

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, south side
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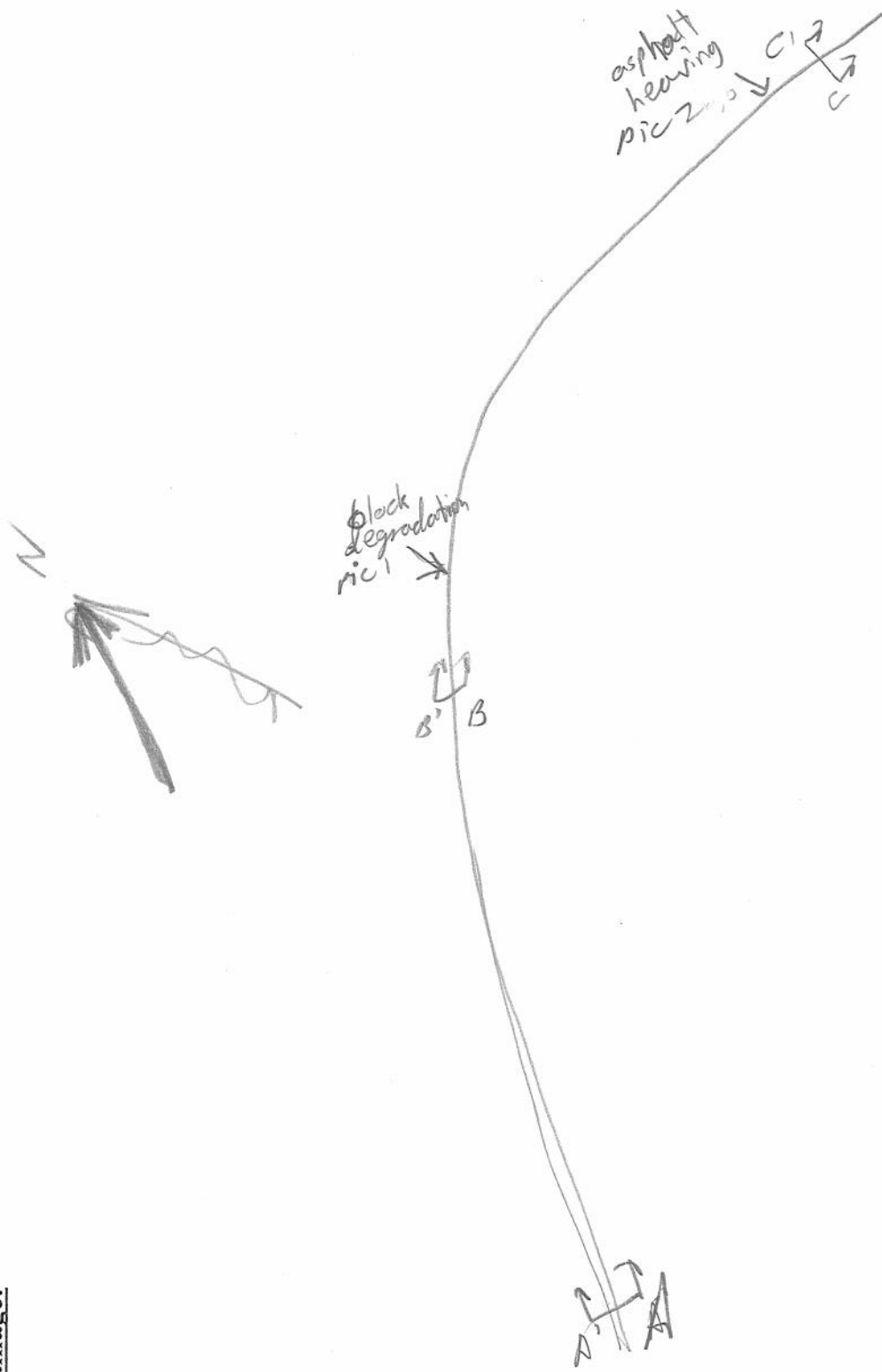
MSE WALL CHARACTERISTICS

MSE Wall at Bridge	Y <input checked="" type="radio"/> N	Bridge Number if applicable:		Wall Number	R-297-F
Surrounding Structures				Maximum Height of Wall (ft)	11 ft
Distance to Each Structure				One Stage, Two Stage or Block Wall	1-stage
State Route Number	189			Estimated Max Length of Wall Abutment:	710 ft
Approximate Mile Marker	14			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:	6 ft
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	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: 80px; margin: 0 auto; position: relative;"> 18" 8" </div>				

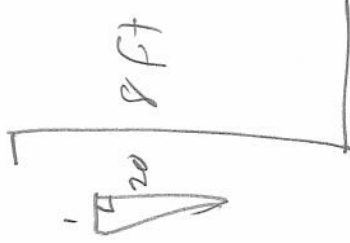
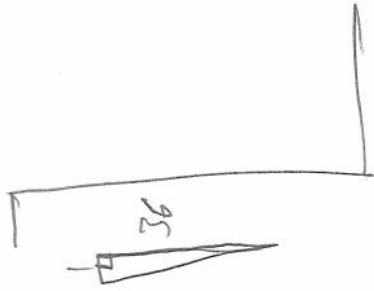
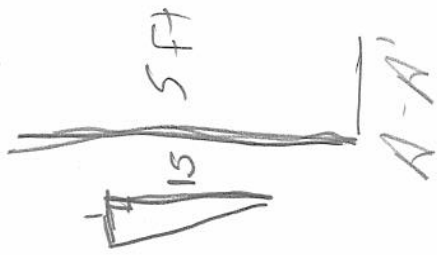
Summary of Key Observations:

some block degradation about 5%

Plan View/Drainage:



Cross Sections:



Cross Sections:

BASE WALL DRAINAGE

Required Tests:		Notes	Measurements/Extent of Problem/Location/Photo Numbers
Yes	N/A	UNSN	Drainage
Y	N	UNSN	1-Is there an active water source near the toe of the wall (to the wall near a body of water with no over potential)?
Y	N	UNSN	2-If applicable, are the catch basins at the base of the wall blocked?
Y	N	UNSN	3-Are there culverts protruding through the wall?
Y	N	UNSN	4-Are there vertical drains that travel through the backfill?
Y	N	UNSN	5-Is there evidence at the base of the wall or leveling post? (Photo 12)
Y	N	UNSN	6-Is there evidence along the wing walls?
Y	N	UNSN	7-Are there any signs of water flow along the base of the wall?
Y	N	UNSN	8-Is there low flow 14 feet between irrigation sprinklers and wall?
Y	N	UNSN	9-Does the backfill or joint fabric appear to be saturated?
Y	N	UNSN	10-Is there vegetation growing in panel joints (Photo 9)?
Y	N	UNSN	11-Are the back drains and outlets at the top of the wall blocked? (Photo 14)
Y	N	UNSN	12-Can water enter the wall between coping and slab (i.e., drain apron)?
Y	N	UNSN	13-Is there evidence at discharge point of fill washing through drain pipes?
			Blocked / Clear / 0-No / 1% / 5% / 10% / 25% / 50% / 75% / 90% / 95% / 100% /

BASE WALL JOINTS

Required Tests:		Notes	Measurements/Extent of Problem/Location/Photo Numbers
Yes	N/A	UNSN	Long Level String - Concrete-Creek Orange
Y	N	UNSN	14-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Pictures 2 & 3)
Y	N	UNSN	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	UNSN	16-Is exposed backfill visible in the horizontal joints? (Photo 4)
Y	N	UNSN	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	UNSN	18-Do the joints have a non-uniform horizontal spacing error? Are some horizontal joints larger than others? (Photo 5)
Y	N	UNSN	19-Do the joints have a non-uniform vertical spacing error? Are some vertical joints larger than others? (Photo 5)
Y	N	UNSN	20-Are there any signs of water flow in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.
Y	N	UNSN	21-Does the fabric appear brittle, or appear as if it has undergone excessive UV exposure?
			Blocked / Clear / 0-No / 1% / 5% / 10% / 25% / 50% / 75% / 90% / 95% / 100% /

BASE WALL FACING

Required Tests:		Notes	Measurements/Extent of Problem/Location/Photo Numbers
Yes	N/A	UNSN	Long Level String - Concrete-Creek Orange
Y	N	UNSN	22-Are the panels "tilt-up"? Is there excessive cracking in the panels?
Y	N	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.
Y	N	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.
Y	N	UNSN	25-Are the panel corners "popped-off" or chipped from contact with an adjacent panel? If yes, record the number in the wall.
Y	N	UNSN	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	UNSN	27-Does crack spacing suggest Differential Settlement?
Y	N	UNSN	28-Does the overlying coping suggest Differential Settlement?
Y	N	UNSN	29-Are there coping and parapet lower or distorting? If yes, it may be appropriate to contact UDOT if detachment occurs directly.
Y	N	UNSN	30-Are the panels in danger of falling off? (If potential exists contact appropriate UDOT region).
Y	N	UNSN	31-Are the panels bulging (bowing bottomward)? If so, record maximum deformation from accessible coping to leveling pad. (Photo 11)
Y	N	UNSN	32-Are there "flipping" at the top or bottom of the wall? (Record maximum degree of flipping from a minimum using vertical level and affected area).
			Blocked / Clear / 0-No / 1% / 5% / 10% / 25% / 50% / 75% / 90% / 95% / 100% /

BASE TOP OF WALL OBSERVATIONS

Required Tests:		Notes	Measurements/Extent of Problem/Location/Photo Numbers
Yes	N/A	UNSN	Long Level String - Concrete-Creek Orange
Y	N	UNSN	33-Is there evidence of settlement at the top of the wall? (government cracking, etc)
Y	N	UNSN	34-Are there any signs of cracks in the concrete coping (not balling)? If yes record the approximate maximum crack width.
Y	N	UNSN	35-Is there the construction joint in the concrete coping opened up? (Photo 6). If yes, record the maximum joint width.
			Blocked / Clear / 0-No / 1% / 5% / 10% / 25% / 50% / 75% / 90% / 95% / 100% /

Required	Yes	No	NA	UNK	Measurements/Extent of Problems/Location/Photo Numbers
Y	N	X			16 Is there a large gap between the approach slab and the approach pavement? (Photo 15) Other than produce a bumping sensation on the surface is crossed. Record the approximate maximum gap size.
Y	N	X			17 Are the abutments, but the joint between the wall coping and the abutment opened up significantly? If so record maximum distance.
Y	N	X			18 Is the coping wall pulling away from pavement/roadway section? Please record maximum displacement for wall.

Required	Yes	No	NA	UNK	Measurements/Extent of Problems/Location/Photo Numbers
Y	N	X			19 What is the location depth of leveling? Paved Once Probe into wall located 2 inches from wall to a maximum depth of 24 inches (24 inches is the minimum depth for MSE Wall)
Y	N	X			20 Is leveling and exposed?
Y	N	X			21 Is there cracking in the leveling pad? If so, record maximum crack size with gap.
Y	N	X			22 Is there a four foot bench (level slope) directly along the wall before the slope changes? (Record bench above slope design) (See V. 1.3 to 1.11 in front of the wall? Please record slope and height of bench above top of wall.
Y	N	X			23 Are there a slope greater than V. 1.3 to 1.11 below the wall? Please record slope and height of bench below the wall.
Y	N	X			24 Is there excessive degradation of exposed face?

Required	Yes	No	NA	UNK	Measurements/Extent of Problems/Location/Photo Numbers
Y	N	X			25 Are there excessive corrosion on guardrails or other exposed metal that might indicate corrosive conditions?
Y	N	X			26 Are there major rust stains on the face panels? Along joints? If so, record total number.
Y	N	X			27 Are any limited steps exposed? Does there appear to be corrosion on these steps? If applicable, please record the total number of steps affected.
Y	N	X			28 How a reactivity sample taken of exposed soil? If so, please indicate depth in inches.
Y	N	X			29 Is there any indication of other corrosion (swelling bars, rust, exposed metal inside epoxy coating)? If so, please record the total number of panels affected.

Required	Yes	No	NA	UNK	Measurements/Extent of Problems/Location/Photo Numbers
Y	N	X			30 Are guardrails wall positioned in place at the base of the wall (to protect it from potential traffic)?
Y	N	X			31 Does it appear that the wall has been involved in an accident (replaced panel, recent damage to the wall)?
Y	N	X			32 Does it appear the walls functionality and integrity has been compromised by a collision or accident?

Required	Yes	No	NA	UNK	Measurements/Extent of Problems/Location/Photo Numbers
Y	N	X			33 Are there some wall angles <90°?

Required	Yes	No	NA	UNK	Measurements/Extent of Problems/Location/Photo Numbers
Y	N	X			34 Are there available drawings for the wall? Please indicate type (Situation and Layout, Design, As Built, etc.)
Y	N	X			35 Is the layout in general accordance with drawings?
Y	N	X			36 Are there any annotations on or near wall that were not included in related drawings?
Y	N	X			37 How ODF/point used in the construction of the wall?
Y	N	X			38 Are there any indications, utilities, or obstructions that are not part of the initial drawing?
Y	N	X			39 Have there been any excavations or evidence of excavations near the wall?
Y	N	X			40 Have local property owners changed the diameter of the wall (additional structures, impingement, vegetation, etc.)?
Y	N	X			41 Are there piles located in the wall (bridge abutment)?

NISE STABILITY

NISE METAL CORROSION

NISE IMPACT COLLISION PROTECTION

NISE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY

NISE AS BUILT DIFFERENT FROM DESIGN

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