

Item 606 – Special – Noise Barrier: Reflective Panels

This item will be used to replace the existing reflective concrete noise barrier panels defined at Location 1 with reflective noise barrier panels.

The contractor shall supply noise barrier panels constructed of either concrete, fiberglass or an alternate ODOT approved material. The contractor shall select and install one Noise Barrier Material for the entire Location 1 retrofit.

Follow standard drawing NBS-1-09 and the details of these plans.

If the contractor elects to install fiberglass panels, the panel installation shall be as follows.

Color: FC # 595B-36492 (Gray)

Fiberglass reinforced polymer composite panels (reflective) shall be used. The panels shall be designed to fit within the existing posts and shall be kept tight to the highway face. The department has provided an installation detail for installation of a "L" bracket which shall be welded to the flange of the existing post. The contractor is advised that the original construction plans permitted the original contractor to install galvanized posts at their discretion. The department has no record of which posts, if any were galvanized. The contractor shall take appropriate measures to mitigate risks associated with welding to galvanized materials. If galvanized material is removed in the act of welding the "L" bracket to the existing post. The contractor shall replace the galvanization using methods described in CMS 514 or CMS 711.02.

Bays C-75 - C-175 at Location 1 have an existing angle attached to the noise barrier post. If the angle conflicts with the proposed welding detail, the contractor shall remove the existing angle. The contractor can elect to reuse the existing angle to match the proposed plan details.

If the contractor elects to install concrete panel, the panel installation shall be as follows.

Pattern: Architectural Polymers Ashlar Stone 905 or Engineer Approved Equal
Color: Natural Concrete. Panels shall use an ODOT approved Concrete Waterproofing Admixture

If the existing clip angles installed within the noise barrier post conflict with the concrete panel installation, the contractor shall remove the existing clip angle per Item 202 – Removal Misc: Noise Barrier Panel Removal and Disposal. The contractor shall then install new clip angles such that the panel is securely held within the existing post and shall permit minimal movement after the panels are in place. The installation plan shall be developed by an Ohio registered professional engineer, the installation plan shall be provided to the Project Engineer, 10 business days prior to the beginning of installation of the panels.

If the contractor elects to install an alternate ODOT approved Material, the panel installation shall be as follows.

Pattern: Contractor shall match existing Ashlar pattern within IR-480 Corridor
Color: FC# 595B-36492 (Grey)

If the existing clip angles installed within the noise barrier post conflict with the noise barrier panel installation, the contractor shall remove the existing clip angle per Item 202 – Removal Misc: Noise Barrier Panel Removal and Disposal. The contractor shall then install new clip angles such that the panel is securely held within the existing post and shall permit minimal movement after the panels are in place. The installation plan shall be developed by an Ohio registered professional engineer, the installation plan shall be provided to the Project Engineer, 10 business days prior to the beginning of installation of the panels.

The contractor is directed to closely match the existing top of wall elevation. It is our intent to maintain a uniform top of wall within existing posts while still meeting the existing acoustic profile. Elevations may be adjusted to accommodate the Contractor

supplied panels. The adjusted elevation shall be discussed for each location with the Engineer prior to the approval of the shop drawings.

The Contractor shall provide supports to hold the panels at the elevation provided by the manufacturer and that are acceptable to the Engineer; however, wood shims/blocks shall not be used. The designed supports shall be detailed in the shop drawings.

The tongue and groove joints between adjoining posts must be maintained at constant elevations. Any joint that is offset from the joint in the adjacent panel shall be adjusted in the field to provide an uninterrupted joint line between adjacent panels.

Any additional embankment that is required to obtain the minimum 6" bury depth and fill any voids remaining from the previous panels is included in this item for payment. Additional embankment shall be placed in accordance with CMS 203.

Seeding and mulching is required per standard drawing NBS-1-09. For areas adjacent to a residential property, use CMS 659 lawn mixture.

If the Contractor removes a portion of an existing right-of-way fence for access to the noise barriers or worksite, he is required to restore the fence to its original condition (at minimum). All costs for removal and restoration of the right-of-way fence are included with this item.

At the end of daily operations, the contractor shall not leave openings within the noise barrier which would allow pedestrian/animal access to the highway. Any labor and materials required to secure the ROW shall be considered incidental to this item.

Acceptance requirements shall be per the standard drawing.

Payment for all of the above shall be included in the unit price bid per square foot for Item Special – Noise Barrier (Reflective) unless otherwise noted, and shall include all labor, equipment, materials and incidentals necessary to complete the above work.

Item 606 – Special – Noise Barrier: Reflective Panels (Fiberglass)

This item of work is intended for Location 2.

This item will be used to install reflective fiberglass panels.

Noise wall construction shall adhere to NBS-1-09 and these plans.

The top of the noise barrier bays shall be covered with a fiberglass cap detailed on sheet 20 to match the existing fiberglass panels and caps.

At the end of daily operations, the contractor shall not leave openings within the noise barrier which would allow pedestrian/animal access to the highway. Any labor and materials required to secure the ROW shall be considered incidental to this item.

The Contractor shall provide supports to hold the panels at the elevation provided by the manufacturer and that are acceptable to the Engineer; however, wood shims/blocks shall not be used. The designed supports shall be detailed in the shop drawings.

The tongue and groove joints between adjoining posts must be maintained at constant elevations. Any joint that is offset from the joint in the adjacent panel shall be adjusted in the field to provide an uninterrupted joint line between adjacent panels.

Any additional embankment that is required to obtain the minimum 6" bury depth and fill any voids remaining from the previous panels is included in this item for payment. Additional embankment shall be placed in accordance with CMS 203.

Underdrains per NBS-01-09 are not required for this repair location.

Seeding and mulching is required per standard drawing NBS-1-09. For areas adjacent to a

residential property, use CMS 659.09 – Class 1 lawn mixture.

If the Contractor removes a portion of an existing right-of-way fence for access to the noise barriers or worksite, he is required to restore the fence to its original condition (at minimum). All costs for removal and restoration of the right-of-way fence are included with this item.

Barrier Color

Color: Residential and Roadway: FC#595B-20219 (Cocoa)
Color: Concrete posts and panel-caps: FC#595B-27722 (Buff).

Payment for all of the above shall be include in the unit price bid per square foot for Item 606 – Special – Noise Barrier (Reflective), Fiberglass unless otherwise noted, and shall include all labor, equipment, materials and incidentals necessary to complete the above work.

Item 606 – Special – Noise Barrier: Reflective Panels, Reinforced

This item is intended for Location 1.

Follow Item 606 – Special – Noise Barrier, Misc: Reflective Panels except as follows:

Design the bottom two (2) feet of panels in each bay to support a horizontal earth pressure load of 60 pounds per square foot (unfactored). Use a load factor of 1.35 for strength limit design load cases. These panels shall be installed at the bottoms of the bays to prevent panel deflection and assist in barrier grading operations. In areas of increased grade differentials, increase the depth of reinforced panels to three (3) feet. Indicate depth of reinforced panels per bay on the shop drawings. Depth of reinforced panels may be increased based on field conditions, as directed by the Engineer.

Reinforced panels must aesthetically match the unreinforced panels.

Submit the design of these panels to the department for review in conjunction with the noise barrier shop drawings. The design of these panels must be certified by an Ohio registered professional engineer.

Payment for all of the above shall be include in the unit price bid per square foot for Item Special – Noise Barrier, Misc: Reflective Panels, Reinforced unless otherwise noted, and shall include all labor, equipment, materials and incidentals necessary to complete the above work.

Item 606 - Special – Noise Barrier: Post and Foundation Installation

This note is intended for Location 2, CUY-90-21.84.

The contractor shall supply concrete noise barrier posts and foundations in accordance with NBS-01-09.

Location 2 (CUY-90-21.84): The lengths for the three foundations shall be 25 feet. The contractor shall supply concrete noise barrier posts which are 21 feet in length.

The noise barrier foundations and posts shall be installed such that they are in line with the existing noise barrier alignment.

Payment for this shall be included in the unit price bid, Each for Item 606 – Special – Noise Barrier Post and Foundation Installation unless otherwise noted, and shall include all labor, equipment, materials and incidentals necessary to complete the above work.




SHEET NUM.

4	7	8	9	11	PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
					01/IMS/06		EXT	TOTAL			
										ROADWAY	
					LS	201	11000	LS		CLEARING AND GRUBBING	
				48	48	202	75000	48	FT	FENCE REMOVED	
				3	3	202	98100	3	EACH	REMOVAL MISC.: NOISE BARRIER POST AND FOUNDATION REMOVAL	4
				49,940	49,940	202	98400	49,940	SF	REMOVAL MISC.: NOISE BARRIER PANEL REMOVAL AND DISPOSAL	4
				2	2	SPECIAL	60610810	2	EACH	NOISE BARRIER: POST AND FOUNDATION INSTALLATION	5
				42,980	42,980	SPECIAL	60610920	42,980	SF	NOISE BARRIER: REFLECTIVE PANELS	5
				6,960	6,960	SPECIAL	60610920	6,960	SF	NOISE BARRIER: REFLECTIVE PANELS, REINFORCED	5
				1,008	1,008	SPECIAL	60610920	1,008	SF	NOISE BARRIER: RELECTIVE PANELS (FIBERGLASS)	5
										EROSION CONTROL	
					10,000	832	30000	10,000	EACH	EROSION CONTROL	
										DRAINAGE	
				3,480	3,480	605	98000	3,480	FT	UNDERDRAINS, MISC.: BARRIER, DRAINAGE	4
										TRAFFIC CONTROL	
				300	300	630	97800	300	SF	SIGNING, MISC.: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER	9
										MAINTENANCE OF TRAFFIC	
	75				75	614	11110	75	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		6			6	614	12484	6	EACH	WORK ZONE INCREASED PENALTIES SIGN	
	2				2	614	18601	2	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	7
										INCIDENTALS	
6					LS	614	11000	LS		MAINTAINING TRAFFIC	
					6	619	16011	6	MNTH	FIELD OFFICE, TYPE B, AS PER PLAN	4
					LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
					LS	624	10000	LS		MOBILIZATION	
		6			6	808	18700	6	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER
KJD


REVIEWER
KJD 08/08/22

PROJECT ID
113623

SHEET TOTAL
10 20

REF. NO.	SHEET NO.	PLAN SPLIT NO.	Wall Location	202	202	202	605	SPECIAL			SPECIAL	SPECIAL	SPECIAL						
				REMOVAL MISC.: NOISE BARRIER PANEL REMOVAL AND DISPOSAL SF	REMOVAL MISC.: NOISE BARRIER POST AND FOUNDATION REMOVAL EACH	FENCE REMOVED FT	UNDERDRAINS, MISC.: BARRIER, DRAINAGE FT	NOISE BARRIER: POST AND FOUNDATION INSTALLATION EACH	NOISE BARRIER: REFLECTIVE PANELS (FIBERGLASS) SF	NOISE BARRIER: REFLECTIVE PANELS, REINFORCED SF	NOISE BARRIER: REFLECTIVE PANELS SF								
12-18	1	1	Location 1 - CUY-480N-0.82	49940			3480					6960	42980						
19	1	1	Location 2 - CUY-90-21.84 WB		3	48		2	1008										
TOTALS CARRIED TO GENERAL SUMMARY				49940	3	48	3480	2	1008	6960	42980								
PLAN SPLIT #1 TOTAL				49,940	3	48	3,480	2	1,008	6,960	42,980								
PLAN SPLIT #2 TOTAL																			

NOISE BARRIER SUB-SUMMARY

DESIGN AGENCY

 DESIGNER
 KJD
 REVIEWER
 KJD 08/08/22
 PROJECT ID
 113623
 SHEET TOTAL
 11 20