

3EN1 Stage 3 - Traffic Noise and Air Quality

QA Checklist for DESIGN NOISE REPORT

SPOT ID/Project TIP #: _____

County: _____

Note: This QA checklist is for the initial submittal only. For subsequent submittals, the Comment/Response matrix will serve as QA checklist.

Item #	Review Item	Yes	No	N/A
QA.0	Appropriate QC has taken place (all applicable State and Federal regulations, standards, and policies are met and all calculations, designs, reports, etc. are complete, accurate and reasonable.)			
QA.1	Reporting			
QA.1.1	Prepared by a traffic noise analyst prequalified with NCDOT to prepare a DNR.			
QA.1.2	The Design Noise Report Template has been followed.			
QA.1.2.1	Includes the date of public knowledge and the appropriate version of the NCDOT Traffic Noise Policy on the Cover Page.			
QA.1.2.2	Includes accurate statement on the likelihood of noise barriers in the Executive Summary.			
QA.1.2.3	Includes noise model validation results that adequately demonstrate the accuracy of the TNM models.			
QA.1.2.4	Includes an accurate Traffic Noise Impact Summary table.			
QA.1.2.5	Includes an accurate Noise Barrier Analysis Summary table with all evaluated noise barriers (both recommended and not recommended).			
QA.1.2.6	Includes accurate statement on the likelihood of noise barriers in the Conclusion.			
QA.1.3	Green Sheet Commitments from the final Environmental Document have been reviewed for noise specific commitments.			
QA.1.3.1	If there are noise specific Green Sheet Commitments, they have been addressed appropriately in the DNR.			
QA.2	Figures			
QA.2.1	Includes all noise sensitive receptors and defines the outer limit of impacts and benefits for the project.			
QA.2.2	Figures accurately depict impacted and/or benefited and non-impacted and/or non-impacted receptors, as well as recommended vs. not recommended noise barriers. Benefited receptors are included only for recommended noise barriers.			
QA.3	Appendices			
QA.3.1	Includes information on the ambient noise level measurements consistent with the approved Noise Model Validation Memo.			

Item #	Review Item	Yes	No	N/A
QA.3.2	Hourly Equivalent Traffic Noise Level Tables appendix presents accurate predicted noise level results for all noise-sensitive receptors and follows the table format from Section 11.20.2 of the 2022 NCDOT Traffic Noise Manual.			
QA.3.2.1	Equivalent receptor calculation tables for all appropriate locations are included, accurate, and follow the format from Appendix C of the 2022 NCDOT Traffic Noise Manual.			
QA.3.3	Noise Barrier Analysis tables adequately demonstrate that NCDOT feasibility and reasonableness criteria either have or have not been met for all evaluated noise barriers.			
QA.3.3.1	Noise Barrier Analysis tables for each noise barrier do not suggest that the barrier has been overdesigned or underdesigned with respect to NRDG.			
QA.3.3.2	Includes table outlining accurate calculation of allowable quantity per benefit for all evaluated noise barriers.			
QA.3.4	Includes a Noise Barrier Envelope Drawings and Noise Wall Panel Design Tables appendix that includes all recommended noise barriers and follows the examples on the NCDOT website referenced in Section 11.20.5 of the 2022 NCDOT Traffic Noise Manual.			
QA.3.5	Noise wall stationing follows the direction of the alignment that the wall is offset from. If the wall follows multiple alignments (e.g. mainline and offramp), the engineer has determined the most logical stationing for the given situation.			
QA.3.6	Traffic Information appendix provides a sufficient level of detail for the reader to recreate the development of traffic volumes for TNM.			
QA.4	TNM Files			
QA.4.1	TNM files included that encompass the entire project study area and for every barrier analysis scenario included in the DNR.			
QA.4.2	All TNM modeling follows the guidance outlined in Section 7.10 of the 2022 NCDOT Traffic Noise Manual.			
QA.4.3	For each TNM file, the traffic volume input is accurate and consistent with the Traffic Information appendix.			
QA.4.4	For each TNM file, all vehicle speeds are modeled as posted speed + 5 mph (not to exceed the design speed).			
QA.4.5	With noise barrier TNM models include all evaluated iterations of noise barrier design and demonstrate that barrier optimization has been conducted in a sufficient level of detail, making every effort to find feasible and reasonable noise barrier designs that achieve the NRDG for as many predicted traffic noise impacts as possible			
QA.4.6	Line-of-sight tool has been used for all recommended noise barriers.			
QA.5	Miscellaneous			
QA.5.1	Includes noise barrier analyses for all appropriate and feasible locations with predicted traffic noise impacts.			

Item #	Review Item	Yes	No	N/A
QA.5.2	Parallel barrier analyses and absorptive material discussions address all pertinent locations and have appropriate and clear conclusions.			
QA.5.3	Analysis of areas with existing noise walls was correctly conducted, and discussion of it in the report is clear.			
QA.5.4	Other (non-traffic) major noise sources in the project study area (railroads, airports, etc.) appropriately discussed.			
QC.5.5	Includes stored alignments, bottom-of-wall profiles, and acoustic profiles for all recommended noise barriers in GEOPAK format.			
QC.5.6	Noise wall turns do not exceed 45 degrees.			

For items marked NO or N/A that require further explanation, provide comments or action items in the table below.

Item #	Comments and Action Items

This checklist may not be comprehensive to every project. All items may not be applicable for smaller projects. It is the responsibility of the reviewer to ensure that an adequate review is performed.

I have reviewed the deliverables for consistency with this checklist and confirmed that all items have been completed.

QA Reviewer Name: _____ Date: _____

QA Reviewer (Signature): _____