

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.

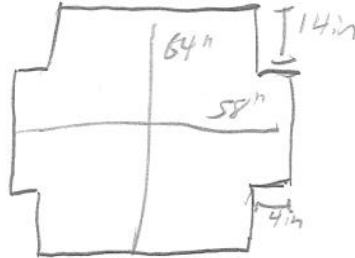
3- Shoot digital photos of the entire wall. This may require the use of a variety of shots and angles on each wall to cover the wall in its entirety.

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	2	Identifying Road/Intersection	23005 + E-15, SLC
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MSE WALL CHARACTERISTICS

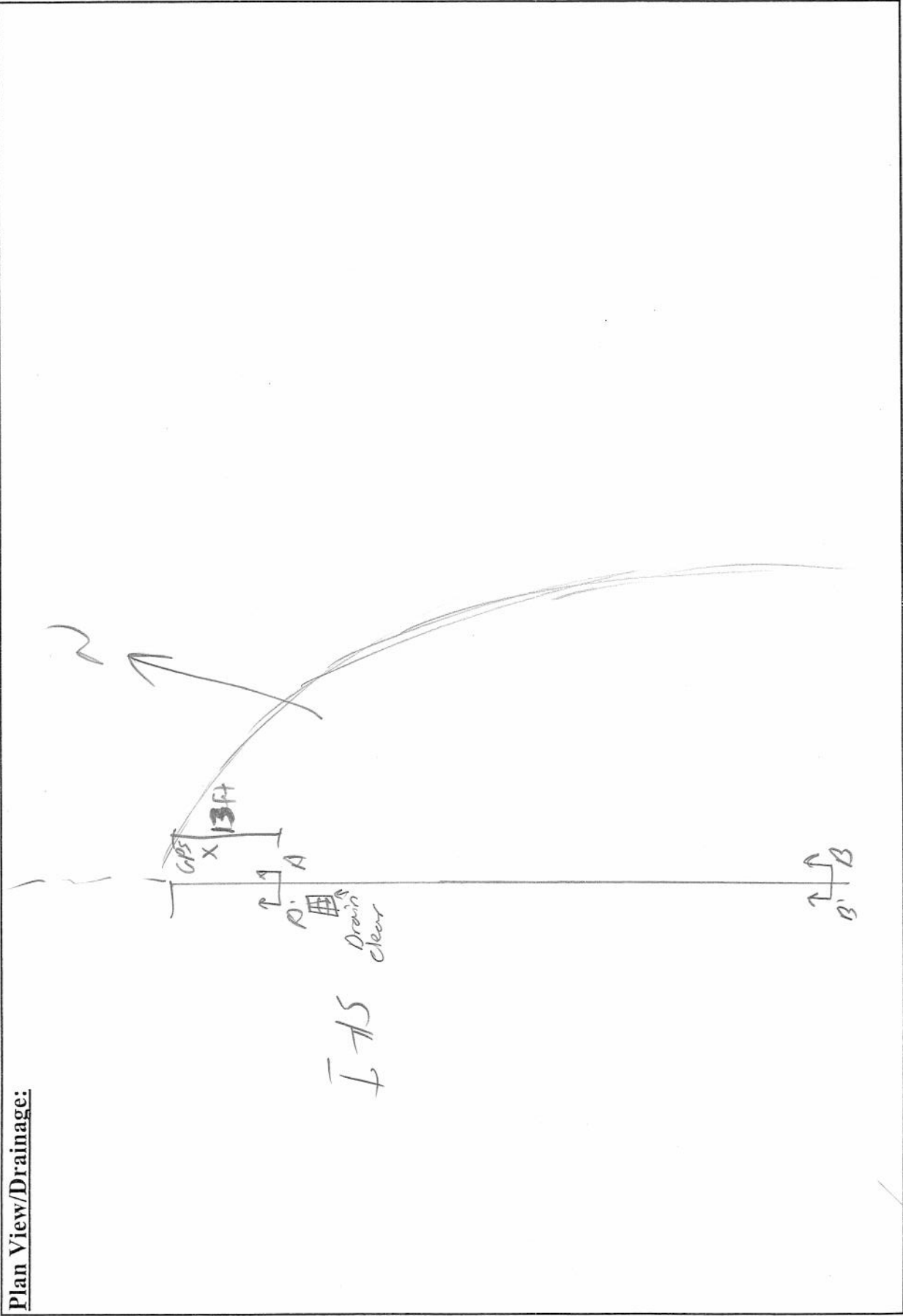
MSE Wall at Bridge	(Y) N	Bridge Number if applicable:	Wall Number
Surrounding Structures			Maximum Height of Wall (ft) R-411-E 25 ft
Distance to Each Structure		One Stage, Two Stage or Block Wall	
State Route Number		Estimated Max Length of Wall Abutment:	135 ft
Approximate Mile Marker		Max Slope of Ground in front of wall:	0
GPS Datum	WGS/84, NAD/83, or NAD/27	Max Height of wall burial line above surrounding level ground:	2 ft
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40° 18' 34.65" N 111° 43' 25.66" W		
If known, Panel or System Manufacturer	Please draw rough layout of panel with approximate dimensions in space provided below:		



Summary of Key Observations:

exposed leveling pad

Plan View/Drainage:



Cross Sections:



Cross Sections:

RISE WALL DRAINAGE

Required Tester	Yes	No	UKN	Long Level Crack/Upper JPS Camera	Measurement/Extent of Problem/Location/Photo Numbers
Drainage					
1-Is there an active water source near the base of the wall (to the wall near a body of water with secure posturing)?	Y	N	N/A	UKN	/ 0-No 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	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
3-Are there culverts protruding through the wall?	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
4-Are there vertical drains that travel through the backfill?	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
5-Is there erosion at the base of the wall or leveling pad? (Photo 12)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
6-Is there erosion along the wing wall?	Y	N	N/A	UKN	/ 0-No 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	UKN	/ 0-No 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	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
9-Does the backfill or joint fabric appear to be saturated?	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
10-Is there vegetation growing in post joints? (Photo 8)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
11-Are the back drains and outlets at the top of the wall blocked? (Photos 14)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
12-Can water enter the wall between coping and slab (i.e., drain approximately)?	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
13-Is there evidence at discharge point of fill washing through drain pipes?	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE WALL JOINTS

Required Tester	Yes	No	UKN	Long Level Crack/Upper JPS Camera	Measurement/Extent of Problem/Location/Photo Numbers
Joint					
14-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Photos 2 & 3)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
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.	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
16-Is exposed backfill visible in the horizontal joints? (Photo 4)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
17-Are there visible tears in the fabric? Is there evidence of backfill or water tracking through tear? (Do not include additional damage to fabric)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
18-Do the joints have a non-uniform horizontal spacing? Are some horizontal joints larger/smaller than others? (Photo 8)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
19-Do the joints have a non-uniform vertical spacing? Are some vertical joints larger/smaller than others? (Photo 9)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
20-Are the panels offset at the joints either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
21-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE WALL FACING

Required Tester	Yes	No	UKN	Long Level Crack/Upper JPS Camera	Measurement/Extent of Problem/Location/Photo Numbers
Wall Facing					
22-Are the panels "Tilt-Up"? Is there excessive cracking in the panels?	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
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.	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
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.	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
25-After the panel corners meeting contact with each other? If yes, record the approximate number in the wall.	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
26-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	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
27-Does crack spacing suggest Differential Settlement?	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
28-Does the overlying coping exhibit Vertical Offset?	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
29-Are the coping and parapets loose or detaching? If yes, it may be appropriate to consider UDOT if detachment occurs imminent.	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
30-Are the panels in danger of falling off? (If potential exists contact appropriate UDOT region)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
31-Are the panels bulging (showing bottoming out)? If so, record maximum deformation from accessible coping to leveling pad. (Photo 11)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
32-Is there tilting at the top or bottom of the wall? (Record maximum degree of tilting from a vertical using vertical level and affected area)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE TOP OF WALL OBSERVATIONS

Required Tester	Yes	No	UKN	Long Level Crack/Upper JPS Camera	Measurement/Extent of Problem/Location/Photo Numbers
Top Of Wall					
33-Is there evidence of settlement at the top of the wall? (pavement cracking, etc)	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
34-Are there any signs cracks in the concrete coping (not hairline)? If yes record the approximate maximum crack width.	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
35-How is the construction joint in the concrete coping spaced up? (Photo 6). If yes, record the maximum joint width.	Y	N	N/A	UKN	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	N	N/A	UKN	16-Is there a large gap between the approach slab and the approach pavement? (Photo 15) Other this produces a bumping sensation as the car passes it correct. Record the approximate maximum gap size.	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	17-Is the distance between the joint between the wall coping and the abutment opening significant? If so record the distance.	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	18-Is the coping wall pulling away from pavement (roadway) section? Please record maximum displacement for wall.	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

RISE STABILITY

Structural Integrity															
Y	N	N/A	UKN	19-What is the location depth of leveling pad? Found Geo-Probe into soil located 2 inches from wall to a maximum depth of 24 inches (24 inches is the minimum depth for MSE Wall)	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	20-Is leveling pad exposed?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	21-Is there cracking in the leveling pad? If so, record maximum crack size with gage.	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	22-Is there a four foot board (level board) directly along the wall before the slope changes (Record width)?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	23-Is there a slope steeper than V: 1.5 to H:1 in front of the wall? Please record slope and height of backfill above top of wall.	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	24-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.	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	25-Is there excessive degradation of panel face?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

RISE METAL CORROSION

Metal Corrosion															
Y	N	N/A	UKN	26-Is there excessive corrosion on guardrails or other exposed metal that might indicate concrete condition?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	27-Are there major rust stains on the face panel? Along joints? If so, record total number.	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	28-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-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	29-Is there a readability sample taken of exposed wall? If so, please indicate depth in inches.	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	30-Is there any indication of other corrosion (swelling, rust, exposed metal, holes epoxy coating)? If so, please record the total number of panels affected.	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

RISE IMPACT/COLLISION PROTECTION

Impact/Collision															
Y	N	N/A	UKN	31-Are guardrails wall protection in place at the base of the wall (to protect it from potential traffic loads)?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	32-Does it appear that the wall has been involved in an accident (replaced panel, recent ding in the wall)?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	33-Does it appear the walls functionality and integrity has been compromised by a collision or accident?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

RISE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY

Obstructions in Reinforcement Geometry															
Y	N	N/A	UKN	34-Are there acute wall angle (C90)?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

RISE AS BUILT DIFFERENT FROM DESIGN

Design/Construct-DB															
Y	N	N/A	UKN	35-Are there available drawings for the wall? Please indicate type (Situation and Layout, Design, As Built, etc.)	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	36-Is the layout in general accordance with drawings?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	37-Are the panels CIP (Cast in Place) Does there appear to be excessive cracking in the panels?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	38-Was GED (form used in the construction of the wall)?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	39-Are there any structures on or near wall that were not included in initial drawing?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	40-Are there any irrigation, utilities, or intrusions that are not part of the initial drawing?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	41-Have there been any excavations or evidence of excavations near the wall?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	42-Have local property owners changed the dynamics of the wall (additional structures, irrigation, vegetation, etc.)?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	N/A	UKN	43-Are there piles located in the wall (bridge abutment)?	/ 0-Nb	1%	5%	10%	25%	50%	75%	90%	95%	100%	/