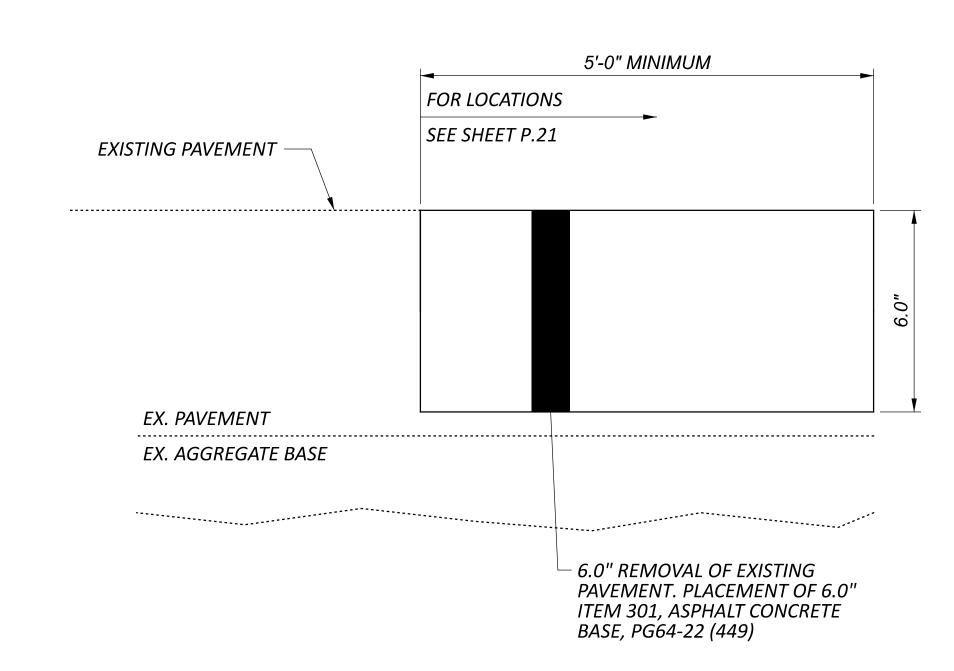


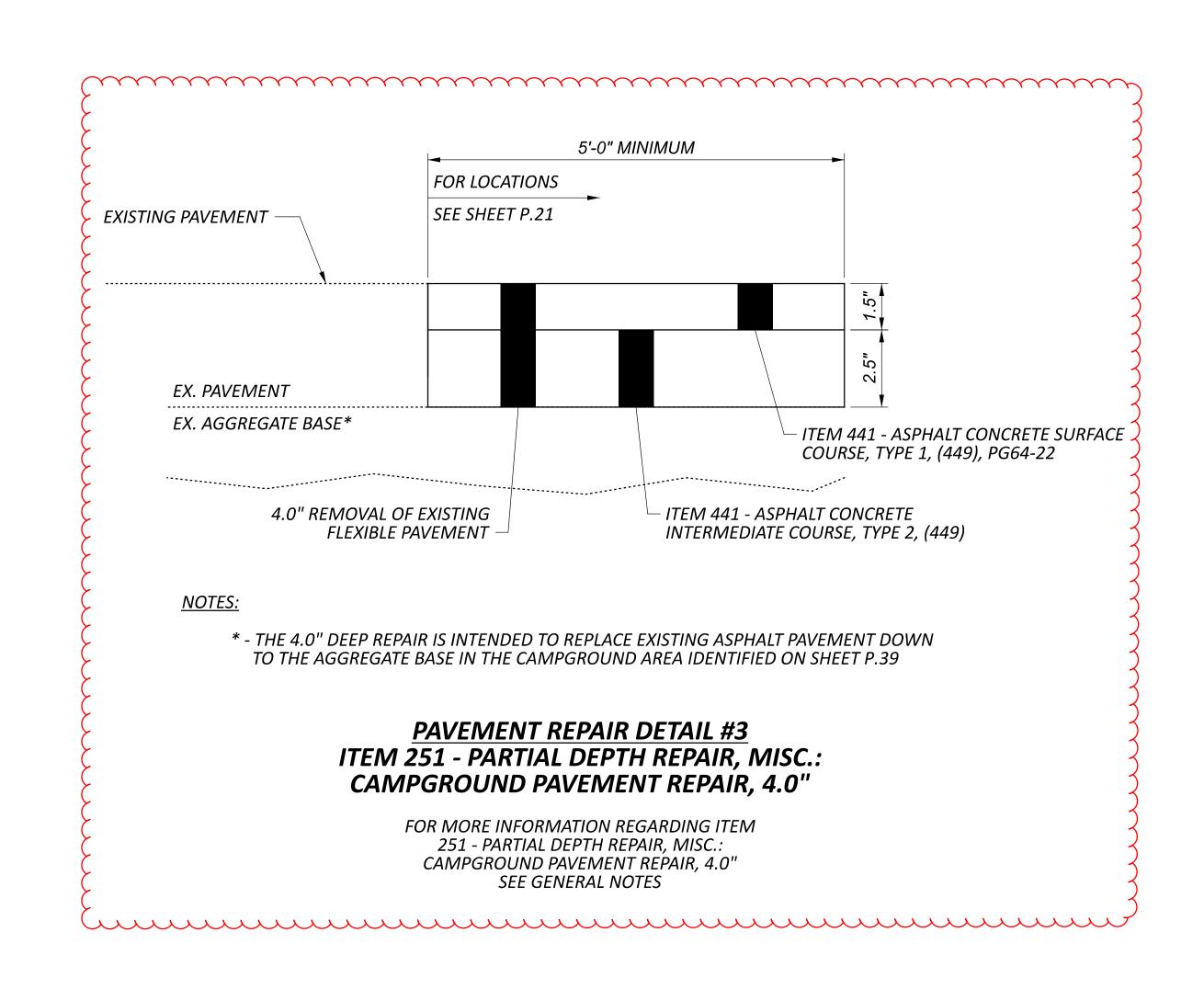
# PAVEMENT REPAIR DETAIL #1 ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE), AS PER PLAN, 3.0"

FOR MORE INFORMATION REGARDING ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE), AS PER PLAN, 3.0" SEE GENERAL NOTES



# PAVEMENT REPAIR DETAIL #2 ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE), AS PER PLAN, 6.0"

FOR MORE INFORMATION REGARDING ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE), AS PER PLAN, 6.0" SEE GENERAL NOTES



ESIGN AGENCY

TYPICAL DETAILS
PAVEMENT REPAIRS



ESIGNER JDM REVIEWER KLM 07/30/25 ROJECT ID 114837

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### ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE MASH 2016 TYPE B FLARED END TREATMENTS FOR TYPE MGS GUARDRAIL AS LISTED UNDER "PRODUCTS ACCEPTED FOR NEW INSTALLATIONS" ON THE ROADWAY APPROVED PRODUCTS LIST POSTED ON ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE ATTHE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER. THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH SOLID FLUORESCENT YELLOW REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606. ANCHOR ASSEMBLY, MGS TYPE B. EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

### ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E:

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE MASH 2016 TYPE E TANGENETIAL END TREATMENTS FOR TYPE MGS GUARDRAIL AS LISTED UNDER "PRODUCTS ACCEPTED FOR NEW INSTALLATIONS" ON THE ROADWAY APPROVED PRODUCTS LIST POSTED ON ROADWAY ENGINEERING'S WEB PAGE. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH SOLID FLUORESCENT YELLOW REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

WHEN THE FACE OF THE ADJACENT (ATTACHED) GUARDRAIL IS LESS THAN 4' OFFSET FROM THE PROPOSED EDGE LINE, AND PERMITTING SITE CONDITIONS EXIST: THE PROPOSED TYPE E ANCHOR ASSEMBLY SHALL BE INSTALLED AT A CONSISTENT FLARE RATE THROUGH THE FULL LENGTH OF THE SYSTEM. THE FLARE RATE SHALL BE A MAXIMUM OF 25:1 (RESULTING IN A 2' OFFSET). THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE SHOP DRAWINGS, PRODUCT INSTALLATION MANUAL/GUIDANCE, AND AS DIRECTED BY THE ENGINEER.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN: BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN SHALL BE CONSTRUCTED AS PER THE GUARDRAIL DETAILS ON SHEET P.9. PAYMENT FOR THIS ITEM SHALL BE MADE AT THE UNIT PRICE BID OF EACH AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, AND ALL TYPE 5 GUARDRAIL COMPONENTS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL BRIDGE TERMINAL ASSEMBLY, TYPE 4.

### ITEM 606 - GUARDRAIL, MISC.: ALTERNATIVE GUARDRAIL PLACEMENT:

THIS ITEM SHALL BE USED WHEN THE CONTRACTOR IS REQUIRED TO USE AN ALTERNATE METHOD TO SET POSTS TO PREVENT DAMAGE TO AN UNDERGROUND OBSTACLE, SUCH AS A UTILITY. THE USE OF THIS ITEM WILL BE AS DEEMED NECESSARY BY THE ENGINEER. THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NEEDED TO SET AND BACKFILL POSTS WHILE MEETING THE REQUIREMENTS OF THE APPLICABLE GUARDRAIL ITEM BEING PERFORMED. APPLICABLE GUARDRAIL ITEMS INCLUDE BUT ARE NOT LIMITED TO SETTING POSTS (AND SLEEVES) FOR TYPE 5, TYPE MGS, BARRIER DESIGN, ANCHOR ASSEMBLIES, AND BRIDGE TERMINAL ASSEMBLIES. PAYMENT SHALL BE AT THE UNIT BID PRICE OF EACH AND SHALL BE PAID FOR IN ADDITION TO THE APPLICABLE GUARDRAIL PLACEMENT ITEM LISTED ABOVE.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 606 - GUARDRAIL, MISC.: ALTERNATIVE GUARDRAIL PLACEMENT = 50 FT

### ITEM 606 - CURVED RAIL ELEMENTS:

ALL RADII OF CURVED RAIL ARE ESTIMATED AND ACTUAL RADII OF PROPOSED RAIL SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING. LENGTH OF CURVED RAIL ELEMENTS, WHERE CALLED FOR IN A RUN, SHALL BE INCLUDED IN THE TOTAL LENGTH OF RUN SHOWN IN THE GUARDRAIL COLUMN AND THE CURVED RAIL ELEMENT TOTAL ARE INCLUDED WITH THE GUARDRAIL TOTALS ON THE GENERAL SUMMARY SHEET. LOCATIONS OF ANY CURVED RAIL ARE IDENTIFIED IN THE PLAN SHEETS.

# GUARDRAIL REPLACEMENT:

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

### ITEM 623 - MONUMENT ASSEMBLY ADJUSTED TO GRADE:

THIS ITEM OF WORK WILL PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO ADJUST TO GRADE EXISTING MONUMENT BOXES TO 1/4 INCH BELOW THE PROPOSED ASPHALT ELEVATION. THERE ARE MONUMENTS AT THE FOLLOWING LOCATIONS:

- WARNER HUFFER RD (SLM 3.388)
- STOUT RD (SLM 4.314)
- BELL STATION RD (SLM 4.966)

THE FOLLOWING QUANTITY HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY:

= 3 EACH ITEM 623 - MONUMENT ASSEMBLY ADJUSTED TO GRADE

### ITEM 601 - TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT, AS PER PLAN:

THE CONTRACTOR SHALL INSTALL TIED CONCRETE BLOCK MATS WITH TYPE 1 UNDERLAYMENT CONFORMING TO CMS 601.12 AT THE LOCATIONS SHOWN ON SHEET P.26. THE CONTRACTOR SHALL INSTALL SUITABLE MATERIAL CONFORMING TO CMS 203.02.R AS DIRECTED BY THE ENGINEER TO REBUILD THE EXISTING SLOPES IN THE AREAS WHERE TIED CONCRETE BLOCK MATS ARE BEING INSTALLED.

# ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE), AS PER PLAN, 3.0":

ALL REPAIR AREAS DETAILED IN THE PLAN SHALL BE VERIFIED BY THE PROJECT ENGINEER BEFORE THE BEGINNING OF WORK. THE REPAIR AREAS SHALL CONSIST OF REMOVING 3 INCHES OF PAVEMENT AND PLACING 3 INCHES OF ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, (449). FOR MORE INFORMATION SEE DETAIL ON SHEET P.6. WORK SHALL BE PERFORMED PRIOR TO PLANING. NO MORE PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE) SHALL BE STARTED AND PERFORMED THAN CAN BE COMPLETED IN THE SAME WORKING DAY.

### ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE), AS PER PLAN, 6.0":

ALL REPAIR AREAS DETAILED IN THE PLAN SHALL BE VERIFIED BY THE PROJECT ENGINEER BEFORE THE BEGINNING OF WORK. THE REPAIR AREAS SHALL CONSIST OF REMOVING 6 INCHES OF PAVEMENT AND PLACING 6 INCHES OF ITEM 301 - ASPHALT CONCRETE BASE, PG64-22, (449). FOR MORE INFORMATION SEE DETAIL ON SHEET P.6. WORK SHALL BE PERFORMED PRIOR TO PLANING. NO MORE PARTIAL DEPTH PAVEMENT REPAIR (ASPHALT CONCRETE BASE) SHALL BE STARTED AND PERFORMED THAN CAN BE COMPLETED IN THE SAME WORKING DAY.

# ITEM 251 - PARTIAL DEPTH REPAIR, MISC.: CAMPGROUND PAVEMENT *REPAIR, 4.0":*

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ALL REPAIR AREAS DETAILED IN THE PLAN SHALL BE VERIFIED BY THE PROJECT ENGINEER BEFORE THE BEGINNING OF WORK. THE REPAIR AREAS SHALL CONSIST OF REMOVING 4 INCHES OF EXISTING FLEXIBLE PAVEMENT, THEN PLACING A 2.5 INCH LAYER OF ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449), FOLLOWED BY A 1.5 INCH LAYER OF ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22. FOR MORE INFORMATION SEE DETAIL ON SHEET P.6 AND PLAN LAYOUT ON SHEET P.39. NO MORE PARTIAL DEPTH REPAIRS SHALL BE STARTED AND PERFORMED THAN CAN BE COMPLETED IN THE SAME WORKING DAY. 

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, 1.5": ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, 1.75", AS PER PLAN: THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO THE CONTRACTORS EQUIPMENT THAT MAY RESULT FROM THE PLANING OPERATION, INCLUDING DAMAGE CAUSED BY CONCRETE PAVEMENT, CASTINGS, AND LOOP DETECTORS. THE DEPTH OF PLANING ADJACENT TO CASTINGS SHALL BE AS DIRECTED TO ACHIEVE A SMOOTH RIDING FINISHED PAVEMENT. GREAT CARE SHALL BE TAKEN TO PREVENT THE REMOVAL OF THE EXISTING PAVEMENT CROSS SLOPE (CROWN) DURING PLANING OPERATIONS.

THE MAJORITY OF THE PLANING ON THIS PROJECT WILL BE AT A CONSTANT DEPTH OF 1.75" WHILE MAINTAINING THE EXISTING CROSS SLOPES. AN ESTIMATE OF 1/4" OF THIS PLANING INCLUDES REMOVING THE EXISTING CHIP SEAL ON TOP OF 1.5" OF EXISTING SURFACE PAVEMENT. PLANING DEPTHS SHALL BE MONITORED BY THE ENGINEER AND MAY NEED TO BE ADJUSTED TO INSURE THE REMOVAL BELOW THE CHIP SEAL REMAINS AT A CONSTANT 1.5" DEPTH.

VARIABLE PLANING MAY BE REQUIRED TO ADDRESS ANY NEEDED ELEVATION TRANSITIONS. VARIABLE PLANING WILL RANGE FROM 1.50" TO 1.75". VARIABLE PLANING SHALL BE CONSIDERED INCIDENTAL TO ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.75".

THE CONTRACTOR SHALL LIMIT THE PLANING OPERATION TO ONE LANE AT A TIME AS TO ENSURE THAT THE PROPOSED SURFACE COURSE IS BUTTING UP TO EITHER PROPOSED OR EXISTING ASPHALT PAVEMENT.

TO MEET ODOT DROPOFF REQUIREMENTS PER SCD MT-101.90, AT NO TIME SHALL TRAFFIC BE EXPOSED TO PLANED PAVEMENT WITHIN THE TRAVELED WAY/LANE(S). PLANING EXPOSED ON SIDE ROADS (NOT INCLUDING STATE ROUTES) MAY BE EXPOSED TO TRAFFIC FOR FIVE (5) CALENDAR DAYS AT WHICH TIME THE OPTIONAL WEDGE TREATMENT SHALL BE UTILIZED AS DESCRIBED IN SCD MT-101.90.

FAILURE TO MEET THIS REQUIREMENT WILL SUBJECT THE CONTRACTOR TO A DISINCENTIVE OF \$900/DAY FOR EACH DAY THE PLANED SURFACE IS NOT RESURFACED.

### ITEM 617 - WATER:

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED AND THE TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 617 - WATER

= 4 MGAL

### ITEM 642 - PAVEMENT MARKING (PAINT):

ITEM 642 - PAVEMENT MARKING, MISC.: CAMPGROUND SITE NUMBERS: ITEM 644 - PAVEMENT MARKING (THERMO):

IT IS THE INTENT OF THE PROPOSED PAVEMENT MARKINGS TO BE THE SAME AS EXISTING. ANY DEVIATION FROM EXISTING WILL BE IDENTIFIED WITHIN THIS PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE, AND SHAPE OF THESE EXISTING PAVEMENT MARKINGS BEFORE THE WORK OBLITERATES THEM. ANY PAVEMENT MARKING WHICH IS PLACED AT THE WRONG LOCATION SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

ESIGN AGENCY

**ENERAL** 



ESIGNER JDM

REVIEWER KLM 07/30/25 ROJECT ID

114837

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# PAVEMENT CALCULATIONS PAVEMENT REPAIRS

DESIGN AGENCY



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PROJECT ID
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