

STATE OF UTAH MSE WALL INSPECTION FORM

Compiled As Part of Research By The Utah Department of Transportation

Instructions:

- 1-Fill out required sections for MSE Wall Inspector and Wall Characteristics.
- 2-Inspect the wall using the attached form. Questions that require a "Yes" answer should be documented by noting the extent of the problem in the right most column and photo documentation. Photo documentation should consist of wall or bridge number, nature of problem, date, photo number for wall, and a size reference, which should be indicated in the photo (white board/paper). Photos taken should be placed on the Top View layout and indicated with the appropriate number. Note should be taken by the inspector that often anomalies are due to construction and should be distinguished from those that are a result of post-construction. If it is observable that they existed at the time of construction note should be taken in the space provided for drawings.
- 3- Shoot digital photos of the entire wall. This may require the use of a variety of shots and angles on each wall to cover the wall in its entirety.
- 4- Indicate Layout of MSE Wall in respect to major intersections, roadways, potential hazards, irrigation, vegetation, locations of conditions for which "Yes" was marked, etc. in space provided below. Also Indicate approximate GPS Coordinates of Site of Interest in space provided below

Region	3	Identifying Road/Intersection
		Moark Jct, Hwy 6

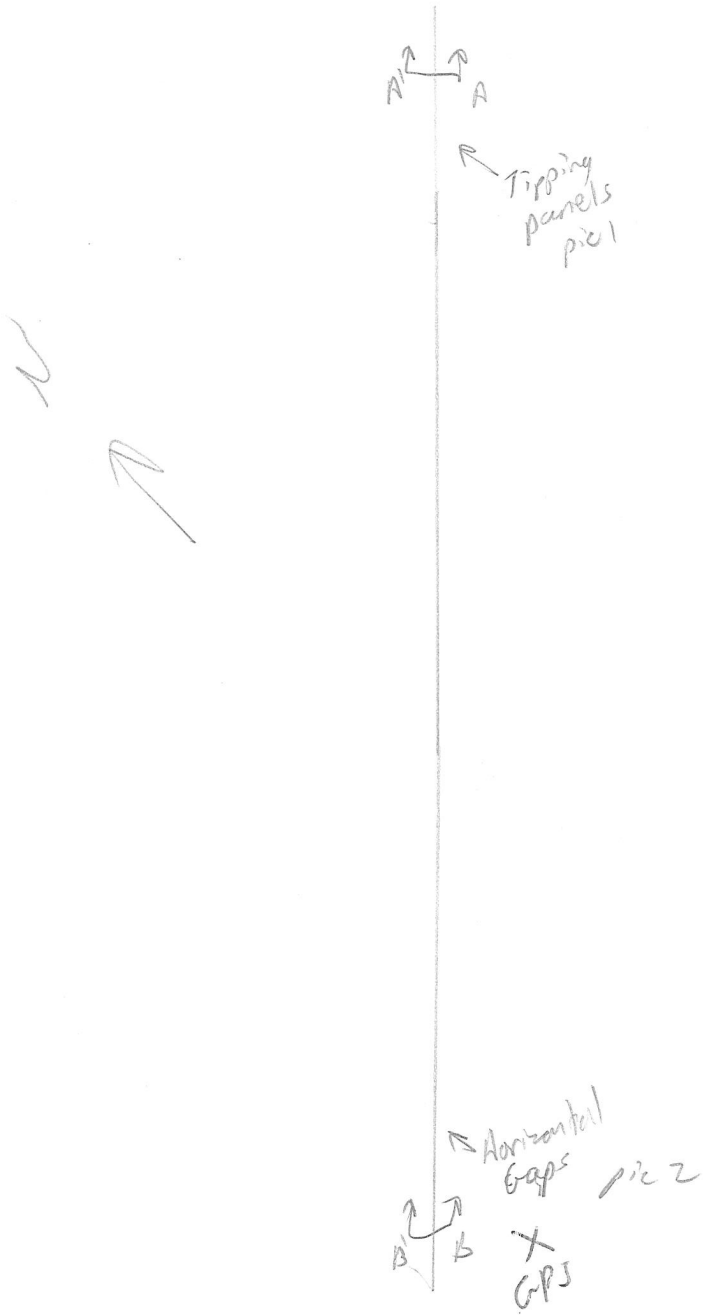
MSE WALL CHARACTERISTICS

MSE Wall at Bridge	Y	N	Bridge Number if applicable:	Wall Number	R-387-A SW
Surrounding Structures				Maximum Height of Wall (ft)	31 ft
Distance to Each Structure				One Stage, Two Stage or Block Wall	1-stage
State Route Number				Estimated Max Length of Wall Abutment:	67 ft
Approximate Mile Marker				Max Slope of Ground in front of wall:	0 ft
GPS Datum	WGS/84, NAD/83, or NAD/27			Max Height of wall burial line above surrounding level ground:	
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40°4'52.23"N 111°35'10.59"W			Please draw rough layout of panel with approximate dimensions in space provided below:	
If known, Panel or System Manufacturer	<div style="border: 1px solid black; width: 200px; height: 100px; margin: 0 auto; position: relative;"> 5 ft 6 ft </div>				

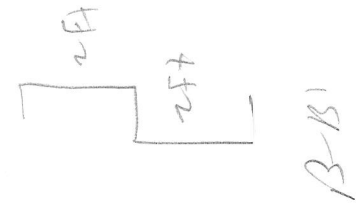
Summary of Key Observations:

- separation in joints
- exposed back fill

Plan View/Drainage:



Cross Sections:



Cross Sections:

BASE WALL DRAINAGE

Required Item:		Notes	Measurements/Extent of Problem/Location/Photo Numbers
Yes	N/A	Drainage	
Y	N	1-Is there an active water source near the toe of the wall (in the wall near a body of water with scour potential)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	2-If applicable, are the catch basins at the base of the wall blocked?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	3-Do there exist culverts protruding through the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	4-Do there exist vertical drains that pass through the backfill?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	5-Is there erosion at the base of the wall or footing pad? (Photo 13)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	6-Is there erosion along the wing walls?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	7-Do there exist any signs of water flow along the base of the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	8-Is there flow from 14 feet between irrigation sprinklers and wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	9-Does the backfill or joint fabric appear to be saturated?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	10-Is there vegetation growing in joint joint? (Photo 8)?	Partial / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	11-Are the deck drains and outlets at the top of the wall blocked? (Photo 14)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	12-Can water enter the wall between coping and abut (i.e., Drain appropriately)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	13-Is there evidence of discharge point of fill washing through drain pipe?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE WALL JOINTS

Required Item:		Notes	Measurements/Extent of Problem/Location/Photo Numbers
Yes	N/A	Long Level Slab Concrete/Joints	
Y	N	14-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Photos 2 & 3)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	15-Are the joints wide enough to see fabric or backfill behind panels when looking into joint? (Photo 5) If yes, record the approximate maximum joint width in inches.	2-2" / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	16-Is exposed backfill visible in the horizontal joint? (Photo 4)	1/2" - 3/4" / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	17-Is there evidence of backfill or water leaking through joint? (Do not include additional measurements of the fabric)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	18-Do the joints have a nonuniform horizontal spacing? Are some horizontal joints larger/smaller than others? (Photo 6)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	19-Do the joints have a nonuniform vertical spacing? Are some vertical joints larger/smaller than others? (Photo 6)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	20-Are the panels offset at the joints either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	21-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE WALL FACING

Required Item:		Notes	Measurements/Extent of Problem/Location/Photo Numbers
Yes	N/A	Wall Facing	
Y	N	22-Are there cracks that continue vertically through adjacent panels? (Photos 9 & 10)? If yes, record the approximate number of panels in the wall with cracking.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	23-Are there cracks that continue horizontally through adjacent panels? (Photos 9 & 10)? If yes, record the approximate number of panels in the wall with cracking.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	24-Are the panel corners making contact with each other? If yes, record the approximate number in the wall.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	25-Are the panel corners "jagged-off" or clipped from contact with an adjacent panel? If yes, record the number in the wall.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	26-Does the overlying coping exhibit vertical offset?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	27-Does crack spacing suggest Differential Settlement?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	28-Are the coping and parapets loose or detaching? If yes, it may be appropriate to contact LDOOT if detachment were evident.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	29-Are the panels in danger of falling off? (If potential exists contact appropriate LDOOT region).	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	30-Are the panels bulging (bowing horizontal)? If so, record maximum deformation from accessible coping to footing pad. (Photo 11)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	31-Are there signs of slipping at the top or bottom of the wall? (Record maximum degree of slipping from a joint with.)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE TOP OF WALL OBSERVATIONS

Required Item:		Notes	Measurements/Extent of Problem/Location/Photo Numbers
Yes	N/A	Top of Wall	
Y	N	32-Is there evidence of settlement at the top of the wall? (pavement cracking, etc.)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	33-Are there any open cracks in the concrete coping (not bedding)? If yes, record the approximate maximum crack width.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	34-Is the connection joint in the concrete coping opened up? (Photo 6) If yes, record the maximum joint width.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	N	UKS	16-Is there a large gap between the approach slab and the approach pavement? (Photo 15) Often this produces a bumping sensation as the approach is crossed. Record the approximate maximum gap size.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	UKS	17-At the abutment, has the joint between the wall coping and the abutment opened up significantly? If so record maximum distance.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	UKS	18-Is the coping wall pulling away from pavement roadway section? Please record maximum displacement for wall.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

NISE STABILITY

Required tests:		Drawings-Comments		Measurements/Extent of Problem/Location/Photo Numbers	
Yes	No	N/A	UKS	/ 0-No	1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	19-What is the location depth of leveling post? Please describe this wall located 2 inches from wall to a maximum depth of 24 inches (24 inches is the minimum depth for NISE Wall)	24" /
Y	N	N/A	UKS	40-Is leveling pad exposed?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	41-Is there cracking in the leveling pad? If so, record maximum crack size with gaps.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	42-Is there a four foot bench (level slope) directly along the wall before the slope change? (Record slope)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	43-Is there a slope greater than V: 1.5 to H: 1 in front of the wall? Please record slope and height of backfill above the wall.	flat /
Y	N	N/A	UKS	44-Is there a slope greater than V: 4 to H: 1 below the wall? Please record slope and height of backfill below the wall.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	45-Is there excessive degradation of panel faces?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

NISE METAL CORROSION

Required tests:		Drawings-Comments		Measurements/Extent of Problem/Location/Photo Numbers	
Yes	No	N/A	UKS	/ 0-No	1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	46-Is there excessive corrosion on guardrail or other exposed metal that might indicate concrete condition?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	47-Are there minor rust stains on the face next to Along Joints? If so, record total number.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	48-Are any internal stirrups exposed? Does there appear to be corrosion on these stirrups? If applicable please record the total number of stirrups affected.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	49-Is there a readily visible stain of exposed wall? If so, please indicate depth in inches.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	50-Is there any indication of rebar corrosion (swelling bars, rust, exposed metal inside epoxy coating)? If so please record the total number of points affected.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

NISE IMPACT/COLLISION PROTECTION

Required tests:		Drawings-Comments		Measurements/Extent of Problem/Location/Photo Numbers	
Yes	No	N/A	UKS	/ 0-No	1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	51-Are guardrails wall protrusions in place at the base of the wall for protect it from potential traffic hazards?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	52-Does it appear that the wall has been involved in an accident (replaced panel, recent ding in the wall)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	53-Does it appear the wall functionally and integrity has been compromised by a collision or accident?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

NISE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY

Required tests:		Drawings-Comments		Measurements/Extent of Problem/Location/Photo Numbers	
Yes	No	N/A	UKS	/ 0-No	1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	54-Are there some wall angles (<90)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Required tests:		Drawings-Comments		Measurements/Extent of Problem/Location/Photo Numbers	
Yes	No	N/A	UKS	/ 0-No	1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	55-Are there available drawings for the wall? Please indicate type (Submittal and Layout, Design, As Built, etc)	Layout /
Y	N	N/A	UKS	56-Is the layout in general accordance with drawing?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	57-Are the panels CIP (Cast in Place)? Does there appear to be excessive cracking in the panels?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	58-Is the GEC/Form used in the construction of the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	59-Are there any subsurface or near wall that were not included in initial drawing?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	60-Are there any impurities, voids, or inclusions that are not part of the initial drawing?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	61-Has there been any excavation or evidence of excavation near the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	62-Has there been any excavation or evidence of excavation near the wall (additional structures, irrigation, vegetation, etc.)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UKS	63-Are there piles located in the wall (bridge abutment)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

