

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.

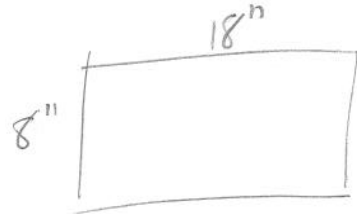
3- Shoot digital photos of the entire wall. This may require the use of a variety of shots and angles on each wall to cover the wall in its entirety.

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	Provo Canyon, Riverside
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MSE WALL CHARACTERISTICS

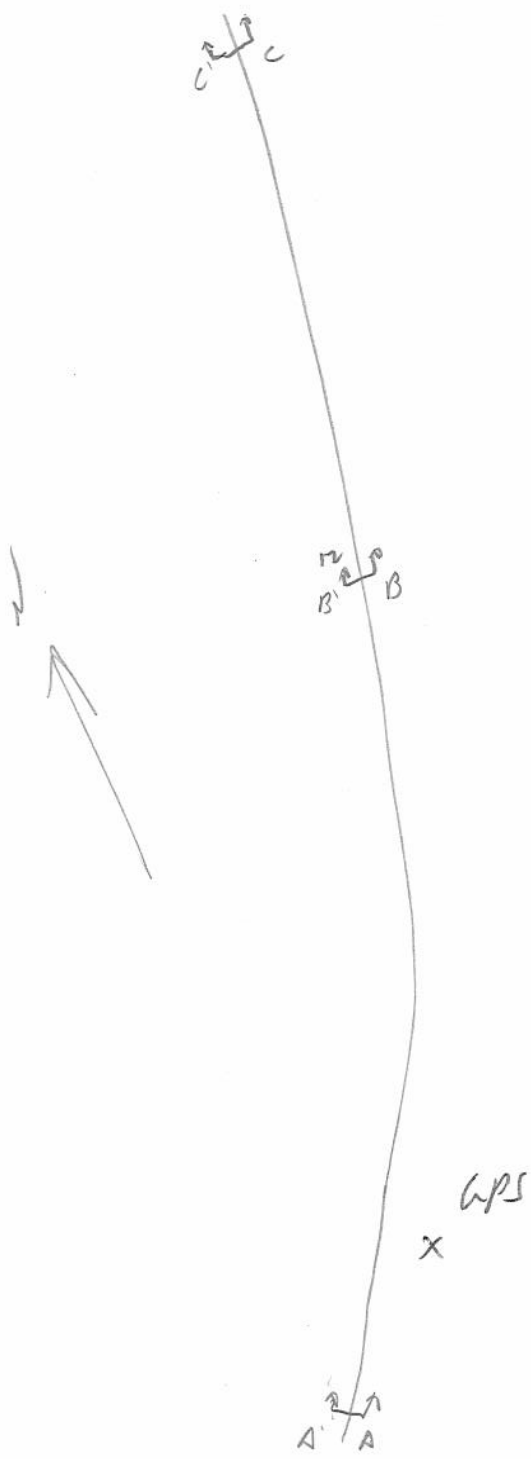
MSE Wall at Bridge	Y <input checked="" type="radio"/> (N <input type="radio"/>	Bridge Number if applicable:		Wall Number	R-419 -C
Surrounding Structures				Maximum Height of Wall (ft)	8 ft
Distance to Each Structure				One Stage, Two Stage or Block Wall	1-stage
State Route Number				Estimated Max Length of Wall Abutment:	8 ft 200 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:	3.5 ft
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40° 22' 52.07" N 111° 33' 3.60" W			Please draw rough layout of panel with approximate dimensions in space provided below:	
If known, Panel or System Manufacturer:					



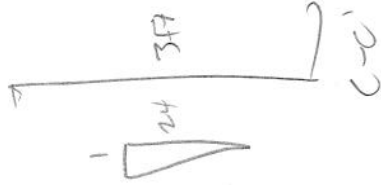
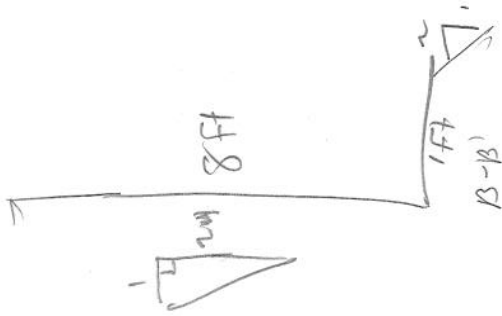
Summary of Key Observations:

wall in good shape

Plan View/Drainage:



Cross Sections:



Cross Sections:

RISE WALL DRAINAGE

Required Topic		System		Measurement/Extent of Problem/Location/Photo Numbers	
Yes	No	N/A	UNKN		
Y	N	N/A	UNKN	1-Is there an active water source near the base of the wall (is the wall near a body of water with seepage potential)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	2-If applicable, are the cracks bad at the base of the wall blocked?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	3-Are there cinders protruding through the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	4-Are there vertical drains that travel through the backfill?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	5-Is there evidence at the base of the wall or leveling pad? (Photo 12)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	6-Is there evidence along the wing wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	7-Are there any signs of water flow along the base of the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	8-Is there less than 14 feet between irrigation windrows and wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	9-Does the backfill or joint fabric appear to be saturated?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	10-Is there vegetation growing in panel joints? (Photo 8)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	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	N/A	UNKN	12-Can water enter the wall between coping and abut (i.e. Drainage apron)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	13-Is there evidence at discharge points of fill washing through drain pipes?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE WALL JOINTS

Required Topic		Long Level/Strong Concrete/CRS		Measurement/Extent of Problem/Location/Photo Numbers	
Yes	No	N/A	UNKN		
Y	N	N/A	UNKN	14-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Picture 2 & 3)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	15-Are the joints wide enough to see fabric or backfill behind panels when looking into joints? (Photo 3) If yes, record the approximate maximum joint width in inches.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	16-Is exposed backfill visible in the horizontal joints? (Photo 4)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	17-Are there visible signs in the photo? Is there evidence of backfill or water leaking through joint? (Do not include additional signs in photo)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	18-Do the joints have a non-uniform horizontal spacing? Are some horizontal joints larger than others?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	19-Do the joints have a non-uniform vertical spacing? Are some vertical joints larger than others?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	20-Are the joints wider than they are tall? (Photo 5)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	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% /

RISE WALL FACING

Required Topic		Long Level/Strong Concrete/CRS		Measurement/Extent of Problem/Location/Photo Numbers	
Yes	No	N/A	UNKN		
Y	N	N/A	UNKN	22-Are the panels "tilt up"? Is there excessive cracking in the panels?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	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.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	24-Are there cracks that continue horizontally through adjacent panels? (Photos 7 & 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	N/A	UNKN	25-Are the panel corners making contact with each other? If yes, record the approximate number for the wall.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	26-Are the panel corners "popped-off" or chipped 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	N/A	UNKN	27-Does rock spacing suggest Differential Settlement?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	28-Does the existing coping exhibit Vertical Offset?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	29-Are the coping and parapet loose or detaching? If yes, it may be appropriate to contact UDOT if detachment were imminent.	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	30-Are the panels in danger of falling off? (If potential exist contact appropriate UDOT region).	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	31-Are the panels bulging (bowing horizontally)? If so, record maximum deformation from accessible coping to leveling pad. (Photo 11)	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	N/A	UNKN	32-Is there "flipping" at the top or bottom of the wall? (Record maximum degree of flipping from external leveling vertical level and affected area).	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

RISE TOP OF WALL OBSERVATIONS

Required Topic		Long Level/Strong Concrete/CRS		Measurement/Extent of Problem/Location/Photo Numbers	
Yes	No	N/A	UNKN		
Y	N	N/A	UNKN	33-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	N/A	UNKN	34-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	N/A	UNKN	35-Is there the connecting joints in the connecting 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	UKN	UKN	18-Is there a large gap between the approach slab and the approach pavement? (Photos 13) Or are the	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	X	UKN	19-Is the abutment, but the joint between the wall coping and the abutment stepped up significantly? If so	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	X	UKN	20-Is the coping wall pulling away from pavement roadway accident? Please record maximum displacement	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE STABILITY

Required Test:		Severity Criteria		Measurement/Extent of Problem/Location/Photo Numbers	
Y	N	NA	UKN	21-What is the location depth of leveling post? Found One-Probe into wall located 2 inches from wall to a	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	22-Is there a four foot bench (level slope) directly along the wall before the slope changes (Record	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	23-Is there a slope steeper than 5:1 to H:1 in front of the wall? Please record slope and height of	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	24-Is there a slope greater than 5:1 to H:1 below the wall? Please record slope and height of backfill	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	25-Is there excessive degradation of panel face?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE METAL CORROSION

Required Test:		Severity Criteria		Measurement/Extent of Problem/Location/Photo Numbers	
Y	N	NA	UKN	26-Is there excessive corrosion on guardrails or other exposed metal that might indicate concrete	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	27-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	UKN	28-Are any internal drains exposed? Does there appear to be corrosion on these drains? If applicable please	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	29-Is there any indication of rubber corrosion (swelling, cracking, rust, exposed metal inside epoxy coating)? If	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE IMPACT/COLLISION PROTECTION

Required Test:		Severity Criteria		Measurement/Extent of Problem/Location/Photo Numbers	
Y	N	NA	UKN	30-Is there any protection in place at the base of the wall (to prevent it from potential traffic	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	31-Does it appear that the wall has been involved in an accident (replaced panel, recent dips in the wall)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	32-Does it appear the wall's functionality and integrity has been compromised by a collision or accident?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY

Required Test:		Severity Criteria		Measurement/Extent of Problem/Location/Photo Numbers	
Y	N	NA	UKN	33-Are there acute wall angles (90°)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE AS BUILT DIFFERENT FROM DESIGN

Required Test:		Severity Criteria		Measurement/Extent of Problem/Location/Photo Numbers	
Y	N	NA	UKN	34-As built different than design	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	35-Are there available drawings for the wall? Please indicate type (Situation and Layout, Design, As Built,	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	36-Is the layout in general accordance with drawings?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	37-As the panels CIP (Cast in Place) Does there appear to be excessive cracking in the panel?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	38-Was GEP/pan used in the construction of the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	39-Are there any structures on or near wall that were not included in field drawings?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	40-Are there any inclusions, utilities, or inclusions that are not part of the initial drawings?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	41-Have there been any excavations or evidence of excavations near the wall?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	42-Have local property owners changed the dynamics of the wall (additional structures, irrigation,	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N	NA	UKN	43-Are there piles located in the wall (bridge abutment)?	/ 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /