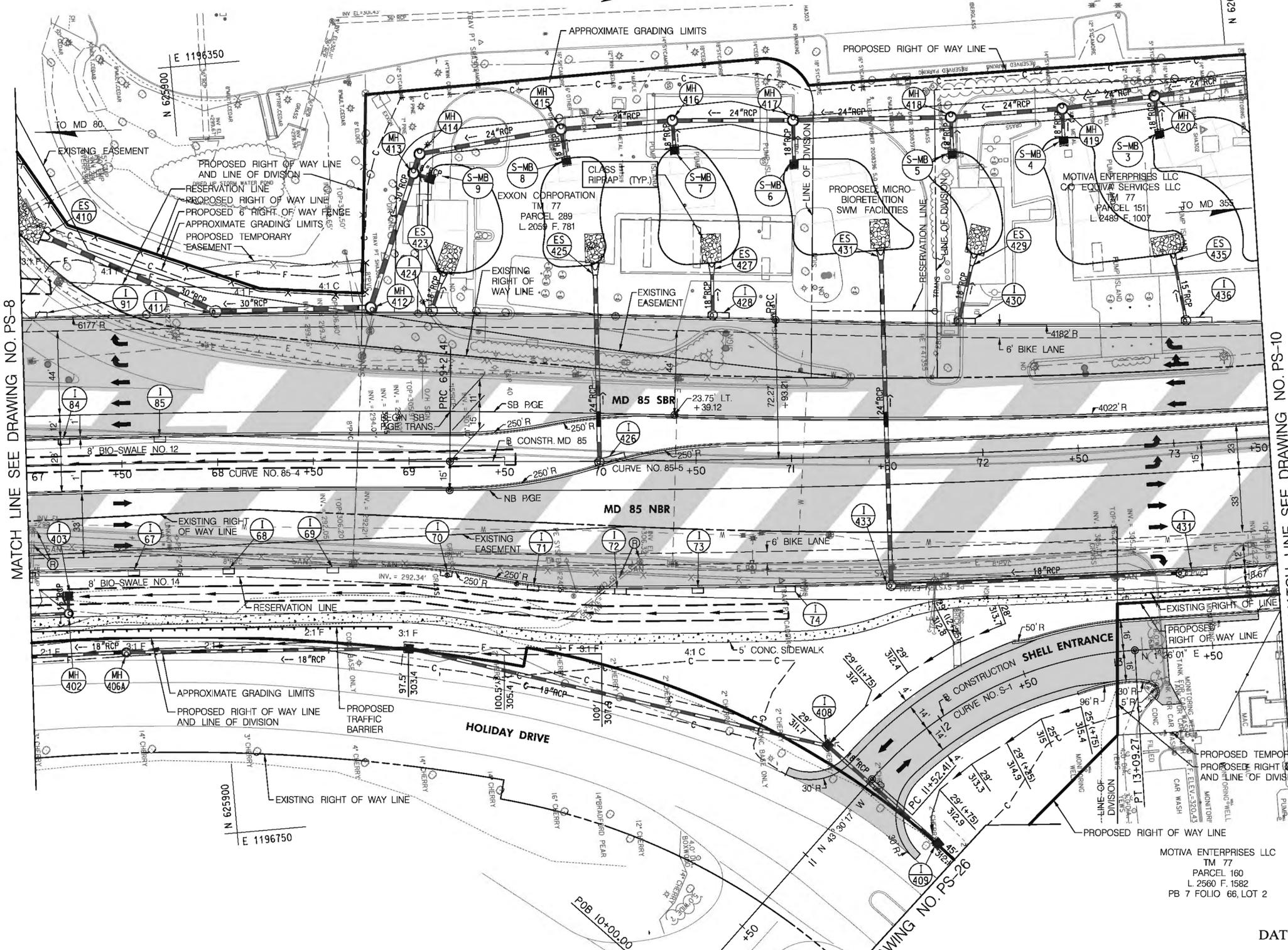
**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
 I-270 INTERCHANGE RECONSTRUCTION

ROADWAY PLAN			
SCALE 1" = 30'	ADVERTISED DATE	CONTRACT NO.	FR3885171
DESIGNED BY	JED	COUNTY	FREDERICK
DRAWN BY	KLD	LOGMILE	
CHECKED BY	ERF		
F.A.P. NO.	SEE TITLE SHEET		
DRAWING NO.	PS - 8	OF 26	SHEET NO. 35 OF 577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-4	6°14'24"	0°56'21"	6100.00'	332.51'	664.35'	9.06'
85-5	5°08'11"	0°56'21"	6100.00'	273.60'	546.84'	6.13'
S-1	44°56'19"	28°38'52"	200.00'	82.72'	156.87'	16.43'

WESTERN 1 LTD. PART.  
L. 1821 F. 1240  
TM 77  
PARCEL 34  
LOT 1  
PB 50 FOLIO 12



QUANTITY NOTES

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH	
LOCATION - STATION	LF
MD 85 RT. STA. 67+00 TO STA. 73+50	559
SHELL ENTRANCE LT. STA. 12+50 TO STA. 13+70	130
SHELL ENTRANCE RT. STA. 12+75 TO STA. 13+25	49
MD 85 MEDIAN STA. 67+00 TO STA. 73+50	1272
MD 85 LT. STA. 67+00 TO STA. 73+50	574

5" CONCRETE SIDEWALK	
LOCATION - STATION	SF
MD 85 RT. STA. 67+00 TO STA. 73+50	3277

REMOVE EXISTING TRAFFIC BARRIER	
LOCATION - STATION	LF
MD 85 LT. STA. 67+00	15

6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	LF
MD 85 LT. STA. 67+00 TO STA. 68+80	227

TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	EA
MD 85 LT. STA. 67+00 TO STA. 68+80	4

TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)	
LOCATION - STATION	LF
MD 85 RT. STA. 67+00 TO STA. 68+90	190

TYPE 'K' TRAFFIC BARRIER END TREATMENT (MD-605.10)	
LOCATION - STATION	EA
MD 85 RT. STA. 68+90	1

REMOVAL OF EXISTING PIPES	
LOCATION - STATION	LF
15" CMP MD 85 RT. STA. 67+02	26
15" CMP MD 85 RT. STA. 70+00	44

REMOVE EXISTING INLET	
LOCATION - STATION	EA
MD 85 RT. STA. 67+05	1
MD 85 RT. STA. 70+25	1

SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)	
LOCATION - STATION	SY
2' DITCH SHELL ENTRANCE LT. STA. 11+50 TO STA. 12+50	111
2' DITCH SHELL ENTRANCE RT. STA. 11+50 TO STA. 12+75	139

CLASS I RIPRAP	
LOCATION - STATION	SY
MD 85 LT. STA. 67+00	22
SWM FACILITY MD 85 LT. STA. 68+80 TO STA. 73+50	100

REMOVAL OF EXISTING FENCE	
LOCATION - STATION	LF
MD 85 RT. STA. 67+00 TO STA. 70+75	375
MD 85 LT. STA. 67+00 TO STA. 71+00	410

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

MATCH LINE SEE DRAWING NO. PS-8

MATCH LINE SEE DRAWING NO. PS-10

MATCH LINE SEE DRAWING NO. PS-26

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULES	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
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	ROADWAY PROFILE SHEETS	54 - 84
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	SIGNING & MARKING PLANS	509 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD LOGMILE \_\_\_\_\_  
CHECKED BY ERF  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. **PS-9** OF **26** SHEET NO. **36** OF **577**

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
85-5	5° 08' 11"	0° 56' 21"	6100.00'	273.60'	546.84'	6.13'
SD-3	39° 55' 28"	27° 56' 57"	205.00'	74.46'	142.85'	13.10'
SD-4	28° 20' 40"	28° 38' 52"	200.00'	50.50'	98.94'	6.28'

QUANTITY NOTES

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH		
LOCATION - STATION	LF	
MD 85 RT. STA. 73+50 TO SPECTRUM DRIVE LT. STA. 707+00	117	
MD 85 ISLAND RT. STA. 74+70	62	
SPECTRUM DRIVE RT. STA. 707+00 TO MD 85 RT. STA. 77+10	185	
MD 85 MEDIAN STA. 73+50 TO STA. 73+65	30	
MD 85 LT. STA. 73+50 TO SPECTRUM DRIVE EXT. LT. STA. 710+20	257	
SPECTRUM DRIVE EXT. RT. STA. 711+15 TO MD 85 LT. STA. 77+25	317	
SHELL GAS STATION RT. STA. 74+35	46	

5' CONCRETE SIDEWALK		
LOCATION - STATION	SF	
MD 85 RT. STA. 73+50 TO STA. 74+35	442	
MD 85 ISLAND RT. STA. 74+70	33	
SPECTRUM DRIVE RT. STA. 707+00 TO STA. 707+60	303	

SIDEWALK RAMPS		
LOCATION - STATION	TYPE	
MD 85 RT. STA. 74+35	PARALLEL	
MD 85 RT. STA. 75+75	PARALLEL	

DETECTABLE WARNING SURFACE		
LOCATION - STATION	SF	
MD 85 RT. STA. 74+45	11	
MD 85 ISLAND RT. STA. 74+70	26	
SPECTRUM DRIVE MEDIAN STA. 707+70	21	
MD 85 RT. STA. 75+75	11	

MONOLITHIC CONCRETE MEDIAN (MD-645.01)			
LOCATION - STATION	LF	TYPE	
SPECTRUM DRIVE MEDIAN STA. 707+00 TO STA. 707+82	76	A-1, 6' WIDE	
MD 85 MEDIAN STA. 73+65 TO STA. 74+58	93	A-1, 6' WIDE	
MD 85 MEDIAN STA. 75+85 TO STA. 77+95.75	111	A-1, 4' - 6' WIDE	
SPECTRUM DRIVE EXT. MEDIAN STA. 709+07 TO STA. 710+10	103	A-1, 6' WIDE	

TYPE 'A' CURB 8"X16" (MD-620.02)		
LOCATION - STATION	LF	
MD 85 ISLAND RT. STA. 74+70	28	
SPECTRUM DRIVE MEDIAN STA. 707+70	13	

REMOVAL OF EXISTING PIPES		
LOCATION - STATION	LF	
15" RCP MD 85 LT. STA. 74+15	6	
15" RCP MD 85 LT. STA. 76+00	10	

REMOVE EXISTING INLET		
LOCATION - STATION	EA	
MD 85 LT. STA. 74+15	1	
MD 85 LT. STA. 76+00	1	

BRICK MASONRY FOR MISCELLANEOUS STRUCTURES		
LOCATION - STATION	CY	
MD 85 LT. STA. 74+15 (2)	2	
MD 85 LT. STA. 76+00	1	
SPECTRUM DRIVE EXTENDED RT. STA. 710+62	1	

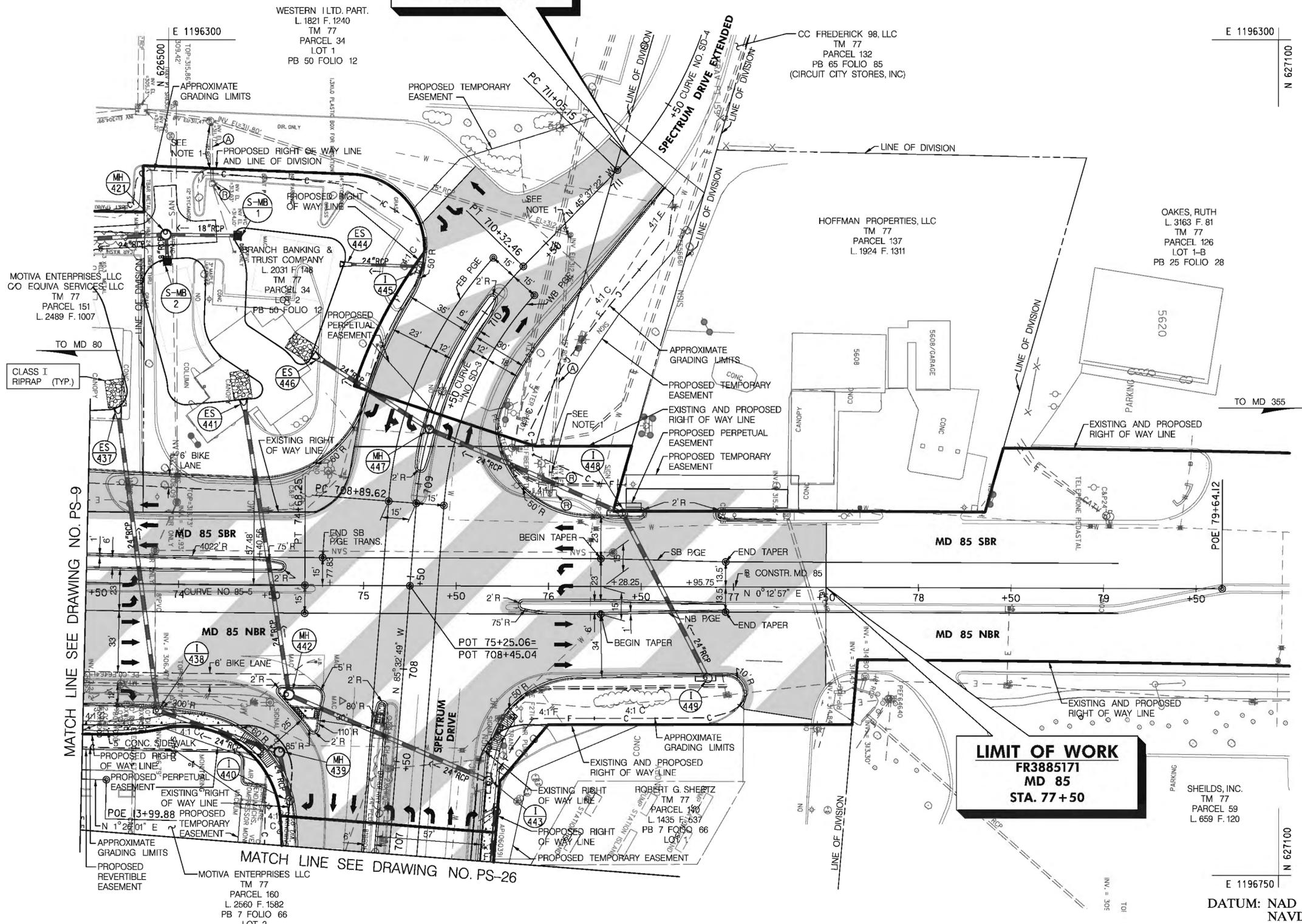
FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES		
LOCATION - STATION	CY	
15" RCP MD 85 LT. STA. 74+15 (25 LF)	2	
15" RCP SPECTRUM DRIVE EXT. RT. STA. 709+00 TO STA. 710+62 (125 LF)	6	

CLASS I RIPRAP		
LOCATION - STATION	SY	
SWM FACILITY MD 85 LT. STA. 73+50 TO STA. 75+00	67	

**LIMIT OF WORK**  
FR3885171  
SPECTRUM DRIVE EXT.  
STA. 711+15

**LIMIT OF WORK**  
FR3885171  
MD 85  
STA. 77+50



MATCH LINE SEE DRAWING NO. PS-9

MATCH LINE SEE DRAWING NO. PS-26

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

- NOTES:**
- BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

BY: daw

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
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	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK

DRAWN BY KLD LOGMILE \_\_\_\_\_

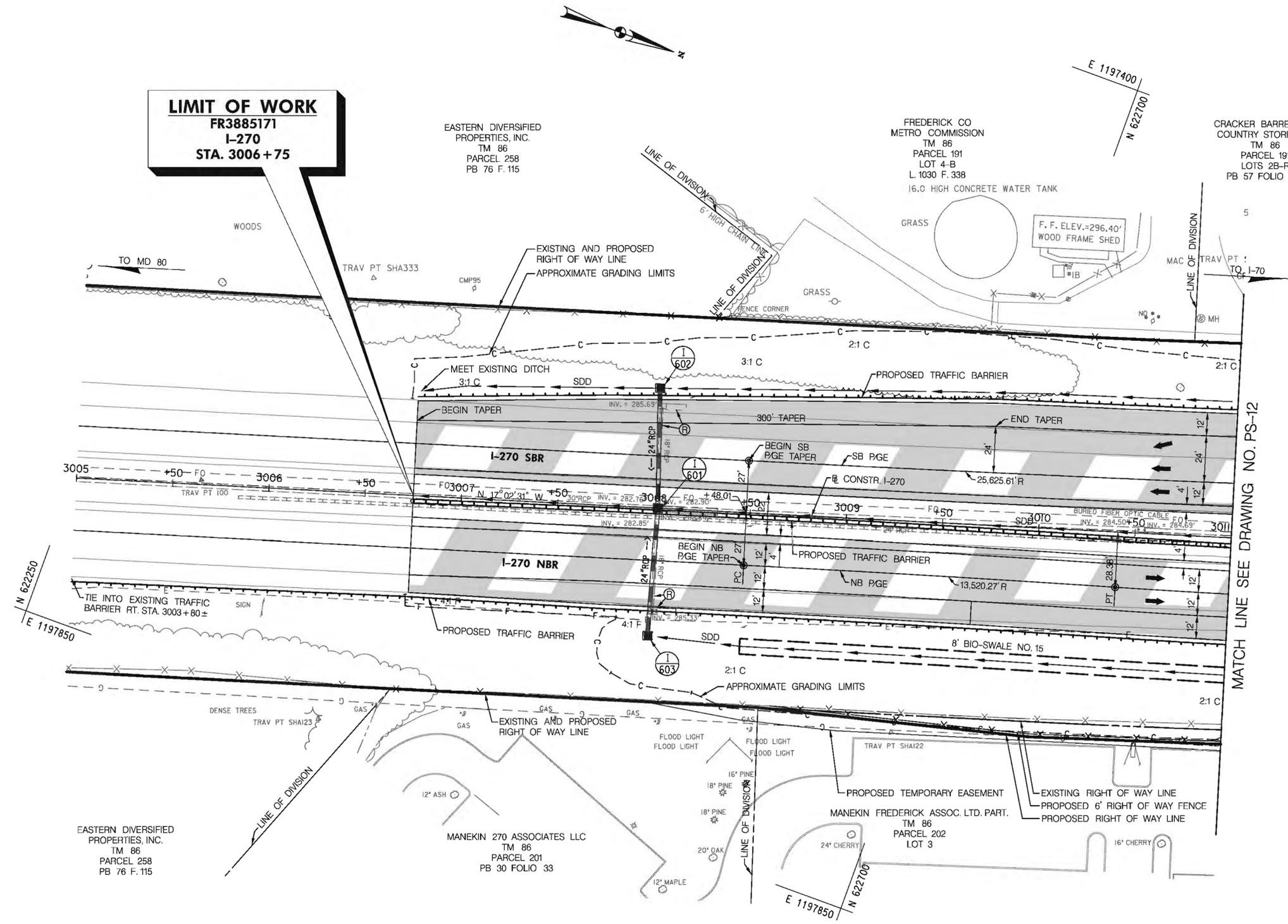
CHECKED BY ERF

F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-10 OF 26 SHEET NO. 37 OF 577

TRAFFIC BARRIER W BEAM MEDIAN BARRIER WITH BOTTOM PANEL (MD-605.28-01)	
LOCATION - STATION	LF
I-270 MEDIAN STA. 3006+75 TO STA. 3011+00	425
6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	LF
I-270 RT. STA. 3008+40 TO STA. 3011+00	260
TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	EA
I-270 RT. STA. 3008+40 TO STA. 3011+00	2
TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)	
LOCATION - STATION	LF
I-270 RT. STA. 3003+80 TO STA. 3011+00	720
I-270 LT. STA. 3006+75 TO STA. 3011+00	425
TYPE 'K' TRAFFIC BARRIER END TREATMENT (MD-605.10)	
LOCATION - STATION	EA
I-270 LT. STA. 3006+75	1
SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)	
LOCATION - STATION	SY
SDD I-270 RT. STA. 3008+00 TO STA. 3008+50	56
SDD I-270 MEDIAN STA. 3006+75 TO STA. 3011+00	473
SDD I-270 LT. STA. 3006+75 TO STA. 3011+00	473
REMOVAL OF EXISTING FENCE	
LOCATION - STATION	LF
I-270 RT. STA. 3008+40 TO STA. 3011+00	260

**LIMIT OF WORK**  
FR3885171  
I-270  
STA. 3006+75



MATCH LINE SEE DRAWING NO. PS-12

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION  
MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
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	TRAFFIC CONTROL SHEETS	161 - 228
	EROSION & SEDIMENT CONTROL	229 - 471
	SIGNING & MARKING PLANS	509 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

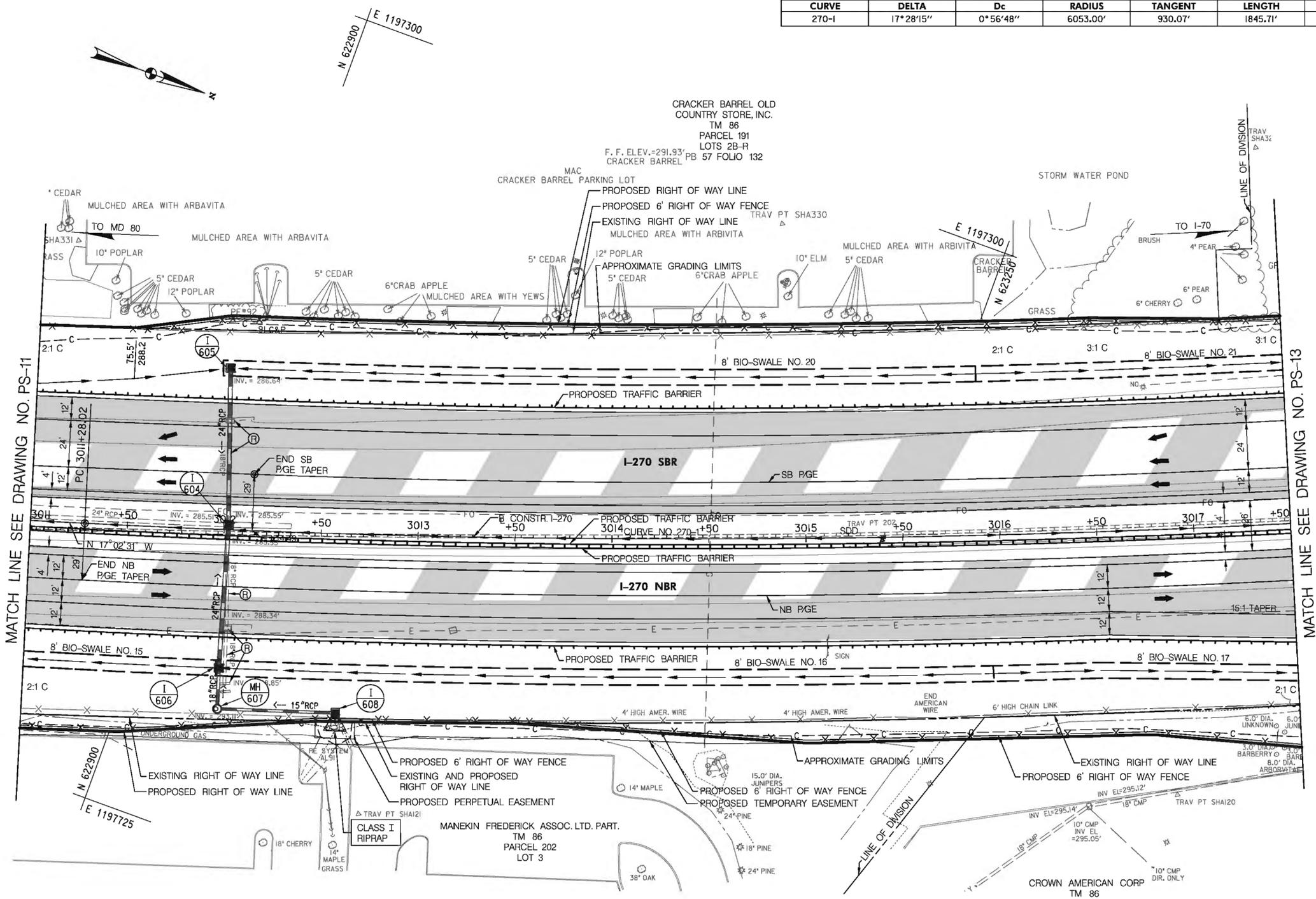
DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD COUNTY FREDERICK  
CHECKED BY ERF COUNTY FREDERICK  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-11 OF 26 SHEET NO. 38 OF 577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
270-1	17°28'15"	0°56'48"	6053.00'	930.07'	1845.71'	71.04'

QUANTITY NOTES

<b>TRAFFIC BARRIER W BEAM MEDIAN BARRIER WITH BOTTOM PANEL (MD-605.28-01)</b>	
LOCATION - STATION	LF
I-270 MEDIAN STA. 3011+00 TO STA. 3017+50	650
<b>6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	LF
I-270 RT. STA. 3011+00 TO STA. 3017+50	650
I-270 LT. STA. 3011+50 TO STA. 3017+50	600
<b>TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	EA
I-270 RT. STA. 3011+00 TO STA. 3017+50	5
I-270 LT. STA. 3011+50 TO STA. 3017+50	5
<b>TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)</b>	
LOCATION - STATION	LF
I-270 RT. STA. 3011+00 TO STA. 3017+50	650
I-270 LT. STA. 3011+00 TO STA. 3017+50	650
<b>SOIL STABILIZATION MATTING - TYPE A (MD-389.06 &amp; MD-389.07)</b>	
LOCATION - STATION	SY
SDD I-270 MEDIAN STA. 3011+00 TO STA. 3017+50	722
SDD I-270 LT. STA. 3011+00 TO STA. 3012+00	111
<b>CLASS I RIPRAP</b>	
LOCATION - STATION	SY
I-270 RT. STA. 3012+60	8
<b>REMOVAL OF EXISTING FENCE</b>	
LOCATION - STATION	LF
I-270 RT. STA. 3011+00 TO STA. 3017+50	650
I-270 LT. STA. 3011+50 TO STA. 3017+50	600



MATCH LINE SEE DRAWING NO. PS-11

MATCH LINE SEE DRAWING NO. PS-13



STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
	ROADWAY PLAN SHEETS	27 - 53
	ROADWAY PROFILE SHEETS	54 - 84
	TRAFFIC CONTROL SHEETS	161 - 228
	EROSION & SEDIMENT CONTROL	229 - 471
	SIGNING & MARKING PLANS	509 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK

DRAWN BY KLD LOGMILE \_\_\_\_\_

CHECKED BY ERF

F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-12 OF 26 SHEET NO. 39 OF 577

QUANTITY NOTES

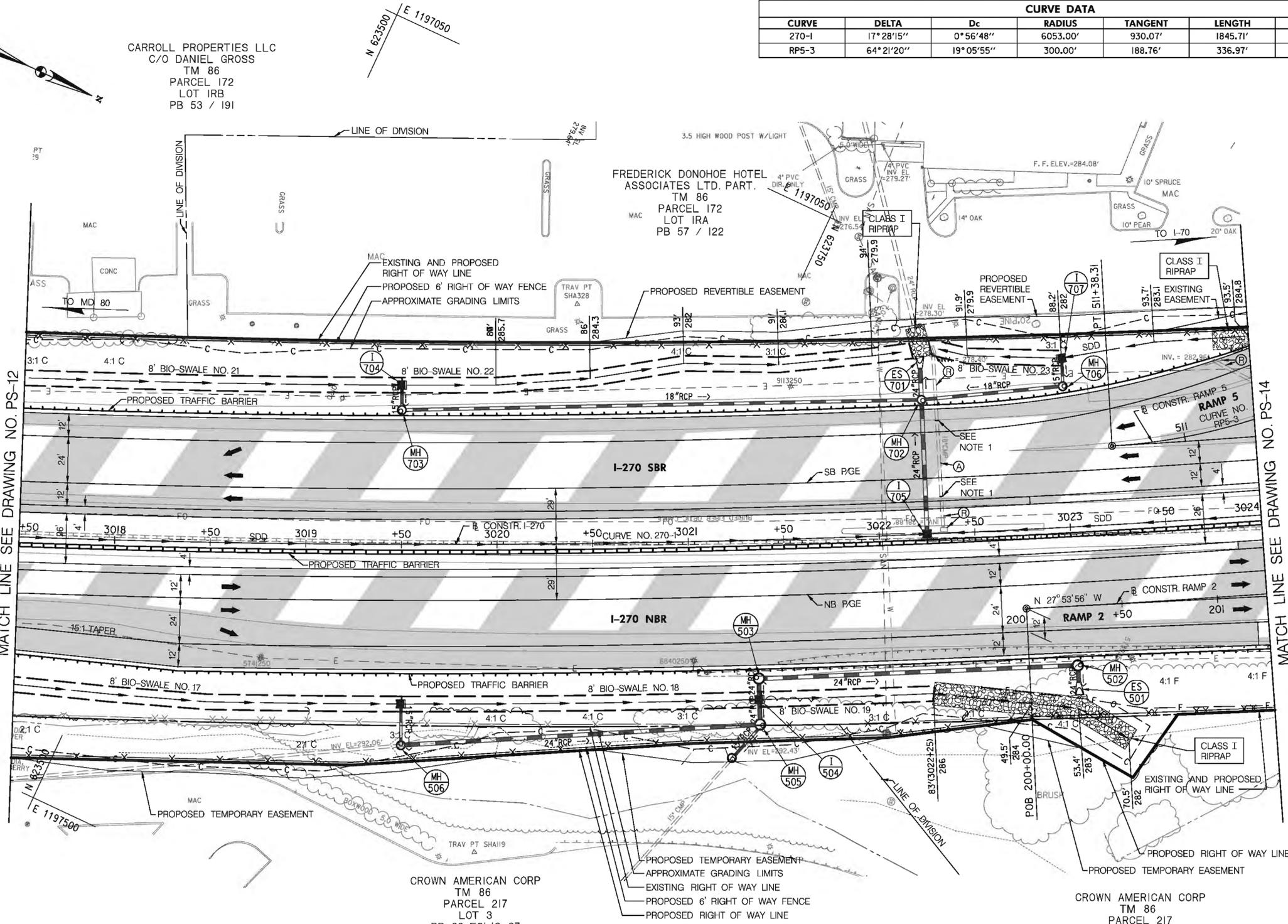
<b>TRAFFIC BARRIER W BEAM MEDIAN BARRIER WITH BOTTOM PANEL (MD-605.28-01)</b>	
LOCATION - STATION	LF
I-270 MEDIAN STA. 3017+50 TO STA. 3024+00	650
<b>6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	LF
I-270 RT. STA. 3017+50 TO STA. 3024+00	650
I-270 LT. STA. 3017+50 TO STA. 3024+00	650
<b>TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	EA
I-270 RT. STA. 3017+50 TO STA. 3024+00	6
I-270 LT. STA. 3017+50 TO STA. 3024+00	5
<b>TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)</b>	
LOCATION - STATION	LF
I-270 RT. STA. 3017+50 TO STA. 3024+00	650
I-270 LT. STA. 3017+50 TO STA. 3024+00	650
<b>REMOVAL OF EXISTING PIPES</b>	
LOCATION - STATION	LF
18" CMP I-270 LT. STA. 3022+30	38
18" RCP RAMP 5 RT. STA. 510+75	
<b>REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES</b>	
LOCATION - STATION	EA
END SECTION I-270 LT. STA. 3022+30	1
HEADWALL RAMP 5 RT. STA. 510+75	1
<b>REMOVE EXISTING INLET</b>	
LOCATION - STATION	EA
I-270 LT. STA. 3022+30	1
<b>BRICK MASONRY FOR MISCELLANEOUS STRUCTURES</b>	
LOCATION - STATION	CY
I-270 LT. STA. 3022+30 (2)	2
<b>SOIL STABILIZATION MATTING - TYPE A (MD-389.06 &amp; MD-389.07)</b>	
LOCATION - STATION	SY
SDD I-270 MEDIAN STA. 3017+50 TO STA. 3024+00	722
SDD I-270 LT. STA. 3023+00 TO STA. 3023+80	89
<b>CLASS I RIPRAP</b>	
LOCATION - STATION	SY
I-270 RT. STA. 3022+25 TO STA. 3023+25	144
I-270 LT. STA. 3022+25	17
I-270 LT. STA. 3024+00	21
<b>FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES</b>	
LOCATION - STATION	CY
18" CMP I-270 LT. STA. 3022+30 (40 LF)	3
<b>REMOVAL OF EXISTING FENCE</b>	
LOCATION - STATION	LF
I-270 RT. STA. 3017+50 TO STA. 3024+00	650
I-270 LT. STA. 3017+50 TO STA. 3024+00	650

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

<b>ROADWAY PLAN</b>	
SCALE 1" = 30' ADVERTISED DATE	CONTRACT NO. FR3885171
DESIGNED BY JED	COUNTY FREDERICK
DRAWN BY KLD	LOGMILE
CHECKED BY ERF	
F.A.P. NO. SEE TITLE SHEET	
DRAWING NO. PS-13	OF 26 SHEET NO. 40 OF 577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
270-1	17°28'15"	0°56'48"	6053.00'	930.07'	1845.71'	71.04'
RP5-3	64°21'20"	19°05'55"	300.00'	188.76'	336.97'	54.44'



CARROLL PROPERTIES LLC  
C/O DANIEL GROSS  
TM 86  
PARCEL 172  
LOT 17B  
PB 53 / 191

FREDERICK DONOHOE HOTEL  
ASSOCIATES LTD. PART.  
TM 86  
PARCEL 172  
LOT 17A  
PB 57 / 122

CROWN AMERICAN CORP  
TM 86  
PARCEL 217  
LOT 3  
PB 20 FOLIO 27

CROWN AMERICAN CORP  
TM 86  
PARCEL 217  
LOT 4  
PB 20 FOLIO 27

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

**NOTES:**

- BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	<b>ITEM</b>	<b>SHEET NOS.</b>
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULES	101 - 143
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	SIGNING & MARKING PLANS	509 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

BY: daw



FREDERICK DONOHUE HOTEL ASSOCIATES LTD. PART. TM 86 PARCEL 172 LOT 1RA PB 57 /122

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
270-1	17°28'15"	0°56'48"	6053.00'	930.07'	1845.71'	71.04'
RP2-1	21°19'31"	7°17'56"	785.00'	147.80'	292.18'	13.79'
RP3-1	29°10'13"	22°55'06"	250.00'	65.05'	127.28'	8.32'
RP3-2	150°10'54"	46°12'23"	124.00'	465.73'	325.02'	357.95'
RP5-3	64°21'20"	19°05'55"	300.00'	188.76'	336.97'	54.44'

REMOVE EXISTING INLET		
LOCATION - STATION		EA
RAMP 5 LT. STA. 510+35		1
I-270 RT. STA. 3027+53		1

BRICK MASONRY FOR MISCELLANEOUS STRUCTURES		
LOCATION - STATION		CY
RAMP 5 RT. STA. 510+40		1
RAMP 5 RT. STA. 510+52		1
I-270 LT. STA. 3027+53 (2)		2

SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)		
LOCATION - STATION		SY
SDD I-270 MEDIAN STA. 3024+00 TO STA. 3030+50		722
SDD RAMP 5 RT. STA. 507+50 TO STA. 509+00		167
SDD RAMP 5 LT. STA. 508+10 TO STA. 508+50		45
SDD RAMP 3 LT. STA. 302+00 TO STA. 302+70		78
SDD I-270 LT. STA. 3025+00 TO STA. 3026+85		195

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH		
LOCATION - STATION		LF
RAMP 5 RT. STA. 509+00 TO STA. 510+50		150
RAMP 3 RT. STA. 300+17 TO STA. 303+27		288

TYPE 'A' CURB (MD-620.02), 8"x16"		
LOCATION - STATION		LF
I-270 LT. STA. 3029+87 TO STA. 3030+35		44

TRAFFIC BARRIER THRIE BEAM ANCHORAGE TO VERTICAL FACE (MD-605.41)		
LOCATION - STATION		EA
RAMP 3 LT. STA. 302+83		1

TRAFFIC BARRIER W BEAM MEDIAN BARRIER WITH BOTTOM PANEL (MD-605.28-01)		
LOCATION - STATION		LF
I-270 MEDIAN STA. 3024+00 TO STA. 3030+50		650

TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)		
LOCATION - STATION		LF
I-270 RT. STA. 3024+00 TO RAMP 2 RT. STA. 205+50		415
RAMP 2 LT. STA. 204+47 TO STA. 205+50		107
I-270 RT. STA. 3027+23 TO STA. 3030+50		327
RAMP 5 RT. STA. 507+50 TO STA. 510+50		300
RAMP 3 LT. STA. 302+00 TO STA. 302+83		83
RAMP 3 RT. STA. 303+27 TO I-270 LT. STA. 3030+30		540

TYPE 'B' TRAFFIC BARRIER END TREATMENT (MD-605.02)		
LOCATION - STATION		EA
I-270 RT. STA. 3027+00		1
RAMP 2 LT. STA. 204+25		1
RAMP 3 LT. STA. 301+85		1

TRAFFIC BARRIER W BEAM ANCHORAGE TO TRAIL END OF 'F' OR JERSEY SHAPE BARRIER (MD-605.44)		
LOCATION - STATION		EA
I-270 LT. STA. 3030+30		1

42 INCH F SHAPE CONCRETE MEDIAN TRAFFIC BARRIER (BIFURCATED) (MD-648.44-01)		
LOCATION - STATION		LF
RAMP 3 LT. STA. 302+80 TO STA. 303+27		50

6' GALVANIZED CHAIN LINK FENCE (MD-690.01)		
LOCATION - STATION		LF
I-270 RT. STA. 3024+00 TO RAMP 2 RT. STA. 205+50		415
RAMP 5 RT. STA. 507+50 TO STA. 510+50		250

TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)		
LOCATION - STATION		EA
I-270 RT. STA. 3024+00 TO RAMP 2 RT. STA. 205+50		4
RAMP 5 RT. STA. 507+50 TO STA. 510+50		4

REMOVAL OF EXISTING FENCE		
LOCATION - STATION		LF
I-270 RT. STA. 3024+00 TO RAMP 2 RT. STA. 205+50		415
RAMP 5 RT. STA. 507+50 TO STA. 510+50		250

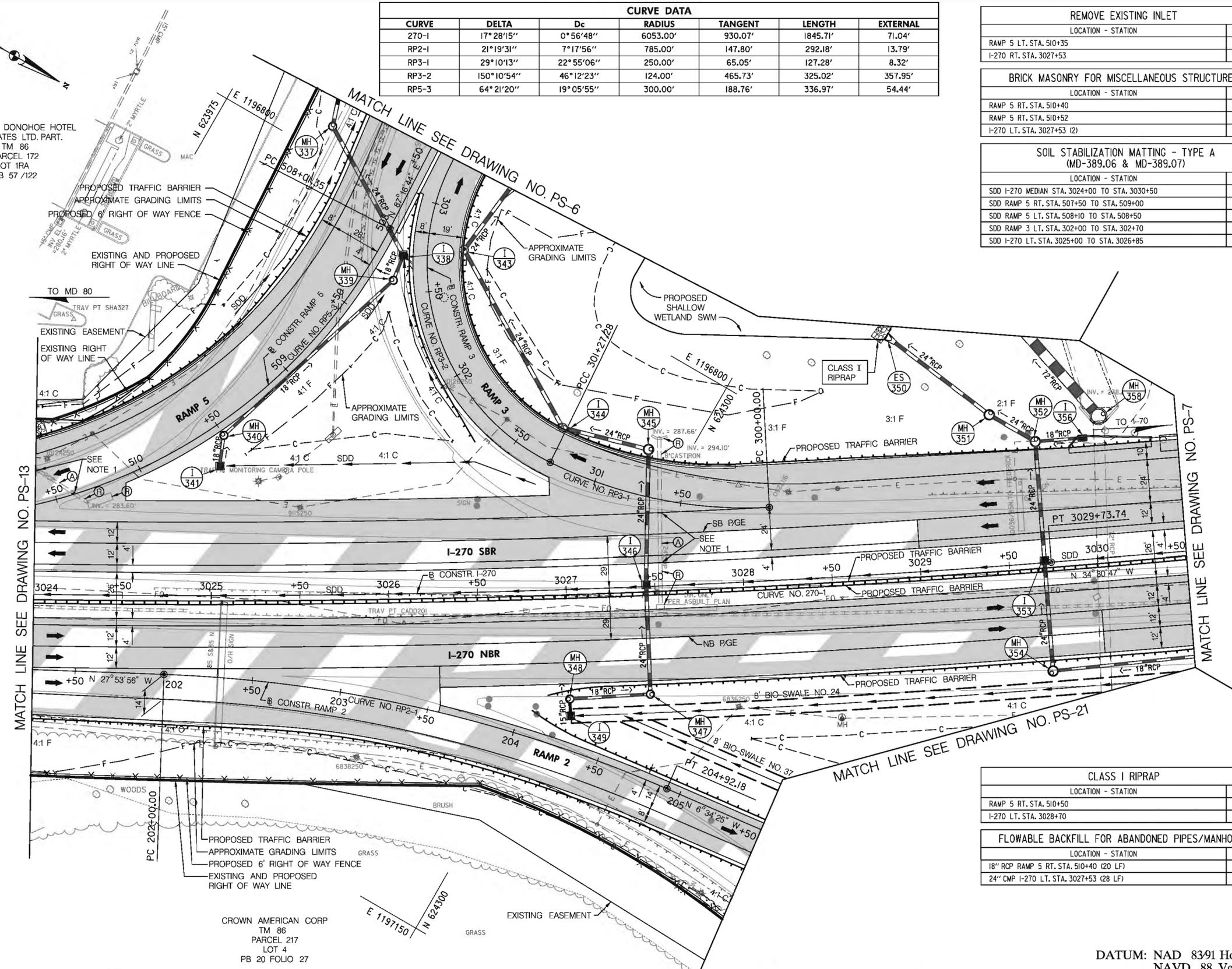
REMOVAL OF EXISTING PIPES		
LOCATION - STATION		LF
18" RCP RAMP 5 LT. STA. 510+40		10
24" CMP I-270 LT. STA. 3027+53		64

REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES		
LOCATION - STATION		EA
HEADWALL I-270 LT. STA. 3027+53		1



MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical



CLASS I RIPRAP		
LOCATION - STATION		SY
RAMP 5 RT. STA. 510+50		6
I-270 LT. STA. 3028+70		8

FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES		
LOCATION - STATION		CY
18" RCP RAMP 5 RT. STA. 510+40 (20 LF)		2
24" CMP I-270 LT. STA. 3027+53 (28 LF)		4

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

**NOTES:**  
1. BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
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	PIPE & DRAINAGE SCHEDULE	101 - 143
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	UTILITIES	

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. \_\_\_\_\_ FR3885171

DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD COUNTY LOGMILE \_\_\_\_\_  
CHECKED BY ERF  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-14 OF 26 SHEET NO. 41 OF 577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
270-2	2° 28' 39"	0° 24' 33"	14000.00'	302.72'	605.35'	3.27'

CLASS I RIPRAP		
LOCATION - STATION	SY	
RAMP 6 @ ES-901	36	

FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES		
LOCATION - STATION	CY	
18" RCP I-270 RT. STA. 3041+30 TO STA. 3041+50 (20 LF)	2	

REMOVE EXISTING PAVEMENT		
LOCATION - STATION	CY	
RAMP 6 RT. STA. 604+45 TO STA. 608+35	1664	

TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)		
LOCATION - STATION	LF	
I-270 RT. STA. 3038+05 TO STA. 3041+50	345	
I-270 LT. STA. 3037+50 TO STA. 3039+18	168	
RAMP 6 RT. STA. 604+32 TO STA. 608+35	402	

TRAFFIC BARRIER W BEAM MEDIAN BARRIER WITH BOTTOM PANEL (MD-605.28-01)		
LOCATION - STATION	LF	
I-270 MEDIAN STA. 3037+50 TO STA. 3041+50	400	

TRAFFIC BARRIER W BEAM ANCHORAGE TO TRAIL END OF 'F' OR JERSEY SHAPE BARRIER (MD-605.44)		
LOCATION - STATION	EA	
I-270 RT. STA. 3038+05	1	

TYPE 'C' TRAFFIC BARRIER TREATMENT (MD-605.03)		
LOCATION - STATION	EA	
I-270 LT. STA. 3039+18	1	

REMOVE EXISTING TRAFFIC BARRIER		
LOCATION - STATION	LF	
RAMP 6 RT. STA. 606+05 TO STA. 608+35	1300	

6' GALVANIZED CHAIN LINK FENCE (MD-690.01)		
LOCATION - STATION	LF	
RAMP 6 RT. STA. 604+32 TO STA. 608+35	665	

TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)		
LOCATION - STATION	EA	
RAMP 6 RT. STA. 604+32 TO STA. 608+35	6	

REMOVAL OF EXISTING FENCE		
LOCATION - STATION	LF	
RAMP 6 RT. STA. 604+32 TO STA. 608+35	665	

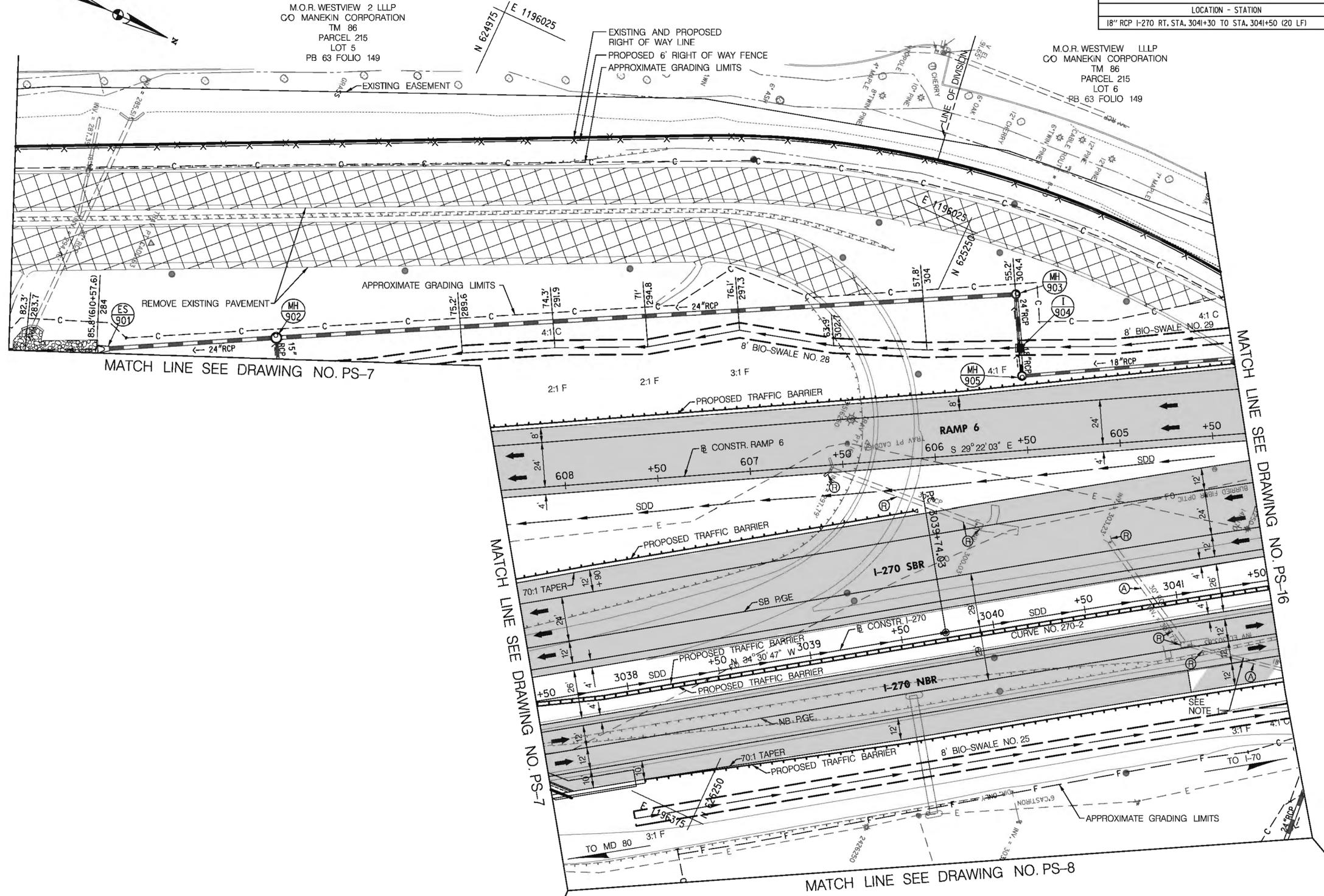
REMOVAL OF EXISTING PIPES		
LOCATION - STATION	LF	
30" RCP I-270 LT. STA. 3039+28 TO STA. 3040+00	83	
30" RCP I-270 LT., RT. STA. 3040+85	66	
18" RCP I-270 RT. STA. 3041+15	28	

REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES		
LOCATION - STATION	EA	
HEADWALL I-270 LT. STA. 3039+28	1	
END SECTION I-270 LT. STA. 3040+68	1	

REMOVE EXISTING INLET		
LOCATION - STATION	EA	
I-270 LT. STA. 3040+00	1	
I-270 RT. STA. 3041+00	1	

BRICK MASONRY FOR MISCELLANEOUS STRUCTURES		
LOCATION - STATION	CY	
I-270 RT. STA. 3041+30	1	

SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)		
LOCATION - STATION	SY	
SDD I-270 MEDIAN STA. 3037+50 TO STA. 3041+50	534	
SDD RAMP 6 LT. STA. 604+50 TO STA. 608+35	514	



M.O.R. WESTVIEW 2 LLLP  
 CO MANEKIN CORPORATION  
 TM 86  
 PARCEL 215  
 LOT 5  
 PB 63 FOLIO 149

M.O.R. WESTVIEW LLLP  
 CO MANEKIN CORPORATION  
 TM 86  
 PARCEL 215  
 LOT 6  
 PB 63 FOLIO 149

MATCH LINE SEE DRAWING NO. PS-7

MATCH LINE SEE DRAWING NO. PS-16

MATCH LINE SEE DRAWING NO. PS-8

DATUM: NAD 8391 Horizontal  
 NAVD 88 Vertical

THE WILSON T. BALLARD CO.  
 CONSULTING ENGINEERS  
 OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

- NOTES:**
- BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
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**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
 I-270 INTERCHANGE RECONSTRUCTION

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

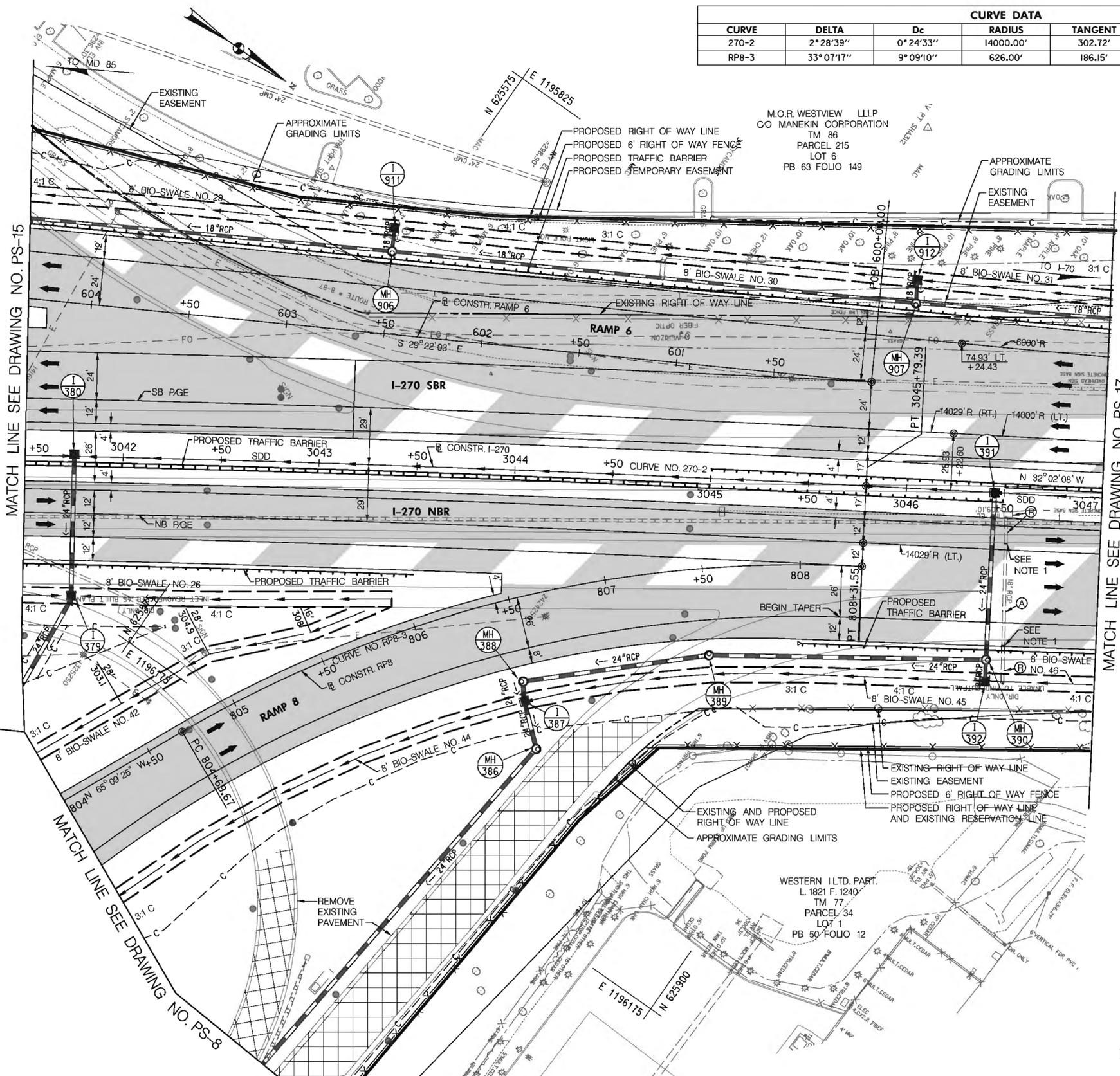
DESIGNED BY JED COUNTY FREDERICK  
 DRAWN BY KLD LOGMILE \_\_\_\_\_  
 CHECKED BY ERF  
 F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-15 OF 26 SHEET NO. 42 OF 577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
270-2	2°28'39"	0°24'33"	14000.00'	302.72'	605.35'	3.27'
RP8-3	33°07'17"	9°09'10"	626.00'	186.15'	361.88'	27.09'

QUANTITY NOTES

REMOVE EXISTING PAVEMENT		CY
LOCATION - STATION		
RAMP 8 RT. STA. 803+00 TO STA. 807+20		373
TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)		LF
LOCATION - STATION		
I-270 RT. STA. 3041+50 TO STA. 3043+50		200
I-270 RT. STA. 3046+00 TO STA. 3047+00		100
I-270 MEDIAN LT., RT. STA. 3045+00 TO STA. 3046+50		300
I-270 LT. STA. 3041+50 TO STA. 3047+00		550
TRAFFIC BARRIER W BEAM MEDIAN BARRIER WITH BOTTOM PANEL (MD-605.28-01)		LF
LOCATION - STATION		
I-270 MEDIAN STA. 3041+50 TO STA. 3045+00		350
I-270 MEDIAN STA. 3046+50 TO STA. 3047+00		50
TYPE 'C' TRAFFIC BARRIER TREATMENT (MD-605.03)		EA
LOCATION - STATION		
I-270 RT. STA. 3046+00		1
TYPE 'K' TRAFFIC BARRIER END TREATMENT (MD-605.10)		EA
LOCATION - STATION		
I-270 RT. STA. 3043+50		1
REMOVE EXISTING TRAFFIC BARRIER		LF
LOCATION - STATION		
RAMP 8 RT. STA. 803+40 TO STA. 803+65		80
6' GALVANIZED CHAIN LINK FENCE (MD-690.01)		LF
LOCATION - STATION		
RAMP 8 RT. STA. 803+00 TO I-270 RT. STA. 3047+00		475
I-270 LT. STA. 3041+50 TO STA. 3047+00		557
TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)		EA
LOCATION - STATION		
RAMP 8 RT. STA. 803+00 TO I-270 RT. STA. 3047+00		4
I-270 LT. STA. 3041+50 TO STA. 3047+00		4
REMOVAL OF EXISTING FENCE		LF
LOCATION - STATION		
RAMP 8 RT. STA. 803+00 TO I-270 RT. STA. 3047+00		330
I-270 LT. STA. 3041+50 TO STA. 3047+00		574
REMOVAL OF EXISTING PIPES		LF
LOCATION - STATION		
18" RCP I-270 RT. STA. 3046+50		35
REMOVE EXISTING INLET		EA
LOCATION - STATION		
I-270 RT. STA. 3046+50		1
BRICK MASONRY FOR MISCELLANEOUS STRUCTURES		CY
LOCATION - STATION		
I-270 RT. STA. 3046+50 (2)		2
SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)		SY
LOCATION - STATION		
I-270 MEDIAN STA. 3041+50 TO STA. 3047+00		734
FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES		CY
LOCATION - STATION		
18" RCP I-270 RT. STA. 3046+50 (48 LF)		4



MATCH LINE SEE DRAWING NO. PS-15

MATCH LINE SEE DRAWING NO. PS-17

MATCH LINE SEE DRAWING NO. PS-8

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

**NOTES:**  
1. BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
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**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. \_\_\_\_\_ FR3885171

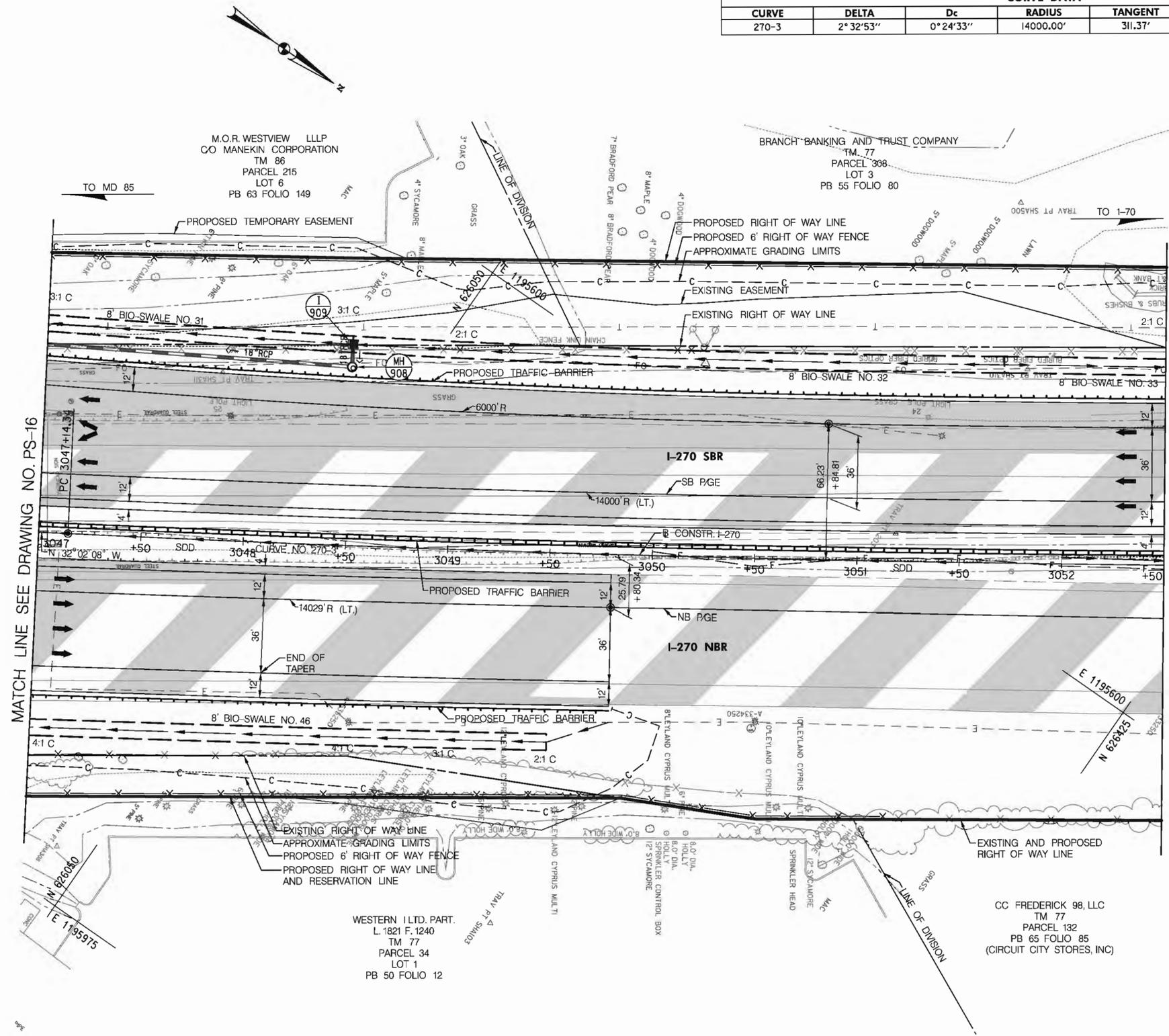
DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD LOGMILE \_\_\_\_\_  
CHECKED BY ERF  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. **PS-16** OF **26** SHEET NO. **43** OF **577**

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
270-3	2°32'53"	0°24'33"	14000.00'	311.37'	622.64'	3.46'

QUANTITY NOTES

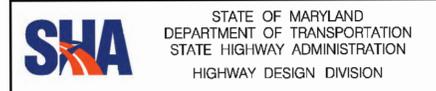
<b>TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)</b>	
LOCATION - STATION	LF
I-270 RT. STA. 3047+00 TO STA. 3049+80	280
I-270 LT. STA. 3047+00 TO STA. 3052+52	550
<b>TRAFFIC BARRIER W BEAM MEDIAN BARRIER WITH BOTTOM PANEL (MD-605.28-01)</b>	
LOCATION - STATION	LF
I-270 MEDIAN STA. 3047+00 TO STA. 3052+50	550
<b>TYPE 'K' TRAFFIC BARRIER END TREATMENT (MD-605.10)</b>	
LOCATION - STATION	EA
I-270 RT. STA. 3049+80	1
<b>6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	LF
I-270 RT. STA. 3047+00 TO STA. 3051+14	418
I-270 LT. STA. 3047+00 TO STA. 3052+50	550
<b>TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	EA
I-270 RT. STA. 3047+00 TO STA. 3051+14	4
I-270 LT. STA. 3047+00 TO STA. 3052+50	4
<b>REMOVAL OF EXISTING FENCE</b>	
LOCATION - STATION	LF
I-270 RT. STA. 3047+00 TO STA. 3051+14	415
I-270 LT. STA. 3047+00 TO STA. 3052+50	550
<b>SOIL STABILIZATION MATTING - TYPE A (MD-389.06 &amp; MD-389.07)</b>	
LOCATION - STATION	SY
SDD I-270 RT. STA. 3049+50 TO STA. 3049+80	40
SDD I-270 MEDIAN STA. 3047+00 TO STA. 3052+50	734



MATCH LINE SEE DRAWING NO. PS-16

MATCH LINE SEE DRAWING NO. PS-18

DATUM: NAD 83/91 Horizontal  
NAVD 88 Vertical



MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

**ROADWAY PLAN**

SCALE 1" = 30'	ADVERTISED DATE	CONTRACT NO.	FR3885171
DESIGNED BY	JED	COUNTY	FREDERICK
DRAWN BY	KLD	LOGMILE	
CHECKED BY	ERF		
F.A.P. NO.	SEE TITLE SHEET		
DRAWING NO.	PS-17	OF	26
SHEET NO.	44	OF	577

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET Nos.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
	ROADWAY PLAN SHEETS	27 - 53
	ROADWAY PROFILE SHEETS	54 - 84
	TRAFFIC CONTROL SHEETS	161 - 228
	EROSION & SEDIMENT CONTROL	229 - 471
	SIGNING & MARKING PLANS	503 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

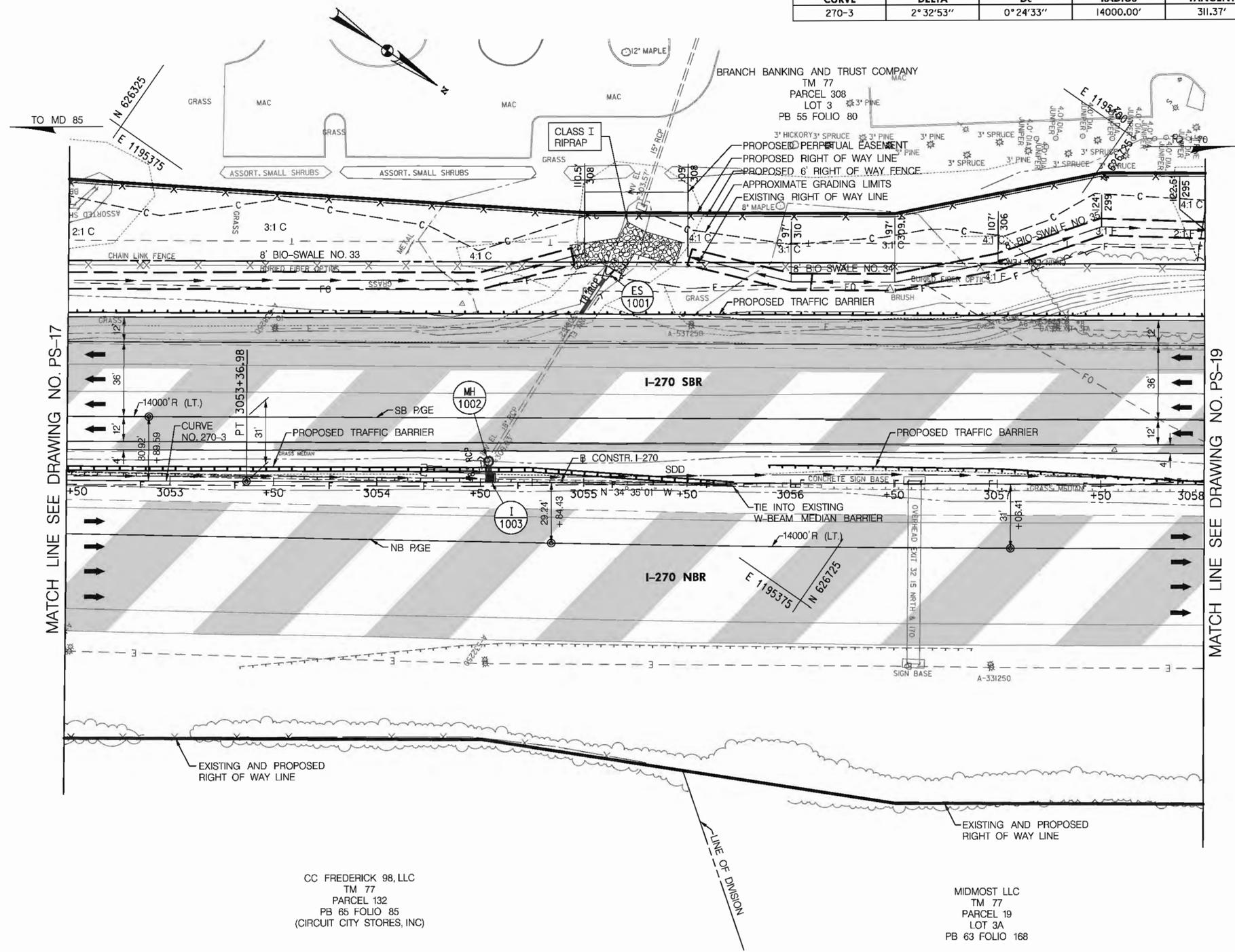
**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

BY: daw

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
270-3	2°32'53"	0°24'33"	14000.00'	311.37'	622.64'	3.46'



QUANTITY NOTES	
<b>TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)</b>	
LOCATION - STATION	LF
I-270 MEDIAN RT. STA. 3056+15 TO STA. 3058+00	185
I-270 MEDIAN LT. STA. 3055+90 TO STA. 3058+00	210
I-270 LT. STA. 3052+50 TO STA. 3058+00	550
<b>TRAFFIC BARRIER W BEAM MEDIAN BARRIER WITH BOTTOM PANEL (MD-605.28-01)</b>	
LOCATION - STATION	LF
I-270 MEDIAN STA. 3052+50 TO STA. 3055+75	325
<b>TYPE 'K' TRAFFIC BARRIER END TREATMENT (MD-605.10)</b>	
LOCATION - STATION	EA
I-270 MEDIAN LT. STA. 3055+90	1
<b>6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	LF
I-270 LT. STA. 3052+50 TO STA. 3058+00	555
<b>TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	EA
I-270 LT. STA. 3052+50 TO STA. 3058+00	5
<b>REMOVAL OF EXISTING FENCE</b>	
LOCATION - STATION	LF
I-270 LT. STA. 3052+50 TO STA. 3058+00	550
<b>SOIL STABILIZATION MATTING - TYPE A (MD-389.06 &amp; MD-389.07)</b>	
LOCATION - STATION	SY
I-270 MEDIAN STA. 3052+50 TO STA. 3058+00	734
<b>CLASS I RIPRAP</b>	
LOCATION - STATION	SY
I-270 LT. STA. 3055+10	75

CC FREDERICK 98, LLC  
 TM 77  
 PARCEL 132  
 PB 65 FOLIO 85  
 (CIRCUIT CITY STORES, INC)

MIDMOST LLC  
 TM 77  
 PARCEL 19  
 LOT 3A  
 PB 63 FOLIO 168

DATUM: NAD 83/91 Horizontal  
 NAVD 88 Vertical

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
 I-270 INTERCHANGE RECONSTRUCTION

THE WILSON T. BALLARD CO.  
 CONSULTING ENGINEERS  
 OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET Nos.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
	ROADWAY PLAN SHEETS	27 - 53
	ROADWAY PROFILE SHEETS	54 - 84
	TRAFFIC CONTROL SHEETS	161 - 226
	EROSION & SEDIMENT CONTROL	229 - 471
	SIGNING & MARKING PLANS	503 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

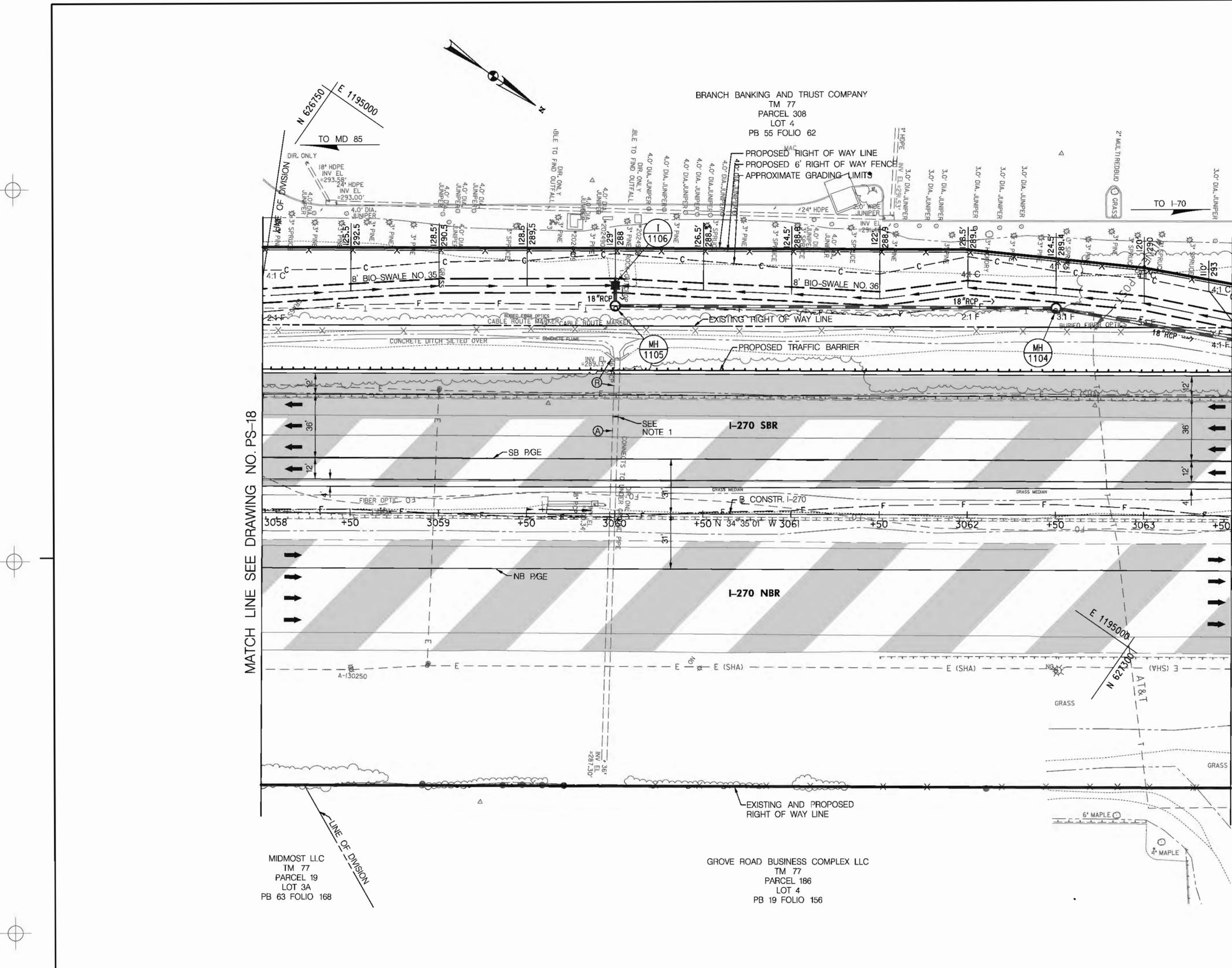
**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
 DRAWN BY KLD LOGMILE \_\_\_\_\_  
 CHECKED BY ERF  
 F.A.P. NO. SEE TITLE SHEET

DRAWING NO. **PS-18** OF **26** SHEET NO. **45** OF **577**

PLOTTED: Monday, May 06, 2013 AT 03:19 PM  
 FILE: T:\MD\_85 @ I-270\Design Files\PHD-1018\_md85.dgn



QUANTITY NOTES

TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)	
LOCATION - STATION	LF
I-270 LT. STA. 3058+00 TO STA. 3063+50	550
6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	LF
I-270 LT. STA. 3058+00 TO STA. 3063+50	550
TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	EA
I-270 LT. STA. 3058+00 TO STA. 3063+50	4
REMOVAL OF EXISTING FENCE	
LOCATION - STATION	LF
I-270 LT. STA. 3058+00 TO STA. 3063+50	550
REMOVAL OF EXISTING PIPES	
LOCATION - STATION	LF
36" RCP I-270 LT. STA. 3060+00	32
REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES	
LOCATION - STATION	EA
HEADWALL I-270 LT. STA. 3060+00	1
BRICK MASONRY FOR MISCELLANEOUS STRUCTURES	
LOCATION - STATION	CY
I-270 LT. STA. 3060+00	1
SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)	
LOCATION - STATION	SY
SDD I-270 MEDIAN STA. 3059+50 TO STA. 3059+85	47
FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES	
LOCATION - STATION	CY
36" RCP I-270 LT., RT. STA. 3060+00 (194 LF)	51

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

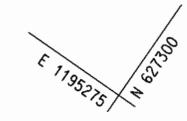
DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

- NOTES:**
- BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.



R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET Nos.
	TYPICAL SHEETS .....	4 - 14
	SUPERELEVATION SHEETS .....	23 - 26
	PIPE & DRAINAGE SCHEDULE .....	101 - 143
	GEOMETRIC LAYOUT SHEETS .....	17 - 22
	ROADWAY PLAN SHEETS .....	27 - 53
	ROADWAY PROFILE SHEETS .....	54 - 84
	TRAFFIC CONTROL SHEETS .....	161 - 226
	EROSION & SEDIMENT CONTROL .....	229 - 471
	SIGNING & MARKING PLANS .....	503 - 521
	LANDSCAPE PLAN SHEETS .....	522 - 549
	UTILITIES .....	

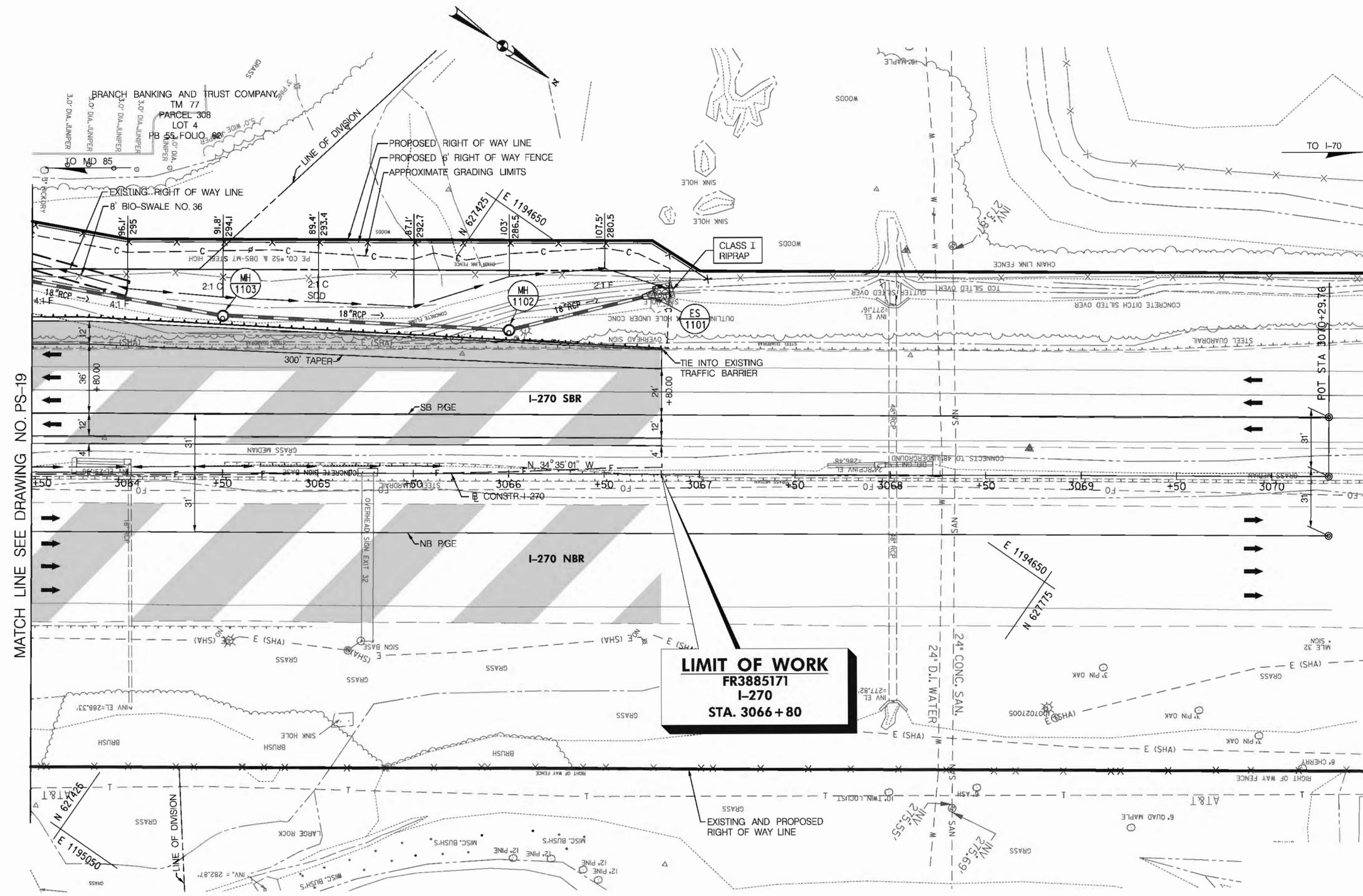
**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD LOGMILE \_\_\_\_\_  
CHECKED BY ERF  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-19 OF 26 SHEET NO. 46 OF 577

<b>TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)</b>	
LOCATION - STATION	LF
I-270 LT. STA. 3063+50 TO STA. 3066+85	335
<b>6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	LF
I-270 LT. STA. 3063+50 TO STA. 3067+00	362
<b>TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)</b>	
LOCATION - STATION	EA
I-270 LT. STA. 3063+50 TO STA. 3067+00	4
<b>REMOVAL OF EXISTING FENCE</b>	
LOCATION - STATION	LF
I-270 LT. STA. 3063+50 TO STA. 3067+00	350
<b>SOIL STABILIZATION MATTING - TYPE A (MD-389.06 &amp; MD-389.07)</b>	
LOCATION - STATION	SY
SDD I-270 MEDIAN STA. 3063+50 TO STA. 3065+65	191
SDD I-270 LT. STA. 3064+00 TO STA. 3066+85	383
<b>CLASS I RIPRAP</b>	
LOCATION - STATION	SY
I-270 LT. STA. 3066+85	9



GROVE ROAD BUSINESS COMPLEX LLC  
 TM 77  
 PARCEL 186  
 LOT 4  
 PB 19 FOLIO 156

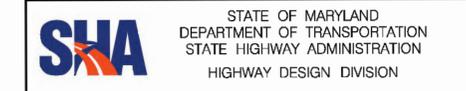
THE WILSON T. BALLARD CO.  
 CONSULTING ENGINEERS  
 OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET Nos.
	TYPICAL SHEETS .....	4 - 14
	SUPERELEVATION SHEETS .....	23 - 26
	PIPE & DRAINAGE SCHEDULE .....	101 - 143
	GEOMETRIC LAYOUT SHEETS .....	17 - 22
	ROADWAY PLAN SHEETS .....	27 - 53
	ROADWAY PROFILE SHEETS .....	54 - 84
	TRAFFIC CONTROL SHEETS .....	161 - 226
	EROSION & SEDIMENT CONTROL .....	229 - 471
	SIGNING & MARKING PLANS .....	503 - 521
	LANDSCAPE PLAN SHEETS .....	522 - 549
	UTILITIES .....	

DATUM: NAD 8391 Horizontal  
 NAVD 88 Vertical



MD 85 (PHASE 1)  
 I-270 INTERCHANGE RECONSTRUCTION

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
 DRAWN BY KLD LOGMILE \_\_\_\_\_  
 CHECKED BY ERF  
 F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-20 OF 26 SHEET NO. 47 OF 577

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
RP2-2	19°17'00"	7°38'22"	750.00'	127.41'	252.42'	10.75'

QUANTITY NOTES

REMOVE EXISTING PAVEMENT	
LOCATION - STATION	CY
RAMP 2 LT. STA. 207+25	191

TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)	
LOCATION - STATION	LF
RAMP 2 LT., RT. STA. 205+50 TO STA. 210+00	900

REMOVE EXISTING TRAFFIC BARRIER	
LOCATION - STATION	LF
RAMP 2 LT. STA. 207+50	135

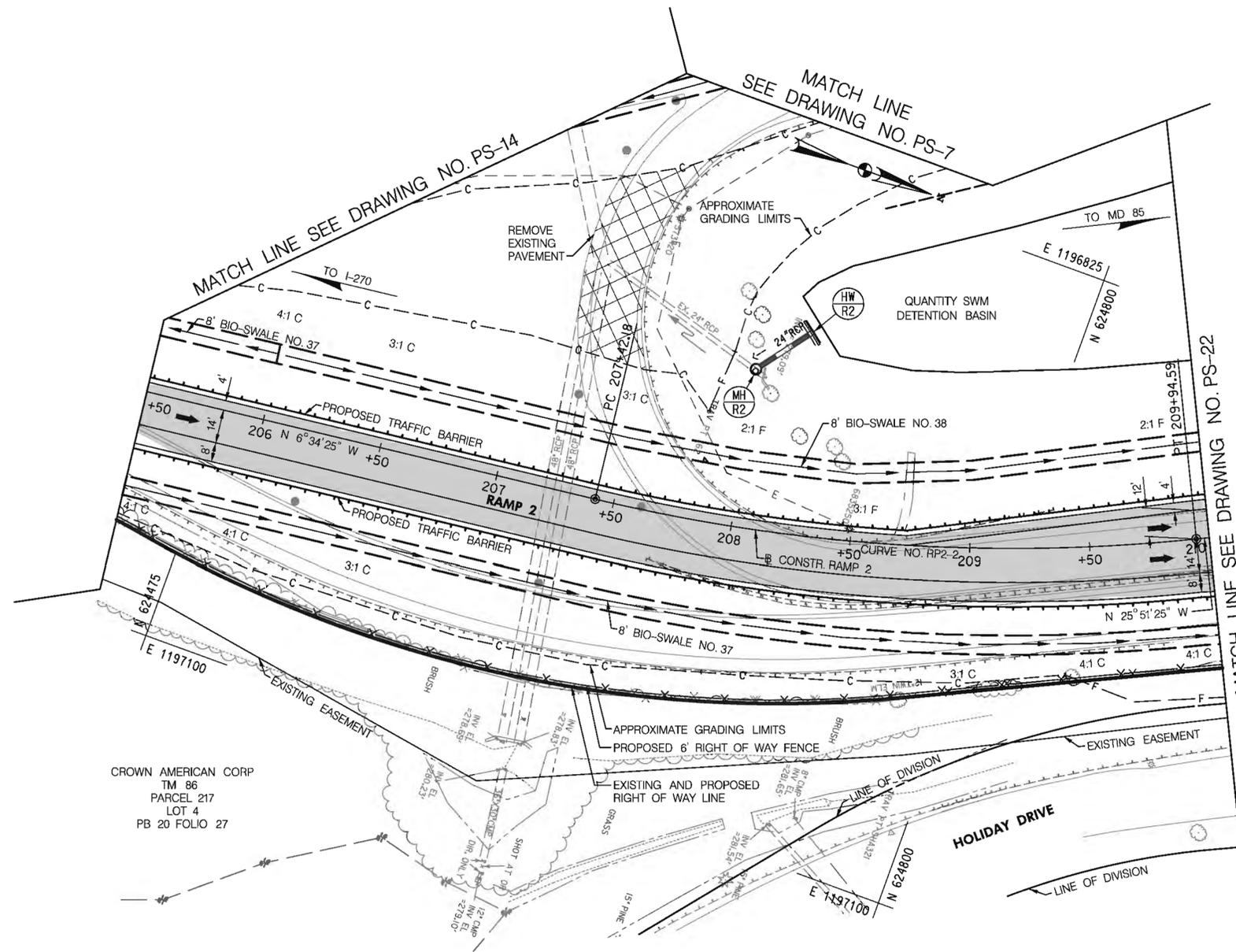
6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	LF
RAMP 2 RT. STA. 205+50 TO STA. 210+00	470

TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	EA
RAMP 2 RT. STA. 205+50 TO STA. 210+00	7

REMOVAL OF EXISTING FENCE	
LOCATION - STATION	LF
I-270 RT. STA. 205+50 TO STA. 210+00	470



CROWN AMERICAN CORP  
 TM 86  
 PARCEL 217  
 LOT 4  
 PB 20 FOLIO 27

DATUM: NAD 8391 Horizontal  
 NAVD 88 Vertical



STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
 I-270 INTERCHANGE RECONSTRUCTION

ROADWAY PLAN

SCALE 1" = 30'	ADVERTISED DATE	CONTRACT NO.	FR3885171
DESIGNED BY	JED	COUNTY	FREDERICK
DRAWN BY	KLD	LOGMILE	
CHECKED BY	ERF		
F.A.P. NO.	SEE TITLE SHEET		
DRAWING NO.	PS - 21	OF	26
SHEET NO.	48	OF	577

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
	ROADWAY PLAN SHEETS	27 - 53
	ROADWAY PROFILE SHEETS	54 - 84
	TRAFFIC CONTROL SHEETS	161 - 228
	EROSION & SEDIMENT CONTROL	229 - 471
	SIGNING & MARKING PLANS	509 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

LEGEND

- CONCRETE SIDEWALK
- FULL DEPTH CONSTRUCTION
- RESURFACING

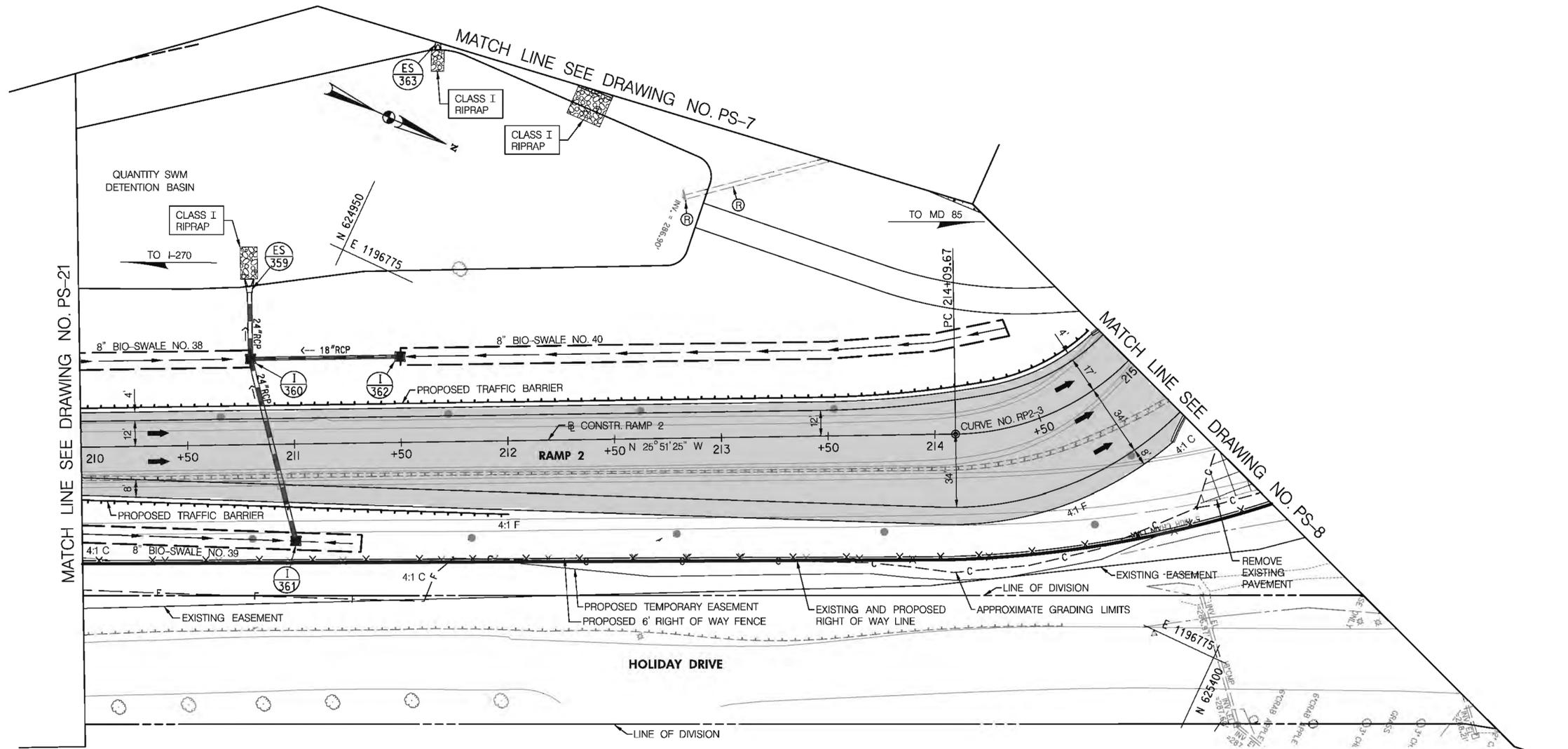
THE WILSON T. BALLARD CO.  
 CONSULTING ENGINEERS  
 OWINGS MILLS, MARYLAND

BY: daw

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
RP2-3	99°56'08"	48°58'15"	117.00'	139.28'	204.07'	64.90'

QUANTITY NOTES

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH	
LOCATION - STATION	LF
RAMP 2 LT., RT. STA. 215+00	17
REMOVE EXISTING PAVEMENT	
LOCATION - STATION	CY
RAMP 2 RT. STA. 215+00	24
TRAFFIC BARRIER W-BEAM - 8 FOOT POST LENGTH (MD-605.22)	
LOCATION - STATION	LF
RAMP 2 RT. STA. 210+00 TO STA. 212+00	200
RAMP 2 LT. STA. 210+00 TO STA. 214+97	497
TYPE 'K' TRAFFIC BARRIER END TREATMENT (MD-605.10)	
LOCATION - STATION	EA
RAMP 2 RT. STA. 212+00	1
RAMP 2 LT. STA. 214+97	1
6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	LF
RAMP 2 RT. STA. 210+00 TO STA. 215+00	560
TERMINAL POST FOR 6' GALVANIZED CHAIN LINK FENCE (MD-690.01)	
LOCATION - STATION	EA
RAMP 2 RT. STA. 210+00 TO STA. 215+00	5
REMOVAL OF EXISTING FENCE	
LOCATION - STATION	LF
RAMP 2 RT. STA. 210+00 TO STA. 215+00	560
REMOVAL OF EXISTING PIPES	
LOCATION - STATION	LF
24" RCP RAMP 2 LT. STA. 212+85	68
REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES	
LOCATION - STATION	EA
HEADWALL RAMP 2 LT. STA. 212+85	1
CLASS I RIPRAP	
LOCATION - STATION	SY
RAMP 2 LT. STA. 210+80	13
RAMP 2 LT. ES-363	7
RAMP 2 LT. STA. 212+38	30



PR FINANCING LIMITED PARTNERSHIP  
 CO PASQUERILLA PLAZA  
 CROWN AMERICAN REALTY TRUST  
 (FRANCIS SCOTT KEY MALL)  
 TM 77  
 PARCEL 187  
 LOT 1-R  
 PB 29 FOLIO 140  
 PB 45 FOLIO 164

DATUM: NAD 8391 Horizontal  
 NAVD 88 Vertical

**SHA** STATE OF MARYLAND  
 DEPARTMENT OF TRANSPORTATION  
 STATE HIGHWAY ADMINISTRATION  
 HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
 I-270 INTERCHANGE RECONSTRUCTION

THE WILSON T. BALLARD CO.  
 CONSULTING ENGINEERS  
 OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM SHEET NOS.	
	SUPERELEVATION SHEETS.....	4 - 14
	PIPE & DRAINAGE SCHEDULE.....	23 - 26
	GEOMETRIC LAYOUT SHEETS.....	101 - 143
	ROADWAY PLAN SHEETS.....	17 - 22
	ROADWAY PROFILE SHEETS.....	27 - 53
	TRAFFIC CONTROL SHEETS.....	54 - 84
	EROSION & SEDIMENT CONTROL.....	161 - 228
	SIGNING & MARKING PLANS.....	229 - 471
	LANDSCAPE PLAN SHEETS.....	509 - 521
	UTILITIES.....	522 - 549

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
 DRAWN BY KLD LOGMILE \_\_\_\_\_  
 CHECKED BY ERF  
 F.A.P. NO. SEE TITLE SHEET

DRAWING NO. **PS-22** OF **26** SHEET NO. **49** OF **577**

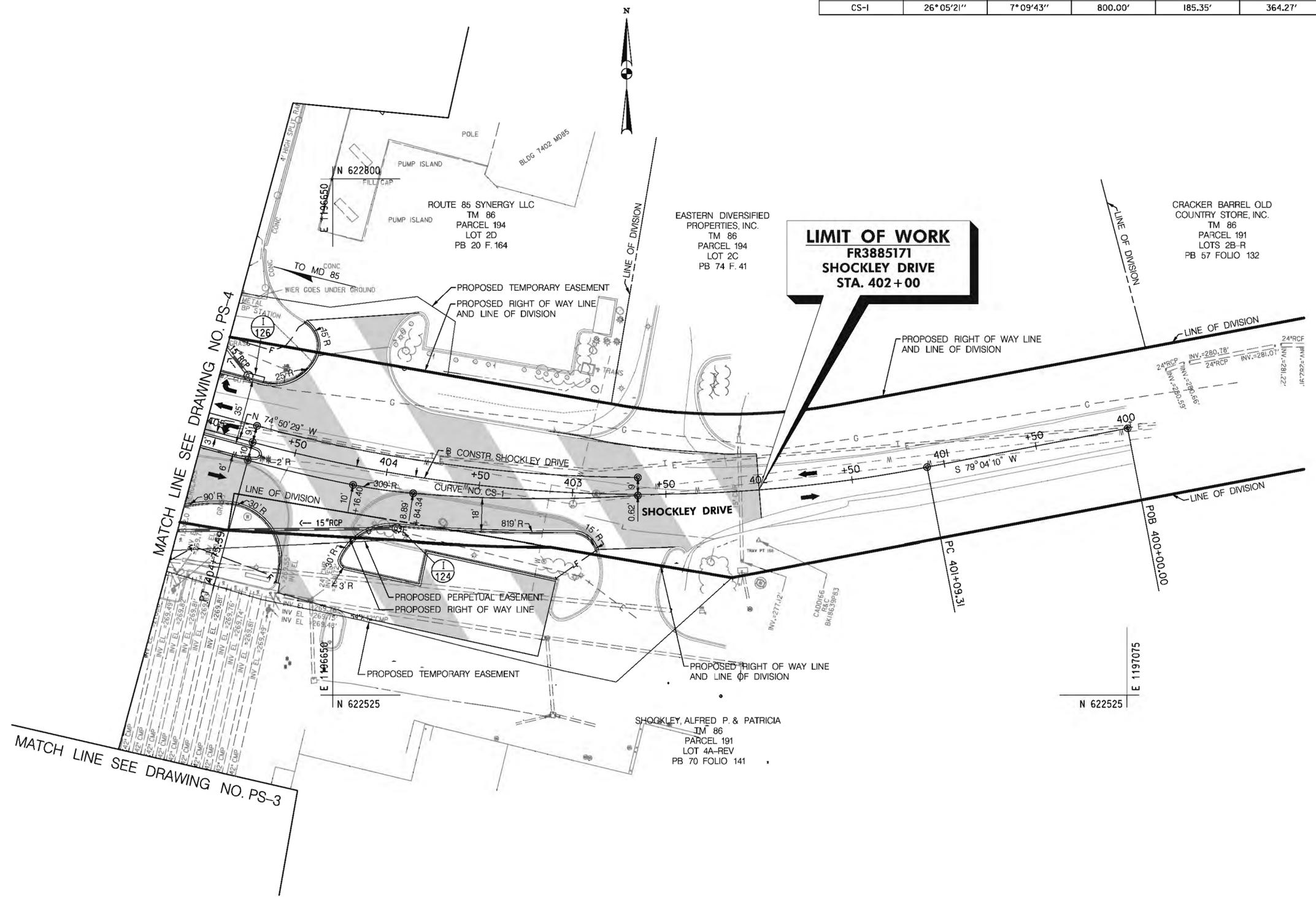
CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
CS-1	26°05'21"	7°09'43"	800.00'	185.35'	364.27'	21.19'

QUANTITY NOTES

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH		
LOCATION - STATION	LF	
SHOCKLEY DRIVE LT. STA. 402+87 TO STA. 404+15	278	
SHOCKLEY DRIVE LT. STA. 404+45 TO STA. 405+00	81	
SHOCKLEY DRIVE RT. STA. 404+50 TO STA. 405+00	68	

MONOLITHIC CONCRETE MEDIAN (MD-645.01)		
LOCATION - STATION	LF	TYPE
SHOCKLEY DRIVE MEDIAN STA. 404+68 TO STA. 405+00	32	A-1, 6' WIDE



MATCH LINE SEE DRAWING NO. PS-3

MATCH LINE SEE DRAWING NO. PS-4

**LIMIT OF WORK**  
FR3885171  
SHOCKLEY DRIVE  
STA. 402+00

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
	ROADWAY PLAN SHEETS	27 - 53
	ROADWAY PROFILE SHEETS	54 - 84
	TRAFFIC CONTROL SHEETS	161 - 228
	EROSION & SEDIMENT CONTROL	229 - 471
	SIGNING & MARKING PLANS	509 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

**ROADWAY PLAN**

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD LOGMILE \_\_\_\_\_  
CHECKED BY ERF  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. **PS - 23** OF **26** SHEET NO. **50** OF **577**

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
CS-2	26° 34' 35"	6° 21' 58"	900.00'	212.55'	417.46'	24.76'
CS-3	30° 40' 00"	6° 59' 14"	820.00'	224.84'	438.89'	30.27'

QUANTITY NOTES

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH		
LOCATION - STATION	LF	
CRESTWOOD BOULEVARD RT. STA. 408+50 TO STA. 411+70	275	
CRESTWOOD BOULEVARD ISLAND RT. STA. 411+80	33	
CRESTWOOD BOULEVARD RT. STA. 411+92 TO STA. 414+00	230	
CRESTWOOD BOULEVARD MEDIAN STA. 411+90 TO STA. 413+78	352	
CRESTWOOD BOULEVARD LT. STA. 408+50 TO STA. 411+50	325	
CRESTWOOD BOULEVARD ISLAND LT. STA. 411+75	93	

TYPE 'A' CURB 8"X16" (MD-620.02)		
LOCATION - STATION	LF	
CRESTWOOD BOULEVARD ISLAND LT. STA. 411+75	25	

5" CONCRETE SIDEWALK		
LOCATION - STATION	SF	
CRESTWOOD BOULEVARD ISLAND LT. STA. 411+75	25	

SIDEWALK RAMPS		
LOCATION - STATION	TYPE	
CRESTWOOD BOULEVARD LT. STA. 411+40	PERPENDICULAR	

DETECTABLE WARNING SURFACE		
LOCATION - STATION	SF	
CRESTWOOD BOULEVARD LT. STA. 411+48	8	
CRESTWOOD BOULEVARD ISLAND LT. STA. 411+75 (2)	21	

MONOLITHIC CONCRETE MEDIAN (MD-645.01)		
LOCATION - STATION	LF	TYPE
CRESTWOOD BOULEVARD MEDIAN STA. 408+50 TO STA. 411+56	306	A-1, 6' WIDE
CRESTWOOD BOULEVARD MEDIAN STA. 413+78 TO STA. 414+00	22	A-1, 4'-6" WIDE

REMOVAL OF EXISTING PIPES		
LOCATION - STATION	LF	
13" X 17" CMP CRESTWOOD BOULEVARD RT. STA. 411+15	17	
12" CMP CRESTWOOD BOULEVARD RT. STA. 411+50	18	
12" CMP CRESTWOOD BOULEVARD RT. STA. 412+03	6	
13" X 17" CMP CRESTWOOD BOULEVARD RT. STA. 412+15	10	

REMOVE EXISTING INLET		
LOCATION - STATION	EA	
CRESTWOOD BOULEVARD RT. STA. 408+80	1	

BRICK MASONRY FOR MISCELLANEOUS STRUCTURES		
LOCATION - STATION	CY	
CRESTWOOD BOULEVARD RT. STA. 411+22	1	
CRESTWOOD BOULEVARD RT. STA. 411+50	1	
CRESTWOOD BOULEVARD RT. STA. 412+03	1	
CRESTWOOD BOULEVARD RT. STA. 412+15	1	

SOIL STABILIZATION MATTING - TYPE A (MD-389.06 & MD-389.07)		
LOCATION - STATION	SY	
2' SD CRESTWOOD BOULEVARD RT. STA. 408+50 TO STA. 411+50	245	

FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES		
LOCATION - STATION	CY	
13" X 17" CMP CRESTWOOD BLVD. RT. STA. 411+22 TO STA. 412+15 (99 LF)	7	
12" CMP CRESTWOOD BLVD. RT. STA. 411+50 TO STA. 412+03 (56 LF)	2	



STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

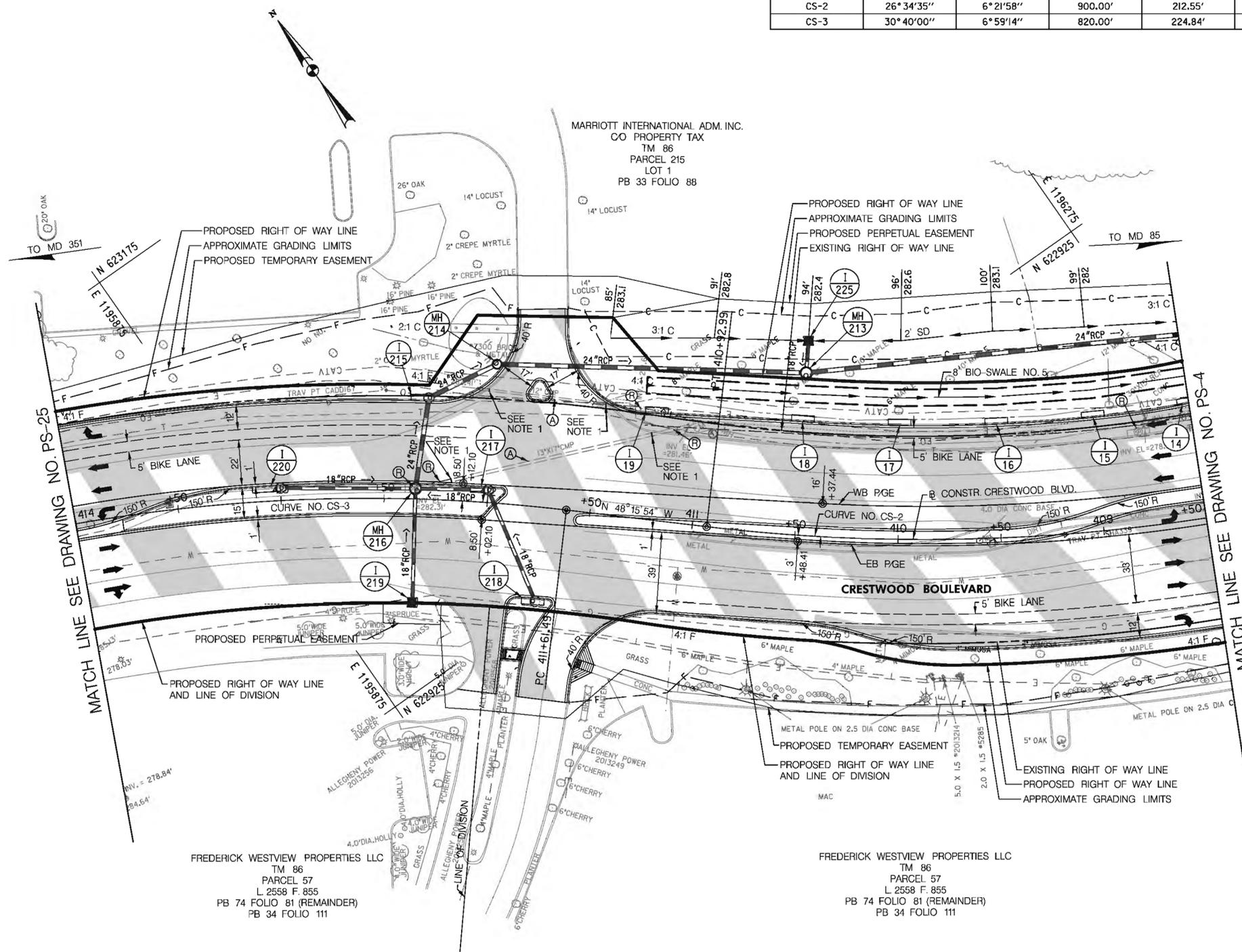
DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

ROADWAY PLAN

SCALE 1" = 30' ADVERTISED DATE \_\_\_\_\_ CONTRACT NO. FR3885171

DESIGNED BY JED COUNTY FREDERICK  
DRAWN BY KLD LOGMILE \_\_\_\_\_  
CHECKED BY ERF  
F.A.P. NO. SEE TITLE SHEET

DRAWING NO. PS-24 OF 26 SHEET NO. 51 OF 577



MATCH LINE SEE DRAWING NO. PS-25

MATCH LINE SEE DRAWING NO. PS-4

LEGEND

- CONCRETE SIDEWALK
- FULL DEPTH CONSTRUCTION
- RESURFACING

NOTES:

- BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.

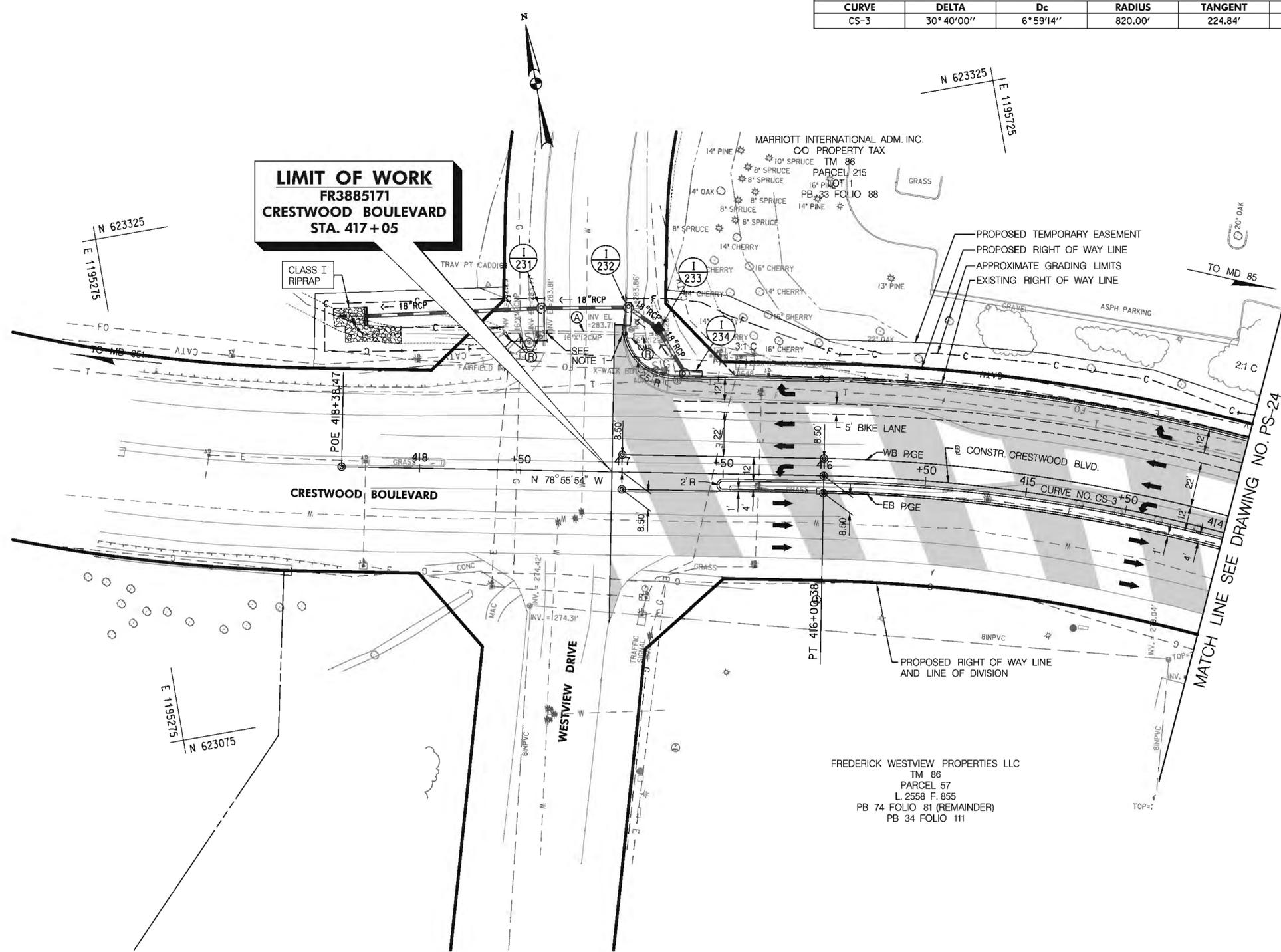
THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
	GEOMETRIC LAYOUT SHEETS	17 - 22
	ROADWAY PLAN SHEETS	27 - 53
	ROADWAY PROFILE SHEETS	54 - 84
	TRAFFIC CONTROL SHEETS	161 - 228
	EROSION & SEDIMENT CONTROL	229 - 471
	SIGNING & MARKING PLANS	509 - 521
	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
CS-3	30° 40' 00"	6° 59' 14"	820.00'	224.84'	438.89'	30.27'

QUANTITY NOTES

TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH		
LOCATION - STATION	LF	
CRESTWOOD BOULEVARD RT. STA. 414+00 TO STA. 417+00	403	
MONOLITHIC CONCRETE MEDIAN (MD-645.01)		
LOCATION - STATION	LF	TYPE
CRESTWOOD BOULEVARD MEDIAN STA. 414+00 TO STA. 416+52	252	A-1, 4' WIDE
REMOVAL OF EXISTING PIPES		
LOCATION - STATION	LF	
16" X 12" CMP CRESTWOOD BOULEVARD RT. STA. 416+95	9	
16" X 12" CMP CRESTWOOD BOULEVARD RT. STA. 417+50	16	
REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES		
LOCATION - STATION	EA	
END SECTION CRESTWOOD BOULEVARD RT. STA. 417+60	1	
REMOVE EXISTING INLET		
LOCATION - STATION	EA	
CRESTWOOD BOULEVARD RT. STA. 417+00	1	
CRESTWOOD BOULEVARD RT. STA. 417+45	1	
BRICK MASONRY FOR MISCELLANEOUS STRUCTURES		
LOCATION - STATION	CY	
CRESTWOOD BOULEVARD RT. STA. 417+02	1	
CRESTWOOD BOULEVARD RT. STA. 417+40	1	
CLASS I RIPRAP		
LOCATION - STATION	SY	
CRESTWOOD BOULEVARD RT. STA. 418+40	40	
FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES		
LOCATION - STATION	CY	
16" X 12" CMP CRESTWOOD BOULEVARD RT. STA. 417+40 (38 LF)	2	



**LIMIT OF WORK**  
FR3885171  
**CRESTWOOD BOULEVARD**  
STA. 417+05

CRESTWOOD BOULEVARD

WESTVIEW DRIVE

FREDERICK WESTVIEW PROPERTIES LLC  
TM 86  
PARCEL 57  
L 2558 F. 855  
PB 74 FOLIO 81 (REMAINDER)  
PB 34 FOLIO 111

MATCH LINE SEE DRAWING NO. PS-24



STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION

MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

**ROADWAY PLAN**

SCALE 1" = 30'	ADVERTISED DATE	CONTRACT NO.	FR3885171
DESIGNED BY	JED	COUNTY	FREDERICK
DRAWN BY	KLD	LOGMILE	
CHECKED BY	ERF		
F.A.P. NO.	SEE TITLE SHEET		
DRAWING NO.	PS - 25	OF	26
SHEET NO.	52	OF	577

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
	ITEM	SHEET NOS.
	TYPICAL SHEETS	4 - 14
	SUPERELEVATION SHEETS	23 - 26
	PIPE & DRAINAGE SCHEDULE	101 - 143
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	LANDSCAPE PLAN SHEETS	522 - 549
	UTILITIES	

- NOTES:
- BULKHEAD EXISTING PIPE USING BRICK MASONRY AND FILL WITH FLOWABLE FILL.

**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

THE WILSON T. BALLARD CO.  
CONSULTING ENGINEERS  
OWINGS MILLS, MARYLAND

BY: daw

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
SD-1	38°56'09"	13°01'18"	440.00'	155.54'	299.01'	26.68'
SD-2	9°09'38"	5°43'46"	1000.00'	80.11'	159.88'	3.20'

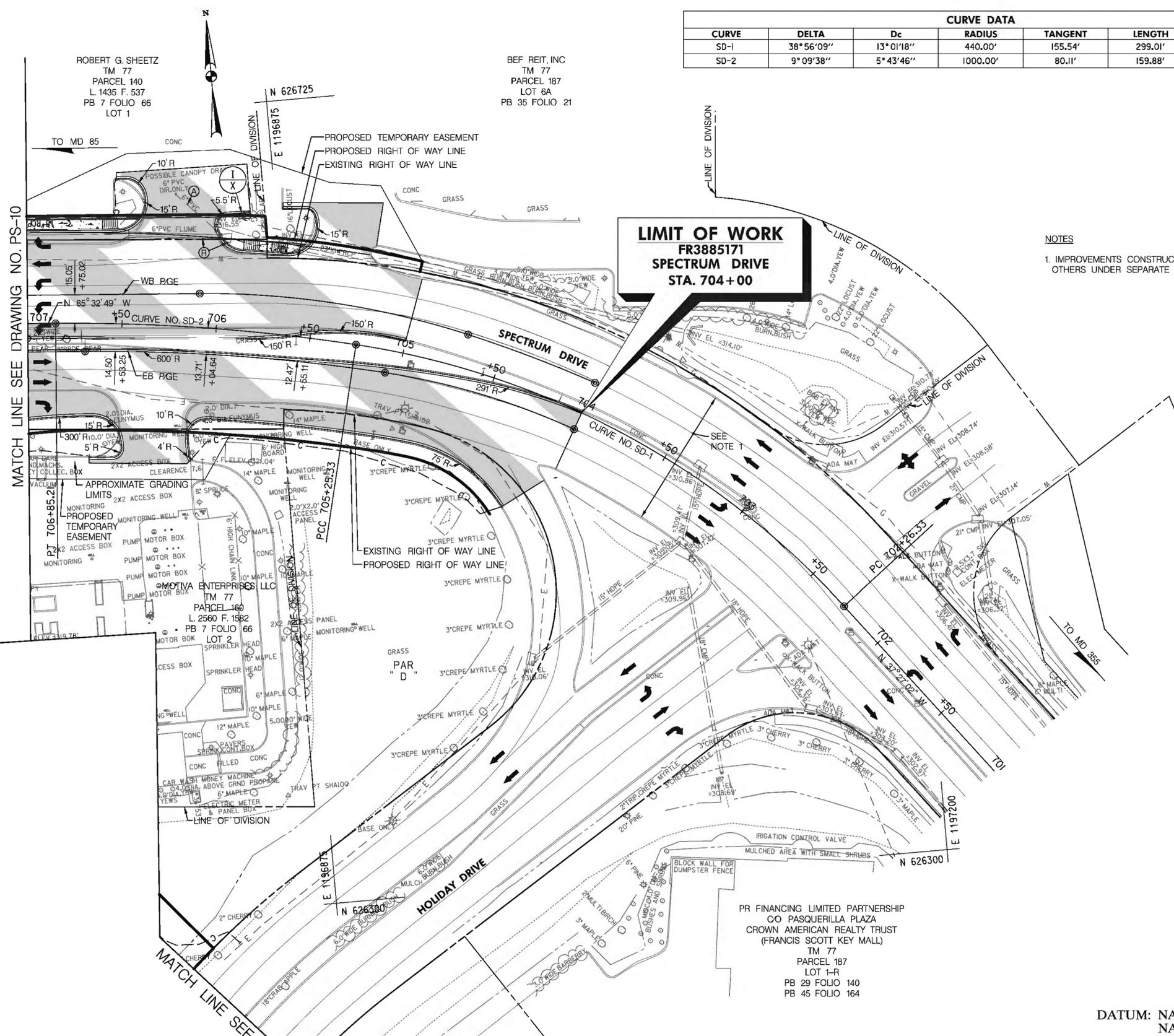
QUANTITY NOTES	
TYPE 'A' COMBINATION CURB AND GUTTER (MD-620.02), 12" PAN, 8" DEPTH	
LOCATION - STATION	LF
SPECTRUM DRIVE RT. STA. 705+52 TO STA. 706+02	88
SPECTRUM DRIVE RT. STA. 706+40 TO STA. 707+00	87
SPECTRUM DRIVE MEDIAN STA. 704+00 TO STA. 706+70	441
SPECTRUM DRIVE LT. STA. 704+20 TO STA. 706+15	179
SPECTRUM DRIVE LT. STA. 706+50 TO STA. 707+00	65
5" CONCRETE SIDEWALK	
LOCATION - STATION	SF
SPECTRUM DRIVE RT. STA. 705+52 TO STA. 705+80	35
SPECTRUM DRIVE RT. STA. 706+60 TO STA. 707+00	200
SIDEWALK RAMPS	
LOCATION - STATION	TYPE
SPECTRUM DRIVE RT. STA. 705+73	PARALLEL
SPECTRUM DRIVE RT. STA. 705+80	PARALLEL
SPECTRUM DRIVE RT. STA. 706+60	PARALLEL
DETECTABLE WARNING SURFACE	
LOCATION - STATION	SF
SPECTRUM DRIVE RT. STA. 705+60	14
SPECTRUM DRIVE RT. STA. 705+95	14
SPECTRUM DRIVE RT. STA. 706+43	14
MONOLITHIC CONCRETE MEDIAN (MD-645.01)	
LOCATION - STATION	LF
SPECTRUM DRIVE MEDIAN STA. 706+70 TO STA. 707+00	30
TYPE	A-1, 6' WIDE
REMOVAL OF EXISTING MISCELLANEOUS STRUCTURES	
LOCATION - STATION	EA
FLUME SPECTRUM DRIVE RT. STA. 706+25	1
FLOWABLE BACKFILL FOR ABANDONED PIPES/MANHOLES	
LOCATION - STATION	CY
6" PVC SPECTRUM DRIVE RT. STA. 706+10	1

MATCH LINE SEE DRAWING NO. PS-10

MATCH LINE SEE DRAWING NO. PS-9

**LIMIT OF WORK**  
FR3885171  
SPECTRUM DRIVE  
STA. 704+00

NOTES  
1. IMPROVEMENTS CONSTRUCTED BY OTHERS UNDER SEPARATE CONTRACT



ROBERT G. SHEETZ  
TM 77  
PARCEL 140  
L. 1435 F. 537  
PB 7 FOLIO 66  
LOT 1

BEF REIT, INC  
TM 77  
PARCEL 187  
LOT 6A  
PB 35 FOLIO 21

MOTIVA ENTERPRISES LLC  
TM 77  
PARCEL 160  
L. 2560 F. 1882  
PB 7 FOLIO 66  
LOT 2

PR FINANCING LIMITED PARTNERSHIP  
CO PASQUERILLA PLAZA  
CROWN AMERICAN REALTY TRUST  
(FRANCIS SCOTT KEY MALL)  
TM 77  
PARCEL 187  
LOT 1-R  
PB 29 FOLIO 140  
PB 45 FOLIO 164

DATUM: NAD 8391 Horizontal  
NAVD 88 Vertical

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
HIGHWAY DESIGN DIVISION  
MD 85 (PHASE 1)  
I-270 INTERCHANGE RECONSTRUCTION

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**LEGEND**

	CONCRETE SIDEWALK
	FULL DEPTH CONSTRUCTION
	RESURFACING

R / W PLAT NUMBER	CROSS REFERENCE	REVISIONS
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**ROADWAY PLAN**

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DRAWING NO. PS-26 OF 26 SHEET NO. 53 OF 577