

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



STATE PROJECT REFERENCE NO.	SHEET NO.
R-2518 A	TCP-1

**PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION**

MADISON \ YANCEY COUNTY

R-2518 A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-
ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C.,
DATED JULY 2006, EFFECTIVE JANUARY 2008 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
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
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
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - THRU LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT)
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1264.01	OBJECT MARKERS
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TIP PROJECT:

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APPROVED:	PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
DATE: 8/9/07	
SEAL	J. S. BOURNE, P.E. TRAFFIC CONTROL ENGINEER
	J. S. KITE, P.E. TRAFFIC CONTROL PROJECT ENGINEER
	J. D. KUSE, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER
	R. M. GARRETT TRAFFIC CONTROL DESIGN ENGINEER



PROJECT NOTES

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 OR STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
US 19	MONDAY THRU FRIDAY 6:00 AM TO 9:00 AM MONDAY THRU FRIDAY 4:00 PM TO 7:00 PM

B) DO NOT CLOSE OR NARROW TRAVEL LANES OR STOP TRAFFIC DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME	HOLIDAY
US 19	

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 P.M. DECEMBER 31st TO 6:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 A.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 7:00 P.M. THURSDAY AND 6:00 A.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 P.M. FRIDAY TO 6:00 A.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 7:00 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 6:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 P.M. FRIDAY AND 6:00 A.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 7:00 P.M. TUESDAY TO 6:00 A.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

- C) DO NOT STOP TRAFFIC ON US 19 FOR MORE THAN 20 MINUTE INTERVALS FOR ANY OPERATION INCLUDING BUT, NOT LIMITED TO BLASTING AND TRAFFIC SHIFTS.

DEplete ALL QUEUES BEFORE STOPPING TRAFFIC AGAIN.
- D) SEE GENERAL NOTE A FOR HAULING TIME RESTRICTIONS (INCLUDING HAULING ACROSS US 19).

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 ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 1.5m 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.
- G) 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.
- H) DO NOT WORK SIMULTANEOUSLY WITHIN 5 M ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- I) PROVIDE A MINIMUM OF 2 KM BETWEEN LANE CLOSURES, MEASURED FROM THE END OF ONE CLOSURE TO THE FIRST SIGN OF THE NEXT LANE CLOSURE.

PAVEMENT EDGE DROP OFF REQUIREMENTS

- J) 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 50mm ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 75mm 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.
- K) DO NOT EXCEED A DIFFERENCE OF 50mm IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 40mm. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 30 M IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

- M) PROVIDE PERMANENT SIGNING.
- N) PROVIDE DETOUR SIGNING WITHIN AND OFF THE PROJECT LIMITS.
- O) COVER OR REMOVE ALL DETOUR SIGNS WITHIN AND OFF THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.
- P) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
- Q) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 30 M IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

- R) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION, PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW, BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW, BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

- S) PROTECT THE APPROACH END OF PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS SHOWN IN THE PLANS.

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PROJECT NOTES



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-2A

GENERAL NOTES

TRAFFIC CONTROL DEVICES

- T) SPACE CHANNELIZING DEVICES IN WORK AREAS EQUAL IN METERS TO 2/3rds THE POSTED SPEED LIMIT (MPH), EXCEPT 3m ON-CENTER IN RADII, AND 1m 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.
- U) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- V) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 150m 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
US 19	THERMOPLASTIC	SNOWPLOWABLE
ALL -Y- LINES	THERMOPLASTIC	SNOWPLOWABLE
 - X) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
US 19	PAINT	TEMPORARY RAISED
ALL -Y- LINES	PAINT	TEMPORARY RAISED
 - 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.
 - BB) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS BEFORE INSTALLATION.
- MISCELLANEOUS
- CC) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.
 - DD) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAYS TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION, AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) 152 M RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

LOCAL NOTES

- A) CLOSE US 19 (-L-) TO BOTH NORTHBOUND AND SOUTHBOUND TRAFFIC AND ANY INTERSECTING -Y- LINES DURING ALL BLASTING OPERATIONS AND THE REMOVAL OF DEBRIS FROM THE ROADWAY CREATED BY THE BLASTING. THE DAYS AND TIMES THAT US 19 MAY NOT BE CLOSED FOR BLASTING OPERATIONS ARE LISTED IN NOTES A), B) & C) OF THE GENERAL NOTES. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES).

BLASTING OPERATIONS MAY BE CONDUCTED WITHIN THE RESTRICTED TIME FRAMES LISTED IN NOTES A), B) & C) OF THE GENERAL NOTES ONLY IF THE SPECIFIC BLASTING OPERATION WILL IN NO WAY IMPACT TRAFFIC ON US 19 (-L-) OR ANY INTERSECTING -Y- LINE AS DIRECTED BY THE ENGINEER.

PERFORM BLASTING OPERATIONS IN THE FOLLOWING SEQUENCE:

1. NOTIFY THE ENGINEER 10 BUSINESS DAYS PRIOR TO THE FIRST BLASTING OPERATION ON THE PROJECT. NOTIFY THE ENGINEER 2 BUSINESS DAYS PRIOR TO SUBSEQUENT BLASTING OPERATIONS.
2. ACTIVATE CHANGEABLE MESSAGES SIGNS ALONG US 19 AND ANY OTHER ROADWAYS IN ACCORDANCE WITH SHEET TCP-59 AND/OR AS DIRECTED BY THE ENGINEER.
3. CLOSE US 19 AND INTERSECTING -Y- LINES WITHIN THE BLASTING ZONE TO TRAFFIC IN ACCORDANCE WITH RSD 1101.06.
4. PERFORM BLASTING OPERATION AND DEBRIS REMOVAL. MULTIPLE BLASTING OPERATIONS AT MULTIPLE LOCATIONS ARE PERMITTED PROVIDED US 19 (-L-) AND ANY INTERSECTING -Y- LINES ARE REOPENED TO TRAFFIC WITHIN THE SAME TIME FRAMES LISTED IN NOTES A), B) & C) OF THE GENERAL NOTES.
5. OPEN US 19 (-L-) AND ANY INTERSECTING -Y- LINES WITHIN THE BLASTING ZONE TO TRAFFIC.
6. IMMEDIATELY DEACTIVATE THE CHANGABLE MESSAGE SIGNS OR CHANGE MESSAGES AS INDICATED ON SHEET TCP-59 OR AS DIRECTED BY THE ENGINEER.

- B) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919)733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.

AREAS OF CONCERN:

1. ONGOING CLOSURES / DELAYS DUE TO BLASTING OPERATIONS
2. AREAS OF CONSTRICTED HORIZONTAL CLEARANCES (NARROW LANES) OR (LANES BORDERED ALONG THE OUTSIDE IN BOTH DIRECTIONS WITH EITHER PCB OR GUARDRAIL)

- C) FIELD ADJUST PLACEMENT OF STATIONARY AND PORTABLE SIGNS AS NEEDED TO MAXIMIZE SITE DISTANCE AS DIRECTED BY THE ENGINEER.

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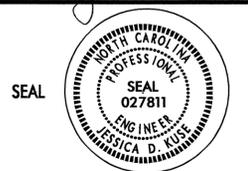
PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-2B

TEMPORARY PAVEMENT MARKING / MARKERS SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM QUANTITY BREAKDOWN		TOTAL QUANTITY
		QUANTITY	UNIT	
PAINT (100MM)				
PA	WHITE EDGELINE (2X)	85030	M	
PD	0.5 M. WHITE MINISKIP (2X)	100	M	
PE	WHITE SOLID LANE LINE (2X)	544	M	
PI	YELLOW DOUBLE CENTER (2X)	78876	M	
		TOTAL	164550	M
PAINT (200MM)				
PV	YELLOW DIAGONAL (2X)	1126	M	
		TOTAL	1126	
PAINT (300MM)				
P1	WHITE GORELINE (2X)	54	M	
		TOTAL	54	
PAINT (600MM)				
P4	WHITE STOPBAR (2X)	147	M	
		TOTAL	147	
PAINT MARKING SYMBOLS				
QA	LEFT TURN ARROW (2X)	10	EA	
QC	STRAIGHT ARROW (2X)	10	EA	
		TOTAL	20	
MARKERS				
TEMPORARY RAISED PAVEMENT MARKERS				
MH	YELLOW & YELLOW	971	EA	
MI	CRYSTAL & RED	45	EA	
		TOTAL	1016	

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 2X IMPLIES TWO APPLICATIONS.

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PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-2C

TEMPORARY SHORING DATA

TEMPORARY SHORING NO. 1 (SEE SHEET TCP-12)

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

USE A TEMPORARY MSE WALL FROM STATION 19+58+/- -L-, 0.54 m LEFT, TO STATION 19+88+/- -L-, 0.83 m LEFT. SEE TEMPORARY SHORING SPECIAL PROVISION AND STANDARD TEMPORARY MSE WALL DETAILS.

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION. SEE SUBSURFACE INVENTORY REPORTS FOR ANY ADDITIONAL INFORMATION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 19+58+/- -L-, 0.54 m LEFT, TO STATION 19+88+/- -L-, 0.83 m LEFT MAY NOT PENETRATE BELOW ELEVATION 650 m DUE TO THE PRESENCE OF AN OBSTRUCTION. VERY DENSE OR HARD SOIL, WEATHERED OR HARD ROCK. SEE SUBSURFACE INFORMATION FOR ADDITIONAL DETAILS.

FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

WHEN USING CONTRACTOR DESIGNED SHORING, USE THE FOLLOWING SOIL PARAMETERS:

- UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
- UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma = 60$ PCF
- FRICTION ANGLE, $\phi = 30$ DEGREES
- COHESION, $c = 0$ PSF

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

TEMPORARY SHORING NO. 2 (SEE SHEET TCP-12)

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

DO NOT USE STANDARD SHORING FROM STATION 19+53+/- -L-, 5.6 m RIGHT, TO STATION 19+85+/- -L-, 1.8 m RIGHT. CONTRACTOR DESIGNED SHORING IS REQUIRED. SEE TEMPORARY SHORING SPECIAL PROVISION.

IT MAY BE PREFERRED OR NECESSARY TO ANCHOR THE TEMPORARY SHORING FROM 19+53+/- -L-, 5.6 m RIGHT, TO STATION 19+85+/- -L-, 1.8 m RIGHT. THE TEMPORARY SHORING SPECIAL PROVISION DOES NOT APPLY TO ANCHORED TEMPORARY SHORING. IF ANCHORED TEMPORARY SHORING IS PROPOSED, THE ENGINEER WILL PROVIDE AN APPLICABLE SPECIAL PROVISION.

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION. SEE SUBSURFACE INVENTORY REPORTS FOR ANY ADDITIONAL INFORMATION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 19+53+/- -L-, 5.6 m RIGHT, TO STATION 19+85+/- -L-, 1.8 m RIGHT MAY NOT PENETRATE BELOW ELEVATION 650 m DUE TO THE PRESENCE OF AN OBSTRUCTION. VERY DENSE OR HARD SOIL, WEATHERED OR HARD ROCK. SEE SUBSURFACE INFORMATION FOR ADDITIONAL DETAILS.

FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

WHEN USING CONTRACTOR DESIGNED SHORING, USE THE FOLLOWING SOIL PARAMETERS:

- UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
- UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma = 60$ PCF
- FRICTION ANGLE, $\phi = 30$ DEGREES
- COHESION, $c = 0$ PSF

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

TEMPORARY SHORING NO. 3 (SEE SHEET TCP-13)

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

USE A TEMPORARY MSE WALL FROM 21+24+/- -L-, 0.54 m LEFT, TO STATION 21+51+/- -L-, 0.86 m LEFT. SEE TEMPORARY SHORING SPECIAL PROVISION AND STANDARD TEMPORARY MSE WALL DETAILS.

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION. SEE SUBSURFACE INVENTORY REPORTS FOR ANY ADDITIONAL INFORMATION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION 21+24+/- -L-, 0.54 m LEFT, TO STATION 21+51+/- -L-, 0.86 m LEFT MAY NOT PENETRATE BELOW ELEVATION 655 m DUE TO THE PRESENCE OF AN OBSTRUCTION. VERY DENSE OR HARD SOIL, WEATHERED OR HARD ROCK. SEE SUBSURFACE INFORMATION FOR ADDITIONAL DETAILS.

FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

WHEN USING CONTRACTOR DESIGNED SHORING, USE THE FOLLOWING SOIL PARAMETERS:

- UNIT WEIGHT OF SOIL ABOVE WATER TABLE, $\gamma = 120$ PCF
- UNIT WEIGHT OF SOIL BELOW WATER TABLE, $\gamma = 60$ PCF
- FRICTION ANGLE, $\phi = 30$ DEGREES
- COHESION, $c = 0$ PSF

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

10-OCT-2007 08:37
 \\dot\dfs\0010\proj\hproj\projects-r\2518a\traffic\trafficcontrol\tcp\2518a-tc-tcp-2c.dgn
 mgarrett AT WZ 122229j

APPROVED: <i>[Signature]</i> DATE: 10/12/07		TEMPORARY SHORING DATA	
	SCALE: NONE		REVISIONS
	DATE: 07/07		
	DESIGN BY: RMG		
	REVIEWED BY: JDK		



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-3D

PHASE III

STEP 1 - INSTALL TEMPORARY SHORING, PCB, CRASH CUSHIONS AS APPLICABLE AND CONSTRUCT THE REMAINING SECTION OF THE NEW CULVERT BARREL AT -L- STA. 77+88+/- . (SEE ROADWAY AND STRUCTURE PLANS AND SHEETS TCP-2C THROUGH TCP-2G AND TCP-51 AND TCP-54)

- INSTALL TEMPORARY SHORING, PCB, CRASH CUSHIONS AS APPLICABLE AND REMOVE TEMPORARY 2.62m X 1.8m CSP PIPE ARCH AND REMAINDER OF EXISTING CULVERT IN THE FOLLOWING LOCATION: (SEE ROADWAY PLANS AND SHEETS TCP-2C THROUGH TCP-2G AND TCP-43)

-L- STA. 82+60+/-

NOTE: THE CONTRACTOR HAS THE OPTION OF EITHER REMOVING THE REMAINING PORTION OF THE EXISTING CULVERT OR LEAVING IT IN PLACE FILLING WITH FLOWABLE FILL.

STEP 2 - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS CONSTRUCT PROPOSED -L- TOGETHER WITH ANY REMAINING DRIVEWAY CONNECTIONS AND OTHER -Y- LINES UP TO BUT NOT INCLUDING FINAL SURFACE LAYER IN THE FOLLOWING LOCATIONS: (SEE ROADWAY PLANS AND SHEETS TCP-51 THROUGH TCP-54)

- L- STA. 76+08+/- TO STA. 87+38+/-
- L- STA. 104+30+/- TO STA. 104+80+/-
- L- STA. 108+60+/- TO STA. 109+80+/-
- L- STA. 112+05+/- TO STA. 113+43+/-

STEP 3 - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS CONSTRUCT PROPOSED TEMPORARY CROSSOVER AS SHOWN ON TCP-53 AND TCP-55 FOR THE INTERIM TRAFFIC PATTERN LEADING TO EXISTING 2L, 2W US 19 PATTERN AT PROJECT'S END IF NEEDED.

- INSTALL TEMPORARY PAVEMENT MARKINGS AND MARKERS IN THE INTERIM PATTERN AS SHOWN ON SHEET TCP-56.

- USING DRUMS CLOSE THE PROPOSED US 19 MEDIAN LANES FROM STATION 9+00+/- TO 113+00+/- AND SHIFT SOUTHBOUND US 19 TRAFFIC INTO THE OUTERMOST TRAVEL LANE.

- USING DRUMS CLOSE THE PROPOSED US 19 NORTHBOUND MEDIAN LANE FROM STATION 9+00+/- TO 113+00+/- . NORTHBOUND TRAFFIC TO REMAIN IN THE OUTERMOST TRAVEL LANE.

STEP 4 - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS AS NEEDED CONSTRUCT PROPOSED MEDIANS AND MEDIAN BARRIER ALONG -L- FROM STATION 9+25 TO END OF PROJECT AT STATION 115+07+/- LESS THAT PORTION NEEDED FOR THE TEMPORARY CROSSOVER AS DEPICTED ON SHEET TCP-56.

STEP 5 - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 9 AND FLAGGERS INSTALL THE FINAL SURFACE LAYER AND PLACE ALL FINAL PAVEMENT MARKINGS AND MARKERS AS SHOWN ON SHEETS PMP-02 THROUGH PMP-18.

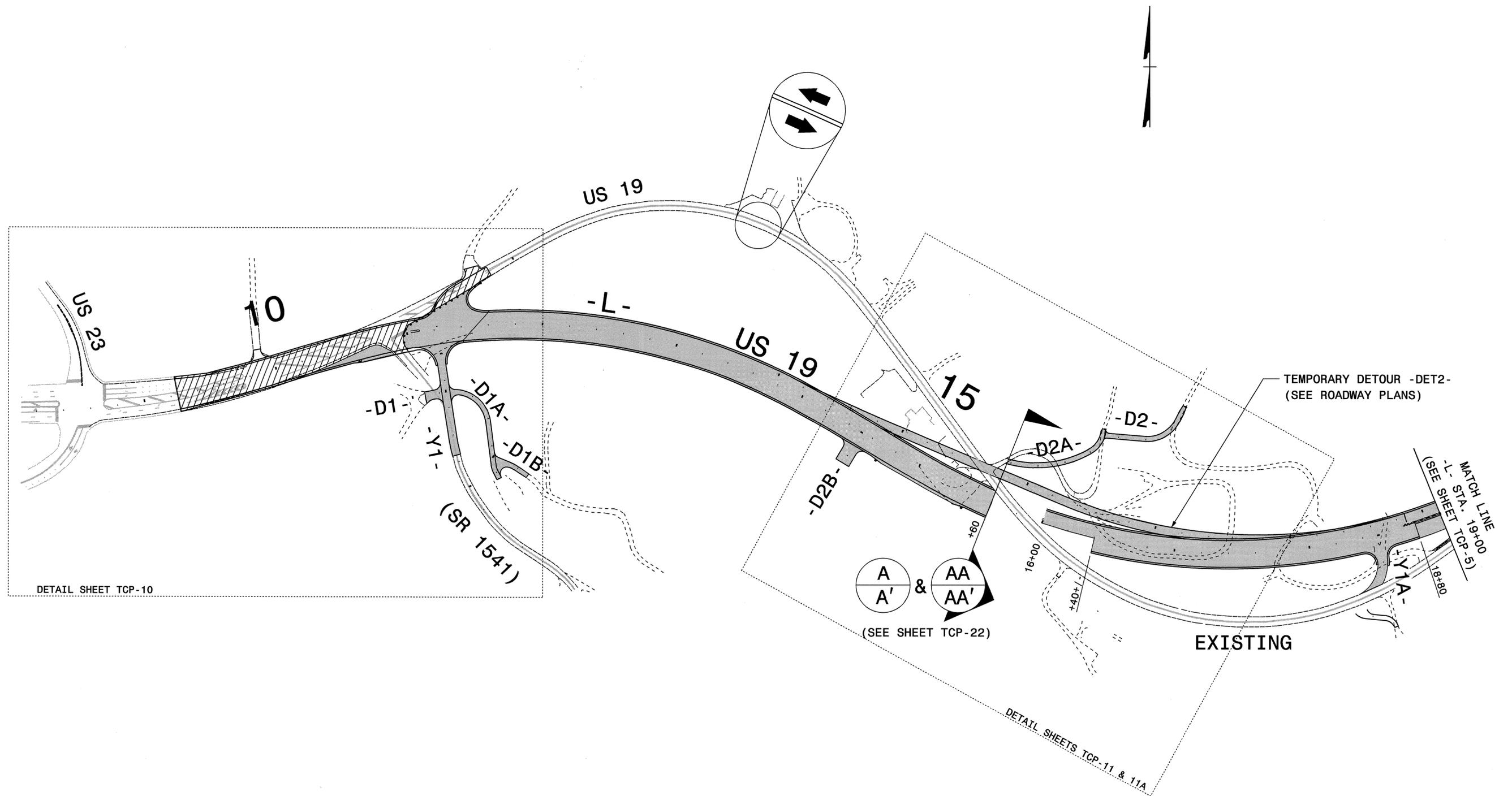
STEP 6 - REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN -L- TO THE FINAL TRAFFIC PATTERN.

09-AUG-2007 10:23 \\dot\dfsroot\01\proj\Hipp\projects-r\2518a\traffic\trafficcontrol\top-r-2518a-tc-top-phasing.dgn
mgarratt AT WZTC22229

APPROVED: <i>Jessica D. Kuse</i> DATE: 8/9/07	PHASING	
	SCALE: NONE	REVISIONS
	DATE: 07/07	
	DWG. BY: RMG	
	DESIGN BY: RMG	
REVIEWED BY: JDK		



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-4



DETAIL SHEET TCP-10

A
A' & AA
AA'
(SEE SHEET TCP-22)

TEMPORARY DETOUR -DET2-
(SEE ROADWAY PLANS)

MATCH LINE
-L- STA. 19+00
(SEE SHEET TCP-5)

EXISTING

DETAIL SHEETS TCP-11 & 11A

NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Jessica D. Kuse* DATE: 8/7/07

OVERVIEW PHASE I

SCALE:	NONE
DATE:	04/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

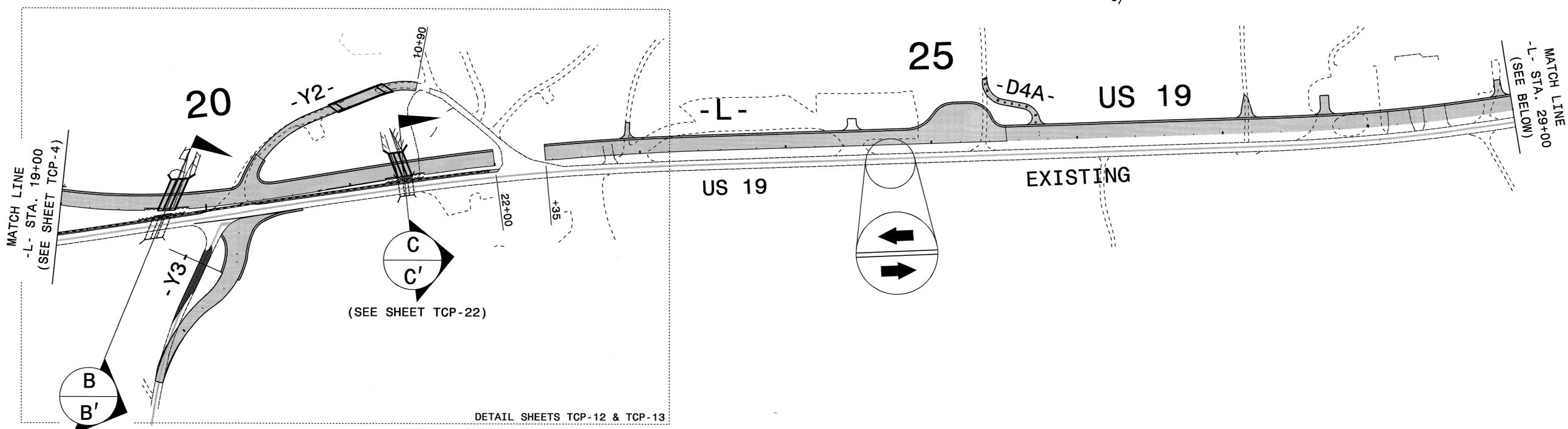


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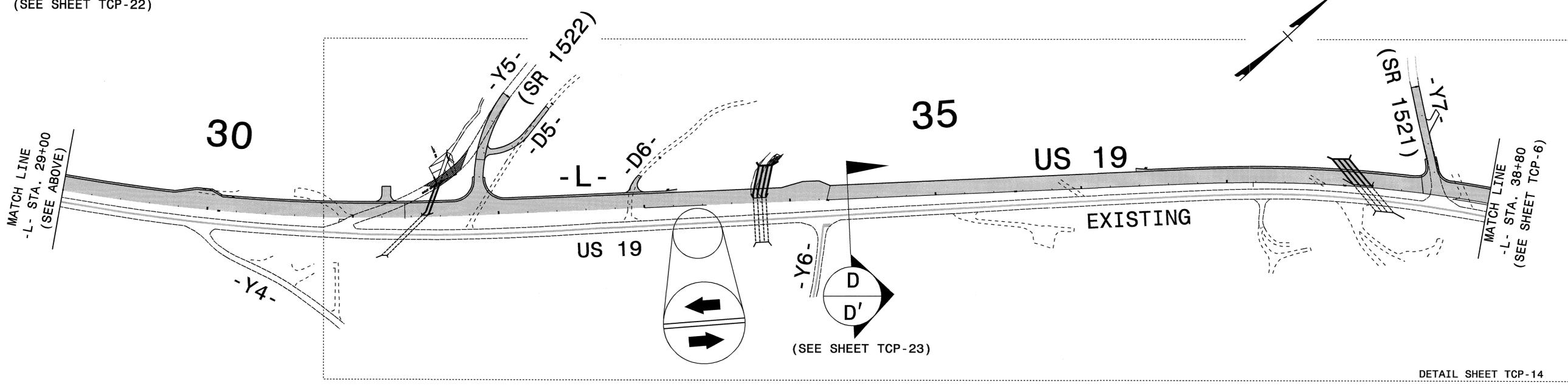


PROJ. REFERENCE NO. R-2518A	SHEET NO. TCP-5
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(SEE SHEET TCP-22)

DETAIL SHEETS TCP-12 & TCP-13



DETAIL SHEET TCP-14

NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Joscalux* DATE: 8/7/07

SEAL

OVERVIEW PHASE I

SCALE: NONE
DATE: 04/07
DWG. BY: RMG
DESIGN BY: RMG
REVIEWED BY: JDK

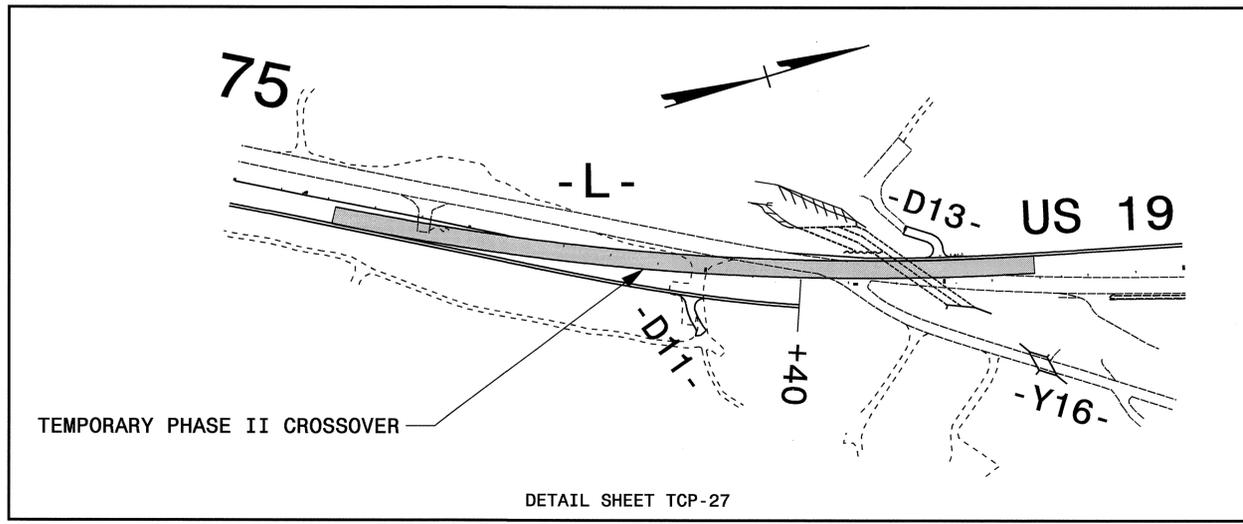
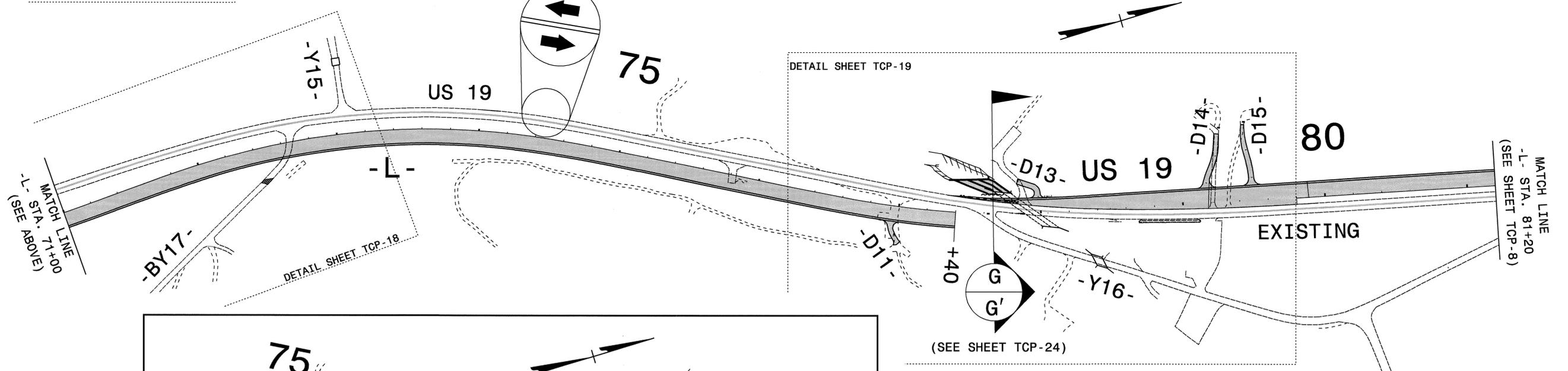
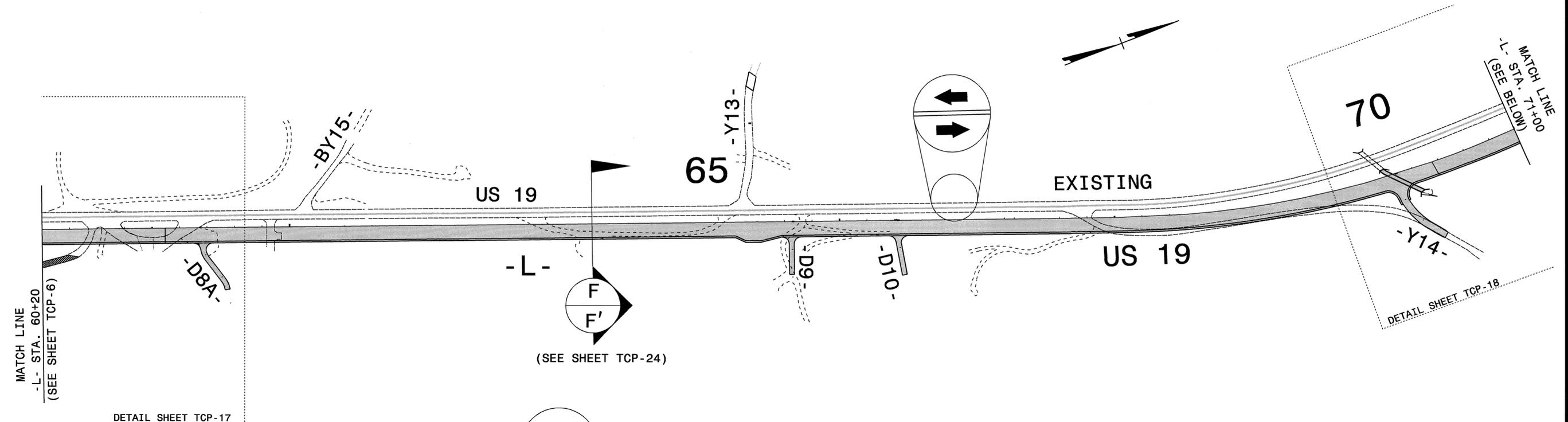


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rmg\rrf\ AT: WZTC222291



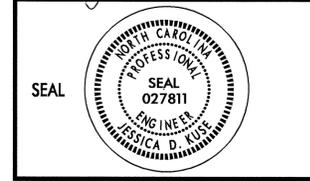
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NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Jessica D. Kusek* DATE: 8/7/07



OVERVIEW PHASE I

SCALE:	NONE
DATE:	04/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK

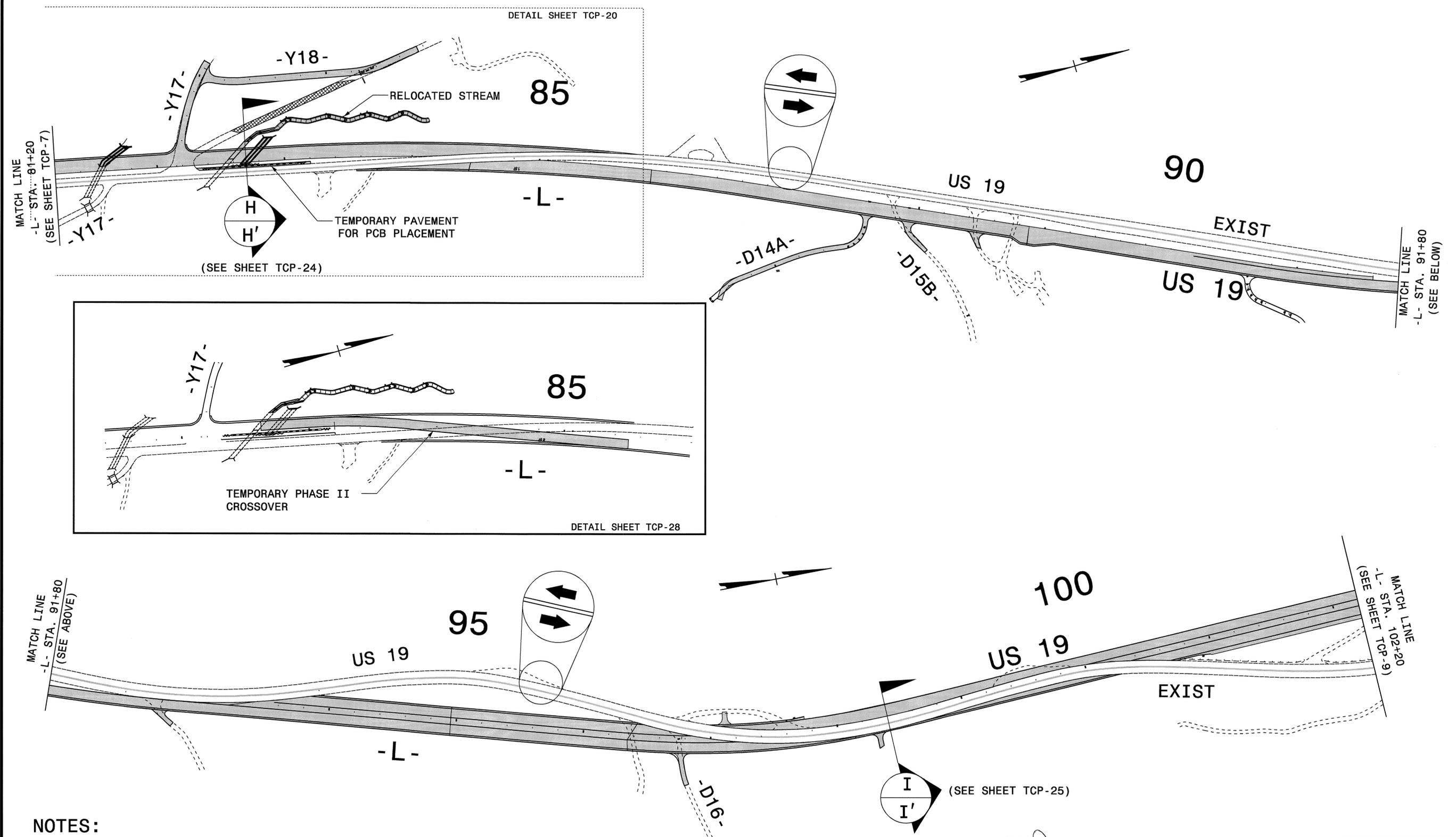


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PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-8



NOTES:

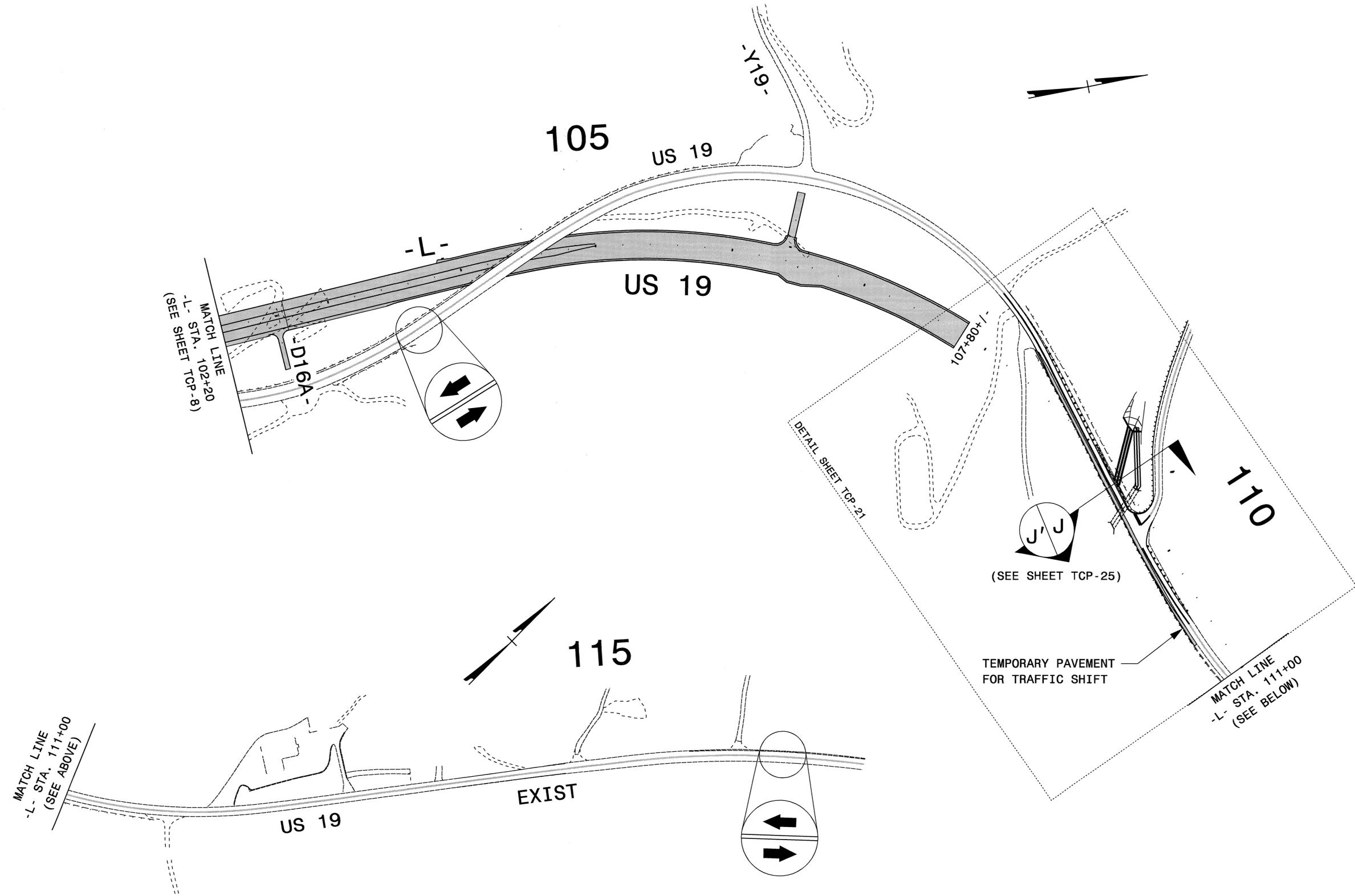
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>Joselyn</i> DATE: 8/7/06	OVERVIEW PHASE I				
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PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-9



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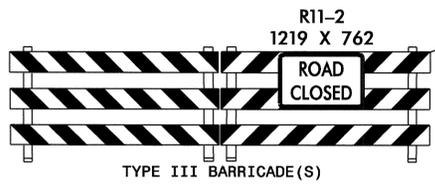
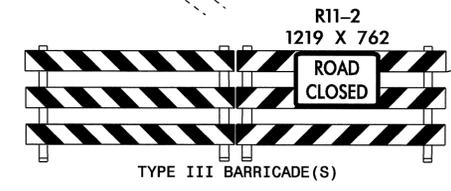
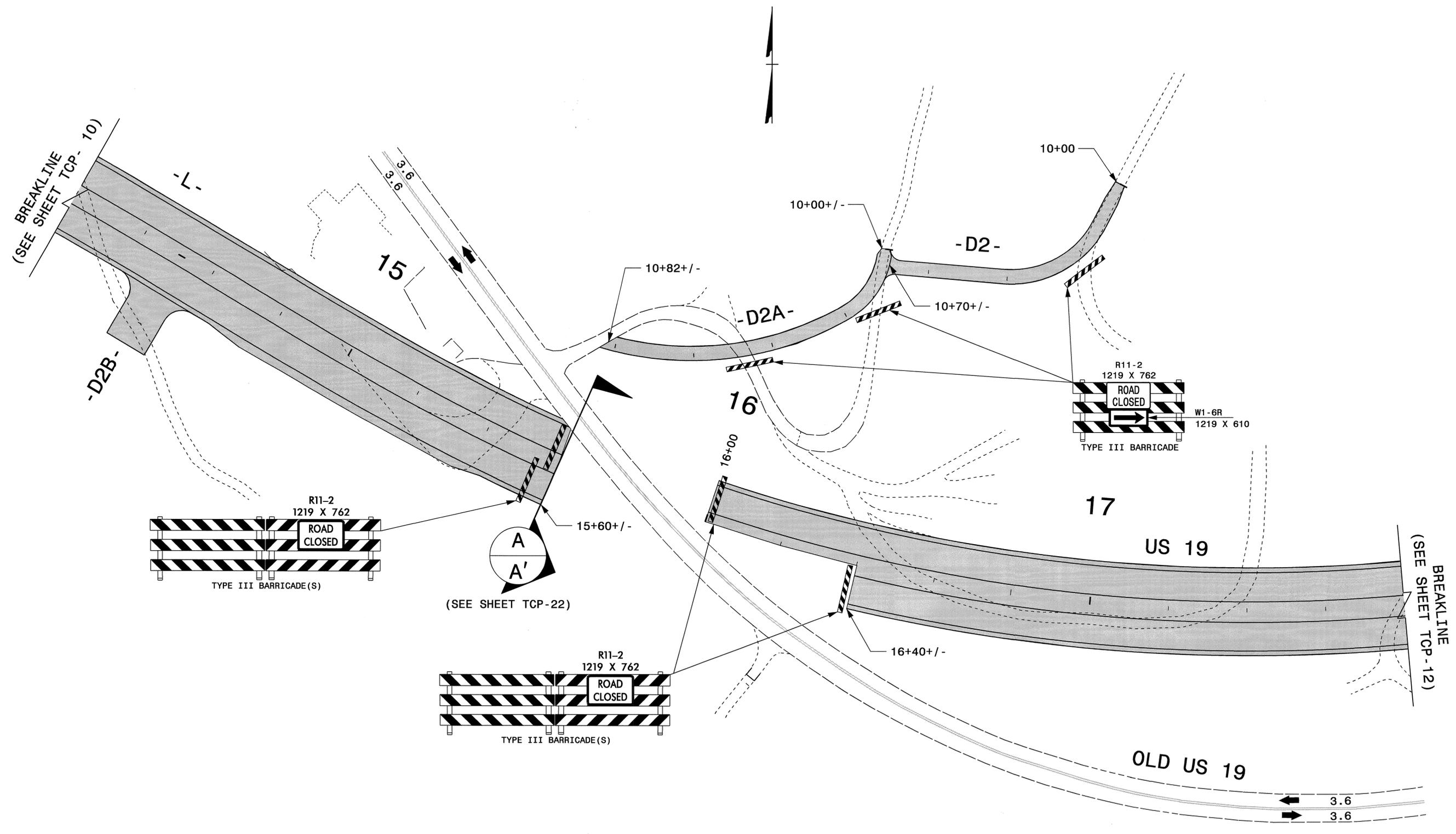
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

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 rmgr\rttt AT WZ1222291

APPROVED: <i>J. K. Kust</i> DATE: 8/7/07	OVERVIEW PHASE I	
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	DATE: 04/07	
	DWG. BY: RMG	
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PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-11



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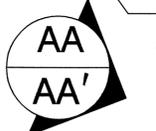
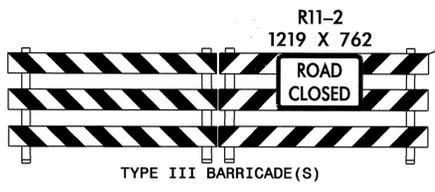
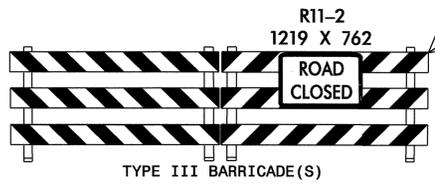
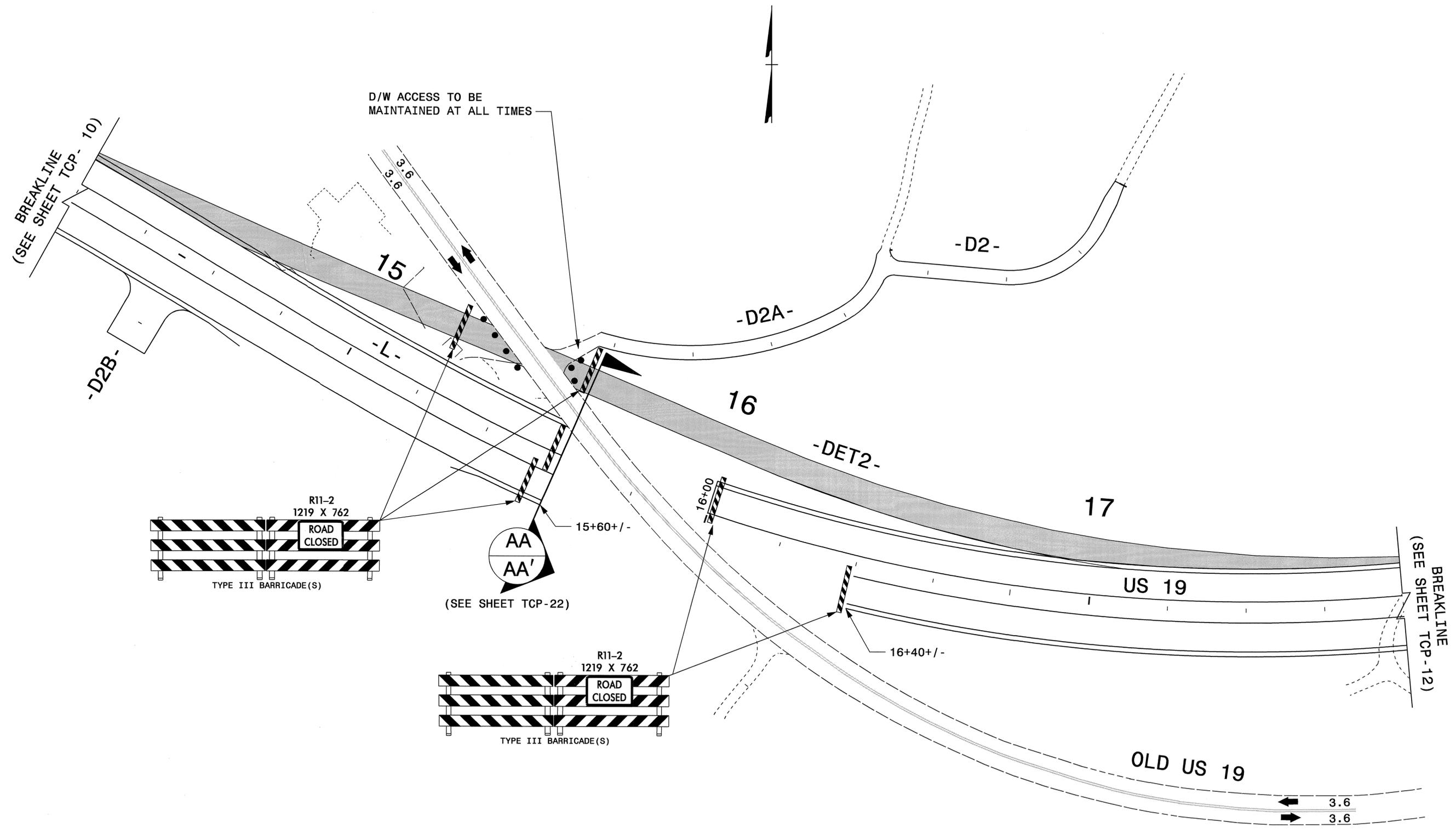
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEET TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>Jessica D. Kise</i> DATE: 05/07	PHASE I								
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 ringarrett AT WZTC2223



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-11A



NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEET TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Jessica D. Kule* DATE: 8/7/07

PHASE I

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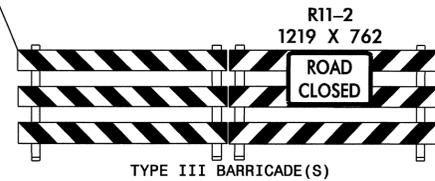
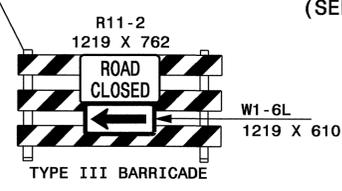
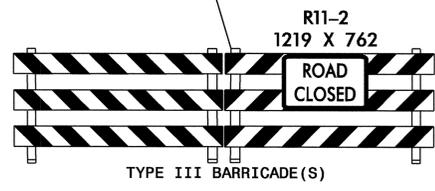
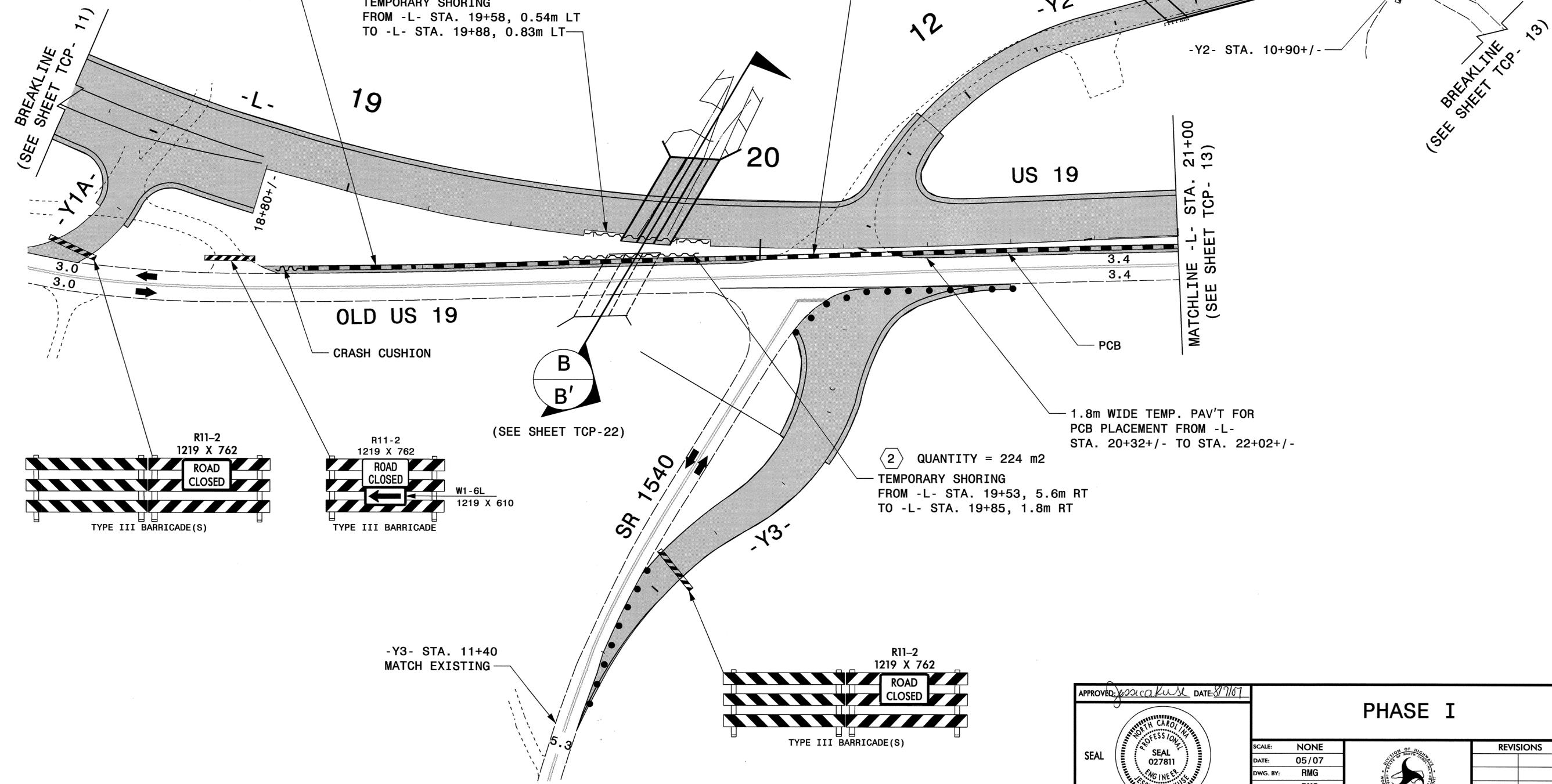
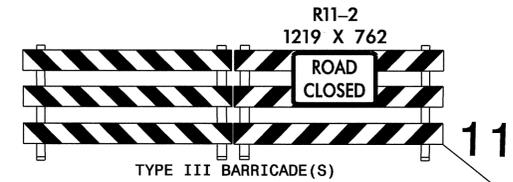
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 rmgarratt AT WZTC22229



1.8m WIDE TEMP. PAV'T FOR
PCB PLACEMENT FROM -L-
STA. 18+87+/- TO STA. 20+03+/-

① QUANTITY = 210 m2
TEMPORARY SHORING
FROM -L- STA. 19+58, 0.54m LT
TO -L- STA. 19+88, 0.83m LT

PCB
-L- STA. 18+95+/-
TO STA. 21+94+/-



1.8m WIDE TEMP. PAV'T FOR
PCB PLACEMENT FROM -L-
STA. 20+32+/- TO STA. 22+02+/-

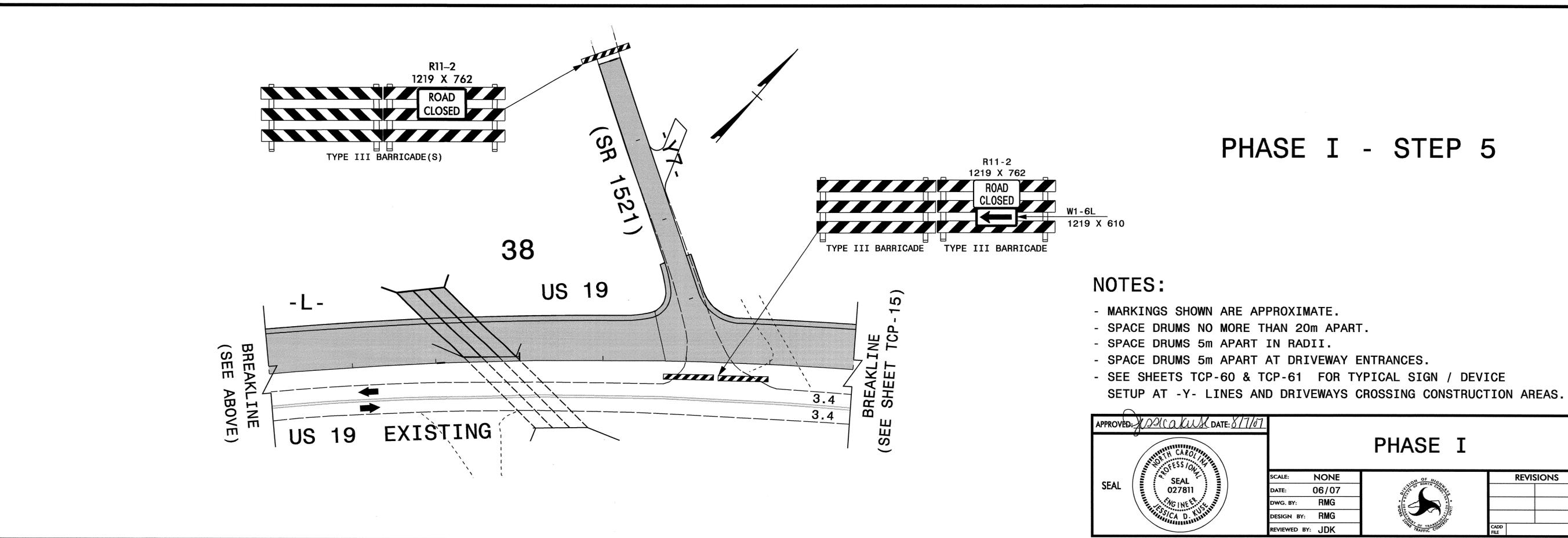
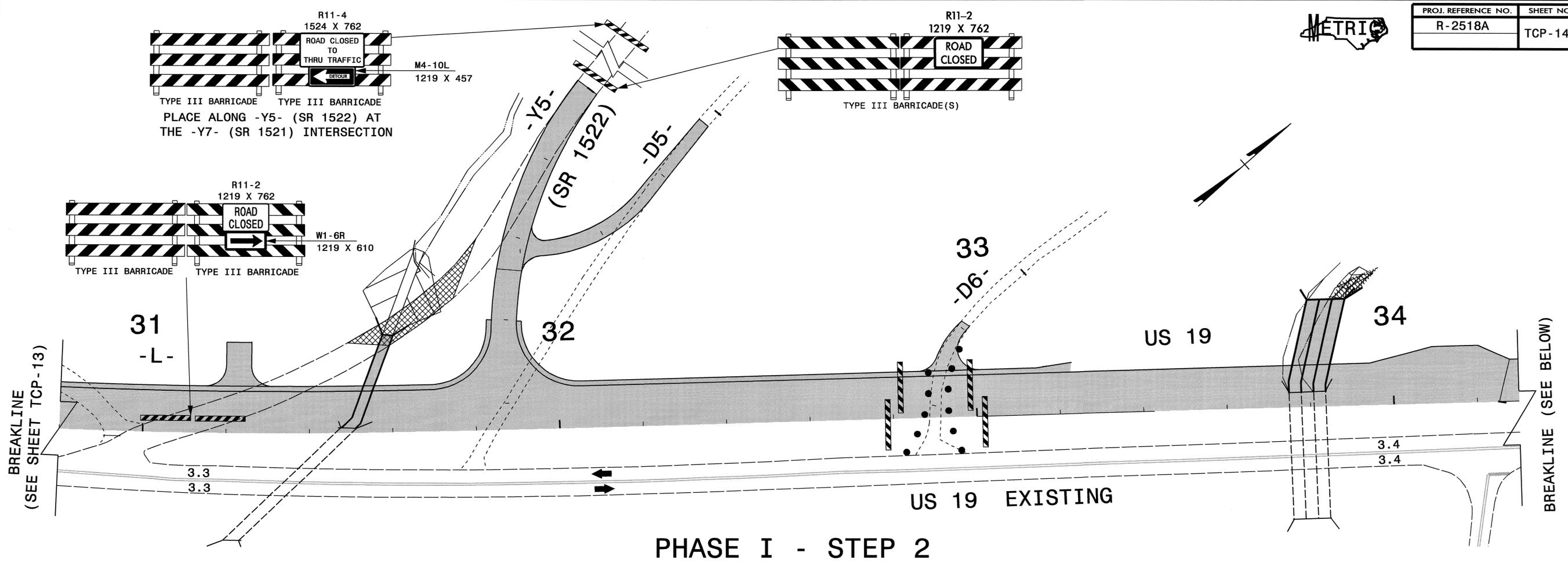
② QUANTITY = 224 m2
TEMPORARY SHORING
FROM -L- STA. 19+53, 5.6m RT
TO -L- STA. 19+85, 1.8m RT

07-AUG-2007 09:32
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rmg:reth AT WZTC22291

APPROVED: <i>Jessica D. Kiser</i> DATE: 8/7/07	PHASE I	
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REVIEWED BY: JDK	REVISIONS	



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-14



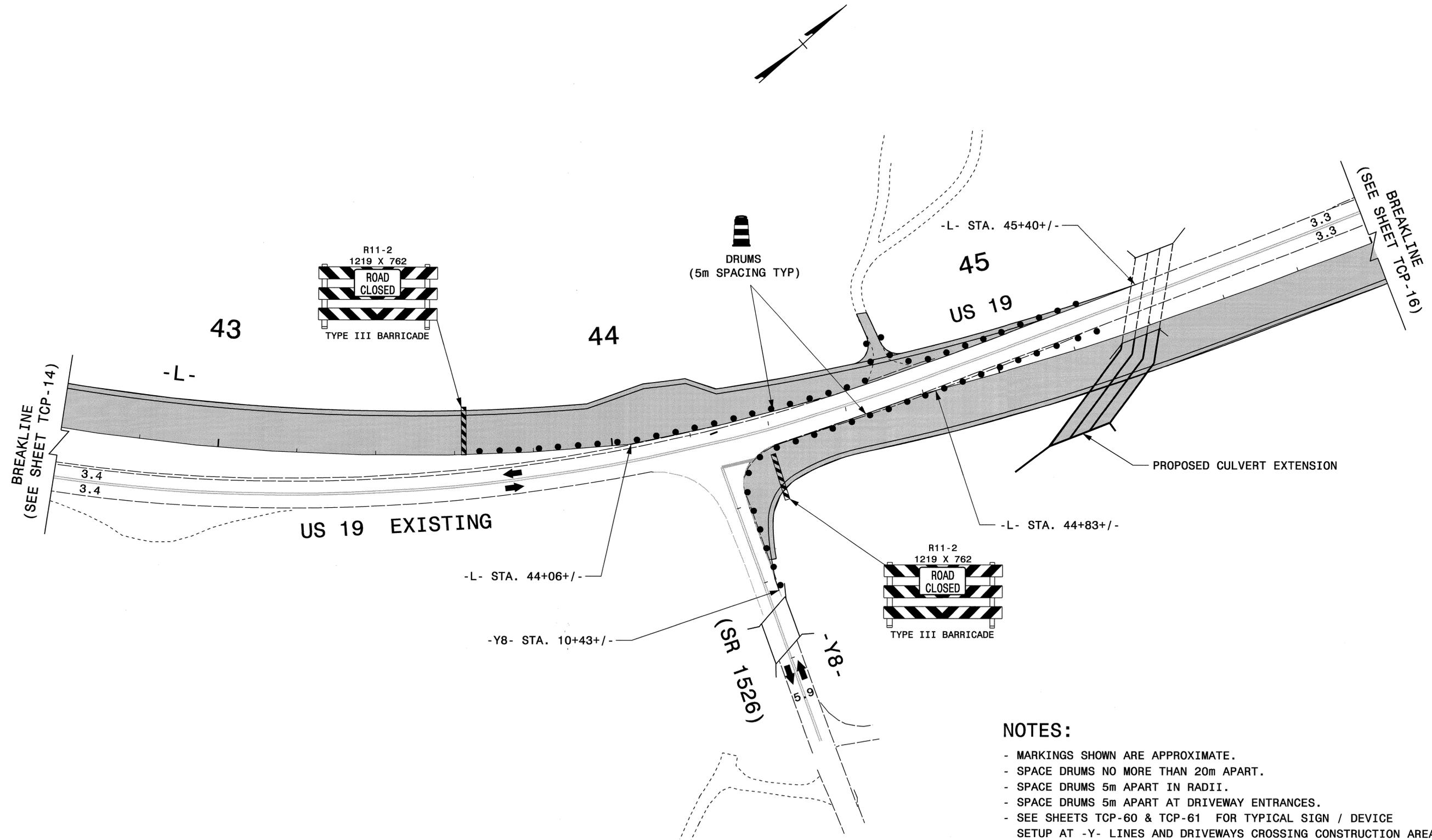
- NOTES:**
- MARKINGS SHOWN ARE APPROXIMATE.
 - SPACE DRUMS NO MORE THAN 20m APART.
 - SPACE DRUMS 5m APART IN RADII.
 - SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
 - SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>J. P. C. K.</i> DATE: 8/7/07	PHASE I									
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 rmdgrrett AT WZTC222291



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-15



NOTES:

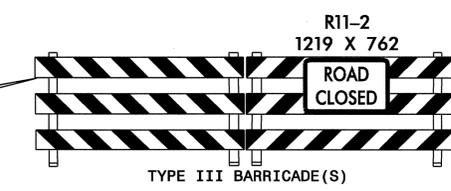
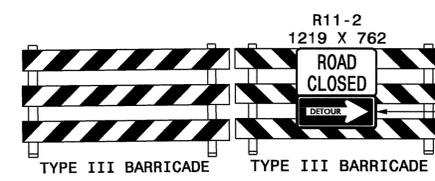
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

07-AUG-2007 09:32
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 mgarratt AT WZTC2229

APPROVED: <i>Jessica D. Kuss</i> DATE: 8/7/07	PHASE I	
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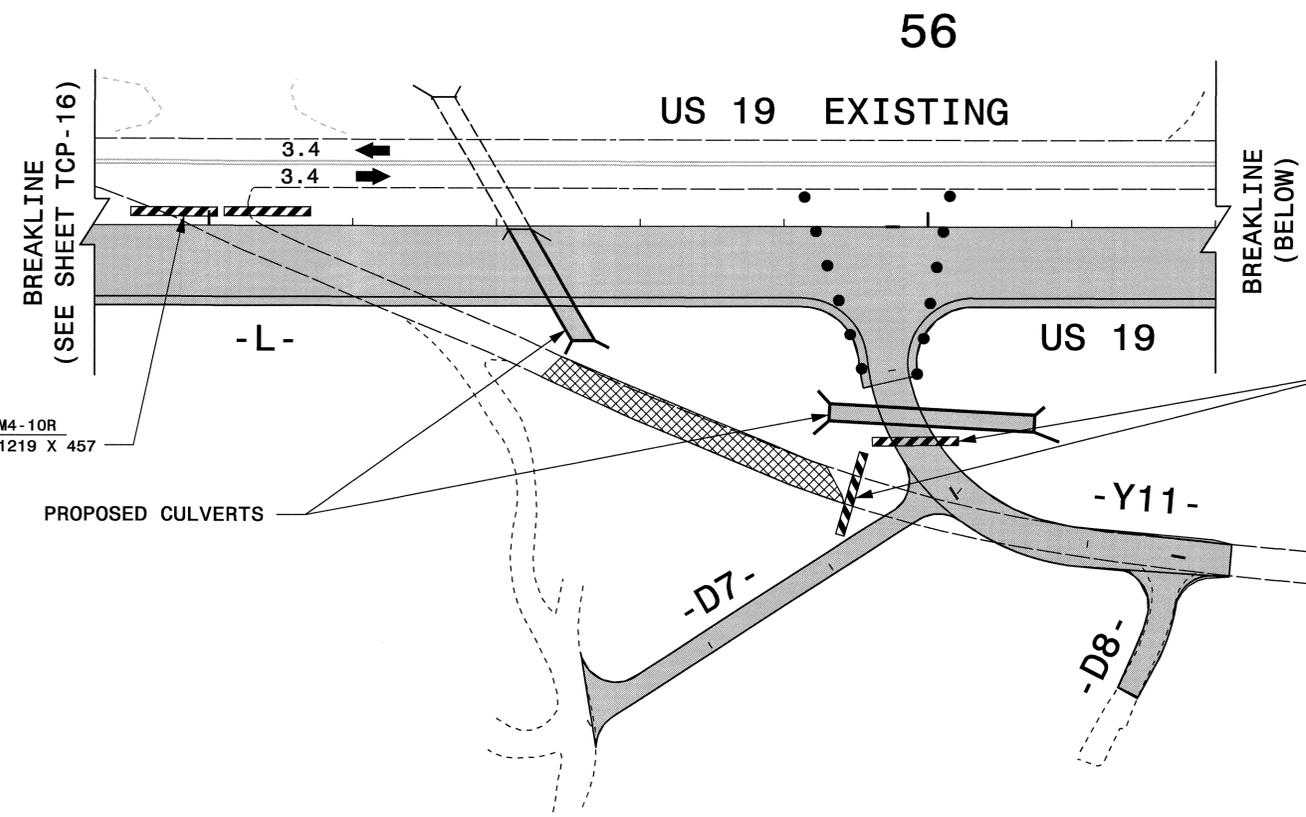


PROJ. REFERENCE NO. R-2518A	SHEET NO. TCP-17
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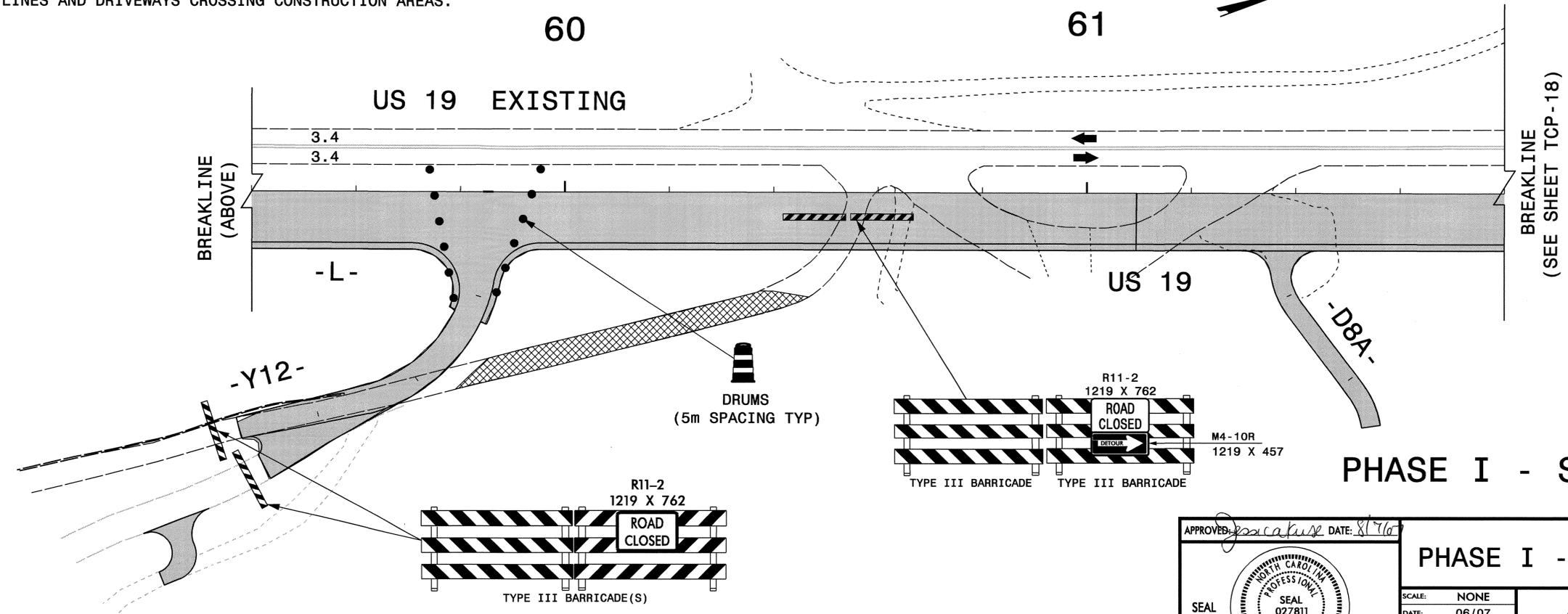


NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.



PHASE I - STEP 2



PHASE I - STEP 7

APPROVED: *Jessica D. Kuse* DATE: 8/17/07

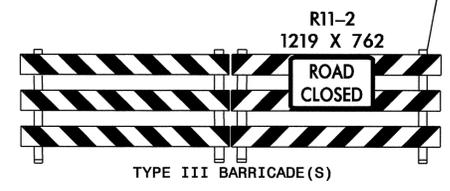
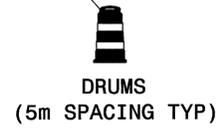
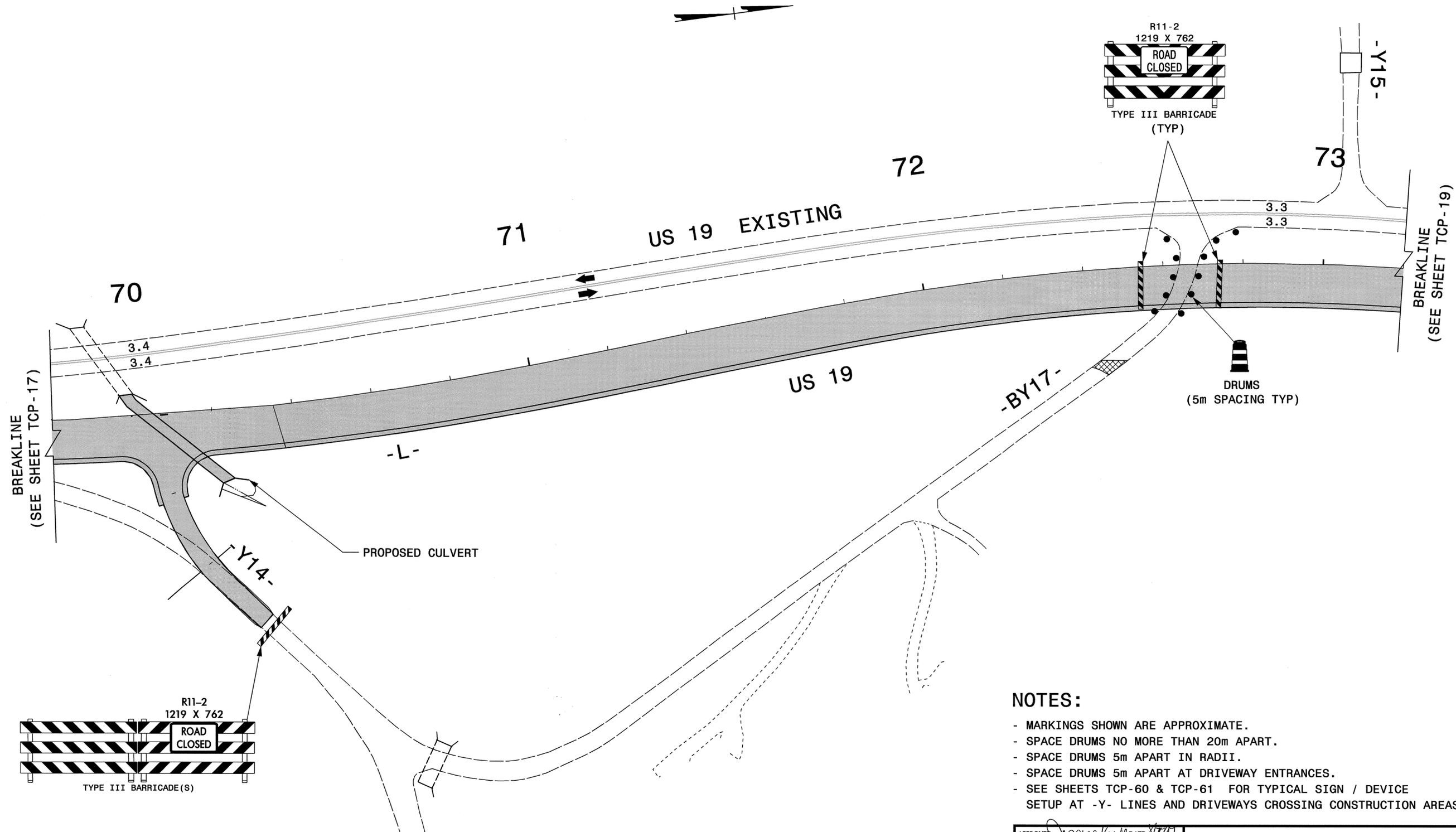
PHASE I - STEPS 2 & 7

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REVIEWED BY: JDK		

07-AUG-2007 12:31
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 AT WZTC2229
 mgarrett



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-18



NOTES:

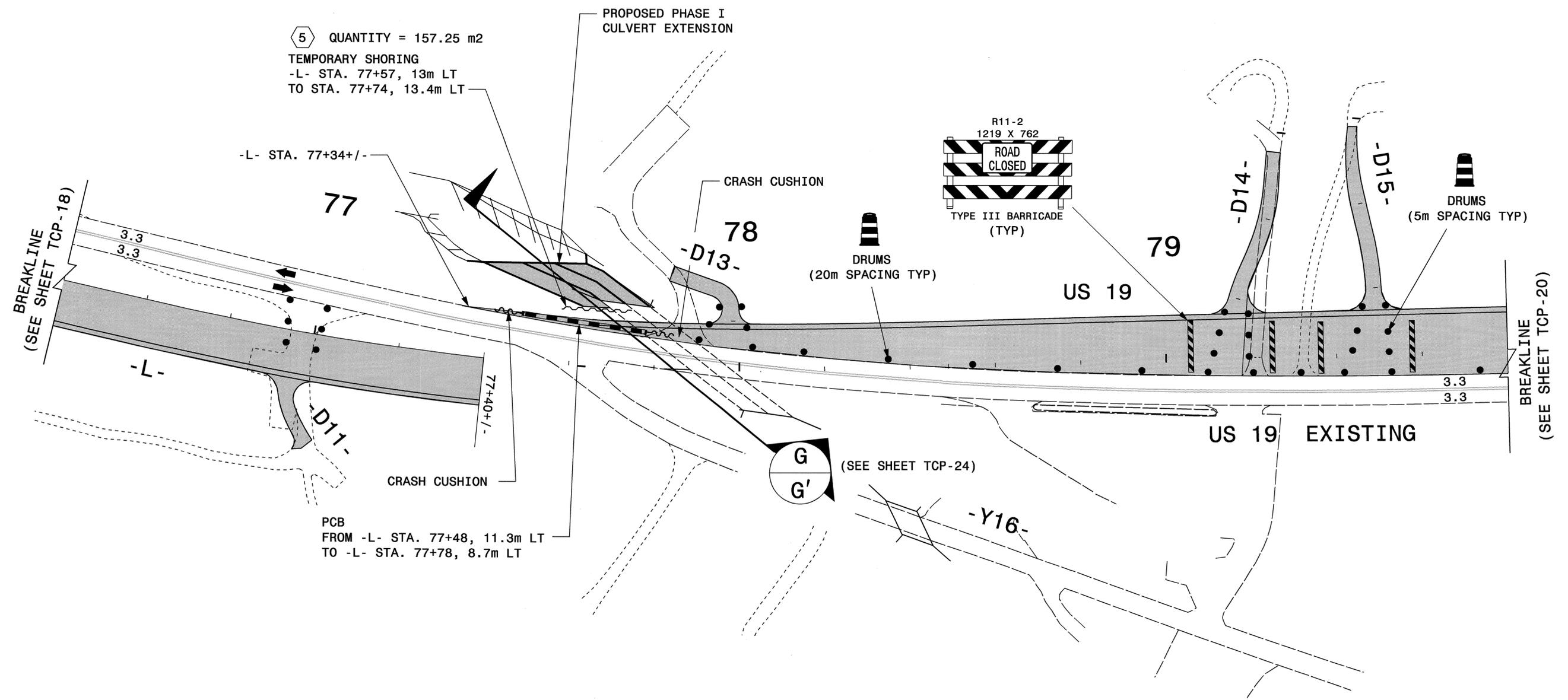
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>J. K. Kiser</i> DATE: 07/07	PHASE I	
	SCALE: NONE	
	DATE: 06/07	
	DESIGN BY: RMG	
	REVIEWED BY: JDK	
		REVISIONS
		CADD FILE

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 rmgd\reth AT WZTC2229J



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-19



NOTES:

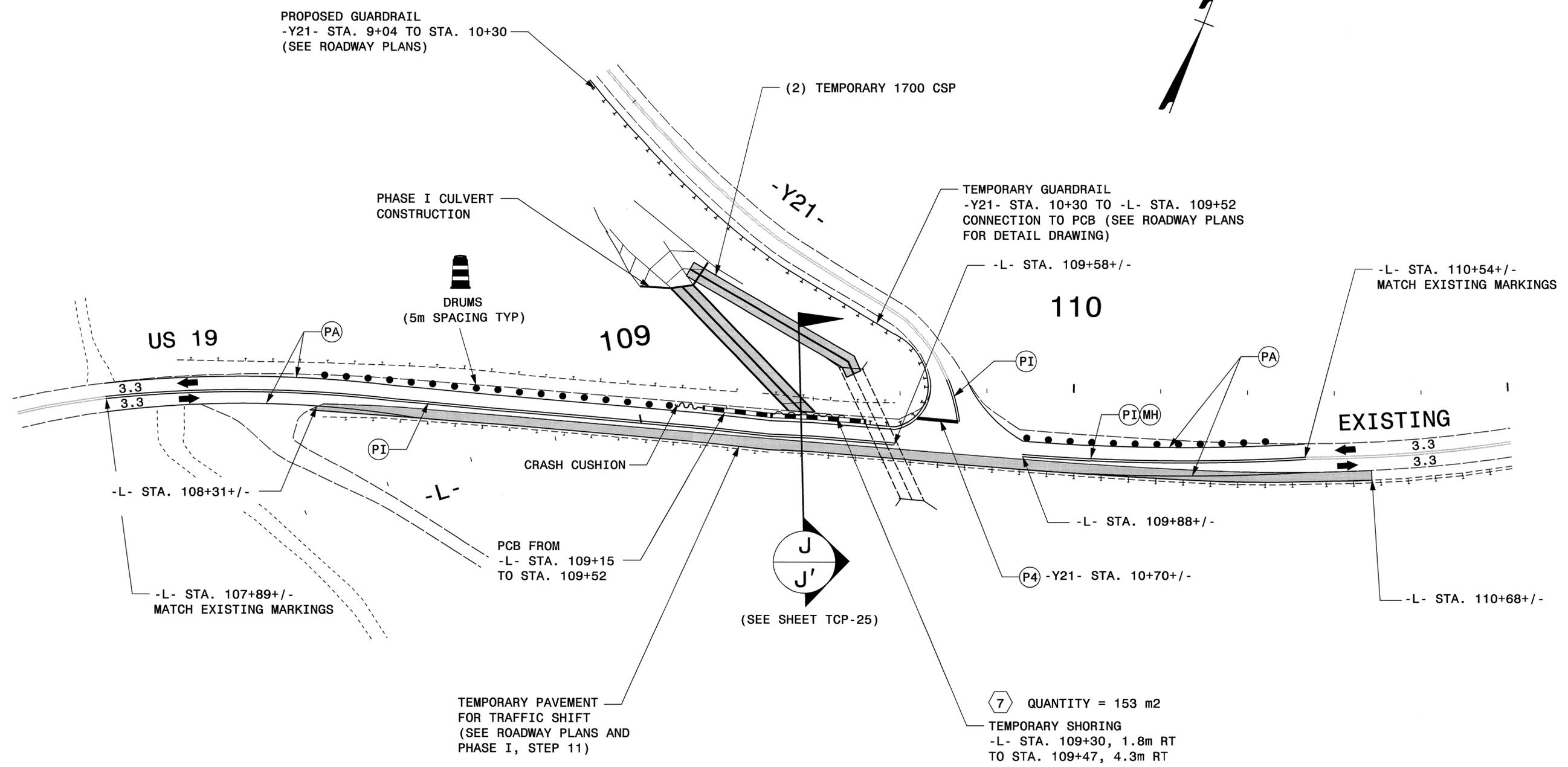
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>J. K. Kuse</i> DATE: 8/7/07	PHASE I		
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	DATE: 06/07		REVISIONS
	DWG. BY: RMG		
	DESIGN BY: RMG		
REVIEWED BY: JDK			

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PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-21

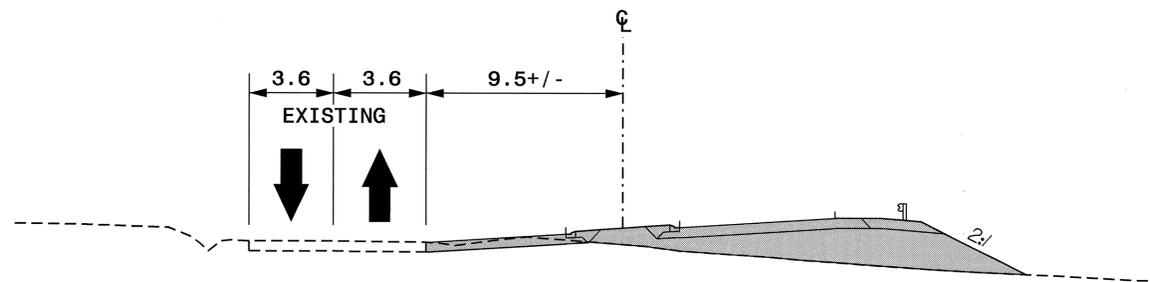


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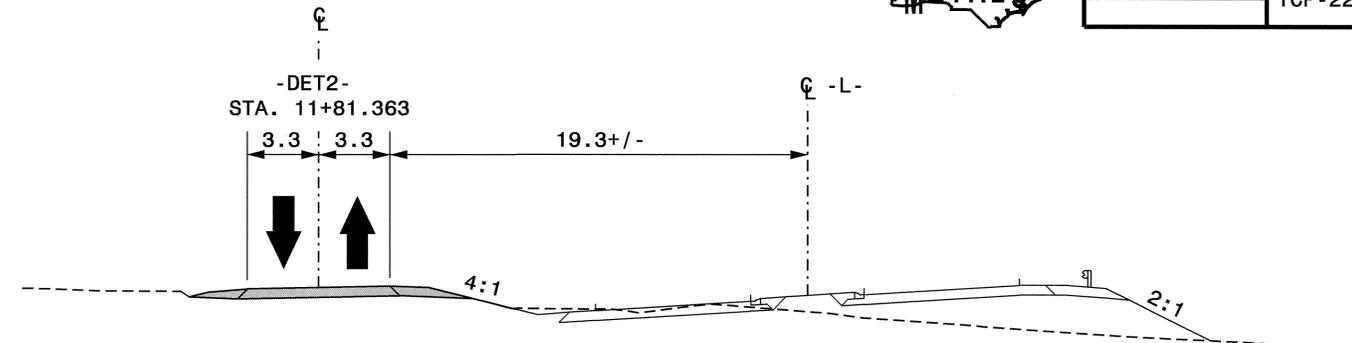
APPROVED: <i>Josca Kuis</i> DATE: 8/7/07	PHASE I - STEP 2	
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	DATE: 06/07	
	DWG. BY: RMG	
	DESIGN BY: RMG	
REVIEWED BY: JDK	REVISIONS	



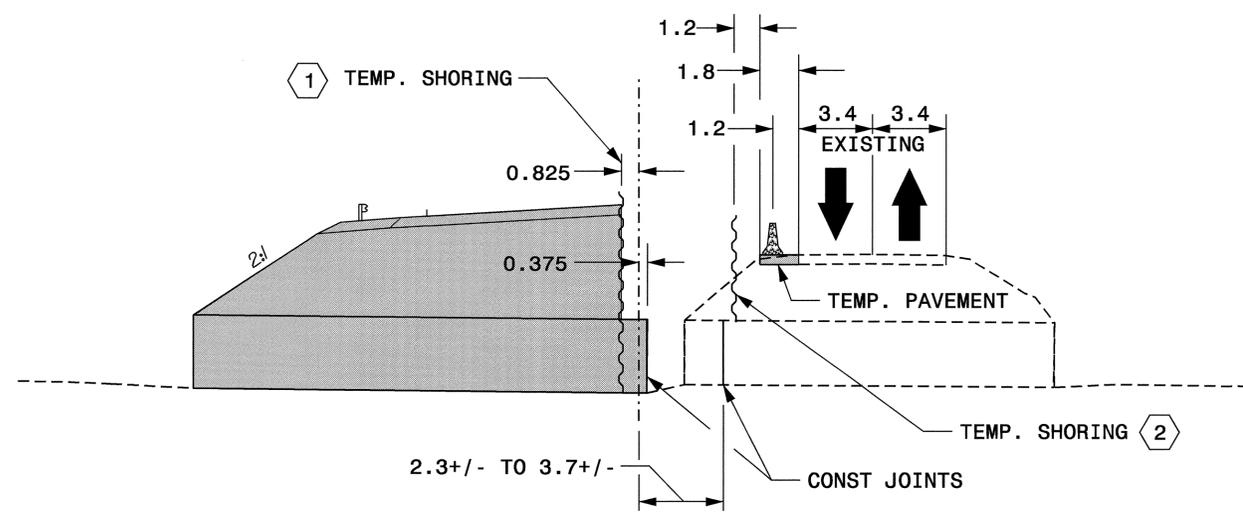
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R-2518A	TCP-22



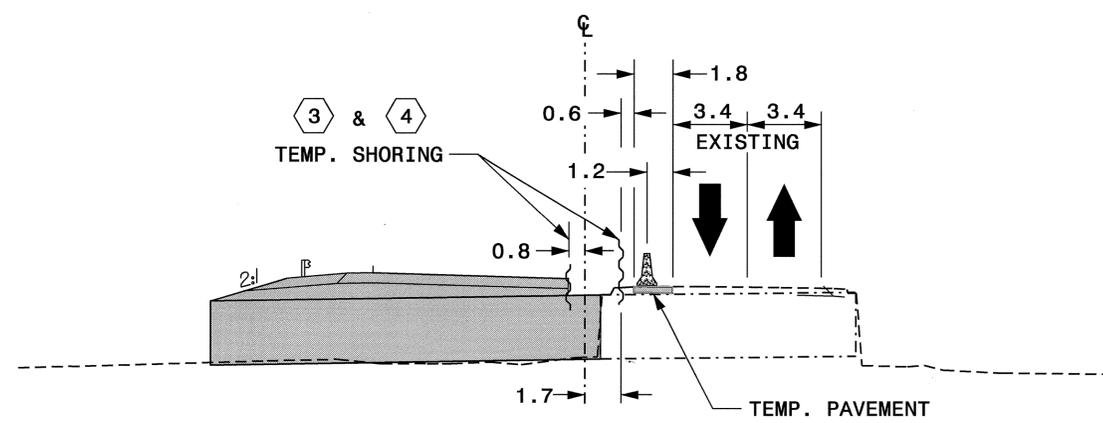
SECTION A-A'
-L- STA. 15+60+/-
(SEE SHEETS TCP-4 & TCP-11)



SECTION AA-AA'
-L- STA. 15+60+/-
(SEE SHEETS TCP-4 & TCP-11A)



SECTION B-B'
-L- STA. 19+72+/-
(SEE SHEETS TCP-5 & TCP-12)



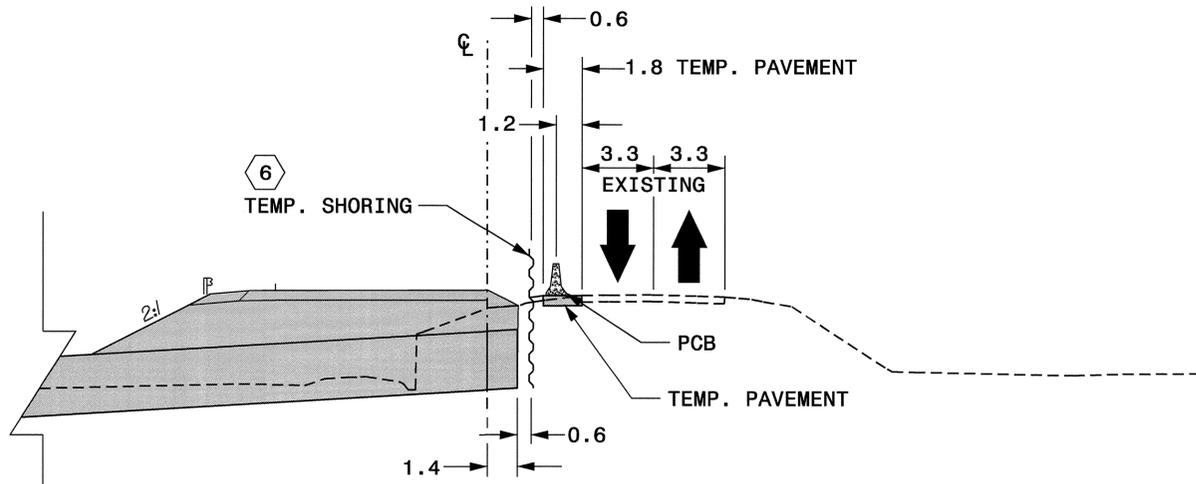
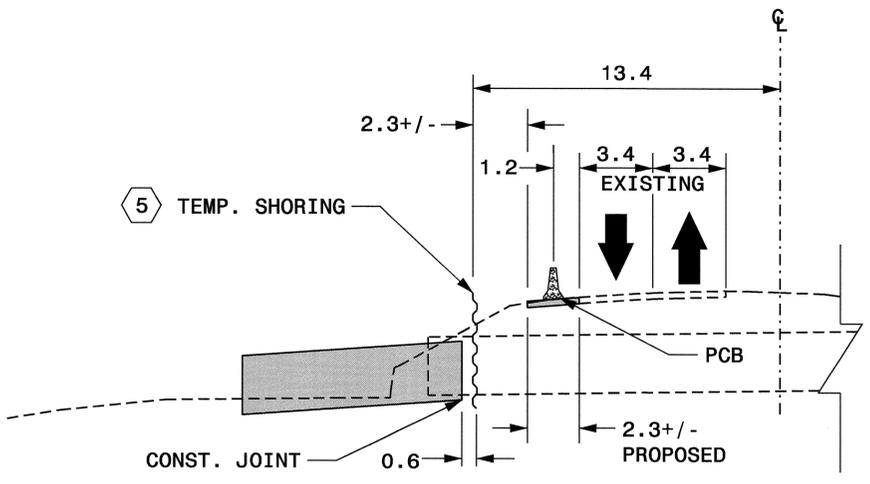
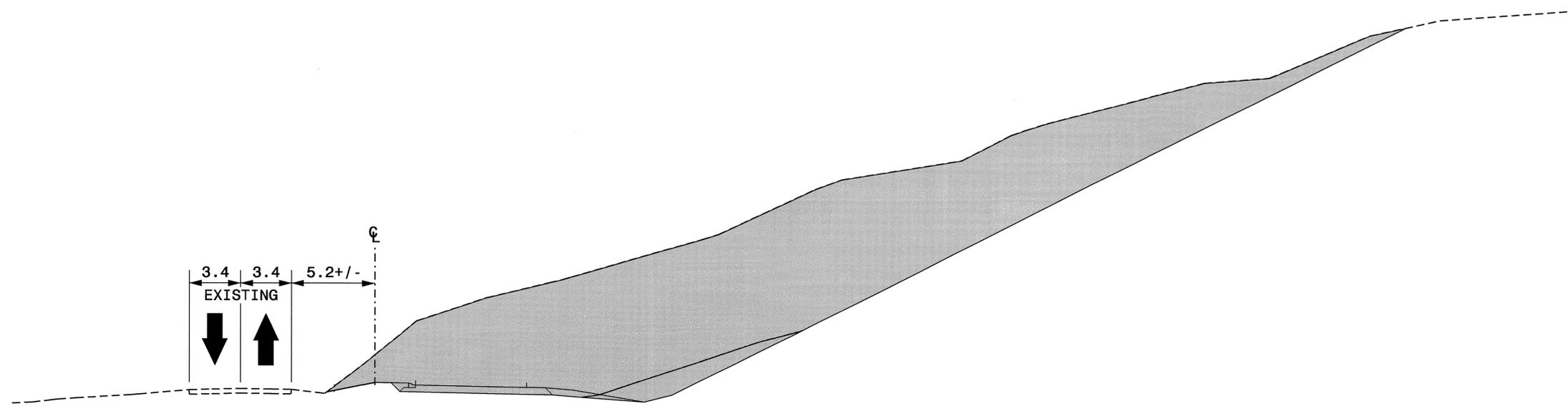
SECTION C-C'
-L- STA. 21+35+/-
(SEE SHEETS TCP-5 & TCP-13)

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 mgarrrett AT WZTC22229

APPROVED: <i>Jessica D. Rose</i> DATE: 8/7/07		PHASE I - SECTIONS	
		DATE: 04/07	REVISIONS
DWG. BY: RMG			
DESIGN BY: RMG			
REVIEWED BY: JDK			



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-24

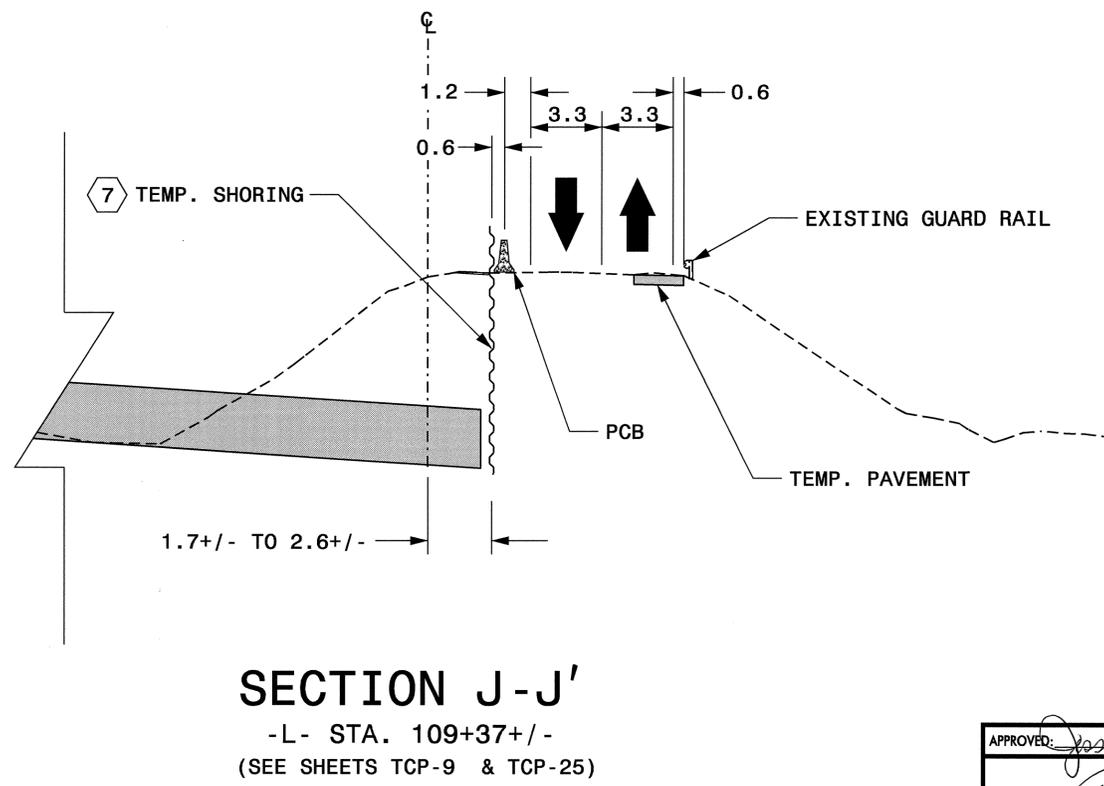
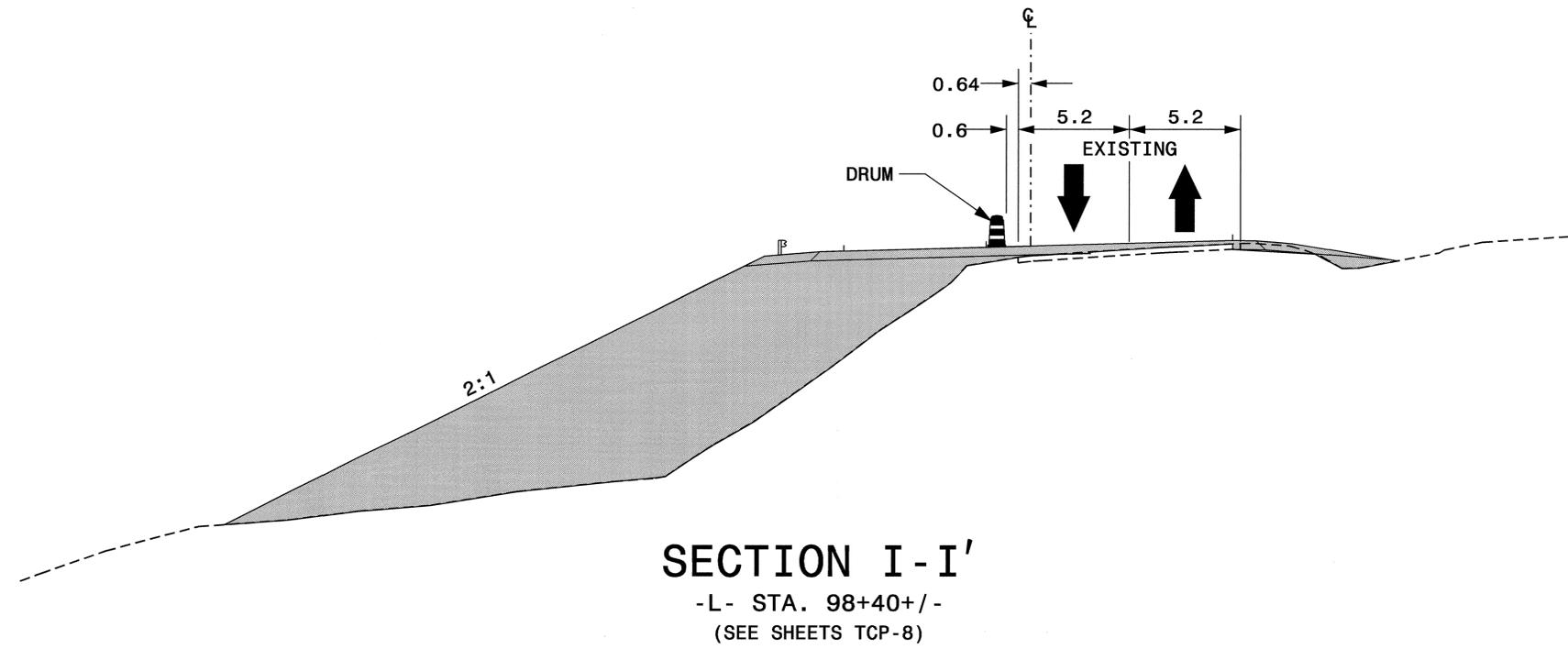


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 Rngarrrett AT WZTC22299

APPROVED: <i>Jessica D. Kuse</i> DATE: 8/7/07	PHASE I - SECTIONS																			
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REVISIONS																				



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-25

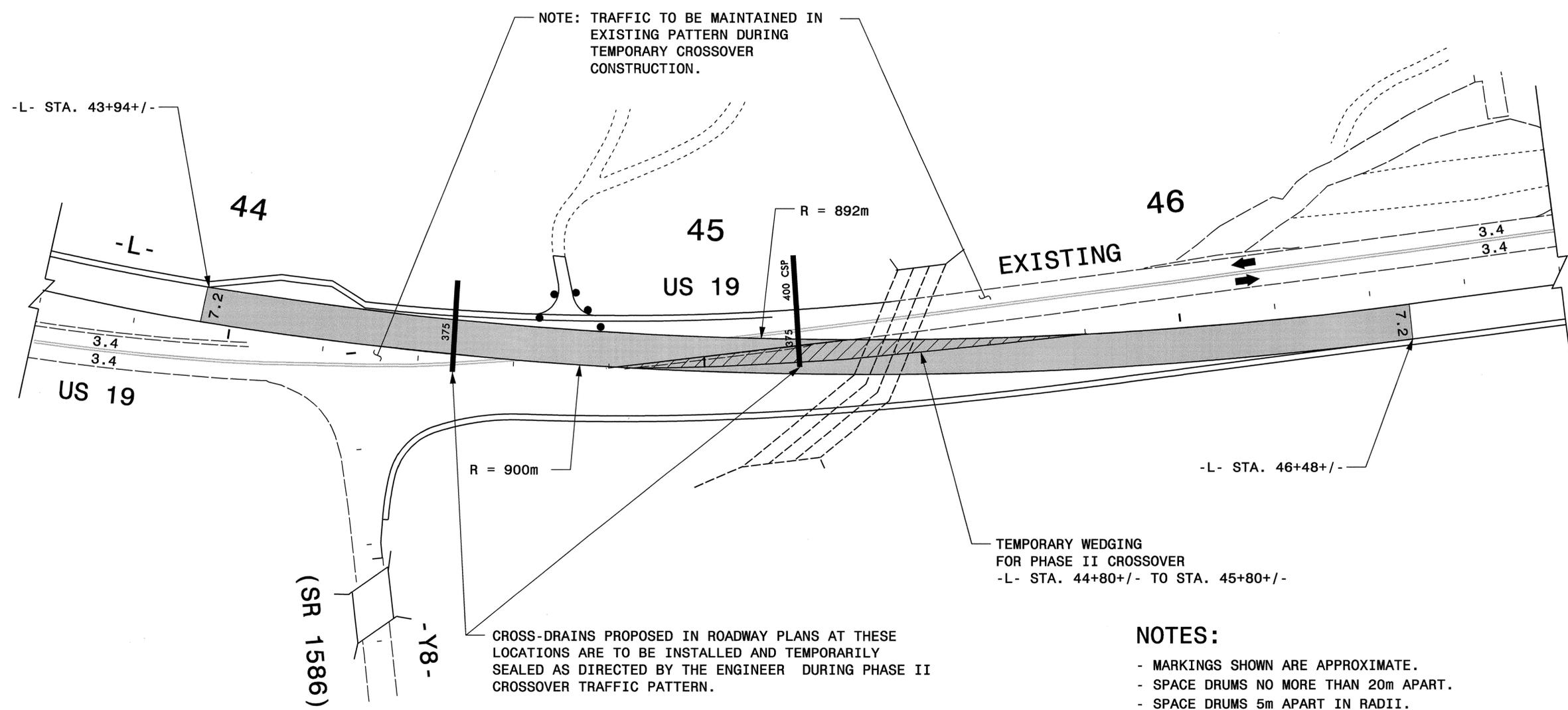


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 rmgarrett AT WZTC2229

APPROVED: <i>J. M. K...</i> DATE: 8/17/07	PHASE I - SECTIONS	
SCALE: NONE		REVISIONS
DATE: 04/07		
DWG. BY: RMG		
DESIGN BY: RMG		
REVIEWED BY: JDK		CADD FILE



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-26



- NOTES:**
- MARKINGS SHOWN ARE APPROXIMATE.
 - SPACE DRUMS NO MORE THAN 20m APART.
 - SPACE DRUMS 5m APART IN RADII.
 - SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
 - SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.
 - GRADE AND SUPERELEVATION RATE MAY BE ADJUSTED AS NECESSARY BY THE ENGINEER TO SECURE A PROPER TRANSITION THROUGH THE TEMPORARY CROSSOVER.

LEGEND



APPROVED: *Jessica Kuse* DATE: 4/25/08

SEAL

PROFESSIONAL ENGINEER
JESSICA D. KUSE
027811

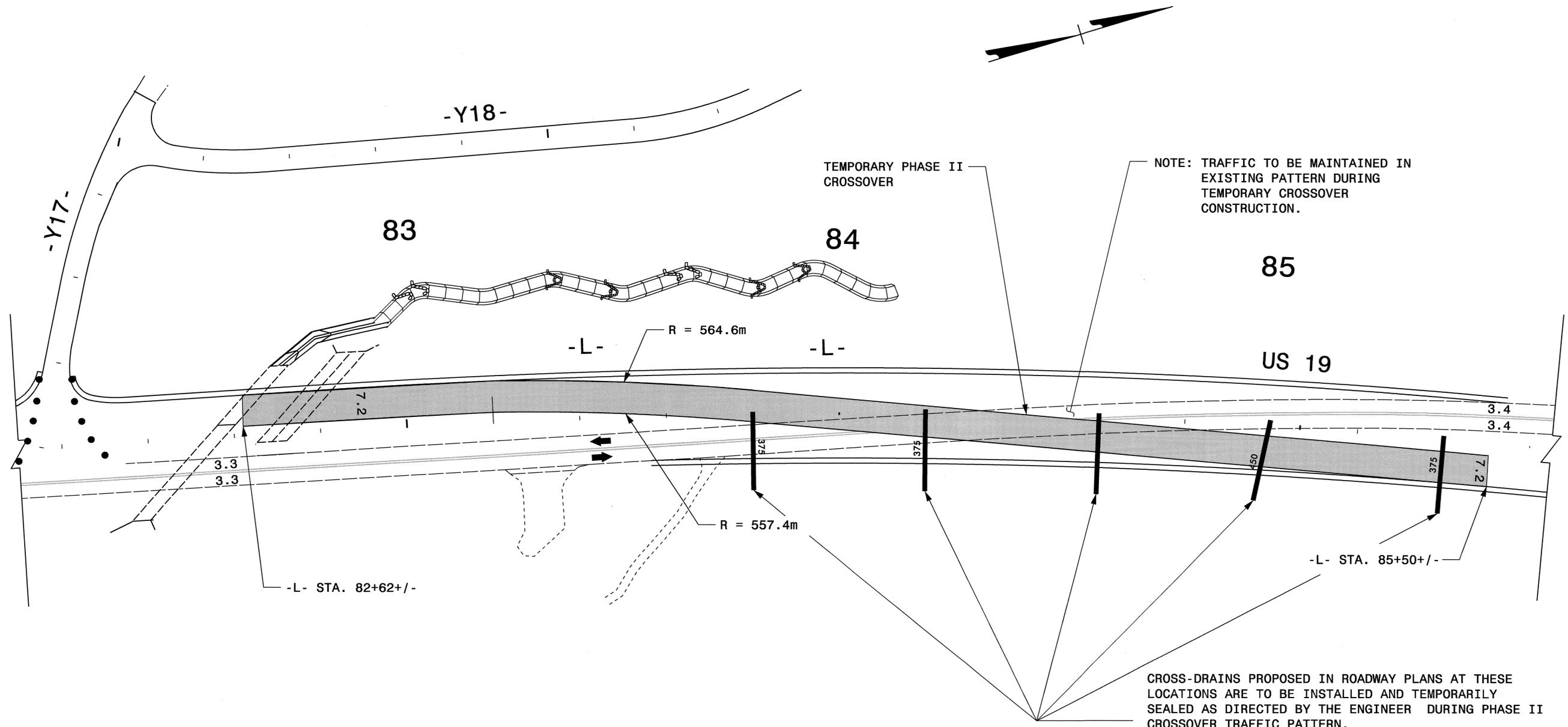
TEMPORARY CROSSOVER FOR PHASE II
-L- STA. 43+94+/- TO STA. 46+48+/-

SCALE:	NONE		REVISIONS
DATE:	06/07		
DWG. BY:	RMG		
DESIGN BY:	RMG		
REVIEWED BY:	JDK		

22-FEB-2008 08:31
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 rmgarrett AT WZTC22259



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-28



GROSS-DRAINS PROPOSED IN ROADWAY PLANS AT THESE LOCATIONS ARE TO BE INSTALLED AND TEMPORARILY SEALED AS DIRECTED BY THE ENGINEER DURING PHASE II CROSSOVER TRAFFIC PATTERN.

NOTE:
ANY TEMPORARY DRAINAGE REQUIRED TO PREVENT PONDING WHILE TRAFFIC IS IN THIS PATTERN IS TO BE FILLED WITH FLOWABLE FILL AND REMAIN IN PLACE ONCE NO LONGER NEEDED.

NOTES:

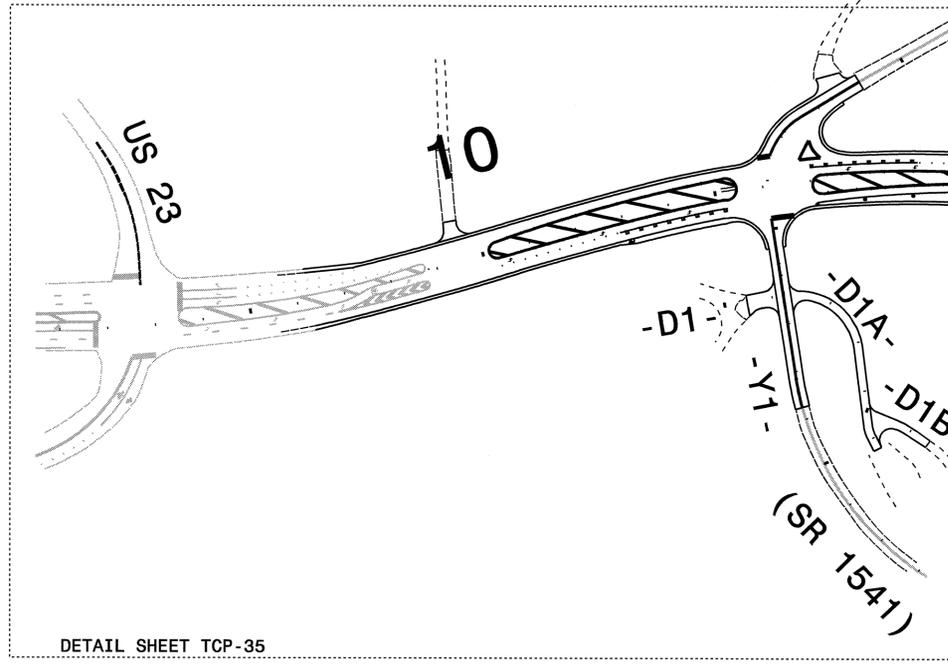
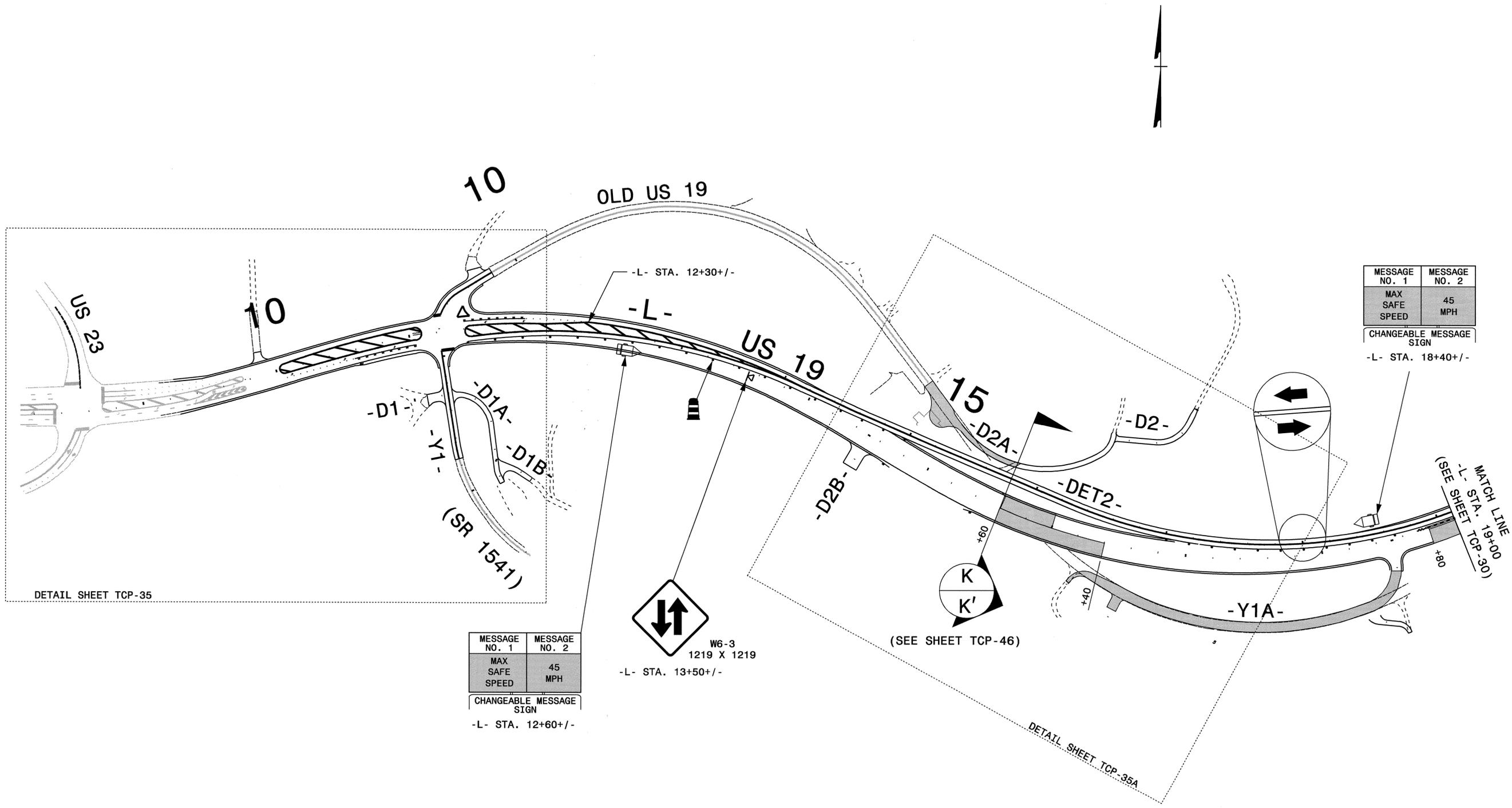
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.
- GRADE AND SUPERELEVATION RATE MAY BE ADJUSTED AS NECESSARY BY THE ENGINEER TO SECURE A PROPER TRANSITION THROUGH THE TEMPORARY CROSSOVER.

APPROVED: <i>Jessica D. Kuis</i> DATE: 8/7/07	TEMPORARY CROSSOVER FOR PHASE II -L- STA. 82+62+/- TO STA. 85+50+/-							
	SCALE: NONE							
	DATE: 06/07							
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	DESIGN BY: RMG							
REVIEWED BY: JDK	<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> </tbody> </table>		REVISIONS					
REVISIONS								

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 ringar.rft
 AT: WZ102223J



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-29



MESSAGE NO. 1	MESSAGE NO. 2
MAX SAFE SPEED	45 MPH

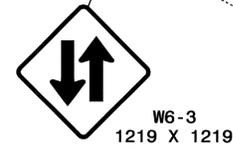
CHANGEABLE MESSAGE SIGN

-L- STA. 18+40+/-

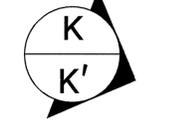
MESSAGE NO. 1	MESSAGE NO. 2
MAX SAFE SPEED	45 MPH

CHANGEABLE MESSAGE SIGN

-L- STA. 12+60+/-



-L- STA. 13+50+/-



(SEE SHEET TCP-46)

07-AUG-2007 09:35
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 mgarrrett AT WZTC22259

NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Jessica Kuse* DATE: 8/1/07

OVERVIEW PHASE II

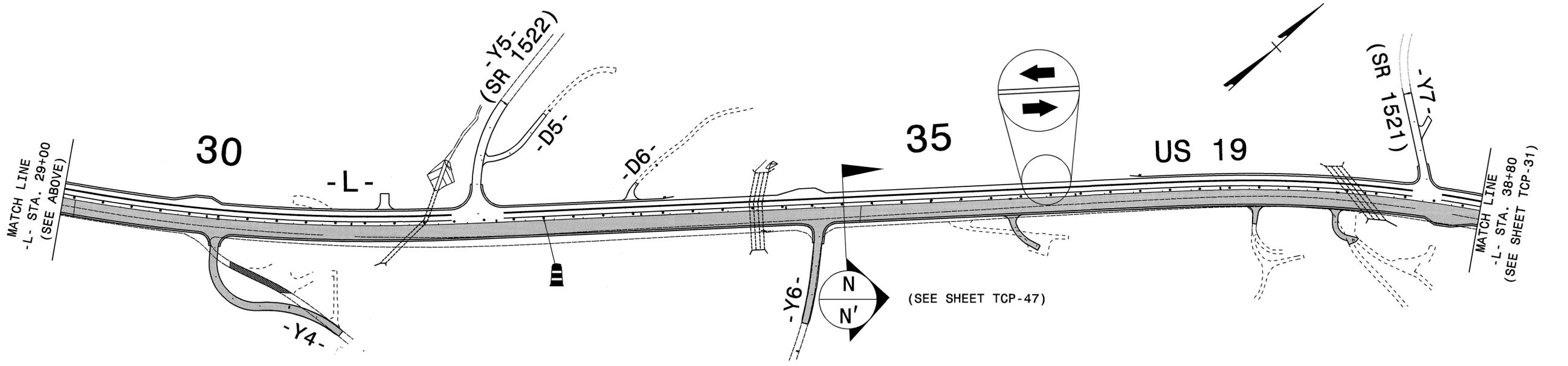
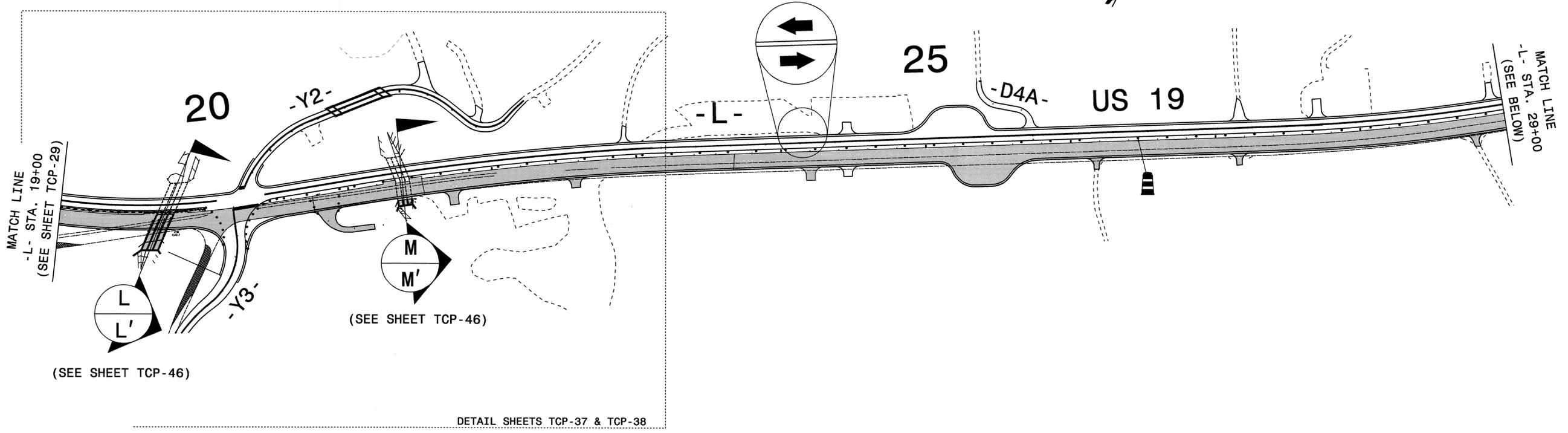
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DATE:	04/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK



REVISIONS	



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-30



NOTES:

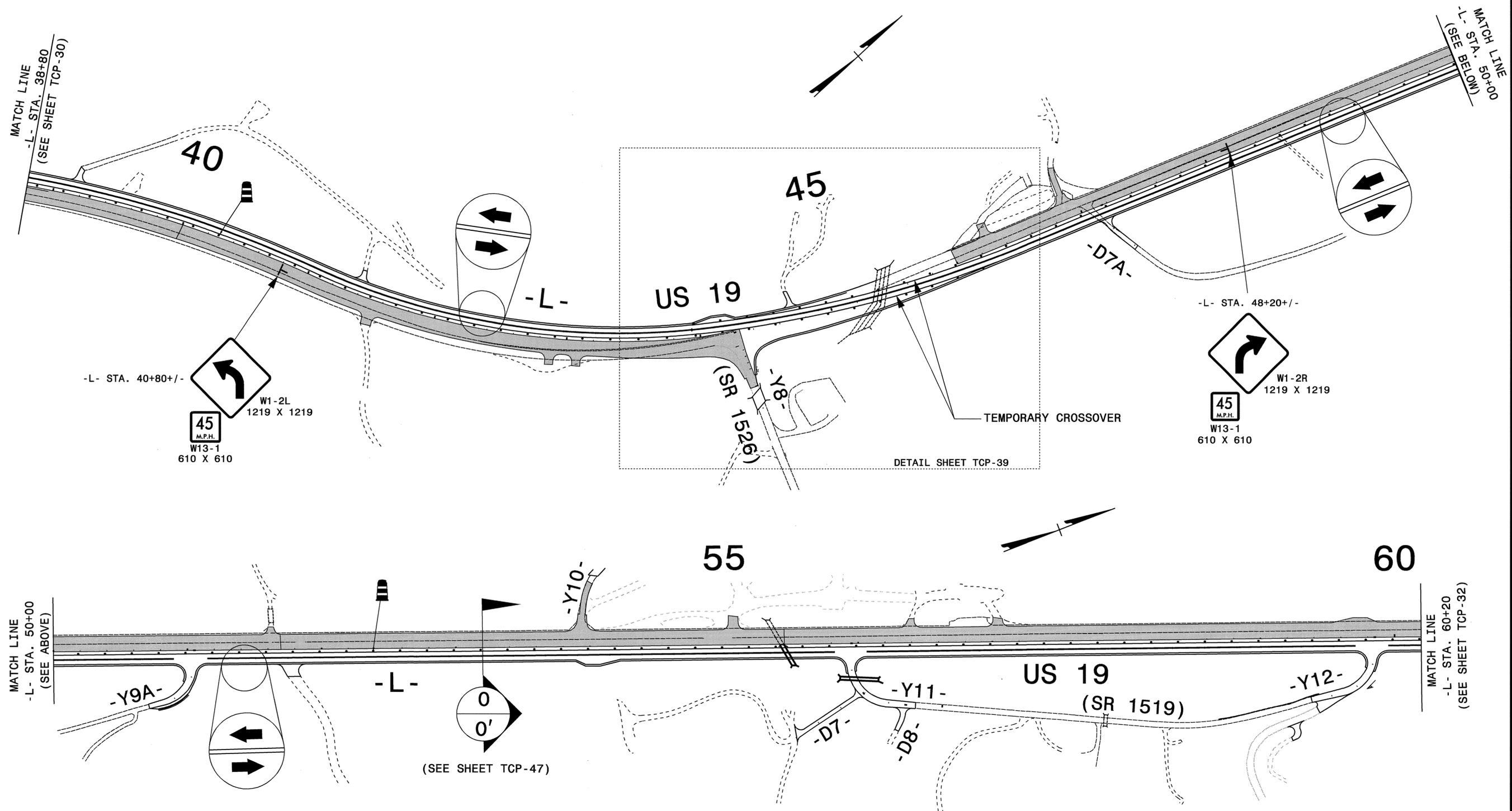
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>Jessica D. Kuse</i> DATE: 8/7/07	OVERVIEW PHASE II									
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	DATE: 04/07									
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 rmgarrett AT WZTC22229



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-31



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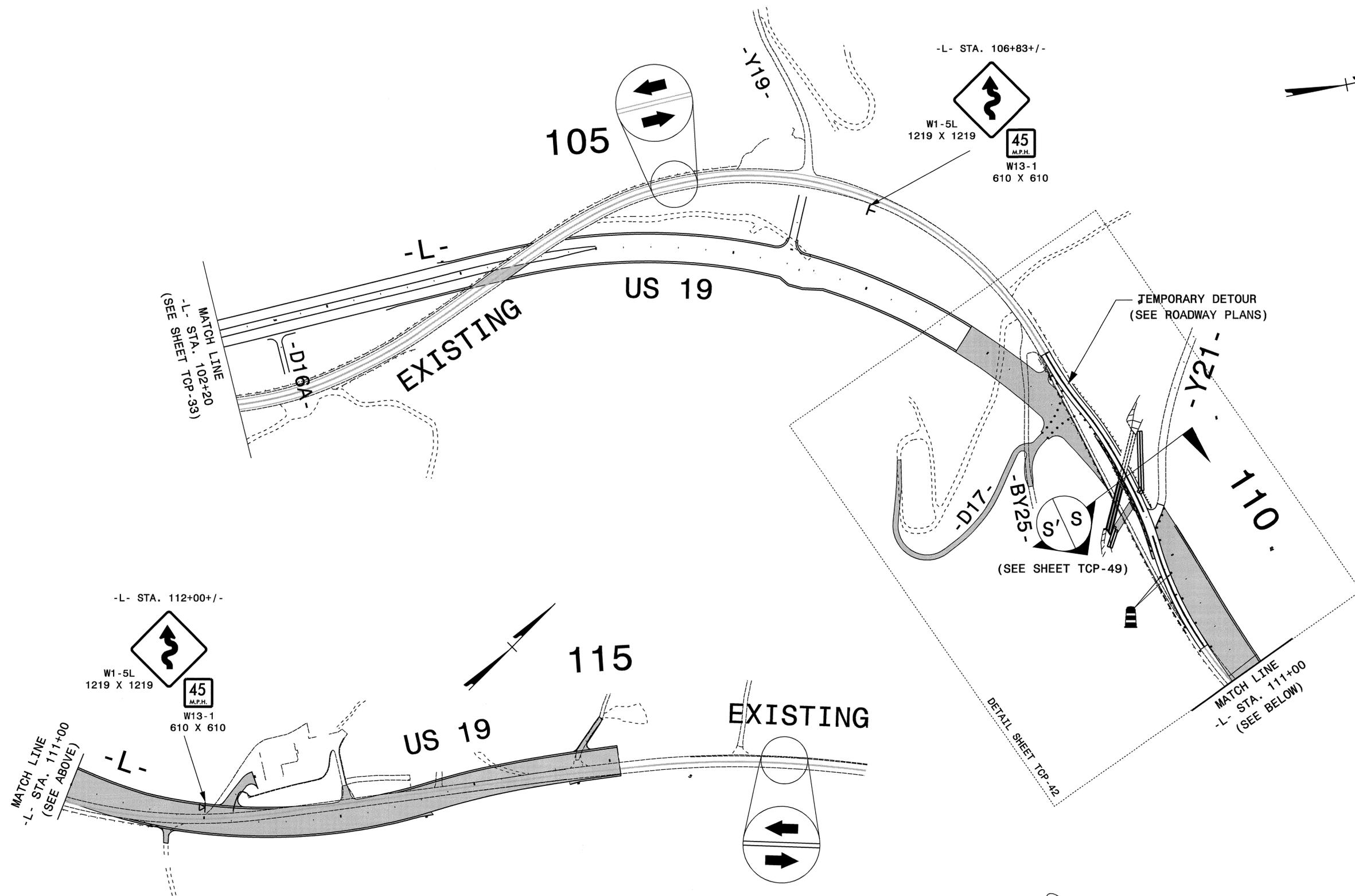
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- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>Josica Kulek</i> DATE: 8/7/07	OVERVIEW PHASE II	
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PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-34



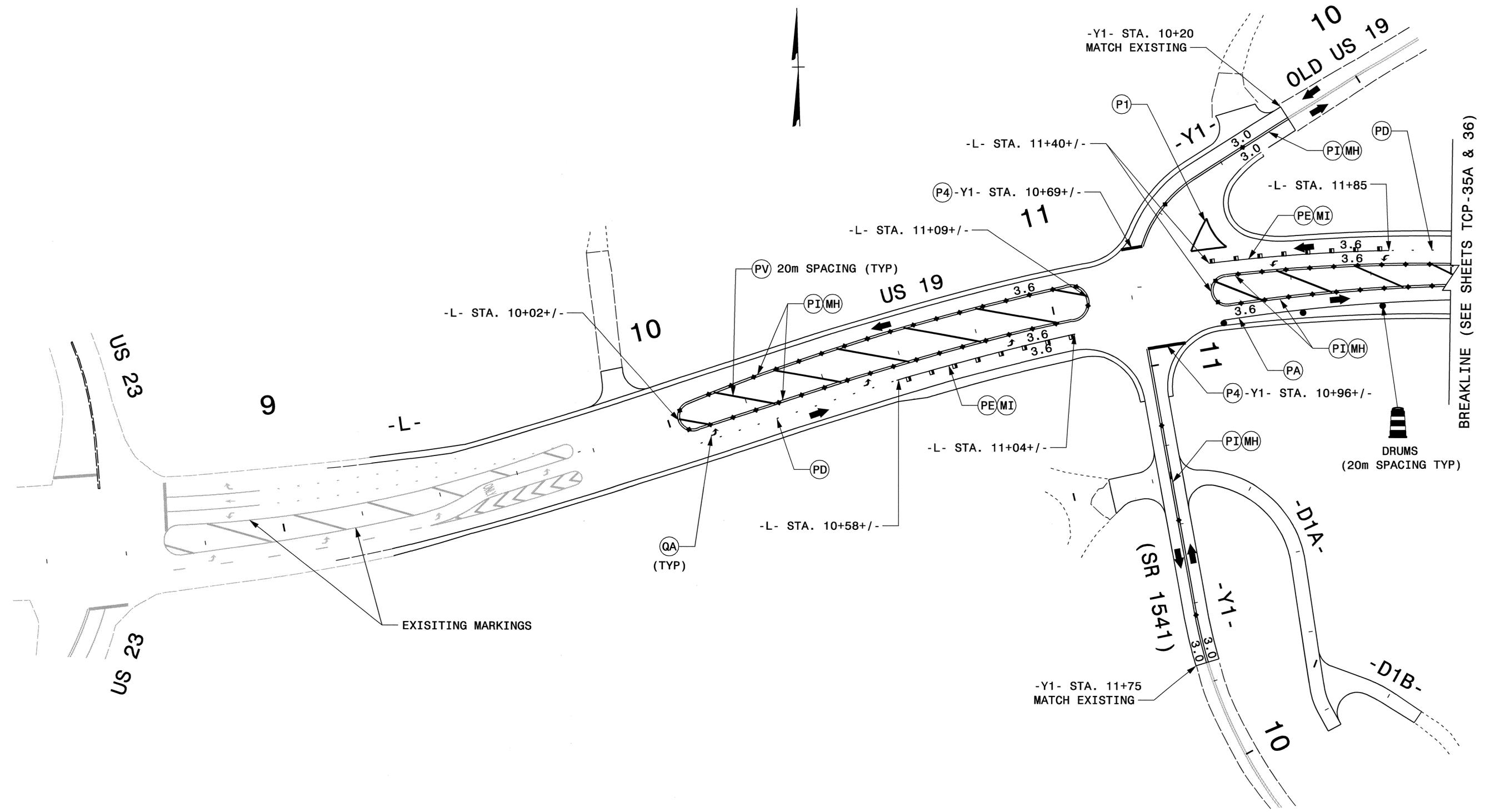
- NOTES:**
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 - SPACE DRUMS NO MORE THAN 20m APART.
 - SPACE DRUMS 5m APART IN RADII.
 - SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
 - SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>Josca Kusek</i> DATE: 8/9/07	OVERVIEW PHASE II		
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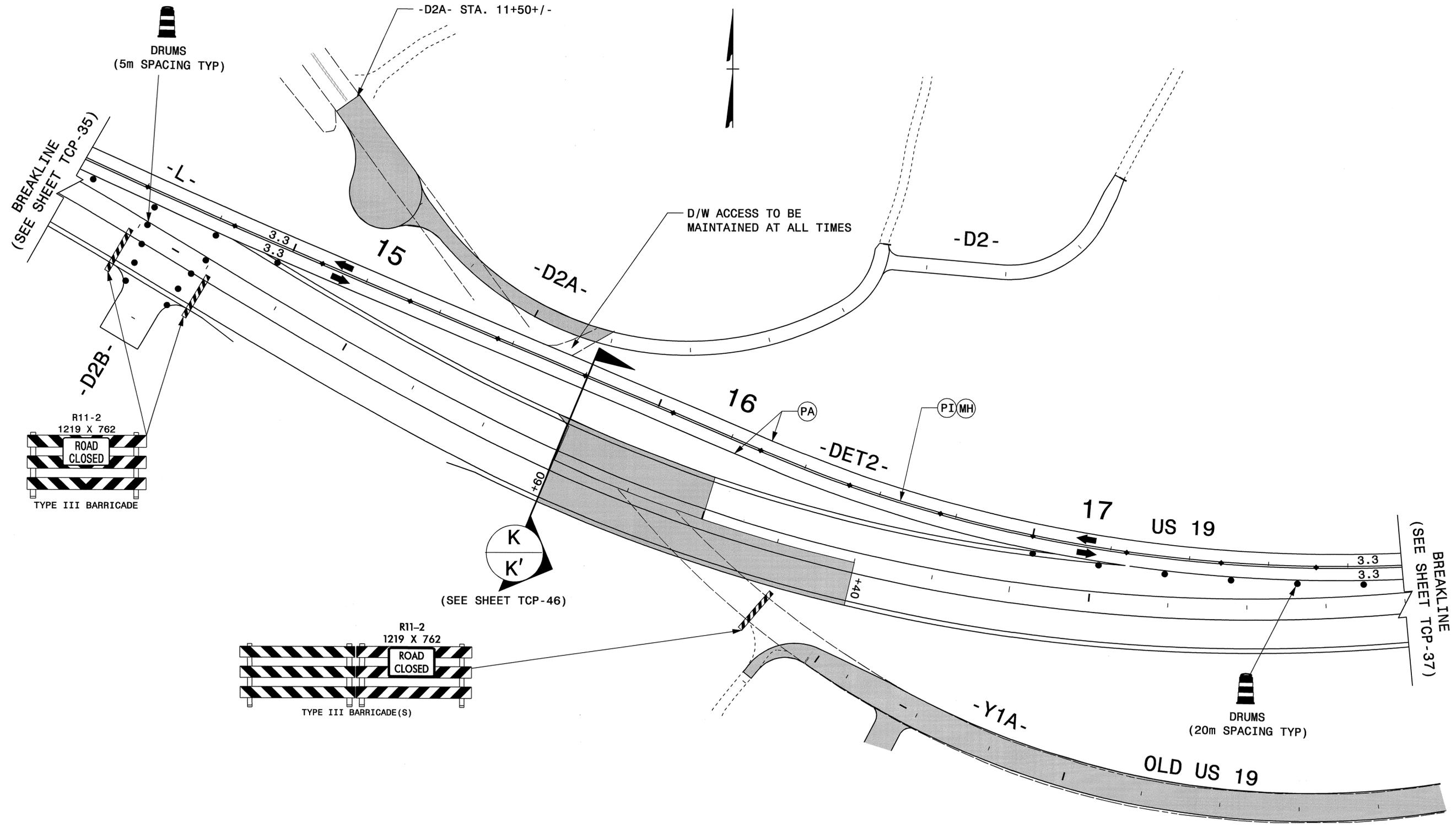


PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-35



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APPROVED: <i>Josica Kus</i> DATE: 8/7/07 	PHASE II							
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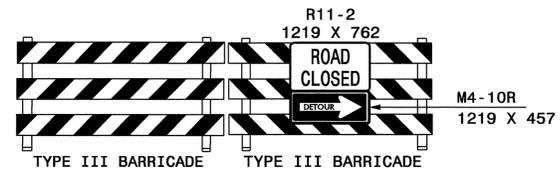
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>Jessica D. Lusk</i> DATE: 8/1/07	PHASE II									
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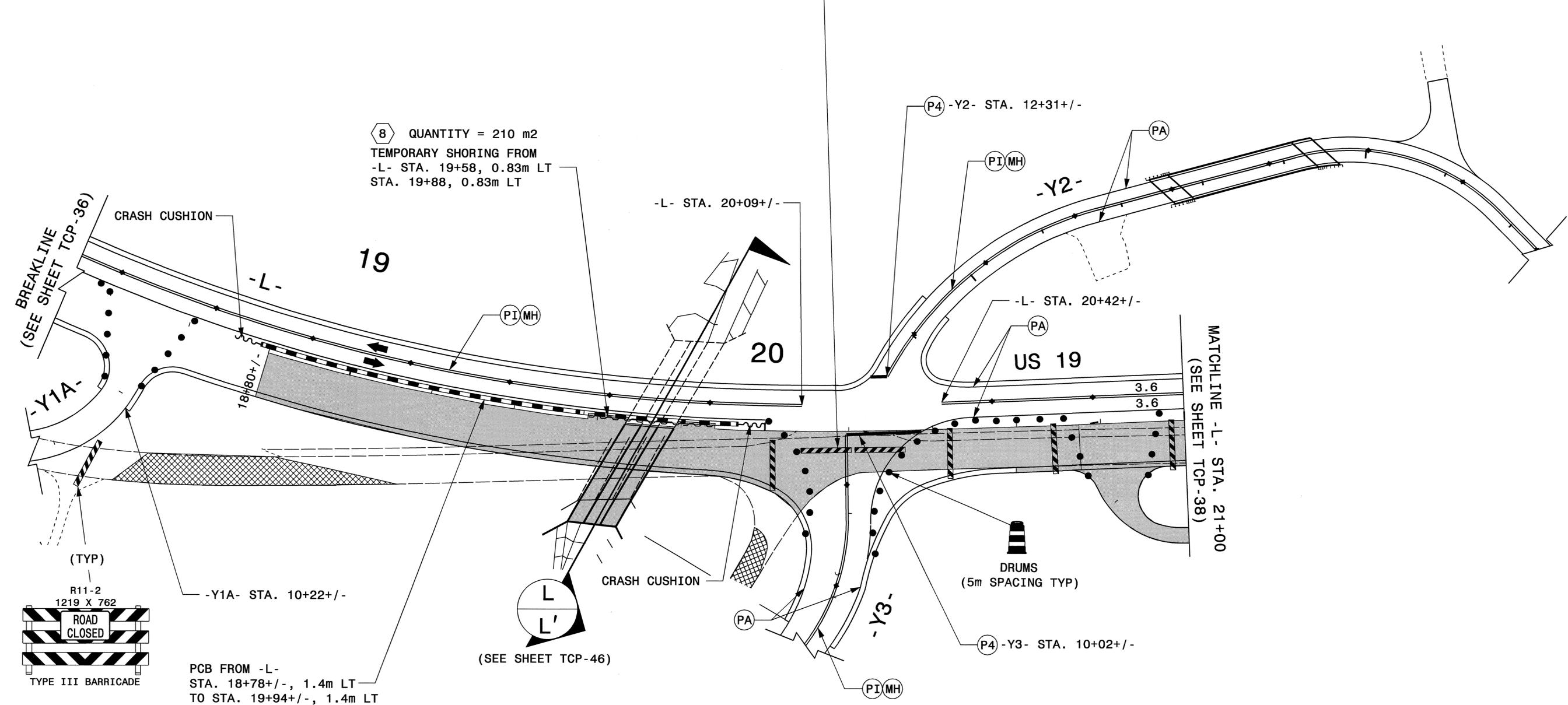
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 rmdgrrett AT WZTC222291



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-37



SEE SHEET TCP-
FOR -Y3- DETOUR ROUTE



NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Jessica D. Kue* DATE: 8/7/07

SEAL

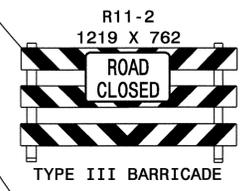
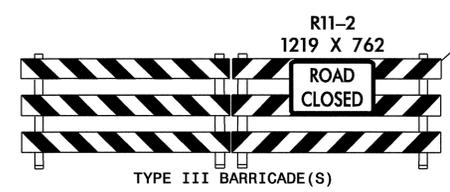
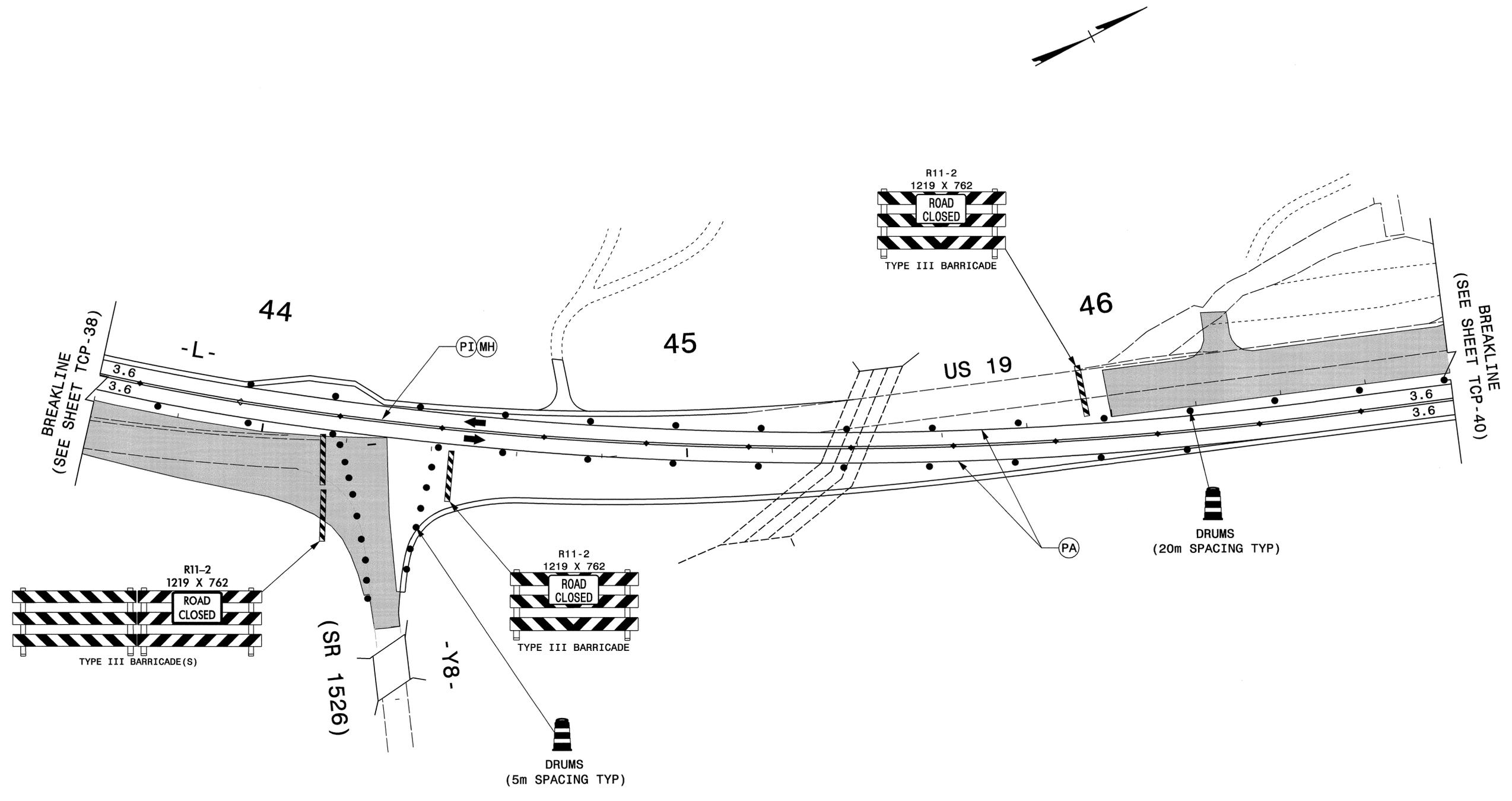
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 rmdarrett AT WZTC2229j



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-39



NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Jos. Caluse* DATE: 8/7/07



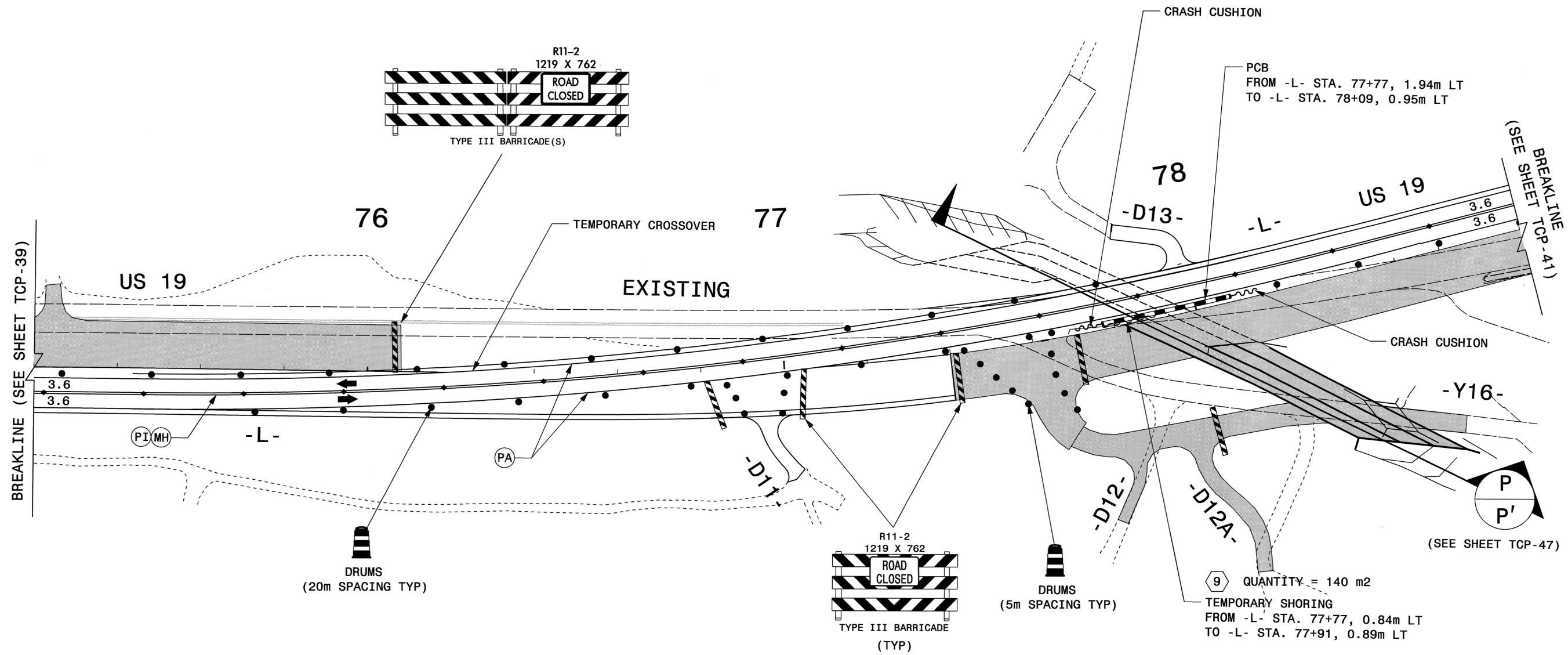
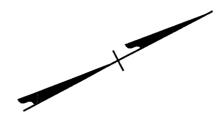
PHASE II

SCALE:	NONE
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DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK



REVISIONS

07-AUG-2007 11:07
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 AT: WZ:1222229



BREAKLINE (SEE SHEET TCP-39)

(SEE SHEET TCP-41)
BREAKLINE

(SEE SHEET TCP-47)

NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Jessica Kuse* DATE: 8/7/07



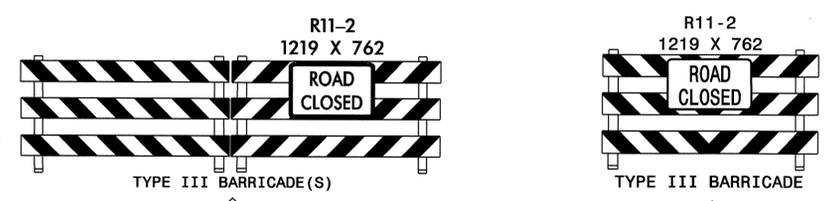
PHASE II

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 RMG:RKH AT WZ1022291



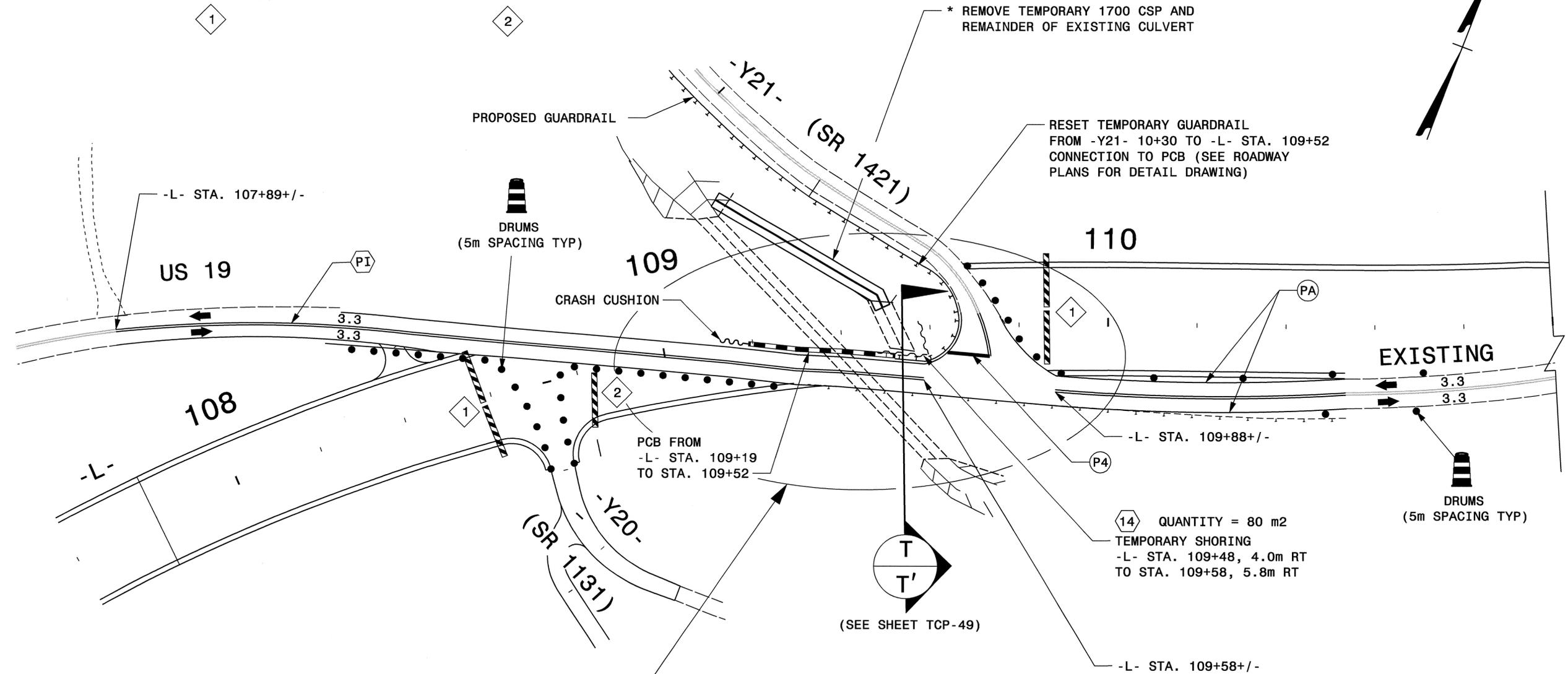
PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-43



* THE CONTRACTOR HAS THE OPTION OF REMOVING THE EXISTING CULVERT OR LEAVING IT IN PLACE FILLING WITH FLOWABLE FILL AT NO EXPENSE TO THE DEPARTMENT.

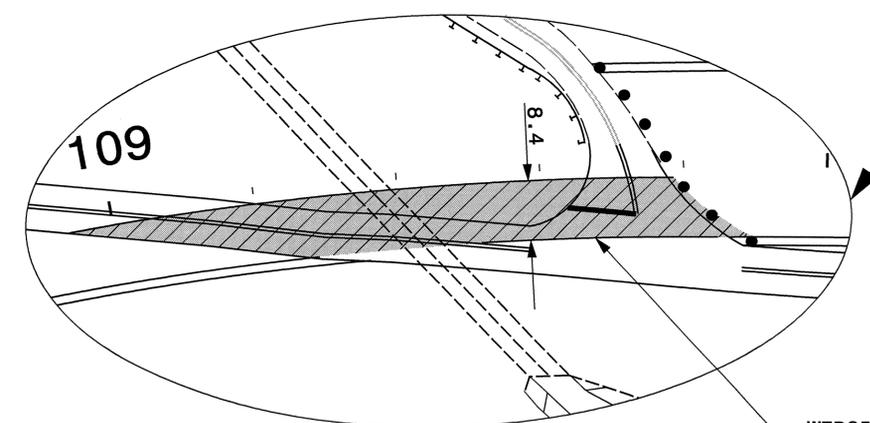
* REMOVE TEMPORARY 1700 CSP AND REMAINDER OF EXISTING CULVERT

RESET TEMPORARY GUARDRAIL FROM -Y21- 10+30 TO -L- STA. 109+52 CONNECTION TO PCB (SEE ROADWAY PLANS FOR DETAIL DRAWING)



14 QUANTITY = 80 m2
TEMPORARY SHORING
-L- STA. 109+48, 4.0m RT
TO STA. 109+58, 5.8m RT

(SEE SHEET TCP-49)



PHASE II - STEP 12
TEMPORARY WEDGING

WEDGING AREA FOR PHASE III
TRAFFIC PATTERN (SEE SHEET TCP-21)

LEGEND



NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

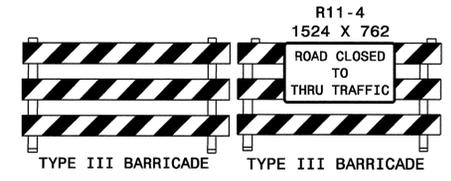
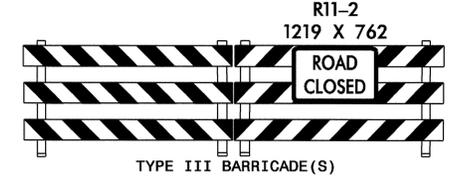
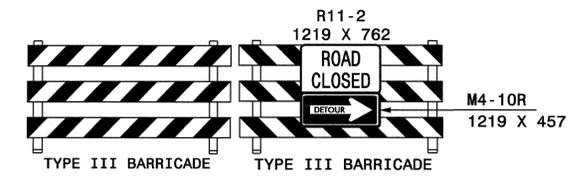
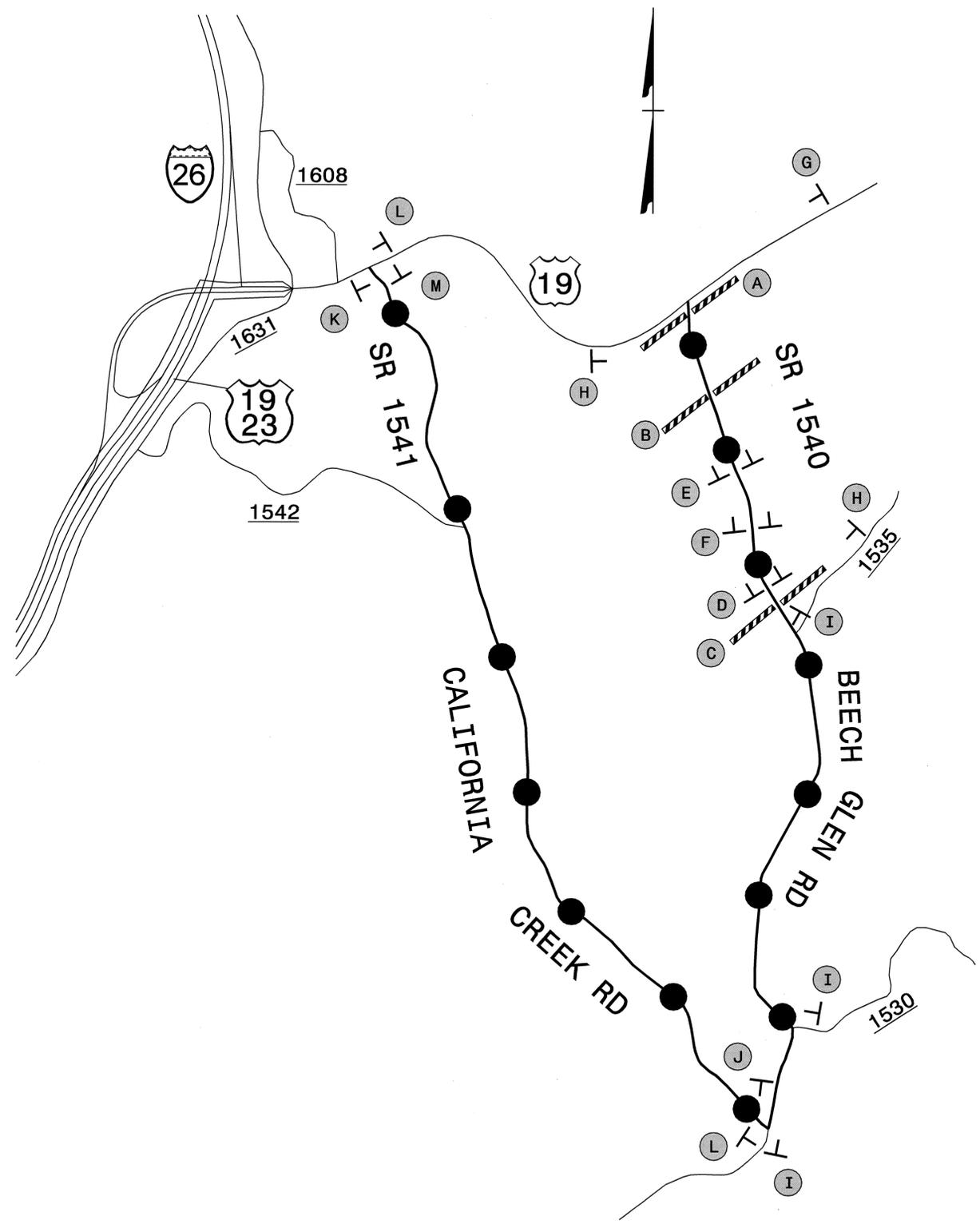
APPROVED: *Josac Kuse* DATE: 8/9/07

PHASE II STEPS 9 & 10		REVISIONS	
SCALE: NONE	DATE: 06/07		
DWG. BY: RMG	DESIGN BY: RMG		
REVIEWED BY: JDK			

07-AUG-2007 18:58 W:\proj\projects-r\2518a\traffic\trafficcontrol\tcp\2518a_tc_tcp_23.dgn



PROJ. REFERENCE NO. R-2518A	SHEET NO. TCP-44
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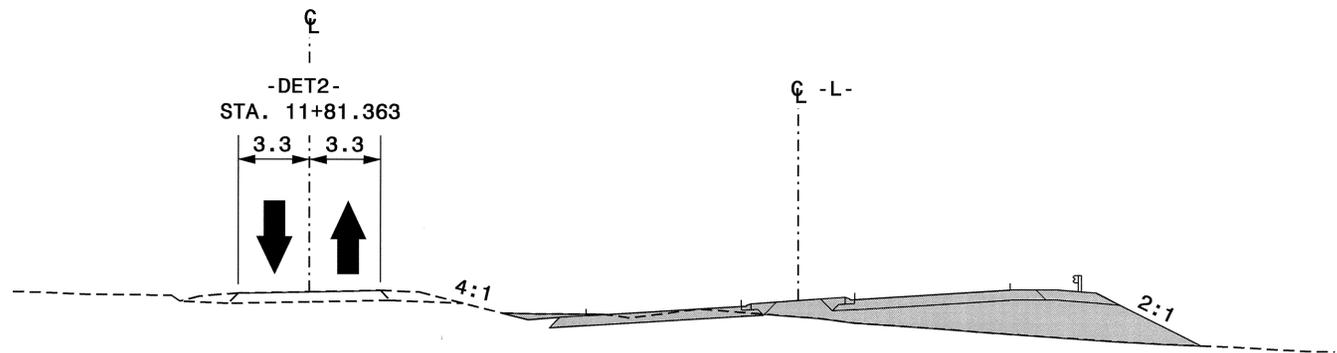
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 rmdgrrett AT WZTC222291

* SEE SHEET TCP-45 FOR SPECIAL SIGN DESIGN

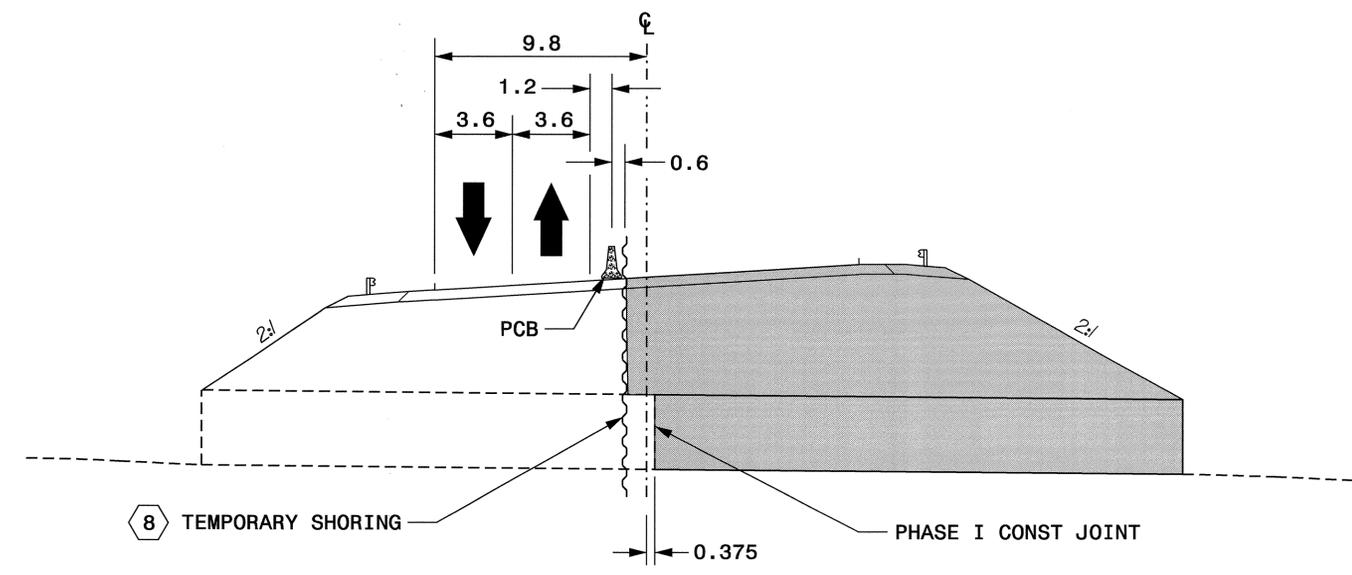
APPROVED: <i>Jessica D. Kuy</i> DATE: 8/7/07	-Y3- (BEECH GLEN RD) DETOUR									
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	DWG. BY: RMG									
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REVISIONS										



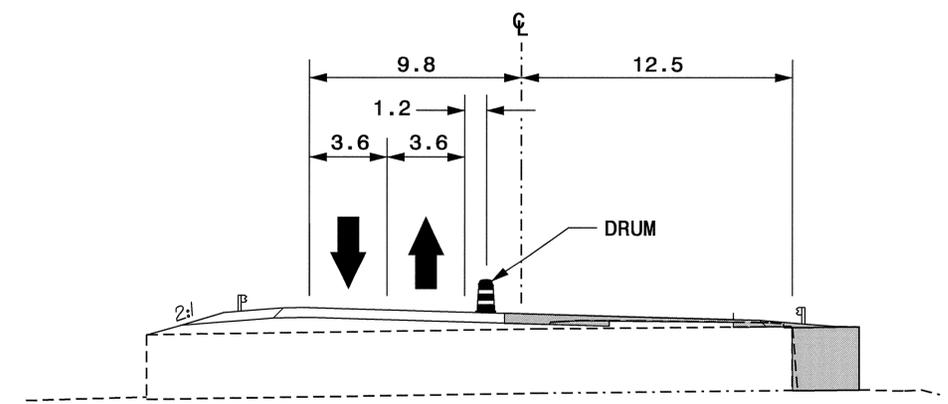
PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-46



SECTION K-K'
 -L- STA. 15+60+/-
 (SEE SHEETS TCP-29 & TCP-36)



SECTION L-L'
 -L- STA. 19+72+/-
 (SEE SHEETS TCP-30 & TCP-37)



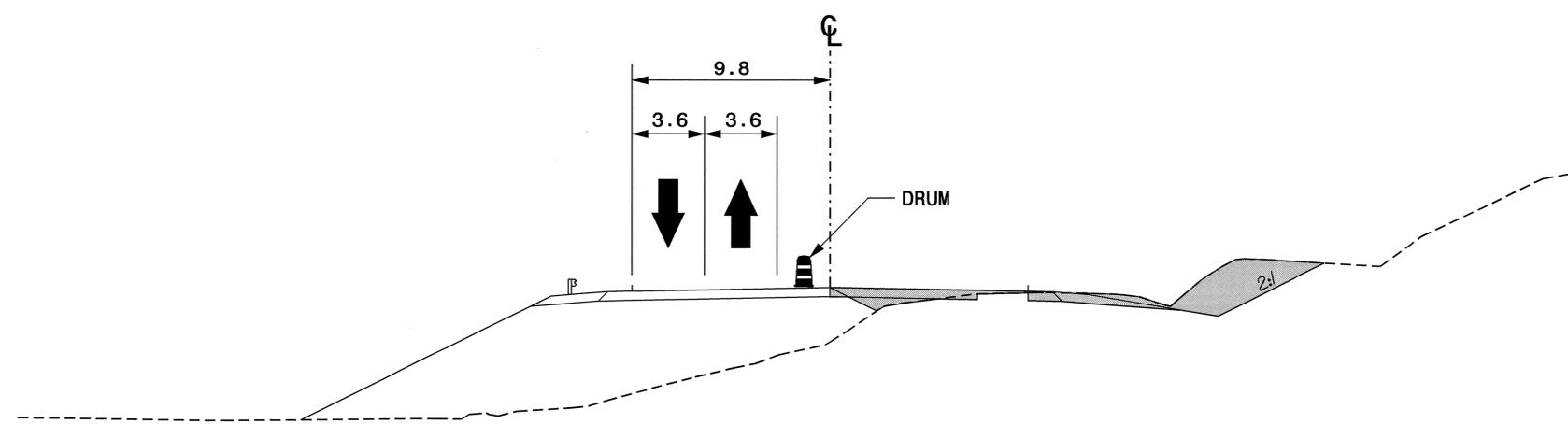
SECTION M-M'
 -L- STA. 21+35+/-
 (SEE SHEETS TCP-30 & TCP-38)

07-AUG-2007 09:37
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 rmgarrett AT WZTC2229j

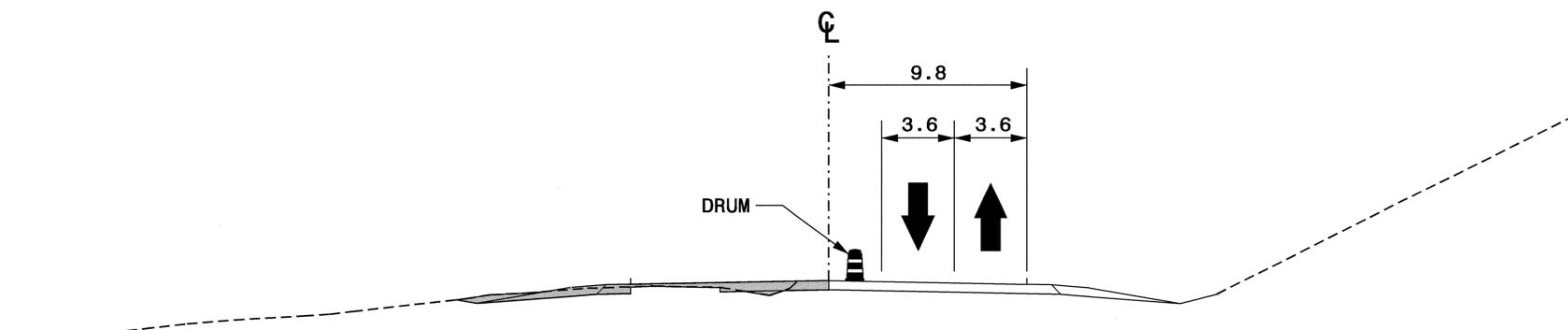
APPROVED: <i>Jessica D. Kuss</i> DATE: 8/7/07	PHASE II - SECTIONS	
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	DESIGN BY: RMG	
REVIEWED BY: JDK	REVISIONS	



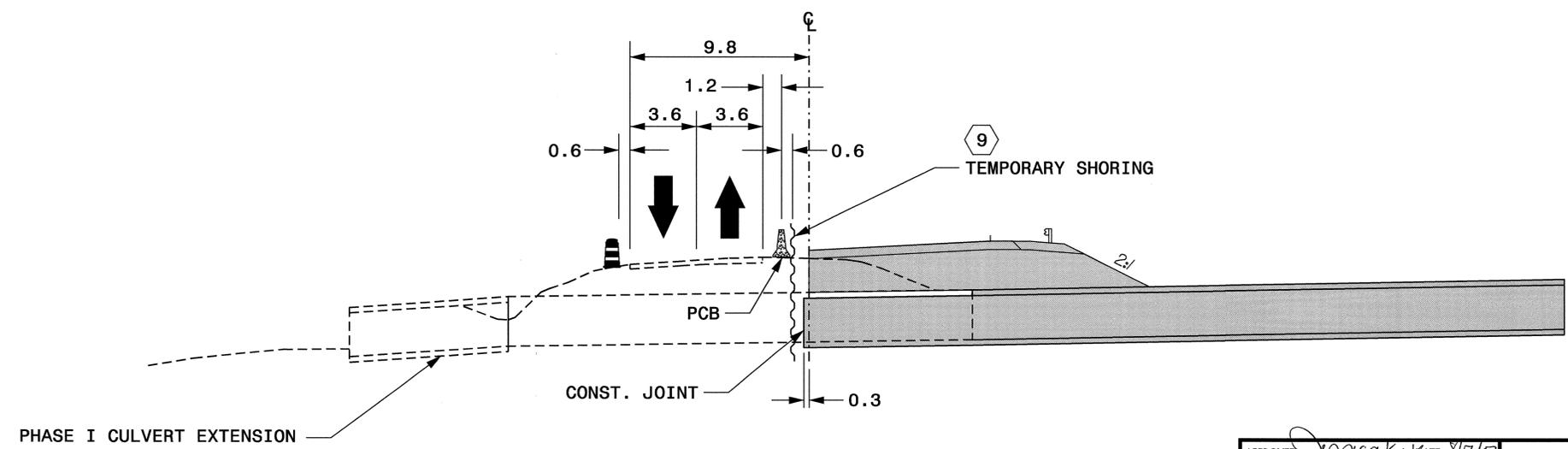
PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-47



SECTION N-N'
-L- STA. 34+40+/-
(SEE SHEETS TCP-30)



SECTION O-O'
-L- STA. 53+20+/-
(SEE SHEETS TCP-31)



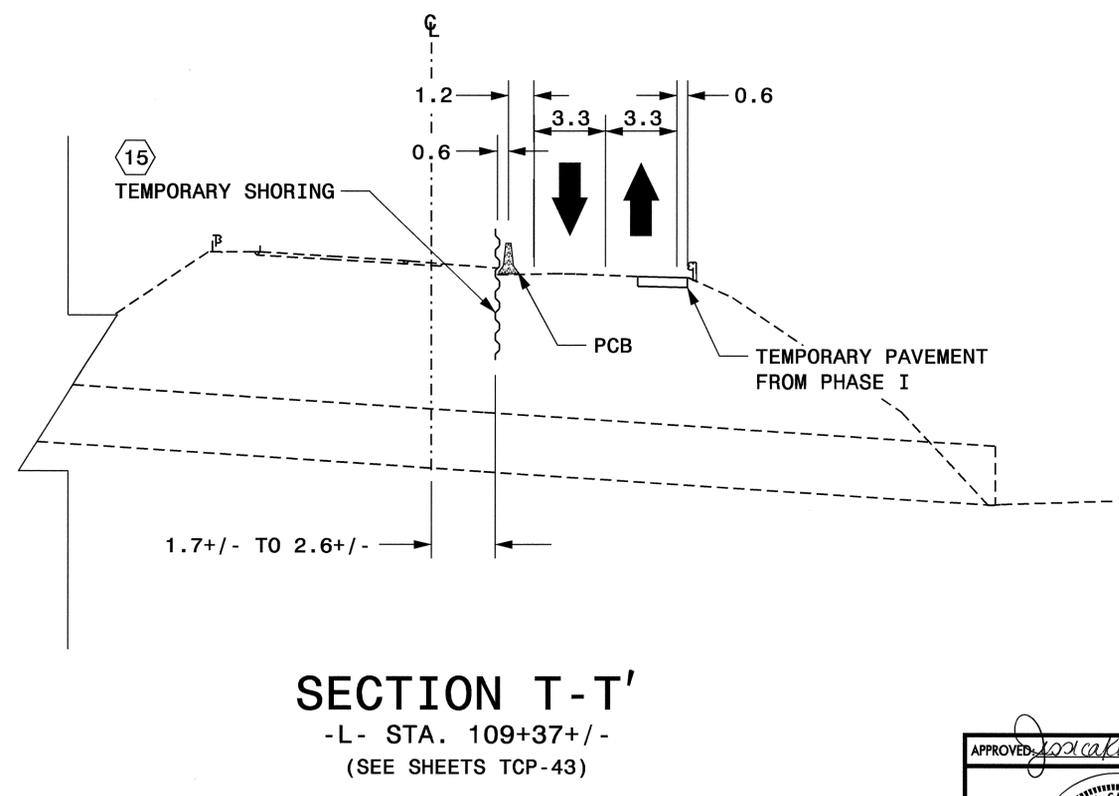
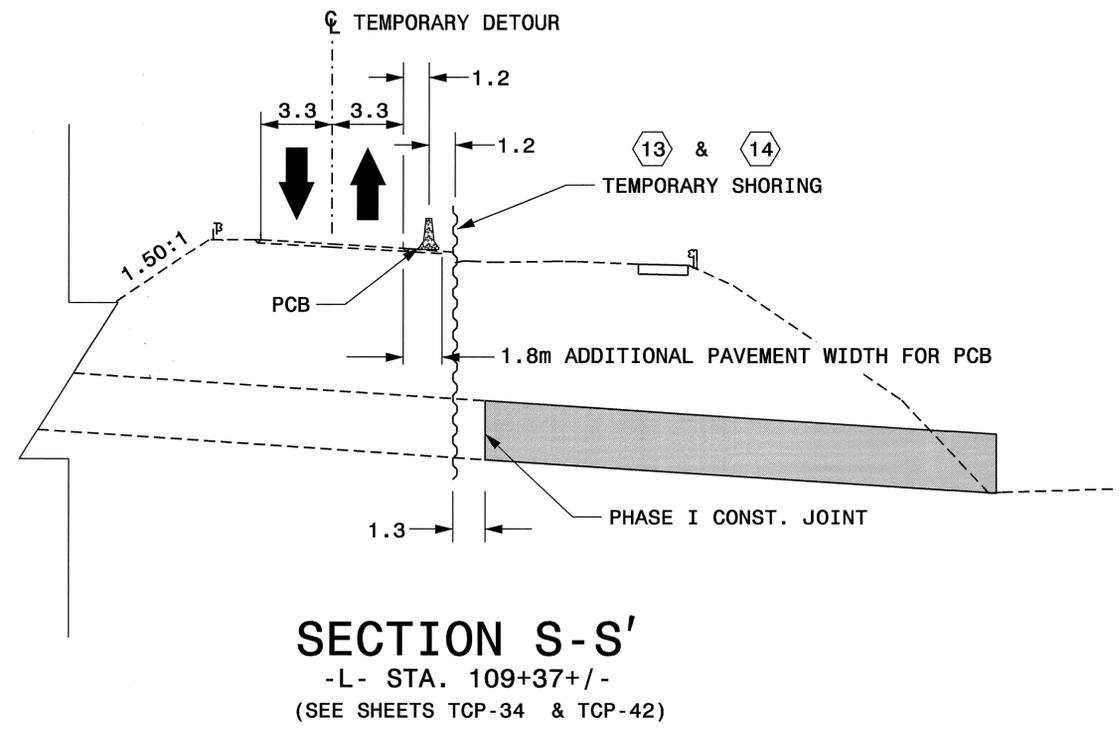
SECTION P-P'
-L- STA. 78+88+/-
(SEE SHEETS TCP-32 & TCP-40)

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 rmdarrett AT WZTC2229

APPROVED: <i>J. J. Kaku</i> DATE: 8/7/07	PHASE II - SECTIONS									
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PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-49

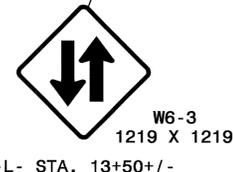
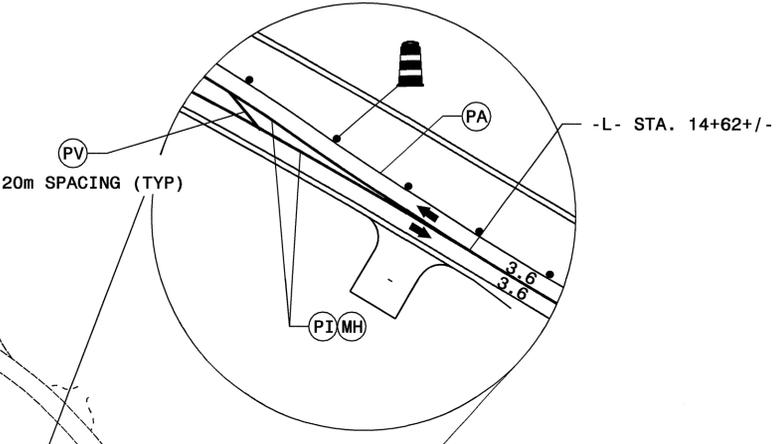
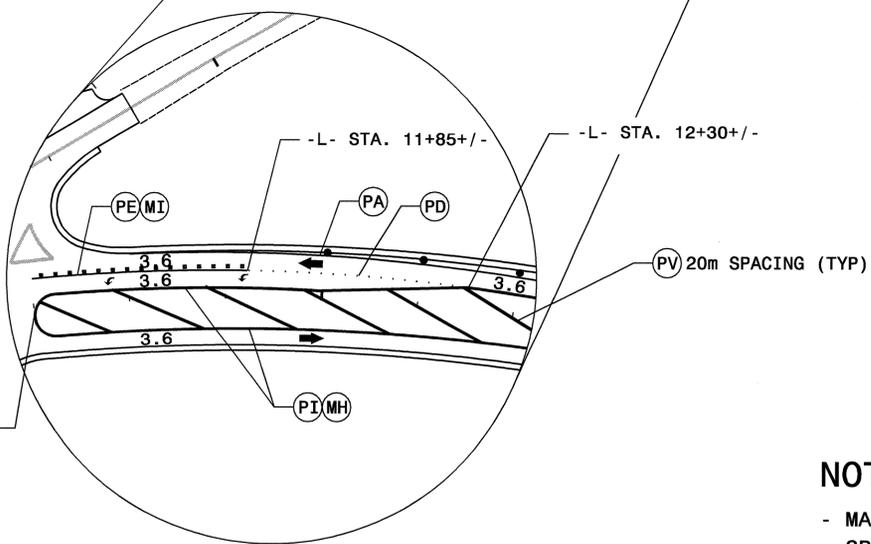
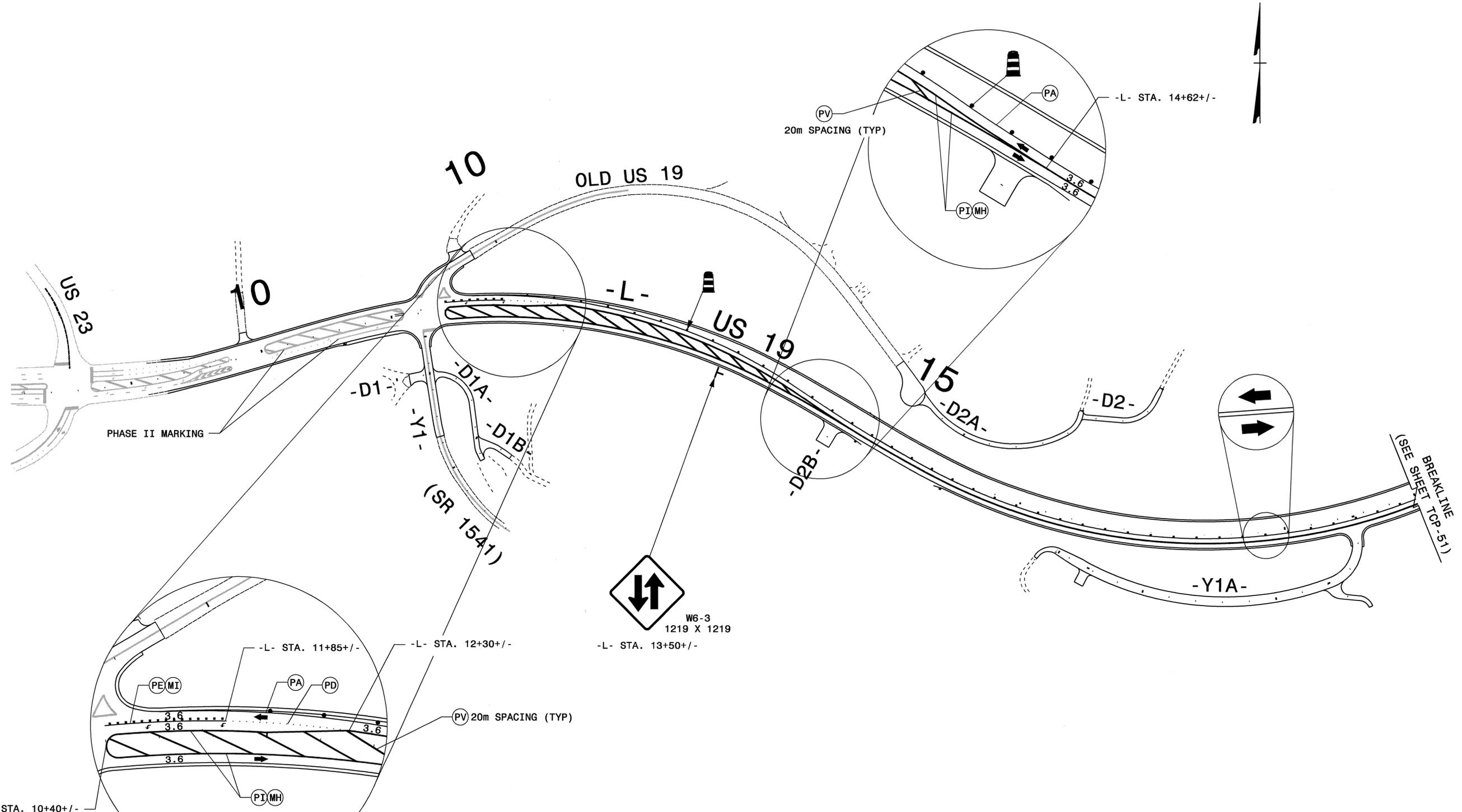


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 rmgarrett AT WZTC22291

APPROVED: <i>Jessica D. Kusek</i> DATE: 8/7/07	PHASE II - SECTIONS									
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PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-50



NOTES:

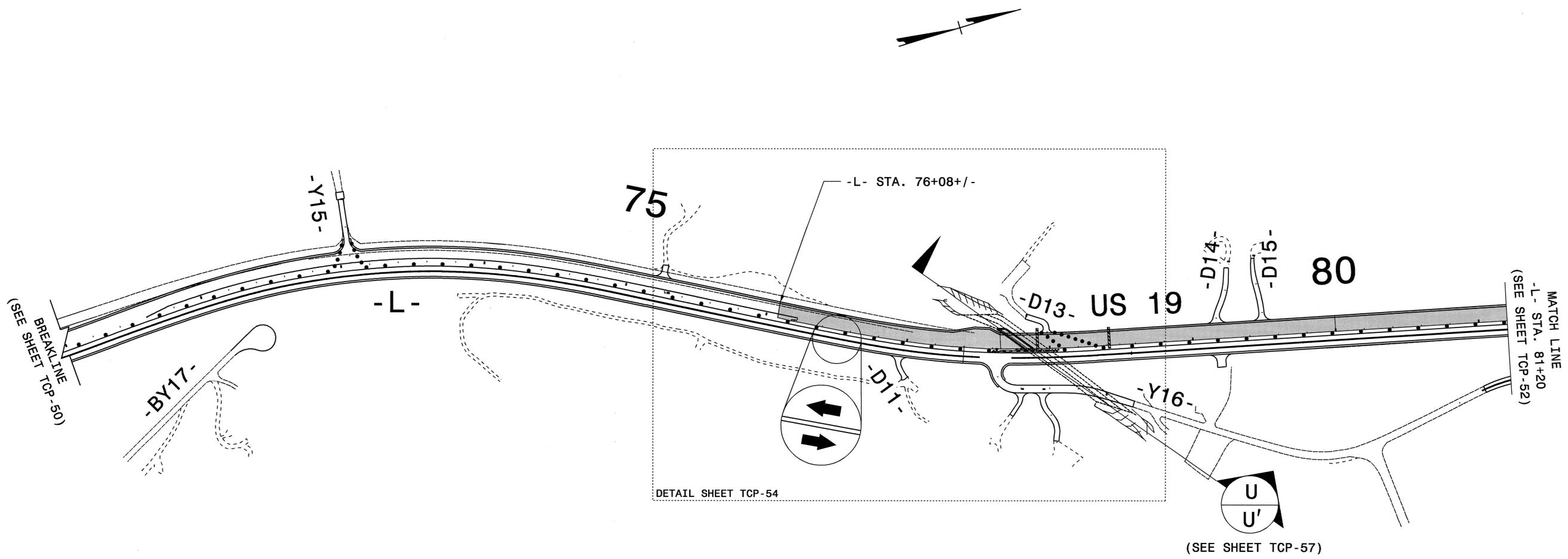
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- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>Jessica D. Kuse</i> DATE: 07/10	OVERVIEW PHASE III	
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REVIEWED BY: JDK	REVISIONS	

07-AUG-2007 09:36
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 mgarratt AT WZTC22229J



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-51



NOTES:

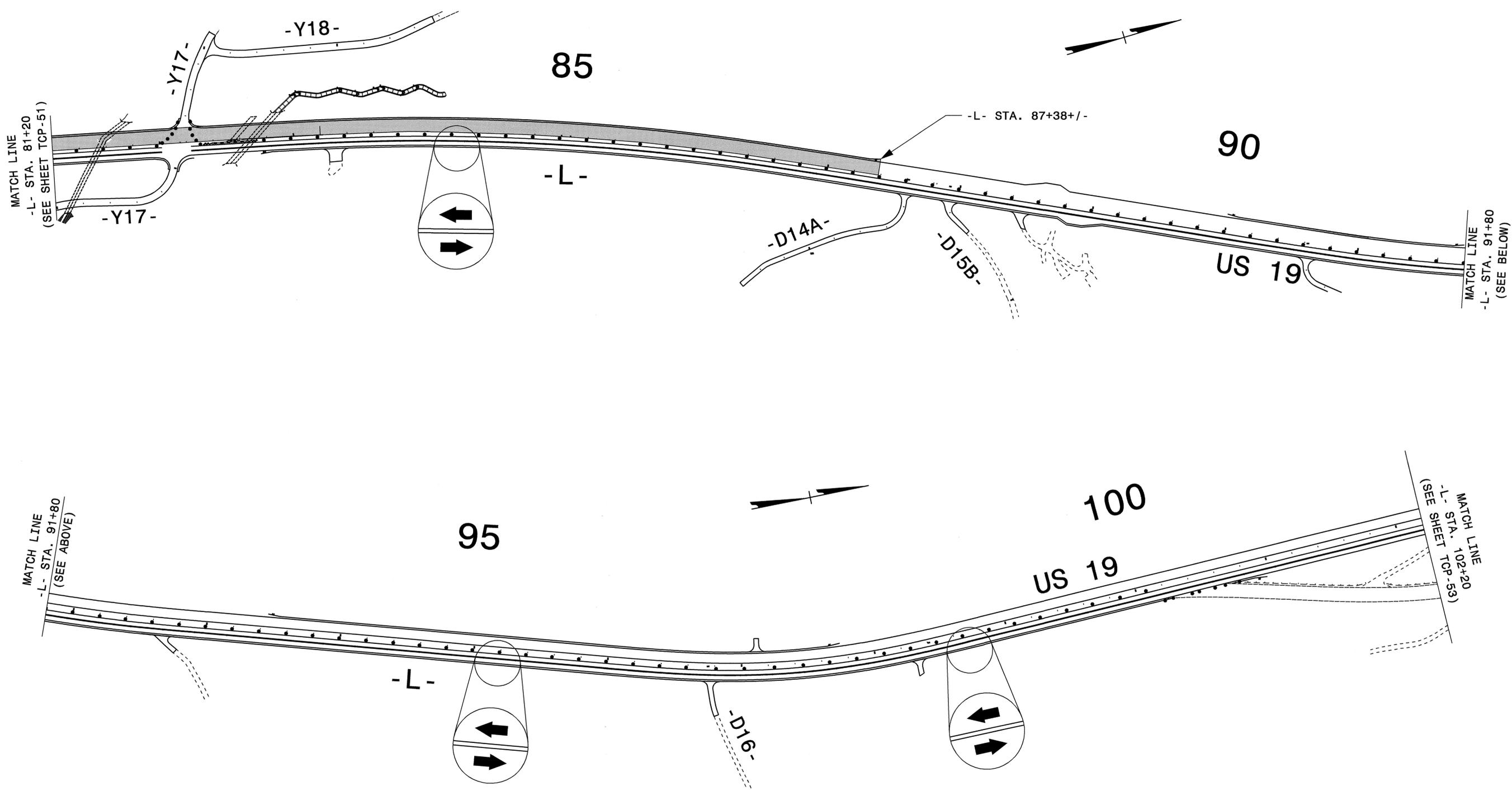
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

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 rmgarratt AT WZTC222291

APPROVED: <i>Josakuk</i> DATE: 8/1/07	OVERVIEW PHASE III	
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REVIEWED BY: JDK	REVISIONS	



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-52



NOTES:

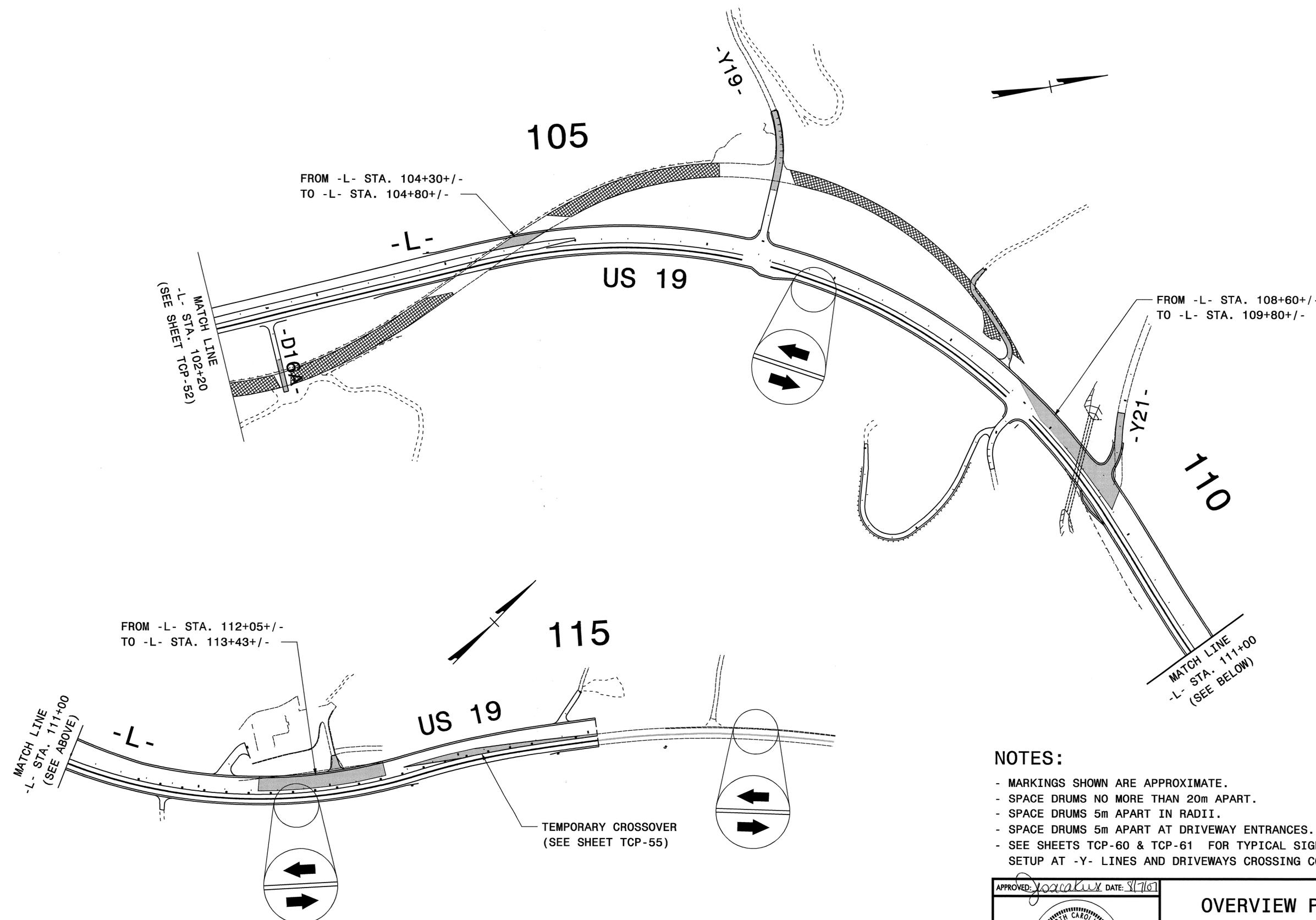
- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: <i>Josica Kus</i> DATE: 8/7/07	OVERVIEW PHASE III									
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 rmgr\retf AT WZTC22291



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-53



NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Jessica D. Kus* DATE: 8/1/07

SEAL

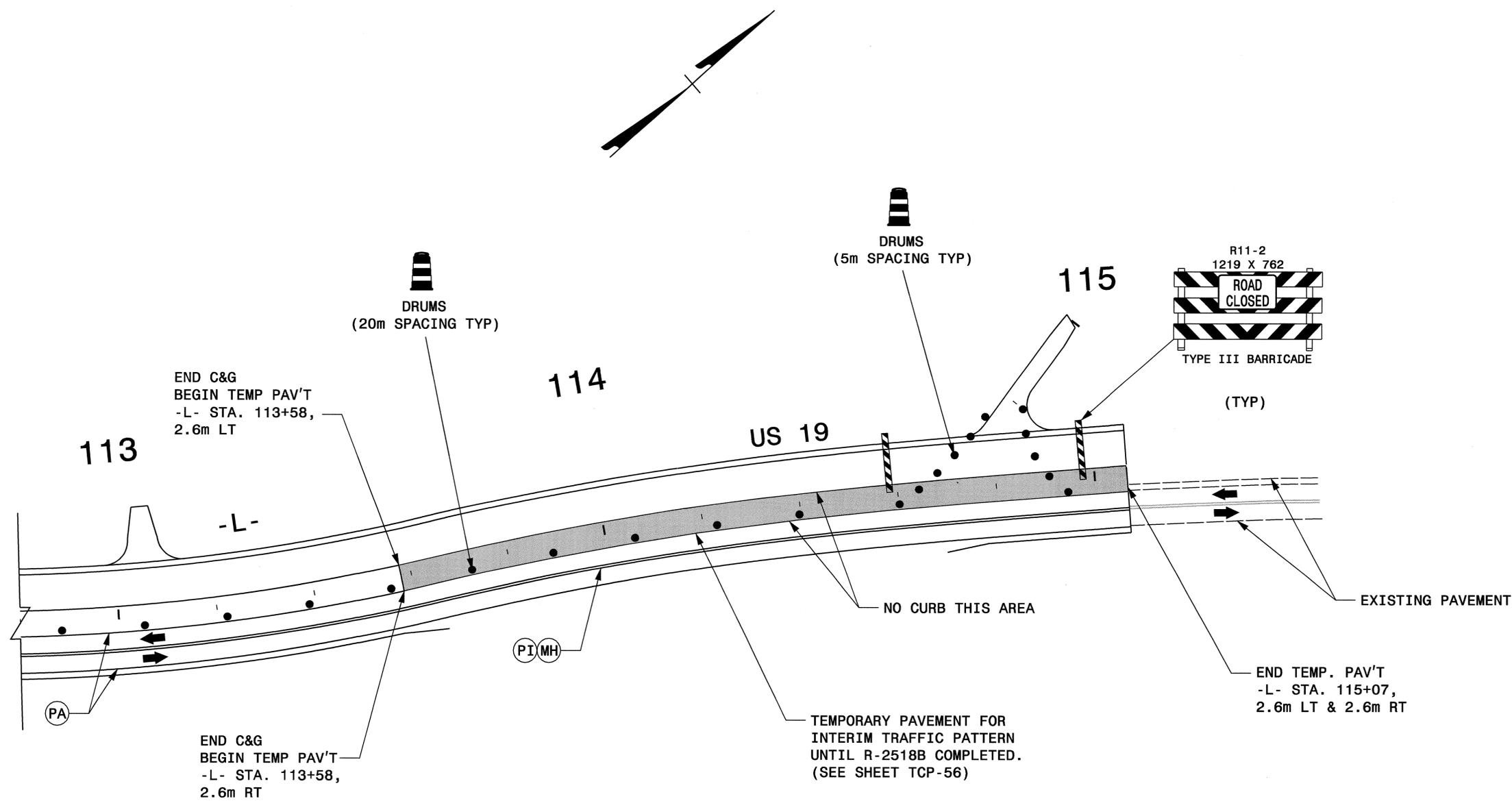
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DESIGN BY:	RMG										
REVIEWED BY:	JDK	CADD FILE									

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 rmgarrett AT WZTC22229



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-55



NOTES:

- MARKINGS SHOWN ARE APPROXIMATE.
- SPACE DRUMS NO MORE THAN 20m APART.
- SPACE DRUMS 5m APART IN RADII.
- SPACE DRUMS 5m APART AT DRIVEWAY ENTRANCES.
- SEE SHEETS TCP-60 & TCP-61 FOR TYPICAL SIGN / DEVICE SETUP AT -Y- LINES AND DRIVEWAYS CROSSING CONSTRUCTION AREAS.

APPROVED: *Jessica D. Yuse* DATE: 1/29/07

PHASE III

SCALE:	NONE
DATE:	06/07
DWG. BY:	RMG
DESIGN BY:	RMG
REVIEWED BY:	JDK



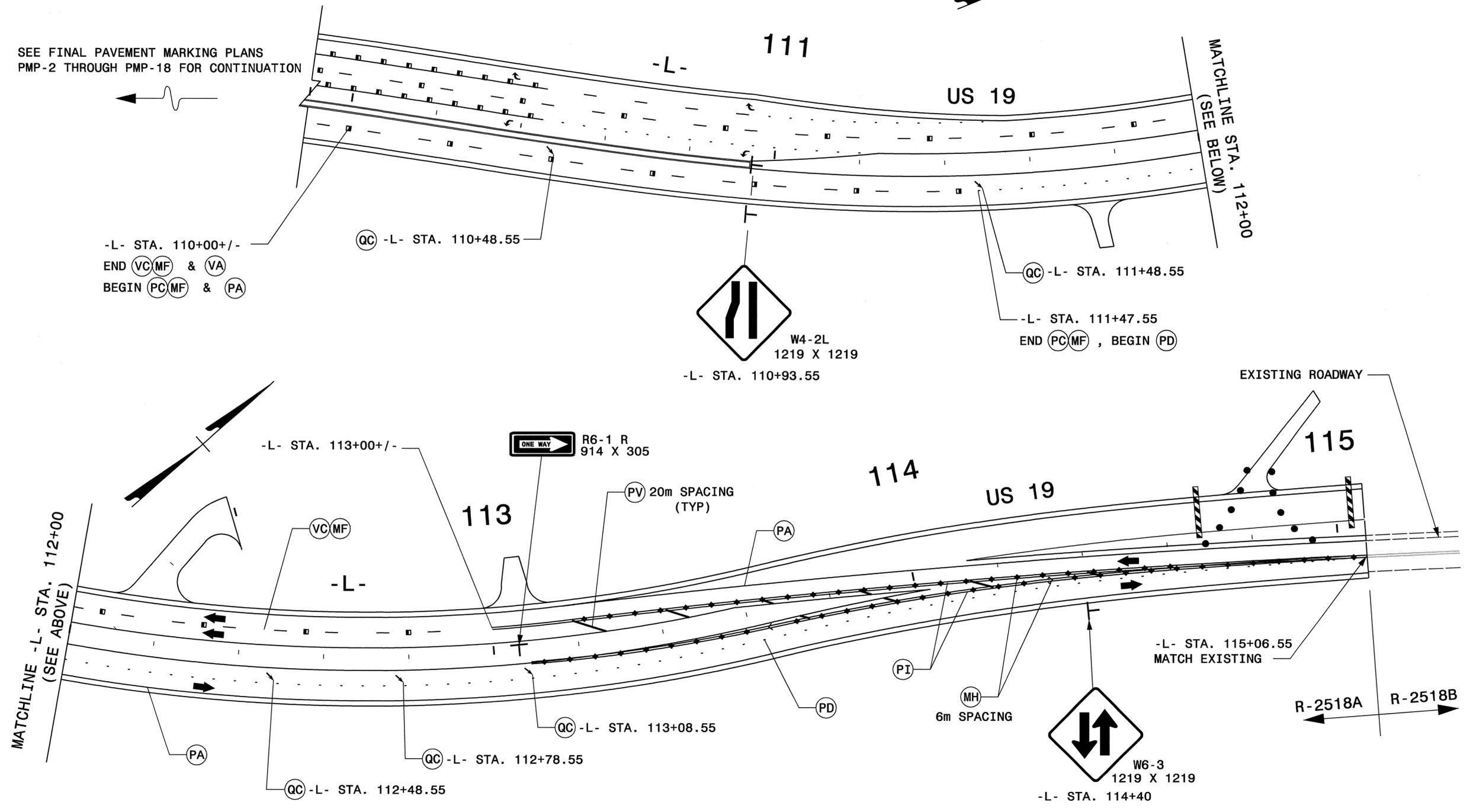
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 rmgarrett AT WZTC2229



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-56

SEE FINAL PAVEMENT MARKING PLANS
PMP-2 THROUGH PMP-18 FOR CONTINUATION



29-JAN-2008 15:43 \\dot\dfsroot\proj\proj\projects-r\2518a\traffic\trafficcontrol\top\top-r-2518a-tc-top-56.dgn
mgarrrett AT WZTC22229

APPROVED: *Jessica Kuse* DATE: 1/30/08

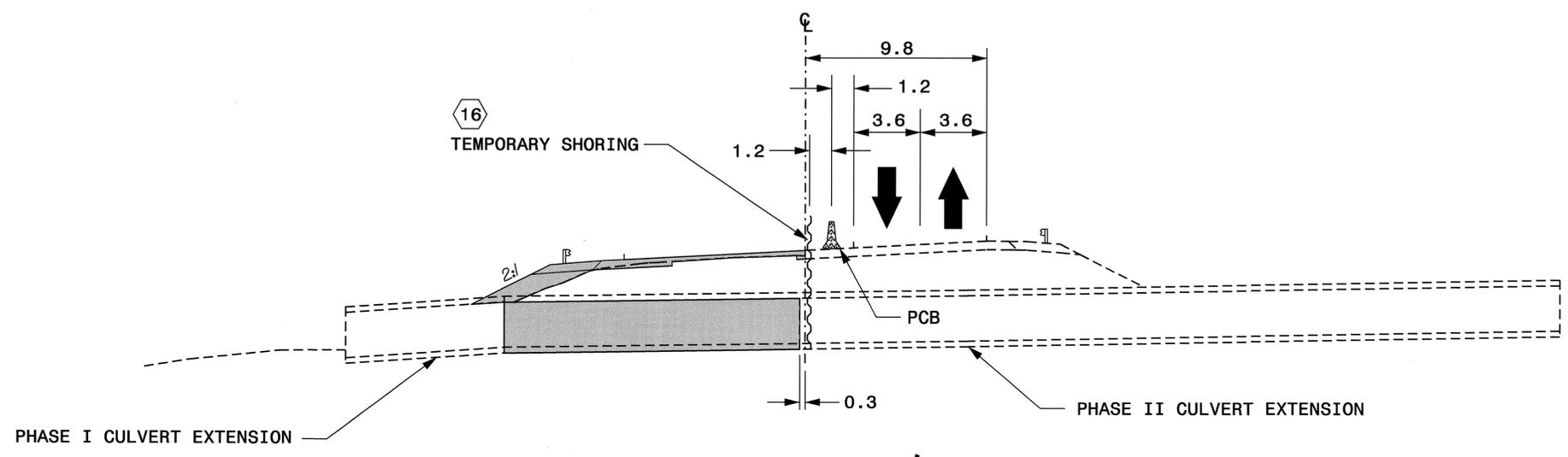
**INTERIM MARKING / MARKERS
UNTIL R-2518B COMPLETED**

SCALE: NONE		REVISIONS
DATE: 01/07		
DWG. BY: RMG		
DESIGN BY: RMG		
REVIEWED BY: JDK		

CADD FILE



PROJ. REFERENCE NO.	SHEET NO.
R-2518A	TCP-57

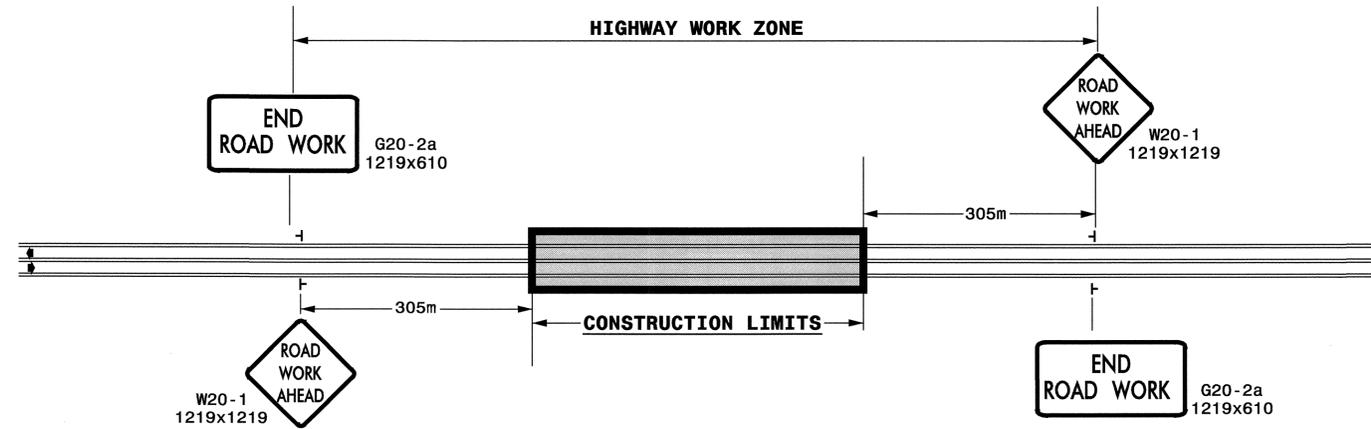


SECTION U-U'
 -L- STA. 78+88+/-
 (SEE SHEETS TCP-51 & TCP-54)

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 rmgarrrett AT WZTC22299

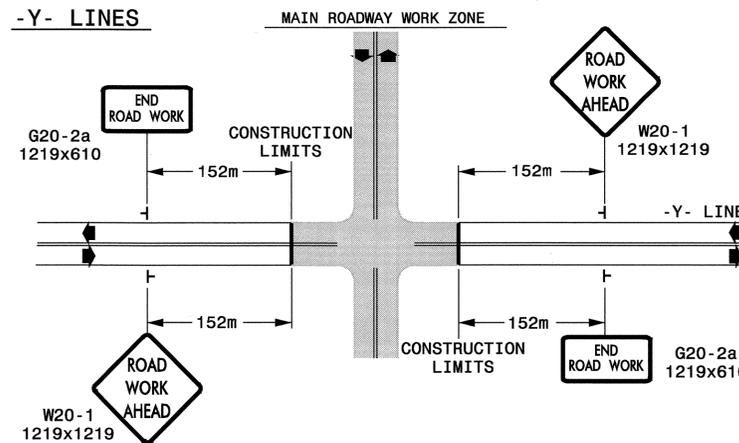
APPROVED: <i>Jessica D. Kuse</i> DATE: 8/7/07	PHASE III - SECTIONS	
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DATE: 04/07		
DWG. BY: RMG		
DESIGN BY: RMG		
REVIEWED BY: JDK		CADD FILE

TWO-WAY UNDIVIDED ** (L-LINES)



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

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



DETAIL DRAWING FOR
TWO-WAY UNDIVIDED
WORK ZONE WARNING SIGNS

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 1.4Kg STEEL U-CHANNEL POST OR 90mm X 90mm WOOD POST FOR ALL WORK ZONE SIGNS. 1.4Kg 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 1.4Kg STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 1.4Kg 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.
- ** TWO-WAY UNDIVIDED ADVANCE WARNING SIGN CONFIGURATION MAY BE USED ON URBAN MULTI-LANE FACILITIES WHERE CONDITIONS LIMIT THE USE OF DUAL MOUNTED SIGNS AS DETERMINED BY THE ENGINEER.

LEGEND

- ┆ STATIONARY SIGN
- ◄ DIRECTION OF TRAFFIC FLOW

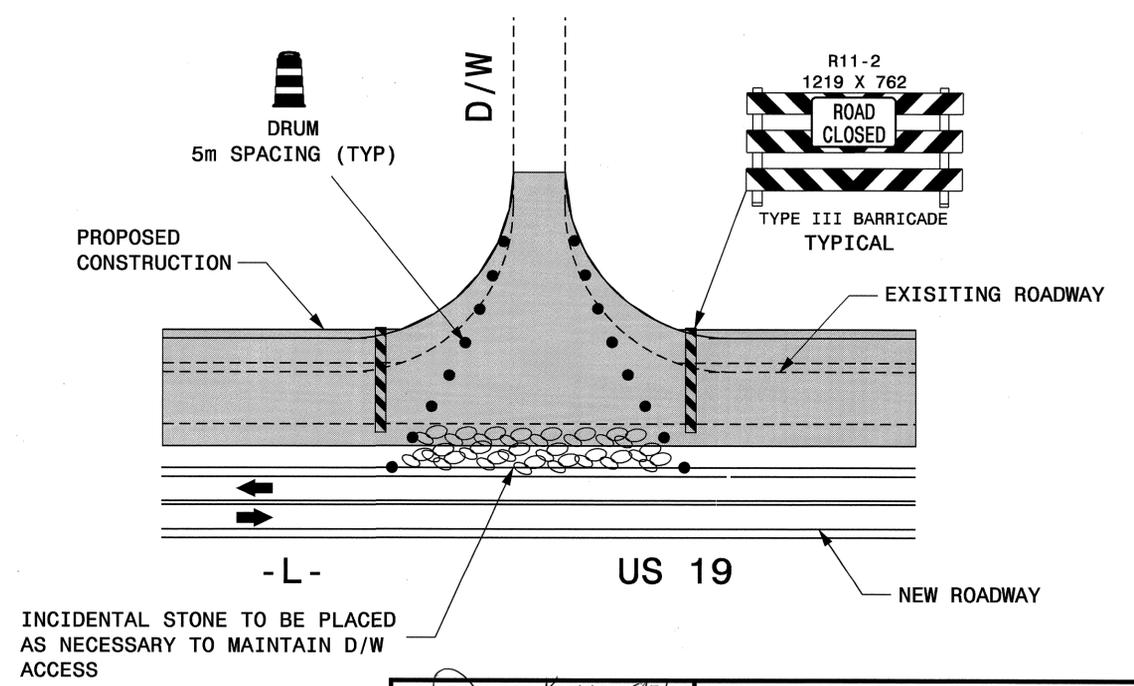
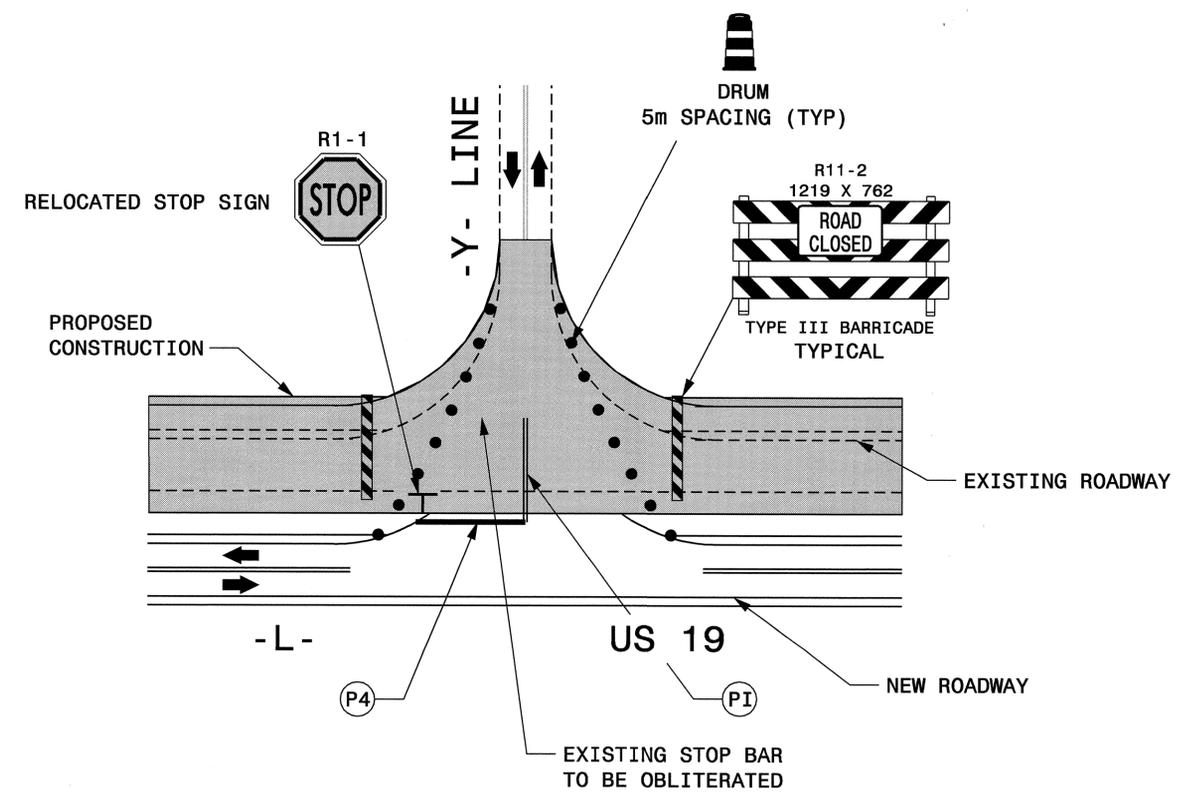
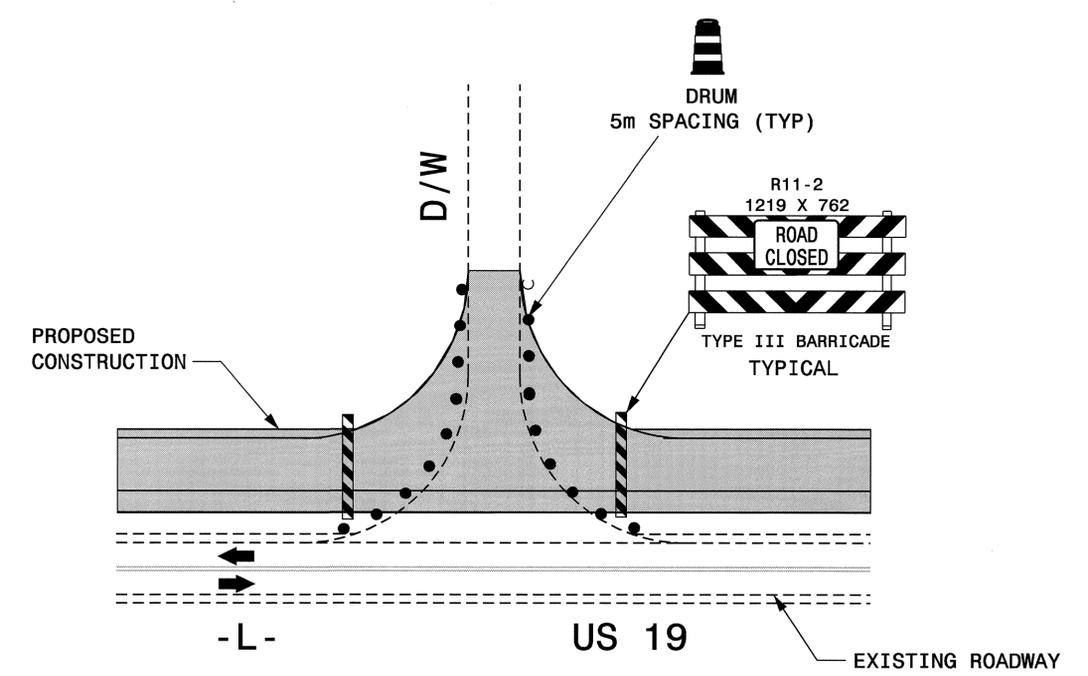
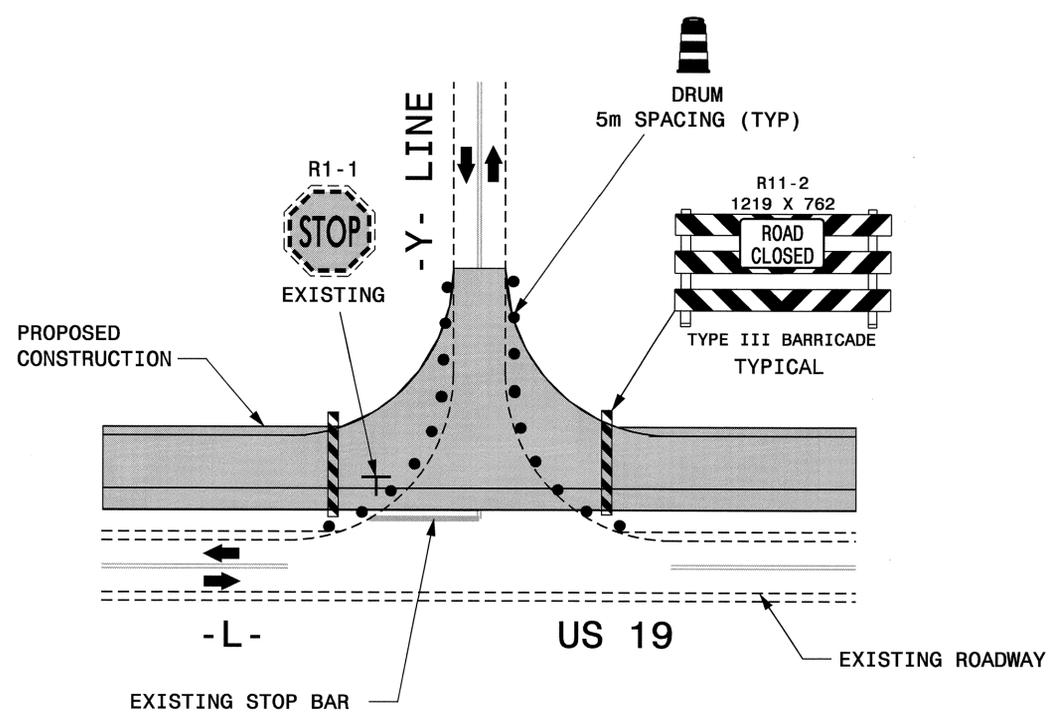
SHEET 1 OF 1

APPROVED: <i>Joselyn Kuse</i> DATE: 8/7/07	DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS	
	SCALE: NONE	REVISIONS
	DATE: 08/07	7-98 10/01
	DWG. BY: RMG	10-98 03/04
	DESIGN BY: RMG	01/01 11/04
REVIEWED BY: JDK		

07-AUG-2007 11:24
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 mgarrett AT 12/22/2007



PROJ. REFERENCE NO. R-2518A	SHEET NO. TCP-60
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** NOTE: SEE SHEET TCP-61 CONCERNING TRAFFIC CONTROL FOR NEW STOP LOCATIONS FOR -Y- LINES

APPROVED: *Josca Kux* DATE: 8/7/07

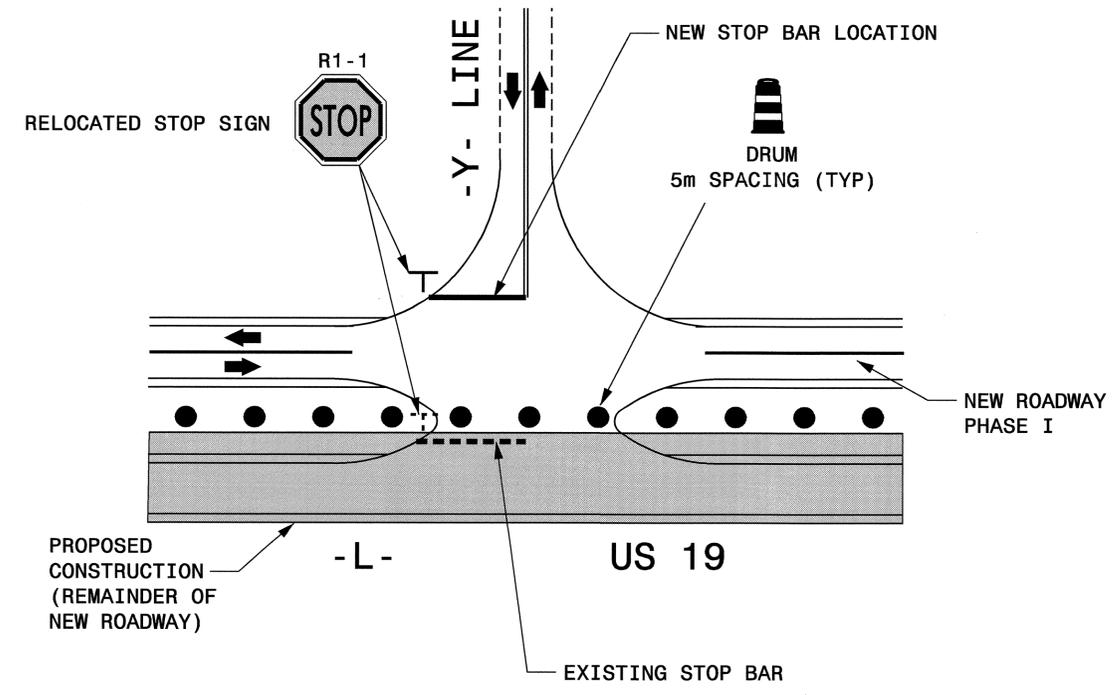
SEAL:

TYPICAL SIGN / DEVICES AT -Y- LINES AND DRIVEWAYS

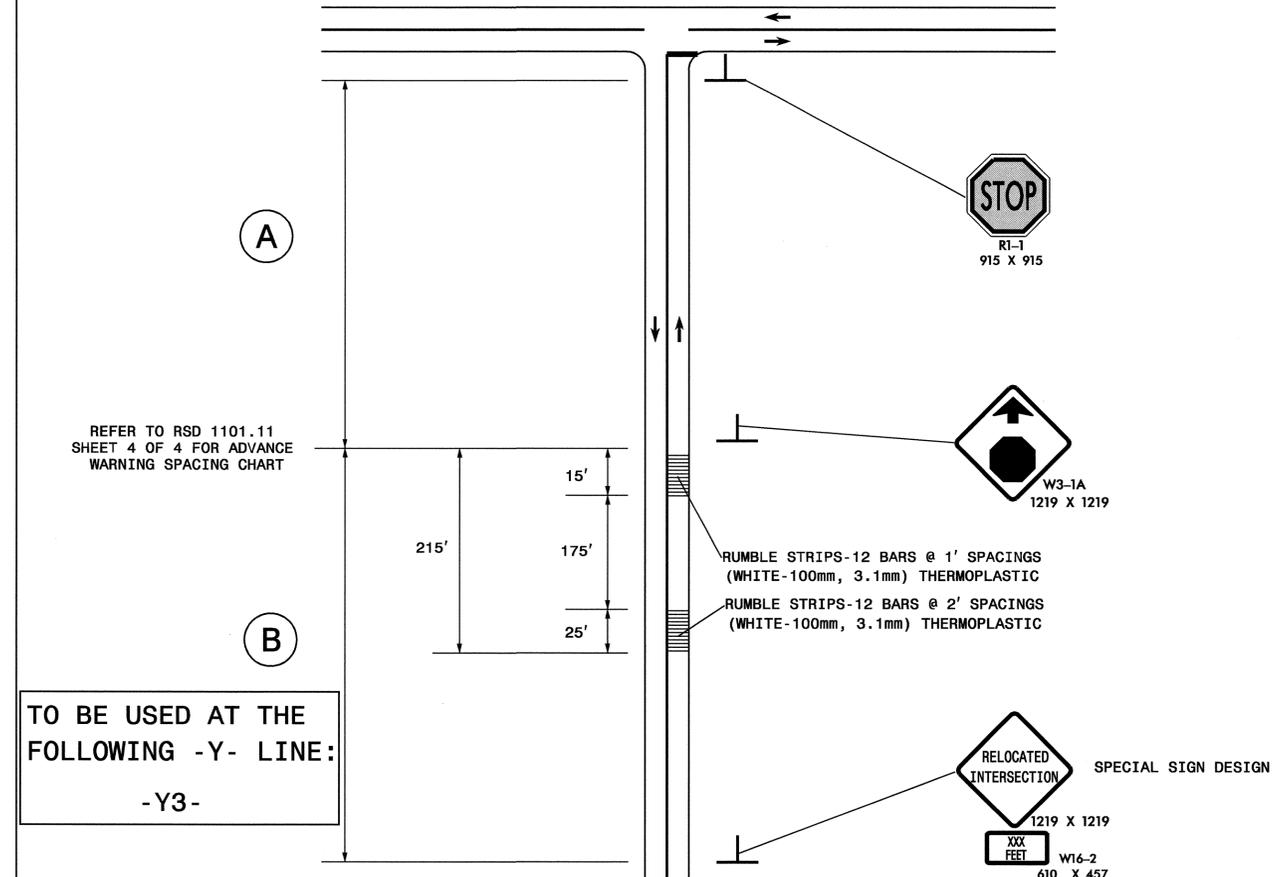
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CADD FILE

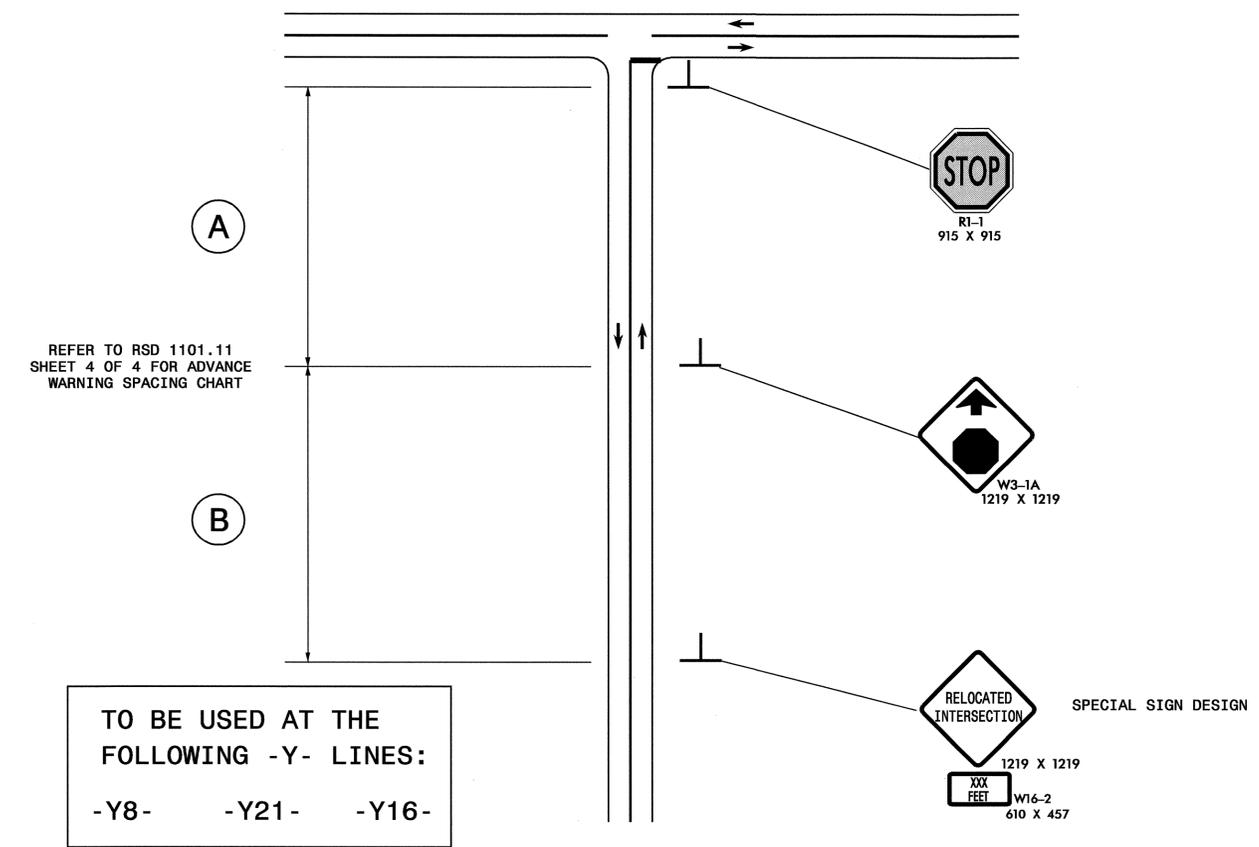
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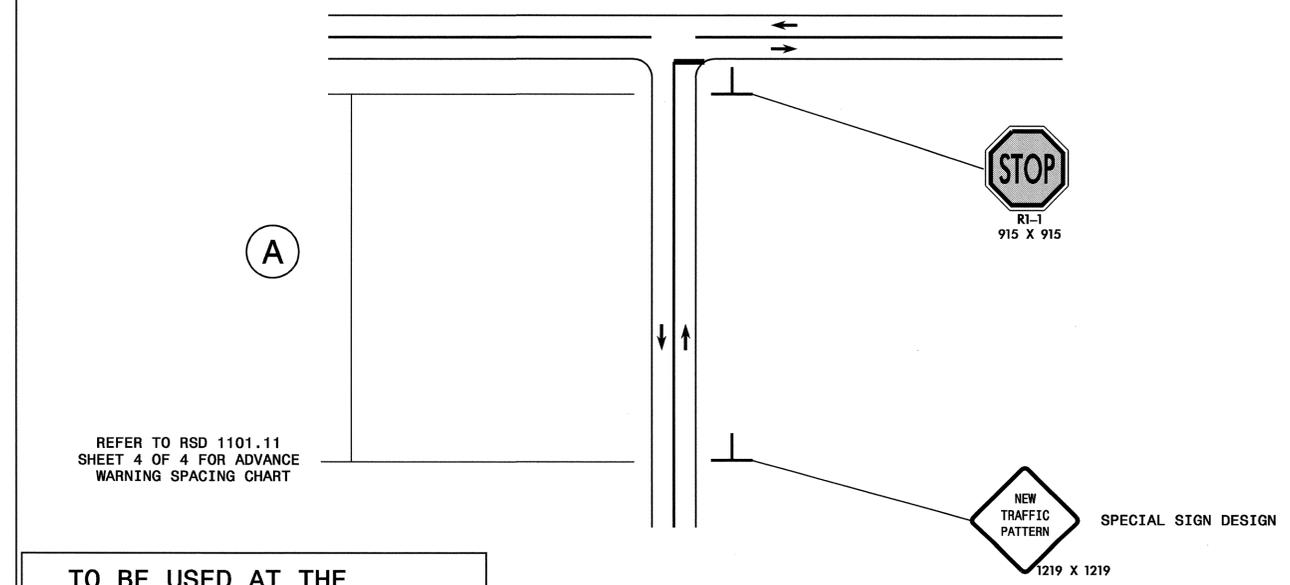
TRAFFIC CONTROL TREATMENT FOR NEW STOP LOCATION FOR MEDIUM TO HIGH VOLUME ROAD



TRAFFIC CONTROL TREATMENT FOR NEW STOP LOCATION FOR MEDIUM VOLUME ROAD



TRAFFIC CONTROL TREATMENT FOR NEW STOP LOCATION FOR LOW VOLUME ROAD



- TO BE USED AT THE FOLLOWING -Y- LINES:
- Y1- -Y7- -Y13- -Y19-
 - Y2- -Y9- -Y14- -Y20-
 - Y4- -Y10- -Y15-
 - Y5- -Y11- -Y17-
 - Y6- -Y12- -Y18-

NOTE: MAY ADD CHANGEABLE MESSAGE SIGN IN ADVANCE OF "NEW TRAFFIC PATTERN" SIGN FOR ADDITIONAL ADVANCE WARNING.

APPROVED: *[Signature]* DATE: 9/19/07

SEAL: *[Professional Seal]*

TRAFFIC CONTROL FOR NEW STOP LOCATIONS FOR -Y- LINES

SCALE: NONE	REVISIONS
DATE: 06/07	
DWG. BY: RMG	
DESIGN BY: RMG	
REVIEWED BY: JDK	

19-SEP-2007 09:29
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 rmgartrett AT WZTC2229j

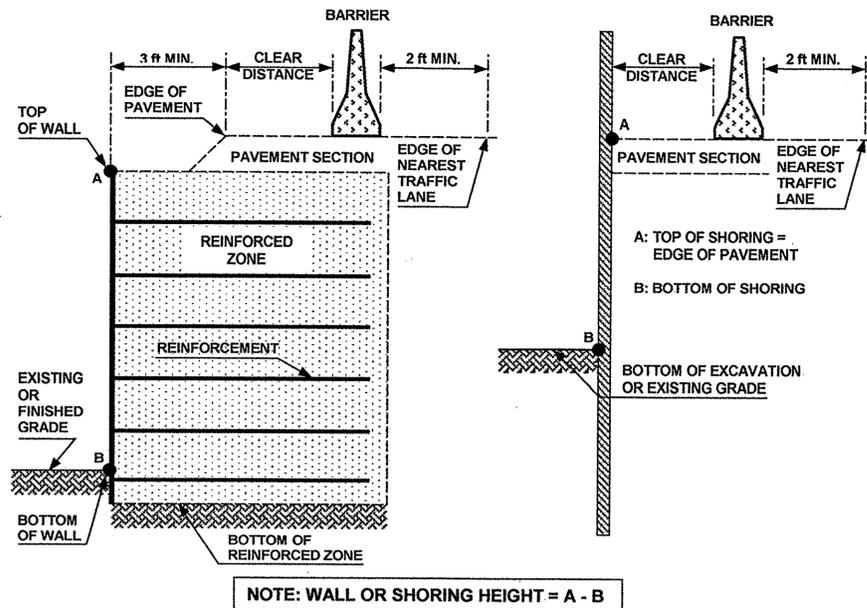


FIGURE A

NOTES

- REFER TO THE TRAFFIC CONTROL PLANS FOR SHORING LOCATIONS AND SOIL PARAMETERS.
- REFER TO THE "TEMPORARY SHORING" PROJECT SPECIAL PROVISION FOR MORE INFORMATION ABOUT TEMPORARY SHORING, MEASUREMENT AND PAYMENT.
- PROVIDE PORTABLE CONCRETE BARRIER TO PROTECT TEMPORARY SHORING IF SHORING IS LOCATED WITHIN THE CLEAR ZONE AS DEFINED IN THE AASHTO ROADSIDE DESIGN GUIDE.
- BASED ON THE CLEAR DISTANCE, OFFSET, DESIGN SPEED AND PAVEMENT TYPE, CHOOSE AN UNANCHORED PCB, ANCHORED PCB OR AN OREGON BARRIER FROM THE TABLE SHOWN IN FIGURE B. FOR TRAFFIC LANES AND PORTABLE CONCRETE BARRIER LOCATED ABOVE AND BEHIND TEMPORARY SHORING, THE FOLLOWING ARE DEFINED AS:

CLEAR DISTANCE - HORIZONTAL DISTANCE FROM THE BACK FACE OF THE BARRIER TO THE EDGE OF PAVEMENT FOR TEMPORARY MSE WALL OR TO THE FACE OF NON-ANCHORED TEMPORARY SHORING AS SHOWN IN FIGURE A.

OFFSET - HORIZONTAL DISTANCE FROM THE FRONT FACE OF THE BARRIER TO CENTERLINE OF THE FURTHEST TRAFFIC LANE AS SHOWN IN FIGURE B FOR 3 TRAFFIC LANES.
- AT THE CONTRACTOR'S OPTION OR IF THE MINIMUM REQUIRED CLEAR DISTANCE IS NOT AVAILABLE, SET AN UNANCHORED PCB AGAINST THE TRAFFIC SIDE OF THE SHORING AND DESIGN SHORING FOR TRAFFIC IMPACT OR USE THE "SURCHARGE CASE WITH TRAFFIC IMPACT" FOR THE STANDARD TEMPORARY SHORING.
- USE NCDOT PORTABLE CONCRETE BARRIER (PCB) IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1170.01 AND SECTION 1170 OF THE STANDARD SPECIFICATIONS.
- USE OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH DETAIL DRAWING AND SPECIAL PROVISION OBTAINED FROM: [HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/WZTC/DESRES/ENGLISH/DESRESSENG.HTML](http://www.ncdot.org/DOH/PRECONSTRUCT/WZTC/DESRES/ENGLISH/DESRESSENG.HTML)
- UNLESS NOTED OTHERWISE ON THE PLANS, SET PORTABLE CONCRETE BARRIER WITH A MINIMUM DISTANCE OF 2 FT BETWEEN THE FRONT FACE OF THE BARRIER AND THE EDGE OF THE NEAREST TRAFFIC LANE AS SHOWN IN FIGURE A.
- FOR PORTABLE CONCRETE BARRIER ABOVE AND BEHIND TEMPORARY MSE WALLS, PROVIDE A MINIMUM DISTANCE OF 3 FT BETWEEN THE EDGE OF PAVEMENT AND THE WALL FACE AS SHOWN IN FIGURE A. IF THESE MINIMUM REQUIRED DISTANCES ARE NOT AVAILABLE, CONTACT THE ENGINEER.
- TABLE SHOWN IN FIGURE B IS BASED ON NCDOT RESEARCH PROJECT NO. 2005-010 WITH VEHICLE TYPE USED FOR NCHRP 350 CRASH TESTS. BARRIER DEFLECTIONS AND RESULTING MINIMUM REQUIRED CLEAR DISTANCES MIGHT VARY SIGNIFICANTLY FOR LARGER HEAVIER VEHICLES, RUNS OF BARRIER LESS THAN 200' IN LENGTH AND WET OR DRY PAVEMENT.

MINIMUM REQUIRED CLEAR DISTANCE, inches

Barrier Type	Pavement Type	Offset * ft	Design Speed, mph					
			<30	31-40	41-50	51-60	61-70	71-80
Unanchored PCB	Asphalt	<8	24	26	29	32	36	40
		8-14	26	28	31	35	38	42
		14-20	27	29	34	36	39	43
		20-26	28	31	35	38	40	44
		26-32	29	32	36	39	42	45
		32-38	30	34	38	41	43	46
		38-44	31	34	41	43	45	48
		44-50	31	35	41	43	46	49
		50-56	32	36	42	44	47	50
	>56	32	36	42	45	47	51	
	Concrete	<8	17	18	21	22	25	26
		8-14	19	20	23	25	26	29
		14-20	22	22	24	26	28	31
		20-26	23	24	26	27	30	34
		26-32	24	25	27	28	32	35
		32-38	24	26	27	30	33	36
		38-44	25	26	28	30	34	37
		44-50	26	26	28	32	35	37
50-56		26	26	28	32	35	38	
>56	26	27	29	32	36	38		
Anchored PCB or Oregon Barrier	Asphalt	All Offsets	24 for All Design Speeds					
Anchored PCB or Oregon Barrier	Concrete (including bridge approach slabs)	All Offsets	12 for All Design Speeds					

* See Figure Below

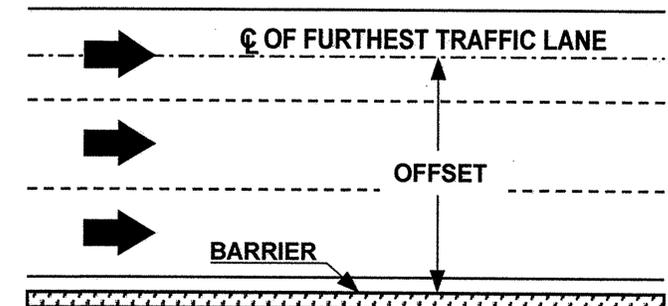


FIGURE B

APPROVED: _____ DATE: _____	PORTABLE CONCRETE BARRIER AT TEMPORARY SHORING LOCATIONS		REVISIONS
<i>Joseph J. Lak</i>	DATE: NONE		
SEAL 028380	DATE: 3/07		
ENGINEER	DESIGNED BY: JI		
March 22, 2007	REVIEWED BY: JI		

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