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|-----------------------|-----------|--------------|
| PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
| I-4709 | 1 | 13 |

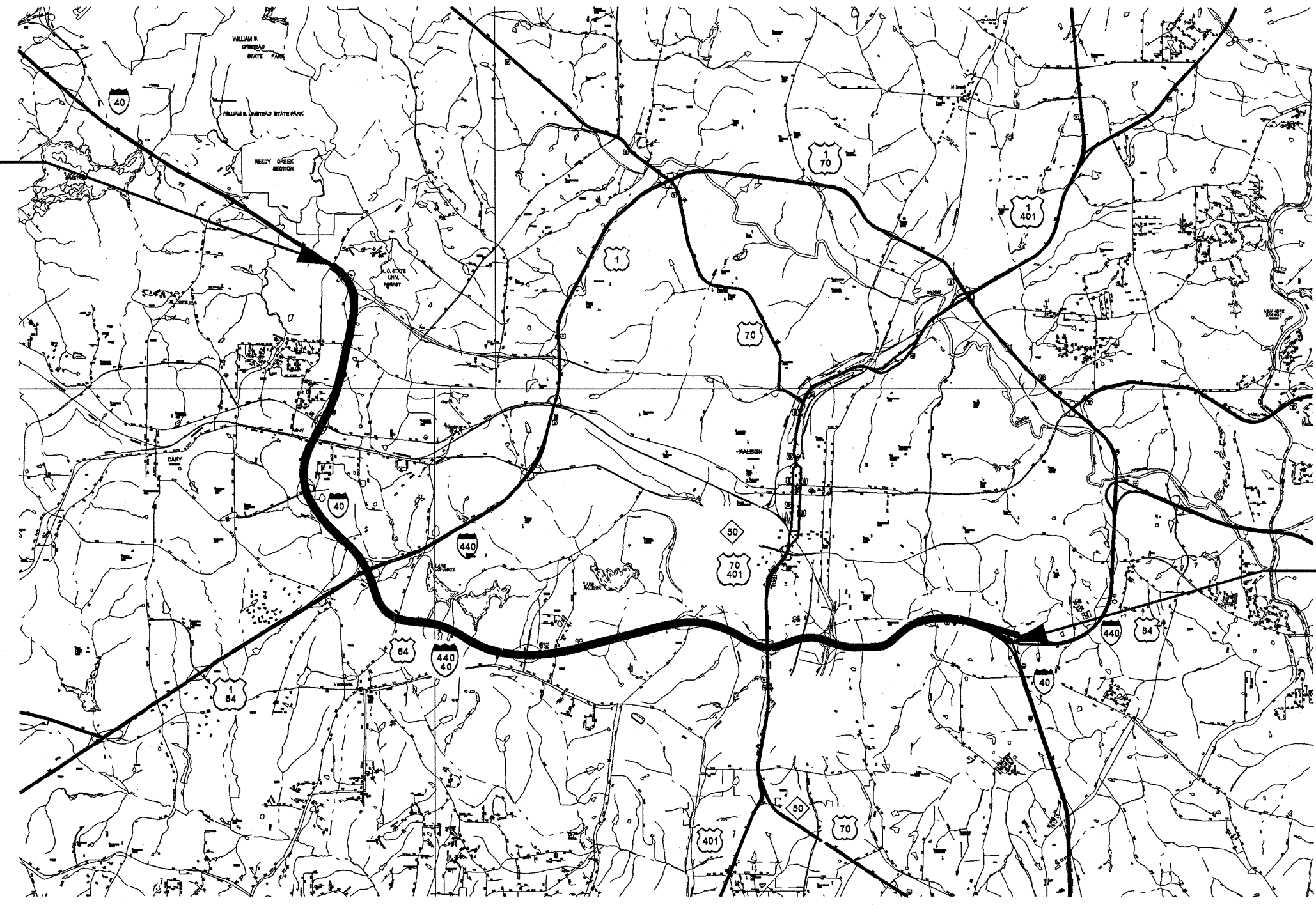
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WAKE COUNTY

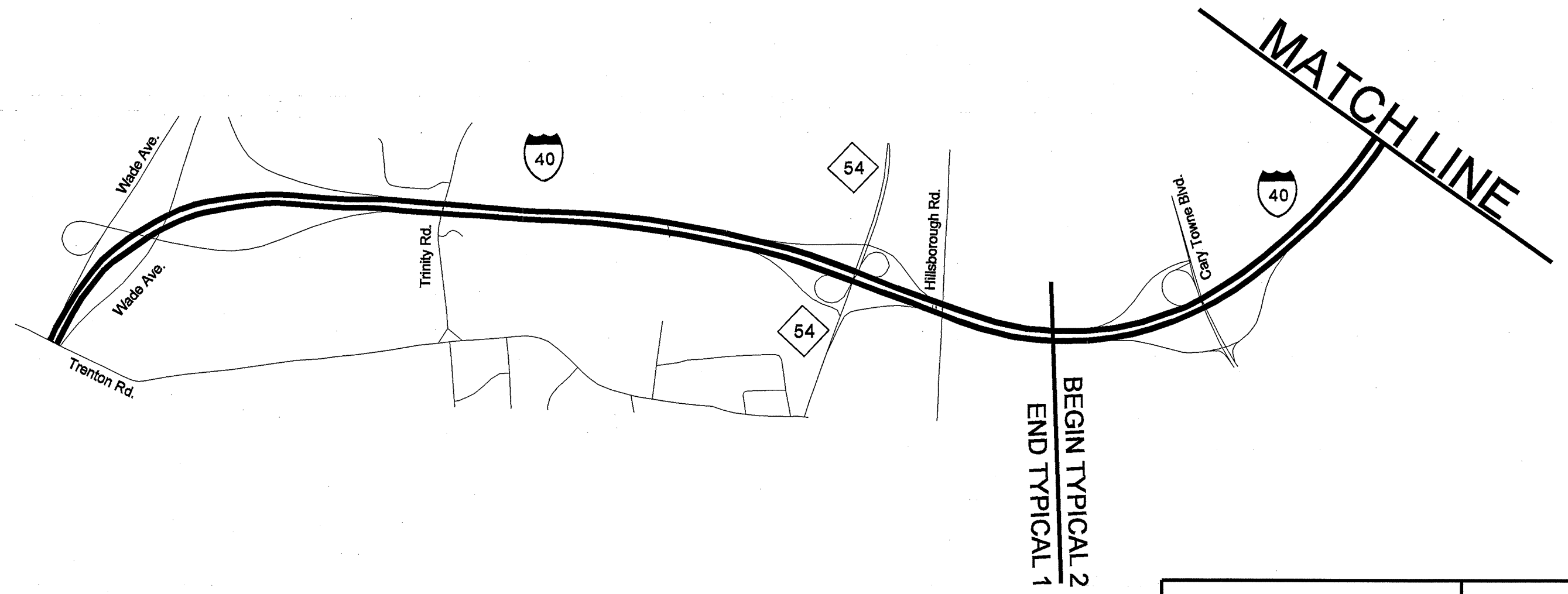
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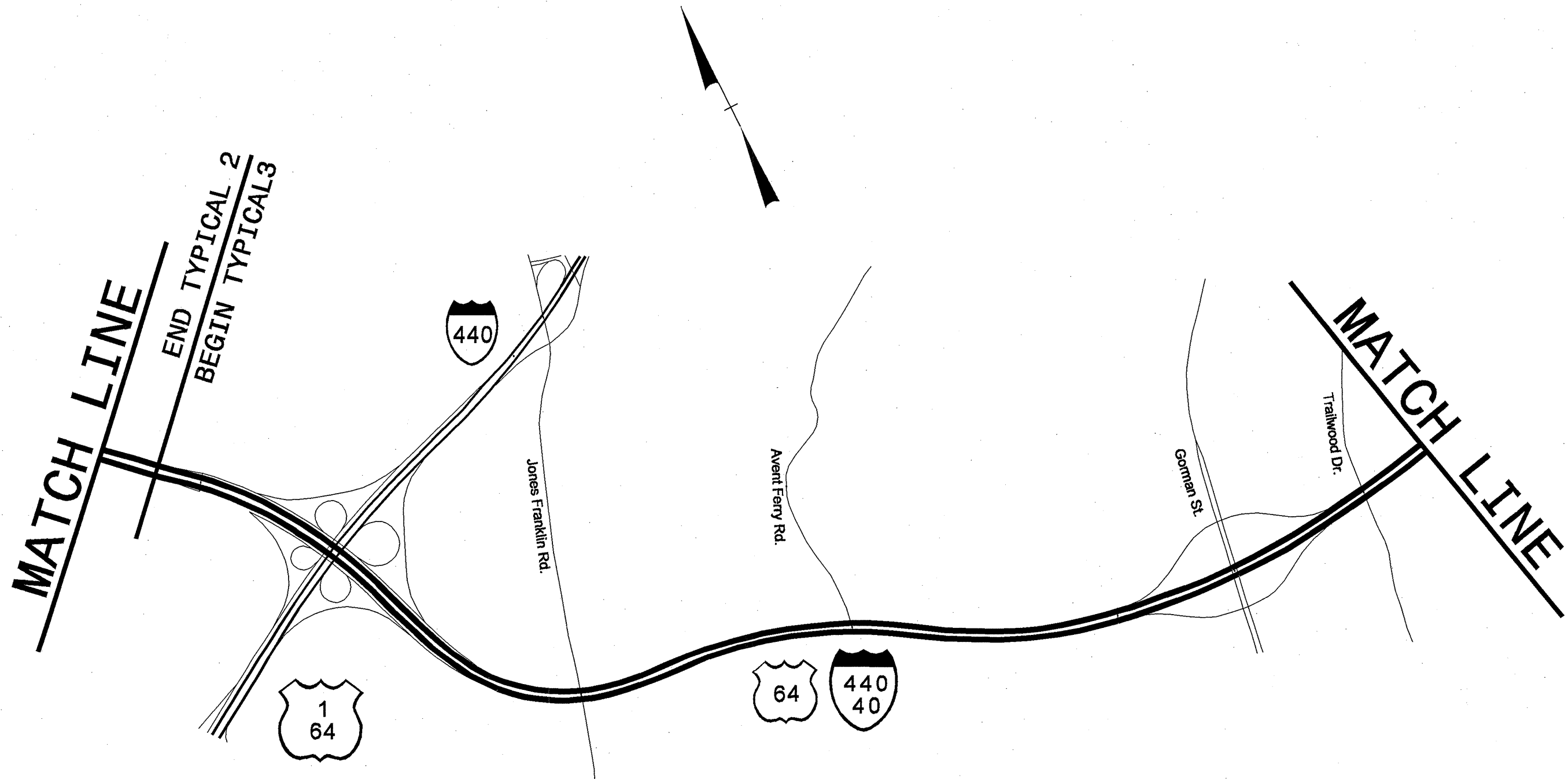
**BEGIN
PROJECT**



**END
PROJECT**



| | | |
|---|-------|---|
| I-40 FROM WADE AVE. (MP 289) TO MP 302 | | |
| DIVISION 05 WAKE COUNTY | | |
| REVISIONS | INIT. | DATE |
| | | |
| | | |
| N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT | | SCALE: N/A DATE: 4/2007 PREPARED BY: M. BRANDON REVIEWED BY: B. UPSHAW REVIEWED BY: |



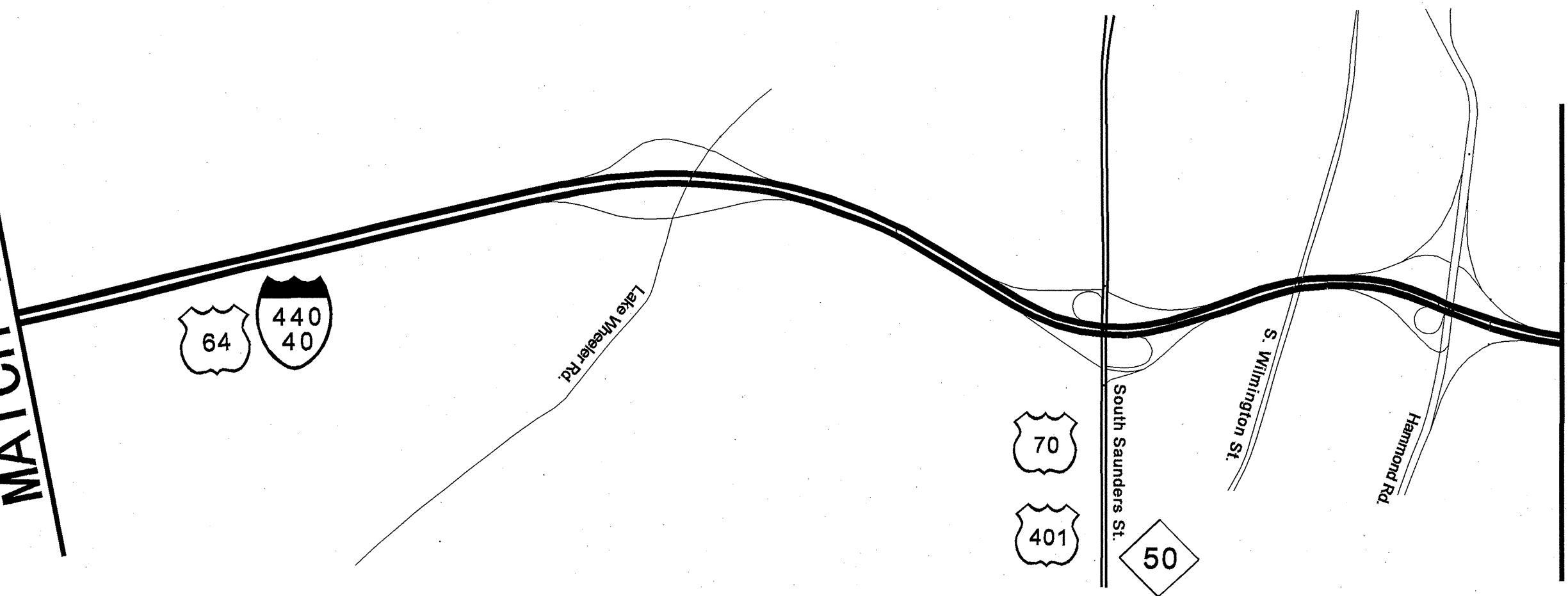
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|---|-------|------------------------|
| I-40 FROM WADE AVE. (MP 289) TO MP 302 | | |
| DIVISION 05 | | WAKE COUNTY |
| REVISIONS | INIT. | DATE |
| | | |
| | | |
| N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT | | |
| SCALE: N/A | | DATE: 4/2007 |
| PREPARED BY: M. BRANDON | | REVIEWED BY: B. UPSHAW |
| REVIEWED BY: | | REVIEWED BY: |





MATCH LINE

MATCH LINE



I-40 FROM WADE AVE. (MP 289) TO MP 302

DIVISION 05 WAKE COUNTY

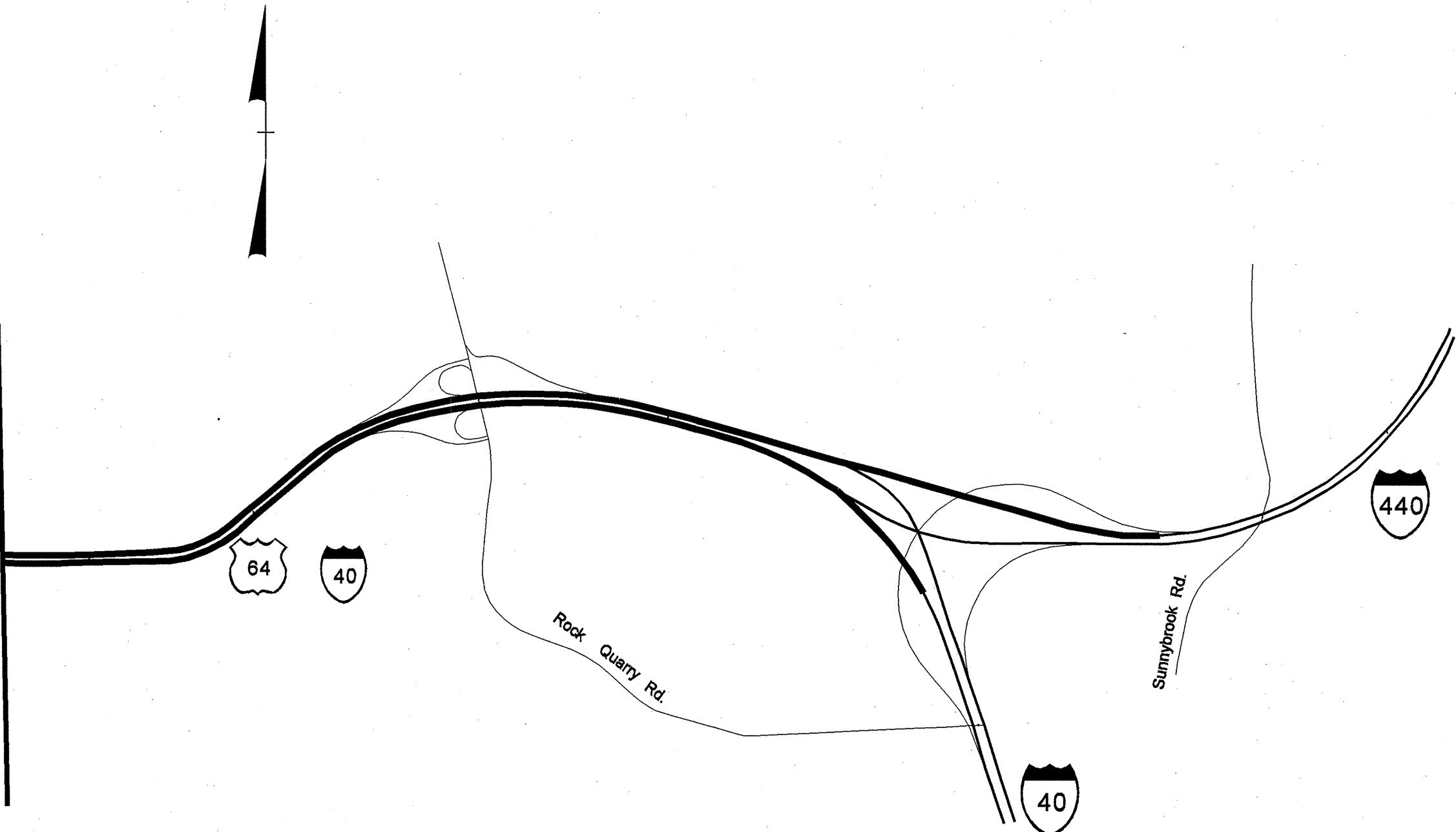
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N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
DIVISION FIVE DESIGN UNIT



| | | | |
|--------------|------------|--------------|-----------|
| SCALE: | N/A | DATE: | 4/2007 |
| PREPARED BY: | M. BRANDON | REVIEWED BY: | B. UPSHAW |
| REVIEWED BY: | | REVIEWED BY: | |

MATCH LINE



| | | |
|---|-------------|---|
| I-40 FROM WADE AVE. (MP 289) TO MP 302 | | |
| DIVISION 05 | WAKE COUNTY | |
| REVISIONS | INT. | DATE |
| | | |
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| | | |
| N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT | | SCALE: N/A DATE: 4/2007 PREPARED BY: M. BRANDON REVIEWED BY: B. UPSHAW REVIEWED BY: |

| | | |
|-------------|-----------|-----------|
| PROJECT NO. | SHEET NO. | TOTAL NO. |
| I-4709 | 6 | 13 |

SUMMARY OF QUANTITIES

| PROJECT | COUNTY | TYPICAL SECTION | ROUTE | DESCRIPTION | LENGTH | WIDTH | MOBILIZATION | UNDERCUT EXCAVATION | REMOVAL OF EXIST. CONC. PAVEMENT | FABRIC FOR SOIL STABILIZATION | SELECT MATERIAL, CLASS IV | MILLING ASPHALT PAVEMENT 9.5" DEPTH | MILLING ASPHALT PAVEMENT 4" DEPTH | ASPHALT CONC. BASE COURSE TYPE B25.0C | ASPHALT CONC. INTERMED. COURSE TYPE I19.0C | ASPHALT CONC. SURFACE COURSE S9.5C | ASPHALT CONC. SURFACE COURSE S9.5C (LEVELING COURSE) | ASPHALT BINDER FOR PLANT MIX GRADE PG 64-22 | ASPHALT BINDER FOR PLANT MIX GRADE PG 70-22 | ASPHALT BINDER FOR PLANT MIX GRADE PG 70-28 | ULTRATHIN HOT MIX ASPHALT TYPE B | APPLICATION OF ULTRATHIN HOT MIX ASPHALT | MILLED RUMBLE STRIPS (ASPHALT CEMENT CONCRETE) | 9.5" PORTLAND CEMENT CONC. PAVEMENT THROUGH LANES (WITH DOWELS) | SEALING EXISTING PAVEMENT CRACKS (POLYMER PATCHING) | SHOULDER GRADING |
|---------------------------|--------|-----------------|-------|--|--------|---------------|--------------|---------------------|----------------------------------|-------------------------------|---------------------------|-------------------------------------|-----------------------------------|---------------------------------------|--|------------------------------------|--|---|---|---|----------------------------------|--|--|---|---|------------------|
| NO | | NO | | | MI | FT | LS | CU. YDS. | SQ. YDS. | SQ. YDS. | TONS | SQ. YDS. | SQ. YDS. | TONS | TONS | TONS | TONS | TONS | TONS | TONS | TONS | SQ. YDS. | LF | SQ. YDS. | LBS | SMI |
| I-4709 | WAKE | 1,2,3 | I-40 | I-40 FROM WADE AVE. (MP 289) TO MP 302 | 12.9 | VAR. 48'-144' | 1 | 600 | 484 | 1,800 | 1,200 | 1,400 | 177,900 | 320 | 24,940 | 14,780 | 1,340 | 1,190 | 970 | 970 | 18,590 | 531,050 | 285,000 | 484 | 500,000 | 5 |
| TOTAL FOR PROJ NO. I-4709 | | | | | 12.9 | | 1 | 600 | 484 | 1,800 | 1,200 | 1,400 | 177,900 | 320 | 24,940 | 14,780 | 1,340 | 1,190 | 970 | 970 | 18,590 | 531,050 | 285,000 | 484 | 500,000 | 5 |

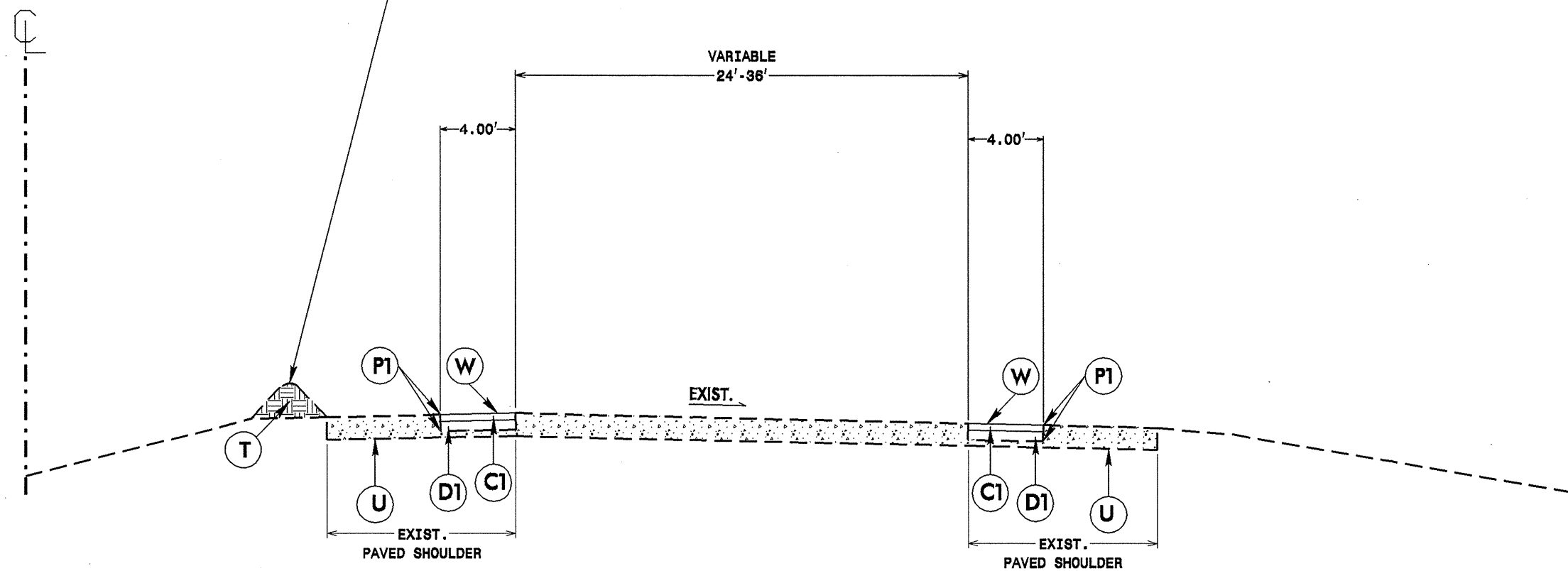
WORK ZONE TRAFFIC CONTROL

| PROJECT | COUNTY | TYPICAL SECTION | ROUTE | DESCRIPTION | LENGTH | WIDTH | WORK ZONE SIGNS (STATIONARY) | WORK ZONE SIGNS (PORTABLE) | WORK ZONE SIGNS (BARRICADE MOUNTED) | FLASHING ARROW PANELS TYPE C | CHANGEABLE MESSAGE SIGNS | DRUMS | BARRICADES (TYPE III) | TMIA | POLICE |
|---------------------------|--------|-----------------|-------|--|--------|---------------|------------------------------|----------------------------|-------------------------------------|------------------------------|--------------------------|-------|-----------------------|------|--------|
| NO | | NO | | | MI | FT | SQ. FT. | SQ. FT. | SQ. FT. | EA | EA | EA | LF | LF | HR |
| I-4709 | WAKE | 1,2,3 | I-40 | I-40 FROM WADE AVE. (MP 289) TO MP 302 | 12.9 | VAR. 48'-144' | 632 | 2088 | 16 | 12 | 16 | 2,200 | 16 | 8 | 2,000 |
| TOTAL FOR PROJ NO. I-4709 | | | | | 12.9 | | 632 | 2088 | 16 | 12 | 16 | 2200 | 16 | 8 | 2000 |

PAVEMENT MARKING AND MARKER QUANTITIES

| PROJECT | COUNTY | TYPICAL SECTION | ROUTE | DESCRIPTION | LENGTH | WIDTH | 4770000000-E | 4775000000-E | 4815000000-E | 4825000000-E | 4845000000-N | 4847100000-E | 4847120000-E | 4847220000-N | 4905000000-N | 4850000000-E | 4855000000-E |
|---------------------------|--------|-----------------|-------|--|--------|---------------|--|--|-----------------------------------|------------------------------------|-------------------------------|---|--|---|--------------------------------|--|--|
| | | | | | | | COLD APPLIED PLASTIC PAVEMENT MARKING LINES (4") TYPE IV | COLD APPLIED PLASTIC PAVEMENT MARKING LINES (6") TYPE IV | PAINT PAVEMENT MARKING LINES (6") | PAINT PAVEMENT MARKING LINES (12") | PAINT PAVEMENT MARKING SYMBOL | POLYUREA PAVEMENT MARKING LINES (6") (Highly Reflective Elements) | POLYUREA PAVEMENT MARKING LINES (12") (Highly Reflective Elements) | POLYUREA PAVEMENT MARKING SYMBOL (Highly Reflective Elements) | SNOW-PLOWABLE PAVEMENT MARKERS | REMOVAL OF PAVEMENT MARKING LINES (4") | REMOVAL OF PAVEMENT MARKING LINES (6") |
| NO | | NO | | | MI | FT | LF | LF | LF | LF | EA | LF | LF | EA | EA | LF | LF |
| I-4709 | WAKE | 1,2,3 | I-40 | I-40 FROM WADE AVE. (MP 289) TO MP 302 | 12.9 | VAR. 48'-144' | 1,832 | 3,369 | 291,456 | 26,400 | 15 | 291,456 | 26,400 | 15 | 5,333 | 254,960 | 4,800 |
| TOTAL FOR PROJ NO. I-4709 | | | | | 12.9 | | 1,832 | 3,369 | 291,456 | 26,400 | 15 | 291,456 | 26,400 | 15 | 5,333 | 254,960 | 4,800 |

HIGH INSIDE SHOULDERS THAT PREVENT PAVEMENT FROM DRAINING PROPERLY. THESE AREAS ARE TO BE GRADED TO TYPICAL MEDIAN SHOULDER CROSS SLOPE AND SEEDED. AREAS ALONG INSIDE SHOULDERS ARE TO BE IDENTIFIED BY THE ENGINEER. TO BE PAID FOR AS "SHOULDER GRADING" (PER SHOULDER MILE).

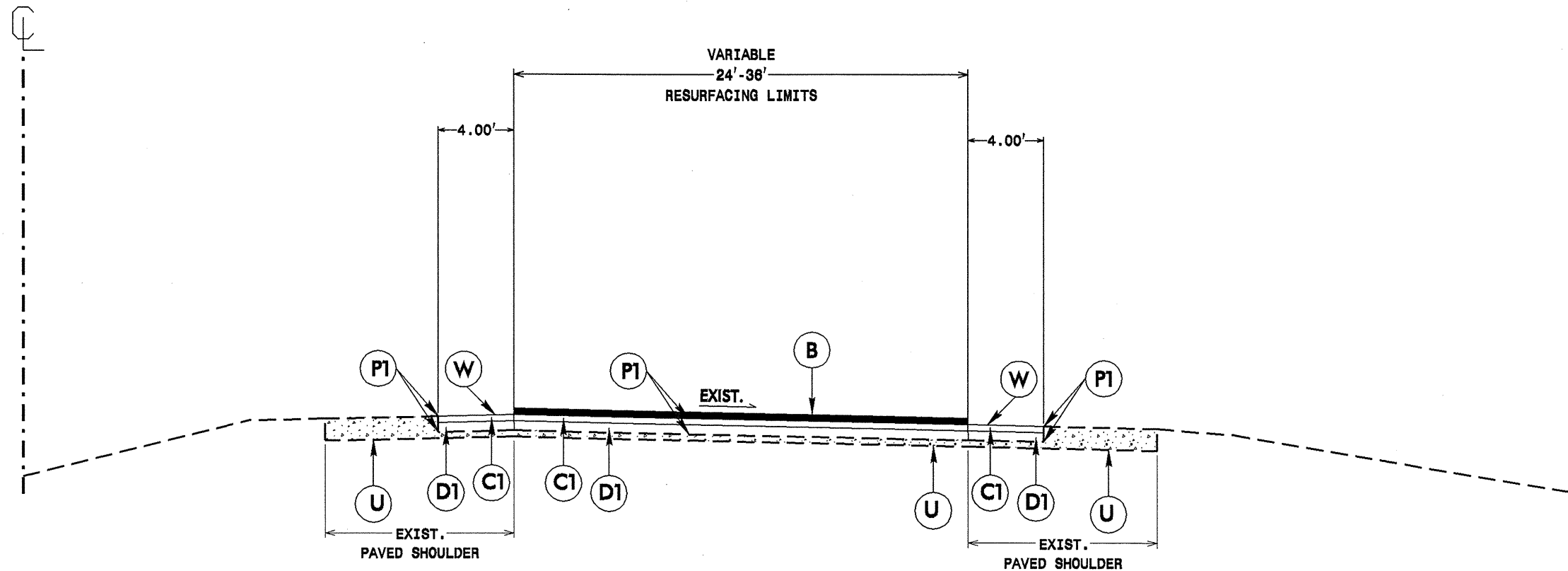


TYPICAL SECTION NO. 1
FROM END OF EXISTING MILLED RUMBLE STRIPS APPROXIMATELY
0.4 MILES EAST OF EXIT 289 (WADE AVE.) TO THE ASPHALT SECTION
(APPROXIMATELY 0.4 MILES WEST OF CARY TOWN BLVD.)
(MIRROR FOR WESTBOUND DIRECTION)

PAVEMENT SCHEDULE

| | | | |
|----|---|----|--|
| A | 9.5" JOINTED PORTLAND CEMENT CONCRETE PAVEMENT, THROUGH LANES (WITH DOWELS). | E | 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.00, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. |
| B | 5/8" ULTRA-THIN HOT MIX ASPHALT, TYPE B | P1 | 4" MILLING |
| C1 | 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.50, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | P2 | 9.5" MILLING |
| C2 | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.50, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. | T | EARTH MATERIAL |
| D1 | 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.00, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. | U | EXISTING PAVEMENT |
| W | MILLED RUMBLE STRIPS | V | EXISTING BRIDGE DECK |

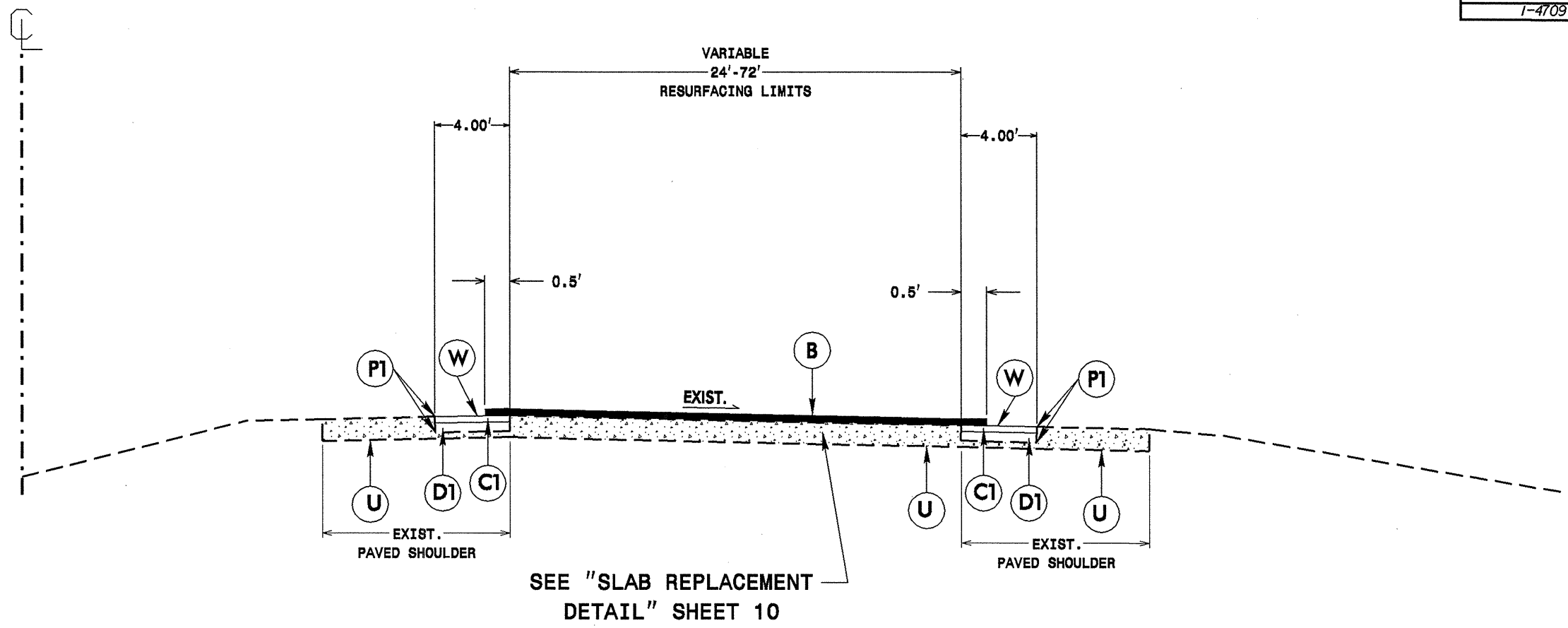
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|---|-------------|---|
| I-40 FROM WADE AVE. (MP 289) TO MP 302 | | |
| DIVISION 05 | WAKE COUNTY | |
| REVISIONS | INT. DATE | |
| <p>SCALE: N/A DATE: 4/2007</p> <p>PREPARED BY: M. BRANDON</p> <p>REVIEWED BY: B. UPSHAW</p> <p>REVIEWED BY:</p> | | <p>N.C. DEPARTMENT of TRANSPORTATION</p> <p>DIVISION of HIGHWAYS</p> <p>DIVISION FIVE DESIGN UNIT</p> |



TYPICAL SECTION NO. 2
FROM START OF ASPHALT SECTION (APPROXIMATELY 0.4 MILES
WEST OF CARY TOWN BLVD.) TO END OF ASPHALT SECTION
(APPROXIMATELY 0.5 MILES WEST OF US 1/64)
(MIRROR FOR WESTBOUND DIRECTION)

| PAVEMENT SCHEDULE | | | |
|-------------------|---|----|--|
| A | 9.5" JOINTED PORTLAND CEMENT CONCRETE PAVEMENT, THROUGH LANES (WITH DOWELS). | E | 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. |
| B | 5/8" ULTRA-THIN HOT MIX ASPHALT, TYPE B | P1 | 4" MILLING |
| C1 | 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | P2 | 9.5" MILLING |
| C2 | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. | T | EARTH MATERIAL |
| D1 | 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. | U | EXISTING PAVEMENT |
| W | MILLED RUMBLE STRIPS | V | EXISTING BRIDGE DECK |

| | | |
|--|------|---|
| I-40 FROM WADE AVE. (MP 289) TO MP 302 | | |
| DIVISION 05 WAKE COUNTY | | |
| REVISIONS | INT. | DATE |
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| N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT | | SCALE: N/A DATE: 4/2007 PREPARED BY: M. BRANDON REVIEWED BY: B. UPSHAW REVIEWED BY: |

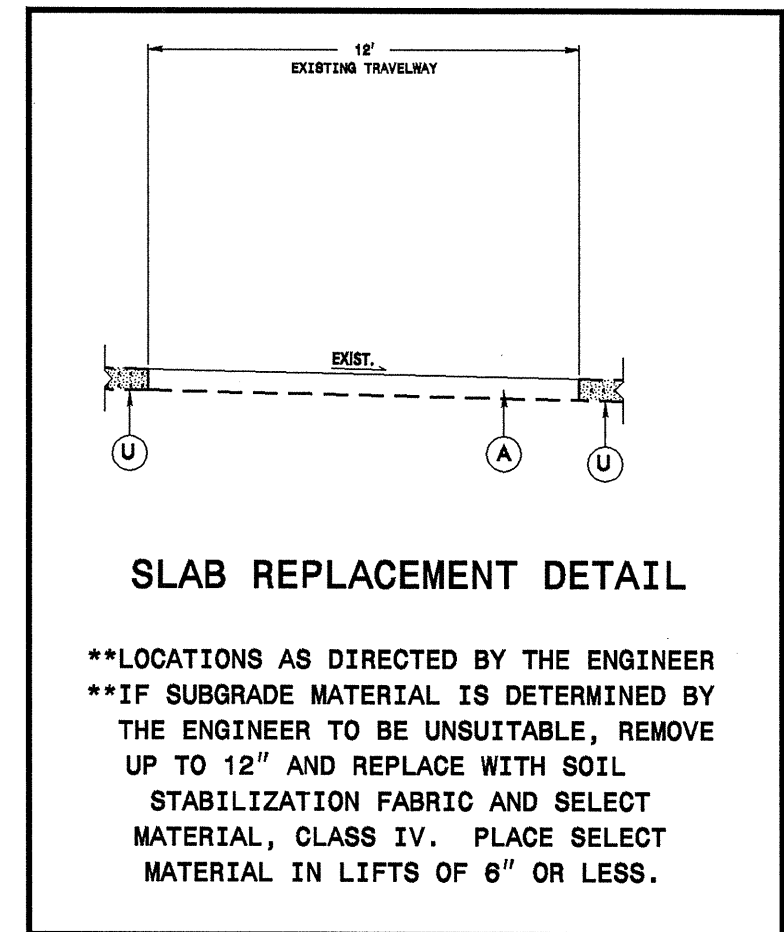
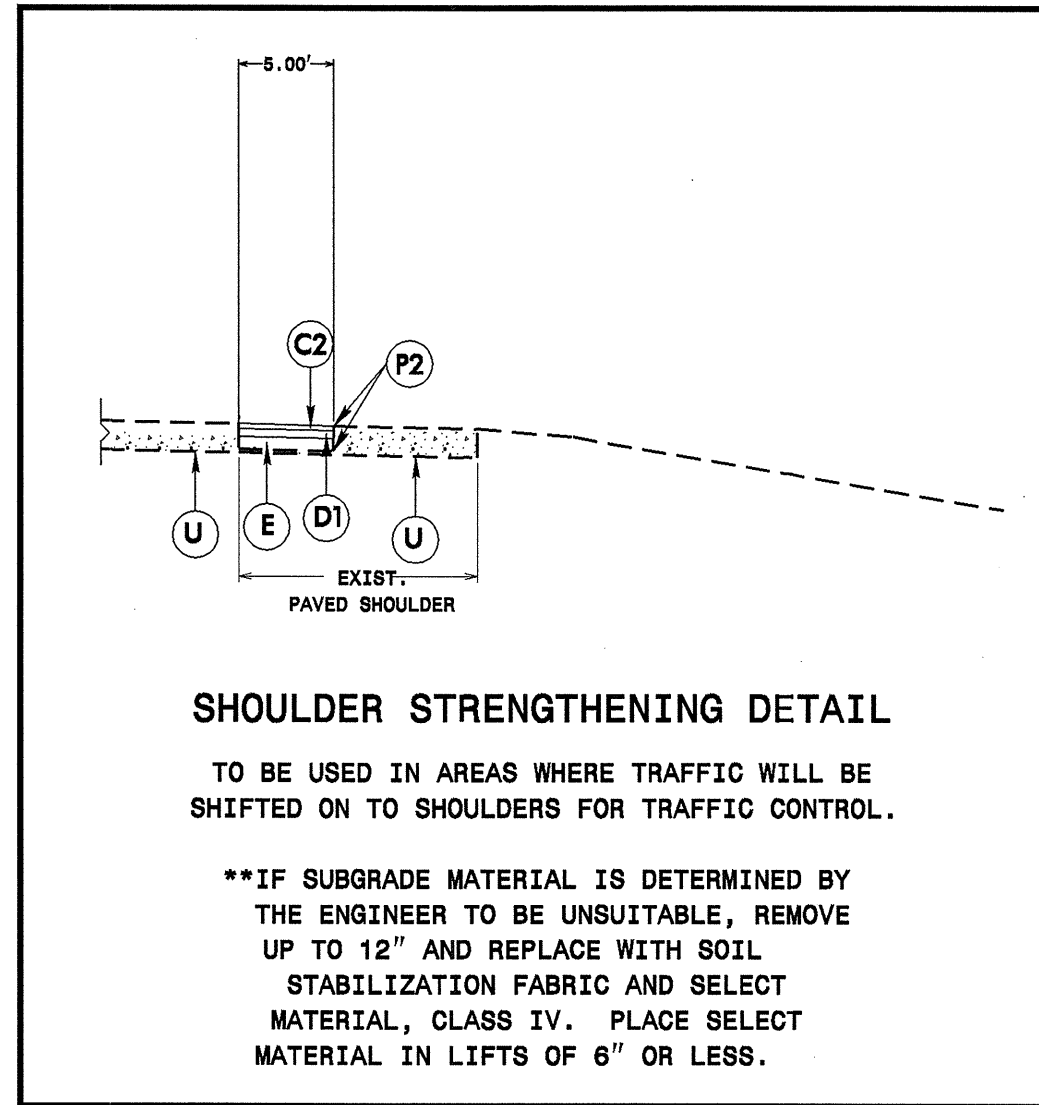
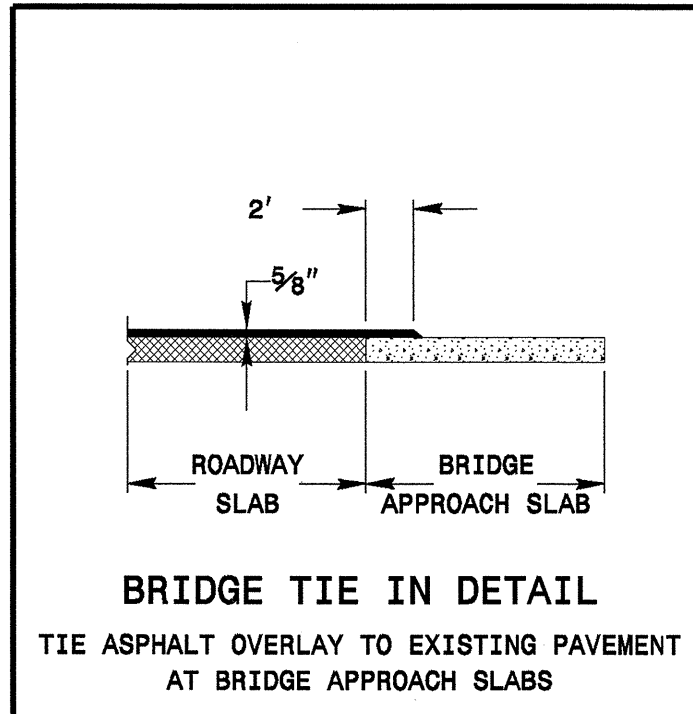


SEE "SLAB REPLACEMENT
DETAIL" SHEET 10

TYPICAL SECTION NO. 3
FROM END OF ASPHALT SECTION (APPROXIMATELY
0.5 MILES WEST OF US 1/64) TO THE I-40 AND I-440 SPLIT
(MIRROR FOR WESTBOUND DIRECTION)

| PAVEMENT SCHEDULE | | | |
|-------------------|---|----|--|
| A | 9.5" JOINTED PORTLAND CEMENT CONCRETE PAVEMENT, THROUGH LANES (WITH DOWELS). | E | 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.00, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. |
| B | 5/8" ULTRA-THIN HOT MIX ASPHALT, TYPE B | P1 | 4" MILLING |
| C1 | 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD. | P2 | 9.5" MILLING |
| C2 | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 188 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. | T | EARTH MATERIAL |
| D1 | 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.00, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. | U | EXISTING PAVEMENT |
| W | MILLED RUMBLE STRIPS | V | EXISTING BRIDGE DECK |

| | | |
|--|-------------|---|
| I-40 FROM WADE AVE. (MP 289) TO MP 302 | | |
| DIVISION 05 | WAKE COUNTY | |
| REVISIONS | INIT. | DATE |
| | | |
| | | |
| SCALE: N/A | | DATE: 4/2007 |
| N.C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DIVISION FIVE DESIGN UNIT | | PREPARED BY: M. BRANDON REVIEWED BY: B. UPSHAW REVIEWED BY: |



| PAVEMENT SCHEDULE | | | |
|-------------------|---|----|--|
| A | 9.5" JOINTED PORTLAND CEMENT CONCRETE PAVEMENT, THROUGH LANES (WITH DOWELS). | E | 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. |
| B | 5/8" ULTRA-THIN HOT MIX ASPHALT, TYPE B | P1 | 4" MILLING |
| C1 | 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. | P2 | 9.5" MILLING |
| C2 | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. | T | EARTH MATERIAL |
| D1 | 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. | U | EXISTING PAVEMENT |
| W | MILLED RUMBLE STRIPS | V | EXISTING BRIDGE DECK |

| | | |
|--|-------|------------------------|
| I-40 FROM WADE AVE. (MP 289) TO MP 302 | | |
| DIVISION 05 WAKE COUNTY | | |
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| SCALE: N/A | | DATE: 4/2007 |
| PREPARED BY: M. BRANDON | | REVIEWED BY: B. UPSHAW |
| N.C. DEPARTMENT of TRANSPORTATION DIVISION of HIGHWAYS DIVISION FIVE DESIGN UNIT | | REVIEWED BY: |

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STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CONCRETE PAVEMENT JOINTS
 CONSTRUCTION AND CONTRACTION JOINTS

SHEET 1 OF 2
700D01

GENERAL NOTES:
 -FORM TRANSVERSE CONTRACTION JOINTS BY SAWING WITH APPROVED EQUIPMENT.
 -SPACE TRANSVERSE CONTRACTION JOINTS AT INTERVALS OF 15'.
 -USE A DOWEL ASSEMBLY OR OTHER APPROVED DOWEL INSERTION TECHNIQUE IN ALL TRANSVERSE CONTRACTION JOINTS.
 -DOWEL ASSEMBLIES ARE COVERED IN DETAIL 700D03.
 -PROVIDE SMOOTH DOWEL BARS. PROVIDE DEFORMED TIE BARS.
 -WHEN UTILIZING AN EARLY ENTRY SAW, CUT THE JOINT TO A MINIMUM DEPTH OF 4".

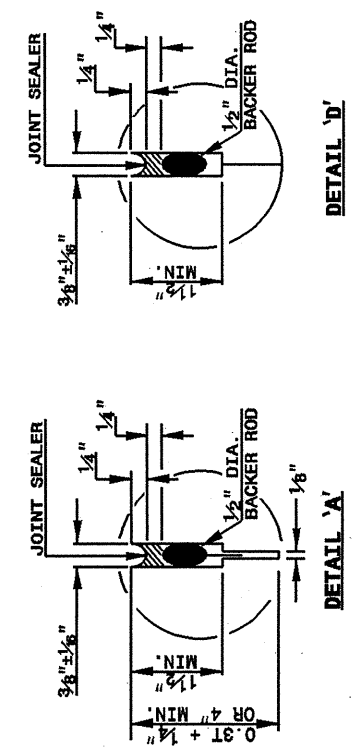
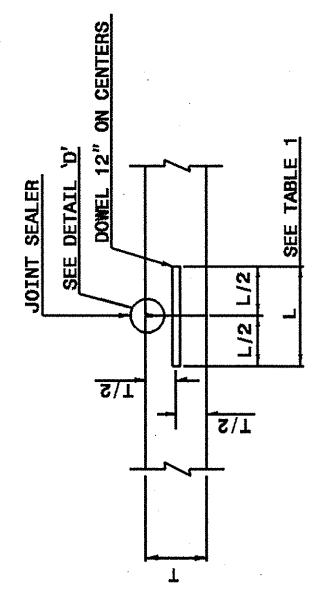
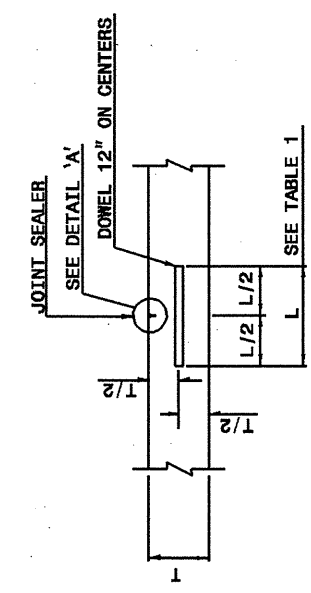


TABLE I - DOWEL BARS

| SLAB THICKNESS | DOWEL BAR "D" | DOWEL BAR LENGTH "L" |
|------------------|---------------|----------------------|
| 8" OR LESS | 1" | 14" |
| 8 1/2" TO 9 1/2" | 1 1/8" | 16" |
| 10" TO 10 1/2" | 1 1/4" | 18" |
| 11" AND ABOVE | 1 1/2" | 18" |

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CONCRETE PAVEMENT JOINTS
 CONSTRUCTION AND CONTRACTION JOINTS

SHEET 1 OF 2
700D01

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CONCRETE PAVEMENT JOINTS
 CONSTRUCTION AND CONTRACTION JOINTS

SHEET 2 OF 2
700D01

GENERAL NOTES:
 -CONSTRUCT TRANSVERSE CONSTRUCTION JOINTS AT THE END OF EACH DAY'S OPERATION (PLANNED JOINT) OR WHEN THE PLACING OF CONCRETE IS SUSPENDED FOR MORE THAN 30 MINUTES (EMERGENCY JOINT).
 -USE AN APPROVED HEADER AT EMERGENCY JOINTS STD. DWG. 700.04 AND DESIGNED TO PERMIT THE PLACEMENT OF AND CORRECTLY HOLD IN PLACE TIE BARS.
 -USE TIE BARS OF THE SAME DIAMETER AS DOWEL BARS FOR EMERGENCY TRANSVERSE CONSTRUCTION JOINTS.
 -LOCATE PLANNED TRANSVERSE CONSTRUCTION JOINTS AT THE SPACING REQUIRED FOR CONTRACTION JOINTS. USE AN APPROVED METHOD OF INSTALLING DOWELS IN ALL PLANNED TRANSVERSE CONSTRUCTION JOINTS.
 -DO NOT LOCATE EMERGENCY TRANSVERSE CONSTRUCTION JOINTS LESS THAN 6' FROM ANY CONTRACTION JOINT OR PLANNED CONSTRUCTION JOINT.
 -DO NOT PLACE TIE BARS IN LONGITUDINAL JOINTS WITHIN 1'-4" OF A TRANSVERSE JOINT.
 -WHEN UTILIZING AN EARLY ENTRY SAW, CUT THE JOINT TO A MINIMUM DEPTH OF 4".

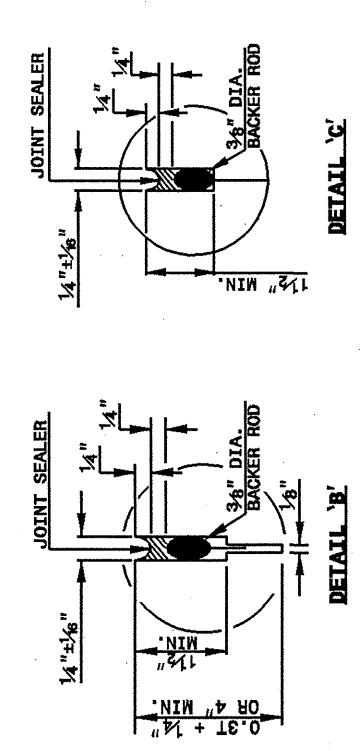
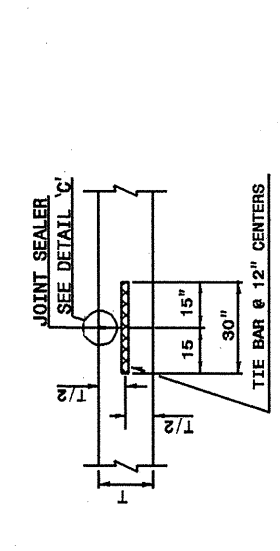
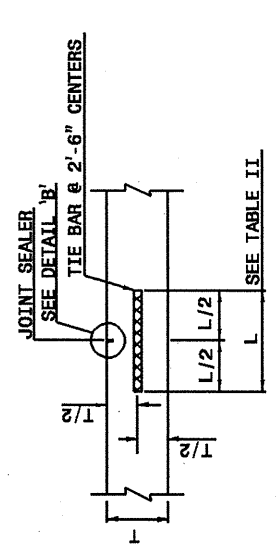
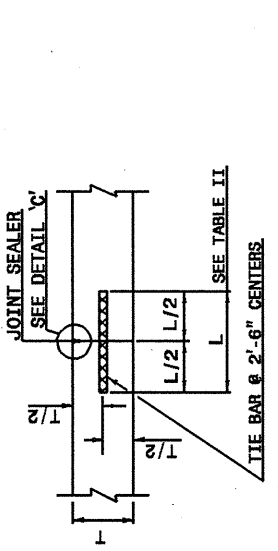


TABLE II - LONGITUDINAL TIE BARS

| SLAB THICKNESS | TIE BAR DIA. "D" | TIE BAR LENGTH "L" |
|----------------|------------------|--------------------|
| 8 1/2" OR LESS | 1/2" | 30" |
| 9" OR ABOVE | 5/8" | 30" |

STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
CONCRETE PAVEMENT JOINTS
 CONSTRUCTION AND CONTRACTION JOINTS

SHEET 2 OF 2
700D01

PROJECT SERVICES UNIT
 STANDARDS AND SPECIAL DESIGN
 Office 919-250-4128 FAX 919-250-4119

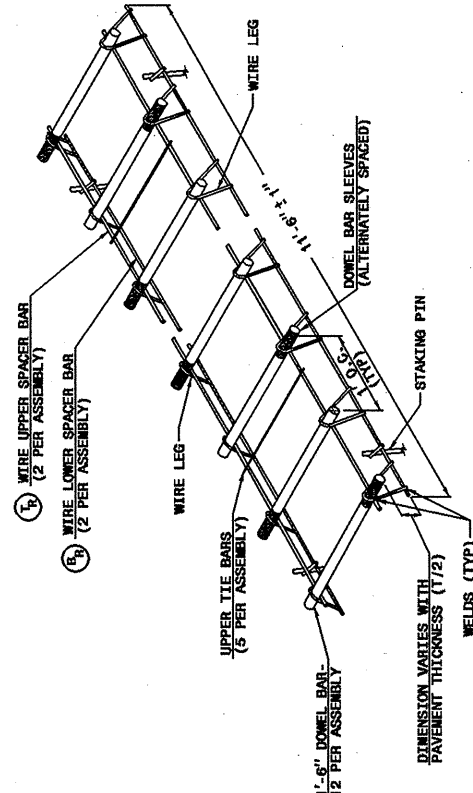
SEE PLATE FOR TITLE

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 CHECKED BY: DATE:
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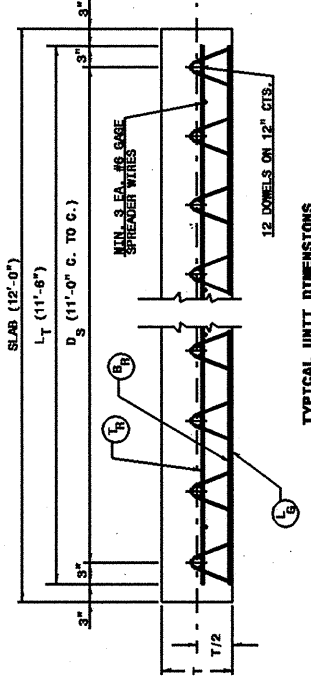
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
DOWEL ASSEMBLY

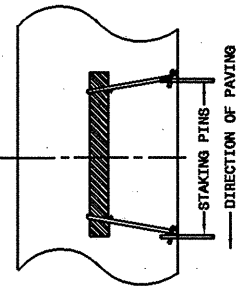
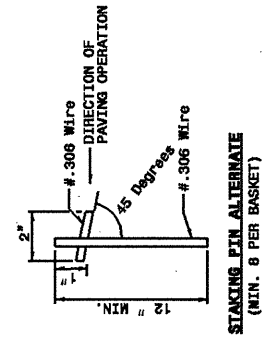
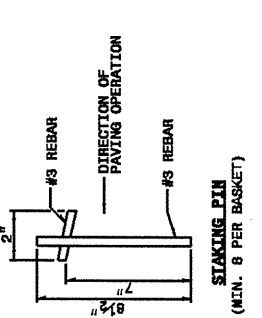
SHEET 1 OF 2
700D03



ISOMETRIC VIEW



TYPICAL UNIT DIMENSIONS



| SLAB THICKNESS | 7\"/> | |
|----------------|-------|----|
| | Tr | Lg |
| 8\"/> | | |

GENERAL NOTES:
-USE RIGID CONSTRUCTED DOWEL ASSEMBLY CAPABLE OF HOLDING THE DOWEL BAR IN PROPER POSITION DURING PLACEMENT OF CONCRETE AND DESIGNED AS TO PERMIT UNRESTRICTED MOVEMENT OF THE SLAB. USE DOWEL ASSEMBLY APPROVED BY THE ENGINEER PRIOR TO USE.
-USE DOWEL ASSEMBLIES MANUFACTURED WITH DOWELS ALTERNATELY WELDED TO FRAME MEMBERS.
-USE STAKING PIN OR APPROVED ALTERNATE.
-SAW CUT EPOXY COATED DOWELS, BUFFING AS NECESSARY TO FACILITATE PROPER WELDING OF THE DOWEL TO THE ASSEMBLY FRAME. TOUCH UP OF THE BUFFED AREA WILL NOT BE REQUIRED.
-DOWELS AND SPACER WIRES TO BE WELDED TO FRAME MEMBERS TO ASSURE A COMPLETE COATING OF MAX.
-FULLY DRY THE DOWEL ASSEMBLY TO ASSURE A COMPLETE COATING OF MAX.
-SEE DETAIL 700D01 FOR DOWEL BAR SIZES.

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RALEIGH, N.C.

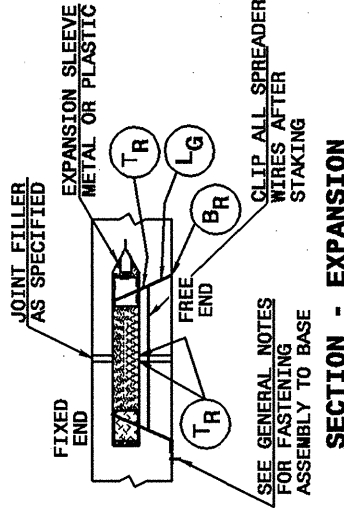
ENGLISH DETAIL DRAWING FOR
DOWEL ASSEMBLY

SHEET 1 OF 2
700D03

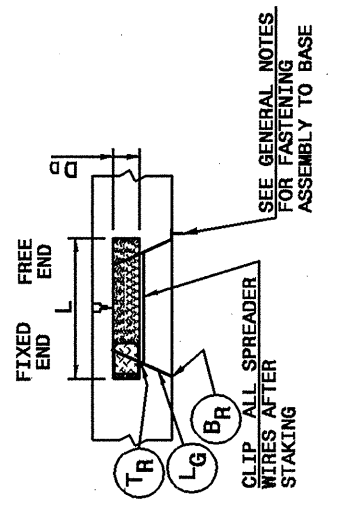
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ENGLISH DETAIL DRAWING FOR
DOWEL ASSEMBLY

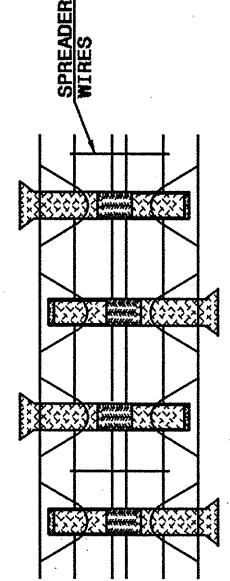
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700D03



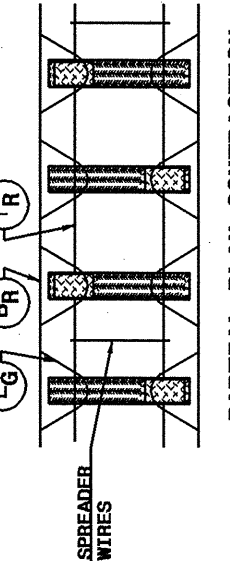
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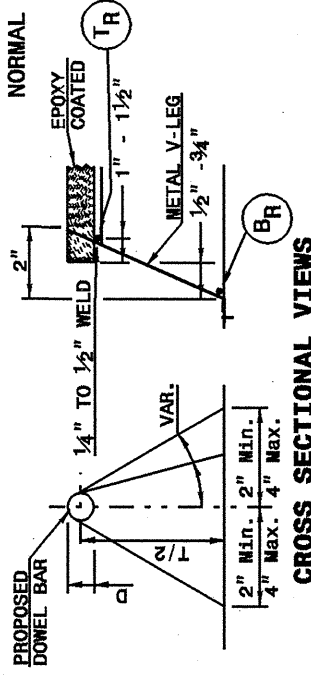
SECTION - CONTRACTION



PARTIAL PLAN EXPANSION NORMAL



PARTIAL PLAN CONTRACTION NORMAL



CROSS SECTIONAL VIEWS

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
DOWEL ASSEMBLY

SHEET 2 OF 2
700D03

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

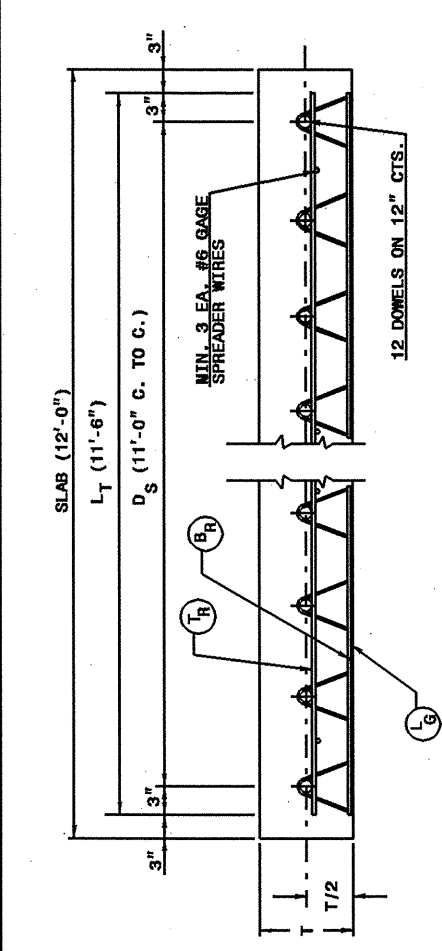
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MODIFIED BY: E.E. WARD DATE: 12-15-05
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 RALEIGH, N.C.

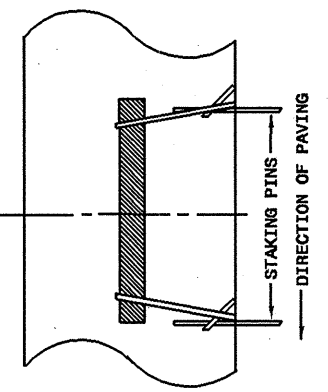
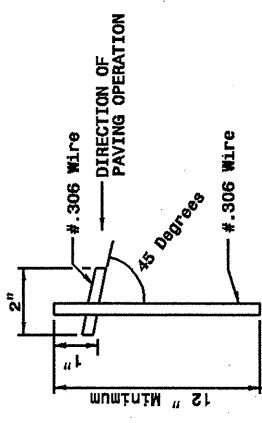
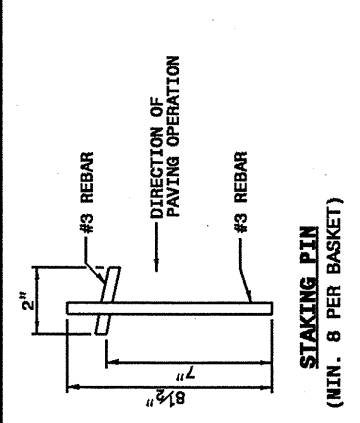
ENGLISH DETAIL DRAWING FOR
DOWEL ASSEMBLY

SHEET 1 OF 2
700D03



TYPICAL UNIT DIMENSIONS

| SLAB THICKNESS | "V" LEG ONLY WIRE GAGE | | |
|-----------------|------------------------|----------------|----------------|
| | T _R | B _R | L _G |
| 8" OR LESS | 2 | 2 | 2 |
| 8 1/2" - 10" | 0 | 2 | 2 |
| 10 1/2" & ABOVE | 2/0's | 2/0's | 2/0's |



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ENGLISH DETAIL DRAWING FOR
DOWEL ASSEMBLY

SHEET 1 OF 2
700D03

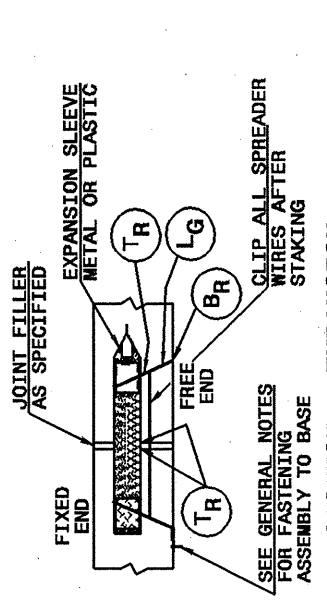
GENERAL NOTES:

- USE RIGID CONSTRUCTED DOWEL ASSEMBLY CAPABLE OF HOLDING THE DOWEL BAR IN PROPER POSITION DURING PLACEMENT OF CONCRETE AND DESIGNED AS TO PERMIT UNRESTRICTED MOVEMENT OF THE SLAB.
- USE DOWEL ASSEMBLY APPROVED BY THE ENGINEER PRIOR TO USE.
- USE DOWEL ASSEMBLIES MANUFACTURED WITH DOWELS ALTERNATELY WELDED TO FRAME MEMBERS.
- USE STAKING PIN OR APPROVED ALTERNATE.
- SAW CUT EPOXY COATED DOWELS, BUFFING AS NECESSARY TO FACILITATE PROPER WELDING OF THE DOWEL TO THE ASSEMBLY FRAME. TOUCH UP OF THE BUFFED AREA WILL NOT BE REQUIRED.
- RESISTANCE WELD FRAME MEMBERS; DOWELS AND SPREADER WIRES MAY BE ARC WELDED. WELD IN ACCORDANCE WITH AWS WELDING CODE.
- FULLY DIP THE DOWEL ASSEMBLIES TO ASSURE A COMPLETE COATING OF WAX.
- SEE DETAIL 700D01 FOR DOWEL BAR SIZES.

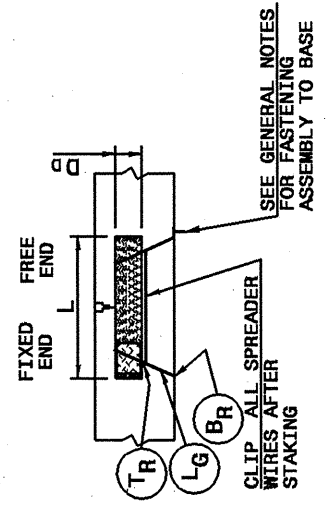
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ENGLISH DETAIL DRAWING FOR
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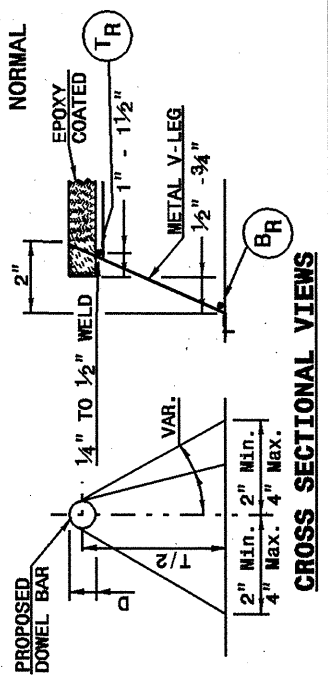
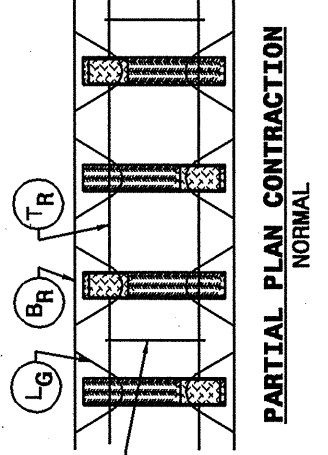
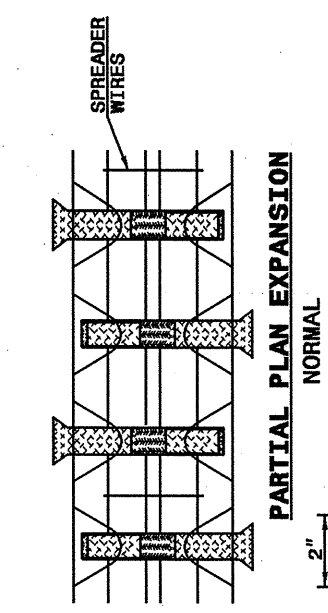
SHEET 2 OF 2
700D03



SECTION - EXPANSION



SECTION - CONTRACTION



CROSS SECTIONAL VIEWS

STATE OF
 NORTH CAROLINA
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 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
DOWEL ASSEMBLY

SHEET 2 OF 2
700D03

PROJECT SERVICES UNIT
 STANDARDS AND SPECIAL DESIGN
 Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
 MODIFIED BY: E.E. WARD DATE: 12-15-05
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 FILE SPEC.:stds\02atds\stds\02stds\stds\06' stds to special details/english\700d01.dgn

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.

I-4709

SHEET NO.

TCP-1

PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION

WAKE COUNTY

I-4709

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-
PROJECT SERVICES UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C.,
DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE
CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE |
|----------|---|
| 1101.02 | TEMPORARY LANE CLOSURES |
| 1101.03 | TEMPORARY ROAD CLOSURES |
| 1101.04 | TEMPORARY SHOULDER CLOSURES |
| 1101.05 | WORK ZONE VEHICLE ACCESSES |
| 1101.11 | TRAFFIC CONTROL DESIGN TABLES |
| 1110.01 | STATIONARY WORK ZONE SIGNS |
| 1110.02 | PORTABLE WORK ZONE SIGNS |
| 1115.01 | FLASHING ARROW PANELS |
| 1130.01 | DRUM |
| 1145.01 | BARRICADES |
| 1165.01 | TRUCK MOUNTED IMPACT ATTENUATOR |
| 1205.01 | PAVEMENT MARKINGS - LINE TYPES & OFFSETS |
| 1205.02 | PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS |
| 1205.03 | PAVEMENT MARKINGS - INTERCHANGES |
| 1205.06 | PAVEMENT MARKINGS - THRU LANE DROPS |
| 1205.08 | PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES |
| 1205.12 | PAVEMENT MARKINGS - BRIDGES |
| 1250.01 | PAVEMENT MARKER SPACING |
| 1253.01 | SNOWPLOWABLE RAISED PAVEMENT MARKERS |

INDEX OF SHEETS

| SHEET NO. | TITLE |
|-----------------------|---|
| TCP-1 | LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND INDEX OF SHEETS |
| TCP-2 AND TCP-3 | PROJECT NOTES |
| TCP-4 | PROJECT PHASING |
| TCP-5.1 AND TCP-5.2 | SHOULDER REPLACEMENT DETAILS |
| TCP-6 | SLAB REPLACEMENT AT GORMAN ST. BRIDGE |
| TCP-7.1 AND TCP-7.2 | SLAB REPLACEMENT AT HAMMOND RD. AND SOUTHERN RAILWAY BRIDGES |
| TCP-8.1 AND TCP-8.2 | SLAB REPLACEMENT AT HADLEY RD. BRIDGE (LANES 1 AND 2) |
| TCP-9.1 THRU TCP-9.8 | SLAB REPLACEMENT AT HADLEY RD. BRIDGE (LANES 3 AND 4) AND SOUTH SAUNDERS ST. BRIDGE |
| TCP-10 | TRAFFIC CONTROL SET UP FOR DUAL AND TRIPLE LANE CLOSURES WITH TEMPORARY SPEED LIMIT REDUCTION |
| TCP-11 | TEMPORARY SPEED LIMIT REDUCTION FOR SINGLE LANE CLOSURE |
| TCP-12.1 AND TCP-12.2 | TYPICAL SECTIONS |
| TCP-13 | RESURFACING DETAIL AT EB I-40/I-440 SPLIT |
| TCP-14 | OFFSITE DETOUR ROUTE FOR CLOSURE OF I-40 EB ENTRANCE LOOP FROM HAMMOND RD. |
| TCP-15 | I-40 ALTERNATE DETOUR ROUTE DMS/CMS LOCATIONS |
| TCP-16 | I-40 ALTERNATE DETOUR ROUTE DMS/CMS MESSAGES |
| TCP-17 | ADVANCED WORK ZONE WARNING SIGNING |
| TCP-18 | SIGN DESIGNS FOR "250 SPEEDING PENALTY" AND "NO MERGE AREA" |

LEGEND

- GENERAL**
- DIRECTION OF TRAFFIC FLOW
 - NORTH ARROW
 - PROPOSED PVMT. EXIST. PVMT.
 - WORK AREA
 - REMOVAL OF EXISTING PAVEMENT
- TRAFFIC CONTROL DEVICES**
- TYPE I BARRICADE
 - TYPE II BARRICADE
 - TYPE III BARRICADE
 - CONE
 - DRUM SKINNY DRUM
 - FLASHING ARROW PANEL (TYPE C)
 - STATIONARY SIGN
 - PORTABLE SIGN
 - STATIONARY OR PORTABLE SIGN
 - CRASH CUSHION
 - CHANGEABLE MESSAGE SIGN
 - TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
 - POLICE
 - FLAGGER
- PAVEMENT MARKINGS**
- CRYSTAL/CRYSTAL PAVEMENT MARKER
 - YELLOW/YELLOW PAVEMENT MARKER
 - CRYSTAL/RED PAVEMENT MARKER
 - PAVEMENT MARKING SYMBOLS

TIP PROJECT:

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msteelman AT WZTC22462

APPROVED:
DATE: 4/13/07



PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT

- J. S. BOURNE, P.E. TRAFFIC CONTROL ENGINEER
- J. ISHAK, P.E. TRAFFIC CONTROL PROJECT ENGINEER
- H. A. LAWANDOS TRAFFIC CONTROL PROJECT DESIGN ENGINEER
- M. H. STEELMAN TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

- A) DO NOT CLOSE OR NARROW TRAVEL LANES FOR SLAB REMOVAL/REPLACEMENT OPERATIONS AS FOLLOWS:

| | |
|------------|--------------------------------------|
| ROAD NAME | DAY AND TIME RESTRICTIONS |
| I-40/I-440 | 6:00 A.M. MONDAY TO 9:00 P.M. FRIDAY |

- B) DO NOT CLOSE OR NARROW TRAVEL LANES FOR ALL WORK, WITH THE EXCEPTION OF SLAB REMOVAL/REPLACEMENT, AS FOLLOWS:

| | |
|------------|---|
| ROAD NAME | DAY AND TIME RESTRICTIONS |
| I-40/I-440 | MONDAY THROUGH SUNDAY FROM 6:00 A.M. TO 9:00 P.M. |

- C) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

| |
|------------|
| ROAD NAME |
| I-40/I-440 |

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 9:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 9:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE DAY AFTER INDEPENDENCE DAY.
IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 9:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
9. DURING THE NORTH CAROLINA STATE FAIR, EVERY WEEKEND BETWEEN THE HOURS OF 6:00 P.M. FRIDAY AND 12:00 A.M. THE FOLLOWING MONDAY.
10. FOR FOOTBALL GAME AT CARTER-FINLEY STADIUM, FROM 2 HOURS BEFORE THE GAME UNTIL 3 HOURS AFTER THE GAME.
11. GIVE CONSIDERATION TO SPECIAL EVENTS AT THE RBC CENTER AND WALNUT CREEK AMPHITHEATER BEFORE INSTALLING ANY LANE CLOSURES.

- D) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

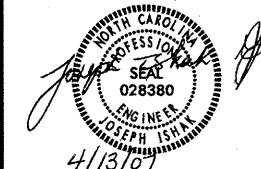

- E) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- I) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- J) DO NOT INSTALL MORE THAN 3 MILES OF LANE CLOSURE ON I-40/I-440 MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.
- K) DO NOT INSTALL MORE THAN TWO SINGLE LANE CLOSURES, IN ANY ONE DIRECTION, ON I-40/I-440.
- L) PROVIDE A MINIMUM OF 4 MILES BETWEEN LANE CLOSURES, MEASURED FROM THE END OF ONE CLOSURE TO THE FIRST SIGN OF THE NEXT LANE CLOSURE.
- M) DO NOT CONDUCT MORE THAN ONE OPERATION INVOLVING THE CLOSURE OF 2 OR MORE LANES IN ANY DIRECTION ON I-40/I-440.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- N) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:
- BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
- BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.
- BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
- O) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 1000 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

- P) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

| | | | |
|---|-------------|----------------------|---|
| APPROVED: _____ | DATE: _____ | PROJECT NOTES | |
|  | | SCALE: NONE |  |
| | | DATE: 3-07 | REVISIONS |
| | | DWG. BY: MHS | |
| | | DESIGN BY: MHS | |
| REVIEWED BY: HAL | | 4/13/07 | CADD FILE |

GENERAL NOTES CONTINUED

SIGNING

- Q) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- R) PROVIDE DETOUR SIGNING WITHIN THE PROJECT LIMITS.
- S) COVER OR REMOVE ALL DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- T) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- U) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADIUS, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.
- V) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500-FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

- W) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

| ROAD NAME | MARKING | MARKER |
|------------|----------|--------------|
| I-40/I-440 | POLYUREA | SNOWPLOWABLE |

- X) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

| ROAD NAME | MARKING | MARKER |
|-------------------------------|--------------------------------|--------|
| I-40/I-40 | PAINT | NONE |
| I-40/I-40 (TRAFFIC SHIFTS) | COLD APPLIED PLASTIC (TYPE IV) | NONE |

- Y) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

- Z) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

- AA) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

- BB) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.

LOCAL NOTES

- 1) COORDINATE LANE CLOSURES WITH THE CONTRACTOR ON I-3306DB PROJECT.
- 2) COORDINATE WITH THE TRAFFIC MANAGEMENT CENTER PRIOR TO INSTALLING ANY LANE CLOSURES.
- 3) PROVIDE A TRAFFIC CONTROL SUPERVISOR TO BE AVAILABLE AT ALL TIMES. SEE SPECIAL PROVISION.
- 4) WAIT A MINIMUM OF 30 DAYS AFTER PLACEMENT OF THE FINAL LAYER OF SURFACE COURSE BEFORE INSTALLING THE SNOWPLOWABLE PAVEMENT MARKERS.
- 5) MAINTAIN A MINIMUM OF 2 LANES OPEN TO TRAFFIC AT ALL TIMES IN THE 4-LANE AND 5-LANE SECTIONS OF EASTBOUND AND WESTBOUND I-40.

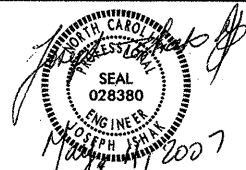

NO PARKING

- 6) INSTALL PORTABLE "NO PARKING" SIGN (R8-3) TWO DAYS PRIOR TO BEGINNING OF WORK ACTIVITIES WITHIN EACH LOCATION.
- 7) REMOVE PORTABLE "NO PARKING" SIGNS AS SOON AS THE WORK IS COMPLETED WITHIN EACH LOCATION.
- 8) REMOVE PORTABLE "NO PARKING" SIGNS IF NO WORK ACTIVITIES WILL BE TAKING PLACE FOR A PERIOD LONGER THAN 2 DAYS.
- 9) INSTALL PORTABLE "NO PARKING" SIGNS ON BOTH INSIDE AND OUTSIDE SHOULDERS OF THE DIRECTION WHERE THE WORK WILL TAKE PLACE. INSTALL "NO PARKING" SIGNS BEGINNING 100' PRIOR TO THE LOCATION OF THE FIRST MERGE TAPER AND STAGGER SIGNS EVERY MILE THROUGHOUT THE PROPOSED WORK AREA.
- 10) INSTALL PORTABLE "NO PARKING" SIGNS WITH "END" SIGNS (M4-8B) MOUNTED ON TOP AT THE LAST DRUM OF THE PROPOSED LANE CLOSURE TO DESIGNATE THE END OF THE NO PARKING ZONE.
- 11) THE "NO PARKING" SIGNS ON THE RAMPS WITHIN THE PROPOSED WORK AREA SHOULD BE LOCATED APPROXIMATELY 500' DOWNSTREAM FROM THE I-40 GORE, OR AT A LOCATION DETERMINED BY THE ENGINEER.

SPEED REDUCTION AND \$250 SPEEDING PENALTY

- 12) WHEN TWO SINGLE LANE CLOSURES ARE INSTALLED IN ANY ONE DIRECTION, EXTEND THE LIMITS OF THE SPEED REDUCTION AND \$250 SPEEDING PENALTY TO THE END OF THE SECOND SINGLE LANE CLOSURE TO AVOID HAVING THE EXISTING SPEED LIMIT RESUME BETWEEN THE TWO SINGLE LANE CLOSURES.

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| APPROVED: | DATE: | PROJECT NOTES CONTINUED | | | | | |
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|  | SCALE: | NONE |  | | | | |
| | DATE: | 3-07 | | | | | |
| | DWG. BY: | MHS | | | | | |
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| REVIEWED BY: | HAL | | <table border="1"> <tr> <th>REVISIONS</th> </tr> <tr> <td> </td> </tr> <tr> <td> </td> </tr> <tr> <td> </td> </tr> </table> | REVISIONS | | | |
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PHASING

LOCAL NOTES 1 THRU 12 SHOWN ON TCP-3 APPLY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.

STEP 1) INSTALL ADVANCED WORK ZONE WARNING SIGNS ON PROJECT ACCORDING TO SHEET TCP-17.

-PRIOR TO BEGINNING ANY CONSTRUCTION, ENSURE STATE FORCES HAS INSTALLED CMS'S FOR THE ALTERNATE DETOUR ROUTE AS SHOWN ON TCP-15 AND TCP-16. STATE FORCES WILL BE RESPONSIBLE FOR OPERATING CMS'S AND DMS'S FOR ALTERNATE DETOUR ROUTES.

STEP 2) USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 3, 6, AND 7 OF 9), SHEET TCP-10, AND TCP-11, BEGIN CONSTRUCTION OF ALL ROADWAY WORK EXCLUDING SHOULDER REPLACEMENT FOR SLAB REPLACEMENTS, SLAB REPLACEMENTS, AND THE FINAL LAYER OF SURFACE COURSE.

STEP 3) A) USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 3 OF 9), IN CONJUNCTION WITH SHEET TCP-11, AND TCP-10, CONSTRUCT 5' WIDE SHOULDER REPLACEMENT AT LOCATIONS SHOWN ON SHEETS TCP-5.1 AND TCP-5.2. [REFER TO ROADWAY STANDARD DRAWING 1101.02 (SHEET 6 AND 7 OF 9) AND TCP-18 FOR TRAFFIC CONTROL FOR ENTRANCE AND EXIT RAMPS INSIDE LANE CLOSURE].

NOTE: THE CONSTRUCTION LISTED IN SUBSTEP 'A' IS FOR 4 DIFFERENT LOCATIONS OF SHOULDER REPLACEMENT THAT HAS TO BE COMPLETED PRIOR TO PLACING TRAFFIC ON THE SHOULDER AS LISTED BELOW IN SUBSTEP 'B'. ONCE ANY OF THE 4 LOCATIONS OF SHOULDER REPLACEMENT HAS BEEN COMPLETED AS LISTED IN SUBSTEP 'A', CONTRACTOR MAY BEGIN SUBSTEP 'B' FOR THE COMPLETED SHOULDER REPLACEMENT LOCATION.

B) CONSTRUCT SLAB REPLACEMENTS AS FOLLOWS: AFTER SLABS HAVE BEEN REPLACED, INSTALL TEMPORARY PAINT MARKINGS (1 LAYER) ON SLAB REPLACEMENT AREAS PRIOR TO REOPENING CLOSED LANES TO TRAFFIC. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES FOR SLAB REPLACEMENTS.

- USING SHEETS TCP-6, TCP-10, AND TCP-18, CONSTRUCT SLAB REPLACEMENTS AT THE GORMAN ST. BRIDGE ON EASTBOUND I-40.
- USING SHEETS TCP-7.1, TCP-7.2, TCP-10, TCP-14, AND TCP-18, CONSTRUCT SLAB REPLACEMENTS AT THE HAMMOND ST. BRIDGE AND THE SOUTHERN RAILWAY BRIDGE ON EASTBOUND I-40.
- USING SHEETS TCP-8.1, TCP-8.2, TCP-10, AND TCP-18, CONSTRUCT SLAB REPLACEMENTS (LANES 1 AND 2) AT THE HADLEY RD. BRIDGE ON WESTBOUND I-40.
- USING SHEETS TCP-9.1 THRU TCP-9.8, TCP-10, AND TCP-18 CONSTRUCT SLAB REPLACEMENT (LANES 3 AND 4) AT THE HADLEY RD. BRIDGE AND AT THE SOUTH SAUNDERS ST. BRIDGE ON WESTBOUND I-40.

STEP 4) USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 3, 6, AND 7 OF 9), SHEET TCP-10, TCP-11, AND TCP-18, COMPLETE REMAINING ITEMS OF CONSTRUCTION EXCEPT FOR THE FINAL LAYER OF SURFACE COURSE.



STEP 5) USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 3, 6, AND 7 OF 9), SHEET TCP-10, TCP-11, TCP-13, AND TCP-18, PLACE THE FINAL LAYER OF SURFACE COURSE THROUGHOUT THE PROJECT. AT THE END OF EACH WORK DAY, REPLACE PAVEMENT MARKINGS WITH TEMPORARY PAINT MARKINGS (1 LAYER).

STEP 6) USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 3, 6, AND 7 OF 9), SHEET TCP-10, TCP-11, AND TCP-18, PLACE FINAL POLYUREA PAVEMENT MARKINGS AND SNOWPLOWABLE PAVEMENT MARKERS THROUGHOUT THE PROJECT.

NOTE: WAIT A MINIMUM OF 30 DAYS AFTER PLACEMENT OF THE FINAL LAYER OF SURFACE COURSE BEFORE INSTALLING THE SNOWPLOWABLE PAVEMENT MARKERS.

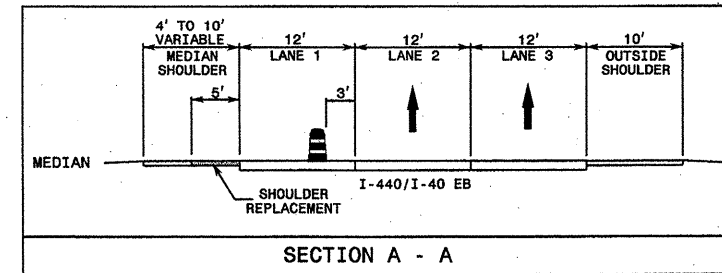
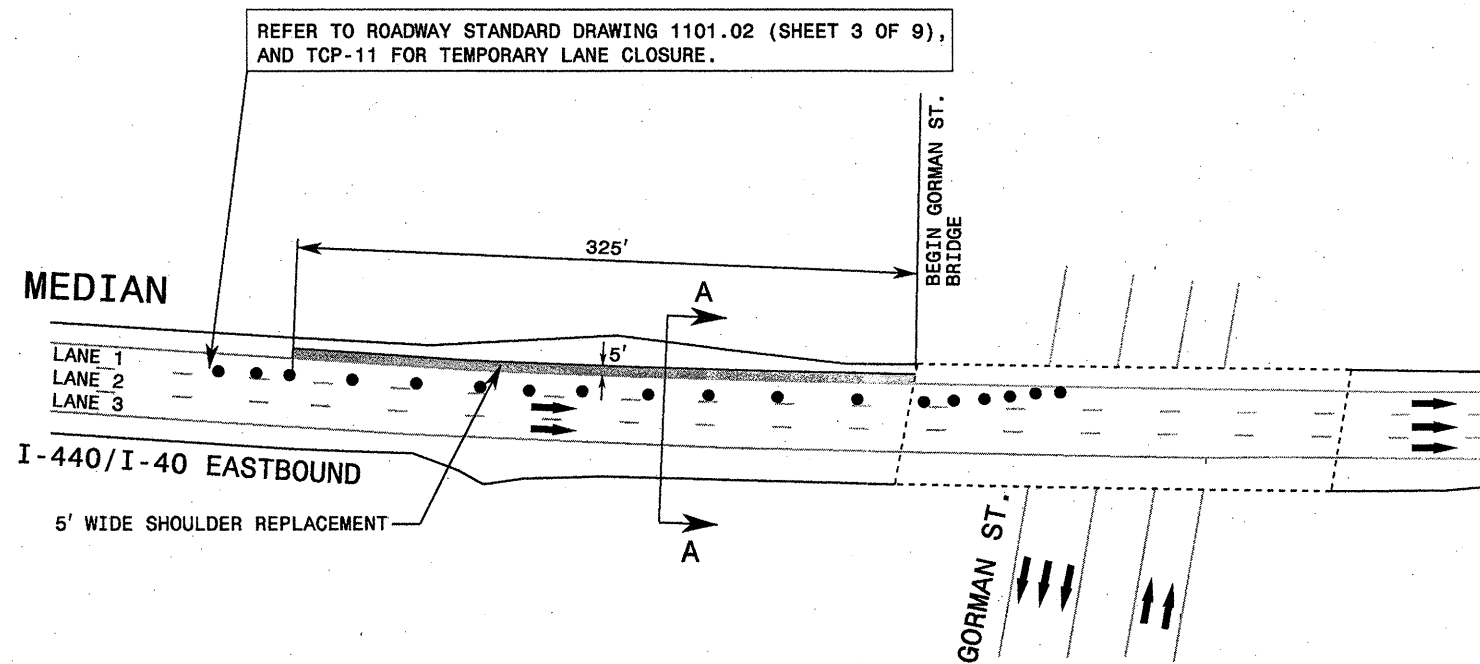
STEP 7) REMOVE WORK ZONE TRAFFIC CONTROL DEVICES AND OPEN THE ROADWAY TO THE FINAL PATTERN.

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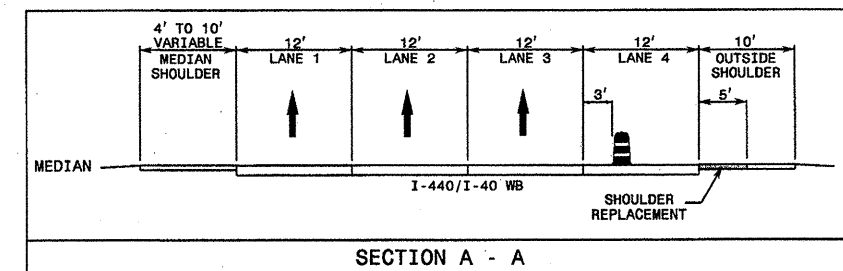
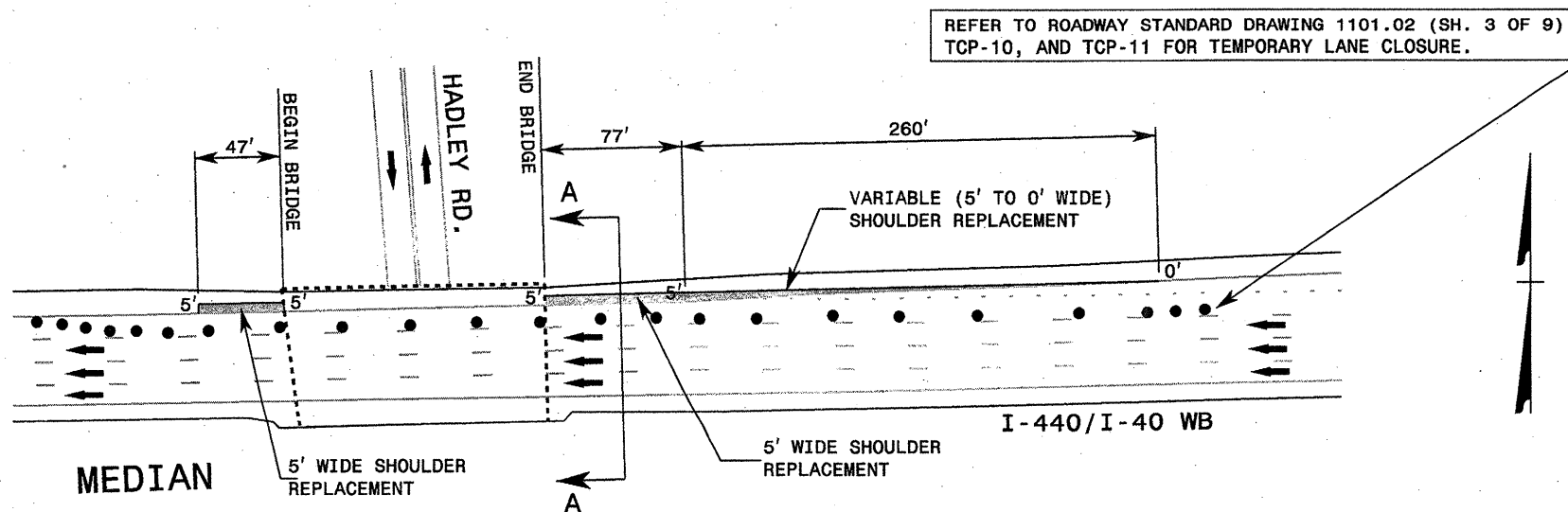
SHOULDER WORK

DETAIL A.1



I-40 EB 5' SHOULDER REPLACEMENT AT WEST END OF GORMAN ST. BRIDGE

DETAIL A.2



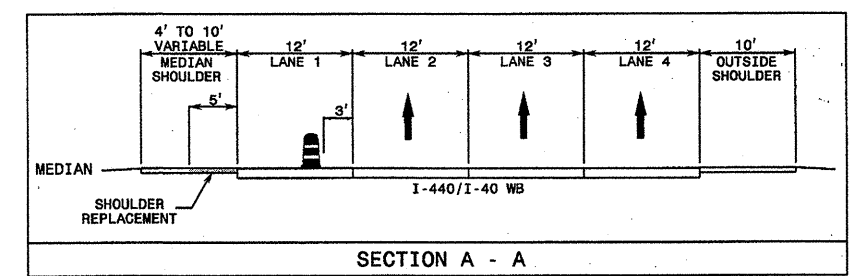
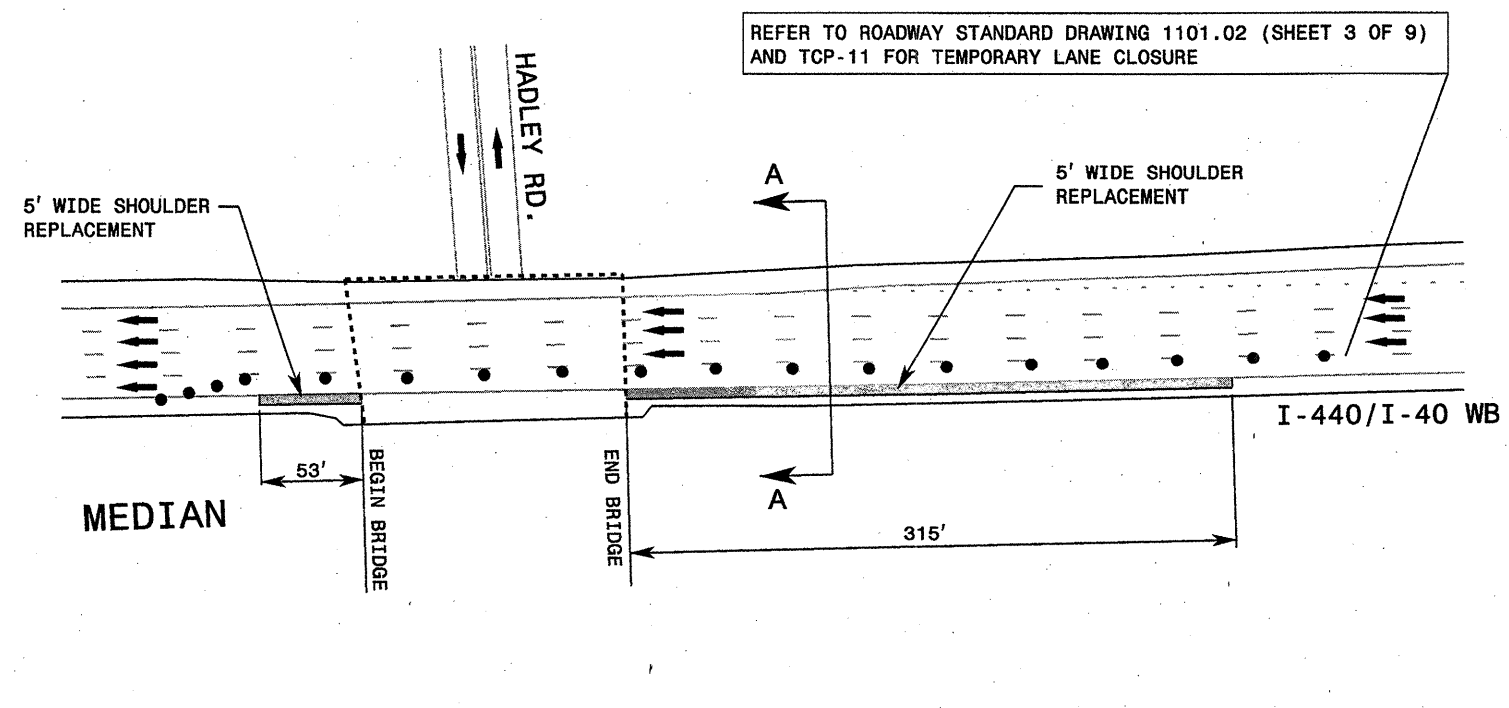
I-40 WB VARIABLE 5' TO 0' SHOULDER REPLACEMENT AT THE HADLEY RD. BRIDGE

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msteelman AT WZTC22462

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| APPROVED: | DATE: 4/13/07 | DETAILS A.1 & A.2 | |
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| DWG. BY: MHS | DESIGN BY: MHS | | REVISIONS |
| REVIEWED BY: HAL | GOOD FILE | | |

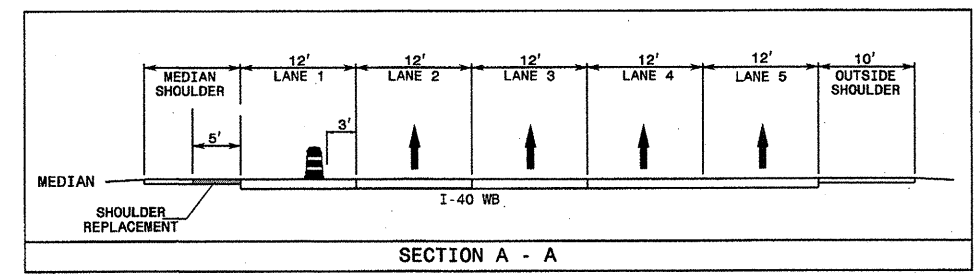
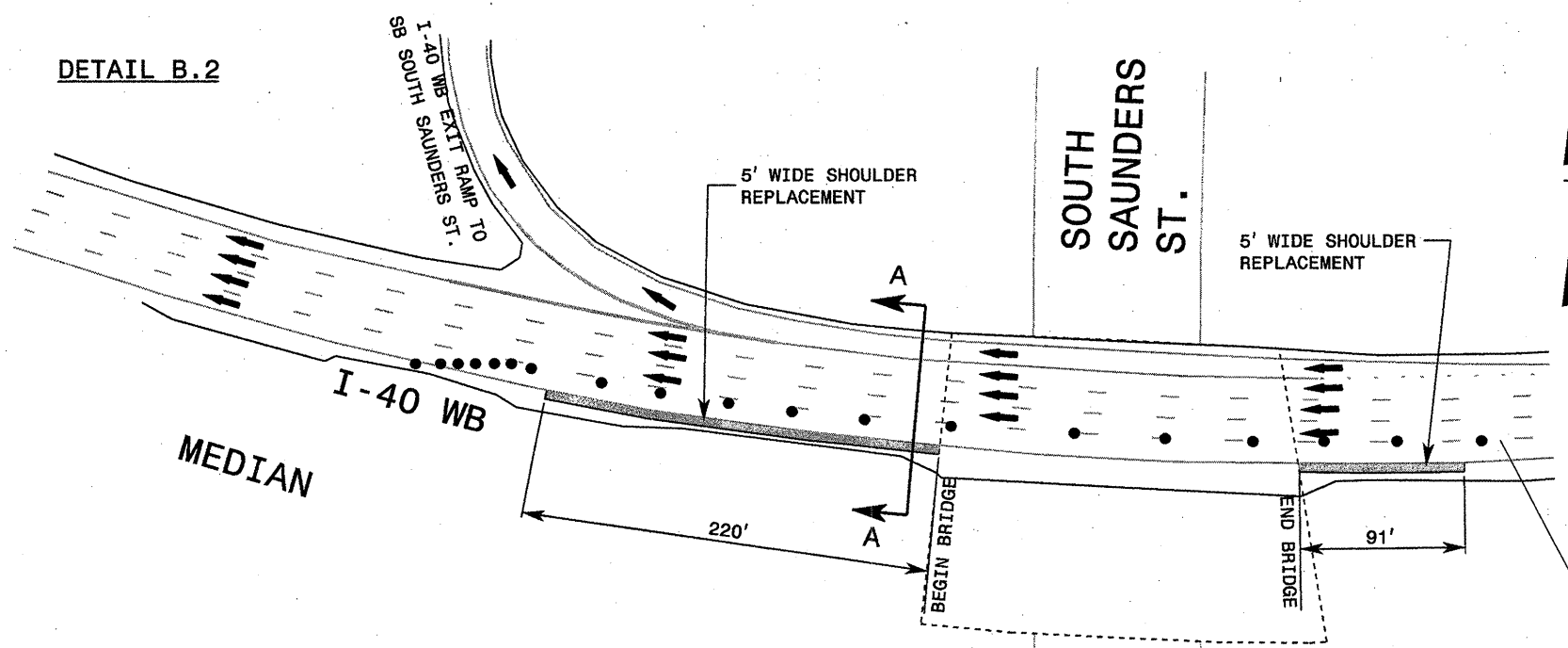
SHOULDER WORK

DETAIL B.1



I-40 WB VARIABLE 5' TO 0' SHOULDER REPLACEMENT AT THE HADLEY RD. BRIDGE

DETAIL B.2



I-40 WB VARIABLE 5' TO 0' SHOULDER REPLACEMENT AT THE SOUTH SAUNDERS ST. BRIDGE

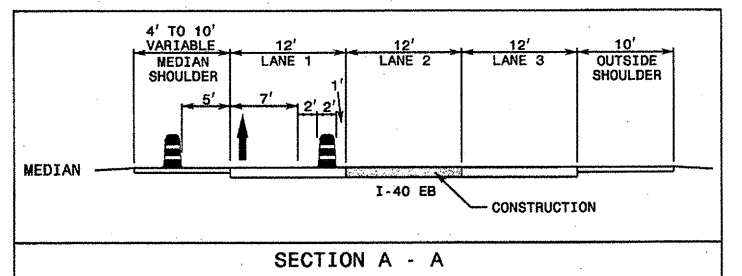
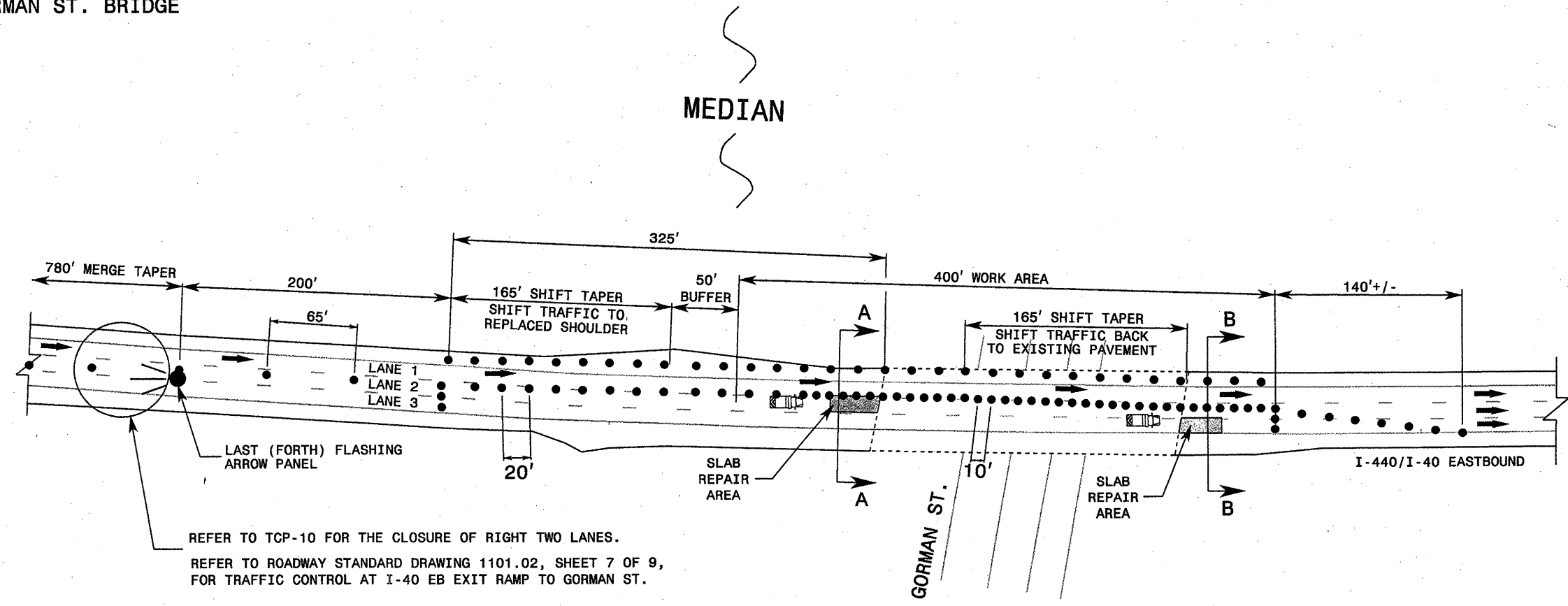
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 AT WZTC2462
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APPROVED: _____ DATE: _____

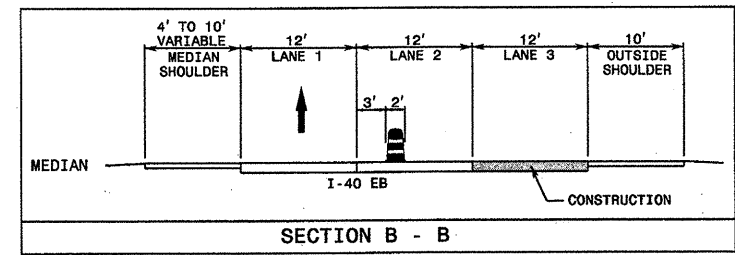
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| REVIEWED BY: | HAL | | | | | | | | | | | |

I-40 EB TRAFFIC CONTROL.
SLAB REPLACEMENT AT
GORMAN ST. BRIDGE

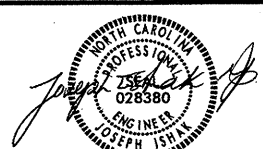



I-40 EB SLAB REPLACEMENT AT WEST END OF GORMAN ST. BRIDGE



I-40 EB SLAB REPLACEMENT AT EAST END OF GORMAN ST. BRIDGE

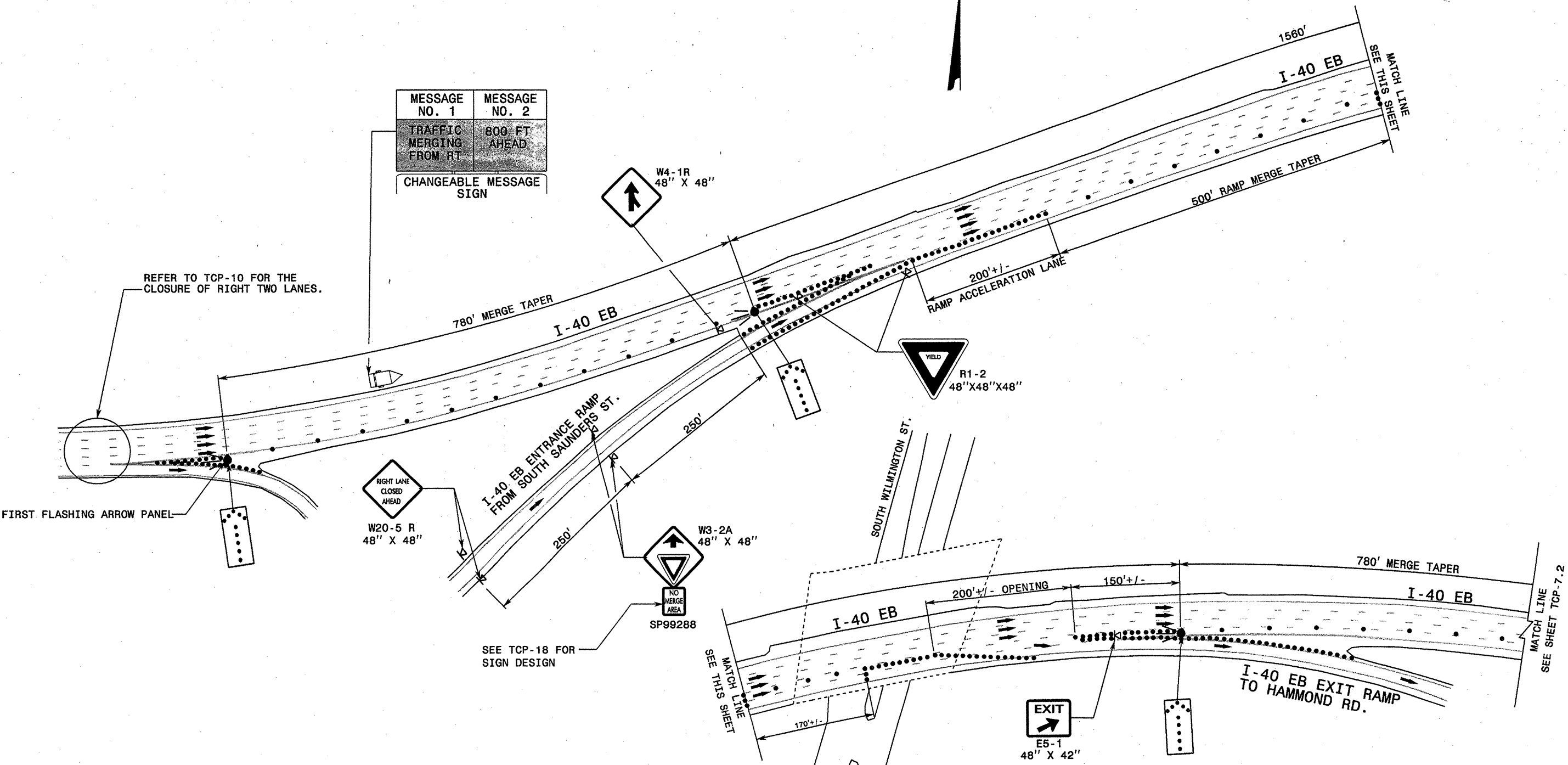
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| SCALE: NONE | DATE: 3/07 |  | REVISIONS |
| DWG. BY: MHS | | | |
| DESIGN BY: MHS | | | |
| REVIEWED BY: HAL | | | |

I-40 EB TRAFFIC CONTROL.
SLAB REPLACEMENT AT HAMMOND RD.
BRIDGE & SOUTHERN RAILROAD BRIDGE



| | |
|-------------------------|---------------|
| MESSAGE NO. 1 | MESSAGE NO. 2 |
| TRAFFIC MERGING FROM RT | 800 FT AHEAD |
| CHANGEABLE MESSAGE SIGN | |

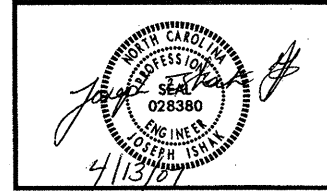


REFER TO TCP-10 FOR THE CLOSURE OF RIGHT TWO LANES.

FIRST FLASHING ARROW PANEL

SEE TCP-18 FOR SIGN DESIGN

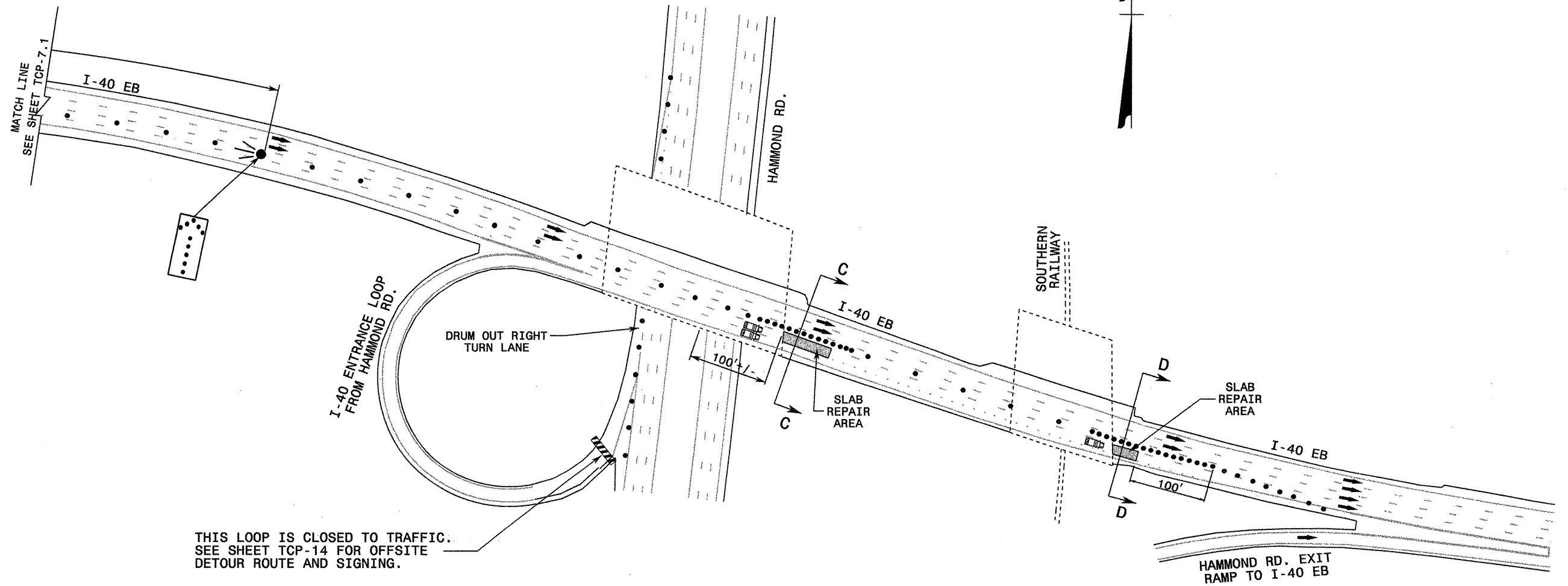
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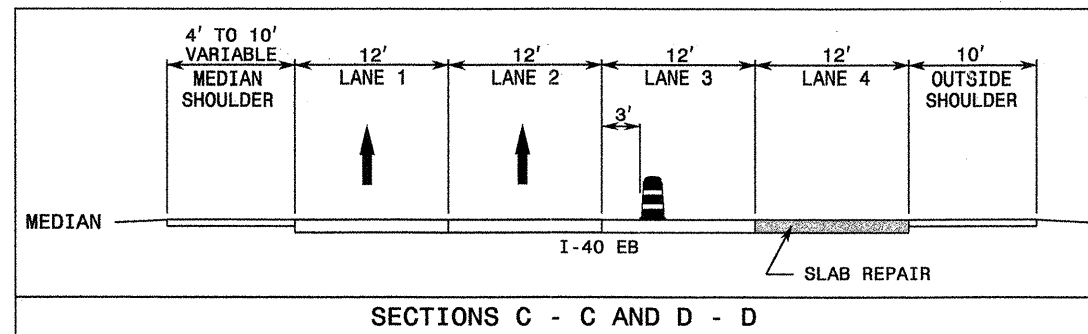
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| DATE: MAR-07 | | | | | | | | | |
| DESIGN BY: MHS | | | | | | | | | |
| REVIEWED BY: HAL | | | | | | | | | |
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I-40 EB TRAFFIC CONTROL.
SLAB REPLACEMENT AT HAMMOND RD.
BRIDGE & SOUTHERN RAILROAD BRIDGE



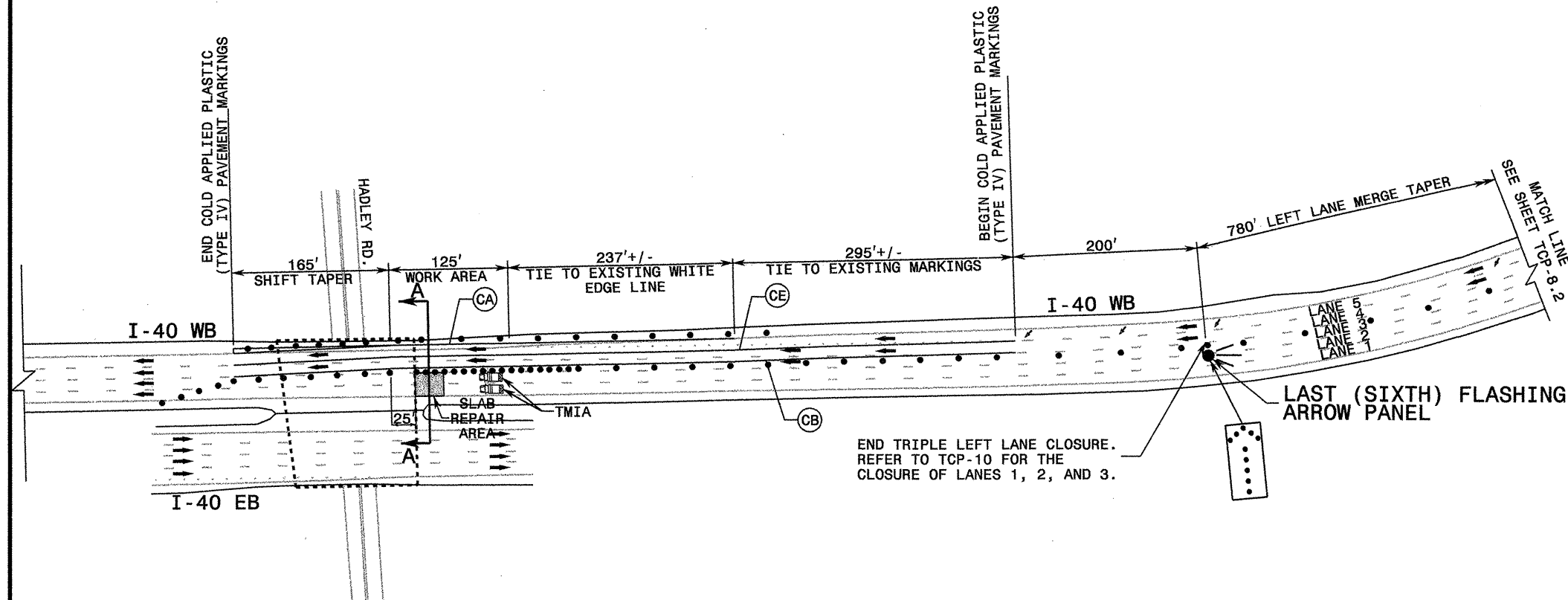
THIS LOOP IS CLOSED TO TRAFFIC.
SEE SHEET TCP-14 FOR OFFSITE
DETOUR ROUTE AND SIGNING.



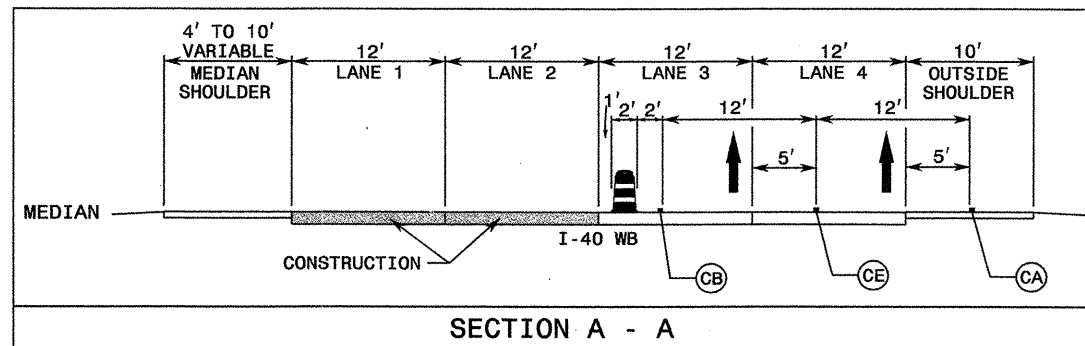
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I-40 WB TRAFFIC CONTROL.
SLAB REPAIR ON LANES 1 & 2 AT
THE EAST SIDE OF HADLEY RD. BRIDGE



REFER TO SHEET TCP-10 FOR THE
CLOSURE OF LEFT 3 LANES

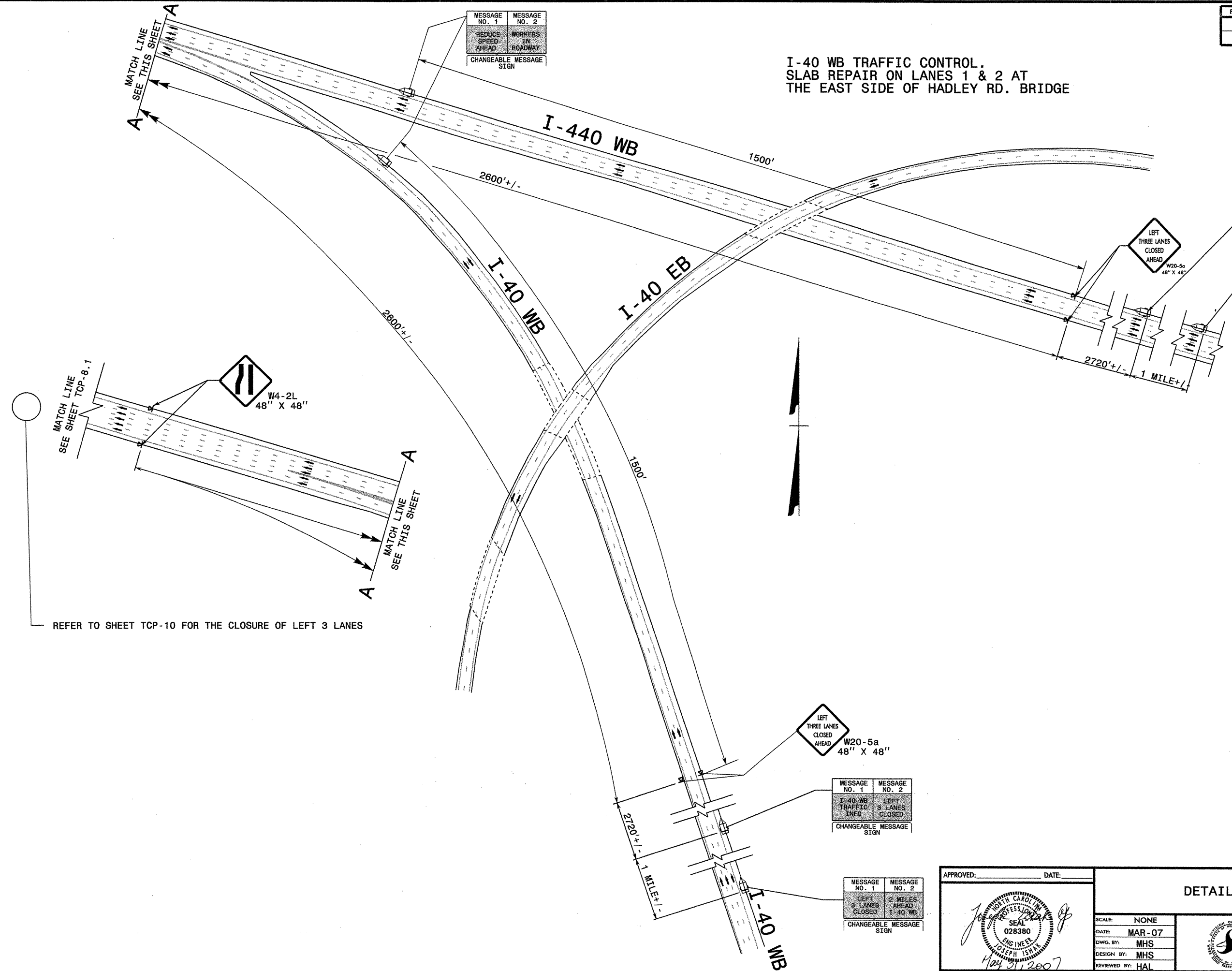


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May 31, 2007

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 mstreelman AT WZTC22462

I-40 WB TRAFFIC CONTROL.
SLAB REPAIR ON LANES 1 & 2 AT
THE EAST SIDE OF HADLEY RD. BRIDGE

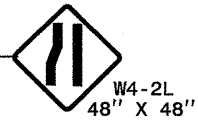


| | |
|-------------------------|--------------------|
| MESSAGE NO. 1 | MESSAGE NO. 2 |
| REDUCE SPEED AHEAD | WORKERS IN ROADWAY |
| CHANGEABLE MESSAGE SIGN | |

| | |
|-------------------------|---------------------|
| MESSAGE NO. 1 | MESSAGE NO. 2 |
| I-40 WB TRAFFIC INFO | LEFT 3 LANES CLOSED |
| CHANGEABLE MESSAGE SIGN | |

| | |
|-------------------------|-----------------------|
| MESSAGE NO. 1 | MESSAGE NO. 2 |
| LEFT 3 LANES CLOSED | 2 MILES AHEAD I-40 WB |
| CHANGEABLE MESSAGE SIGN | |

MATCH LINE
SEE SHEET TCP-8.1



MATCH LINE
SEE THIS SHEET

REFER TO SHEET TCP-10 FOR THE CLOSURE OF LEFT 3 LANES



| | |
|-------------------------|---------------------|
| MESSAGE NO. 1 | MESSAGE NO. 2 |
| I-40 WB TRAFFIC INFO | LEFT 3 LANES CLOSED |
| CHANGEABLE MESSAGE SIGN | |

| | |
|-------------------------|-----------------------|
| MESSAGE NO. 1 | MESSAGE NO. 2 |
| LEFT 3 LANES CLOSED | 2 MILES AHEAD I-40 WB |
| CHANGEABLE MESSAGE SIGN | |

APPROVED: _____ DATE: _____

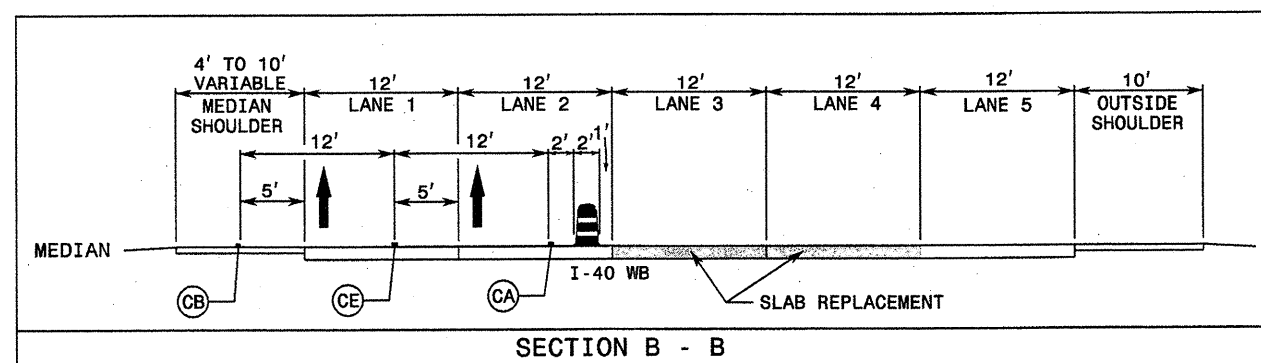
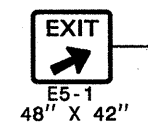
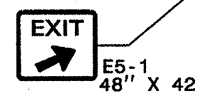
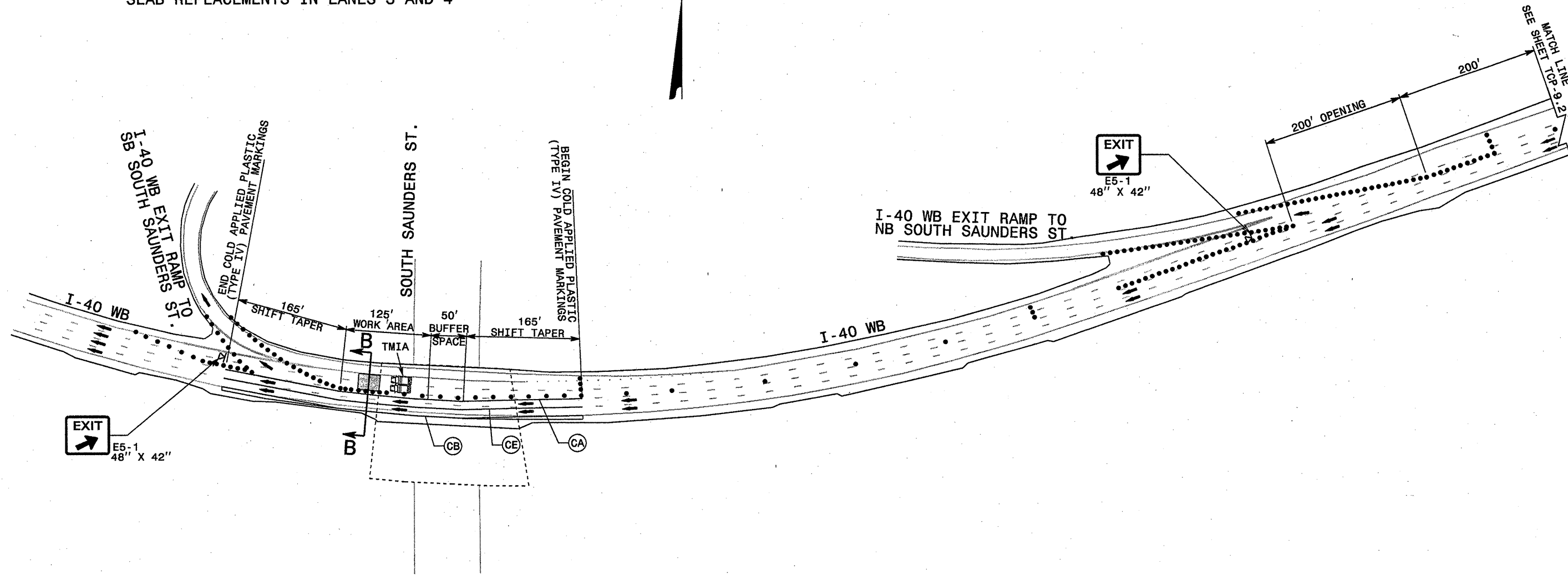
May 21, 2007

DETAIL E.2

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I-40 WESTBOUND TRAFFIC CONTROL FOR
SLAB REPLACEMENTS IN LANES 3 AND 4



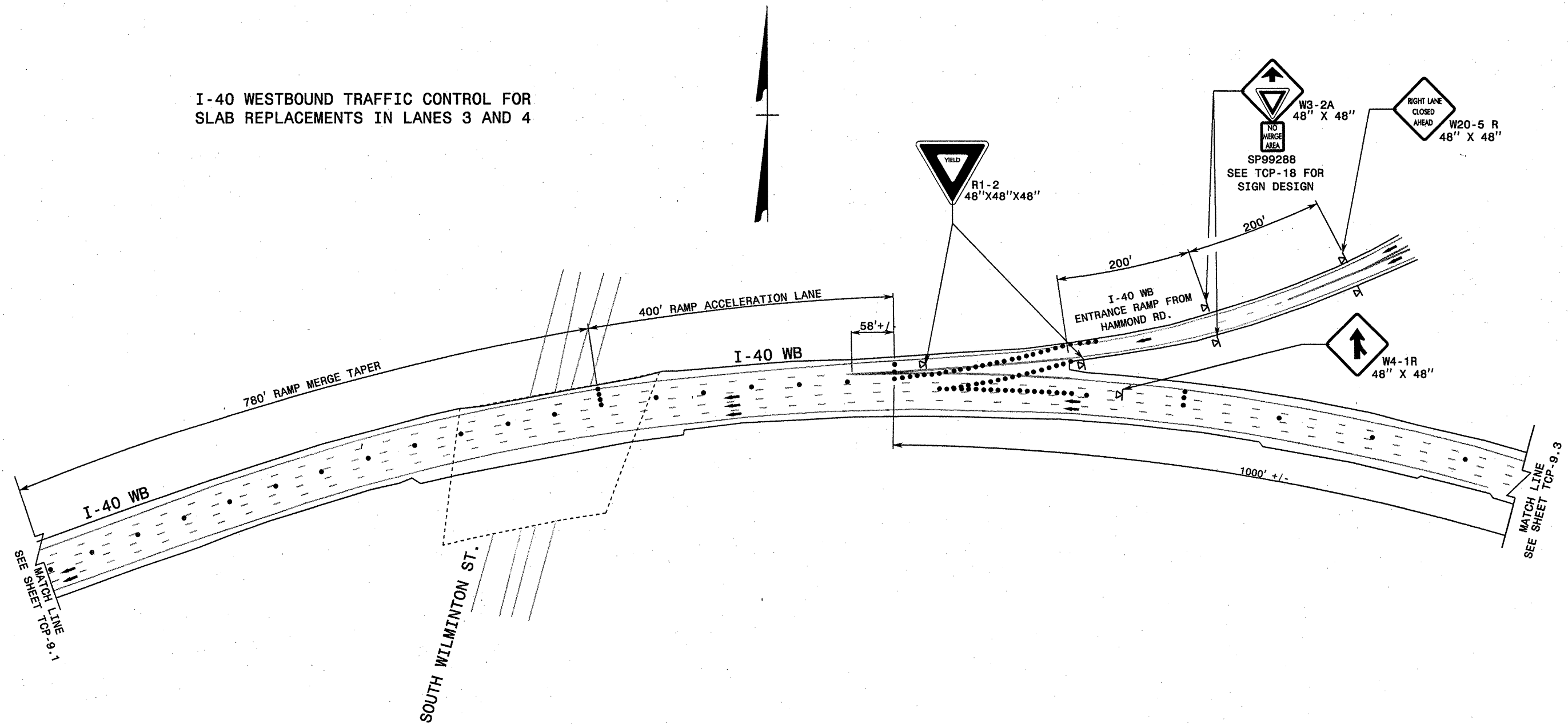
I-40 WB LANES AT WEST SIDE OF SOUTH SAUNDERS ST. BRIDGE

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| SCALE: NONE | DATE: MAR-07 | | REVISIONS |
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| REVIEWED BY: HAL | | | |

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I-40 WESTBOUND TRAFFIC CONTROL FOR SLAB REPLACEMENTS IN LANES 3 AND 4



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 msteeman AT WZ 1022462

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I-40 WESTBOUND TRAFFIC CONTROL FOR
SLAB REPLACEMENTS IN LANES 3 AND 4

| | |
|-------------------------|---------------|
| MESSAGE NO. 1 | MESSAGE NO. 2 |
| TRAFFIC MERGING FROM RT | 1000 FT AHEAD |
| CHANGEABLE MESSAGE SIGN | |

MATCH LINE
SEE SHEET TCP-9.2

HAMMOND RD.

SOUTHERN RAILWAY

I-40 WB EXIT RAMP
TO HAMMOND RD.



EXIT
E5-1
48" X 42"

OLD GARNER RD.

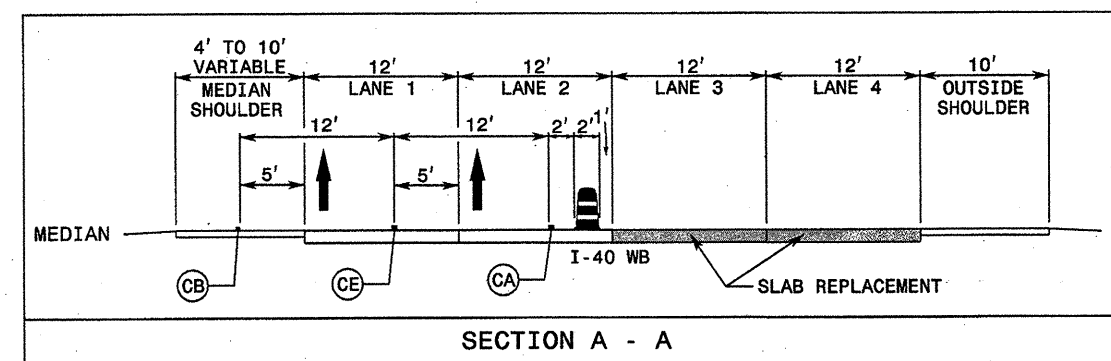
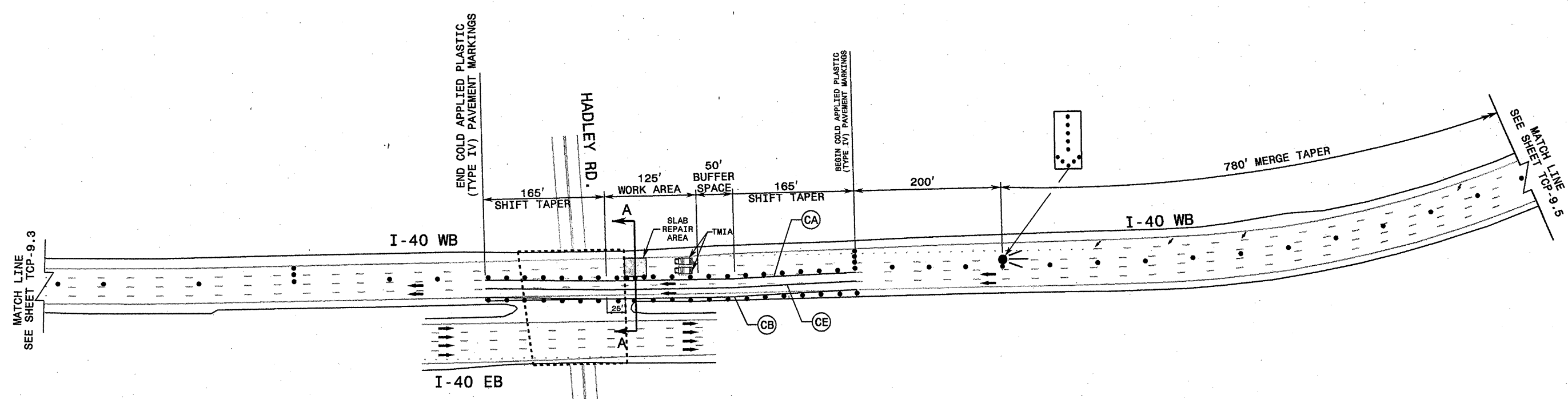
120'+/-
200' OPENING

MATCH LINE
SEE SHEET TCP-9.4

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msteelman AT WZTC22462

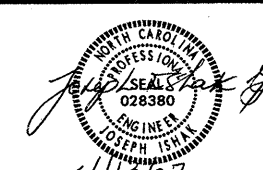

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| APPROVED: | DATE: | DETAIL F.3 | |
|  | | | |
| SCALE: | NONE |  | REVISIONS |
| DATE: | MAR-07 | | |
| DWG. BY: | MHS | | |
| DESIGN BY: | MHS | | |
| REVIEWED BY: | HAL | | |

I-40 WESTBOUND TRAFFIC CONTROL FOR SLAB REPLACEMENTS IN LANES 3 AND 4



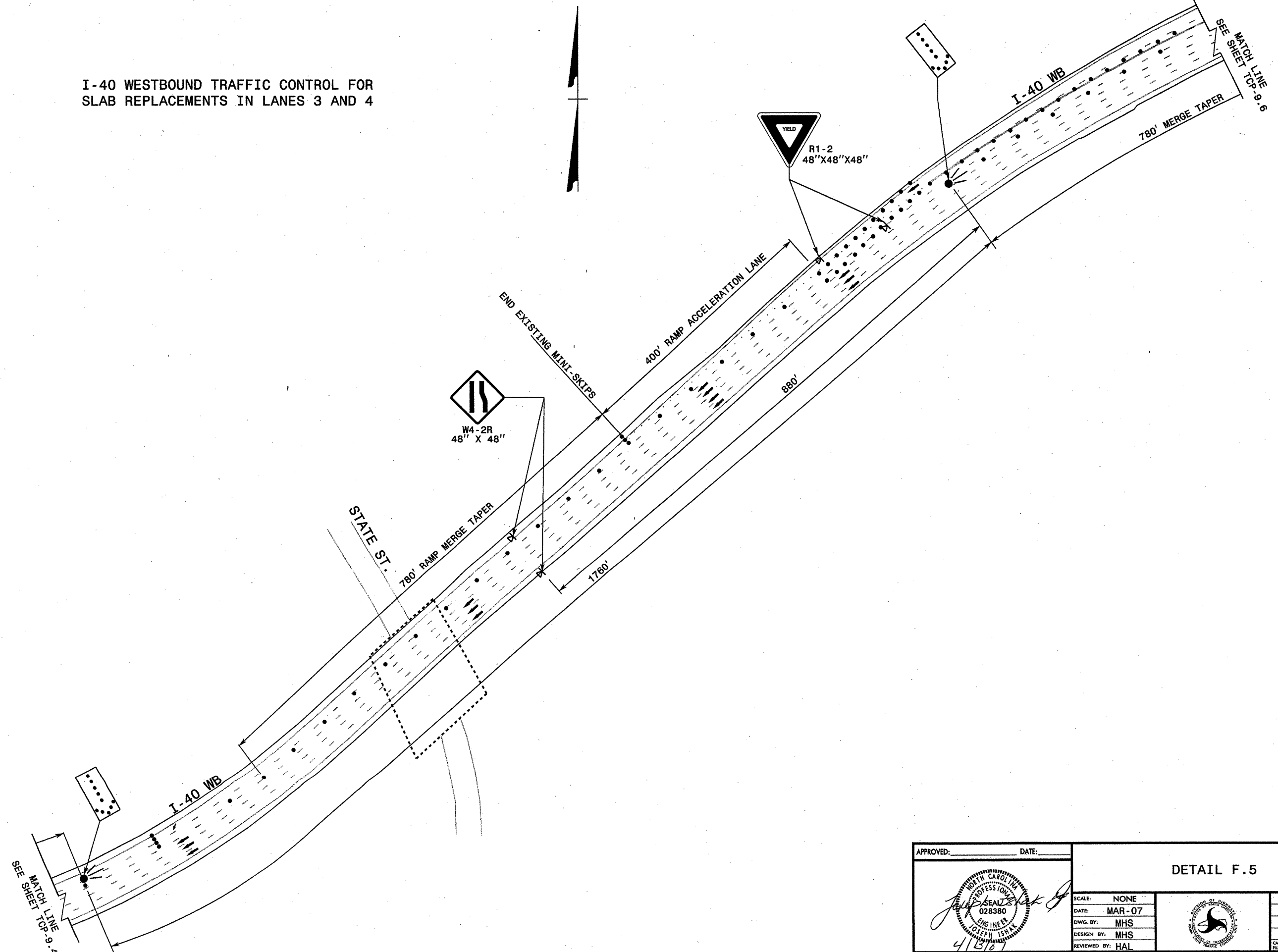
I-40 WB LANES AT EAST SIDE OF HADLEY RD. BRIDGE

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AT WZTC22462
mstfeilman

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| APPROVED: _____ | DATE: _____ | DETAIL F.4 | |
|  411327 | | | |
| SCALE: NONE | DATE: MAR-07 |  | REVISIONS |
| DWG. BY: MHS | DESIGN BY: MHS | | |
| REVIEWED BY: HAL | CADD FILE | | |

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|---------------------|-----------|
| PROJ. REFERENCE NO. | SHEET NO. |
| I-4709 | TCP-9.5 |

I-40 WESTBOUND TRAFFIC CONTROL FOR
SLAB REPLACEMENTS IN LANES 3 AND 4

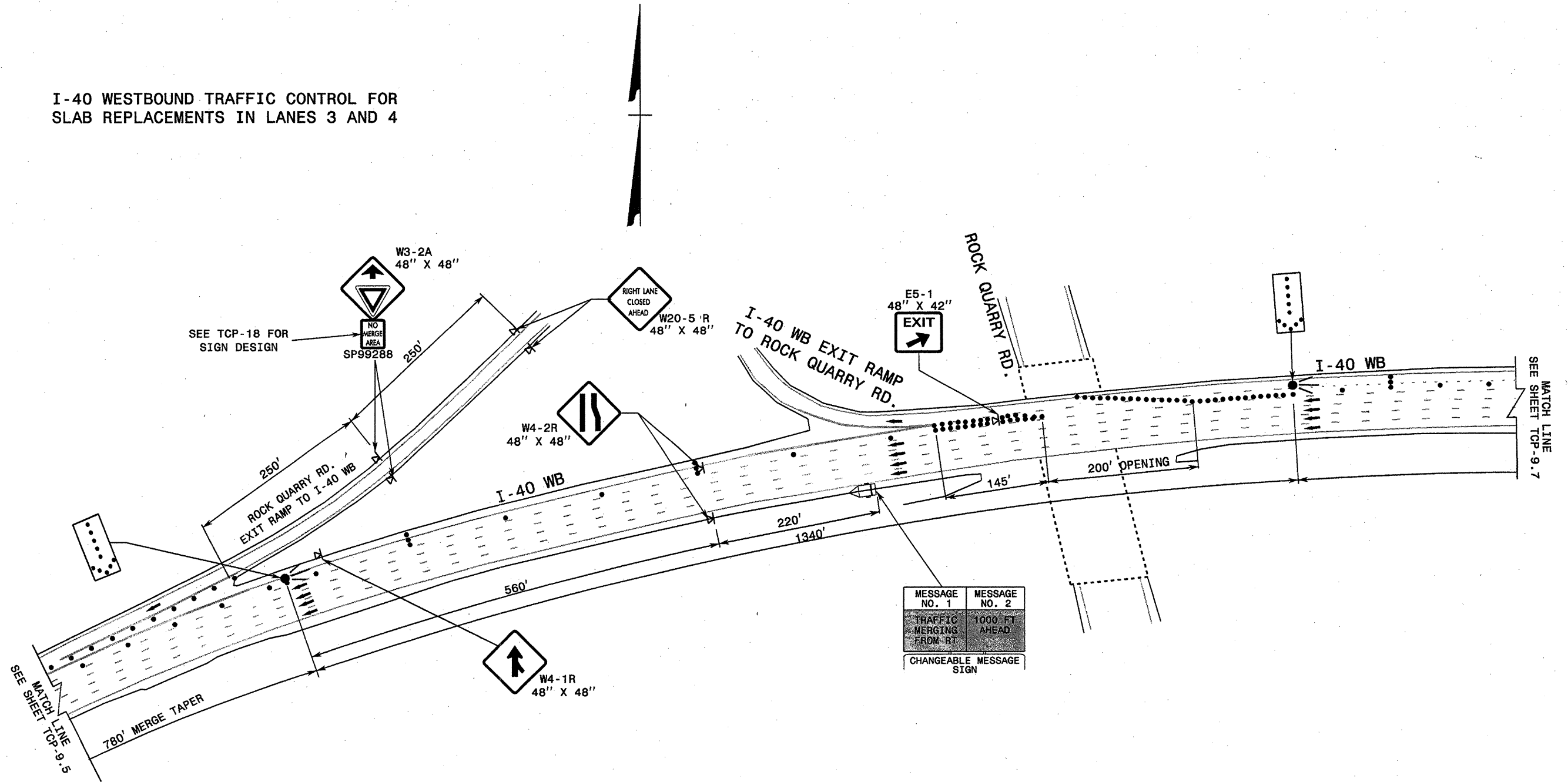


I-4709-2007 10:26
 \\dot\dfs\proj\projects\14705\trafficcontrol\top\top\I-4709.tc_top_09.dgn
 AT WZTC22462
 msteelman

| APPROVED: | DATE: | DETAIL F.5 | | | | | | | | | |
|--------------|--------|--|--|-----------|--|--|--|--|--|--|--|
| | | | | | | | | | | | |
| SCALE: | NONE | | | | | | | | | | |
| DATE: | MAR-07 | | | | | | | | | | |
| DWG. BY: | MHS | | | | | | | | | | |
| DESIGN BY: | MHS | | | | | | | | | | |
| REVIEWED BY: | HAL | <table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> | | REVISIONS | | | | | | | |
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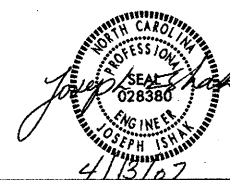
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| PROJ. REFERENCE NO. | SHEET NO. |
| I-4709 | TCP-9.6 |

I-40 WESTBOUND TRAFFIC CONTROL FOR SLAB REPLACEMENTS IN LANES 3 AND 4



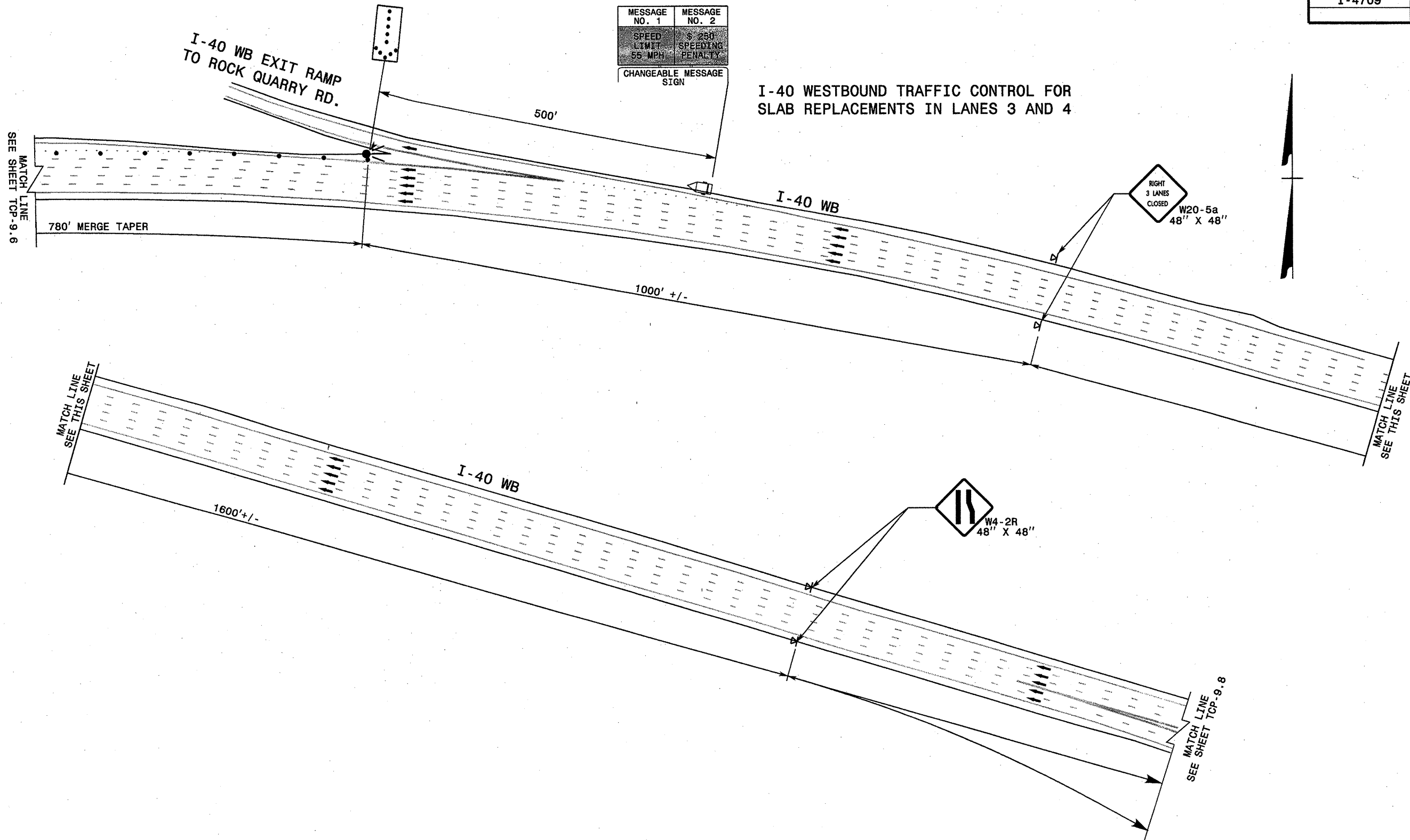
I:\APR-2007\10-27\pro\1\project\trafficoontrol\tcp\I-4709_tc_tcp_09.dgn
 msteelman AT WZT22462

APPROVED: _____ DATE: _____



| DETAIL F.6 | |
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| SCALE: NONE | REVISIONS |
| DATE: MAR-07 | |
| DWG. BY: MHS | |
| DESIGN BY: MHS | |
| REVIEWED BY: HAL | |
| | CADD FILE |

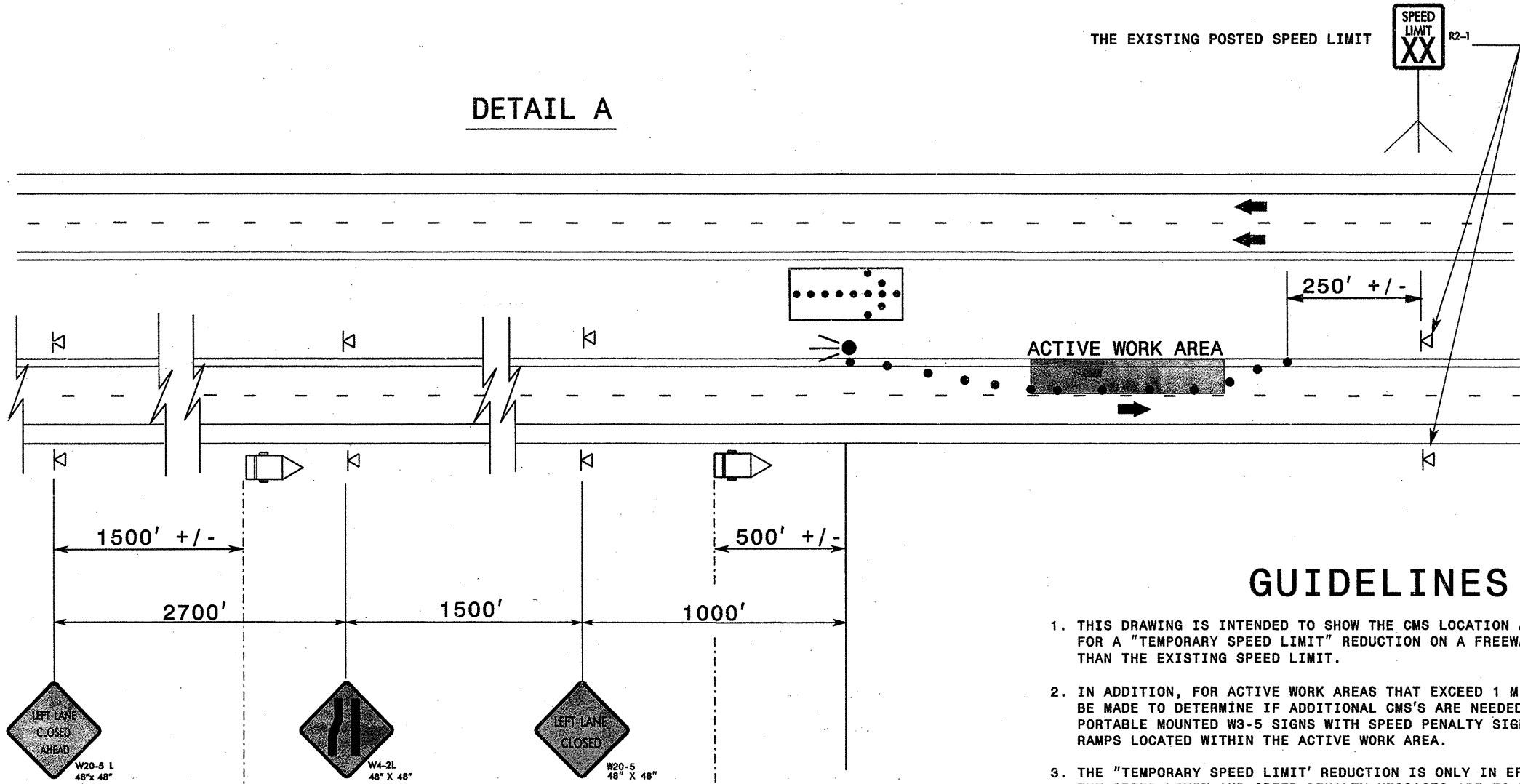
| | |
|-------------------------|-------------------------|
| MESSAGE NO. 1 | MESSAGE NO. 2 |
| SPEED LIMIT 55 MPH | \$ 250 SPEEDING PENALTY |
| CHANGEABLE MESSAGE SIGN | |



13-APR-2007 10:27
 c:\p01\projects\14705\traffic\trafficcontrol\top\top\1-4709.tc_top_09.dgn
 mstseimn - A1 WZ 1022462

| APPROVED: _____ DATE: _____ | DETAIL F.7 | | <table border="1"> <tr> <td>SCALE: NONE</td> <td rowspan="4"> </td> <td colspan="2" rowspan="4"> <table border="1"> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> </td> </tr> <tr> <td>DATE: MAR-07</td> <td rowspan="3"> </td> <td colspan="2">CADD FILE</td> </tr> <tr> <td>DWG. BY: MHS</td> <td colspan="2"> </td> </tr> <tr> <td>DESIGN BY: MHS</td> <td colspan="2"> </td> </tr> <tr> <td>REVIEWED BY: HAL</td> <td colspan="2"> </td> <td> </td> </tr> </table> | | SCALE: NONE | | <table border="1"> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> | | REVISIONS | | | | | | | | DATE: MAR-07 | | CADD FILE | | DWG. BY: MHS | | | DESIGN BY: MHS | | | REVIEWED BY: HAL | | | |
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| SCALE: NONE | | | | | | | | | <table border="1"> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> | | REVISIONS | | | | | | | | | | | | | | | | | | | |
| REVISIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| DATE: MAR-07 | | CADD FILE | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DWG. BY: MHS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DESIGN BY: MHS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| REVIEWED BY: HAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

DETAIL A



GUIDELINES

1. THIS DRAWING IS INTENDED TO SHOW THE CMS LOCATION AND MESSAGING REQUIRED FOR A "TEMPORARY SPEED LIMIT" REDUCTION ON A FREEWAY WHICH IS 10 MPH OR LESS THAN THE EXISTING SPEED LIMIT.
2. IN ADDITION, FOR ACTIVE WORK AREAS THAT EXCEED 1 MILE IN LENGTH, AN EVALUATION IS TO BE MADE TO DETERMINE IF ADDITIONAL CMS'S ARE NEEDED TO SUPPLEMENT THE INITIAL ONES. PORTABLE MOUNTED W3-5 SIGNS WITH SPEED PENALTY SIGNS ARE TO BE PLACED ALONG ENTRANCE RAMP LOCATED WITHIN THE ACTIVE WORK AREA.
3. THE "TEMPORARY SPEED LIMIT" REDUCTION IS ONLY IN EFFECT WHEN WORKERS ARE PRESENT. THE SPEED LIMIT AND SPEED PENALTY MESSAGES ARE TO BE REMOVED AND THE SIGNS ARE TO BE TURNED OFF OR OTHER PERTINENT MESSAGING MAY BE DISPLAYED. AT THE COMPLETION OF THE ACTIVITY, THE REGIONAL TRAFFIC ENGINEER SHALL BE NOTIFIED BY THE RESIDENT ENGINEER TO RESCIND THE ORDINANCE.
4. WHEN "TEMPORARY SPEED LIMIT" REDUCTIONS ARE IN EFFECT, THE CONTRACTOR IS TO COVER ANY EXISTING SPEED LIMIT SIGNS LOCATED WITHIN THE ACTIVE WORK AREA THAT CONFLICT WITH THE "TEMPORARY SPEED LIMIT" REDUCTION.
5. REFER TO RSD 1101.02, SHEET 3 OF 9, FOR LEFT AND RIGHT LANE CLOSURES.
6. ONE ADDITIONAL CMS IS REQUIRED TO COMPLY WITH RSD 1101.02, SHEET 3 OF 9.
7. WHEN TWO SINGLE LANE CLOSURES ARE INSTALLED IN ANY ONE DIRECTION, EXTEND THE LIMITS OF THE SPEED REDUCTION AND \$250 SPEEDING PENALTY TO THE END OF THE SECOND SINGLE LANE CLOSURE.
8. ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE. FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.

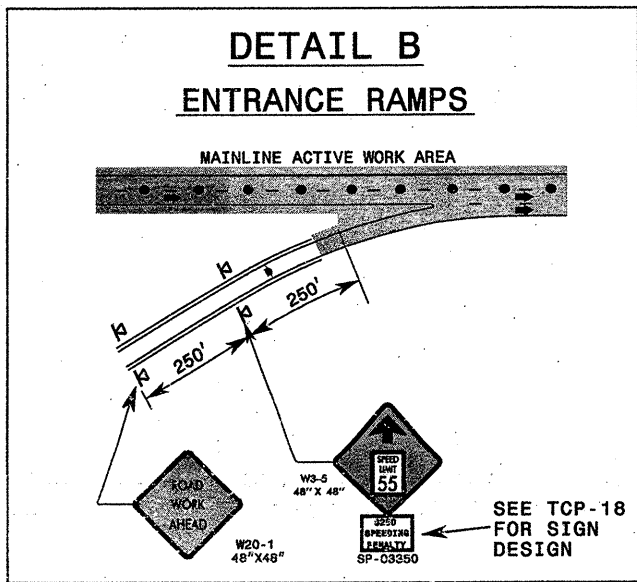
| MESSAGE NO. 1 | MESSAGE NO. 2 |
|--------------------|--------------------|
| REDUCE SPEED AHEAD | WORKERS IN ROADWAY |

CHANGEABLE MESSAGE SIGN

| MESSAGE NO. 1 | MESSAGE NO. 2 |
|--------------------|------------------------|
| SPEED LIMIT 55 MPH | \$250 SPEEDING PENALTY |

CHANGEABLE MESSAGE SIGN

**DETAIL B
ENTRANCE RAMP**

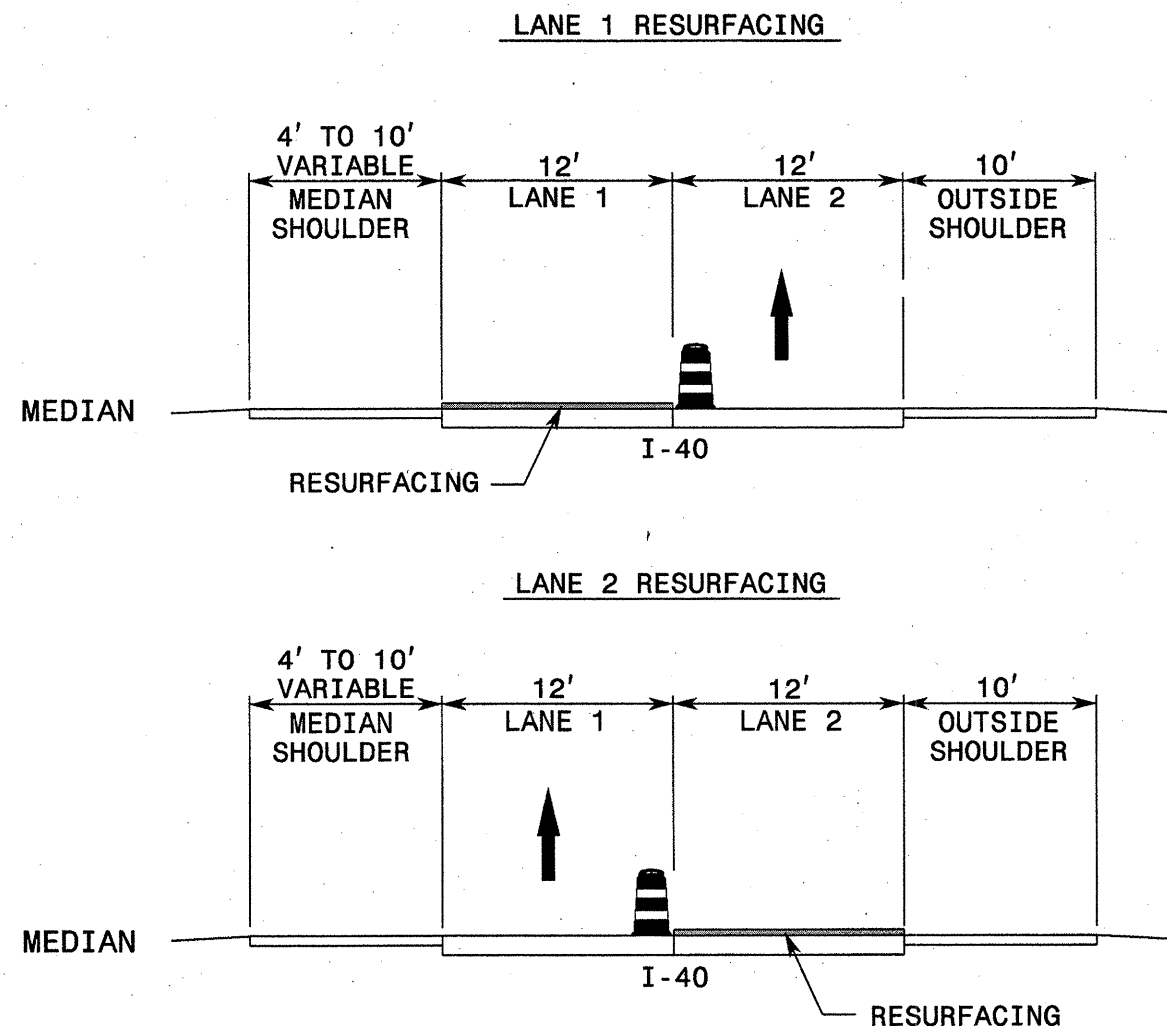


| | | | |
|-----------------------------|---|---------------|-----------|
| APPROVED: _____ DATE: _____ | <p align="center">"TEMPORARY SPEED LIMIT" REDUCTION AND INTERSTATE SINGLE LANE CLOSURE</p> | SCALE: NONE | REVISIONS |
| | | DATE: APR. 07 | |
| | DWG. BY: MHS | | |
| | DESIGN BY: MHS | | |
| REVIEWED BY: HAL | | | |

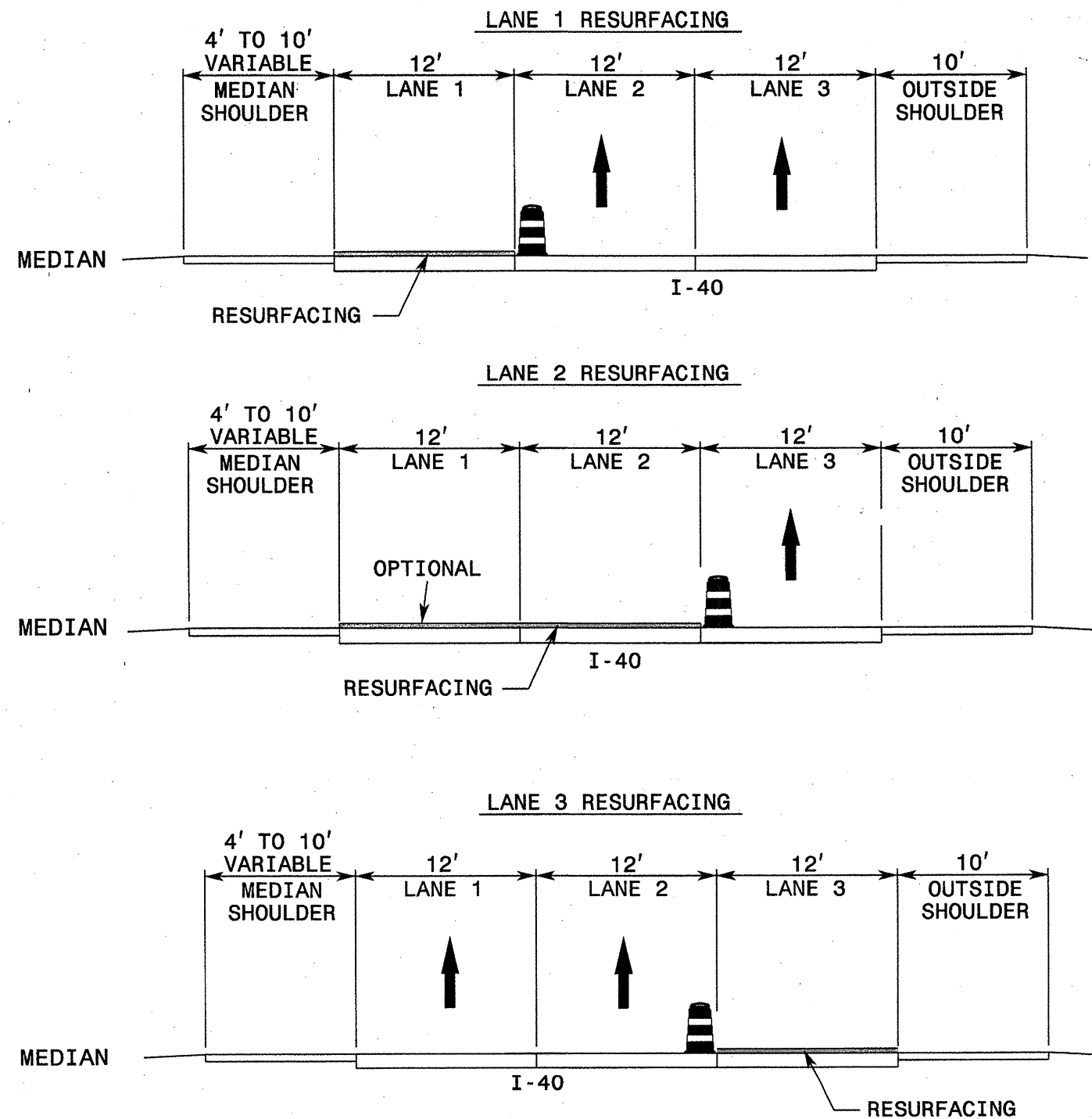
April 30, 2007

01-MAY-2007 09:28
 \\dot\cfs\proj\proj\projects-N\4709\tr\aff\control\top\tcp-1-4709.tc_tcp-10-ll.dgn
 msteelman AT WZTC2462

TYPICAL SECTIONS FOR RESURFACING OPERATIONS ON 2-LANE SECTION



TYPICAL SECTIONS FOR RESURFACING OPERATIONS ON 3-LANE SECTION

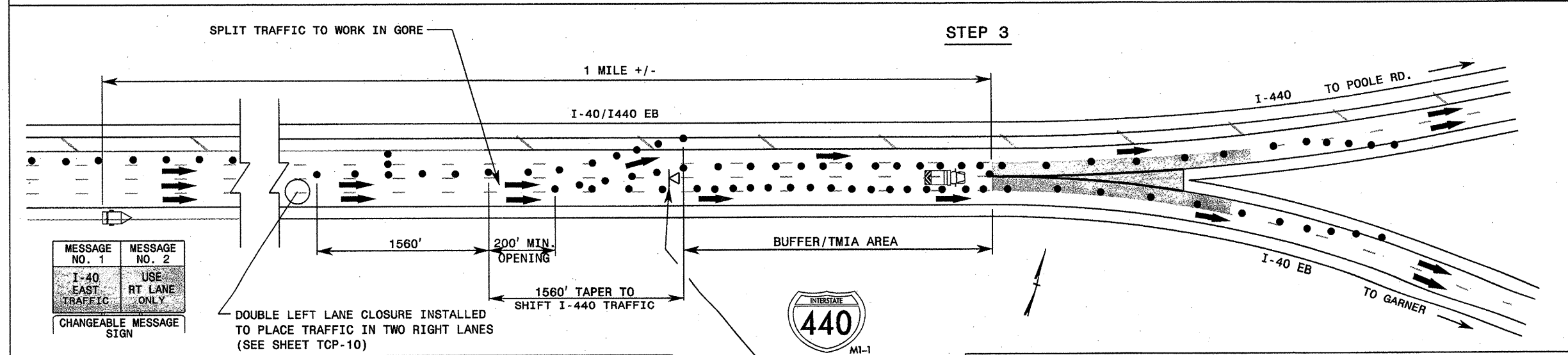
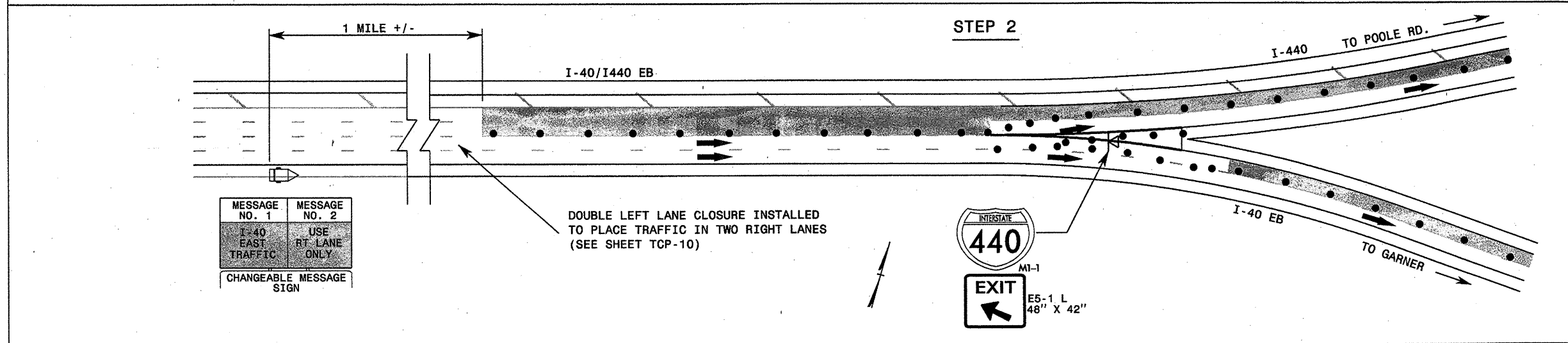
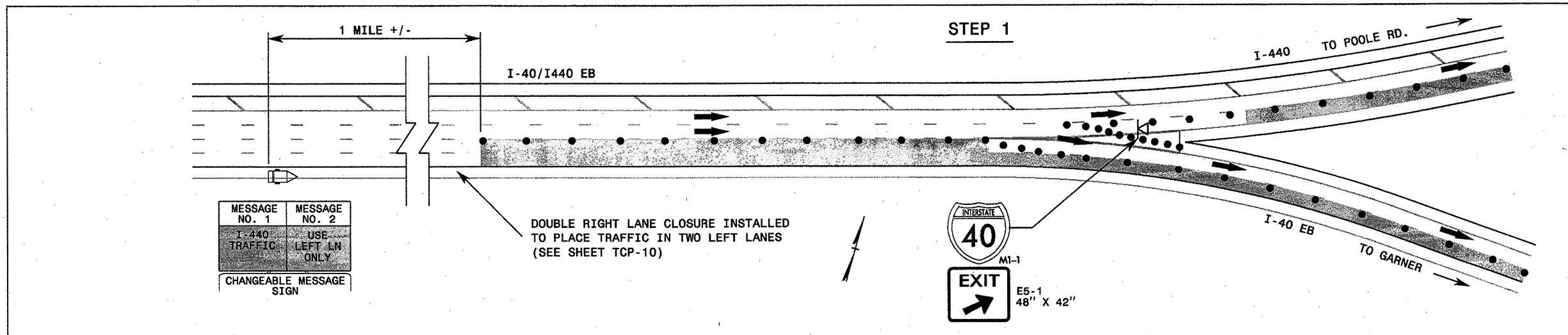


13-APR-2007 10:30
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 msteelman AT WZTC2462

| APPROVED: _____ | DATE: _____ | TYPICALS | | | | | | | | | |
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| DWG. BY: MHS | DESIGN BY: MHS | | | | | | | | | | |
| REVIEWED BY: HAL | | | | | | | | | | | |

4/13/07

RESURFACING AT EB I-40/I-440 SPLIT



APPROVED: _____ DATE: _____

DETAIL G

SCALE: NONE

DATE: APR. 07

DESIGN BY: MHS

REVIEWED BY: HAL

REVISIONS

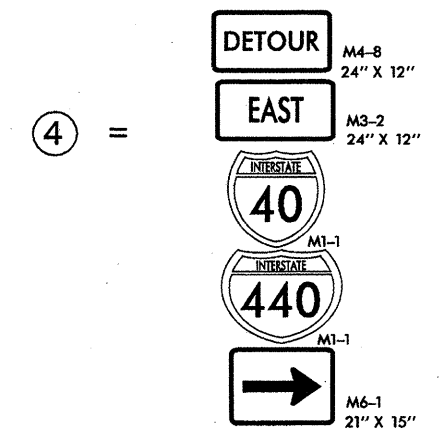
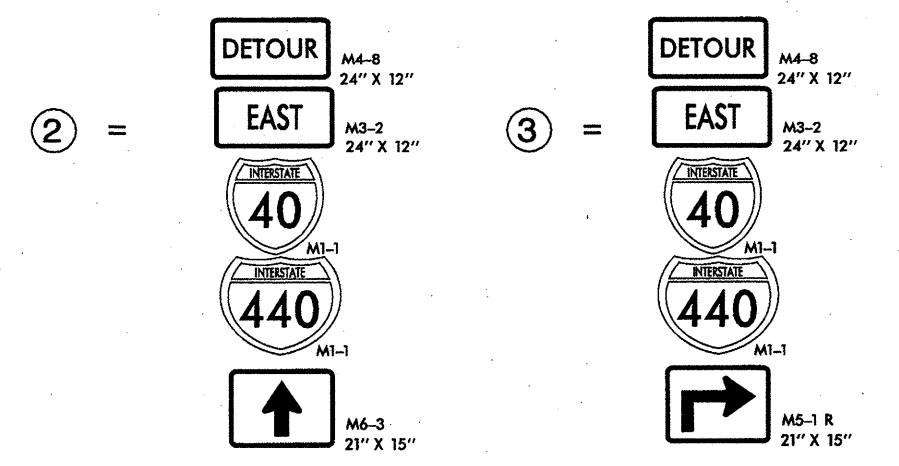
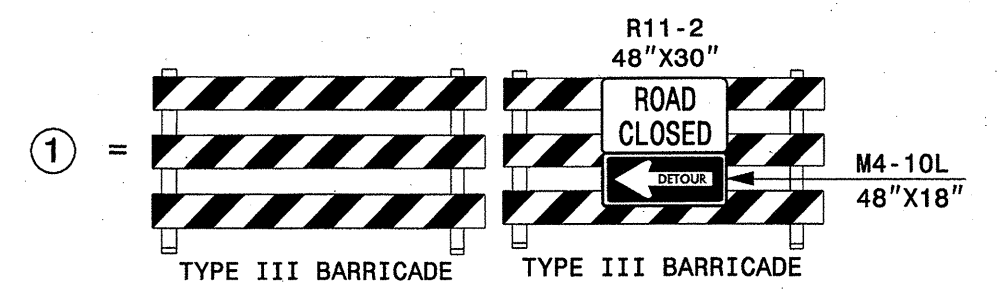
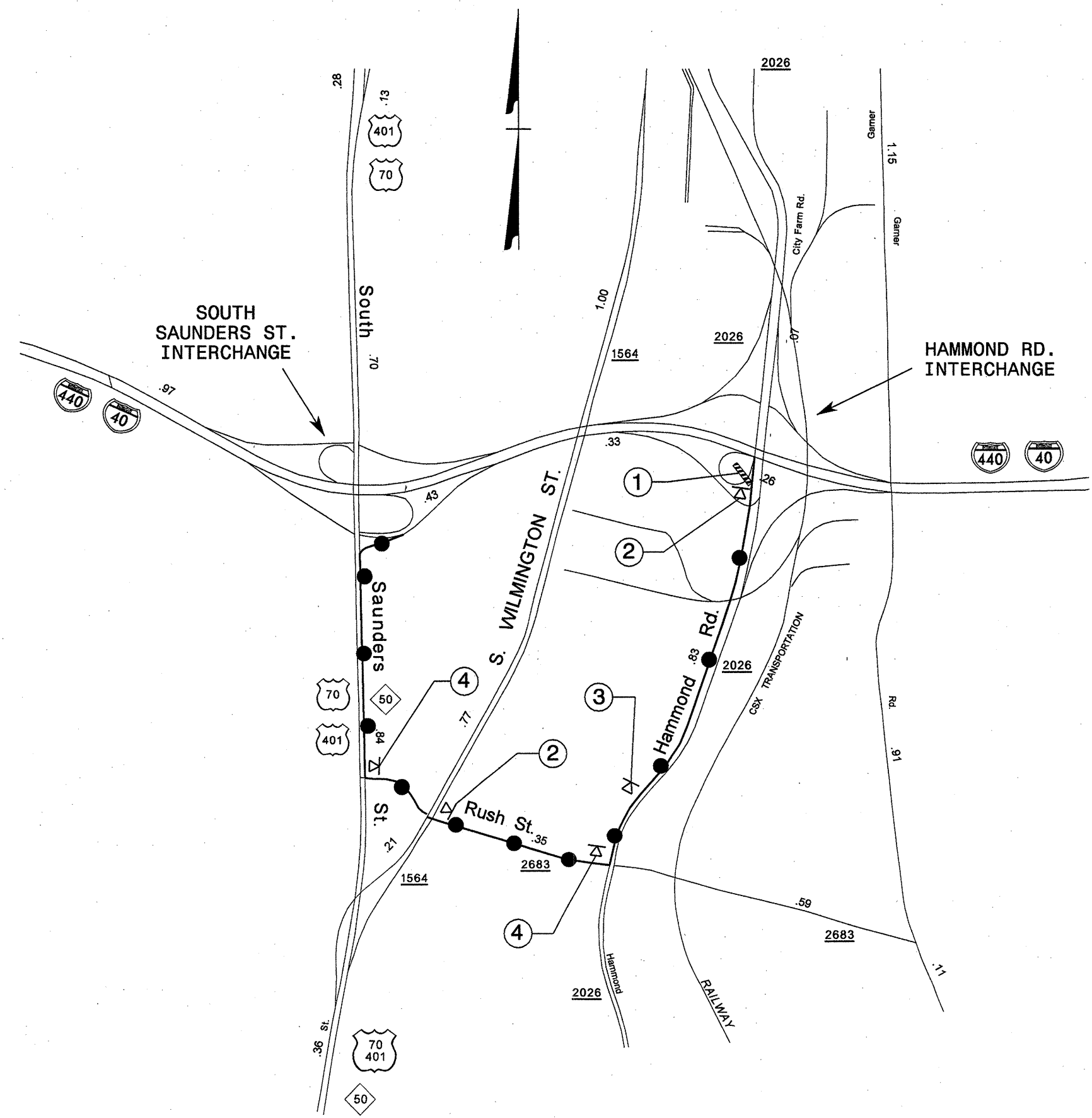
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4/13/07

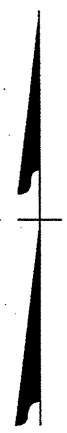
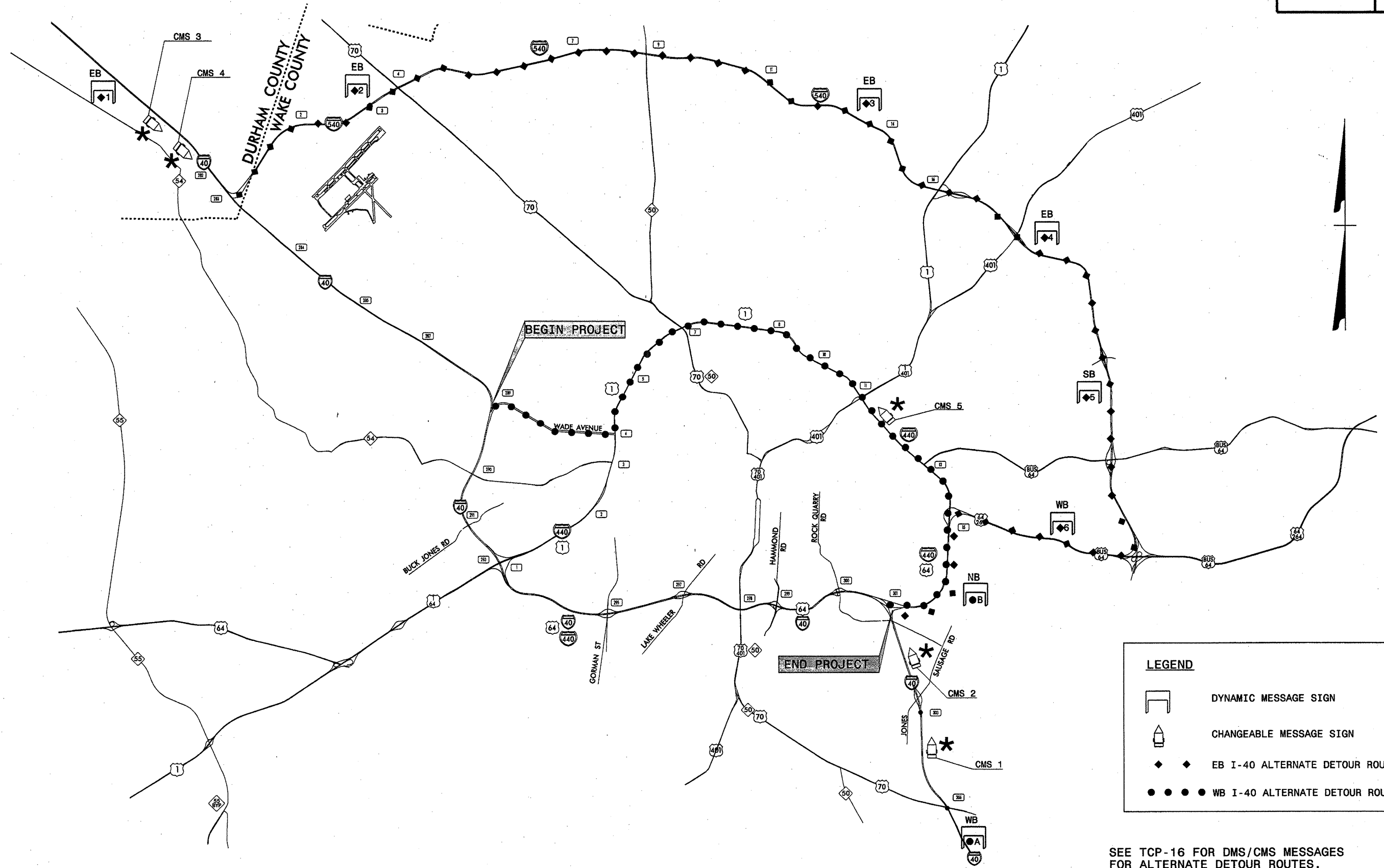
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 msteelman AT WTC22462

DETOUR ROUTE = ● — ● — ●







13-APR-2007 10:39
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 msteelman AT WZTC22462

| | | |
|-----------------------------|--|-----------|
| APPROVED: _____ DATE: _____ | DETOUR ROUTE FOR CLOSURE OF I-40 EB ENTRANCE LOOP FROM HAMMOND RD | |
| | | |
| SCALE: NONE | | REVISIONS |
| DATE: _____ | | |
| DWG. BY: _____ | | |
| REVIEWED BY: _____ | | |





LEGEND

-  DYNAMIC MESSAGE SIGN
-  CHANGEABLE MESSAGE SIGN
-  EB I-40 ALTERNATE DETOUR ROUTE
-  WB I-40 ALTERNATE DETOUR ROUTE

SEE TCP-16 FOR DMS/CMS MESSAGES FOR ALTERNATE DETOUR ROUTES.

* = ALL OF THE CMS'S SHOWN ON THIS SHEET WILL BE INSTALLED, OPERATED, AND MAINTAINED BY STATE FORCES.

| | | | | |
|---|----------------|---|-----------|--|
| APPROVED: _____ | DATE: _____ | I-40 ALTERNATE DETOUR ROUTE DMS/CMS LOCATIONS | | |
|  | | | | |
| SCALE: NONE | DATE: 04/07 |  | REVISIONS | |
| DWG. BY: EKG | DESIGN BY: EKG | | | |
| REVIEWED BY: JI | | | | |

13-APR-2007 10:40
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 msteelman AT WZTC22462

ALTERNATE DETOUR ROUTE MESSAGING FOR 15 MINUTE OR MORE ADDITIONAL TRAVEL TIME ON EB AND WB I-40

EB I-40 ALTERNATE DETOUR ROUTE

EB I-40: DMS/CMS LOCATIONS

| | | | | | |
|---|---|---|-----------------------------|------------------|------------------|
| DMS 1 I-40 EB | <table border="1"> <tr> <td colspan="2">WK ZONE EB I-40 HEAVY DELAYS MM XXX TO MM XXX</td> </tr> <tr> <td colspan="2" style="text-align: center;">NO. 1 MESSAGE</td> </tr> </table> | WK ZONE EB I-40 HEAVY DELAYS MM XXX TO MM XXX | | NO. 1 MESSAGE | |
| WK ZONE EB I-40 HEAVY DELAYS MM XXX TO MM XXX | | | | | |
| NO. 1 MESSAGE | | | | | |
| CMS 3 I-40 EB | <table border="1"> <tr> <td>ALT RT TO AVOID DELAYS</td> <td>EB I-540 TO US64 BYP</td> </tr> <tr> <td style="text-align: center;">NO. 1 MESSAGE</td> <td style="text-align: center;">NO. 2 MESSAGE</td> </tr> </table> | ALT RT TO AVOID DELAYS | EB I-540 TO US64 BYP | NO. 1 MESSAGE | NO. 2 MESSAGE |
| ALT RT TO AVOID DELAYS | EB I-540 TO US64 BYP | | | | |
| NO. 1 MESSAGE | NO. 2 MESSAGE | | | | |
| CMS 4 I-40 EB | <table border="1"> <tr> <td>EB I-40 ALT RT</td> <td>USE EB I-540 EXIT 283</td> </tr> <tr> <td style="text-align: center;">NO. 1 MESSAGE</td> <td style="text-align: center;">NO. 2 MESSAGE</td> </tr> </table> | EB I-40 ALT RT | USE EB I-540 EXIT 283 | NO. 1 MESSAGE | NO. 2 MESSAGE |
| EB I-40 ALT RT | USE EB I-540 EXIT 283 | | | | |
| NO. 1 MESSAGE | NO. 2 MESSAGE | | | | |
| DMS 2 I-40 EB | <table border="1"> <tr> <td colspan="2">EB I-40 ALT RT FOLLOW EB I-540 TO US 64 BYP</td> </tr> <tr> <td colspan="2" style="text-align: center;">NO. 1 MESSAGE</td> </tr> </table> | EB I-40 ALT RT FOLLOW EB I-540 TO US 64 BYP | | NO. 1 MESSAGE | |
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| NO. 1 MESSAGE | | | | | |
| DMS 3 I-40 EB | <table border="1"> <tr> <td colspan="2">EB I-40 ALT RT FOLLOW EB I-540 TO US 64 BYP</td> </tr> <tr> <td colspan="2" style="text-align: center;">NO. 1 MESSAGE</td> </tr> </table> | EB I-40 ALT RT FOLLOW EB I-540 TO US 64 BYP | | NO. 1 MESSAGE | |
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| NO. 1 MESSAGE | | | | | |
| DMS 4 I-40 EB | <table border="1"> <tr> <td colspan="2">EB I-40 ALT RT FOLLOW EB I-540 TO US 64 BYP</td> </tr> <tr> <td colspan="2" style="text-align: center;">NO. 1 MESSAGE</td> </tr> </table> | EB I-40 ALT RT FOLLOW EB I-540 TO US 64 BYP | | NO. 1 MESSAGE | |
| EB I-40 ALT RT FOLLOW EB I-540 TO US 64 BYP | | | | | |
| NO. 1 MESSAGE | | | | | |
| DMS 5 I-40 EB | <table border="1"> <tr> <td colspan="2">EB I-40 ALT RT FOLLOW SIGNS TO WB US 64 BYP</td> </tr> <tr> <td colspan="2" style="text-align: center;">NO. 1 MESSAGE</td> </tr> </table> | EB I-40 ALT RT FOLLOW SIGNS TO WB US 64 BYP | | NO. 1 MESSAGE | |
| EB I-40 ALT RT FOLLOW SIGNS TO WB US 64 BYP | | | | | |
| NO. 1 MESSAGE | | | | | |
| DMS 6 I-40 EB | <table border="1"> <tr> <td colspan="2">I-40 EAST ALT RT FOLLOW SIGNS TO EB I-440</td> </tr> <tr> <td colspan="2" style="text-align: center;">NO. 1 MESSAGE</td> </tr> </table> | I-40 EAST ALT RT FOLLOW SIGNS TO EB I-440 | | NO. 1 MESSAGE | |
| I-40 EAST ALT RT FOLLOW SIGNS TO EB I-440 | | | | | |
| NO. 1 MESSAGE | | | | | |

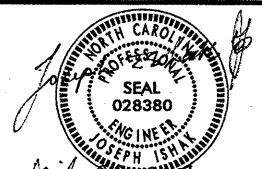

WB I-40 ALTERNATE DETOUR ROUTE

WB I-40: DMS/CMS LOCATIONS

| | | | | | |
|--|---|--|----------------------------------|------------------|------------------|
| DMS A I-40 WB | <table border="1"> <tr> <td>WORK ZONE ON WESTBOUND I-40</td> <td>EXPECT DELAYS MM XXX - MM XXX</td> </tr> <tr> <td style="text-align: center;">NO. 1 MESSAGE</td> <td style="text-align: center;">NO. 2 MESSAGE</td> </tr> </table> | WORK ZONE ON WESTBOUND I-40 | EXPECT DELAYS MM XXX - MM XXX | NO. 1 MESSAGE | NO. 2 MESSAGE |
| WORK ZONE ON WESTBOUND I-40 | EXPECT DELAYS MM XXX - MM XXX | | | | |
| NO. 1 MESSAGE | NO. 2 MESSAGE | | | | |
| CMS 1 I-40 WB | <table border="1"> <tr> <td>WK ZONE MM XXX - MM XXX</td> <td>EXPECT XX MIN. DELAY</td> </tr> <tr> <td style="text-align: center;">NO. 1 MESSAGE</td> <td style="text-align: center;">NO. 2 MESSAGE</td> </tr> </table> | WK ZONE MM XXX - MM XXX | EXPECT XX MIN. DELAY | NO. 1 MESSAGE | NO. 2 MESSAGE |
| WK ZONE MM XXX - MM XXX | EXPECT XX MIN. DELAY | | | | |
| NO. 1 MESSAGE | NO. 2 MESSAGE | | | | |
| CMS 2 I-40 WB | <table border="1"> <tr> <td>ALT RT TO AVOID DELAYS</td> <td>OUTER I-440 TO WADE AVE</td> </tr> <tr> <td style="text-align: center;">NO. 1 MESSAGE</td> <td style="text-align: center;">NO. 2 MESSAGE</td> </tr> </table> | ALT RT TO AVOID DELAYS | OUTER I-440 TO WADE AVE | NO. 1 MESSAGE | NO. 2 MESSAGE |
| ALT RT TO AVOID DELAYS | OUTER I-440 TO WADE AVE | | | | |
| NO. 1 MESSAGE | NO. 2 MESSAGE | | | | |
| DMS B I-40 WB | <table border="1"> <tr> <td colspan="2">WB I-40 ALT RT FOLLOW WB I-440 TO WADE AVE</td> </tr> <tr> <td colspan="2" style="text-align: center;">NO. 1 MESSAGE</td> </tr> </table> | WB I-40 ALT RT FOLLOW WB I-440 TO WADE AVE | | NO. 1 MESSAGE | |
| WB I-40 ALT RT FOLLOW WB I-440 TO WADE AVE | | | | | |
| NO. 1 MESSAGE | | | | | |
| CMS 5 I-40 WB | <table border="1"> <tr> <td>WB I-40 ALT RT FOLLOW</td> <td>OUTER I-440 TO WADE AVE</td> </tr> <tr> <td style="text-align: center;">NO. 1 MESSAGE</td> <td style="text-align: center;">NO. 2 MESSAGE</td> </tr> </table> | WB I-40 ALT RT FOLLOW | OUTER I-440 TO WADE AVE | NO. 1 MESSAGE | NO. 2 MESSAGE |
| WB I-40 ALT RT FOLLOW | OUTER I-440 TO WADE AVE | | | | |
| NO. 1 MESSAGE | NO. 2 MESSAGE | | | | |

SEE TCP-15 FOR DMS/CMS LOCATIONS
FOR ALTERNATE DETOUR ROUTES.

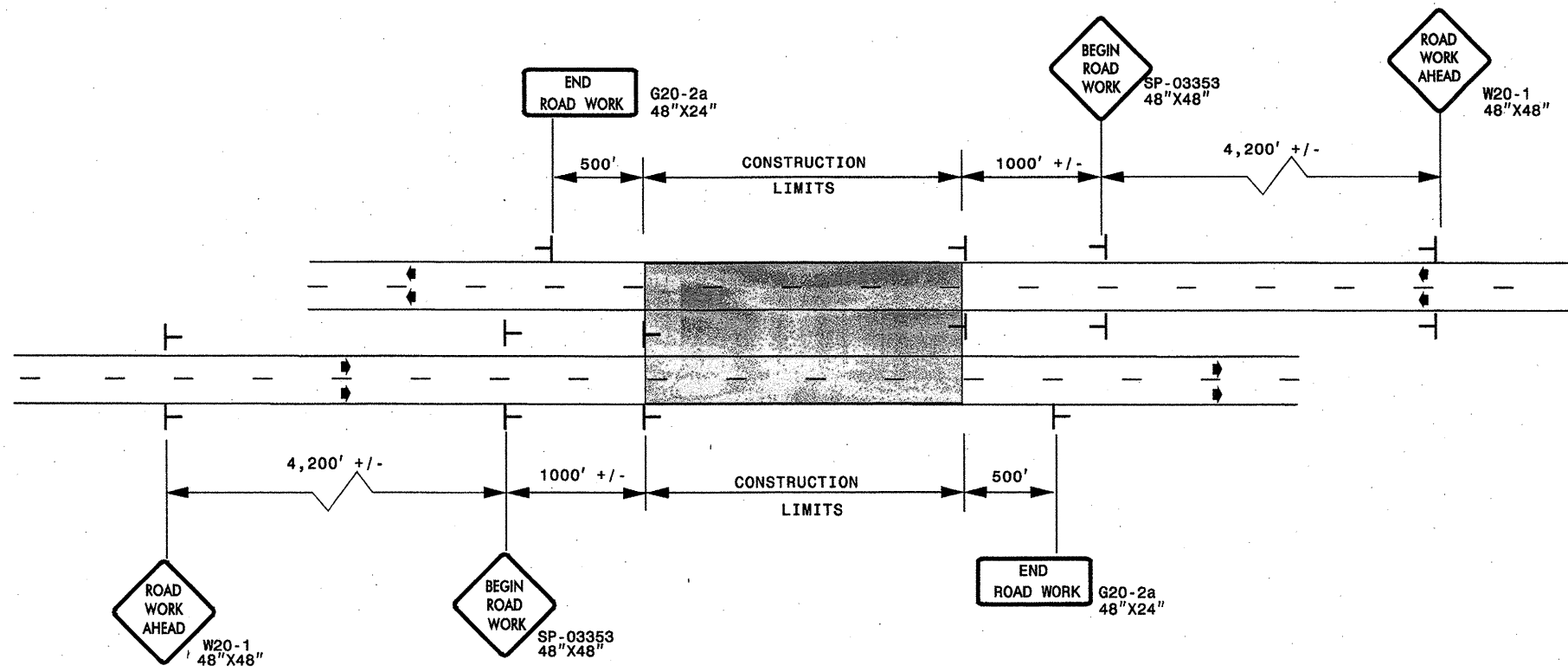
* = ALL OF THE CMS'S SHOWN ON THIS
SHEET WILL BE INSTALLED, OPERATED,
AND MAINTAINED BY STATE FORCES.

| | | | |
|---|----------------|---|-----------|
| APPROVED:  | DATE: _____ | DMS/CMS ALTERNATE DETOUR ROUTE MESSAGING | |
| SCALE: NONE | DATE: 04/07 |  | REVISIONS |
| DWG. BY: EKG | DESIGN BY: EKG | | |
| REVIEWED BY: JI | | | |
| | | | |

ADVANCED WORK ZONE WARNING SIGNING FOR FREEWAYS (4 LANES OR GREATER)

| | |
|-------------------------------|---------------------|
| PROJ. REFERENCE NO. I-4709 | SHEET NO. TCP-17 |
|-------------------------------|---------------------|

DETAIL A

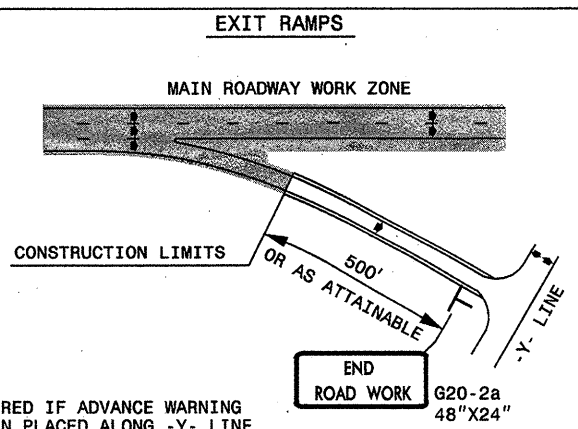


LEGEND

— STATIONARY SIGN

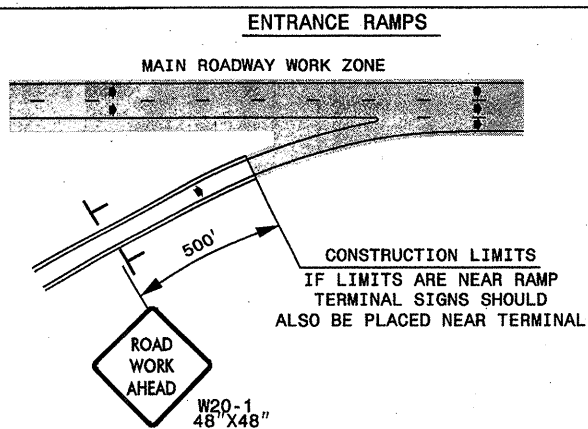
◆ DIRECTION OF TRAFFIC FLOW

DETAIL B

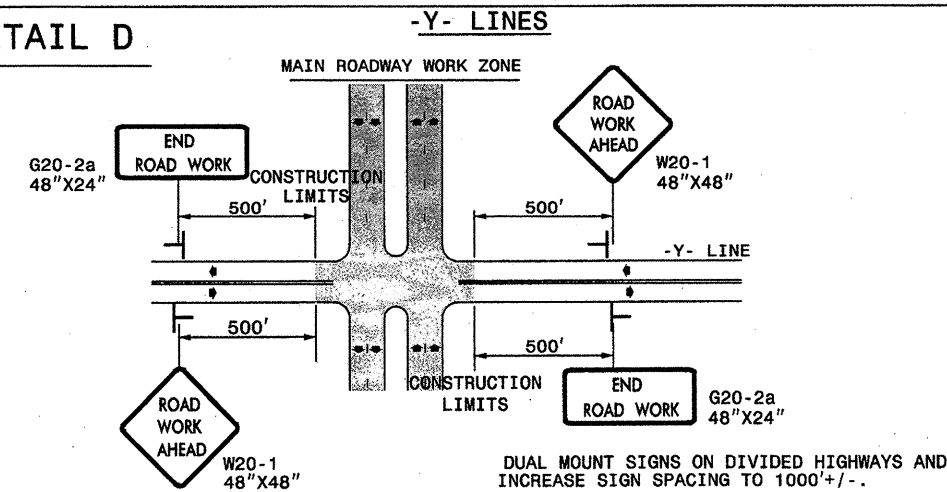


NOTE: SIGN NOT REQUIRED IF ADVANCE WARNING SIGNS HAVE BEEN PLACED ALONG -Y- LINE THAT RAMP INTERSECTS. IF CONSTRUCTION LIMITS ARE AT END OF RAMP, PLACE SIGN AT END OF RAMP.

DETAIL C

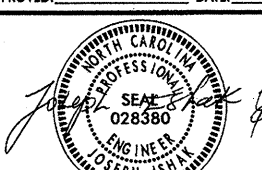



DETAIL D



GENERAL NOTES

- USE FLUORESCENT ORANGE SHEETING (TYPE VII OR HIGHER) ON ALL ADVANCED WORK ZONE SIGNS.
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.

| | | |
|---|---|---|
| APPROVED: _____ DATE: _____ | ADVANCED WORK ZONE WARNING SIGNS FOR FREEWAYS (4 LANES OR GREATER) | |
|  | | |
| SCALE: NONE | REVISIONS |  |
| DATE: 8/03 | 03/04 | |
| DWG. BY: JI | | |
| DESIGN BY: JI | | |
| REVIEWED BY: | | CADD FILE |

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| | | | | |
|--|---|-------------------------------------|-------------------------|---|
| SIGN NUMBER: SP-03350 TYPE: D QUANTITY: 1 SIGN WIDTH: 4'-0" HEIGHT: 2'-6" TOTAL AREA: 10.0 Sq.Ft. BORDER TYPE: FLUSH RECESS: 0.4" WIDTH: 0.5" RADII: 1.5" NO. Z BARS: N/A LENGTH: N/A | BACKG COLOR: White COPY COLOR: Black | DESIGN BY: CL DOWNEY PROJECT ID: | CHECKED BY: DIV: DIV | STD #: REGULATORY DATE: Aug 18, 2003 |
|--|---|-------------------------------------|-------------------------|---|

BORDER
R=1.5"
TH=0.5"
IN=0.4"

USE NOTES: 2,4

- Legend and border shall be direct applied Type III reflective sheeting.
- Legend and border shall be direct applied non-reflective sheeting.
- Shields shall be Type III reflective sheeting on 0.032" (0.8mm) aluminum and demountable.
- Background shall be Type III reflective sheeting.
- Background shall be Type I reflective sheeting.
- Center arrow(s) vertically on sign.
- Bottom panel shall be yellow Type III sheeting. Legend shall be direct applied black non-reflective sheeting. Yellow panel is:

| LETTER POSITIONS | | | | | | | | | | | Series/Size | |
|---|---|---|---|---|---|---|---|--|--|--|-------------------------------------|------------|
| Letter spacings are to start of next letter | | | | | | | | | | | Text Length | |
| \$ | 2 | 5 | 0 | | | | | | | | 15.1 5.3 4.6 4.2 3.5 15.4 | C6 17.6 |
| S | P | E | E | D | I | N | G | | | | 8.1 4.8 4.5 4 4 4.6 2.1 4.4 3.4 8.2 | C6 31.8 |
| P | E | N | A | L | T | Y | | | | | 11.9 4.6 4 4.3 4.7 3.4 3.3 3.7 8.2 | C6 28 |

Spacing Factor is 1 unless specified otherwise

| | | | | |
|--|--|--|-------------------------|----------------------------------|
| SIGN NUMBER: SP99288 TYPE: D QUANTITY: 1 SIGN WIDTH: 24" HEIGHT: 18" TOTAL AREA: 3.0 Sq.Ft. BORDER TYPE: FLUSH RECESS: 0.38" WIDTH: 0.63" RADII: 1.5" NO. Z BARS: LENGTH: | BACKG COLOR: Fluorescent Orange COPY COLOR: Black | DESIGN BY: R. HENNEIN PROJECT ID: N/A | CHECKED BY: DIV: N/A | STD #: N/A DATE: Apr 10, 2007 |
|--|--|--|-------------------------|----------------------------------|

BORDER
R=1.5"
TH=0.63"
IN=0.38"

USE NOTES:

- Legend and border shall be direct applied non-reflective sheeting.
- Background shall be Type VII, VIII, or IX (prismatic) retroreflective sheeting.

| LETTER POSITIONS | | | | | | | | | | | Series/Size | |
|---|---|---|---|---|--|--|--|--|--|--|-----------------------------|----------------|
| Letter spacings are to start of next letter | | | | | | | | | | | Text Length | |
| N | O | | | | | | | | | | 8.2 4.2 3.4 8.2 | E 2000 7.5 |
| M | E | R | G | E | | | | | | | 5.8 3.1 2.4 2.5 2.7 1.9 5.8 | D 2000 12.5 |
| A | R | E | A | | | | | | | | 6.9 3 2.5 2.1 2.6 6.9 | D 2000 10.2 |

Spacing Factor is 1 unless specified otherwise

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 msteelman AT WTC22462

| | | | | | | | | | | | | | | |
|---------------------------------|--|---|-------------|--|-----------|-------|--|----------|--|------------|--|--------------|--|--|
| APPROVED: _____ DATE: _____ | <h2 style="margin: 0;">SIGN DESIGNS</h2> | <table border="1" style="width: 100%; font-size: x-small;"> <tr> <td>SCALE: NONE</td> <td rowspan="4" style="text-align: center;"> </td> <td>REVISIONS</td> </tr> <tr> <td>DATE:</td> <td></td> </tr> <tr> <td>DWG. BY:</td> <td></td> </tr> <tr> <td>DESIGN BY:</td> <td></td> </tr> <tr> <td>REVIEWED BY:</td> <td></td> <td></td> </tr> </table> | SCALE: NONE | | REVISIONS | DATE: | | DWG. BY: | | DESIGN BY: | | REVIEWED BY: | | |
| SCALE: NONE | | REVISIONS | | | | | | | | | | | | |
| DATE: | | | | | | | | | | | | | | |
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