

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	4	Identifying Road/Intersection	IHS Interchange w/ Washington, St George
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MSE WALL CHARACTERISTICS

MSE Wall at Bridge	<input checked="" type="checkbox"/> N	Bridge Number if applicable:		Wall Number	R-383-6
Surrounding Structures				Maximum Height of Wall (ft)	22 ft
Distance to Each Structure				One Stage, Two Stage or Block Wall	1-stage
State Route Number				Estimated Max Length of Wall Abutment:	840 ft
Approximate Mile Marker				Max Slope of Ground in front of wall:	
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)	37° 7' 43.05" N 113° 51' 29.17" 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' 6' </div>				

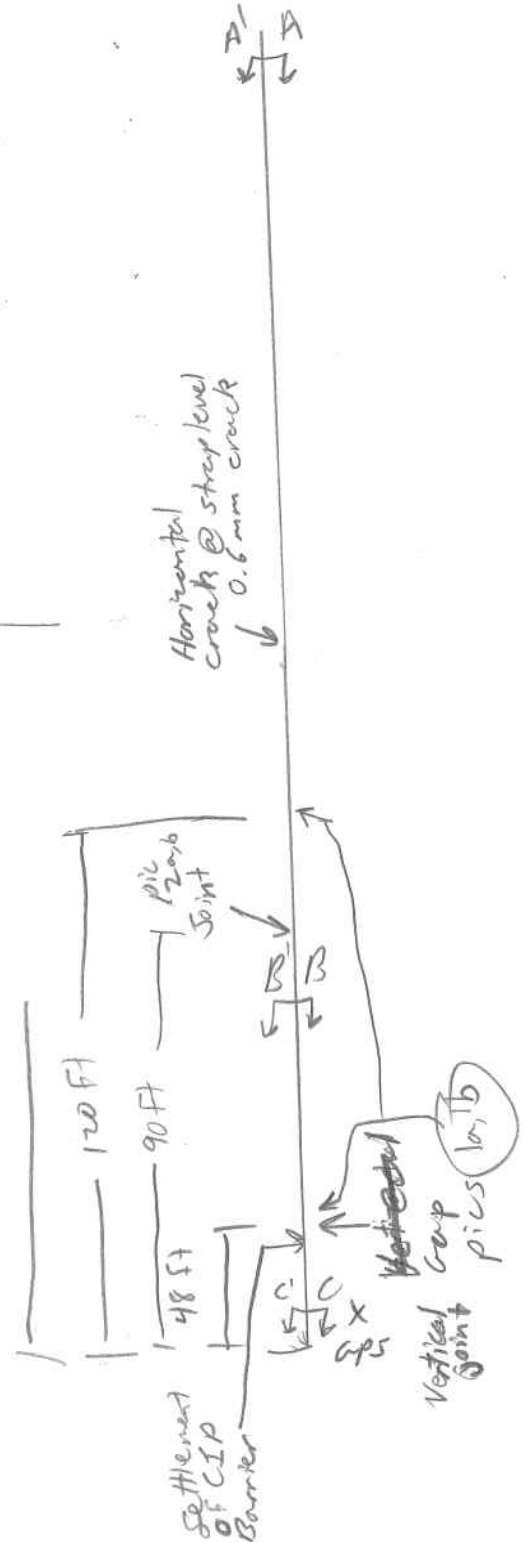
Summary of Key Observations:

Woven fabric in joints
 spacing of vertical joints vary, 1"-1.5" wide, very common, can see fabric in back of joint
 many joints are not tight enough

72
 740
 840

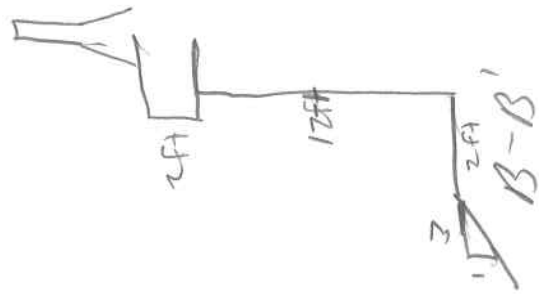
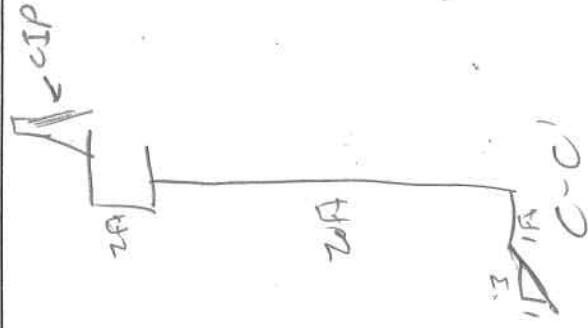
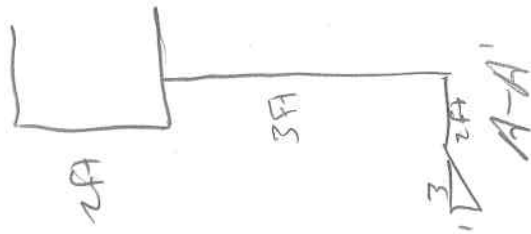
Plan View/Drainage:

I-15



24
74
94

Cross Sections:



Cross Sections:

BASE WALL DRAINAGE

Required	Pass	Fail	Notes	Measurement/Extent of Problem/Locational/Photo Numbers
Y	N/A	UNSN	Drainage	
Y	N/A	UNSN	14: Is there any water seepage near the base of the wall (in the wall there is a body of water with some seepage)?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	2: If applicable, are the mesh bars at the base of the wall blocked?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	3: Are there obstructions preventing through the wall?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	4: Are there vertical joints that travel through the backfill?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	5: Is there evidence at the base of the wall or footing pad? (Photo 12)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	6: Are there any signs of water flow along the base of the wall?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	7: Are there any signs of water flow between (or adjacent) precasters and wall?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	8: Is there any flow (in 14 feet between precasters) precasters and wall?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	9: Does the backfill or joint fabric appear to be saturated?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	10: Is there vegetation growing in joint fabric (Photo 8)?	Partial / 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	11: Over the deck, drain and outlets at the top of the wall blacked? (Photo 14)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	12: Can water enter the wall between coping and slab (i.e., Drain appropriately)?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	13-14: Is there evidence of discharge points of effluent through drain pipes?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /

BASE WALL JOINTS

Required	Pass	Fail	Notes	Measurement/Extent of Problem/Locational/Photo Numbers
Y	N/A	UNSN	Vertical	
Y	N/A	UNSN	14: Is backfill touching out on joint or are there piles of backfill at the base of the wall? (Photos 2 & 3)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	15: Are the joints wide enough to see fabric or backfill behind panels when looking into joints? (Photo 7) If yes, record the approximate maximum joint width in inches.	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	16: Is there backfill visible in the horizontal joint? (Photo 3)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	17: Are there signs of water leakage through joints? (Do not include additional drainage to fabric)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	18: Do the joints have a pre-formed horizontal spacing device? Are some horizontal joints larger than others? (Photo 6)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	19: Do the joints have a non-sawdust vertical spacing device? Are some vertical joints larger than others? (Photo 6)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	20: Are the panels offset at the joint either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	21: Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /

BASE WALL FALING

Required	Pass	Fail	Notes	Measurement/Extent of Problem/Locational/Photo Numbers
Y	N/A	UNSN	Wall Facing	
Y	N/A	UNSN	22: Are the panels "flat"? Is there excessive cracking in the panels?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	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-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	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.	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	25: Are the panel corners making contact with each other? If yes, record the approximate number in the wall.	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	26: Are the panel corners "propped" or chipped from contact with an adjacent panel? If yes record the number in the wall.	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	27: Does crack spacing suggest Differential Settlement?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	28: Does the overlying coping exhibit Vertical Offset?	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	29: Are the coping and parapets loose or detaching? If yes, it may be appropriate to contact LDOT if detachment were evident.	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	30: Are the panels in danger of falling off? (If potential exists contact appropriate LDOT region).	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	31: Are the panels bulging (downing horizontally)? If so, record maximum deformation from acceptable coping to leading pad. (Photo 11)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	32: Is there lifting at the top or bottom of the wall? (Record maximum degree of lifting from stretch using vertical rod and infrared laser)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /

BASE TOP OF WALL OBSERVATIONS

Required	Pass	Fail	Notes	Measurement/Extent of Problem/Locational/Photo Numbers
Y	N/A	UNSN	Top Of Wall	
Y	N/A	UNSN	33: Is there evidence of settlement at the top of the wall? (pavement cracking, etc)	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	34: Are there any open cracks in the concrete coping (on barrier)? If yes record the approximate maximum crack width.	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /
Y	N/A	UNSN	35: Does the construction joint in the overlying coping appear up? (Photo 6). If yes, record the maximum joint width.	/ 0-N6 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Y	N	UN	16-Is there a large gap between the approach slab and the approach pavement? (Photo 15) Often this is due to the approach slab being too wide. Approximate width of approach slab is 12 feet. The distance from the centerline of the approach slab to the centerline of the wall is 12 feet. The distance from the centerline of the wall to the centerline of the approach slab is 12 feet. The distance from the centerline of the wall to the centerline of the approach slab is 12 feet. The distance from the centerline of the wall to the centerline of the approach slab is 12 feet.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	UN	17-At the bottom, has the joint between the wall coping and the retaining support up significantly? If so, record maximum distance.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/
Y	N	UN	18-Is the coping/wall pulling away from pavement roadways section? Please record maximum displacement for wall.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/

RISE STABILITY

Required Topic		Drawings	TECHNICAL	Measurement/Extent of Problem/Location/Photo Numbers	Y	N	UN	1	2	3	4	5	6	7	8	9	10
Y	N	N/A	UN	19-What is the location depth of leveling pad? Found Drive Probe into wall located 2 inches from wall to a maximum depth of 24 inches (24 inches is the maximum depth for MSE Wall)	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	20-Is there cracking in the leveling pad? If so, record maximum crack size with gage.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	21-Is there a four foot board (stepped slope) directly along the wall before the slope changes (second W20)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	22-Is there a slope greater than V: 1.5 to 1H: 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	N/A	UN	23-Is there a slope greater than V: 1.5 to 1H: 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	UN	24-Is there excessive degradation of panel faces?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	

RISE METAL CORROSION

Required Topic		Drawings	TECHNICAL	Measurement/Extent of Problem/Location/Photo Numbers	Y	N	UN	1	2	3	4	5	6	7	8	9	10
Y	N	N/A	UN	25-Is there evidence of corrosion on panel/bars or other exposed metal that might indicate corrosion conditions?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	26-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	N/A	UN	27-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	N/A	UN	28-Is there a readily visible amount of exposed soil? If so, please indicate depth in inches.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	29-Is there any indication of rebar corrosion (swelling bars, rust, exposed metal inside epoxy coating)? If so, please indicate location of problem.	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	

RISE IMPACT/COLLISION PROTECTION

Required Topic		Drawings	TECHNICAL	Measurement/Extent of Problem/Location/Photo Numbers	Y	N	UN	1	2	3	4	5	6	7	8	9	10
Y	N	N/A	UN	31-Are guardrail's wall projections in place at the base of the wall (to prevent it from potential traffic bumps)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	32-Does it appear that the wall has been involved in an accident (replaced panel, exposed, dings in the wall)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	33-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%	/	

RISE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY

Required Topic		Drawings	TECHNICAL	Measurement/Extent of Problem/Location/Photo Numbers	Y	N	UN	1	2	3	4	5	6	7	8	9	10
Y	N	N/A	UN	34-Are there any wall rebar (C#8)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	

RISE AS BUILT DIFFERENT FROM DESIGN

Required Topic		Drawings	TECHNICAL	Measurement/Extent of Problem/Location/Photo Numbers	Y	N	UN	1	2	3	4	5	6	7	8	9	10
Y	N	N/A	UN	35-Are there available drawings for the wall? Please indicate type (Foundation and Layout, Design, As Built, etc.)	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	36-Is the layout in general accordance with drawings?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	37-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	UN	38-Is there any OBE (over excavation) used in the construction of the wall?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	39-Are there any annotations on or near wall that were not included in initial drawings?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	40-Are there any irrigation, utilities, or interferences that are not part of the initial drawings?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	41-Is there any evidence of excessive excavation or evidence of excavations near the wall?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	42-Has local property owners changed the dynamics of the wall (additional structures, impingement, vegetation, etc.)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	
Y	N	N/A	UN	43-Are there piles located in the wall (bridge abutment)?	/	0-No	1%	5%	10%	25%	50%	75%	90%	95%	100%	/	