

# STATE OF UTAH MSE WALL INSPECTION FORM

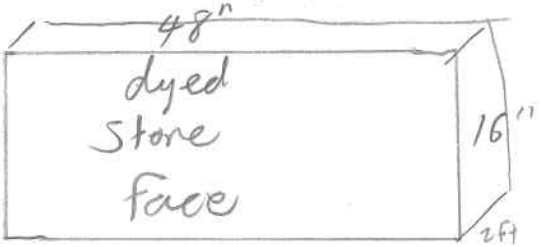
Compiled As Part of Research By The Utah Department of Transportation

**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>	4	<b>Identifying Road/Intersection</b>	SR-18, 1200 Ft. N Ledges pkwy Interchange
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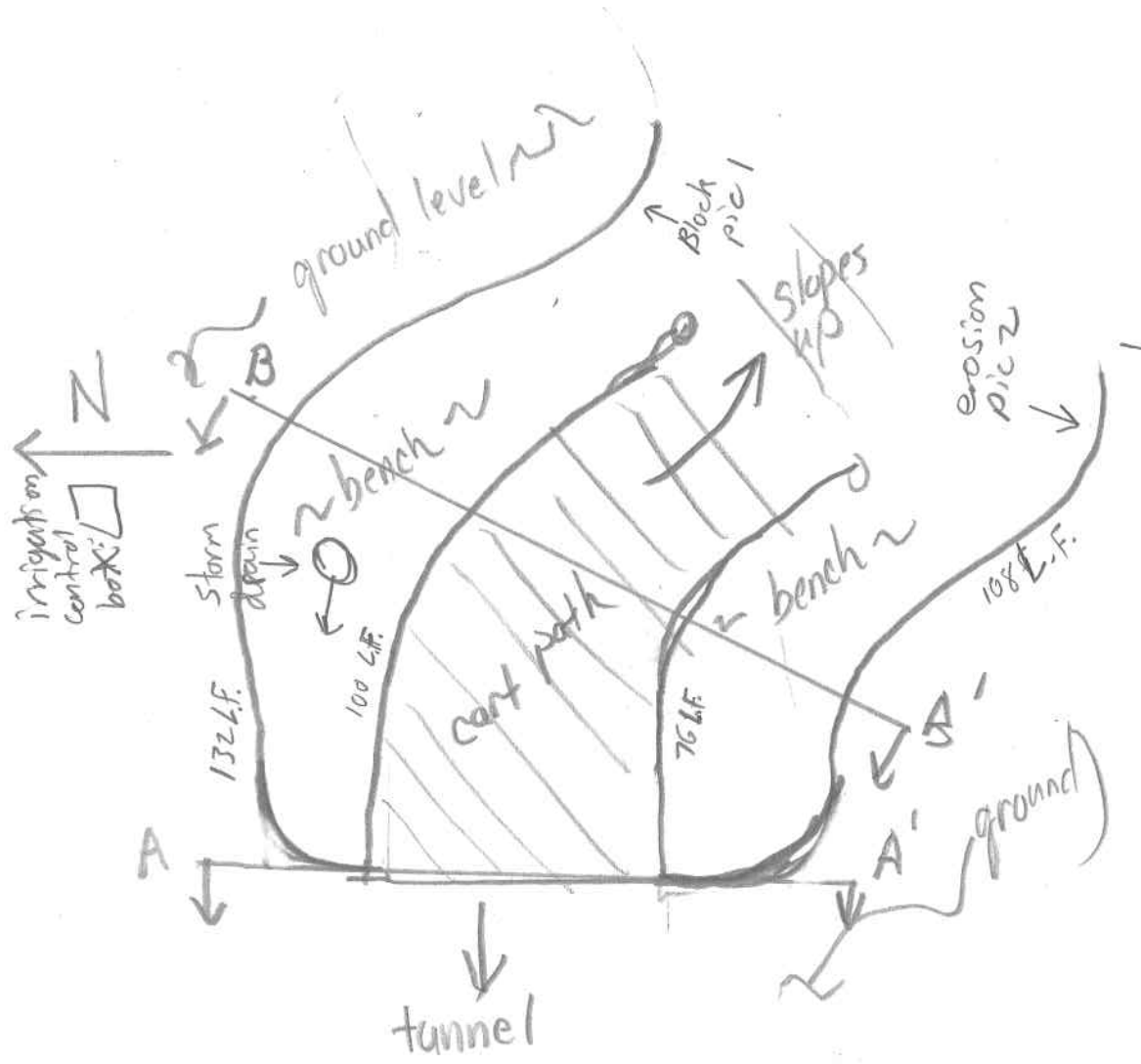
## MSE WALL CHARACTERISTICS

<b>MSE Wall at Bridge</b>	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<b>Bridge Number if applicable:</b>		<b>Wall Number</b>	R-462-C, D (east side)
<b>Surrounding Structures</b>				<b>Maximum Height of Wall (ft)</b>	10 Ft
<b>Distance to Each Structure</b>				<b>One Stage, Two Stage or Block Wall</b>	modular/gravity
<b>State Route Number</b>	18			<b>Estimated Max Length of Wall Abutment:</b>	76-
<b>Approximate Mile Marker</b>				<b>Max Slope of Ground in front of wall:</b>	
<b>GPS Datum</b>	WGS/84, NAD/83, or NAD/27			<b>Max Height of wall burial line above surrounding level ground:</b>	
<b>MSE Wall GPS Coordinates (Location of Measurement shown on plan view)</b>		Please draw rough layout of panel with approximate dimensions in space provided below:			
<b>If known, Panel or System Manufacturer</b>					

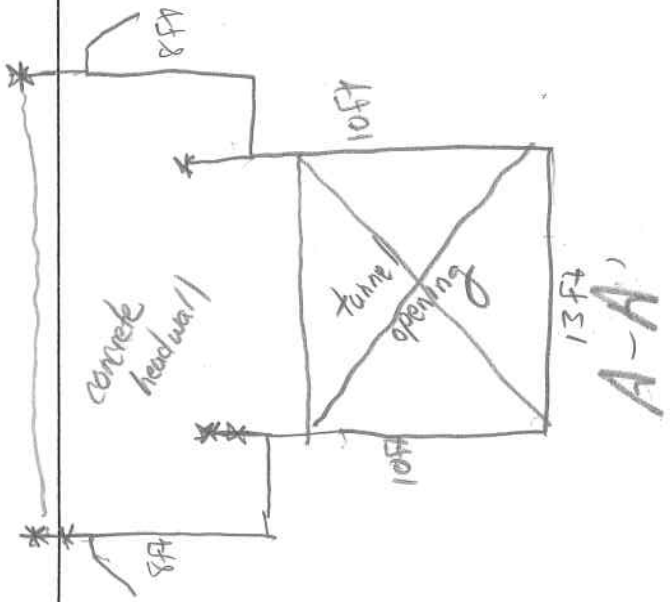
**Summary of Key Observations:**

leveling shims appear to be asphalt shingles

Plan View/Drainage:

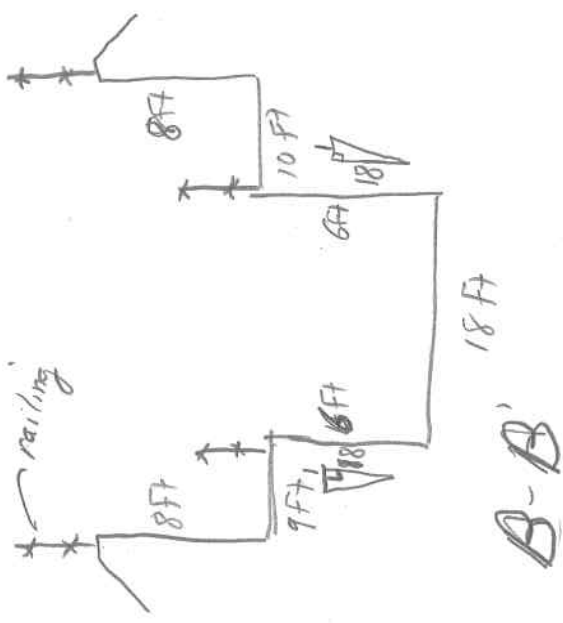


Cross Sections:



A-A

Cross Sections:



B-B

Cross Sections:

BASE WALL DRAINAGE

Required Item:	Yes	No	NA	UNS	Measurement/Extent of Problem/Location/Photo Numbers
1-Is there an active water source near the base of the wall (i.e. the wall near a body of water with an open channel)?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-If applicable, are the catch basins at the base of the wall blocked?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Are there culverts protruding through the wall?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Are there vertical drains that travel through the backfill?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Is there evidence at the base of the wall of leveling post? (Photo 12)	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Is there evidence at the base of the wall of leveling post? (Photo 12)	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7-Are there any signs of water flow along the base of the wall?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Is there less than 14 feet between irrigation sprinklers and wall?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Does the backfill or joint fabric appear to be saturated?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Is there vegetation growing in panel joints (Photo 9)?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
11-Over the deck, drains and outlets at the top of the wall blocked? (Photo 14)	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12-Can water enter the wall between coping and slab (i.e., Drains appropriately)?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
13-Is there evidence of discharge pipe of EIT wicking through drain pipe?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

BASE WALL JOINTS

Required Item:	Yes	No	NA	UNS	Measurement/Extent of Problem/Location/Photo Numbers
1-Long Level-String Camera-Check	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-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.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-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.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Do the panel corners crack with each other? If yes, record the approximate number in the wall.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Are the panel corners "popped off" or chipped from contact with an adjacent panel? If yes, record the number in the wall.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Does crack spacing suggest Differential Settlement?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7-Over the existing coping (exhibit), Vertical Offset?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Over the existing coping (exhibit), Vertical Offset?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Over the existing coping (exhibit), Vertical Offset?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Are the panels in danger of falling off? (If potential exists, contact appropriate UDOT region).	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
11-Are the panels bulging (bowing horizontally)? If so, record maximum deflection from accessible coping to facing post. (Photo 11)	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12-Is there "stripping" at the top or bottom of the wall? (Record maximum degree of stripping from minimum using vertical level and affected joint).	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

BASE WALL FACING

Required Item:	Yes	No	NA	UNS	Measurement/Extent of Problem/Location/Photo Numbers
1-Long Level-String Camera-Check Usage	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-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.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-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.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Do the panel corners crack with each other? If yes, record the approximate number in the wall.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Are the panel corners "popped off" or chipped from contact with an adjacent panel? If yes, record the number in the wall.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Does crack spacing suggest Differential Settlement?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
7-Over the existing coping (exhibit), Vertical Offset?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
8-Over the existing coping (exhibit), Vertical Offset?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Over the existing coping (exhibit), Vertical Offset?	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Are the panels in danger of falling off? (If potential exists, contact appropriate UDOT region).	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
11-Are the panels bulging (bowing horizontally)? If so, record maximum deflection from accessible coping to facing post. (Photo 11)	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12-Is there "stripping" at the top or bottom of the wall? (Record maximum degree of stripping from minimum using vertical level and affected joint).	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

BASE TOP OF WALL OBSERVATIONS

Required Item:	Yes	No	NA	UNS	Measurement/Extent of Problem/Location/Photo Numbers
1-Long Level-String Camera-Check Usage	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
2-Top Of Wall	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Is there evidence of settlement at the top of the wall? (government cracking, etc)	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Are there any open cracks in the concrete coping (post baseline)? If yes, record the approximate maximum crack width.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-How do the connection joints in the concrete coping appear up? (Photo 6). If yes, record the maximum joint width.	Y	N	N/A	UNS	/ 0-Nb 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	N	N/A	UNKN	36-Is there a large gap between the approach slab and the approach pavement? (Photo 12) When this procedure is being performed, is the approach slab in contact with the approach pavement? Record the approximate maximum gap size.	/	0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UNKN	37-At the abutments, has the joint between the wall coping and the abutment opened up significantly? If so, record maximum distance.	/	0-Nb	1%	5%	10% <td>25% <td>50% <td>75% <td>90% <td>95% <td>100% <td>/</td> </td></td></td></td></td></td>	25% <td>50% <td>75% <td>90% <td>95% <td>100% <td>/</td> </td></td></td></td></td>	50% <td>75% <td>90% <td>95% <td>100% <td>/</td> </td></td></td></td>	75% <td>90% <td>95% <td>100% <td>/</td> </td></td></td>	90% <td>95% <td>100% <td>/</td> </td></td>	95% <td>100% <td>/</td> </td>	100% <td>/</td>	/
Y	N	N/A	UNKN	38-Is the coping wall pulling away from pavement roadway section? Please record maximum displacement.	/	0-Nb	1%	5%	10% <td>25% <td>50% <td>75% <td>90% <td>95% <td>100% <td>/</td> </td></td></td></td></td></td>	25% <td>50% <td>75% <td>90% <td>95% <td>100% <td>/</td> </td></td></td></td></td>	50% <td>75% <td>90% <td>95% <td>100% <td>/</td> </td></td></td></td>	75% <td>90% <td>95% <td>100% <td>/</td> </td></td></td>	90% <td>95% <td>100% <td>/</td> </td></td>	95% <td>100% <td>/</td> </td>	100% <td>/</td>	/

**MISE STABILITY**

Required Item:	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
Structural Integrity	Y	N	N/A	UNKN	39-What is the location depth of leveling pad? Please Probe into wall to record 2 inches from wall to a maximum depth of 24 inches (24 inches is the minimum depth for MSE wall)
	Y	N	N/A	UNKN	40-Is leveling pad exposed?
	Y	N	N/A	UNKN	41-Is there cracking in the leveling pad? If so, record maximum crack size with depth.
	Y	N	N/A	UNKN	42-Is there a slope change (level drops) directly along the wall before the slope changes? Record backfill above top of wall.
	Y	N	N/A	UNKN	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 top of wall.
	Y	N	N/A	UNKN	44-Is there a slope greater than V:1.5 to H:1 below the wall? Please record slope and height of backfill below the wall.
	Y	N	N/A	UNKN	45-Is there excessive degradation of panel faces?

**MISE METAL CORROSION**

Required Item:	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
Metal Corrosion	Y	N	N/A	UNKN	46-Is there excessive corrosion on guardrails or other exposed metal that might indicate corrosive conditions?
	Y	N	N/A	UNKN	47-Are there major rust stains on the face panels? Along joints? If so, record total number.
	Y	N	N/A	UNKN	48-Are any (stained) areas exposed? Does there appear to be corrosion on these areas? If applicable please record the total number of areas affected.
	Y	N	N/A	UNKN	49-What is the condition of exposed wall? If so, please indicate depth in inches.
	Y	N	N/A	UNKN	50-Is there any indication of other corrosion (peeling, blisters, rust, exposed metal under epoxy coating)? If so please record the total number of panels affected.

**MISE IMPACT/COLLISION PROTECTION**

Required Item:	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
Impact/Collision	Y	N	N/A	UNKN	51-Any possible wall protrusions in place at the base of the wall to protect it from potential traffic hazards?
	Y	N	N/A	UNKN	52-Does it appear that the wall has been involved in an accident (replaced panel, recent dips in the wall)?
	Y	N	N/A	UNKN	53-Does it appear the wall functionality and integrity has been compromised by a collision or accident?

**MISE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY**

Required Item:	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
Obstructions in Reinforcement Geometry	Y	N	N/A	UNKN	54-Are there steel wall angles (SWI)?

**MISE AS BUILT DIFFERENT FROM DESIGN**

Required Item:	Yes	No	N/A	UNKN	Measurement/Extent of Problem/Location/Photo Numbers
Drawings/Construction	Y	N	N/A	UNKN	55-Are there visible drawings for the wall? Please indicate type (Situation and Layout, Design, As Built, etc.)
	Y	N	N/A	UNKN	56-Is the layout in general accordance with drawings?
	Y	N	N/A	UNKN	57-Are the panels C/P (Cast in Place)? Does there appear to be excessive cracking in the panels?
	Y	N	N/A	UNKN	58-Was GRCFRM used in the construction of the wall?
	Y	N	N/A	UNKN	59-Are there any rebar cuts or near wall that were not included in initial drawings?
	Y	N	N/A	UNKN	60-Are there any infillings, voids, or penetrations that are not part of the initial drawings?
	Y	N	N/A	UNKN	61-Have there been any excavations or evidence of excavations near the wall?
	Y	N	N/A	UNKN	62-Have any property owners changed the dynamics of the wall (additional structures, impactions, vegetation, etc.)?
	Y	N	N/A	UNKN	63-Are there piles located in the wall (bridge abutment)?