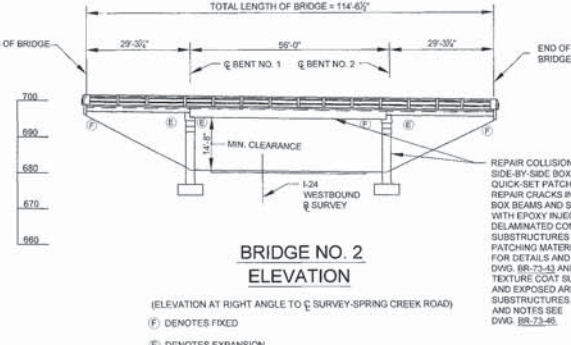


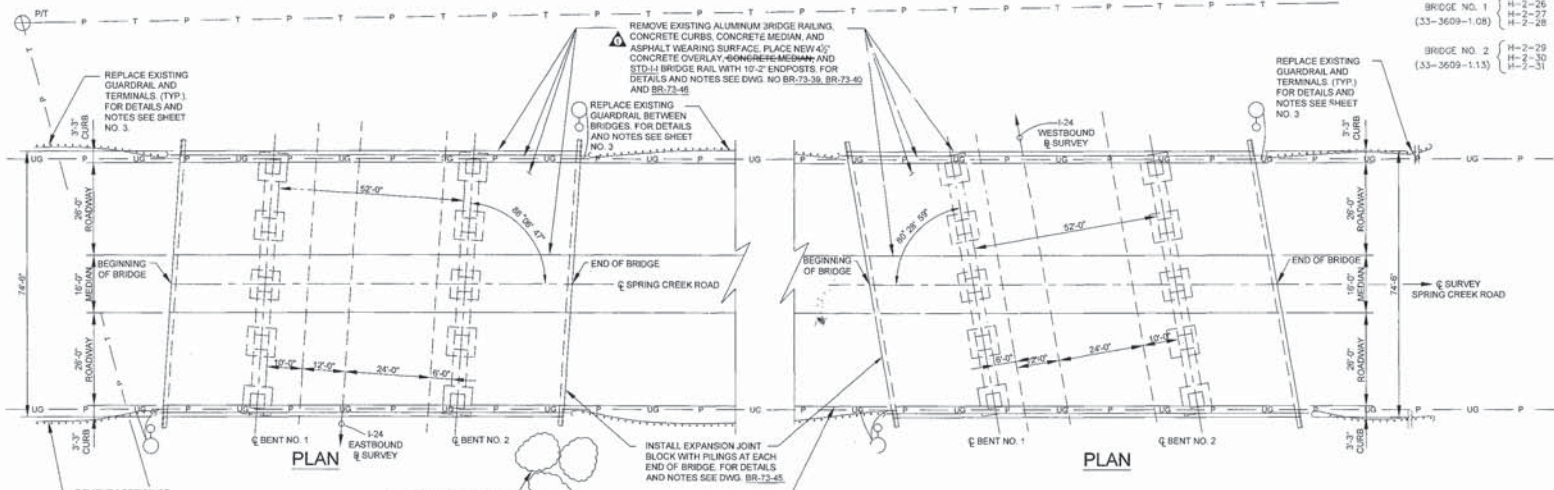
**BRIDGE NO. 1  
ELEVATION**

(ELEVATION AT RIGHT ANGLE TO  $\bar{C}$  SURVEY-SPRING CREEK ROAD)  
 (F) DENOTES FIXED  
 (E) DENOTES EXPANSION



**BRIDGE NO. 2  
ELEVATION**

(ELEVATION AT RIGHT ANGLE TO  $\bar{C}$  SURVEY-SPRING CREEK ROAD)  
 (F) DENOTES FIXED  
 (E) DENOTES EXPANSION



**PLAN**

**PLAN**

**SCOPE OF WORK**

1. PROVIDE TRAFFIC CONTROL DURING BRIDGE REPAIRS ON SPRING CREEK ROAD AND ON I-24 FOR REPAIRS UNDER THE BRIDGES.
2. PROVIDE SHOULDER STABILIZATION FOR PHASE CONSTRUCTION TRAFFIC.
3. REMOVE EXISTING ASPHALT WEARING SURFACE 2" (t) ON BRIDGE DECKS AND 2 1/2" (t) BETWEEN BRIDGES AND 5'-0" OF APPROACHES.
4. REMOVE EXISTING CONCRETE CURBS AND MEDIAN.
5. REMOVE EXISTING ALUMINUM BRIDGE RAILING WHICH SHALL BE STOCKPILED AND BECOME THE PROPERTY OF REGION 2 BRIDGE REPAIR OFFICE.
6. REMOVE EXISTING APPROACH GUARDRAIL AT ALL LOCATIONS EXCEPT THE SOUTHEAST CORNER OF BRIDGE NO. 33-3609-1.08. ONLY REMOVE THE PORTION FOR NEW GUARDRAIL ATTACHMENT TO CONCRETE PARAPET AT THIS LOCATION.
7. INSTALL EXPANSION BLOCK WITH PILINGS AT ENDS OF BRIDGES.
8. PLACE NEW 4 1/2" CONCRETE OVERLAY WITH REINFORCING STEEL.
9. INSTALL NEW STD-1:1 BRIDGE RAILING CONCRETE PARAPET AND 10'-2" END POSTS WITH MODIFICATIONS IN REINFORCING STEEL FOR NEW CONCRETE OVERLAY AND PROVISIONS FOR ELECTRICAL CONDUIT FOR EXISTING LIGHT POSTS.
10. INSTALL NEW CONCRETE MEDIAN.
11. INSTALL NEW APPROACH GUARDRAIL AND TERMINALS.
12. REMOVE VEGETATION 10'-0" FROM BRIDGES.
13. REPAIR COLLISION DAMAGE ON CONCRETE SIDE-BY-SIDE BOX BEAMS WITH QUICK-SET PATCHING MATERIAL.
14. REPAIR CRACKS IN CONCRETE BOX BEAMS AND SUBSTRUCTURES WITH EPOXY INJECTION.
15. REPAIR DELAMINATED CONCRETE IN SUBSTRUCTURES WITH QUICK-SET PATCHING MATERIAL.
16. REMOVE "SPRING CREEK RD." SIGN FROM BRIDGE DECK DURING REPAIRS AND REPLACE AFTER TEXTURE COATING.
17. TEXTURE COAT SUPERSTRUCTURE AND EXPOSED AREAS OF SUBSTRUCTURES.

**NOTE:**

EXISTING ALUMINUM BRIDGE RAIL SHALL BE STOCKPILED AND GIVEN TO REGION TWO BRIDGE REPAIR OFFICE WITH THE TENNESSEE DEPARTMENT OF TRANSPORTATION FOR REUSE.

PROJECT NO.	YEAR	SHEET NO.
33002-4157-04	2005	

REVISIONS	
1	ADD BRIDGE RAILING DETAILS FROM SHEET BR-73-38

**LIST OF BRIDGE DRAWINGS**

DRAWING NO.	REVISIONS DATE	DESCRIPTION
BR-73-37	4/18/00	LAYOUT OF BRIDGES #1 & #2 TO BE REPAIRED
BR-73-38	4/18/00	ESTIMATED BRIDGE QUANTITIES AND GENERAL NOTES
BR-73-39	4/18/00	TYPICAL CROSS SECTION OF BRIDGES #1 & #2
BR-73-40	4/18/00	CONCRETE OVERLAY DETAILS OF BRIDGES #1 & #2
BR-73-41	4/18/00	SLAB PLAN FOR BRIDGE #1
BR-73-42	4/18/00	SLAB PLAN FOR BRIDGE #2
BR-73-43		EPOXY INJECTION NOTES AND BEAM REPAIR DETAILS
BR-73-44		BRIDGE REPAIR DETAILS
BR-73-45		JOINT REPAIR DETAILS
BR-73-46		BRIDGE REPAIR DETAILS

**LIST OF REFERENCE DRAWINGS**

DRAWING NO.	DESCRIPTION
BRIDGE NO. 1 (33-3609-1.08)	GENERAL PLAN DECK PLAN AND DETAILS BENTS AND ABUTMENTS
BRIDGE NO. 2 (33-3609-1.13)	GENERAL PLAN DECK PLAN AND DETAILS BENTS AND ABUTMENTS

THE CONTRACTOR SHALL USE ANY MEASUREMENTS FOR THE CONSTRUCTION OF THE BRIDGE AND SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE MEASUREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE MEASUREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE MEASUREMENTS.



**NOTE:**

EXISTING BEAMS MAY BE FILLED WITH WATER. IF BEAMS HAVE EXISTING DRAIN HOLES THEY SHALL BE CHECKED FOR BLOCKAGES. IF HOLES ARE BLOCKED THEY SHALL BE CLEARED. BEAMS THAT DO NOT HAVE EXISTING DRAIN HOLES SHALL HAVE DRAIN HOLES DRILLED IN THEM TO REMOVE WATER. WHEN DRILLING NEW DRAIN HOLES, THE CONTRACTOR SHALL DRILL IN A LOCATION THAT WON'T DAMAGE PRESTRESSING STRANDS OR REINFORCEMENT. ALL COST AND MATERIALS FOR DRILLING DRAIN HOLES SHALL BE PAID FOR UNDER OTHER ITEMS BID ON.

STATE OF TENNESSEE  
 DEPARTMENT OF TRANSPORTATION

**LAYOUT OF BRIDGES #1 & #2  
TO BE REPAIRED**

SPRING CREEK ROAD  
OVER  
I-24

BRIDGE NO. 33-3609-1.08  
BRIDGE NO. 33-3609-1.13

HAMILTON COUNTY  
2005

TRC INTERNATIONAL LTD.  
 CONSULTING ENGINEERS

ENG. JOB NO. 04428

DESIGNED BY: TRC INTERNATIONAL LTD. DATE: NOVEMBER 2004  
 DRAWN BY: J. BEASLEY/M. PETERS DATE: NOVEMBER 2004  
 SUPERVISED BY: A. MIRIAN DATE: NOVEMBER 2004  
 CHECKED BY: M. M. NICHOLSON DATE: NOVEMBER 2004

3300240079, 3300240063

BR-73-37





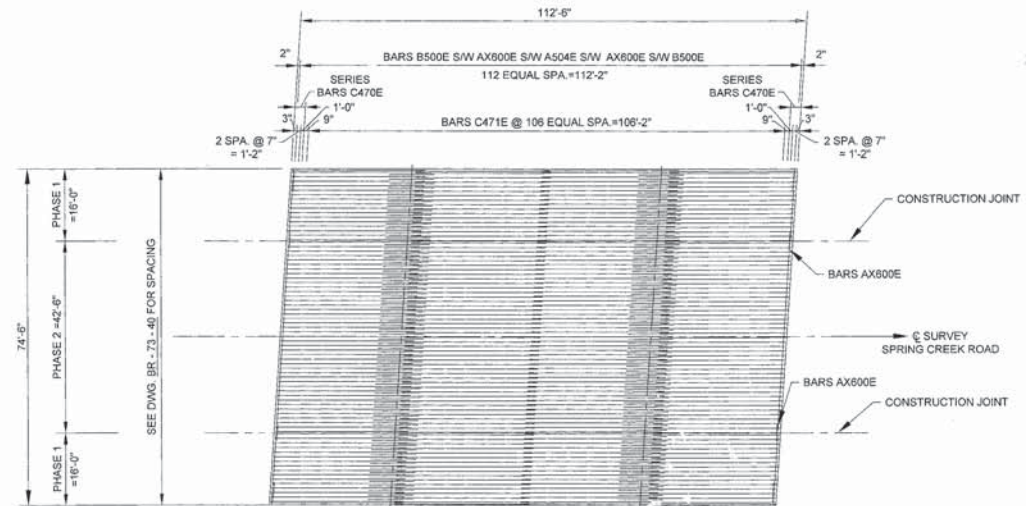




PROJECT NO.	YEAR	SHEET NO.
33003-4157-04	2005	

REVISIONS		
NO.	DATE	BY
1	11/02/05	AS
2	11/02/05	AS
3	11/02/05	AS
4	11/02/05	AS
5	11/02/05	AS
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7	11/02/05	AS
8	11/02/05	AS
9	11/02/05	AS
10	11/02/05	AS



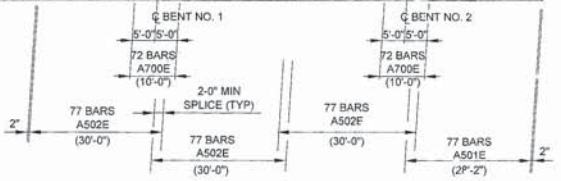
**NOTES:**

COSTS OF EPOXY COATED REINFORCING STEEL INCLUDING MECHANICAL THREADED CONNECTORS SHALL BE INCLUDED UNDER ITEM NO. 604-10.18 REINFORCING STEEL REPAIRS, LB.

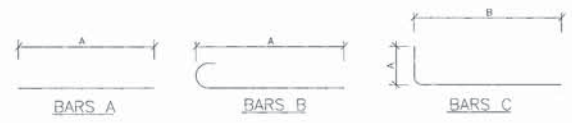
ALSO SEE DWG. BR-73-40 FOR ADDITIONAL CONCRETE OVERLAY DETAILS AND NOTES.

**BILL OF STEEL**

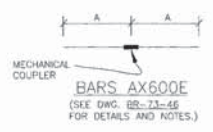
BAR	LOCATION	SIZE	NO. REQS.	BENDING DIMENSIONS				TOTAL LENGTH
				A	B	C	D	
A402E	MEDIAN	4	26	15'-0"				15'-0"
A401E	MEDIAN	4	11	26'-11"				26'-11"
A402E	MEDIAN	4	33	30'-0"				30'-0"
A501E	OVERLAY	5	77	28'-2"				28'-2"
A502E	OVERLAY	5	231	30'-0"				30'-0"
A504E	OVERLAY	5	113	42'-0"				42'-0"
A700E	OVERLAY	7	144	10'-0"				10'-0"
AX600E	OVERLAY	6	226	2'-9"				5'-6"
A500E	OVERLAY	5	226	15'-2"				16'-2"
SERIES C470E	PARAPET	4	8	3'-0"				22'-3"
C471E	PARAPET	4	428	1'-6"	3'-0"			4'-6"



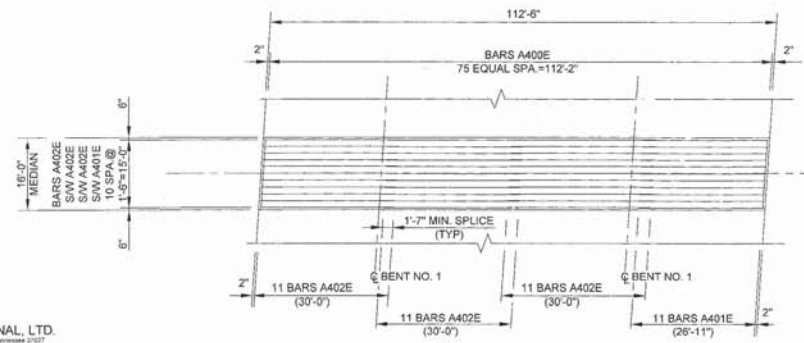
**PLAN OF OVERLAY REINFORCEMENT**  
BRIDGE #1 (33-3609-1.08)



① DIM. A VARIES FROM 2'-5" TO 2'-9" IN INCREMENTS OF 1/2" (TOTAL OF 4 BARS)



② CURB/PAVEMENT IS NOT TO REPLACE MEDIAN.



**PLAN OF MEDIAN REINFORCEMENT**  
BRIDGE #1 (33-3609-1.08)

INTERNATIONAL, LTD.  
ENGINEERING ARCHITECTS  
ENG. JOB NO. 04428

DESIGNED BY TRC INTERNATIONAL LTD  
DRAWN BY J. BEASLEY/M. PETERS  
SUPERVISED BY A. MIRIAN  
CHECKED BY M.M. NICHOLSON

DATE NOVEMBER 2004  
DATE NOVEMBER 2004  
DATE NOVEMBER 2004  
DATE NOVEMBER 2004



STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

**SLAB PLAN FOR BRIDGE #1**  
SPRING CREEK ROAD OVER I-24  
BRIDGE NO. 33-3609-1.08

HAMILTON COUNTY  
2005

3300240079

BR - 73 - 41





## SPECIAL NOTES FOR EPOXY INJECTION

ALL VISIBLE CRACKS LOCATED IN THE FOLLOWING AREAS SHALL BE PRESSURE INJECTED:

- 1) THE PRESTRESSED BOX BEAMS

UNLESS OTHERWISE NOTED, THE INTENT OF THIS SPECIFICATION IS FOR DESIGNATED CRACKS TO BE INJECTED THROUGH FULL LENGTH AND DEPTH.

DESIGNATED CRACKS SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE FILLING ALL VOIDS FOR THE FULL CRACK DEPTH OR THICKNESS OF THE MEMBER. THE EPOXY RESIN ADHESIVE SHALL BE ON THE CURRENT QUALIFIED PRODUCTS LIST MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS. ALL CRACKS SHALL BE INJECTED USING ADHESIVE SUITABLE FOR THE FIELD CONDITIONS (CRACK WIDTH, TEMPERATURE, HUMIDITY, ETC.) RECOMMENDED BY THE ADHESIVE MANUFACTURER AS SHOWN ON MATERIAL DATA SHEETS. FOLLOWING INJECTION, ALL INJECTION PORTS SHALL BE REMOVED. IN ADDITION, CAPPING MATERIAL SHALL BE REMOVED FROM EXPOSED SURFACES LEAVING THE SURFACE SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACES.

THE CONTRACTOR SHALL HAVE SUFFICIENT EXPERIENCE AND TRAINING TO PERFORM THE EPOXY INJECTION IN ACCORDANCE WITH THESE PLANS. PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A WRITTEN PROCEDURE FOR PERFORMING THE EPOXY INJECTION. THE PROCEDURE SHALL DESCRIBE IN DETAIL HOW THE WORK WILL BE PERFORMED. THE PROCEDURE SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION:

- 1) DESCRIPTION OF EQUIPMENT.
  - A) THE INJECTION EQUIPMENT SHALL BE OF THE TYPE THAT MIXES ADHESIVE COMPONENTS AT THE INJECTION HEAD.
  - B) THE INJECTION EQUIPMENT SHALL BE CAPABLE OF DISCHARGING MIXED ADHESIVE AT ANY PRESSURE UP TO 300 PSI. THE INJECTION EQUIPMENT SHALL BE EQUIPPED WITH GAUGES WHICH CAN MEASURE THE INJECTION PRESSURE AND VOLUME.
- 2) EQUIPMENT CALIBRATION PROCEDURES AND SCHEDULE.
- 3) MATERIALS TO BE USED (INCLUDING MANUFACTURER DATA SHEETS).
  - A) CAPPING MATERIAL.
  - B) EPOXY ADHESIVE (TYPE TO BE APPROPRIATE FOR CRACK SIZES TO BE INJECTED).
- 4) PORT SPACING.
  - A) PORT SPACING SHALL NOT BE LESS THAN THE THICKNESS OF THE CONCRETE AT THAT LOCATION.
- 5) INJECTION SEQUENCE.
  - A) INJECTION SHALL PROCEED FROM LOWER END OF CRACK ALONG ADJACENT PARTS.
  - B) SKIPPING OF PORTS DURING INJECTION SHALL NOT BE ALLOWED.

THE CONTRACTOR SHALL HAVE THE MANUFACTURER'S INSTRUCTIONS FOR PROPORTIONING AND MIXING AVAILABLE AT THE JOB SITE AT ALL TIMES AND SHALL ENSURE THAT THE EQUIPMENT IS SUPPLYING THE MIXED ADHESIVE IN THE CORRECT PROPORTIONS.

TO ENSURE PROPER MIXING AND PROPORTIONING, SAMPLES SHALL BE TAKEN FROM THE INJECTOR HEAD. SAMPLES SHALL BE TAKEN AT THE START OF EACH WORKDAY AND EACH TIME THE ADHESIVE RESERVOIRS ARE REFILLED. THE SAMPLES SHALL BE IN A TEST CUP. THE SAMPLE SHALL BE MONITORED TO ENSURE THAT THE CURE TIME IS IN COMPLIANCE WITH THE MANUFACTURER'S DATA SHEETS. IF THE SAMPLES DO NOT CURE IN THE SPECIFIED TIME THEN THE EQUIPMENT USED TO PRODUCE THE SAMPLE SHALL NOT BE USED UNTIL THE PROBLEM IS CORRECTED.

CORE SAMPLES SHALL BE TAKEN AS VERIFICATION OF THE QUALITY OF WORK. THE CONTRACTOR SHALL TAKE ONE (1) ONE AND A HALF (1 1/2) INCH DIAMETER (FULL DEPTH OF CONCRETE AT LOCATION CORED) CORE SAMPLE STARTING WITH THE FIRST REPAIR LOCATION THEN EVERY 3RD REPAIR LOCATION AFTERWARDS. WORK SHALL NOT PROCEED UNTIL THE CORE SAMPLE IS TAKEN AND ACCEPTED. ALL CORE SAMPLES AND HOLES SHALL BE INDEXED FOR FUTURE REFERENCE. THE ENGINEER SHALL DESIGNATE ALL LOCATIONS TO BE CORED. IF ANY CORES SHOW UNACCEPTABLE RESULTS, ALL WORK SHALL BE STOPPED UNTIL THE CONTRACTOR SUBMITS A PROPOSAL FOR CORRECTING UNACCEPTABLE WORK. CORE SAMPLES WILL NOT BE REQUIRED ON PRESTRESSED BOX BEAMS SO NOT TO DAMAGE PRESTRESSING STRANDS.

THE INITIAL CORE WILL ALSO SERVE TO QUALIFY THE FORMAN FOR THIS WORK. IF AT ANY TIME A NEW FORMAN IS USED, HE SHALL BE QUALIFIED WITH A CORE SAMPLE. THE CONTRACTOR SHALL REPAIR ALL CORE HOLES WITH AN APPROVED CEMENTITIOUS PATCHING MATERIAL.

CORE SAMPLES SHALL BE VISUALLY INSPECTED TO CONFIRM THAT CRACKS ARE COMPLETELY FILLED WITH ADHESIVE. ANY CORE HAVING LESS THAN 95% OF THE CRACK FILLED WITH ADHESIVE SHALL BE CONSIDERED UNACCEPTABLE AND BE REJECTED.

CORE SAMPLES SHALL BE TESTED FOR BOND STRENGTH BY COMPRESSIVE TEST. SAMPLES SHALL BE TESTED TO FAILURE. IF ADHESIVE FAILURE OCCURS BEFORE CONCRETE FAILURE THE CORE SHALL BE CONSIDERED UNACCEPTABLE AND BE REJECTED. SAMPLE TESTING MAY BE BY EITHER A HAMMER BLOW TO THE CRACK AREA OR THROWN AT A HARD SURFACE.

PAYMENT FOR EPOXY INJECTION CRACK REPAIR SHALL BE MADE UNDER ITEM NUMBERS 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F. AND 604-10.58, EPOXY INJECTION (INJECTION), GALLON.

PRICE BID FOR ITEM NUMBER 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F., SHALL INCLUDE COST OF ALL LABOR AND MATERIALS (EXCEPT ADHESIVE) FOR GRINDING FOR SURFACE PREPARATION, CRACK PREPARATION, CAPPING, INJECTION OF ADHESIVE, ALL SAMPLING AND TESTING, REPAIR OF CORE HOLES, REMOVAL OF CAPPING MATERIAL AND PORTS, AND OTHER INCIDENTALS. CRACKS SHALL BE MEASURED FOR PAYMENT ALONG THE LENGTH OF THE VISIBLE SURFACE CRACK.

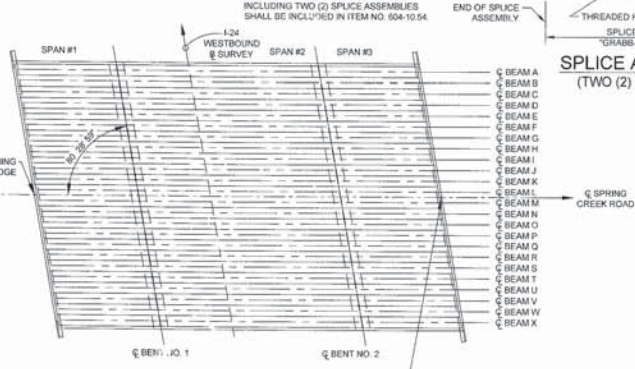
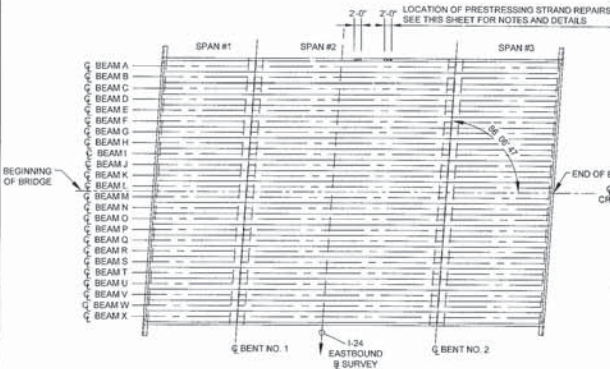
PRICE BID FOR ITEM NUMBER 604-10.58, EPOXY INJECTION (INJECTION), GALLON, SHALL INCLUDE COST FOR ADHESIVE MATERIAL INJECTED ONLY.

NO PAYMENT SHALL BE MADE FOR REWORK DEEMED NECESSARY BY FAILURE OF ADHESIVE SAMPLES OR CORE SAMPLES.

ALL WORK INCLUDING SAMPLING AND TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE OR CONTRACT INSPECTORS. ANY WORK DONE WITHOUT INSPECTORS PRESENT SHALL NOT BE PAID FOR. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH WEEKLY SCHEDULES OF WORK TO BE PERFORMED. SCHEDULES SHALL BE SUBMITTED AT LEAST THREE (3) DAYS IN ADVANCE OF WORK TO BE DONE. THE ENGINEER SHALL BE NOTIFIED OF ANY CHANGE IN THE SCHEDULE A MINIMUM OF TWENTY-FOUR (24) HOURS IN ADVANCE OF CHANGE.

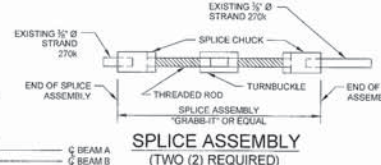
PROJECT NO.	YEAR	SHEET NO.
33003-4157-04	2005	
REVISIONS		
NO.	DATE	DESCRIPTION

CONCRETE REPAIRS SCHEDULE			
LOCATION OF REPAIR	ITEM NO. 604-10.62 EPOXY INJECTION REPAIR (COMPLETE & IN PLACE) LF	ITEM NO. 604-10.54 CONCRETE REPAIR SF	
SPAN 1, BEAM B	-	1	
SPAN 1, BEAM I	-	0.5	
SPAN 2, BEAM A	50	25	
SPAN 2, BEAM C	-	0.5	
SPAN 2, BEAM S	-	6	
SPAN 2, BEAM U	-	0.5	
SPAN 2, BEAM X	-	5.5	
SPAN 3, BEAM A	-	2	
SPAN 3, BEAM D	-	3	
SPAN 3, BEAM X	-	2	
TOTALS	50	46	
SPAN 1, BEAM X	40	2	
SPAN 2, BEAM A	5	-	
SPAN 2, BEAM D	-	4	
SPAN 2, BEAM K	-	1	
SPAN 2, BEAM P	-	2	
SPAN 2, BEAM X	-	15	
SPAN 3, BEAM C	-	1	
SPAN 3, BEAM I	-	1	
TOTALS	45	26	



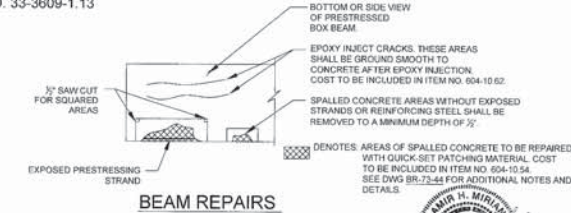
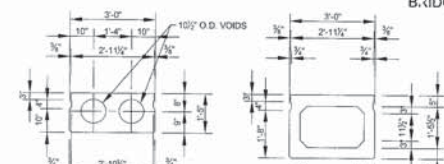
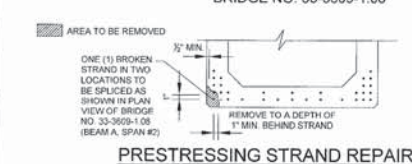
**NOTE:**

ALL COSTS ASSOCIATED WITH REPAIRING PRESTRESSING STRANDS INCLUDING TWO (2) SPLICE ASSEMBLIES SHALL BE INCLUDED IN ITEM NO. 604-10.64



**CONSTRUCTION PROCEDURE FOR PREPARING DAMAGED PRESTRESSED BEAMS**

1. THE PROJECT ENGINEER FROM THE DEPARTMENT OF TRANSPORTATION WILL MARK EXACT LOCATIONS OF REPAIR AREA BEFORE ANY WORK IS COMMENCED.
2. SAW CUT CONCRETE 3/4" TO OBTAIN SQUARE AREAS AND REMOVE PORTIONS OF THE PRESTRESSED BEAM AS SHOWN IN THESE PLANS TO INSURE THAT SOUND CONCRETE IS REACHED IN ALL AREAS.
3. ASSEMBLE SPLICE, LOCATING SPLICE SLEEVES AND STRAND GRIPS TO ALLOW SEATING OF THE STRAND GRIPS AND SUFFICIENT THREAD LENGTHS IN THE SPLICE SLEEVES.
4. TORQUE LUBRICATED SPLICE SLEEVE TO APPROXIMATELY 14,000 POUNDS. THE STRAND GRIPS MUST BE PREVENTED FROM ROTATION DURING TORQUING. SEE SINGLE STRAND SPLICE DETAIL ON THIS SHEET. ONE STRAND IN TWO LOCATIONS (BEAM A SPAN 2 OVER EB LANES) IS TO BE SPLICED. SEE LOCATION OF STRANDS TO BE REPAIRED ON THIS SHEET.
5. FORM AND POUR REPAIR AREA SHOWN ON THIS SHEET TO ORIGINAL BEAM LINES USING  $f_c = 5,000$  PSI CONCRETE. AGGREGATE USED SHALL BE SIZE NO. 6 MAXIMUM. EXPOSED REINFORCEMENT BARS AND STRANDS SHALL BE CLEANED AS NEEDED.



STATE OF TENNESSEE  
**DEPARTMENT OF TRANSPORTATION**

**EPOXY INJECTION NOTES  
AND BEAM REPAIR DETAILS**

SPRING CREEK ROAD  
OVER  
I-24

BRIDGE NO. 33-3609-1.08  
BRIDGE NO. 33-3609-1.13  
HAMILTON COUNTY  
2005

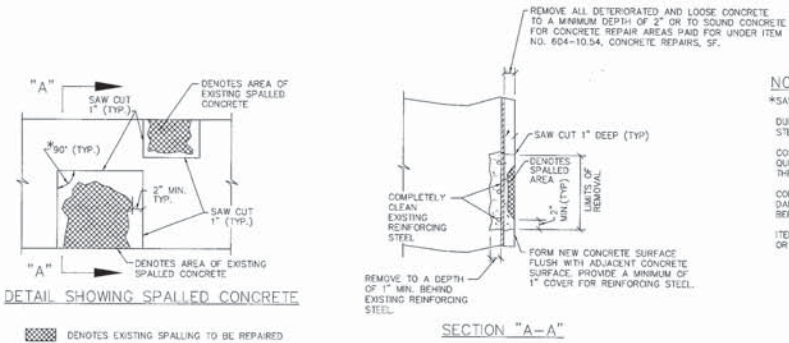
TRC INTERNATIONAL LTD.  
CONCRETE ENGINEERS  
ENG. JOB NO. 04428

DESIGNED BY TRC INTERNATIONAL LTD. DATE NOVEMBER 2004  
DRAWN BY J. BEASLEY/M. PETERS DATE NOVEMBER 2004  
SUPERVISED BY A. MIRIAN DATE NOVEMBER 2004  
CHECKED BY M.M. NICHOLSON DATE NOVEMBER 2004





PROJECT NO.	YEAR	SHEET NO.
33003-4157-04	2005	
REVISIONS		
NO.	DATE	DESCRIPTION



**NOTES:**

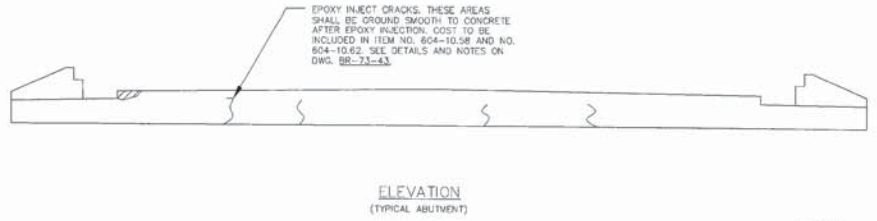
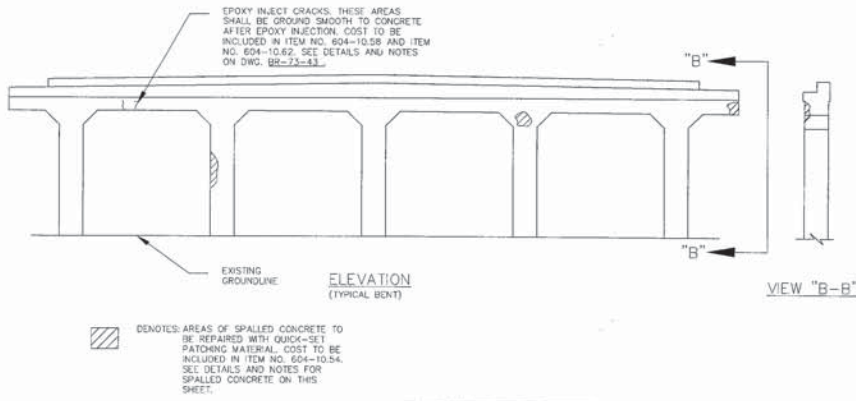
\*SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN A SQUARE AREA. EDGES SHALL NOT BE FEATHERED OR TAPERED.

DURING SAW CUT OPERATION, CONTRACTOR TO FIELD VERIFY CONCRETE COVER TO PREVENT DAMAGE TO EXISTING STEEL REINFORCEMENT.

COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, COMPLETELY CLEANING REINFORCING STEEL, NEW QUICK-SET PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, SF.

CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING SPALLED AND DETERIORATED CONCRETE, SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL. ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED BEFORE PLACING NEW CONCRETE.

ITEM NO. 604-10.54 SHALL BE BID WITH THE CONTINGENCY THAT THIS ITEM MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.



CONCRETE REPAIRS SCHEDULE			
LOCATION OF REPAIR	ITEM NO. 604-10.54 CONCRETE REPAIRS, SF.	ITEM NO. 604-10.62 EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE) LF.	
BRIDGE # 1 (33-3609-1.08)	BENT NO. 1	10	6
	BENT NO. 2	8	15
	TOTAL	18	21
BRIDGE # 2 (33-3609-1.13)	BENT NO. 1	10	10
	BENT NO. 2	3	20
	TOTAL	13	30

TYPICAL BENT REPAIR DETAILS

CONCRETE REPAIRS SCHEDULE			
LOCATION OF REPAIR	ITEM NO. 604-10.54 CONCRETE REPAIRS, SF.	ITEM NO. 604-10.62 EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE) LF.	
BRIDGE # 1 (33-3609-1.08)	ABUT. NO. 1	3	13
	ABUT. NO. 2	1	25
	TOTAL	4	40
BRIDGE # 2 (33-3609-1.13)	ABUT. NO. 1	1	20
	ABUT. NO. 2	1	20
	TOTAL	2	50

TYPICAL ABUTMENT REPAIR DETAILS

TRC INTERNATIONAL, LTD.  
CONSULTING ENGINEERS  
ENG. JOB NO. 04428

DESIGNED BY: TRC INTERNATIONAL, LTD. DATE: NOVEMBER 2004  
DRAWN BY: J. BEASLEY/M. PETERS DATE: NOVEMBER 2004  
SUPERVISED BY: A. MIRIAN DATE: NOVEMBER 2004  
CHECKED BY: M.M. NICHOLSON DATE: NOVEMBER 2004



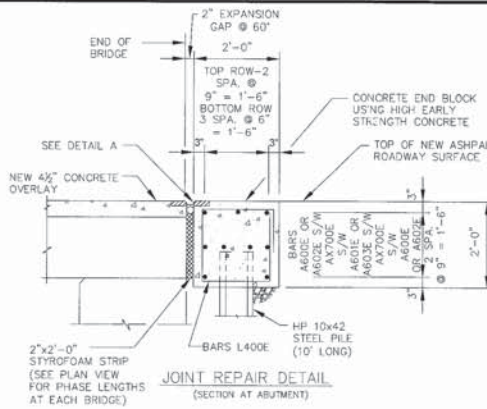
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS

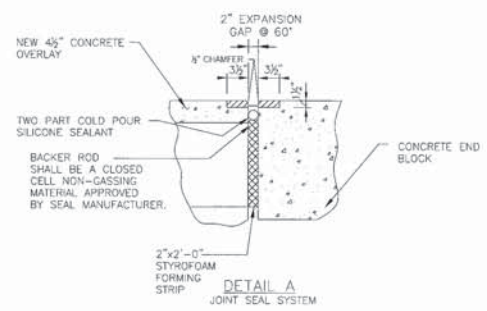
SPRING CREEK ROAD  
OVER  
I-24

BRIDGE NO. 33-3609-1.08  
BRIDGE NO. 33-3609-1.13  
HAMILTON COUNTY  
2005

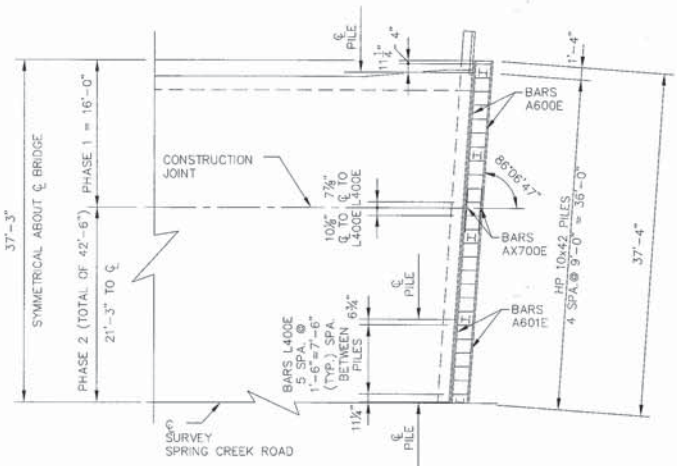




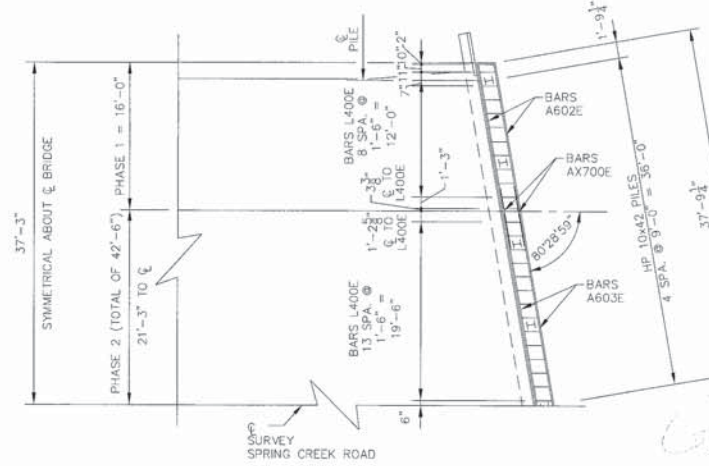
**NOTES:**  
CONTRACTOR SHALL USE PRODUCTS OFF THE QUALIFIED PRODUCTS LIST 9B FOR THE JOINT SEAL SYSTEM.  
TYPICAL FOR BOTH ABUTMENTS. EXPANSION GAP WILL CHANGE AT OTHER TEMPERATURES AND THE CONTRACTOR MUST COMPENSATE FOR JOINT MATERIAL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. NO INCREASE IN THE UNIT BID PRICE WILL BE ALLOWED.  
THE DEPTH OF THE JOINT POURED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS FOR PROPER INSTALLATION. THE PAVEMENT AND AIR TEMPERATURE SHALL BE 40°F AND RISING AND MUST NOT FALL BELOW 40°F PRIOR TO COMPLETE CURE OF THE SEALANT.  
THE SEALANT THICKNESS PLACED SHALL BE CHECKED PRIOR TO CURING, AT A MINIMUM OF THREE LOCATIONS ACROSS A TWELVE FOOT LENGTH OF JOINT TO ASSURE PROPER THICKNESS.  
ALL COSTS ASSOCIATED WITH DRIVING HP 10x42 STEEL PILES FOR CONCRETE END BLOCKS AT ABUTMENTS SHALL BE INCLUDED UNDER ITEM NO. 806-02.03, STEEL PILES (10 INCH) L.F. THIS ITEM WILL ALSO INCLUDE ALL COSTS ASSOCIATED WITH TRANSPORTING THE STEEL PILES. FOR MORE NOTES AND DETAILS, SEE STD. DWG. SET 3-2.  
**JOINT SEAL SYSTEM**  
THE EXPANSION JOINT SYSTEM USED SHALL BE ON THE TDOT APPROVED QUALIFIED LISTS FOR ACCEPTABLE PRODUCTS. THE JOINT SYSTEM SHALL BE INSTALLED UNDER THE DIRECT SUPERVISION OF AN AUTHORIZED TECHNICIAN PROVIDED BY THE EXPANSION JOINT SUPPLIER. FOR EACH JOINT AT EACH BRIDGE AND FOR EACH BRIDGE LOCATION WITHIN THE PROJECT, THE TECHNICIAN MUST APPROVE ALL ASPECTS OF THE GEOMETRY AND PREPARATION, INCLUDING GRADING AND/OR GROOVING, PRIOR TO ANY JOINT MATERIAL INSTALLATION.  
COST OF INSTALLING NEW EXPANSION JOINT, EXCAVATION, SAW CUTTING, BACKER ROD, JOINT SEALER, HEADER MATERIAL, HIGH EARLY STRENGTH CONCRETE, REINFORCING STEEL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO INSTALL THE NEW EXPANSION JOINT TO BE INCLUDED UNDER ITEM NO. 604-10.44, EXPANSION JOINT REPAIRS, L.F.



PROJECT NO.	YEAR	SHEET NO.	
33003-4157-04	2005		
REVISIONS			
NO.	DATE	BY	DESCRIPTION



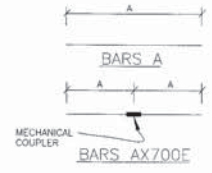
BRIDGE NO. 33-3609-1.08



BRIDGE NO. 33-3609-1.13

BILL OF STEEL				
LOCATION	BAR	SIZE	NO. REQD.	TOTAL LENGTH
BR. #1 (33-3609-1.08)	AX700E	7	36	6'-8"
	L400E	4	100	7'-8"
	A600E	6	36	15'-7"
	A601E	6	18	42'-1"
BR. #2 (33-3609-1.13)	AX700E	7	36	6'-8"
	L400E	4	104	7'-8"
	A602E	6	36	15'-10"
	A603E	6	18	42'-7"

LOCATION PLAN VIEW FOR EXPANSION JOINT REPAIR



**NOTE:**  
ALL COSTS ASSOCIATED WITH INSTALLING REINFORCING STEEL FOR EXPANSION JOINT CONCRETE END BLOCK AS SHOWN ON THIS DRAWING SHALL BE INCLUDED UNDER ITEM NO. 604-10.44, EXPANSION JOINT REPAIRS, L.F.

**TRC INTERNATIONAL, LTD.**  
CONSULTING ENGINEERS  
ENG. JOB NO. 04428  
DESIGNED BY: TRC INTERNATIONAL LTD. DATE: NOVEMBER 2004  
DRAWN BY: J. BEASLEY/M. PETERS DATE: NOVEMBER 2004  
SUPERVISED BY: A. MIRJAN DATE: NOVEMBER 2004  
CHECKED BY: M.M. NICHOLSON DATE: NOVEMBER 2004

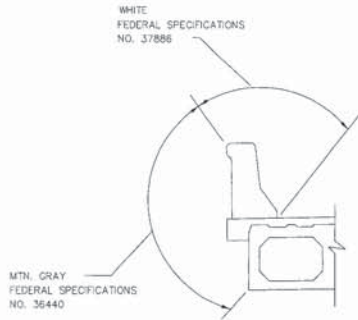
STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

JOINT REPAIR DETAILS  
SPRING CREEK ROAD OVER I-24  
BRIDGE NO. 33-3609-1.08  
BRIDGE NO. 33-3609-1.13  
HAMILTON COUNTY 2005

3300240079, 3300240063

BR-73-45





**APPLIED TEXTURE FINISH DETAIL**

IN ADDITION TO THE SURFACE SHOWN IN THIS DETAIL, ALL EXPOSED SURFACES OF THE ABUTMENTS, WINGWALLS, WINGPOSTS, AND BENTS SHALL RECEIVE AN APPLIED TEXTURE FINISH.

**NOTES:**

THE CONTRACTOR SHALL CLEAN ALL SURFACES TO RECEIVE APPLIED TEXTURE COATING. ALL CLEANING SHALL BE SATISFACTORY TO THE ENGINEER PRIOR TO APPLYING THE TEXTURE COATING.

THE APPLIED TEXTURE FINISH COLOR FOR BRIDGE SHALL BE SIMILAR TO MOUNTAIN GRAY, FEDERAL SPECIFICATIONS NO. 36640, FEDERAL COLOR STANDARD 5950, EXCEPT THAT THE INSIDE FACE AND TOP OF THE PARAPET SHALL BE WHITE, FEDERAL SPECIFICATION NO. 37886. A COLOR SAMPLE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. A LIST OF APPROVED TEXTURE COATINGS MAY BE OBTAINED FROM THE TENNESSEE DEPARTMENT OF TRANSPORTATION DIVISION OF MATERIALS AND TESTS.

NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT BRIDGE SITE.

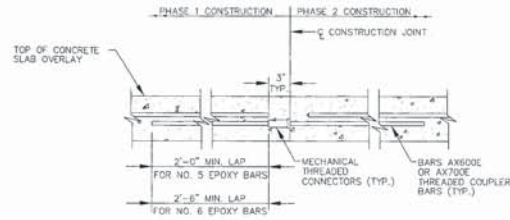
COSTS ASSOCIATED WITH CLEANING, FURNISHING AND APPLYING TEXTURE COATING AND ALL LABOR AND NECESSARY MATERIALS SHALL BE INCLUDED IN ITEM NO. 604-04.02, APPLIED TEXTURE FINISH (EXISTING STRUCTURE), S.Y.

SEE SHEETS 4 THRU 7 FOR TRAFFIC CONTROL FOR TEXTURE COATING. SEE SPECIAL NOTES ON DWG. BR-73-28 REGARDING LANE CLOSURES FOR INTERSTATE 24.

THE CONTRACTOR SHALL REMOVE THE "SPRING CREEK ROAD" SIGNS FROM THE SIDES OF THE BRIDGE DECK PRIOR TO TEXTURE COATING AND REPLACE AFTER TEXTURE COATING.

**TRC INTERNATIONAL, LTD.**  
CONSULTING ENGINEERS  
ENG. JOB NO. 04428

DESIGNED BY	TRC INTERNATIONAL, LTD.	DATE	NOVEMBER 2004
DRAWN BY	J. BEASLEY/M. PETERS	DATE	NOVEMBER 2004
SUPERVISED BY	A. MIRIAN	DATE	NOVEMBER 2004
CHECKED BY	M.M. NICHOLSON	DATE	NOVEMBER 2004



**MECHANICAL THREADED BAR CONNECTOR DETAIL**

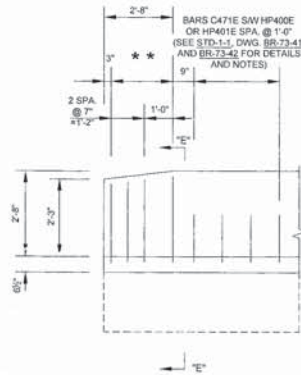
(528 MECHANICAL THREADED CONNECTORS REQ'D.)  
SHOWING TRANSVERSE REINFORCING STEEL SPLICING WITH MECHANICAL THREADED CONNECTORS.

**NOTE:**

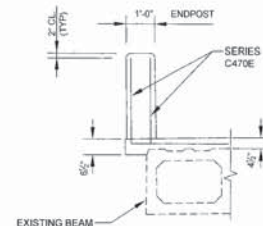
COST OF 456 MECHANICAL THREADED CONNECTORS FOR THE NEW 4" CONCRETE OVERLAY TO BE INCLUDED UNDER ITEM NO. 604-10.1B, REINFORCING STEEL (REPAIRS) LBS. COST OF 72 MECHANICAL THREADED CONNECTORS FOR THE NEW EXPANSION JOINT TO BE INCLUDED UNDER ITEM NO. 604-10.4A, EXPANSION JOINT REPAIRS, LF. SEE DETAILS AND NOTES ON DWG. BR-73-40, BR-73-41, BR-73-42 AND BR-73-43.

PROJECT NO.	YEAR	SHEET NO.
33003-4157-04	2005	

REVISIONS			
NO.	DATE	BY	DESCRIPTION



**ELEVATION VIEW OF ENDPST**



**SECTION "E-E"**

**ENDPST REPAIR DETAIL**

**NOTES:**

THE ENDPST SHOWN ON STANDARD DWG. NO. STD-1-1 SHALL BE MODIFIED TO BE INTEGRAL WITH SLAB AS SHOWN ABOVE. SERIES BARS A471E SHALL BE REPLACED BY SERIES BARS C471E. ALSO, BARS B470E AND B471E SHALL BE REPLACED BY C471E. COST OF THESE BARS TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-10.1B, REINFORCING STEEL (REPAIRS), LB. SEE BILL OF STEEL ON DWG. NO. BR-73-43 AND BR-73-42.

★ DENOTES SERIES BARS C470E.

ALL REMAINING REINFORCING STEEL FOR ENDPST AND PARAPET AS SHOWN ON STD-1-1, EXCEPT BARS C470E AND BARS C471E AS NOTED ABOVE, SHALL BE INCLUDED IN COST FOR ITEM NO. 620-10.01, CONCRETE PARAPET (BROODERAL REPLACEMENT), LF.



STATE OF TENNESSEE  
**DEPARTMENT OF TRANSPORTATION**

**BRIDGE REPAIR DETAILS**

SPRING CREEK ROAD OVER  
I-24

BRIDGE NO. 33-3609-1.08  
BRIDGE NO. 33-3609-1.13

HAMILTON COUNTY  
2005