

STATE OF UTAH MSE WALL INSPECTION FORM

Compiled As Part of Research By The Utah Department of Transportation

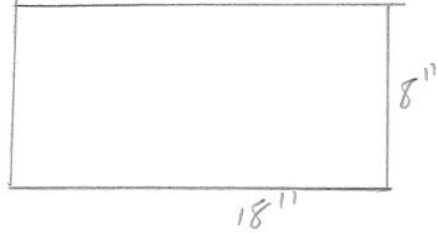
Instructions:

- 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	1200 W , 800 N , orem
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MSE WALL CHARACTERISTICS

MSE Wall at Bridge	Y <input checked="" type="radio"/> N	Bridge Number if applicable:	Wall Number
Surrounding Structures			R-445-B
Distance to Each Structure			Maximum Height of Wall (ft) 10 FT
State Route Number			One Stage, Two Stage or Block Wall one stage
Approximate Mile Marker			Estimated Max Length of Wall Abutment: 132 FT
GPS Datum	WGS/84, NAD/83, or NAD/27		Max Slope of Ground in front of wall: 8
MSE Wall GPS Coordinates (Location of Measurement shown on plan view)	40°19'34.95"N 111°43'26.52"W		Max Height of wall burial line above surrounding level ground: 4 4.5 FT



Summary of Key Observations:

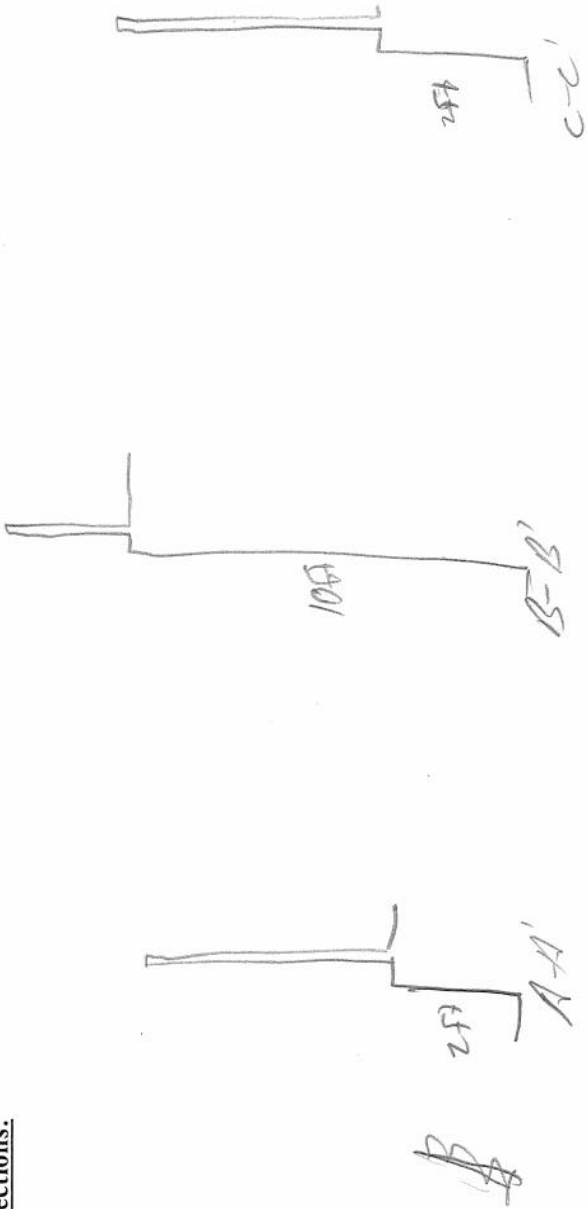
4
 15
 18
 120
 100
 120
 100

10
 12/180
 100

Plan View/Drainage:



Cross Sections:



Cross Sections:

MISE WALL DRAINAGE

Required Tests: Nylon Mesh/Water Retention/Crack Closure		Measurement/Extent of Problem/Location/Photo Numbers	
Yes	No	Y	N
<input checked="" type="checkbox"/>	<input type="checkbox"/>	14-Is there an active water source near the toe of the wall (to the wall over a body of water with noor potential)?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	15-If applicable, are the catch basins at the base of the wall blocked?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	16-Are there culverts protruding through the wall?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	17-Are there vertical drains that have through the backfill?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	18-Is there erosion at the base of the wall or leveling pad? (Photo 12)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	19-Is there erosion along the wing wall?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input checked="" type="checkbox"/>	<input type="checkbox"/>	20-Are there any signs of water flow along the base of the wall?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	21-Is there less than 14 feet between irrigation sprinklers and wall?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	22-Does the backfill or joint fabric appear to be saturated?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	23-Is there vegetation growing in joint (Photo 9)?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	24-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% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	25-Can water enter the wall between coping and slab (i.e. Drain appropriately)?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	26-Is there evidence at discharge point of fill washing through drain pipe?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

against wall

MISE WALL JOINTS

Required Tests: Long Level/String/Cover/Crack Closure		Measurement/Extent of Problem/Location/Photo Numbers	
Yes	No	Y	N
<input type="checkbox"/>	<input checked="" type="checkbox"/>	14-Is backfill coming out of joints or are there piles of backfill at the base of the wall? (Photos 2 & 3)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	15-For the joints wide enough to see fabric or backfill behind panels when looking into joint? (Photo 3) If yes, record the approximate maximum joint width in inches.	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	16-Is exposed backfill visible in the horizontal joint? (Photo 4)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	17-Are there visible tears in the fabric? Is there evidence of backfill or water leaking through joint? (Do not include additional damage to fabric)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	18-Do the joints have a non-uniform horizontal spacing/size? Are some horizontal joints larger/smaller than others? (Photo 6)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	19-Do the joints have a non-uniform vertical spacing/size? Are some vertical joints larger/smaller than others? (Photo 7)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	20-Are the panels offset at the joints either in or out of the wall? (Photo 7) If yes, record the approximate maximum offset.	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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% /

MISE WALL FACING

Required Tests: Long Level/String/Cover/Crack Closure		Measurement/Extent of Problem/Location/Photo Numbers	
Yes	No	Y	N
<input type="checkbox"/>	<input checked="" type="checkbox"/>	22-Are the panels "tilt-up"? Is there excessive cracking in the panels?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	25-Are the panels showing contact with each other? If yes, record the approximate number in the wall.	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	26-Are the panels "popped out" 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% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	27-Does crack spacing suggest Differential Settlement?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	28-Does the existing coping exhibit Vertical Offset?	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	29-Are the coping and panels loose or detaching? If yes, it may be appropriate to contact UDOT if substantial concrete is missing.	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	31-Are the panels bulging (bowing horizontally)? If so, record maximum deformation from acceptable coping to leveling pad. (Photo 11)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	32-Are there "lapping" at the top or bottom of the wall? (Record maximum degree of lapping from abutment using vertical level and affected area)	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

MISE TOP OF WALL OBSERVATIONS

Required Tests: Long Level/Crack Closure/Cover/Crack Closure		Measurement/Extent of Problem/Location/Photo Numbers	
Yes	No	Y	N
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	34-Are there any open cracks in the concrete coping (not balling)? If yes record the approximate maximum crack width.	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /
<input type="checkbox"/>	<input checked="" type="checkbox"/>	35-Is there any evidence of joint opening at the top of the wall? If yes, record the maximum joint width.	0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% /

Required Item:		Passing	Fail	Notes	Measurement/Extent of Problem/Location/Photo Numbers	Passing	Fail	Notes	
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	36-Is there a large gap between the approach slab and the approach pavement? (Photo 13) Often this produces a humping sensation as the vehicle is crossed. Record the approximate maximum gap size.					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	37-At the abutment, has the joint between the wall coping and the abutment opened up significantly? If so record maximum distance.					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	38-Is the coping wall pulling away from pavement/roadway section? Please record maximum displacement for each.					
MSE STABILITY									
Required Item: Several GEO-Piles									
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	39-What is the location depth of leveling pad? Found One-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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	40-Is leveling pad exposed?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	41-Is there cracking in the leveling pad? If so, record maximum crack size with gaps.					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	42-Is there a four foot bench (level depth) directly along the wall before the slope changes (Record backfill above top of wall)					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	43-Is there a slope steeper than V:1 to H:1 in front of the wall? Please record slope and height of backfill above top of wall.					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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	<input checked="" type="checkbox"/>	<input type="checkbox"/>	45-Is there excessive degradation of panel faces?					
MSE METAL CORROSION									
Required Item: Nylon Monitor/Concrete/Zip Lock Bag/Trowel									
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	46-Is there excessive corrosion on guardrails or other exposed metal that might indicate corrosive conditions?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	47-Are there major rust stains on the face panels? Along joints? If so, record total number.					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	48-Are any internal steps exposed? Does there appear to be corrosion on these steps? If applicable please record the total number of steps affected.					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	49-Is a readily simple section of exposed wall? If so, please indicate depth in inches.					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50-Is there any indication of rebar corrosion (swelling bars, rust, exposed rebar inside epoxy coating)? If so please record the total number of panels affected.					
MSE IMPACT/COLLISION PROTECTION									
Required Item: Concrete/Impacts/Collision									
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	51-Are guardrails wall protection in place at the base of the wall (to protect it from potential traffic hazards)?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	52-Does it appear that the wall has been involved in an accident (replaced panels, recent damage to the wall)?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	53-Does it appear the wall functionally and integrity has been compromised by a collision or accident?					
MSE OBSTRUCTIONS IN REINFORCEMENT GEOMETRY									
Required Item: Obstructions in Reinforcement Geometry									
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	54-Are there acute wall angles (<90)?					
MSE AS BUILT DIFFERENT FROM DESIGN									
Required Item: Drawing/Concrete/GIS									
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	55-Are there available drawings for the wall? Please indicate type (Situation and Layout, Design, As Built, etc.)					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	56-Is the layout in general accordance with drawings?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	57-Are the panels C/P (Cue in Place) Does there appear to be excessive cracking in the panels?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	58-Has GEO/geom used in the construction of the wall?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	59-Are there any structures on or near wall that were not included in initial drawings?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	60-Are there any irrigation, utilities, or structures that are not part of the initial drawings?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	61-Have there been any excavations or evidence of excavation near the wall?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	62-Has local property owners changed the dynamics of the wall (additional structures, irrigation, vegetation, etc.)?					
Y	N	<input checked="" type="checkbox"/>	<input type="checkbox"/>	63-Are there piles located in the wall (bridge abutment)?					