### ESTIMATED ROADWAY QUANTITIES

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT</th>
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<tbody>
<tr>
<td>208-01</td>
<td>SHOULDERS AND CURB</td>
<td>24.0</td>
<td>LIN. FT.</td>
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<tr>
<td>307-01</td>
<td>Aggregate, Type A, Base, Grad D</td>
<td>2972</td>
<td>TON</td>
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<tr>
<td>307-01,11</td>
<td>ASPHALT CEMENT (PG64-22) (BPM-88) GRADING CS</td>
<td>180</td>
<td>TON</td>
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<td>307-01,12</td>
<td>AGGREGATE (BPM-88) GRADING CS</td>
<td>2816</td>
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<td>411-01</td>
<td>ASPHALT CEMENT (PG64-22) (AC) GRADING D</td>
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<td>TON</td>
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<td>411-01,02</td>
<td>Aggregate (AC) GRADING D</td>
<td>9467</td>
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<td>712-01</td>
<td>TRAFFIC CONTROL</td>
<td>1</td>
<td>S.F.</td>
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<td>712-06</td>
<td>SIGNS CONSTRUCTION</td>
<td>764</td>
<td>S.F.</td>
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<td>718-02,02</td>
<td>PLASTIC PAVEMENT MARKING, STOP LINE</td>
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<td>UNI. FT.</td>
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<td>718-02,01</td>
<td>PAINTED PAVEMENT MARKING, 14' LINE</td>
<td>88</td>
<td>LIN. FT.</td>
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<td>307-01</td>
<td>MOISTURIZATION</td>
<td>1</td>
<td>LIN. FT.</td>
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### FOOTNOTES

1. INCLUDES 2 TONS FOR COUNTY ROADS AND 25 TONS FOR WIDE CURVES.
2. INCLUDES 16 TONS FOR PRIVATE DRIVES, 2 TONS FOR COUNTY ROADS, AND 200 TONS FOR WIDE CURVES.
3. QUANTITY INCLUDES THE FOLLOWING SIGNS:
   - ADVANCE ROAD WORK SIGNS (W20-11)
   - ADVANCE ONE LANE SIGNS (W20-41)
   - ADVANCE FLAGMAN SIGNS W/SUPP. PLATE (W20-71)
   - ROAD WORK NEXT 11 MILES (G20-11)
   - ADVISORY SPEED LIMIT SIGNS (W13-11)
   - END ROAD WORK SIGNS (G20-24)
   - SHOULDER DROP-OFF SIGNS (W9-3A)

### TYPICAL CROSS-SECTION OF IMPROVEMENT

LOG MILE 0.00 TO LOG MILE 11.00

### PROPOSED PAVEMENT SCHEDULE

1. BITUMINOUS SURFACE 1 1/2" - TH. (APPROX. 135 LBS/50 YD)
   411-01,01 ASPHALT CEMENT (PG64-22) (AC) GRADING D
   411-01,02 AGGREGATE (AC) GRADING D
2. BITUMINOUS PLANT MIX LEVELING COURSE (APPROX. 40 LBS/50 YD)
   307-01,11 ASPHALT CEMENT (PG64-22) (BPM-88) GRADING CS
   307-01,12 AGGREGATE (BPM-88) GRADING CS
3. MINERAL AGGREGATE BASE, (SHOULDER) 2" THICK
   303-01 MINERAL AGGREGATE, TYPE A, BASE, GRADING D
4. TACK COAT @ 0.07 GAL./SQ. YD.
   403-01 BITUMINOUS MATERIAL FOR TACK COAT (T)

ESTIMATED QUANTITIES, TYPICAL & PAVEMENT SCHEDULE
GENERAL NOTES

UTILITIES

UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO CO-OPE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT.

THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITY ENS FROM DAMAGE DURING CONSTRUCTION OF THE WORK. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT IS INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL SOLELY BE RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFEKTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WORK THAT MAY BE RECOMMENDED TO REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADDITIONAL CLEGING MIGHT BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS ALLOWED FOR IN THE SPECIFICATIONS AND CLARIFICATION IS NEEDED FOR A UTILITY RELocation. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.

THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF WORK AHEAD OF THE UTILITIES PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION WILL BE GIVEN AT LEAST TEN (10) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.

SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-888-355-1111.

UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO CO-OPE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED FOR THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES AND GRADES IS A CONTRACT ITEM, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SURVEY STAKES, LINES OR GRADES WHERE ESSENTIAL TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK, AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.

POWER LINES OWNED BY FORT LOUDOUN ELECTRIC CO-OP.

TELEPHONE LINES OWNED BY BELL SOUTH.

PAVEMENT MARKINGS

TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS BEFORE DARK HOURS. SHORT, UNMARKED SECTIONS SHALL NOT BE PERMISSIBLE. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 116-05-01 PAINTED PAVEMENT MARKING (4" LINE), LIN. MI.

PERMANENT PAVEMENT LINE MARKINGS SHALL BE REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 116-05-01 PAINTED PAVEMENT MARKING (4" LINE), LIN. MI.

CONSTRUCTION WORK ZONE AND TRAFFIC CONTROL NOTES

ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED. IF THE SIGN FACE IS FULLY COVERED.

IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 116-05-06 SIGNS (CONSTRUCTION) PER SQUARE FOOT.

A LONG-TERM USE WARNING SIGN, SUCH AS A FLAGGER SING, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.

TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.

USE OF BARRIERS, PERMANENT BARRIER RAILS, VERTICAL PANELS, AND OTHER DEVICES SHALL BE LIMITED TO THE IMMEDIATE AREA OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRaveledWAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

THE CONTRACTOR SHALL NOT PERMIT ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC. UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. PRIVately OWNED VEHICLES SHALL NOT BE ALLOWED TO BE PARKED WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.

ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
PAVEMENT

WHERE DIRECTED BY THE TOWN ENGINEER, THE CONTRACTOR SHALL BE
RECOMMENDED TO SHAPE PUBLIC SIDE ROADS, BUSINESS ENTRANCES, AND
PRIVATE DRIVEWAYS, AS WELL AS CLEANING OF EXISTING DRAINAGE BEFORE
PLACING MATERIALS. ALL COSTS ARE TO BE INCLUDED IN THE PRICE
BID FOR OTHER ITEMS OF CONSTRUCTION.

ALL PUBLIC SIDE ROADS SHALL BE PAVED ONE PAYER WIDTH THROUGH
THE INTERSECTION AS A MINIMUM. A SATISFACTORY TRANSITION FROM
THE NEW PAVEMENT TO THE EXISTING GRADE AT THE INTERSECTING
PUBLIC ROAD OR BUSINESS ENTRANCE SHALL BE PROVIDED. SHOULD THE
PAVEMENT OF THE INTERSECTING PUBLIC ROAD BE DISTURBED, THE
RESURFACING WIDTH MAY BE INCREASED UP TO THE NORMAL RIGHT-OF-WAY LINE.

PRIVATE DRIVEWAYS, FIELD ENTRANCES AND BUSINESS ENTRANCE WILL
BE RESURFACED A PAYER WIDTH (CLOSE WIDTH) AS A MINIMUM. A PAYER
TAPER TO TRANSITION THE NEW PAVEMENT SHALL BE REQUIRED. IT SHALL
BE BASED ON AN ADDITIONAL ONE FOOT OF WIDTH PER ONE INCH DEPTH OF
TRANSITION SHALL OCCUR WITHIN THE PAYER WIDTH. IF THE SUM OF THE
SHOULDER AND THE TRANSITION IS GREATER THAN A PAYER WIDTH (CLOSE
WIDTH), THE TRANSITION SHALL OCCUR OUTSIDE OF THE PAYER WIDTH.

WIDTH OF THE RESURFACING AND ANY ADDITIONAL PAVEMENT
MATERIALS SHALL BE DIRECTED BY THE TOWN ENGINEER.

PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES

DIFFERENCE IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES OR TRAFFIC
LANE AND SHOULDER WHERE THE TRAFFIC LANE IS BEING USED BY TRAFFIC,
CAUSED BY BASE, PAVING OR RESURFACING:

DIFFERENCE IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER
THAN 0.75 INCH AND NOT EXCEEDING 6 INCHES:

A. WARNING SIGNS - UNLEVEL PAVEMENT (W-11) AND/OR SHOULDER DROP-OFF
(W-9A), SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED
AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2000 FEET WITH A
MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNLEVEL PAVING IS
ENCRYSTED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

B. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING
UTILIZED BY TRAFFIC CAUSED BY ADDED PAVEMENT SHALL BE ELIMINATED
WITHIN THREE WORKDAYS.

C. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING
UTILIZED BY TRAFFIC CAUSED BY COLD PLANNING SHALL BE ELIMINATED
WITHIN THREE WORKDAYS.

D. WHEN THE DIFFERENCE IN ELEVATION IS BETWEEN THE TRAFFIC LANE
BEING UTILIZED BY TRAFFIC AND SHOULDER THE DIFFERENCE IN
ELEVATION SHALL BE ELIMINATED WITHIN 7 WORKDAYS AFTER THE
CONDITION IS CREATED.

DIFFERENCE IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER
THAN 2 INCHES AND NOT EXCEEDING 6 INCHES. TRAFFIC IS NOT TO BE ALLOWED
TO TRAVEL THIS DIFFERENCE IN ELEVATION.

A. SEPARATION SHALL BE ACCOMPLISHED BY DRUMS, BARRIACADES OR
OTHER APPROVED DEVICES IN ACCORDANCE WITH THE FOLLOWING:

1. WHERE POSTED SPEEDS ARE 50 MPH OR GREATER, SPACING
OF THE PROTECTIVE DEVICES SHALL NOT EXCEED 100 FEET.

2. WHERE POSTED SPEEDS ARE LESS THAN 50 MPH THE MAXIMUM
SPACING OF THE PROTECTIVE DEVICES IN FEET SHALL NOT
EXCEED TWICE THE POSTED SPEED IN MILES PER HOUR
OR 50 FEET, WHICHEVER SPACING IS GREATER.

B. IF THE DIFFERENCE IN ELEVATION IS ELIMINATED OR DECREASED TO
2 INCHES OR LESS BY THE END OF EACH DAY'S WORK, ZONES MAY BE
MARKED BY DAYLIGHT HOURS IN LINES OF DRUMS, BARRIACADES OR
OTHER APPROVED PROTECTIVE DEVICES MENTIONED IN PARAGRAPH A,
PROVIDED WARNING SIGNS ARE ERECTED, WARNING SIGNS UNLEVEL
PAVEMENT AND/OR LOW SHOULDER WILL BE PLACED IN ADVANCE OF
AND THROUGHOUT THE EXPOSED AREA, maximum spacing between
SIGNS SHALL BE 2000 FEET WITH A MINIMUM OF 2 SIGNS PER
EXPOSED AREA, WHERE UNLEVEL PAVEMENT IS ENCOUNTERED, SIGNS
SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

C. WHEN THE DIFFERENCE IN ELEVATION IS BETWEEN THE TRAFFIC
LANE AND THE SHOULDER AND THE ELEVATION DIFFERENCE IS LESS
THAN 3 INCHES, THE CONTRACTOR MAY USE WARNING SIGNS AND/OR
PROTECTIVE DEVICES AS APPLICABLE AND APPROVED BY THE ENGINEER.
SEE PARAGRAPH A REGARDING USE OF DRUMS, BARRIACADES OR OTHER
APPROVED PROTECTIVE DEVICES. WARNING SIGNS (LEVEL PAVEMENT
AND/OR LOW SHOULDER) WILL BE PLACED IN ADVANCE OF
AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN
SIGNS SHALL BE 2000 FEET WITH A MINIMUM OF 2 SIGNS PER
EXPOSED AREA, WHERE UNLEVEL PAVEMENT IS ENCOUNTERED, SIGNS
SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.

IN THESE SITUATIONS THE CONTRACTOR SHALL LIMIT HIS OPERATIONS TO
ONE WORK ZONE NOT EXCEEDING TWO MILES IN LENGTH UNLESS
OTHERWISE NOTED IN THE PLANS OR APPROVED BY THE ENGINEER. ONCE
THE CONTRACTOR BEGINS WORK IN A WORK ZONE A CONTINUOUS OPERATION
SHALL BE MAINTAINED UNTIL THE DIFFERENCE IN ELEVATION IS ELIMINATED.
SIMULTANEOUS WORK ON SEPARATE ROADWAYS OF DIVIDED HIGHWAYS WILL BE
CONSIDERED INDEPENDENTLY IN REGARD TO RESTRICTION OF WORK ZONE
ACTIVITY.

MISCELLANEOUS

NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE
THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY
AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG
THE PROPOSED CONSTRUCTION AREA.

GENERAL NOTES
SPECIAL NOTES

ALL SURPLUS PATCHING AND JOINT MATERIAL IS TO BE REMOVED BEFORE PLACING SURFACE.

SURFACE TO BE CROWNED AS DIRECTED BY THE T.O.O.T. SUPERVISOR.

STATE FORCES WILL REMOVE ALL RAISED PAVEMENT MARKERS, IF ANY, BEFORE RESURFACING IS BEGUN.

DITCHES WILL BE CLEANED BY THE CONTRACTOR. ALSO, SHOULDERS WILL BE CLIPPED AND SMOOTHED (FOR ADDITIONAL AGGREGATE) BY THE CONTRACTOR AND PAYMENT WILL BE MADE UNDER ITEM 206-01. MINERAL AGGREGATE (FOR SHOULDERS) WILL BE ADDED BY THE CONTRACTOR AND PAYMENT WILL BE MADE UNDER ITEM 303-01. THE MINERAL AGGREGATE WILL BE PLACED TO EXISTING SHOULDER WIDTH, OR AS DIRECTED BY THE T.O.O.T. SUPERVISOR.

THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND RESET MAIL BOXES AND POSTS WHERE NECESSARY. COST TO BE INCLUDED IN PRICES BID FOR OTHER ITEMS OF CONSTRUCTION.

ALL GUARDRAILS, GUARDRAIL POSTS, AND SIGNS WHICH INTERFERE WITH CONSTRUCTION WILL BE REMOVED AND STORED BY THE STATE FORCES.

ALL PAVEMENT MARKING WILL BE APPLIED AS SHOWN IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CONTRACTOR WILL BE REQUIRED TO ESTABLISH AND LOCATE ALL NO PASSING ZONES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS WELL AS PROVIDE THE LAYOUT OF ALL PAVEMENT MARKING REQUIRED ON THE PROJECT. THE METHOD OF DETERMINING THE NO PASSING ZONES TO BE APPROVED BY THE T.O.O.T. SUPERVISOR WITH ADVICE FROM THE REGIONAL TRAFFIC ENGINEER BEFORE PAYING OPERATIONS BEGIN.

STANDARD ROADWAY DRAWINGS

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<td>12-18-99</td>
<td>STANDARD ABBREVIATIONS</td>
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<td>RD-L-1</td>
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<td>STANDARD LEGEND</td>
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<td>T-M-1</td>
<td>07-29-98</td>
<td>DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS</td>
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<td>T-M-4</td>
<td>05-27-01</td>
<td>INTERSECTION PAVEMENT MARKINGS</td>
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