

# 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

<b>Region</b>	3	<b>Identifying Road/Intersection</b>	Moosh Jct., Hwy 6

## MSE WALL CHARACTERISTICS

MSE Wall at Bridge	Y	N	Bridge Number if applicable:		Wall Number	A-387-DC (NW)
Surrounding Structures				Maximum Height of Wall (ft)	30 ft	
Distance to Each Structure				One Stage, Two Stage or Block Wall	1-stage	
State Route Number				Estimated Max Length of Wall Abutment:	80 ft.	
Approximate Mile Marker				Max Slope of Ground in front of wall:	3:1	
GPS Datum	WGS/84, NAD/83, or NAD/27			Max Height of wall burial line above surrounding level ground:	0	
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40° 4' 31.77" N 110° 34' 49.65" 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: 150px; height: 100px; margin: 0 auto; position: relative;"> <span style="position: absolute; left: -40px; top: 50%; transform: translateY(-50%); font-size: 24px;">5'</span> <span style="position: absolute; bottom: -10px; left: 50%; transform: translateX(-50%); font-size: 24px;">6'</span> </div>		

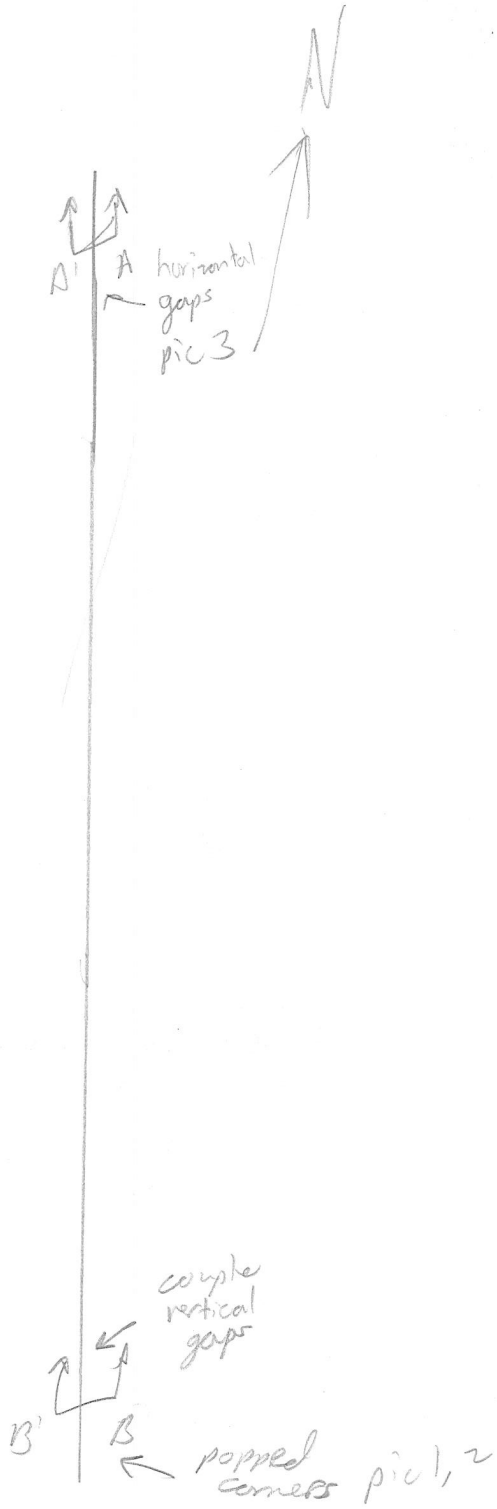
**Summary of Key Observations:**

some separating of joints

13  
6  
70



Plan View/Drainage:





MISE WALL DRAINAGE

Required Issue:		Yes	No	N/A	UKS	Measurement/Extent of Problem/Location/Photo Numbers
Non-Model Water Infiltration/GPS-Covers						
Y	1-Is there an active water source near the toe of the wall (i.e. the wall near a body of water with seepage potential)?	N	N/A	UKS		Drainage
Y	2-If applicable, are the catch basins at the base of the wall blocked?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	3-Are there obstructions protruding through the wall?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	4-Are there vertical drains that travel through the backfill?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	5-Is there erosion at the base of the wall or leveling pad? (Photo 12)	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	6-Is there erosion along the wing wall?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	7-Are there any signs of water flow along the base of the wall?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	8-Is there less than 14 feet between fire/pole sprinklers and wall?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	9-Does the backfill or joint fabric appear to be saturated?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	10-Is there vegetation growing in post joints (Photo 8)?	N	N/A	UKS		Blocked / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	11-Are the deck drains and outlets at the top of the wall blocked? (Photo 14)	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	12-Can water enter the wall between coping and slab (i.e. Drain appropriately)?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	13-Is there evidence of discharge point of fill washing through drain pipes?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE WALL JOINTS

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

MISE WALL FACING

Required Issue:		Yes	No	N/A	UKS	Measurement/Extent of Problem/Location/Photo Numbers
Long Level Slab/GPS-Covers/Crack Usage						
Y	22-Are the panels "Tilt-Up"? Is there excessive cracking in the panels?	N	N/A	UKS		Wall Facing
Y	23-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.	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	24-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.	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	25-Are the panel corners meeting corners with each other? If yes, record the approximate number in the wall.	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	26-Are the panel corners "popped-off" or chipped from contact with an adjacent panel? If yes record the number in the wall.	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	27-Does crack spacing suggest Nitromethol Sealant?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	28-Does the overlying coping exhibit Vertical Offset?	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	29-Is the coping and parapet loose or detaching? If yes, it may be appropriate to contact UDOT if detachment occurs.	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	30-Are the panels in danger of falling off? (If potential exists contact appropriate UDOT region).	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	31-Are the panels bulging (bowing horizontally)? If so, record maximum deformation from acceptable coping to leveling pad. (Photo 11)	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	32-Is there flipping at the top or bottom of the wall? (Record maximum degree of flipping from azimuth using vertical level and affected area).	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE TOP OF WALL OBSERVATIONS

Required Issue:		Yes	No	N/A	UKS	Measurement/Extent of Problem/Location/Photo Numbers
Long Level Slab/GPS-Covers						
Y	33-Is there evidence of settlement at the top of the wall (pavement cracking, etc)	N	N/A	UKS		Top of Wall
Y	34-Are there any open cracks in the concrete coping (not hairline)? If yes record the approximate maximum crack width.	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	35-Is there the connection joint in the connecting coping spread up? (Photo 6). If yes, record the maximum joint width.	N	N/A	UKS		/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /



Y	N	NA	UKS	36-Is there a large gap between the approach slab and the approach pavement? (Photo 15) Often this produces a bumping sensation as the vehicle is crossed. Record the approximate maximum gap size.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	37-At the abutment, has the joint between the wall coping and the abutment opened up significantly? If so record maximum displacement.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	38-Is the coping wall pulling away from pavement roadway section? Please record maximum displacement.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

**RISE STABILITY**

Required form: <b>Survey, GEO, PDS</b>														
Measurement/Extent of Problem/Location/Photo Numbers														
Y	N	NA	UKS	39-What is the location depth of leveling post? Found Geo Probe into wall located 2 inches from wall to a maximum depth of 24 inches (24 inches is the minimum depth for MSE Wall)	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	40-Is leveling rod exposed?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	41-Is there cracking in the leveling post? If so, record maximum crack size with page.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	42-Is there a four foot back (level slope) directly along the wall before the slope changes (Record width)	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	43-Is there a slope steeper than 5:1 to H:1 in front of the wall? Please record slope and height of backfill above top of wall.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	44-Is there a slope greater than 5:1 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	NA	UKS	45-Is there excessive degradation of post faces?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

**RISE METAL CORROSION**

Required form: <b>Survey, Camera, GPS, Trip, Leak, Inq, Travel</b>														
Measurement/Extent of Problem/Location/Photo Numbers														
Y	N	NA	UKS	46-Is there excessive corrosion in galvanized or other exposed metal that might indicate corrosive condition?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	47-Are there major rust stains on the face panels? Along joints? If so, record total number.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	48-Are any internal straps exposed? Does there appear to be corrosion on these straps? If applicable please record the total number of straps affected.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	49-Was a exactly simple taken of exposed wall? If so, please indicate depth in inches.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	50-Is there any indication of rebar corrosion (swelling bars, rust, exposed metal inside epoxy coating)? If so, please indicate depth in inches.	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

**RISE IMPACT COLLISION PROTECTION**

Required form: <b>Camera, GPS</b>														
Measurement/Extent of Problem/Location/Photo Numbers														
Y	N	NA	UKS	51-Are guardrails, wall protections in place at the base of the wall (to protect it from potential traffic hazards)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	52-Does it appear that the wall has been involved in an accident (emplaced post, recent dings in the wall)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	53-Does it appear the wall functionality and integrity has been compromised by a collision or accident?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

**RISE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY**

Required form: <b>Drawings</b>														
Measurement/Extent of Problem/Location/Photo Numbers														
Y	N	NA	UKS	54-Are there acute wall angles (<90)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

**RISE AS BUILT DIFFERENT FROM DESIGN**

Required form: <b>Drawings, Camera, GPS</b>														
Measurement/Extent of Problem/Location/Photo Numbers														
Y	N	NA	UKS	55-As built different than design	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	56-Are there available drawings for the wall? Please indicate type (Situation and Layout, Design, As Built, etc.)	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	56-Is the layout in general accordance with drawing?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	57-Are the panels C/P (Cut 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	NA	UKS	58-Was a GEF form used in the construction of the wall?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	59-Are there any structures on or near wall that were not included in initial drawing?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	60-Are there any irrigation, utilities, or structures that are not part of the initial drawing?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	61-Is there any excavation or evidence of excavation near the wall?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	62-Has local property owner changed the dimensions of the wall (additional structure, irrigation, vegetation, etc.)	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%
Y	N	NA	UKS	63-Are there piles located in the wall (bridge, abutment)?	/ 0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%

