

STATE OF UTAH MSE WALL INSPECTION FORM

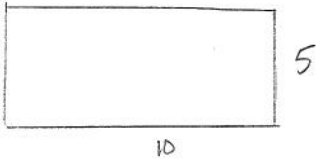
Compiled As Part of Research By The Utah Department of Transportation

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 | Colm & Adam 17005 & I-15 |
|---------------|---|--------------------------------------|-----------------------------|

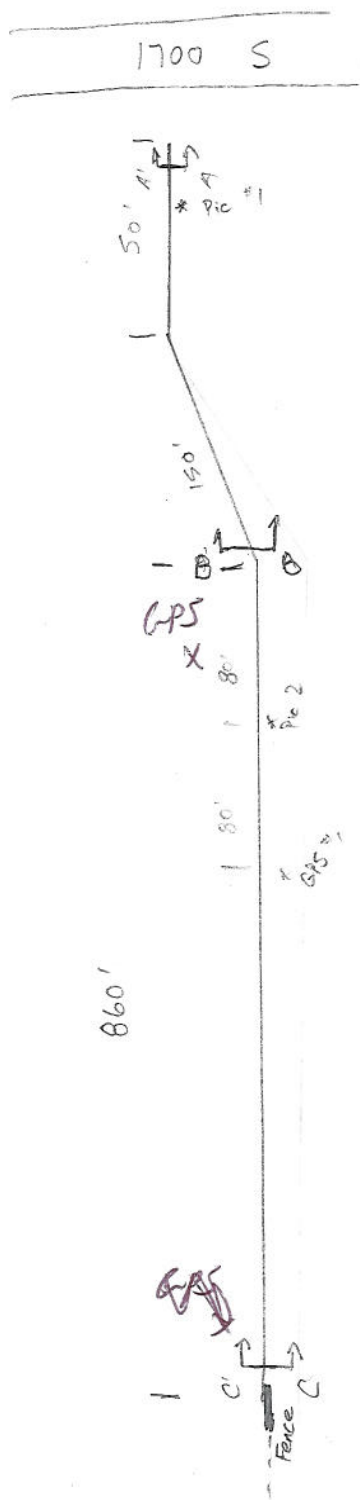
MSE WALL CHARACTERISTICS

| | | | | | |
|---|---|------------------------------|--|--|----------|
| MSE Wall at Bridge | Y <input checked="" type="radio"/> N | Bridge Number if applicable: | F-635 | Wall Number | R-350-11 |
| Surrounding Structures | | | | Maximum Height of Wall (ft) | 25' |
| Distance to Each Structure | | | | One Stage, Two Stage or Block Wall | two |
| State Route Number | | | | Estimated Max Length of Wall Abutment: | 1060 |
| Approximate Mile Marker | | | | Max Slope of Ground in front of wall: | flat |
| 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) | 40° 44' 04.86" N 111° 51' 19.59" W | | Please draw rough layout of panel with approximate dimensions in space provided below: | | |
| If known, Panel or System Manufacturer | <div style="display: flex; justify-content: space-around; align-items: center;">  </div> | | | | |

Summary of Key Observations:

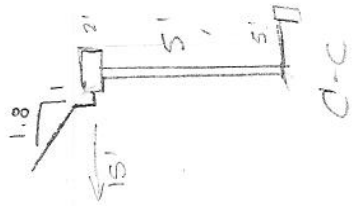
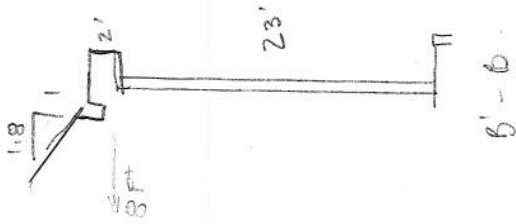
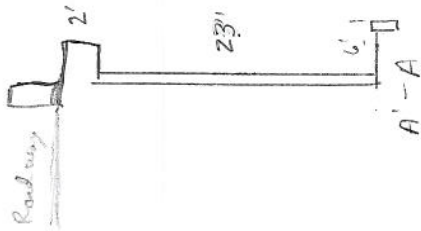
- small amount of backfill coming out of wall
- top of wall inaccessible

Plan View/Drainage:



Cross Sections:

All Plumb



Cross Sections:

BASE WALL DRAINAGE

| Required Field: | | Long Level-String-Camera-Crack | Drainage | Measurement/Extent of Problem/Location/Photo Numbers |
|-----------------|-----|--------------------------------|--|--|
| Yes | N/A | UN | 1-Is there any active water seepage near the base of the wall (i.e. the wall near a body of water with seepage)? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 2-If applicable, are the cracks herein at the base of the wall blocked? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 3-Do there exist culverts penetrating through the wall? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 4-Do there exist vertical drains that travel through the backfill? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 5-1a: Are there cracks at the base of the wall or leveling pad? (Photo 12) | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 5-1b: Are there cracks along the wing wall? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 6-1a: 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 | UN | 6-1b: 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 | UN | 7-Does the backfill or joint fabric appear to be saturated? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 8-1a: Is there vegetation growing in panel joints? (Photo 8) | Blocked / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 8-1b: Are the deck drains and outlets at the top of the wall blocked? (Photo 14) | Clear / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 9-1a: Does water enter the wall between coping and deck (i.e., drains appropriately)? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 9-1b: Are there evidence of discharge point of fill washing through drain pipe? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |

no irrigation

BASE WALL JOINTS

| Required Field: | | Long Level-String-Camera-Crack | Joints | Measurement/Extent of Problem/Location/Photo Numbers |
|-----------------|-----|--------------------------------|---|--|
| Yes | N/A | UN | 1-Is the backfill consisting of joints or are there joints of backfill at the base of the wall? (Photos 2 & 3) | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 2-1a: Are the joints wide enough to see fabric or backfill behind panels when looking into joint? (Photo 5) If so, record the approximate number of panels in the wall with cracking. | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 2-1b: Are the joints wide enough to see fabric or backfill behind panels when looking into joint? (Photo 5) If so, record the approximate number of panels in the wall with cracking. | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 3-1a: Are there visible signs of fabric? Is there evidence of backfill or water backing through joint? (Do not include additional damage to fabric) | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 3-1b: Do the joints have a non-uniform horizontal spacing size? Are some horizontal joints larger than others? (Photo 6) | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 4-1a: Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger than others? (Photo 4) | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 4-1b: Do the joints have a non-uniform vertical spacing size? Are some vertical joints larger than others? (Photo 4) | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 5-1a: 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% / |
| Y | N | UN | 5-1b: 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% / |

one joint Pic #1

BASE WALL FACING

| Required Field: | | Long Level-String-Camera-Crack | Wall Facing | Measurement/Extent of Problem/Location/Photo Numbers |
|-----------------|-----|--------------------------------|---|--|
| Yes | N/A | UN | 1-1a: Are the panels "Tilt-Ly"? Is there excessive cracking in the panels? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 1-1b: Are the panels "Tilt-Ly"? Is there excessive cracking in the panels? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 2-1a: 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 | UN | 2-1b: 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% / |
| Y | N | UN | 3-1a: Are the panels corner "popped-off" or clipped from contact with an adjacent panel? If yes, record the approximate number in the wall. | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 3-1b: Are the panels corner "popped-off" or clipped from contact with an adjacent panel? If yes, record the approximate number in the wall. | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 4-Does the overlying coping exhibit vertical offset? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 5-1a: Are the coping and parapets loose or detaching? If yes, it may be appropriate to contact UDOT if detachment seems imminent. | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 5-1b: Are the coping and parapets loose or detaching? If yes, it may be appropriate to contact UDOT if detachment seems imminent. | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 6-1a: 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 | UN | 6-1b: 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 | UN | 7-1a: Are there signs of maximum deformation from accessible vertical level and offset area? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 7-1b: Are there signs of maximum deformation from accessible vertical level and offset area? | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |

BASE TOP OF WALL OBSERVATIONS

| Required Field: | | Long Level-String-Camera-Crack | Top Of Wall | Measurement/Extent of Problem/Location/Photo Numbers |
|-----------------|-----|--------------------------------|--|--|
| Yes | N/A | UN | 1-1a: Is there evidence of settlement at the top of the wall? (government cracking, etc) | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 1-1b: Is there evidence of settlement at the top of the wall? (government cracking, etc) | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 2-1a: Are there any open cracks in the concrete coping (not hairline)? If yes, record the approximate maximum width. | / 0-No 1% 5% 10% 25% 50% 75% 90% 95% 100% / |
| Y | N | UN | 2-1b: Are there any open cracks in the concrete coping (not hairline)? If yes, record the approximate maximum width. | / 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) When this occurs a bumping sensation is often experienced. Record the approximate maximum gap size. | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | NA | UKN | 17-Is there a significant joint between the wall coping and the abutment coping or significantly? If so record maximum distance. | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | NA | UKN | 18-Is the coping wall pulling away from pavement ready or wicking? Please record maximum displacement for wall. | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |

MISS STABILITY

| | | | | | | | | | | | | | | | | | |
|---|---|-----|-----|--|----------|---|------|----|----|-----|-----|-----|-----|-----|-----|------|---|
| Measurement/Extent of Problem/Location/Photo Numbers | | | | | | | | | | | | | | | | | |
| Y | N | N/A | UKN | 19-What is the location depth of leveling pad? Found Once Probe into wall located 2 inches from wall to a minimum depth of 24 inches (24 inches is the minimum depth for MSE Wall) | 13" | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 20-Is leveling pad exposed? | | / | 0-No | 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 page. | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 22-Is there a four foot bench (level slope) directly along the wall before the slope changes (Record Width)? | all flat | / | 0-No | 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 bench/fill above top of wall. | | / | 0-No | 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-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 25-Is there excessive degradation of panel face? | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |

MISS METAL CORROSION

| | | | | | | | | | | | | | | | | | |
|---|---|-----|-----|---|--|---|------|----|----|-----|-----|-----|-----|-----|-----|------|---|
| Measurement/Extent of Problem/Location/Photo Numbers | | | | | | | | | | | | | | | | | |
| Y | N | N/A | UKN | 26-Is there excessive corrosion on guardrails or other exposed metal that might indicate concrete condition? | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | 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 | 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-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 29-Was a reactivity sample taken of exposed wall? If so, please indicate depth in inches. | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 30-Is there any indication of other conditions (swelling, bars, void, exposed metal inside epoxy coating)? If so please record the total number of panels affected. | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |

MISS IMPACT/COLLISION PROTECTION

| | | | | | | | | | | | | | | | | | |
|---|---|-----|-----|---|--|---|------|----|----|-----|-----|-----|-----|-----|-----|------|---|
| Measurement/Extent of Problem/Location/Photo Numbers | | | | | | | | | | | | | | | | | |
| Y | N | N/A | UKN | 31-Are guardrails wall protection in place at the base of the wall (to protect it from potential traffic hazard)? | | / | 0-No | 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-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 33-Does it appear the wall functionality and integrity has been compromised by a collision or accident? | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |

MISS OBSTRUCTIONS IN REINFORCEMENT GEOMETRY

| | | | | | | | | | | | | | | | | | |
|---|---|-----|-----|---|--|---|------|----|----|-----|-----|-----|-----|-----|-----|------|---|
| Measurement/Extent of Problem/Location/Photo Numbers | | | | | | | | | | | | | | | | | |
| Y | N | N/A | UKN | 34-Are there rebar obstructions in Reinforcement Geometry | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |

MISS AS BUILT DIFFERENT FROM DESIGN

| | | | | | | | | | | | | | | | | | |
|---|---|-----|-----|--|--------|---|------|----|----|-----|-----|-----|-----|-----|-----|------|---|
| Measurement/Extent of Problem/Location/Photo Numbers | | | | | | | | | | | | | | | | | |
| Y | N | N/A | UKN | 35-Are there available drawings for the wall? Please indicate type (Foundation and Layout, Design, As Built, etc.) | Layout | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 36-Is the layout in general accordance with drawings? | | / | 0-No | 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-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 38-Was GFD foam used in the construction of the wall? | | / | 0-No | 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 drawings? | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 40-Are there any irrigation, utilities, or foundations that are not part of the initial drawing? | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 41-Have there been any excavations or evidence of excavation near the wall? | | / | 0-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |
| Y | N | N/A | UKN | 42-Have there been property owners changed the dimensions of the wall (additional structures, irrigation, vegetation, etc.)? | | / | 0-No | 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-No | 1% | 5% | 10% | 25% | 50% | 75% | 90% | 95% | 100% | / |