Chesapeake BAY CROSSING STUDY
TIER 2 NEPA

NOISE TECHNICAL REPORT

APPENDIX D

TNM MODEL RUNS



JANUARY 2026

1 INTRODUCTION

1.1 General

This appendix documents the TNM model input used in both the TNM model validation and the barrier designs. The TNM model utilized six TNM objects to approximate the Crosby Road study area:

- Roadways
- Receptors (Receivers)
- Barriers
- Terrain Lines

2 TNM MODEL VALIDATION RUNS

The TNM models used for validation are listed below:

2.1 Western Shore, Sections 100 & 200

NSA	TNM Run
1-01-B, 1-21-B	*TMS01*
1-01-B, 1-04-B, 1-19-B, 1-21-B	*TMS02*
1-04-B, 1-18-B, 1-19-B	*TMS03*
1-06-B, 1-12-C, 1-13-B, 1-14-B, 1-15-E	*TMS04*
1-06-B, 1-07-C, 1-11-B, 1-12-C, 1-13-B, 1-14-B	*TMS05*
1-06-B, 1-09-C, 1-10-C, 1-11-B, 2-01-B, 2-14-B, 2-17-B	*TMS06*
2-04-B, 2-11-C, 2-12-B, 2-13-B	*TMS07*
2-05-B, 2-10-B	*TMS08*
2-06-B,2-09-B	*TMS09*
2-08-C	*TMS09a*

2.2 Eastern Shore, Sections 300 & 400

NSA	TNM Run
3-01-E, 3-04-E, 3-58-B, 3-59-B, 3-63-B, 3-69-C	*TMS10*
3-08-B, 3-09-B, 3-50-E, 3-53-E, 3-54-C, 3-56-B	*TMS11*
3-10-B, 3-13-B, 3-15-C, 3-16-B, 3-18-C, 3-45-C	*TMS12*
3-26-E, 3-28-B, 3-34-B, 3-36-B, 3-41-B, 3-43-B	*TMS13*
3-39-E, 4-01-E, 4-06-B, 4-07-B, 4-46-E	*TMS14*
4-08-B, 4-11-B, 4-12-B, 4-14-C, 4-42-B, 4-43-C, 4-44-B, 4-45-B	*TMS15*
4-20-B, 4-21-C, 4-22-B, 4-24-B, 4-26-B, 4-36-B, 4-37-B, 4-38-C, 4-39-E	*TMS16*
4-29-B	*TMS17*

See **Section 6** for a complete account of the TNM Model Validation.

3 TNM Model Impact Analysis Runs

The TNM models used for impact determinations are listed below:

3.1 Western Shore, Sections 100 & 200

TNM Run	Notes
Sect 100/6-8-6 SWED Sun	*Alternatives B&C*
Sect 100/8-8-8 SWED Sun	*Alternatives D&E*
Sect 100/8-10-8 SWED Sun	*Alternatives F&G*
Sect 200/6-8-6 SWED Sun	*Alternatives B&C*
Sect 200/8-8-8 SWED Sun	*Alternatives D&E*
Sect 200/8-10-8 SWED Sun	*Alternatives F*
Sect 200/8-10-8 SWED Sun South	*Alternatives G*

3.2 Eastern Shore, Sections 300 & 400

TNM Run	Notes
6-8-6NorthBridgeAltSect300	*Alternatives B – North Bridge*
6-8-6SouthBridgeAltSect300	*Alternatives C – South Bridge*
8-8-8NorthBridgeAltSect300	*Alternatives D – North Bridge*
8-8-8SouthBridgeAltSect300	*Alternatives E – South Bridge*
8-10-8NorthBridgeAltSect300	*Alternatives F – North Bridge*
8-10-8SouthBridgeAltSect300	*Alternatives G – South Bridge*
6-8-6Sect400	*Alternatives B&C*
8-8-8Sect400	*Alternatives D&E*
8-10-8Sect400	*Alternatives F&G*

4 TNM Barrier Analysis Runs

The TNM models used for barrier analysis are listed below:

4.1 Western Shore, Sections 100 & 200

NSA	TNM Run	Barrier Design
1-05-C, 1-06-B	*Barr Sys W01*	*7-10 dBA*
2-06-B	*Barr Sys W02*	*7-10 dBA*
2-09-B, 2-10-B	*Barr Sys W03*	*7-10 dBA*
2-12-B, 2-13-B	*Barr Sys W04*	*7-10 dBA*
2-17-B	*Barr Sys W05*	*7-10 dBA*

4.2 Eastern Shore, Sections 300 & 400

NSA	TNM Run	Barrier Design
3-09-B, 3-10-B, 3-12-B, 3-13-B	*Barr Sys E01*	*7-10 dBA*
4-36-B & 4-37-B	*Barr Sys E02*	*7-10 dBA*
4-42-B	*Barr Sys E03*	*7-10 dBA*