

CUYAHOGA COUNTY CUY-TRISKETT ROAD (C.R. 228) BRIDGE NO. 195 SLM 0134 SFN 1830326

RECONSTRUCTION OF EXISTING SEPARATED CROSSING WITH THE GCRTA AND NORFOLK SOUTHERN RAILROAD

> CITY OF CLEVELAND STATE OF OHIO

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CUYAHOGA COUNTY

STANDARD DRAWINGS

NUMBER

SPECIAL PROVISIONS

PROTECTION OF RAILWAY INTERES

APPROVED IN ____ City of Cleveland ORDINANCE OF CONSENT NO. /228-98 12/14/98

NUMBER

832

846

LOCATION MAP

LATITUDE: N	41° 27′ 56	6" LONGITUI	DE: W 81° 47′ 09″	
	SCA	ALE IN MILES		•
	1/4	1/2 3/	4 1	
~~~	1/4	1/2 3/	<del>*</del>	\
(90)	<b> </b>	10	(228)	
INTERSTATE	U.S.	STATE	COUNTY	
INTERSTATE	0.5.	SIAIL	COONTT	

PORTION TO BE IMPROVED

#### **DESIGN DESIGNATION**

CURRENT ADT (2004)	8865	
DESIGN YEAR ADT (2024)		
DESIGN HOURLY VOLUME (2024)	1194	
DIRECTIONAL DISTRIBUTION	55%	
TRUCKS (24 HOUR B&C)	6%	
DESIGN SPEED	35 MPH	
LEGAL SPEED	35 MPH	
DESIGN FUNCTIONAL CLASSIFICATION		
LIPRAN COLLECTOR		

#### DESIGN EXCEPTIONS

NONE REQUIRED

#### UNDERGROUND UTILITIES

2 WORKING DAYS BEFORE YOU DIG CALL 800-362-2764 (TOLL FREE) OHIO UTILITIES PROTECTION SERVICE

> NON-MEMBERS MUST BE CALLED DIRECTLY



Jalph a Headrick

NUMBER

	10-41.40	0//10/04	DF - 1.1	07/20/00	GIV-1.1	0//10/04	070	10/10/04	DI 2.70	02/10/03
	MT-95.30	07/16/04	BP-2.1	07/16/04	GR-2.1	01/16/04	864	07/11/00	BP-2.5C	06/11/03
	MT-95.32	07/16/04	BP-2.2	07/16/04	GR-3.1	04/18/03	908	04/18/03	BP-2.6C	09/29/03
	MT-95.41	07/16/04	BP-2.3	07/16/04	GR-4.2	10/17/03	954	09/09/97	BP-2.7C	08/20/03
	MT-97.12	04/19/02	BP-2.5	07/28/00	GR-5.2	01/16/04			BP-2.8C	08/15/00
	MT-101.60	10/18/02	BP-3.1	07/16/04	DM-4.4	07/19/02			BP-4.1C	09/29/03
	MT-105.10	10/18/02	BP-4.1	07/16/04	F-1.1	07/16/04			SGN-3C	01/26/04
	MT-105.11	10/18/02	BP-5.1	07/28/00	AS-1-81	07/19/02			SGN-4C	01/26/04
	MT-110.20	10/18/02	RM-1.1	04/18/03	VPF-1-90	07/19/02			SGN-6C	01/26/04
/									PST-1C	01/26/04
•									MD-1C	06/11/03
									MD-6C	02/10/03
									MD-8C	12/07/99
									MH-10C	10/29/01
States.									MKG-1C	01/26/04
							*		CB – 3C	03/01/05
1					1.				CB-3C S/T	10/29/01
	****									

STATE OF OHIO STANDARD CONSTRUCTION DRAWINGS

#### PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF REHABILITATING THE TRISKETT ROAD BRIDGE OVER THE GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY AND NORFOLK SOUTHERN RAILROAD. REHABILITATION INCLUDES DECK REPLACEMENT AND BRIDGE WIDENING FROM 40' TO 48' FACE TO FACE OF CURBS AND ROADWAY APPROACH

#### ROBERT C. KLAIBER, JR., P.E., P.S. **COUNTY ENGINEER**

THE STANDARD CONSTRUCTION AND MATERIALS SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DATED JANUARY 1, 2002 INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS OF CUYAHOGA COUNTY ARE A PART OF THE TERMS OF THE CONTRACT FOR THIS IMPROVEMENT AND SHALL APPLY TO ALL CONSTRUCTION AS CALLED FOR ON THE PLANS OR IN THE PROPOSAL.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE PART TIME CLOSING OF THE HIGHWAY TO TRAFFIC, AS NOTED ON SHEET 8, DURING WHICH TIME DETOURS WILL BE PROVIDED AS SHOWN HEREIN, PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

**BOARD OF COMMISSIONERS** CUXAHOGA GOUNTY

APPROVED. COUNTY COMMISSIONER

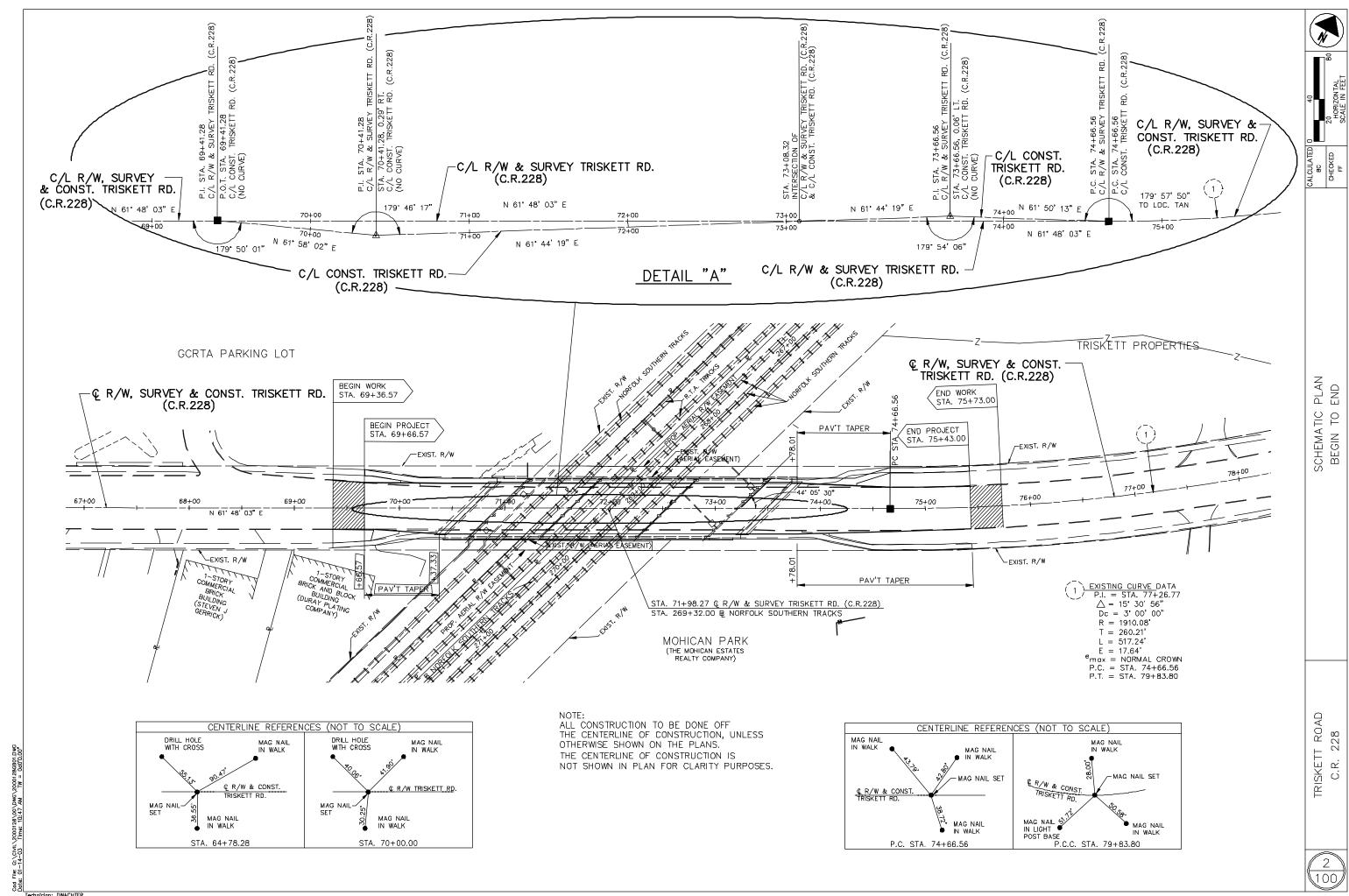
DATE

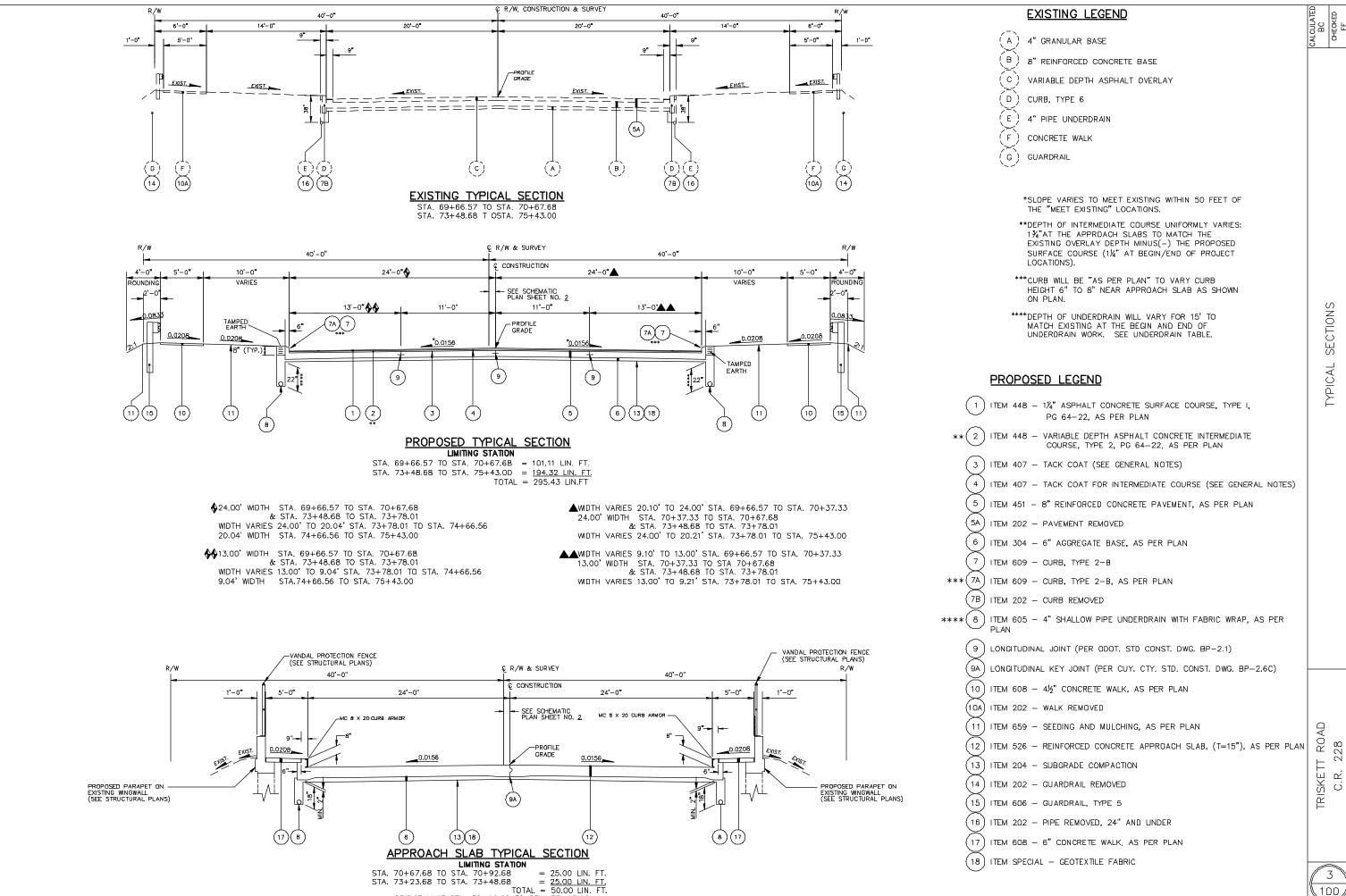
CUYAHOGA COUNTY No. DATE OF LETTING CONTRACT.

DATE: 3/28/03 CHIEF HIGHWAY DESIGN ENGINEER

CHIEF BRIDGE DESIGN ENGINEER

SKETT C.R. 2





BRIDGE LIMIT STA. 70+92.68 TO STA. 73+23.68

LISTING BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

13630 LORAIN AVENUE-4TH FLOOR CLEVELAND, OHIO 44111 ATTN: MICK ERDOS/COURTNEY NORRIS PHONE: (216) 476-6142 FAX: (216) 476-6013

5980-I WILCOX PLACE DUBLIN, OH 43016 ATTN: CARL DONAHUE PHONE: (630) 552-4677 FAX: (847) 244-9597

COX CABLE 12221 PLAZA DRIVE PARMA, OHIO 44130 ATTN: TIM YANDA PHONE: (216) 676-8300 FAX: (216) 676-8689

CITY OF CLEVELAND DIVISION OF WATER 1201 LAKESIDE AVENUE 6TH FLOOR CLEVELAND, OHIO 44114 ATTN: GUY SINGER PHONE: (216) 664-2444, EXT. 5555 FAX: (216) 664-2838

CITY OF CLEVELAND DIVISION OF WATER POLLUTION CONTROL 12302 KIRBY AVENUE CLEVELAND, OHIO 44108 ATTN: RACHID ZOGHAIB PHONE: (216) 664-3785 FAX: (216) 664-3477

DOMINION FAST OHIO DISTRIBUTION FACILITIES 1201 EAST 55TH STREET CLEVELAND, OHIO 44103 ATTN: DAN APITZ/MIKE ANTONIUS PHONE: (216) 736-6827/(216) 736-6675 EMERGENCY CONTACT NO.: (216) 736-6651 FAX: (216) 736-6883

GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (GCRTA) 1240 WEST 6TH STRÈET CLEVELAND, OHIO 44113-1331 ATTN: MIKE SCHIPPER PHONE: (216) 566-5084 FAX: (216) 431-6209

CEI, FIRST ENERGY 6896 MILLER ROAD, SUITE 101 BRECKSVILLE, OHIO 44141 ATTN: FRANK DIBBS PHONE: (440) 546-8748 FAX: (440) 546-8773

MCI-WORLDCOM 120 RAVINE STREET AKRON, OHIO 44303 ATTN: AL GUEST PHONE: (330) 253-8267 FAX: (918) 562-7014

QWEST COMMUNICATIONS FIBER PROTECTION CENTER 1860 LINCOLN STREET DENVER, CO 80295 ATTN: GEORGE McELVAIN PHONE: 1-800-283-4237 FAX: (303) 922-0221

QWEST ICLINTERNATIONAL 2770 LEXINGTON AVENUE P.O. BOX 3168 MANSFIELD, OHIO 44904 ATTN: WILLIAM KORNHAUS PHONE: (419) 884-0400 FAX: (419) 884-2297

NORFOLK SOUTHERN RAILWAY NORTHERN REGION, DEARBORN DIVISION 17301 MICHIGAN AVENUE DEARBORN, MICHIGAN 48126

CALL OHIO LITILITIES PROTECTION SERVICE TWO (2) WORKING DAYS BEFORE YOU DIG TOLL FREE NO. 1-800-362-2764 (NON-MEMBERS MUST BE CALLED DIRECTLY)

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

THE 24" WATER MAIN MAY BE SHUT DOWN BETWEEN LABOR DAY AND MEMORIAL DAY WITH ADVANCED NOTICE TO THE FOLLOWING PERSONS:

PAYTON HALL-CONTROL CENTER 216-664-4018 PIERRE HADDAD-ENGINEERING 216-664-2444 EXT. 5571 DWIGHT WILSON-DISTRIBUTION 216-348-7277

SHORT PERIODS OF SHUTDOWN MAY BE AUTHORIZED THROUGH COORDINATION WITH THE ABOVE INDIVIDUALS WITH THE SAME ADVANCE SHUTDOWN NOTICE.

VALVES 16" AND LARGER SHALL BE OPERATED BY CLEVELAND DIVISION OF WATER PERSONNEL VALVES IN AND LARGER SHALL BE OFFICIAL BY THE CONTRACTOR DNLY IF A CLEVELAND DIVISION OF WATER PERSON ONLY IF A CLEVELAND DIVISION OF WATER INSPECTOR IS PRESENT.

#### PROJECT SPECIFICATIONS

THESE PLANS WERE ORIGINALLY COMPLETED IN ACCORDANCE WITH THE 1997 OHIO DEPARTMENT OF TRANSPORTATION (ODOT) CONSTRUCTION AND MATERIAL SPECIFICATIONS (C.M.S.), INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS OF CUYAHOGA COUNTY. THE PLANS WERE SUBSEQUENTLY UPDATED TO THE 2002 C.M.S. ANY ERRONEOUS REFERENCES TO THE 1997 ODOT C.M.S., OUTDATED SUPPLEMENTAL SPECIFICATIONS, PROPOSAL NOTES AND STANDARD CONSTRUCTION DRAWINGS WILL BE UNDERSTOOD TO REFER TO THE CORRESPONDING 2002 ODOT C.M.S., AND TO THE CURRENT SUPPLEMENTAL SPECIFICATIONS, PROPOSAL NOTES AND THE STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET

#### CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL SUBSIDIARY AGREEMENT GOVERNING COMPLETION OF THIS PROJECT, NO ADJUSTED UNIT PRICES WILL BE MADE FOR ANY DECREASE OR ELIMINATION OF CONTINGENCY QUANTITIES/ITEMS (SEE SECTION 104.02 OF THE CUYAHOGA COUNTY ENGINEER'S GENERAL PROVISIONS).

#### CONSTRUCTION NOISE SECTION 605.10 UNNECESSARY NOISES - CODIFIED ORDINANCES OF CLEVELAND OHIO

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 8:00 P.M. AND 7:00 A.M., EXCEPT FOR WORK THAT REQUIRES A RAILROAD SHUTDOWN (SEE PARAGRAPH 'A' BELOW). SHUTDOWN WORK WILL OCCUR DURING NIGHTTIME CLOSURES, WHICH INCLUDES A MAXIMUM OF 15 NIGHTTIME PERIODS FOR ACTIVE CONSTRUCTION WORK INCLUDING BRIDGE DECK, WALK AND RAILING REMOVAL AND PLACEMENT OF CONCRETE FOR THE BRIDGE DECK, WALK AND PARAPET. A NIGHTTIME PERIOD SHALL BE DEFINED AS THE TIME PERIOD BETWEEN 8 P.M. AND 7 A.M. IN ADDITION, ANY SUCH DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

PARAGRAPH 'A'

# THE FOLLOWING WILL REQUIRE A RAILROAD SHUTDOWN AND WILL BE ALLOWED AS PER THE ABOVE PARAGRAPH ENTITLED CONSTRUCTION NOISE

IN ADDITION TO THE BRIDGE CLOSURE FOR 15 NIGHT TIME PERIODS. THE CONTRACTOR WILL BE ALLOWED TO PERFORM WORK AT NIGHT TO CONSTRUCT AND SUBSEQUENTLY REMOVE PROTECTIVE STRUCTURES OVER THE GCRTA TRACKS. ALSO CONSTRUCTION AND REMOVAL OF PROTECTIVE STRUCTURES OVER NORFOLK SOUTHERN TRACKS WILL BE ALLOWED AT NIGHT DEPENDING ON THE SCHEDULE OF TRACK TIME MADE AVAILABLE BY THE RAILROAD. AND ANY ADDITIONAL NIGHT WORK REQUIRED WHEN CONSTRUCTION EQUIPMENT IS IN CLOSE PROXIMITY TO THE RAILROAD TRACKS AND FOR TRACK SHUTDOWNS.

#### **ELEVATION DATUM**

ELEVATIONS SHOWN ARE BASED ON CLEVELAND REGIONAL GEODETIC SURVEY (C.R.G.S.) DATA. MONUMENTS ARE DESCRIBED ON THE PLANS

#### WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. IN ADDITION TO THE REQUIREMENTS OF SECTION 614.05, THE CONTRACTOR SHALL FURNISH, ERECT. MAINTAIN, AND SUBSEQUENTLY REMOVE SUCH ADDITIONAL TRAFFIC CONTROL DEVICES LOCATED OUTSIDE THE LIMITS OF CONSTRUCTION AS ARE REQUIRED ON HIGHWAYS WHICH ARE USED AS DETOURS, INCLUDING THE "ROAD CLOSED" SIGNS UPON THE BARRICADES AT THE POINT WHERE THE HIGHWAY IS CLOSED TO THROUGH TRAFFIC.

#### **EXISTING TYPICAL SECTIONS**

EXISTING TYPICAL SECTIONS HAVE BEEN DEVELOPED FROM SITE MEASUREMENTS AND RECORD PLANS AND ARE BELIEVED TO REPRESENT THE WIDTH AND COMPOSITION OF THE EXISTING PAVEMENT, BUT THE COUNTY DOES NOT GUARANTEE THE ACCURACY OF SAME. (SEE SECTION 108.06 OF THE CUYAHOGA COUNTY ENGINEER'S GENERAL PROVISIONS).

#### CLEARING AND GRUBBING

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE

SIZES	NO. TREES	NO. STUMPS	TOTAL
15"	7	0	7
30"	1	0	1
48"	0	0	0
60"	0	0	0

CLEARING OF ANY TREES THAT HAVE SUITABLE SUMMER BROAD REARING OR ROOSTING HABITAT FOR THE FEDERALLY ENDANGERED INDIANA BAT (E.G. TREES WITH EXFOLIATING BARK AND/OR CAVAITIES), SHALL OCCUR BEFORE APRIL 15 OR AFTER SEPTEMBER 15 WHEN THE BATS WOULD NOT BE USING SUCH HABITATS.

#### PROGRESS SCHEDULE (CRITICAL PATH METHOD)

THE PRE-CONSTRUCTION MEETING WILL BE HELD NO LATER THAN THIRTY (30) CALENDAR DAYS AFTER THE CONTRACT IS SIGNED BY THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT THEIR PROPOSED CPM SCHEDULE FOR REVIEW BY THE CONSTRUCTION ENGINEER NO LATER THAN TWO (2) WEEKS AFTER THE CONTRACT IS SIGNED BY THE CONTRACTOR, REFERENCE SECTION 108.02 THE SPECIFICATIONS. WRITTEN COMMENTS REGARDING THE CPM SCHEDULE WILL BE PROVIDED TO THE CONTRACTOR BY THE CONSTRUCTION ENGINEER AND FORMALLY DISCUSSED AT THE

A FINAL AGREED UPON CPM SCHEDULE SHALL BE SUBMITTED TO THE CONSTRUCTION ENGINEER WITHIN TEN (10) CALENDAR DAYS FROM THE DATE OF THE PRE-CONSTRUCTION MEETING BUT NO MORE THAN SEVEN (7) CALENDAR DAYS AFTER THE NOTICE TO PROCEED (THE DATE DESIGNATED AS THE STARTING DATE IN THE CPM SCHEDULE). THE SCHEDULE WILL BE SIGNED AND DATED BY THE PRIME CONTRACTOR AND NAMED SUBCONTRACTORS.

#### ADJUSTMENTS IN CONTRACT TIME

TIME EXTENSIONS WILL ONLY BE CONSIDERED WHEN CONTROLLING ITEMS OF WORK ON THE APPROVED PROGRESS SCHEDULE ARE AFFECTED DUE TO NO FAULT OF THE CONTRACTOR.

WHEN ADDITIONAL WORK IS REQUIRED, TIME EXTENSIONS WILL ONLY BE GRANTED FOR CONTROLLING ITEMS ON THE PROGRESS SCHEDULE.

#### PROJECT PROGRESS MEETINGS

PROGRESS MEETINGS WILL BE HELD EVERY FOUR (4) WEEKS AT THE PROJECT OFFICE OR OTHER LOCATION DESIGNATED BY THE AREA CONSTRUCTION ENGINEER, AND WILL BE ATTENDED BY COUNTY AND CONTRACTOR DECISION-MAKING PERSONNEL

THE PURPOSE OF THESE MEETINGS IS TO DISCUSS CRITICAL OPERATIONS AND POTENTIAL PROBLEMS. ALSO THE CONTRACTOR WILL CONFIRM THE NUMBER AND DURATION OF WORK SHIFTS, NUMBER OF WORK CREWS, AND SPECIFIC PORTIONS OF THE WORK TO BE PERFORMED DURING THE FOLLOWING WEEKS.

THESE MEETINGS CAN ONLY BE WAIVED BY THE AREA CONSTRUCTION ENGINEER.

#### **DEFINITIONS AND TERMS**

WHEREVER THERE APPEARS, IN THE STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS OR PROPOSAL NOTES, THE TERM "THE STATE", "DIRECTOR OF TRANSPORTATION", "DEPARTMENT", "ENGINEER", OR ANY OTHER TERMS DESIGNATING ANY REPRESENTATIVE OR EMPLOYEE OF THE STATE OR ITS DEPARTMENT OF TRANSPORTATION, SUCH TERM SHALL, FOR THE PURPOSE OF THIS CONTRACT, BE CONSIDERED AND TAKEN AS MEANING AND DESIGNATING THE RESPECTIVE BOARD DFFICER DR EMPLOYEE OF CUYAHOGA COUNTY WHOSE DUTY OR FUNCTION IT IS TO DEAL WITH THE SUBJECT MATTER IN CONNECTION WITH WHICH SUCH TERM IS USED AND SPECIFICALLY:

THE STATE SHALL MEAN CUYAHOGA COUNTY

SHALL MEAN THE CUYAHOGA COUNTY ENGINEER'S OFFICE DEPARTMENT

DIRECTOR SHALL MEAN THE CUYAHOGA COUNTY ENGINEER, HIS DEPUTIES

OR ANY ENGINEER DESIGNATED AS THE COUNTY ENGINEER'S

ENGINEER SHALL MEAN THE DULY AUTHORIZED AGENT OR REPRESENTATIVE OF THE CUYAHOGA COUNTY ENGINEER'S OFFICE ACTING WITHIN THE SCOPE OF HIS/HER AUTHORITY FOR THE PURPOSES OF CONSTRUCTION

ENGINEERING AND ADMINISTRATION OF THE CONTRACT.

SHALL MEAN ANY LABORATORY DESIGNATED BY THE COUNTY LABORATORY

#### **GENERAL PROVISIONS**

ALL REFERENCES TO THE GENERAL PROVISIONS (SECTION 100) OF THE OHIO DEPARTMENT OF TRANSPORTATION'S CONSTRUCTION AND MATERIAL SPECIFICATIONS (ODOT CMS) THAT ARE CITED IN THE ITEMIZED SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, PROPOSAL NOTES, PLANS OR ELSEWHERE IN THE CONTRACT DOCUMENTS SHALL, FOR THE PURPOSE OF THIS CONTRACT BE CONSIDERED AND TAKEN AS MEANING THE CUYAHOGA COUNTY ENGINEER'S GENERAL PROVISIONS AS CONTAINED IN THE "CUYAHOGA COUNTY ENGINEER'S SPECIFICATION BOOKLET". THE SUBSECTION NUMBERS AND TOPICS USED IN THE CDUNTY'S GENERAL PROVISIONS CORRESPOND TO THOSE CONTAINED IN THE ODOT CMS.

#### TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207	CONSTRUCTION SEEDING AND MULCHING	230 SQ YE
ITEM 207	SLOPE DRAINS	50 FT
ITEM 207	PERIMETER FILTER FABRIC FENCE	600 FT
ITEM 659	REPAIR SEEDING AND MULCHING	<u>58 SQ YD</u>
ITEM 659	INTER-SEEDING	<u>58 SQ YD</u>

#### CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO EXISTING CONCRETE, CONTRACTION JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE SO AS TO FORM CONTINUOUS JOINTS WITH THOSE IN THE EXISTING

THE MAXIMUM DISTANCE BETWEEN THE JOINTS IN THE NEW CONCRETE SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2. IF NECESSARY, ADDITIONAL JOINTS SHALL BE PROVIDED IN THE NEW CONCRETE AT APPROXIMATELY EQUAL INTERVALS BETWEEN EXISTING JOINTS THAT EXCEED THE MAXIMUM

#### PART-WDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES, LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

# ITEM 407-TACK COAT, AND ITEM 407-TACK COAT FOR INTERMEDIATE COURSE

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY. THE QUANTITIES INDICATE AN AVERAGE APPLICATION RATE

ITFM 407 TACK COAT

0.10 GALLON PER SQ. YD. TACK COAT FOR INTERMEDIATE COURSE ITEM 407 0.05 GALLON PER SQ. YD

#### ITEM 448. PG 64-22. AS PER PLAN

THE PERFORMANCE GRADE ASPHALT BINDER(S) SHALL MEET THE REQUIREMENTS OF ODOT SUPPLEMENTAL

THE COARSE AGGREGATE FOR ANY ASPHALT CONCRETE COURSE SHALL BE CRUSHED CARBONATE STONE OR CRUSHED AIR-COOLED SLAG



40

R0/ 28

SKET C.R.

2

NO

GENERAL

NO

GENERAL

ALL MATERIALS SHALL MEET THE GRADATION REQUIREMENTS OF 703.17 EXCEPT THE NO. 200 SIEVE, HEREBY MODIFIED TO D-10 TOTAL PERCENT PASSING.

AGCREGATE BASE MATERIAL MAY BE SPREAD UPON THE SUBGRADE ONLY AFTER THE PRESCRIBED SUBGRADE AND SUBBASE DRAINAGE HAS BEEN PLACED, EXCEPT THAT FOR PORTLAND CEMENT CONCRETE PAVEMENTS, UNDERDRAINS NEED NOT BE PLACED PRIOR TO PLACING AGGREGATE BASE MATERIAL, PROVIDED ADEQUATE SURFACE DRAINAGE FOR THE SUBGRADE IS MAINTAINED DURING CONSTRUCTION 203.04 (A).

REFERENCE IS ALSO MADE TO THE "SUBGRADE PLACEMENT" REQUIREMENTS OF THE "ITEM SPECIAL-GEOTEXTILE FABRIC" PLAN NOTE.

#### ITEM SPECIAL-GEOTEXTILE FABRIC

THIS WORK SHALL CONSIST OF FURNISHING AND PLACING A NONWOVEN OR A MONOFILAMENT WOVEN GEOTEXTILE FABRIC BETWEEN THE COMPLETED/ACCEPTED SUBGRADE AND THE AGGREGATE BASE (SUBBASE) FOR USE AS A PERMEABLE SEPARATOR WHICH ALLOWS LONG-TERM PASSAGE OF WATER WHILE RETAINING IN-SITU SOIL WITHOUT CLOGGING: ALL IN ACCORDANCE WITH THESE SPECIFICATIONS. THE APPLICABLE PROVISIONS OF AASHTO M 288, THE MANUFACTURER'S RECOMMENDATIONS AND AT THE DIRECTION OR APPROVAL OF THE ENGINEER.

FIBERS USED IN THE MANUFACTURE OF THE GEOTEXTILES, AND THE THREADS USED IN JOINING GEOTEXTILES BY SEWING, SHALL BE RESISTANT TO CHEMICAL ATTACK, MILDEW, AND ROT: AND SHALL CONSIST OF LONG—CHAIN SYNTHETIC POLYMERS. COMPOSED OF AT LEAST 95 PERCENT BY WEIGHT OF POLYOLEFINS OR POLYESTERS. THEY SHALL BE FORMED INTO A STABLE NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN THEIR DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING SELVAGES, ACCEPTABLE / APPROVED NONWOVEN OR MONOFILAMENT WOVEN GEOTEXTILES USED FOR THIS PURPOSE (SUBGRADE/SUBBASE-SEPARATION/ FILTRATION) SHALL MINIMALLY CONFORM TO THE APPLICABLE PHYSICAL REQUIREMENTS OF AASHTO M 288, "TABLE 1 (CLASS 2)" AND "TABLE 2" FOR "CLASS 2 GEOTEXTILES" AS SHOWN HEREINAFTER.

## TABLE 1. GEOTEXTILE STRENGTH PROPERTY REQUIREMENTS (1)

CLA TEST METHODS	ASS 2 GEOTEX UNITS	<b>(TILE</b> NONWOVEN ELONGATION(2) ≥50%	MONOFILAMENT WOVEN ELONGATION(2) <50%
SEWN SEAM STRENGTH ASTM D 46 TEAR STRENGTH ASTM D 45	532 (LBS.) 532 (LBS.) 533 (LBS.) 833 (LBS.)	160 140 55 55	250 220 55 90

#### PROPERTY NOTES FOR TABLE 1

- ALL NUMERIC VALUES IN TABLE 1 REPRESENT MINIMUM AVERAGE ROLL VALUES (MARV) IN THE WEAKER PRINCIPAL DIRECTION.
- 2. AS MEASURED IN ACCORDANCE WITH ASTM D 4632

# TABLE 2. SUBSURFACE DRAINAGE GEOTEXTILE REQUIREMENTS

	TEST		PER	CENT IN-SITU ASSING NO. 2	
	METHODS	UNITS	<15	15 TO 50	>50
PERMITTIVITY(4) APPARENT OPENING SIZE(3) ULTRAVIOLET STABILITY (RETAINED STRENGTH)	ASTM D 4491 ASTM D 4751 ASTM D 4355	sec—1 mm %		0.2 0.25 FTER 500 I	0.1 0.22(2) HRS EXPOSURE

DECHIDEMENTS

- PROPERTY NOTES FOR TABLE 2.

  1. BASED ON GRAIN SIZE ANALYSIS OF IN—SITU SOIL IN ACCORDANCE WITH AASHTO T 88.
- 2. FOR COHESIVE SOILS WITH A PLASTICITY INDEX GREATER THAN 7, GEOTEXTILE MAXIMUM AVERAGE ROLL VALUE FOR APPARENT OPENING SIZE IS 0.30 mm.
- 3. MAXIMUM AVERAGE ROLL VALUE.
- 4. MAXIMUM AVERAGE ROLL VALUE (MARV) IN THE WEAKER PRINCIPAL DIRECTION.

CERTIFICATION SHALL BE FURNISHED IN ACCORDANCE WITH 101.03(B) OF THE SPECIFICATIONS AND PER AASHTO M 288. THE ENGINEER MAY REQUIRE SAMPLING FOR TESTING PURPOSES AS DIRECTED BY THE LABORATORY AND PER THE APPLICABLE PORTIONS OF AASHTO M 288.

#### CONSTRUCTION REQUIREMENTS

GEOTEXTILE PACKAGING AND STORING. THE GEOTEXTILE ROLLS SHALL BE FURNISHED WITH SUITABLE WRAPPING FOR PROTECTION AGAINST MOISTURE, EXTENDED ULTRAVIOLET EXPOSURE, CONTAMINANTS AND DAMAGE DUE TO SHIPPING. EACH ROLL SHALL BE LABELED OR TAGGED TO PROVIDE PRODUCT IDENTIFICATION SUFFICIENT FOR FIELD INVENTORY AND QUALITY CONTROL PURPOSES. ROLLS SHALL BE STORED IN A MANNER WHICH PROTECTS THEM FROM THE ELEMENTS. IF STORED OUTDOORS. THEY SHALL BE ELEVATED AND PROTECTED WITH A WATERPROOF COVER.

GEOTEXTILE EXPOSURE FOLLOWING PLACEMENT. EXPOSURE OF GEOTEXTILES TO THE ELEMENTS BETWEEN LAYDOWN AND COVER SHALL BE KEPT TO A MINIMUM. GEOTEXTILES SHALL BE PLACED AND COVERED AS QUICKLY AS POSSIBLE. IN ANY CASE, EXPOSURE SHALL NOT EXCEED SEVEN (7) DAYS.

#### CONSTRUCTION REQUIREMENTS, CONT'D

SEWN SEAMS, BOTH FACTORY AND FIELD SEWN SEAMS SHALL CONFORM TO THE STRENGTH REQUIREMENTS OF THE "MATERIALS" SECTION SPECIFIED HEREIN. ALL SEAMS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. THREADS USED FOR SEWING SHALL CONSIST OF HIGH STRENGTH POLYPROPYLENE OR POLYESTER. NYLON THREAD SHALL NOT BE USED. THE THREAD SHALL BE OF CONTRASTING COLOR TO THAT OF THE GEOTEXTILE ITSELF. FOR SEAMS WHICH ARE SEWN IN THE FIELD, THE CONTRACTOR SHALL PROVIDE AT LEAST SIX (6) FOOT LENGTH OF SEWN SEAM FOR SAMPLING BY THE ENGINEER BEFORE THE GEOTEXTILE IS INSTALLED. SEAMS WHICH ARE SEWN IN THE FACTORY, THE ENGINEER SHALL OBTAIN SAMPLES OF THE FACTORY SEAMS AT RANDOM FROM ANY ROLL OF GEOTEXTILE WHICH IS USED ON THE PROJECT. FOR SEAMS THAT ARE FIELD SEWN, THE SEAMS SEWN FOR SAMPLING SHALL BE SEWN USING THE SAME EQUIPMENT AND PROCEDURES AS WILL BE USED FOR THE PRODUCTION SEAMS. IF SEAMS ARE SEWN IN BOTH THE MACHINE AND CROSS MACHINE DIRECTION, SAMPLES OF SEAMS FROM BOTH DIRECTIONS SHALL BE PROVIDED. THE SEAM ASSEMBLY DESCRIPTION SHALL BE SUBMITTED BY THE CONTRACTOR ALONG WITH THE SAMPLE OF THE SEAM. THE DESCRIPTION SHALL INCLUDE THE SEAM TYPE, STITCH TYPE, SEWING THREAD AND STITCH DENSITY.

SITE PREPARATION. THE INSTALLATION SITE SHALL BE PREPARED IN ACCORDANCE WITH ITEM 204 -SUBGRADE COMPACTION. REMOVE ALL SHARP OBJECTS AND LARGE STONES FROM THE SUBGRADE.

INSTALLATION. THE GEOTEXTILE SHALL BE UNROLLED AND LAID AS SMOOTHLY AS POSSIBLE ON THE PREPARED AND ACCEPTED SUBGRADE IN THE DIRECTION OF CONSTRUCTION TRAFFIC. WRINKLES OR FOLDS SHALL BE AVOIDED. ADJACENT GEOTEXTILE ROLLS SHALL BE OVERLAPPED TWO (2) FEET IN THE DIRECTION OF SUBBASE PLACEMENT. THE GEOTEXTILE MAY BE HELD IN PLACE PRIOR TO SUBBASE PLACEMENT BY PINS, STAPLES, OR PILES OF SUITABLE SUBBASE MATERIAL. ON CURVES, THE GEOTEXTILE MAY BE FOLDED OR CUT TO CONFORM TO THE CURVES. THE FOLD OR OVERLAP SHALL BE IN THE DIRECTION OF CONSTRUCTION AND HELD IN PLACE AS PRESCRIBED ABOVE.

DAMAGE REPAIR. PRIOR TO COVERING, THE GEOTEXTILES SHALL BE INSPECTED BY A CERTIFIED INSPECTOR OF THE ENGINEER TO ENSURE THAT THE GEOTEXTILE HAS NOT BEEN DAMAGED (i.e., HOLES, TEARS, RIPS) DURING THE INSTALLATION. DAMAGED GEOTEXTILES, AS IDENTIFIED BY THE ENGINEER, SHALL BE REPAIRED IMMEDIATELY. COVER THE DAMAGED AREA WITH A GEOTEXTILE PATCH, WHICH EXTENDS TWO (2) FEET BEYOND THE DAMAGED AREA.

SUBBASE PLACEMENT. THE SUBBASE SHALL BE PLACED BY END DUMPING ONTO THE GEOTEXTILE FROM THE EDGE OF THE GEOTEXTILE, OR OVER PREVIOUSLY PLACED SUBBASE AGGREGATE. CONSTRUCTION VEHICLES SHALL NOT BE ALLOWED DIRECTLY ON THE GEOTEXTILE. USING A MOTOR GRADER OR BULLDOZER, SPREAD THE SUBBASE MATERIAL FROM THE BACK-DUMPED PILE. MAINTAIN A MINIMUM LIFT THICKNESS OF SIX (6) INCHES BETWEEN THE GEOTEXTILE AND EQUIPMENT TIRES OR TRACKS AT ALL TIMES. ANY SUDDEN STOPS, STARTS OR TURNS ON THE SUBBASE MATERIAL BY CONSTRUCTION EQUIPMENT SHALL BE AVOIDED. IF VIBRATORY COMPACTORS ARE USED, REASONABLE COMPACTION AND RUT STABILITY MUST FIRST BE ESTABLISHED BY THE SUBBASE SPREADING EQUIPMENT. ANY RUTS OCCURRING DURING CONSTRUCTION SHALL BE FILLED WITH ADDITIONAL SUBBASE MATERIAL, AND COMPACTED TO THE SPECIFIED DENSITY. IF PLACEMENT OF BACKFILL MATERIAL CAUSES DAMAGE TO THE GEOTEXTILE, THE DAMAGED AREA SHALL BE REPAIRED IMMEDIATELY. CLEAR THE DAMAGED AREA, PLUS AN ADDITIONAL THREE (3) FEET AROUND THE DAMAGED AREA OF ALL FILL MATERIAL. COVER THE DAMAGED AREA WITH A GEOTEXTILE PATCH AS PREVIOUSLY DESCRIBED IN THE "DAMAGE REPAIR" SECTION HEREIN. REPLACE THE REMOVED SUBBASE MATERIAL, COMPACTING TO THE SPECIFIED DENSITY. ALL SUBSEQUENT SUBBASE PLACEMENT PROCEDURES SHALL BE MODIFIED, AS REQUIRED, TO ELIMINATE FURTHER DAMAGE FROM TAKING PLACE (i.e., INCREASE INITIAL LIFT THICKNESS, DECREASE EQUIPMENT LOADS, ETC.).

METHOD OF MEASUREMENT
THE GEOTEXTILE SHALL BE MEASURED BY THE NUMBER OF SQUARE YARDS COMPUTED FROM THE PAYMENT LINES SHOWN ON THE PLANS OR FROM PAYMENT LINES ESTABLISHED IN WRITING BY THE ENGINEER. THIS EXCLUDES SEAM OVERLAPS.

EARTHWORK AND SUBBASE ITEMS ARE MEASURED AND PAID SEPARATELY.

#### BASIS OF PAYMENT

THE ACCEPTED QUANTITIES OF GEOTEXTILE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD IN PLACE FOR ITEM SPECIAL - GEOTEXTILE FABRIC.

#### LOCATION OF GUARDRAIL

THE LOCATION OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, IS SUBJECT TO ADJUSTMENT BY THE ENGINEER TO ASSURE THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

#### ITEM 606-GUARDRAIL POST, 9 FOOT

WHERE SLOPE CONDITIONS REQUIRE THE USE OF LONGER POSTS TO PROVIDE THE PROPER EMBEDMENT AND GUARDRAIL HEIGHT, 9 FOOT LONG POSTS SHALL BE SUBSTITUTED FOR THE STANDARD POSTS, AT THE LOCATIONS SPECIFIED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

NINE (9) FOOT GUARDRAIL POSTS SHALL BE INSTALLED WITH A MINIMUM EMBEDMENT DEPTH OF 6'-5".

PAYMENT FOR ITEM 606, GUARDRAIL POST, 9 FOOT SHALL INCLUDE ALL EXCESS COSTS OVER AND ABOVE THE PRICE BID FOR ITEM 606, GUARDRAIL, TYPE 5, FOR UTILIZING 9 FOOT POSTS, IN PLACE OF NORMAL LENGTH 6 FOOT POSTS.

#### ITEM 608 4-1/2" CONCRETE WALK, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 608, THE FOLLOWING SHALL APPLY:

THE "CLASS C" CONCRETE USED FOR SIDEWALK (608) SHALL CONFORM TO THE "MODIFICATIONS TO ITEM 499 CONCRETE-GENERAL" AS CONTAINED IN THE "SECTION 400 PROPOSAL NOTES" OF THE "CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET".

ALL CONCRETE WALK SHALL BE A MINIMUM OF 4-1/2" THICK AND HAVE A 2" COMPACTED SCREENINGS BED WHICH MEETS THE REQUIREMENTS OF 703.10 EXCEPT THAT THE MINIMUM TOTAL PERCENT PASSING THE NO. 100 SIEVE SHALL BE FIVE (5) PERCENT. WHERE THE WALK CROSSES A FLEXIBLE DRIVEWAY, THE THICKNESS SHALL BE INCREASED AS PER THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWNG BP-4.1C. THE COST FOR FURNISHING AND PLACING THE 2" COMPACTED SCREENINGS BED AND FOR THE THICKENING AT FLEXIBLE DRIVES SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 608 4-1/2" CONCRETE WALK, AS PER PLAN.

#### ITEM 608 4-1/2" CONCRETE WALK, AS PER PLAN, CONT'D

IN ADDITION TO THE LOCATIONS SPECIFIED UNDER 608.03(c), TRANSVERSE EXPANSION JOINTS SHALL BE CONSTRUCTED AT INTERVALS OF NOT MORE THAN 25 TO 30 FEET UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE EXPANSION JOINT FILLER (705.03) SHALL BE PLACED AT THE TRANSVERSE EXPANSION JOINTS FOR THE FULL DEPTH/WIDTH OF THE CONCRETE WALK AND SHALL BE TRULY

UNLESS OTHERWISE REQUIRED BY MUNICIPAL STANDARDS/ORDINANCES, THE FINAL SURFACE SHALL BE TEXTURED BY USE OF AN ACCEPTED BROOM SO AS TO PRODUCE A UNIFORM, GRITTY, TRANSVERSE TEXTURE.

FINAL FINISH SHALL BE IN ACCORDANCE WITH THE APPLICABLE MUNICIPAL STANDARDS/ORDINANCES.

THE COST OF THE MATERIAL AND LABOR ASSOCIATED WITH THE ABOVE WORK IS INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 608 - 4-1/2" CONCRETE WALK, AS PER PLAN.

#### ITEM 451-REINFORCED CONCRETE PAVEMENT, AS PER PLAN

WHEN THE ABOVE ITEM IS CALLED FOR ON THE PLANS OR IN THE PROPOSAL. ALL APPLICABLE PROVISIONS OF ITEM 451, AS SET FORTH IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, SHALL APPLY EXCEPT AS MODIFIED HEREIN.

THE "CLASS C" CONCRETE SHALL CONFORM TO THE "MODIFICATIONS TO ITEM 499 CONCRETE-GENERAL" AS CONTAINED IN THE "SECTION 400 PROPOSAL NOTES" OF THE "CUYAHOGA COUNTY ENGINEER SPECIFICATIONS BOOKLET".

CURING MATERIAL SHALL BE 705.07 (TYPE 2) APPLIED AT THE RATE SPCIFIED IN 305.02 THE REINFORCING MESH FABRIC SHALL BE 6"X12" (WB.5 X W4), CONFORMING TO 709.10 AND BP-1.1. 451.08-JOINTS

- (A) LONGITUDINAL BUTT (CONSTRUCTION) JOINTS SHALL BE TIED AS FOLLOWS: 1) FOR FORMED CONSTRUCTION, SECURELY FASTEN HOOK BOLTS (OR WIGGLE ALTERNATES) WITH COUPLINGS TO THE FORM AT THE LONGITUDINAL CONSTRUCTION JOINT AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-2.1
  - (2) FOR SLIP FORMED CONSTRUCTION, THE METHODS DETAILED/DESCRIBED ON BP-2.1 (TYPE D JOINT) SHALL BE USED. EXPANSION BOLT JOINT CONSTRUCTION PER 451.08 (A) AND BP-2.1 IS ALSO PERMISSIBLE.
- (B) IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT THE DOWEL BASKET ASSEMBLIES ARE STABLE AND HELD FIRMLY IN PLACE.
- CONTRACTION JOINT, UNLESS OTHERWISE SHOWN ON THE PLANS, CONTRACTION JOINTS SHALL BE TYPICALLY SPACED AT 20'-O" CENTERS. MINOR ADJUSTMENTS IN JOINT SPACING MAY BE REQUIRED TO MEET DRAINAGE STRUCTURE BLOCKOUTS, OTHER SIMILAR PAVEMENT BLOCKOUTS, INTERSECTION JOINT SPACING, ETC. HOWEVER, IN NO CASE SHALL THE SPACING EXCEED 21'-0" OR TYPICALLY BE LESS THAN 15'-0" (10'-0" MINIMUM). CONTRACTION JOINT WIDTHS SHALL BE 5/16 INCH±1/16 INCH.

451.09—FINISHING.
THE SURFACE SHALL BE CONTINUALLY CHECKED FOR TRUENESS WITH LONG-HANDLES TEN (10) FOOT STRAIGHTEDGES TO ENSURE A SMOOTH RIDING SURFACE. THE STRAIGHTEDGE SHALL BE OPERATED PARALLEL TO THE CENTERLINE AND SHALL BE MOVED FORWARD NO MORE THAN ONE-HALF ITS LENGTH AFTER EACH PASS. IRREGULARITIES SHALL BE CORRECTED BY USING THE STRAIGHTEDGE WITH A SCRAPING MOTION TO REMOVE BUMPS AND EXCESS MORTAR FROM THE SURFACE WHILE THE CONCRETE AT THIS TIME (WHILE THE CONCRETE IS PLASTIC), THE CONTRACTOR WILL BE REQUIRED TO SUBSEQUENTLY CORRECT ALL REMAINING SURFACE VARIATIONS FOUND TO BE OUT OF TOLERANCE PER 451.12, 451.13 AND 451.14, AS DIRECTED BY THE ENGINEER.

THE FINAL SURFACE TEXTURE SHALL BE IN ACCORDANCE WITH 305.02.

451.101-PROTECTION AGAINST RAIN.
IN ORDER THAT THE CONCRETE MAY BE PROPERLY PROTECTED AGAINST THE EFFECTS OF RAIN BEFORE THE CONCRETE IS SUFFICIENTLY HARDENED, THE CONCRETE SURFACE. SUCH PROTECTIVE MATERIALS SHALL CONSIST OF STANDARD COVERING MATERIAL SUCH AS BURLAP OR COTTON MATS, CURING PAPER OR PLASTIC SHEETING FOT THE PROTECTION OF THE PAVEMENT SURFACE. WHEN RAIN APPEARS IMMINENT, ALL PAVING OPERATIONS SHALL STOP, AND ALL AVAILABLE PERSONNEL SHALL BEGIN COVERING THE SURFACE OR UNHARDENED CONCRETE WITH THE PROTECTIVE COVERING.

451.15—SEALING JOINTS.
TRANSVERSE CONTRACTIONS AND CONSTRUCTION JOINTS SHALL BE SEALED WITH 705.04 JOINT SEALER AS SPECIFIED IN 305.02. LONGITUDINAL JOINTS SHALL BE SEALED WITH 705.04 JOINT SEALER AS SPECIFIED IN 451.15.

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IN ADDITION TO THE LOCATIONS SPECIFIED UNDER 608.03(c), TRANSVERSE EXPANSION JOINTS SHALL BE CONSTRUCTED AT INTERVALS OF NOT MORE THAN 25 to 30 FEET UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE EXPANSION JOINT FILLER (705.03) SHALL BE PLACED AT THE TRANSVERSE EXPANSION JOINTS FOR THE FULL DEPTH/WDTH OF THE CONCRETE WALK AND SHALL BE TRULY NORMAL TO GRADE.

UNLESS OTHERWISE REQUIRED BY MUNICIPAL STANDARDS/ORDINANCES, THE FINAL SURFACE SHALL BE TEXTURED BY USE OF AN ACCEPTED BROOM SO AS TO PRODUCE A UNIFORM, GRITTY, TRANSVERSE TEXTURE.

FINAL FINISH SHALL BE IN ACCORDANCE WITH THE APPLICABLE MUNICIPAL STANDARDS/ORDINANCES.

THE COST OF THE MATERIAL AND LABOR ASSOCIATED WITH THE ABOVE WORK IS INCLUDED IN THE CONTRACT UNIT PRICE BID FOR ITEM 608-6" CONCRETE WALK, AS PER PLAN,

#### RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

EXISTING ROOF DRAINS, FOOTER DRAINS OR YARD DRAINS DISTURBED BY THE WORK SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING A CONDUIT INTO A STORM SEWER OR DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEW CONDUIT REQUIRED TO REPLACE OR EXTEND THE EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 706.08 (EXTRA STRENGTH), 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.44, 707.45, 707.46, 707.47, 707.51, OR 707.52 (PS 45 MIN.).

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

ITEM 603- 6" CONDUIT, TYPE B FOR DRAINAGE CONNECTION 50 LIN. FT.

#### **EXISTING TEST TEES**

STORM, TREATED SEPTIC AND/OR SANITARY SEWER CONNECTION TEST TEES ENCOUNTERED WITHIN THE CONSTRUCTION LIMITS SHALL BE ADJUSTED TO GRADE, RECONSTRUCTED TO GRADE, ABANDONED WITH NEW TEST TEES INSTALLED AT ALTERNATE LOCATIONS, OR SIMPLY REPLACED, AS REQUIRED AND DIRECTED BY THE ENGINEER; ALL IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF ITEM 604 AND THE DETAILS ON THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING MD-6C. WHEN IT BECOMES NECESSARY TO PLACE OR REPLACE TEST TEES WITHIN PAVED AREAS SUCH AS DRIVEWAYS, SIDEWALKS, ETC. (RELOCATE OUTSIDE PAVED AREAS WHERE POSSIBLE), THEY SHALL BE SET TO FINISHED PAVED SURFACE GRADE AS DETAILED ON THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING MD-6C AND/OR AS OTHERWISE SPECIFIED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 604-DRAINAGE STRUCTURE, MISC.:
TEST TEE ADJUSTED TO GRADE

GRADE <u>2 EACH</u>

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

#### **REVIEW OF DRAINAGE FACILITIES**

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE COUNTY, REPRESENTATIVES OF THE COUNTY AND THE CONTRACTOR, ALONG MTH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE COUNTY.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE COUNTY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE—MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

#### CROSSING AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PORPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY POSITION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

#### ITEM SPECIAL-MISCELLANEOUS METAL

THE ENGINEER SHALL INSPECT THE EXISTING CASTINGS ON ALL STRUCTURES WITHIN THE WORK LIMITS, EXCEPTING CASTINGS ON STRUCTURES OWNED BY PRIVATE COMPANIES AND CASTINGS ON STRUCTURES TO BE REMOVED AND/OR REPLACED. THOSE CASTINGS THAT THE ENGINEER DETERMINES ARE UNSUITABLE SHALL BE REPLACED. TO PROVIDE FOR THIS CONTINGENCY, AN ESTIMATED QUANTITY OF ITEM SPECIAL—MISCELLANEOUS METAL HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE CASTINGS OF THE REQUIRED TYPE SIZE AND STRENGTH (HEAVY DUTY) FOR THE PARTICULAR STRUCTURE IN QUESTION. ALL CASTING MATERIALS SHALL CONFORM TO ITEM 604 OR ITEM 638, IF APPLICABLE, AND HAVE PRIOR APPROVAL OF THE ENGINEER. THIS ITEM SHALL INCLUDE THE COST OF FURNISHING THE NEW CASTINGS AND FOR INSTALLATION/REPLACEMENT COVERS ONLY. ALL WORK REQUIRED FOR INSTALLING TO GRADE TOTALLY NEW CASTINGS (FRAMES AND COVERS) SHALL BE PAID UNDER THE APPROPRIATE PAY ITEMS PROVIDED IN THE "STRUCTURES ADJUSTED TO GRADE OR REPLACED" PLAN NOTE.

WHERE IT IS NECESSARY TO REPLACE UNSUITABLE STORM SEWER MANHOLE CASTINGS (FRAMES AND COVERS), THEY SHALL BE REPLACED USING CUYAHOGA COUNTY ND. 9 FRAMES AND NO. 28 COVERS AS DETAILED ON THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING MH-10C.

WHERE THE ENGINEER DETERMINES CATCH BASIN GRATES ENCOUNTERED WITHIN THE WORK ARE NON-BICYCLE/PEDESTRIAN SAFE, THEY SHALL BE REMOVED AND REPLACED WITH THE APPROPRIATE BICYCLE/PEDESTRIAN SAFE GRATES AS AVAILABLE AND RECOMMENDED BY THE VARIOUS CASTING MANUFACTURERS AND APPROVED BY THE FAMOLINEED.

REGARDLESS OF THEIR CONDITION, ALL EXISTING CUYAHOGA COUNTY 3C CATCH BASIN FRAMES AND GRATES SHALL BE EXAMINED BY THE ENGINEER TO DETERMINE THAT THEY ARE OF THE TYPE SPECIFIED ON THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING CB—3C (FOUR—SIDED BEARING FRAME AND BICYCLE/PEDESTRIAN SAFE GRATE). ANY THAT ARE NOT SHALL BE REPLACED AND PAID FOR UNDER THIS ITEM.

WHERE ENCOUNTERED/DISTURBED DURING CATCH BASIN RECONSTRUCTION, EXISTING CAST IRON TRAPS SHALL BE TYPICALLY REUSED. IF, IN THE OPINION OF THE ENGINEER, THE EXISTING TRAP IS UNSUITABLE FOR REUSE, THE CONTRACTOR SHALL REPLACE IT. SEE THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING CB-3C S/T FOR APPROPRIATE CAST IRON TRAP TO BE USED ON CUYAHOGA COUNTY NO. 3C CATCH BASINS.

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE IN THE REMOVAL, CLEANING, STORAGE AND RESETTING OF ALL EXISTING CASTINGS. CASTINGS DAMAGED BY THE NEGLIGENCE OF THE CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED WITH THE PROPER NEW CASTINGS AT THE CONTRACTOR'S EXPENSE.

EXCEPT WHERE/IF SPECIFICALLY REQUIRED AND SO SPECIFIED ELSEWHERE IN THE PLANS, THE CONTRACTOR SHALL NOT ORDER ANY OF THE ABOVE CASTINGS UNTIL DIRECTED BY THE ENGINEER, AND IN THE EVENT NO REPLACEMENT CASTINGS ARE REQUIRED, THE ITEM SHALL BE NONPERFORMED.

ALL COST ASSOCIATED WITH FURNISHING ACCEPTABLE NEW CASTING MATERIALS SHALL BE INCLUDED UNDER THIS ITEM. IN ADDITION, THE COST FOR SIMPLY INSTALLING NEW GRATES ONLY SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. ALL COST ASSOCIATED WITH SETTING NEW CASTINGS (FRAMES AND COVERS/GRATES) TO GRADE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT STRUCTURE (604) "ADJUSTED TO GRADE, AS PER PLAN".

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM SPECIAL-MISCELLANEOUS METAL

2500 POUNDS

#### EXISTING JUNCTION BASINS

THE EXISTING JUNCTION BASINS BELOW THE BRIDGE PROVIDE DRAINAGE TO THE EXISTING ABUTMENTS. THE CONTRACTOR SHALL THOROUGHLY CLEAN THESE STRUCTURES TO PROVIDE POSITIVE DRAINAGE AS DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL THEN PROVIDE MANHOLE COVERS IN PLACE ON THE JUNCTION BASINS.

#### EXISTING JUNCTION BASINS, CONT'D

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER:

ITEM 604-DRAINAGE STRUCTURE, MISC.: JUNCTION BASIN CLEANOUT ITEM 604-DRAINAGE STRUCTURE, MISC.: JUNCTION BASIN COVER

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

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#### STRUCTURES ADJUSTED TO GRADE, OR REPLACED

ALL ADJUSTMENT, OR REPLACED WORK, EXCEPT FOR THOSE STRUCTURES OWNED BY PRIVATE COMPANIES, SHALL BE PERFORMED BY THE CONTRACTOR. WHERE APPLICABLE, THE TIME BETWEEN RESETTING THE CASTINGS AND RESURFACING SHALL BE KEPT TO AN ABSOLUTE MINIMUM.

CASTINGS SHALL BE ADJUSTED TO GRADE IN ACCORDANCE WITH 604.03(A) OR 638.18, AS APPLICABLE, AND AS SPECIFIED BELOW. NO ADJUSTING RINGS OR CASTINGS ARE PERMITTED.

THE CONTRACTOR SHALL RESET EXISTING VALVE BOXES OR EXISTING CURB SHUT—OFF VALVE BOXES TO ESTABLISHED GRADE BY RAISING OR LOWERING EXISTING CASTINGS OR BY EITHER ADDING, DELETING OR CUTTING THE APPROPRIATE VALVE BOX STEM SECTIONS. IN RAISING OF THE CASTINGS, ND INSERTS WILL BE PERMITTED. ANY VALVE BOXES OR CURB SHUT—OFF VALVE BOXES FOUND TO BE DAMAGED OR UNSUITABLE FOR REUSE SHALL BE REPLACED BY THE CONTRACTOR AND PAID FOR UNDER ITEM SPECIAL—MISCELLANEOUS METAL. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY AS REQUIRED OR AS ORDERED TO COMPLETE THE ITEM.

ADJUST TO GRADE WORK SHALL, WHERE REQUIRED, INCLUDE THE REMOVAL AND REPLACEMENT. IN KIND, OF ANY EXISTING CONCRETE BLOCKOUT CURB AND/OR PAVEMENT. TO FACILITATE REMOVAL, THE BLOCKOUT PAVEMENTS SHALL BE SAWED FULL DEPTH (PER 255.03) ALONG THE LIMITS OF THEIR REMOVAL UNLESS OTHERWISE DESIGNATED/DIRECTED BY THE ENGINEER. PREFORMED EXPANSION JOINT MATERIAL AND DAMAGED PAVEMENT DOWELS OR OTHER SUCH LOAD TRANSFER DEVICES SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH THE BLOCKOUT REMOVALS/REPLACEMENTS SHALL BE CONSIDERED INCIDENTAL TO THE PER EACH BID ITEMS.

ALL EXISTING CASTINGS FOR STRUCTURES TO BE ADJUSTED SHALL BE FIELD CHECKED AT THE TIME OF CONSTRUCTION AND MARKED SUITABLE FOR SALVAGE AND REUSE OR REPLACED AS DIRECTED BY THE ENGINEER. UNLESS OTHERWISE INDICATED ON THE PLAN, REPLACEMENT CASTINGS ARE PAID UNDER ITEM SPECIAL—MISCELLANEOUS METAL.

THE ENGINEER WILL DETERMINE THE ITEM 604 WORK REQUIRED BASED ON THE CUIDELINES STIPULATED BELOW:

1. "ADJUST TO GRADE, AS PER PLAN" SHALL INCLUDE ALL WORK SPECIFIED IN 604.03 (A) AS NECESSARY TO RAISE THE EXISTING/NEW CASTING NO MORE THAN ONE (1) FOOT FROM ITS EXISTING ELEVATION OR TO LOWER THE EXISTING/NEW CASTING NO MORE THAN SIX (6) INCHES FROM ITS EXISTING ELEVATION. IN ADDITION, THIS ITEM WILL INCLUDE ANY SUPPORTING WALL REPAIR WORK NECESSARY, UP TO SIX (6) INCHES BELOW THE TOP OF THE EXISTING SUPPORTING WALL.

PAYMENT SHALL BE MADE UNDER THE APPROPRIATE STRUCTURE (ITEM 604) ADJUSTED TO GRADE, AS PER PLAN.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER.

ITEM 604-MANHOLE ADJUSTED TO GRADE, AS PER PLAN2 EACHITEM 638-VALVE BOX ADJUSTED TO GRADE2 EACHITEM 638-SERVICE BOX ADJUSTED TO GRADE3 EACH

THE ENGINEER MAY DETERMINE THAT CERTAIN STRUCTURES SHALL BE REPLACED RATHER THAN BEING ADJUSTED OR RECONSTRUCTED. HIS DETERMINATION MAY BE BASED ON EITHER OR BOTH OF THESE JUDGMENTS:

- THE CONDITION OF THE STRUCTURE
- 2. THE COMPARATIVE CONTRACT PRICES OF THE ADJUST TO GRADE, RECONSTRUCT TO GRADE AND REPLACEMENT WORK ITEMS.

WHERE TOTAL REPLACEMENT WORK IS DETERMINED TO BE PRUDENT BY THE ENGINEER, THE EXISTING STRUCTURE SHALL BE COMPLETELY REMOVED AND REPLACED IN KIND WITH A NEW STRUCTURE OF THE TYPE SPECIFIED BY THE ENGINEER AND IN ACCORDANCE WITH ITEM 604. NEW MANHOLE CASTINGS SHALL CONFORM TO THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING MH-10C. THE FOLLOWING ESTIMATED QUANTITY IS PROVIDED FOR THIS CONTINGENCY:

ITEM 604-MANHOLE, NO. 1 , AS PER PLAN

2 EACH

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

THE COST OF REPLACING EXISTING CONDUIT CONNECTIONS, IF REQUIRED, SHALL BE PAID FOR BY SIZE AND TYPE SPECIFIED AND/OR DESIGNATED BY THE ENGINEER. AN ESTIMATED QUANTITY OF THE FOLLOWING IS PROVIDED IN THE GENERAL SUMMARY FOR THIS WORK.

ITEM 603-12" CONDUIT, TYPE B, 706.02

16 LIN.FT.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL AUTHORIZED BY THE ENGINEER.

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#### ITEM 605- 4" SHALLOW (UNCLASSIFIED) PIPE UNDERDRAIN WITH FABRIC WRAP, AS PER PLAN

THE FOLLOWING SMOOTH INTERIOR-WALLED PIPE MATERIAL TYPES MAY BE USED FOR FOUR (4) INCH PERFORATED UNDERDRAIN PIPE: 706.06; 706.08; 707.41; AND 707.42, OR 707.45

THE SIZE OF UNDERDRAIN PIPE SHALL NOT BE REDUCED FROM THE SIZE SPECIFIED IN THE PLANS/PROPOSAL,

THE FABRIC WRAP SHALL BE A NON-WOVEN OR MONOFILAMENT WOVEN GEOTEXTILE FABRIC MEETING THE REQUIREMENTS OF AASHTO M 288, TABLE 1 (CLASS 3) AND TABLE 2.

SEE DETAIL ON THE CUYAHOGA COUNTY ENGINEER'S CONSTRUCTION DRAWING MD-1C

#### **WATERWORK**

ALL WATERWORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND DRAWINGS OF THE CITY OF CLEVELAND, DEPARTMENT OF PUBLIC UTILITIES, DIVISION OF WATER (C.W.D.). 1201 LAKESIDE AVENUE, CLEVELAND, OHIO (AND THE DETAILS SHOWN ON SHEETS <u>33-37, 37A-37G, 38</u> THE COST OF ALL LABOR, MAÌERIAL, EQUIPMENT, TOOLS, EXCAVATION, BEDDING AND BACKFILL FOR THE WATER WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR EACH WATER WORK ITEM, THE REPLACEMENT OF PAVEMENT, WALKS, DRIVES, LANDSCAPING, AND ALL OTHER WORK EXCEPTING THE "WATERWORK" ITSELF, SHALL BE AS STIPULATED IN THE CONTRACT SPECIFICATIONS.

ALL PERMITS, FEES AND C.W.D. CHARGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THEIR ASSOCIATED COST SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR THE PERTINENT WATERWORK ITEMS

#### ITEM 619 - FIELD OFFICE, TYPE A. AS PER PLAN

THE FIELD OFFICE SHALL, IN ADDITION TO THE ITEMS LISTED IN ITEM 619, BE FURNISHED WITH A FAX MACHINE AND TWO CELLULAR TELEPHONES. THE FOLLOWING QUANTITY HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR THIS ITEM:

ITEM 619 - FIELD OFFICE, TYPE A, AS PER PLAN

9 MONTHS

#### ITEM 659-SEEDING AND MULCHING, AS PER PLAN

WHEN THE ABOVE ITEM IS CALLED FOR ON THE PLANS OR IN THE PROPOSAL, ALL APPLICABLE PROVISIONS OF ITEM 659, AS SET FORTH IN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, SHALL APPLY UNLESS MODIFIED HEREIN.

 $\underline{659.07}$  SEEDS. UNLESS OTHERWISE DIRECTED/APPROVED BY THE ENGINEER, HIGH QUALITY GERMINATION RATES ARE REQUIRED.

659.09 NATIVE CRASSES AND WILDFLOWERS. UNLESS OTHERWISE DIRECTED/APPROVED BY THE ENGINEER, THE FOLLOWING SEED MIXTURE CLASS(ES) SHALL BE USED: ?????

659.10 SITE PREPARATION. IN ADDITION TO "AREAS IN FROMT OF RESIDENCES, COMMERCIAL PROPERTIES, ETC." REFERRED TO IN 659.10(A), THE SPECIAL PREPARATION SHALL BE EXTENDED TO ENCOMPASS ALL LAWNS AND/OR LAWN-LIKE AREAS AS DETERMINED BY THE ENGINEER

659.11 PLACING TOPSOIL. TOPSOIL SHALL BE PLACED AND SPREAD TO A MINIMUM COMPACTED DEPTH OF TWO (2) INCHES. THE FINISHED TOPSOIL SURFACES SHALL BE SEEDED AND MULCHED WITHIN SEVENTY-TWO (72) HOURS OF THEIR ACCEPTED COMPLETION.

659.12 SEEDING METHODS. UNLESS OTHERWISE DIRECTED OR APPROVED BY THE ENGINEER. HYDRO SEEDING METHOSD SHALL BE USED. AS AN OPTION TO HYDRO SEEDING AND MULCHING, SEED THOROUGHLY MIXED WITH COMPOST THROUGHLY MIXED WITH THE SEED MAY BE PNEUMATICALLY APPLIED PER 659.16.

659.23 PERFORMANCE, THE COUNTY WILL INSPECT ALL SEEDED AREAS NO EARLIER THAN ONE (1) MONTH AND NO LATER THAN EIGHT (8) MONTHS AFTER FINAL/COMPLETED SEEDING; ALL AT THE DISCRETION / DETERMINATION OF THE ENGINEER.

659.24 METHOD OF MEASUREMENT. SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT—OF—WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES CONVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR ITEM 659-SEEDING AND MULCHING, AS PER PLAN ARE BASED ON

659.25 BASIS OF PAYMENT, PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR THE ACTUALLY COMPLETE AND ACCEPTED QUANTITIES OF:

ITEM 659-SEEDING AND MULCHING, AS PER PLAN	SQ YD
ITEM 659-SOIL ANALYSIS TEST	EACH
ITEM 659-TOPSOIL	CU YD
ITEM 659-COMMERCIAL FERTILIZER	TON
ITEM 659-LIME	ACRE
ITEM 659-WATER	M GAI

THE QUANTITY FOR ITEM 659 SEEDING AND MULCHING, AS PER PLAN IS CALCULATED ON THE CROSS-SECTION SHEETS, PLAN SHEETS AND/OR ELSEWHERE ON THE PLANS AND CARRIED TO THE GENERAL SUMMARY

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS IN ACCORDANCE WITH THE SPECIFICATIONS:

ITEM 659 — SOIL ANALYSIS TEST ITEM 659 — TOPSOIL ITEM 659 — COMMERCIAL FERTILIZER ITEM 659 — AGRICULTURAL LIME ITEM 659 — WATER	2 EACH 63 CU, YD, 0.2 TONS 0.5 TONS 6 M GAL.
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#### ITEM 609 - CURB. TYPE 2-B. AS PER PLAN

THE "CLASSIC" CONCRETE SHALL CONFORM TO THE "MODIFICATIONS TO ITEM 499 CONCRETE-GENERAL" AS CONTAINED IN THE "SECTION 400 PROPOSAL NOTES" OF THE "CUYAHOGA COUNTY ENGINEER SPECIFICATION BOOKLET". WHEN THIS ITEM IS CALLED FOR IN THE PLANS OR IN THE PROPOSAL, THE WORK SHALL BE PERFORMED AS DETAILED IN THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWING BP-5.1. FXCFPT THAT THE CURB REVEAL HEIGHT SHALL VARY FROM 6" TO 8" AT THE LOCATIONS PROVIDED IN THE

#### ITEM 606 - ANCHOR ASSEMBLY, TYPE B-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS OR APPROVED FOLIAL

1) THE SRT-350, GUARDRAIL END TERMINAL AS MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE SRT-350 SYSTEM IS CONSIDERED TO BE 37'-6". INCLUSIVE OF THREE 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS444	SLOTTED RAIL TERMINAL POST	7/12/99 REV. 1	8/27/99
SS444N	LAYOUT AND ERECTION DETAILS SRT-350 (12.5, 8 POST)	7/12/99	
SS425M	SLOTTED RAIL TERMINAL SRT-350 POST LAYOUT AND ERECTION DETAILS (12.5, 9 POST)	6/21/97 REV. 1	3/6/98

2) THE FLEAT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW. OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE FLEAT-350 IS CONSIDERED TO BE 37'-6", INCLUSIVE OF THREE 12'-6" LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG. /REV. DATE	ODOT APPROVAL DATE
FLT-M	FLARED ENERGY ABSORBING TERMINAL (FLEAT—350) ASSEMBLY	4/16/98	7/31/98

GRADING SHALL BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING GR-5.2.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B-98 IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19: APPROXIMATELY 36" W X 12" H FOR THE SRT-350 AND 14" W X 20" H FOR THE FLEAT.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606. ANCHOR ASSEMBLY, TYPE B-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

#### ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (T=15"). AS PER PLAN

THIS ITEM SHALL BE CONSTRUCTED AS SPECIFIED IN THE OHIO DEPARTMENT OF TRANSPORTATION C.M.S. AND AS DETAILED ON SHEETS 30-32.

#### EXISTING STAIRS FROM WALK TO GCRTA PARKING LOT

THE STAIRS SHOWN IN THE PLAN WILL BE TEMPORARILY CLOSED DURING CONSTRUCTION. THE CONTRACTOR SHALL POST NOTIFICATION OF THE STAIRS' CLOSING AT THE BASE OF THE STEPS AND ELSEWHERE AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 — MAINTAINING TRAFFIC.

BOTH THE STAIRS AND THE METAL RAILING ADJACENT TO THE WALK ARE TO REMAIN IN PLACE. THE CONTRACTOR SHALL CONSTRUCT FACILITIES ADJACENT TO THE STAIRS AND METAL RAILING CAREFULLY SO AS NOT TO DISTURB OR DAMAGE THE STAIRS OR METAL RAILING. ANY DAMAGE TO THE STAIRS OR METAL RAILING AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE, AS DETERMINED BY THE ENGINEER, SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE, ALL AT THE DIRECTION OF THE ENGINEER.

CARE MUST ALSO BE TAKEN TO NOT INCREASE THE HEIGHT OF THE FIRST STEP TO AN UNREASONABLE AMOUNT AS DETERMINED BY THE ENGINEER.

#### SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST

THE FOLLOWING RAILROADS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

1240 WEST 6TH STREET CLEVELAND, OHIO 44113-1331 TELEPHONE (216) 566-5100

NORFOLK SOUTHERN RAILWAY NORTHERN REGION, DEARBORN DIVISION 17301 MICHIGAN AVENUE DEARBORN, MICHIGAN 48126

#### GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY

WORK IN THE VICINITY OF RAILROADS

REFER TO THE SPECIAL CLAUSES IN THE PROPOSAL FOR SPECIFIC REQUIREMENTS FOR WORK ON THE PROPERTY OF THE GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (RAILROAD) RIGHT OF WAY. THE CONTRACTOR SHALL ALSO REFER TO GCRTA STANDARD SPECIFICATIONS SECTIONS 01450 - SAFETY PROCEDURES, 01501 - MAINTENANCE OF TRAFFIC AND RESUMPTION OF REVENUE SERVICES, AND 01502 - STANDARD RAIL FLAGGING PROCEDURES, WHICH MAY BE OBTAINED FROM GCRTA.

CONSTRUCTION CLEARANCE OF 7 FEET HORIZONTALLY FROM THE CENTER OF TRACKS AND 20 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL, AND 6 FEET FROM THE CENTER OF TRACKS. SHALL BE MAINTAINED AT ALL TIMES.

RAILROAD AERIAL LINES WILL BE DEACTIVATED BY THE RAILROAD WHEN THE TEMPORARY PROTECTIVE STRUCTURE IS TO BE CONSTRUCTED AND SUBSEQUENTLY REMOVED NEAR THE AERIAL LINES. THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THE RAILROAD FOR THE DEACTIVATION OF THESE LINES. THE COST OF THE DEACTIVATION SHALL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

THE CONTRACTOR SHALL COOPERATE AT ALL TIMES WITH THE LOCAL OFFICIALS OF THE RAILROAD COMPANY. HE SHALL USE ALL REASONABLE CARE AND DILIGENCE IN THE WORK IN ORDER TO AVOID ACCIDENTS, DAMAGE OR INTERFERENCE WITH THE TRAINS OR PROPERTY OF THE RAILROAD. THE CONTRACTOR SHALL NOTIFY THE LOCAL DEFICIALS OF THE RAILROAD PRIOR TO STARTING WORK THAT MAY AFFECT THE RAILROAD COMPANY AND FACILITIES.

THE CONTRACTOR SHALL NOT AT ANY TIME PERMIT EQUIPMENT IN HIS USE TO ENTER UPON OR FOUL THE RAILROAD TRACKS EXCEPT WHEN SUCH EQUIPMENT IS PROTECTED BY AUTHORIZED EMPLOYEES OF THE RAILROADS, SEE SPECIAL PROVISIONS FOR ADDITIONAL DETAILS.

THE CONTRACTOR SHALL NOT AT ANY TIME INTERRUPT ANY TRAIN MOVEMENTS. THE CONTRACTOR'S CRANES AND EQUIPMENT WILL BE REQUIRED TO MAINTAIN THE CONSTRUCTION CLEARANCES AND ALL OF THE TRACKS WILL REMAIN IN SERVICE EXCEPT WHEN THE LINES ARE

NO SCAFFOLDING, PLANKS OR OTHER EQUIPMENT SHALL BE SUSPENDED OR ERECTED ABOVE OR WITHIN 7 FEET HORIZONTALLY AND 16 FEET VERTICALLY OF A RAIL OVER WHICH TRAINS ARE OPERATING WITHOUT PRIOR WRITTEN APPROVAL OF THE CHIEF ENGINEER OF THE RAILROAD OR HIS ALITHORIZED REPRESENTATIVE

FAILURE TO NOTIFY THE RAILROAD AS NOTED ABOVE SHALL BE CAUSE FOR STOPPING WORK UNTIL ALL PROVISIONS FOR PROTECTING RAILROAD PROPERTY HAVE BEEN PROVIDED.

ALL COSTS IN CONNECTION WITH GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY FLAGGING WILL BE BORNE BY THE CONTRACTOR. ALL COSTS ASSOCIATED WITH THE REPAIR OF DAMAGE TO RAILROAD FACILITIES CAUSED BY THE CONTRACTOR'S OPERATIONS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR WITH PAYMENT MADE BY THE CONTRACTOR TO THE RAILROAD THROUGH THE COUNTY.

THE CONTRACTOR SHALL SUPPLY GCRTA-CERTIFIED FLAGGERS TRAINED IN ACCORDANCE WITH GCRTA SPECIFICATIONS. ALL WORK UNDER THIS CONTRACT MUST BE EXECUTED IN ACCORDANCE WITH GCRTA SAFETY PROCEDURES. MAINTENANCE OF TRAFFIC AND STANDARD RAIL FLAGGING PROCEDURES. THE COST OF SUPPLYING GCRTA-CERTIFIED FLAGGERS AND THE EFFORT IN CONFORMING TO GCRTA SPECIFICATIONS SHALL BE PAID FOR BY ITEM 614 - MAINTAINING TRAFFIC, MISC: FLAGGING SERVICES FOR GCRTA. IT HAS BEEN ESTIMATED THAT 1800 HOURS WILL BE REQUIRED FOR THIS SERVICE.

SEE THE SPECIAL PROVISIONS FOR ADDITIONAL RESTRICTIONS AND SPECIFICATIONS BY GCRTA, INCLUDING SPECIAL CLAUSES, SAFETY PROCEDURES, MAINTENANCE OF RAIL TRAFFIC AND RESUMPTION OF REVENUE SERVICE, AND STANDARD RAIL FLAGGING PROCEDURES.

#### NORFOLK SOUTHERN RAILWAY COMPANY

REFER TO THE SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST FOR REQUIREMENTS REGARDING WORK ON OR ABOVE RAILWAY PROPERTY.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER AND THE RAILWAY DEMOLITION PLANS AND PROCEDURES FOR ALL DEMOLITION WORK ABOVE OR ADJACENT TO THE TRACKS OF THE RAILWAY. THE PLAN AND PROCEDURE SHALL INDICATE THE METHOD OF PROTECTING THE TRACK STRUCTURE, THE SEQUENCE OF DEMOLITION, AND THE PROCEDURES AND EQUIPMENT TO BE USED. NO DEBRIS SHALL BE ALLOWED TO INTENTIONALLY FALL TO RAILWAY PROPERTY.

A TEMPORARY MINIMUM VERTICAL CLEARANCE OF 22'-0" OR EXISTING, WHICHEVER IS LESS. ABOVE THE TOP OF RAIL ELEVATION AND A TEMPORARY MINIMUM HORIZONTAL CLEARANCE OF 9'-0" AS MEASURED FROM THE TRACK CENTERLINE SHALL BE MAINTAINED TO ANY TEMPORARY FORM WORK, FALSE WORK, STOCKPILED MATERIALS, OR OTHER OBSTRUCTION WHICH WILL BE LEFT IN PLACE DURING TRAIN MOVEMENTS THROUGH THE JOB SITE.

DURING REMOVAL OF THE EXISTING STRUCTURE, THE EXISTING HORIZONTAL AND VERTICAL CLEARANCES SHALL NOT BE REDUCED.

UPON COMPLETION OF THE WORK ON RAILROAD PROPERTY, THE CONTRACTOR SHALL REQUEST THE ENGINEER TO ARRANGE A FINAL INSPECTION OF THE PROJECT WITH THE RAILWAY'S DIVISION ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

#### CONSTRUCTION SEQUENCE

THE CONTRACTOR SHALL BE REQUIRED TO FOLLOW THE SEQUENCE OF CONSTRUCTION PRESENTED IN THESE PLANS. THE CONTRACTOR SHALL BEGIN WORK IN PHASE 1, FOLLOWED IN TURN BY PHASE 2.

#### PHASE 1

I) THE CONTRACTOR SHALL CLOSE WESTHOUND TRISKETT ROAD TO ALL TRAFFIC. DETOUR TRAFFIC FROM BEREA ROAD TO LORAIN AVENUE TO WEST 140TH STREET AS DEPICTED ON THE MAINTENANCE OF TRAFFIC DETOUR PLAN. A TRUCK DETOUR AND ADVANCE SIGNAGE SHALL BE PROVIDED AS DEPICTED ON THE MAINTENANCE OF TRAFFIC DETOUR PLAN. EASTBOUND TRISKETT ROAD TRAFFIC SHALL BE MAINTAINED THROUGH THE CONSTRUCTION ZONE UTILIZING AN 11' LANE JUSTIFIED TO THE SOUTHERN CURB OF THE EXISTING STRUCTURE. THE CONTRACTOR SHALL PERFORM THE REQUIRED BRIDGE WORK, REMOVING THE NORTHERN PORTION OF THE EXISTING STRUCTURE SPANNING THE METRO RTA AND THE NORFOLK SOUTHERN RAILROAD. THE NEW NORTHERN PORTION OF THE BRIDGE SHALL BE CONSTRUCTED INCLUDING THE PROPOSED WATER MAIN ALL ROADWAY APPROACH WORK INCLUDING SIDEWALK, FULL DEPTH REPLACEMENT, REPAVING, AND ANY RESTORATION WORK REQUIRED SHALL BE PERFORMED WITHIN THE CONSTRUCTION AREA AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS.

II) UPON THE COMPLETION OF ALL PHASE I WORK THE CONTRACTOR SHALL ERECT ALL PHASE 2 TRAFFIC CONTROL STRUCTURES.

THE MAXIMUM ALLOWABLE CONSTRUCTION DURATION OF PHASE I SHALL BE 90 DAYS

I) THE CONTRACTOR SHALL CLOSE EASTBOUND TRISKETT ROAD TO ALL TRAFFIC. DETOUR TRAFFIC FROM WEST 140TH STREET TO LORAIN AVENUE TO BEREA ROAD AS DEPICTED ON THE MAINTENANCE OF TRAFFIC DETOUR PLAN. A TRUCK DETOUR SHALL BE PROVIDED AS DEPICTED ON THE MAINTENANCE OF TRAFFIC DETOUR PLAN. WESTBOUND TRISKETT ROAD TRAFFIC SHALL BE MAINTAINED THROUGH THE CONSTRUCTION ZONE UTILIZING AN 11' LANE JUSTIFIED TO THE NORTHERN CURB OF THE NEWLY COMPLETED STRUCTURE. THE CONTRACTOR SHALL PERFORM THE REQUIRED BRIDGE WORK, REMOVING THE EXISTING SOUTHERN PORTION OF THE STRUCTURE AND CONSTRUCTING THE NEW SOUTHERN PORTION OF THE STRUCTURE. ALL ROADWAY APPROACH WORK, INCLUDING SIDEWALK, FULL DEPTH REPLACEMENT, REPAVING, AND ANY RESTORATION WORK REQUIRED SHALL BE PERFORMED WITHIN THE CONSTRUCTION AREA AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS.

II) UPON THE COMPLETION OF ALL PHASE 2 WORK THE CONTRACTOR SHALL ERECT THE PERMANENT SIGNAGE, APPLY THE PERMANENT PAVEMENT MARKINGS, AND OPEN TRISKETT ROAD TO ALL TRAFFIC.

THE MAXIMUM ALLOWABLE CONSTRUCTION DURATION OF PHASE II SHALL BE 90 DAYS

#### MODIFICATION OF SIGNAL TIMINGS

THE CONTRACTOR SHALL ADJUST THE TRAFFIC SIGNAL TIMINGS BASED ON TRAFFIC CONDITIONS IN THE FIELD DURING THE APPROPRIATE DETOUR PHASE, AT THE FOLLOWING LOCATIONS:

BEREA ROAD/LORAIN AVENUE

W 140	STREET/LORAIN AVENUE
W 140	STREET/TRISKETT ROAD

BEREA ROAD/TRISKETT ROAD W 117 STREET LORAIN AVENUE W 117 STREET/TRISKETT ROAD

W 117 STRFFT/BFRFA ROAD

ALL TRAFFIC SIGNAL TIMING MODIFICATIONS SHALL BE APPROVED BY THE CUYAHOGA COUNTY ENGINEERS OFFICE AND THE CITY OF CLEVELAND COMMISSIONER OF TRAFFIC ENGINEERING PRIOR TO FIELD IMPLEMENTATION, PAYMENT FOR THIS WORK WILL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

#### NOTIFICATION

THE CONTRACTOR SHALL NOTIFY IN WRITING AND VIA TELEPHONE, THE FOLLOWING AGENCIES AT LEAST ONE WEEK PRIOR TO THE START OF CONSTRUCTION, AND AT LEAST 72 HOURS BEFORE IMPLEMENTING ANY SUBSTANTIAL CHANGE IN TRAFFIC PATTERN OR CLOSING ANY STREET TO

THE CUYAHOGA COUNTY ENGINEER-PUBLIC INFORMATION OFFICE

THE OHIO DEPARTMENT OF TRANSPORTATION-DISTRICT 12-PUBLIC INFORMATION OFFICE

THE GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY

THE CUYAHOGA COUNTY BOARD OF MENTAL RETARDATION

THE UNITED STATES POSTAL SERVICE

THE CLEVELAND BOARD OF EDUCATION

THE CITY OF CLEVELAND COMMISSIONER OF ENGINEERING AND CONSTRUCTION THE CITY OF CLEVELAND COMMISSIONER OF EMERGENCY MEDICAL SERVICES

THE CITY OF CLEVELAND POLICE, TRAFFIC COMMISSIONER, AND FIRE CHIEF

THE CITY OF CLEVELAND SERVICE DEPARTMENTS

THE NORFOLK SOUTHERN RAILROAD

#### CONSTRUCTION TRAFFIC

ALL CONSTRUCTION TRAFFIC SHALL USE ACCEPTABLE TRUCK ROUTES TO ACCESS THE CONSTRUCTION AREA, USE OF LOCAL RESIDENTIAL STREETS IS STRICTLY PROHIBITED UNLESS ALLOWED IN WRITING BY THE LOCAL ENFORCEMENT AUTHORITY.

#### DETOUR SIGNING

ADVANCE TRAFFIC SIGNING AND SUPPORTS, INCLUDING DETOUR SIGNING, CONSTRUCTION WORK ZONE APPROACH SIGNING, BARRICADES AND SIGNS ON BARRICADES SHOWN ON THE PLANS BEYOND THE WORK LIMITS SHALL BE FURNISHED, ERECTED, MAINTAINED, AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR.

#### ITEM 622-PORTABLE CONCRETE BARRIER

IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY, FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

ALL COSTS INVOLVED IN MOVING AND REINSTALLING THE CONCRETE BARRIER WILL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 622-PORTABLE CONCRETE BARRIER, 32".

#### ITEM 614-REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS, AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED BUT GOOD CONDITION SUBJECT TO THE APPROVAL OF THE ENGINEER.

WHEN ADDITIONAL SIGNS ARE FOUND BY THE ENGINEER TO BE NECESSARY FOR THE SAFE MAINTENANCE OF TRAFFIC, ABOVE AND BEYOND THE SIGNING SHOWN IN THE PLANS AND/OR ON THE STANDARD CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN, AND REMOVE THE ADDITIONAL SIGNS UNDER THIS ITEM. AS DIRECTED BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE CONTRACT PRICE PER SQUARE FOOT FOR ITEM 614-REPLACEMENT SIGN, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF DAMAGED SIGNS, HARDWARE AND SUPPORTS, AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 50 SQ FI HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

#### ITEM 614-BARRIER REFLECTORS. AS PER PLAN

BARRIER REFLECTORS (TYPE B2) SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. THE BARRIER REFLECTORS ARE INCLUDED FOR USE AS DIRECTED BY THE ENGINEER, BARRIER REFLECTORS AND THEIR INSTALLATION SHALL CONFORM TO ITEM 626, EXCEPT THAT THE SPACING SHALL BE 25 FEET.

AN ESTIMATED QUANTITY OF THE FOLLOWING HAS BEEN PROVIDED AND CARRIED TO THE GENERAL

ITEM 614 BARRIER REFLECTOR, TYPE B2 65 EACH

#### ITEM 614-LAW ENFORCEMENT OFFICER, AND ITEM 614-LAW ENFORCEMENT OFFICER WITH PATROL CAR

IN ADDITION TO THE REQUIREMENTS OF 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER, OR A UNIFORMED LAW ENFORCEMENT OFFICER AND OFFICIAL PATROL CAR WITH WORKING TOP MOUNTED EMERGENCY FLASHING LIGHTS, SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT, OR WHERE NEW LANE CLOSURES ARE INITIATED.

2). DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE, WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

THE LAW ENFORCEMENT OFFICERS (LEO'S) ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT, ANY PATROL CAR UTILIZED SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE.

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT

LAW ENFORCEMENT OFFICERS REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614-LAW ENFORCEMENT OFFICER AND / OR ITEM 614-LAW ENFORCEMENT OFFICER WITH PATROL CAR, THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 LAW ENFORCEMENT OFFICER

20 HOURS

40 HOURS

ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR

LAW ENFORCEMENT OFFICERS (LEO'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. HOWEVER, IF THE CONTRACTOR WISHES TO UTILIZE LED'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, HE MAY DO SO AT HIS OWN EXPENSE. PAYMENT FOR UTILIZING LEO'S IN THIS MANNER WILL BE INCLUDED UNDER ITEM 614-MAINTAINING TRAFFIC

#### INSTALLATION OF PAVEMENT MARKINGS

ALL WORKZONE PAVEMENT MARKINGS AND SIGNS REQUIRED FOR A PARTICULAR LANE CLOSURE OR TRAFFIC PATTERN SHALL BE INSTALLED ON A SINGLE WORK DAY, AND THE CORRESPONDING TRAFFIC PATTERN, AS DETAILED ON THE PLANS, SHALL BE IMPLEMENTED IMMEDIATELY

#### MAINTENANCE OF TRAFFIC CONTROL ZONES

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN THE SIGNS, DRUMS, AND TEMPORARY PAVEMENT MARKINGS AT THE LOCATIONS DETAILED IN THE PLANS OR SPECIFIED IN THE STANDARD DRAWINGS. WHEN THE CONTRACTOR IS NOTIFIED OF DEFICIENCIES, HE SHALL CORRECT THE DEFICIENCIES AS SOON AS POSSIBLE, PREFERABLY WITHIN 12 HOURS AND NO LATER THAN 24 HOURS, IF ANY NOTED DEFICIENCIES ARE NOT CORRECTED WITHIN 24 HOURS, THE ENGINEER SHALL DEDUCT ONE DAY PAY FOR ITEM 614, MAINTAINING TRAFFIC, NOT AS A LUMP SUM ITEM PENALTY, BUT AS LIQUIDATED DAMAGES. THE CONTRACTOR SHALL BE SUBJECT TO THESE LIQUIDATED DAMAGES FOR EACH AND EVERY DAY THAT THESE PROVISIONS ARE NOT MET, ALL COSTS FOR MAINTAINING THE WORK ZONES AS DESCRIBED ABOVE SHALL BE INCLUDED UNDER ITEM 614, MAINTAINING TRAFFIC.

#### REMOVAL OF PAVEMENT MARKINGS

ALL COSTS ASSOCIATED WITH THE REMOVAL OF EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH THE TEMPORARY MARKINGS AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS SHALL BE INCLUDED IN THE COST OF ITEM 614-MAINTAINING TRAFFIC.

#### SUSPENSION OF WORK

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS, OR WITH PROVISIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

#### REPLACEMENT DRUMS

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENT OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE REPLACEMENT DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614, MAINTAINING TRAFFIC, AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUMS IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

#### CURE WATER

THE CONTRACTOR IS RESPONSIBLE TO CONTROL ANY WATER THAT FLOWS ONTO THE ROADWAY. DURING TIMES WHEN THE WATER MAY FREEZE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE THE ROADWAY DOES NOT BECOME ICY.

#### **NIGHT VESTS**

ALL OF THE CONTRACTORS AND SUBCONTRACTORS PERSONNEL WORKING DURING THE HOURS OF DARKNESS SHALL WEAR A 100% SILVER REFLECTIVE SAFETY VEST. THE SAFETY VEST SHALL BE PROVIDED BY THE CONTRACTOR, THE VEST MAY HAVE SEVERAL LIME OR ORANGE STRIPES ON IT.

#### FLASHING LIGHTS

ALL WORK VEHICLES AND EQUIPMENT THAT ENTER THE WORK ZONE MORE THAN ONCE A DAY MUST BE EQUIPPED WITH AT LEAST ONE FLASHING, ROTATING, OR OSCILLATING AMBER LIGHT THAT IS VISIBLE IN ALL DIRECTIONS OF TRAFFIC FOR AT LEAST ONE QUARTER OF A MILE DAY OR NIGHT.

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#### PROTECTIVE CLOSURE AT BRIDGE

DURING THE CONSTRUCTION OF THE BRIDGE DECK AND THE APPROACH SLABS, TYPE III BARRICADES MUST BE ERECTED AT THE APPROACH ENDS OF THE PCB. DURING NON-WORKING HOURS THE BARRICADES MUST EXTEND TOTALLY ACROSS THE ROADWAY AND BERM SO THAT A VEHICLE CANNOT ENTER THE BRIDGE WORK AREA. THE PURPOSE OF THESE BARRICADES IS TO STOP MOTORISTS FROM DRIVING BEHIND THE PCB AND INTO THE BRIDGE WORK ZONE. THE TYPE III BARRIERS SHALL BE PLACED AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS.

#### TRAFFIC CONTROL MATERIALS

SIGN DIMENSIONS AND SPECIFICATIONS, INCLUDING LETTER SIZES, SHALL BE AS PROVIDED IN THE OMUTCD, OR IN SIGN DESIGN DRAWINGS PROVIDED BY THE DEPARTMENT OF TRANSPORTATION. SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER PRIOR TO THE START OF THE PROJECT. ALL SIGNS SHALL HAVE A REFLECTORIZED BACKGROUND OF REFLECTIVE MATERIALS AS DESCRIBED IN SECTION 730.19 REFLECTIVE SHEETING TYPE G OF THE JANUARY 1, 2002 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS BOOK.

B. SIGN SUPPORTS

TEMPORARY SIGN SUPPORTS SHALL BE AS SHOWN ON OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWING NOS. MT-105.10 AND MT-105.11.

DRUMS SHALL CONFORM WITH PERTINENT SECTIONS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES EXCEPT THAT DRUMS SHALL BE SPACED AT 10 FEET CENTER TO CENTER. ALL COST FOR INSTALLING, MAINTAINING AND SUBSEQUENT REMOVAL OF SAID DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

#### MAINTAINING VEHICULAR TRAFFIC

GENERAL PROVISIONS

- 1. TRAFFIC CONTROL DEVICES SHALL BE SET UP PRIOR TO THE START OF CONSTRUCTION, AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SPECIAL CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS THEY ARE NEEDED AND SHALL BE IMMEDIATELY REMOVED THEREAFTER. WHERE OPERATIONS ARE PERFORMED IN STAGES, THERE SHALL BE IN PLACE ONLY THOSE DEVICES THAT APPLY TO THE CONDITION PRESENT DURING THE STAGE IN PROGRESS. ALL SIGNS WITH MESSAGES WHICH DO NOT APPLY DURING A CERTAIN PERIOD SHALL BE COVERED OR SET ASIDE OUT OF VIEW OF TRAFFIC
- 2. FOR ANY OPERATION NOT SPECIFICALLY MENTIONED IN THESE PLANS, THE TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
- 3. NO STOPPAGE OF TRAFFIC OR ESTABLISHMENT OF PERMANENT LANE SHIFTS SHALL DCCUR WITHOUT LAW ENFORCEMENT PERSONNEL AT EACH LOCATION TO DIRECT TRAFFIC.
- 4. ALL LABOR, MATERIALS, EQUIPMENT AND ANY INCIDENTALS REQUIRED TO COMPLETE THE WORK AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC.

#### **FLOODLIGHTING**

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHT TIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

#### DETOUR DURATION

THE MAXIMUM LENGTH OF TIME FOR THE DETOUR ROUTE TO BE IN EFFECT SHALL BE AS SPECIFIED IN THE SEQUENCE OF CONSTRUCTION, CONSTRUCTION WORK MAY BE PERFORMED BEFORE AND AFTER THE DETOUR LIMITATION DATES, BUT THERE SHALL BE NO RESTRICTIONS (LANE WIDTH REDUCTIONS, TEMPORARY ROADWAYS, OR ONE WAY TRAFFIC) TO THROUGH OR LOCAL TRAFFIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM THE CONSTRUCTION WORK WITHIN THE DETOUR LIMITATION TIME. THE FAILURE OF THE CONTRACTOR TO MEET THE DETOUR LIMITATION DATES WILL CAUSE SEPARATE LIQUIDATED DAMAGES OF \$ 2500 PER CALENDAR DAY OF OVERRUN OF DETOUR LIMITATION TIME TO BE ASSESSED.

#### CONTRACTORS EQUIPMENT-OPERATION AND STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTORS EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM, ALL CONTRACTOR EQUIPMENT INCLUDING PRIVATE VEHICLES SHALL BE STORED AT A DESIGNATED STORAGE AREA, THE LOCATION WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. THE CONTRACTORS EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC DURING FINAL PAYING OPERATION. NO EQUIPMENT OR PRIVATE VEHICLES SHALL BE PARKED ON PRIVATE PROPERTY, UNLESS PRIOR APPROVAL OF THE OWNER AND THE ENGINEER HAS BEEN

#### GENERAL MAINTENANCE OF TRAFFIC NOTES

- 1. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED BY THE CONTRACTOR AND SHALL BE ERECTED AND MAINTAINED IN COMPLIANCE WITH THE STATE OF OHIO "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."
- 2. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN FLASHERS OR STEADY BURN WARNING LIGHTS ON ALL DRUMS AND BARRICADES IN OR WITHIN 10' OF THE RIGHT OF WAY. 3. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES TO SIGNS, SIGN POSTS, SIGN BRACKETS, ETC. STREET NAME SIGNS AND ALL OTHER SIGNS AFFECTED DURING CONSTRUCTION SHALL BE CAREFULLY REMOVED, STORED, AND REINSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE STATE OF OHIO "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", AND THE STATE OF OHIO CONSTRUCTION AND MATERIAL SPECIFICATIONS, LATEST EDITION, IF APPROPRIATE.

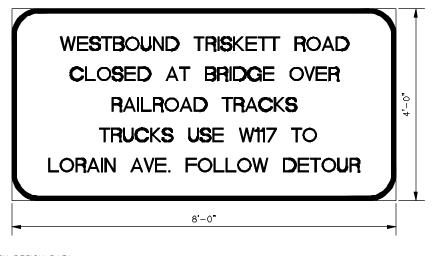
#### MAINTENANCE OF TRAFFIC

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING

- 1. ONLY DURING OFF-PEAK PERIODS (IE. ANY PERIOD OTHER THAN 6-9AM AND 3-6PM) SHALL THE CONTRACTOR INSTALL AND SUBSEQUENTLY RESET ALL TRAFFIC CONTROL NECESSARY FOR MAINTAINING TRAFFIC FACH CONSTRUCTION PHASE.
- CONES SHALL NOT BE ACCEPTABLE TRAFFIC CONTROL DEVICES FOR LANE RESTRICTIONS OR LANE REDUCTIONS THAT ARE IN OPERATION ONE—HALF HOUR AFTER SUNSET OR ONE HALF—HOUR BEFORE SUNRISE. ALL NIGHTIME LANE RESTRICTIONS SHALL REQUIRE DRUMS OR BARRICADES AT A MAXIMUM SPACING OF TWENTY (20) FEET.
- THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE ALL FLAGS, BARRICADES, SIGNS, SIGN SUPPORTS AND FURNISH AND MAINTAIN ALL FLAGGERS, WATCHERS AND INCIDENTALS RELATED THERETO. THE ABOVE ITEMS SHALL BE UTILIZED IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.
- 4. PRIOR TO OPENING TO TRAFFIC, EACH LANE SHALL BE IN A SAFE, PASSABLE CONDITION. ALL TRANSVERSE JOINTS SHALL EXTEND ACROSS THE FULL LANE AND SHOULDER WIDTH AND SHALL BE FREE FROM UNEVEN LONGITUDINAL JOINTS. THE CONTRACTOR SHALL PROVIDE ASPHALT WEDGES FOR TRANSVERSE JOINTS WHEREVER THERE ARE PAVEMENT ELEVATION DIFFERENCES.
- 5. IN ADDITION TO THE REQUIREMENTS OF 614 WORK ZONE PAVEMENT MARKINGS (614.11), AT THE END OF EACH DAY OF WORK, THE CONTRACTOR SHALL REPLACE (WITH TEMPORARY MARKINGS) ALL LANE, EDGE, STOP OR CHANNELIZING LINES THAT WERE REMOVED OR COVERED DURING THE PAVEMENT REMOVAL OR PLACEMENT OPERATIONS. QUANTITIES FOR SUCH REPLACEMENT ARE CARRIED AS PART OF THE PERTINENT ITEMS LISTED UNDER 614 WORKZONE PAVEMENT MARKINGS

#### PHASE I NOTICE OF CLOSURE SIGN

THE FOLLOWING SIGN SHALL BE ERECTED BY THE CONTRACTOR AT THE BEREA ROAD/ W 117 STREET INTERSECTION ON THE SOUTHBOUND AND WESTBOUND APPROACHES. THIS SIGN SHALL BE ERECTED PRIOR TO THE START OF PHASE I CONSTRUCTION ACTIVITIES.



SIGN DESIGN DATA BACKGROUND: L ORANGE EMOD NOTES

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MAINTENANCE

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HORIZONTAL SPACING:

IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ERECT, MAINTAIN AND REMOVE THIS SIGN UPON THE COMPLETION OF PHASE I ACTIVITIES.

#### PHASE II NOTICE OF CLOSURE SIGN

LETTER SIZE

THE FOLLOWING SIGN SHALL BE ERECTED BY THE CONTRACTOR AT THE LORAIN AVENUE/ TRISKET ROAD INTERSECTION ON THE EASTBOUND APPROACH. THIS SIGN SHALL BE ERECTED PRIOR TO THE START OF PHASE II CONSTRUCTION ACTIVITIES.

> EASTBOUND TRISKETT ROAD CLOSED AT BRIDGE OVER RAILROAD TRACKS TRUCKS USE LORAIN AVE. TO W 117 FOLLOW DETOUR

SIGN DESIGN DATA HORIZONTAL SPACING: VERTICAL SPACING: ORANGE EMOD

8'-0"

IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ERECT, MAINTAIN AND REMOVE THIS SIGN UPON

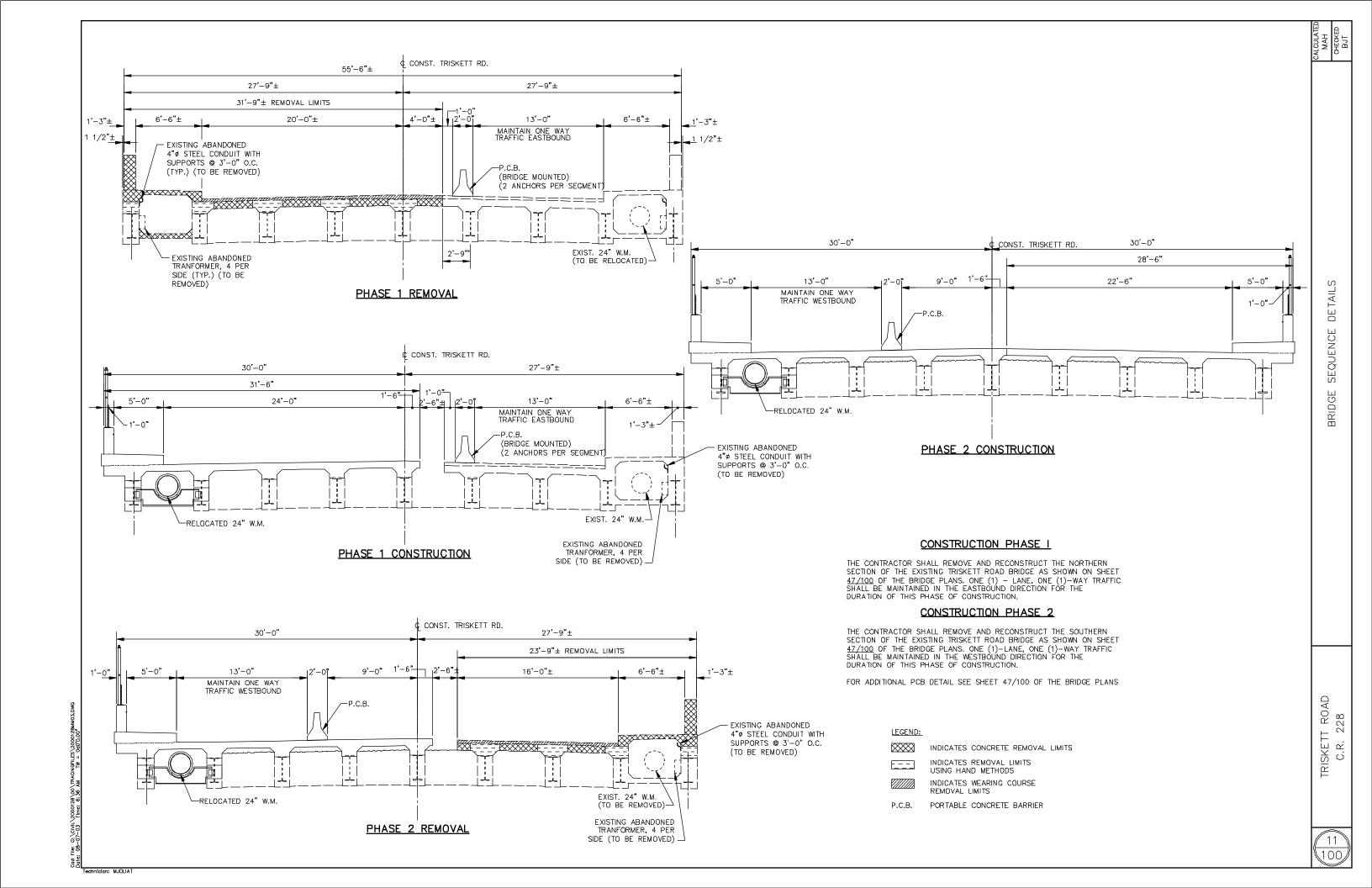
#### PHASED CONSTRUCTION

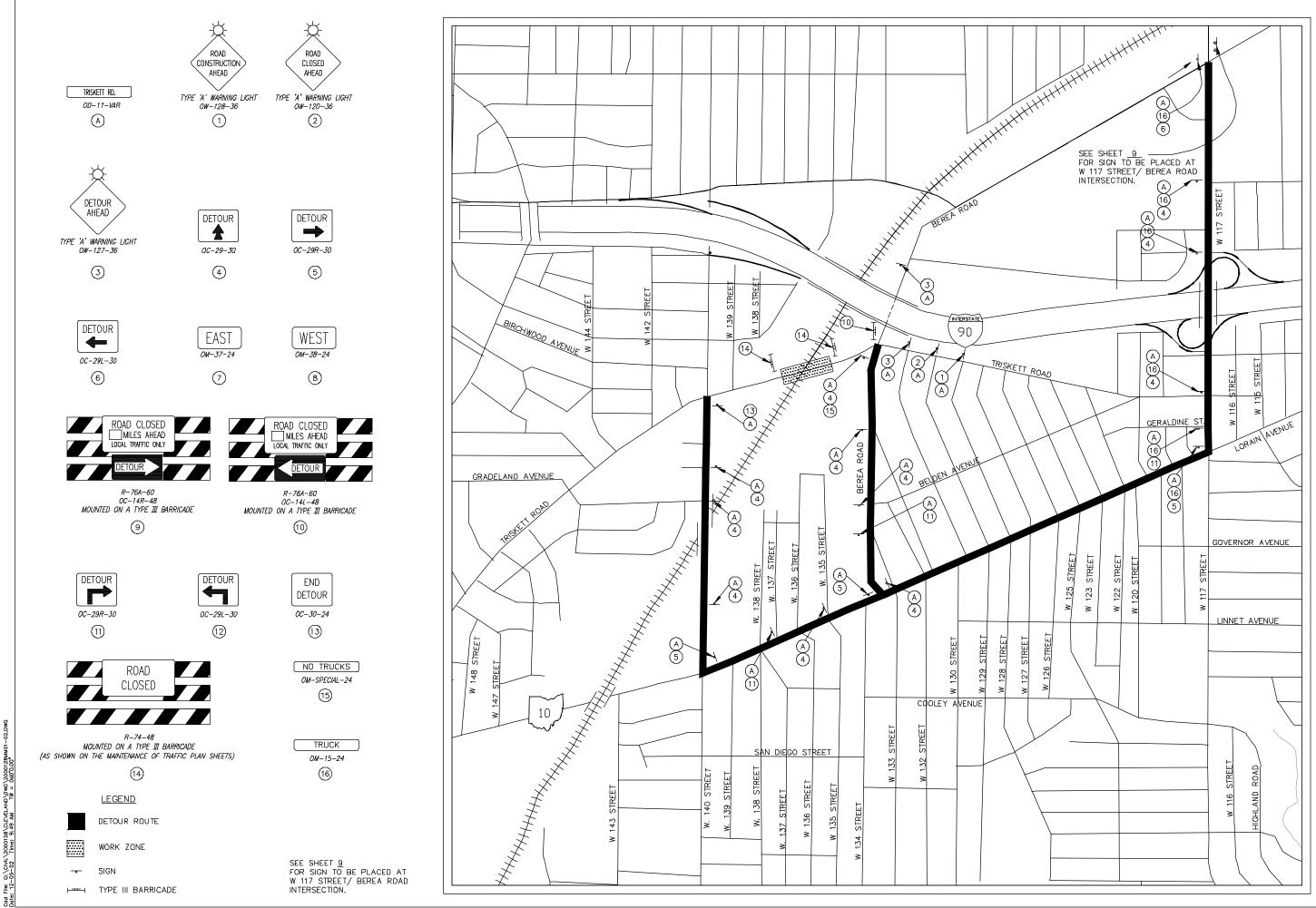
ALL WORK IN A CIVEN PHASE, INCLUDING SUCH ITEMS AS BASE REPAIR, ASPHALT CONCRETE COURSES, ADJUSTMENT OF CASTINGS, SIDEWALKS, DRIVEWAY REPAIRS, GUARDRAIL, AND TRAFFIC SIGNS AND SIGNALS SHALL BE COMPLETED PRIOR TO BEGINNING THE NEXT PHASE, WITH THE EXCEPTION OF THE ITEM 448 SURFACE COURSE, FINAL PAVEMENT MARKINGS, AND ANY SIGNS OR SIGNALS WHICH CONFLICT WITH THE MAINTENANCE OF TRAFFIC PLANS

AT THE END OF THE LAST PHASE (IN ANY CONSTRUCTION SECTION). THE 407 TACK COAT FOR INTERMEDIATE COURSE AND THE 448 SURFACE COURSE SHALL BE INSTALLED ACROSS THE ENTIRE PAVEMENT WIDTH, AND LANDSCAPING, FINAL PAVEMENT MARKINGS, AND THE BALANCE OF THE SIGNS AND SIGNALS SHALL BE INSTALLED, DURING THIS PHASE, TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING MT-95.32 AND MT-97.12, AS APPROPRIATE.

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SHEET NO.	PHASE	LOCATION		TION	SIDE	WORKZONE EDGE LINE (YELLOW), CLASS I, 740.06, TYPE 1	BARRIER REFLECTOR, TYPE B2, AS PER PLAN	PORTABLE CONCRETE BARRIER, 32"	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED							CALCULATED MAH CHECKED BJT
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14	PHASE 1	TRISKETT ROAD	66+85	72+00	RT.	515.00							+	+	+	-
14	PHASE 1	TRISKETT ROAD	68+50	70+90	RT.	010.00		240.00						1		
14	PHASE 1	TRISKETT ROAD	70+90	72+00	RT.				110.00							1
14	PHASE 1	TRISKETT ROAD	68+50	72+00	RT.		14									
14	PHASE 1	TRISKETT ROAD	72+00	76+50	RT.	450.00										
14	PHASE 1	TRISKETT ROAD	72+00	73+20	RT.			705.00	120.00							
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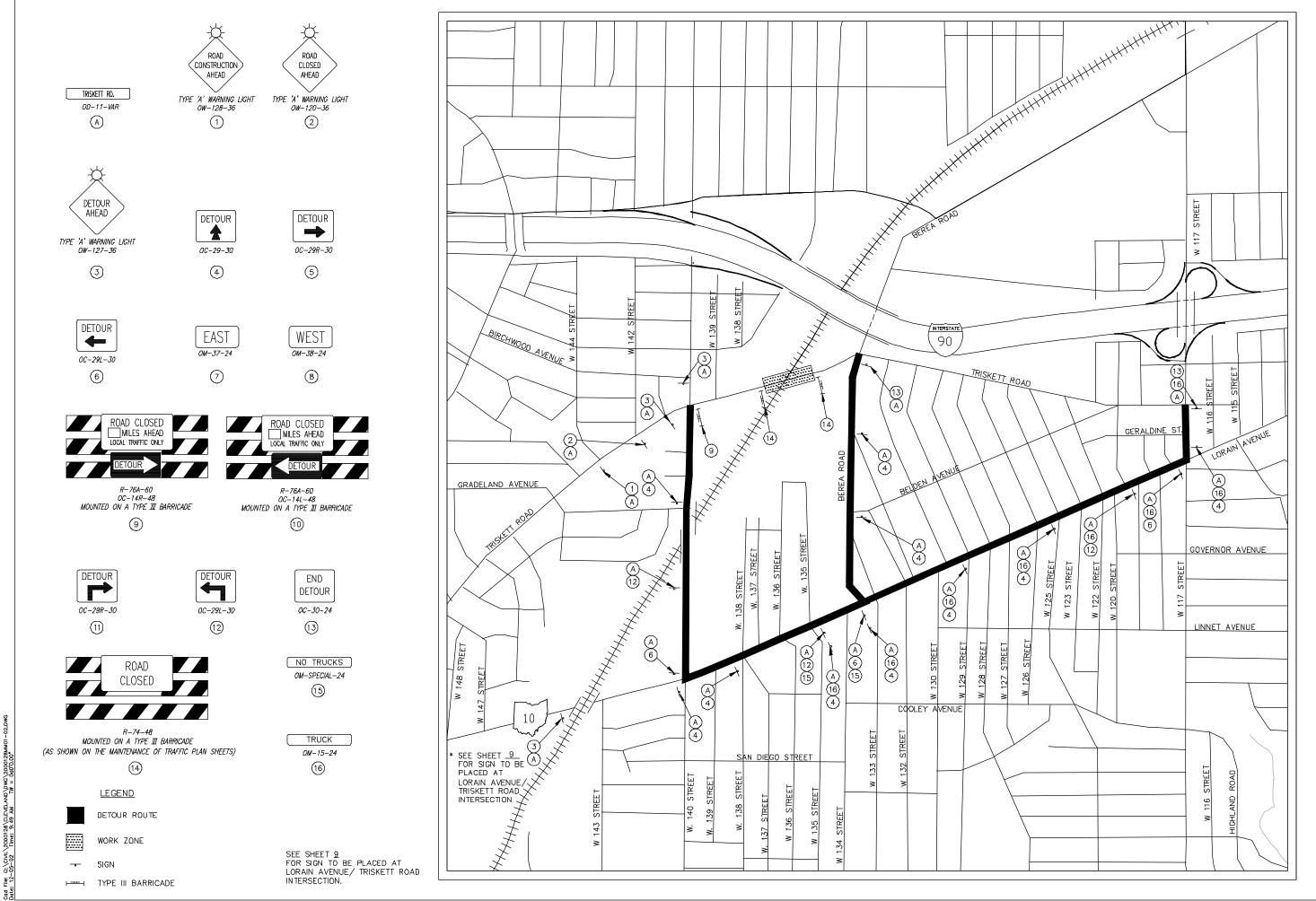




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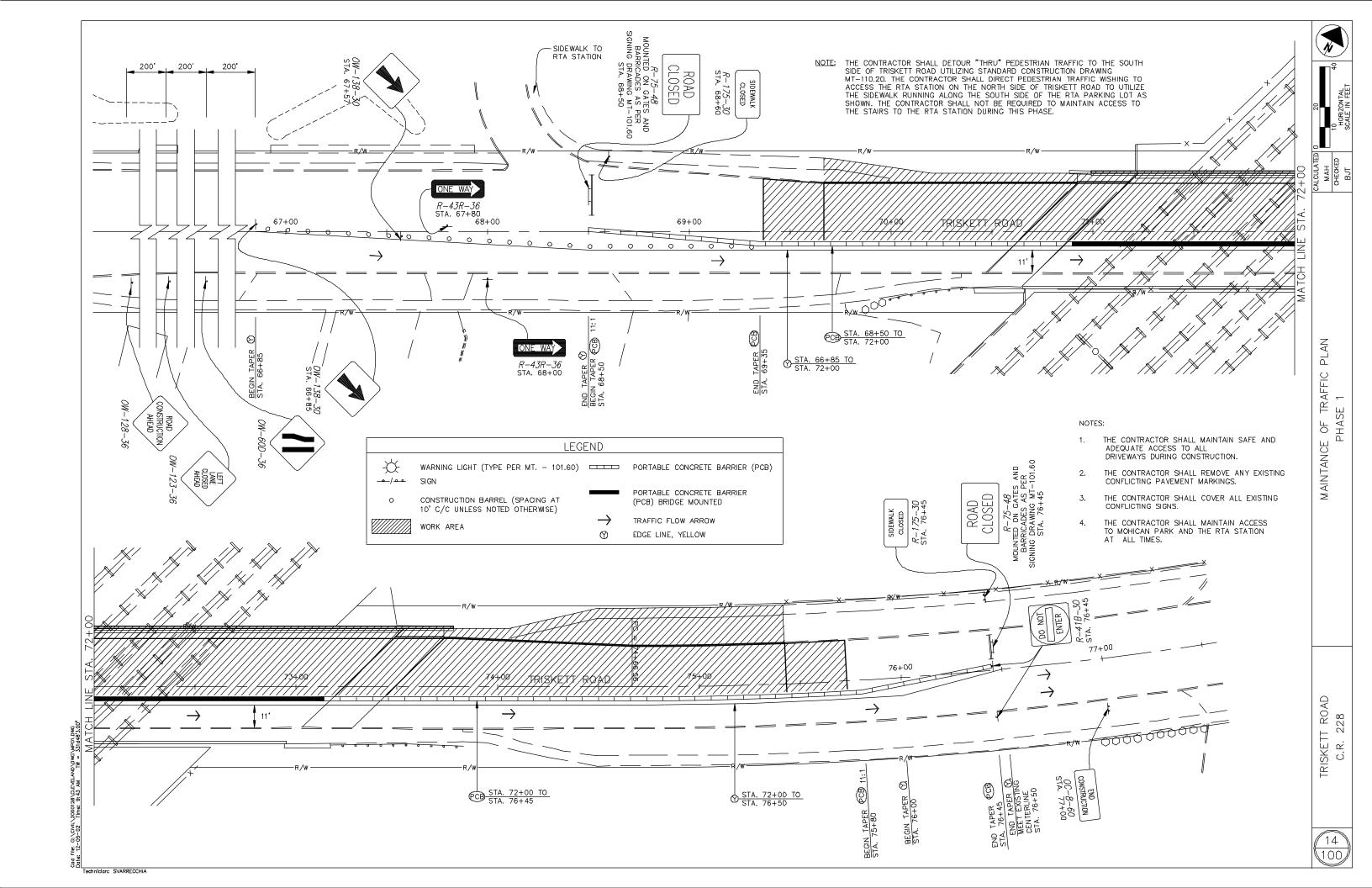
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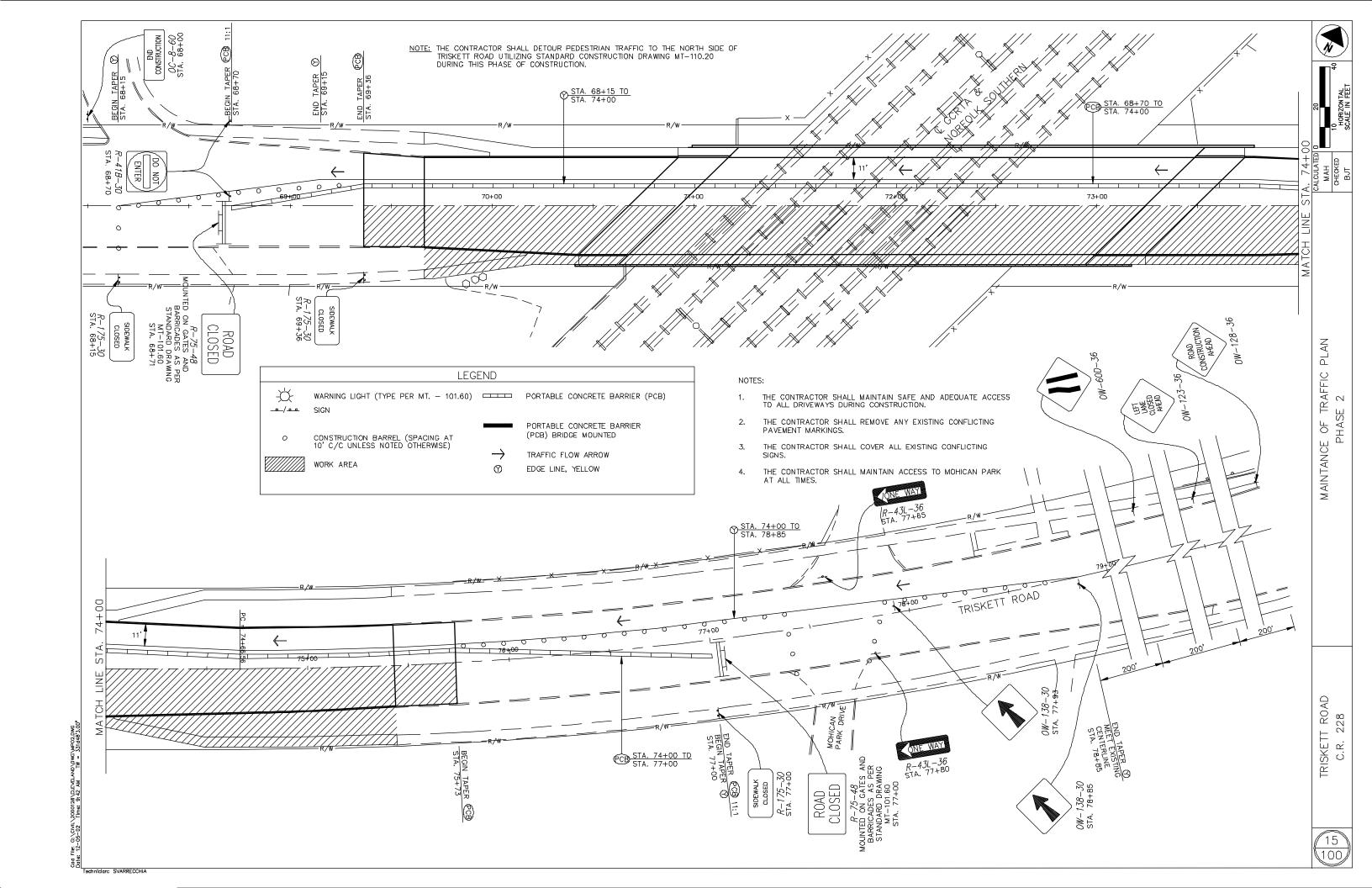
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REF.			SHEET	NUMBER			ITEM	GRAND		AS PER	PLAN S L
NO. ITE	<b>M</b> 4-7	19 21	25			ITEM	EXT.	TOTAL	UNIT	DESCRIPTION OR I SPECIAL SHE	CALCULATE CAECKED CHECKED FT
										ROADWAY	
1 20	1					201	11000	LUMP	_	CLEARING AND CRUBBING	
1 20	<del>'                                     </del>					201	11000	LOWII			
2 202		228				202	22900 23000	228	SQ YD	APPROACH SLAB REMOVED	
3 202 4 202		1370 285				202 202	23500	1370 285	SQ YD SQ YD	PAVEMENT REMOVED WEARING COURSE REMOVED	
5 202	2	4056				202	30000	4056	SQ FT	WALK REMOVED	
6 202 7 202		651 591				202 202	32000 35100	651 591	FT FT	CURB REMOVED PIPE REMOVED, 24" AND UNDER	
8 202		391	147			202	38000	147	FT	GUARDRAIL REMOVED	
9 20:			193			202	75000	193	FT	FENCE REMOVED	
10 203		545				203	10000	545	CU YD	EXCAVATION	
11 203	3	174				203	20000	174	CU YD	EMBANKMENT	
12 204	1	1715				204	10000	1715	SQ YD	SUBGRADE COMPACTION	
13 606	3		162.5			606	13000	162.5	FT	GUARDRAIL, TYPE 5	
14 606			22			606	18500	22	EACH	GUARDRAIL POST, 9 FEET	
15 606 16 606			2			606 606	22000 26500	1	EACH EACH	ANCHOR ASSEMBLY, TYPE B-98 ANCHOR ASSEMBLY, TYPE T	
17 606			3			606	35000	3	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
18 60			193			607	20000	193	FT	FENCE, TYPE CL	AR Y
		3138				608		3138	SQ FT		SUMMAR
19 608 20 608		425				608	11001 13001	425	SQ FT	4-1/2" CONCRETE WALK, AS PER PLAN 6" CONCRETE WALK, AS PER PLAN 6	- S
21 626	3		6			626	00300	6	EACH	BARRIER REFLECTOR, TYPE A2	<b>─</b>
22 626	3		5			626	00400	5	EACH	BARRIER REFLECTOR, TYPE B2	GENERAL
										EROSION CONTROL	SE SE
										ENOSION CONTINUE	
23 659	2					659	00100	2	EACH	SOIL ANALYSIS TEST	
24 659						659	00300	63	CU YD	TOPSOIL	
25 659		1133	17			659	10001	1150	SQ YD	SEEDING AND MULCHING, AS PER PLAN 7	
26 659 27 659						659 659	14000 15000	58 58	SQ YD SQ YD	REPAIR SEEDING AND MULCHING INTER—SEEDING	_
28 659						659	20000	0.2	TON	COMMERCIAL FERTILIZER	
29 659						659	31000	0.5	ACRE	LIME	
30 659	6					659	35000	6	M GAL	WATER	
31 832	!					832	30000	1	EACH	EROSION CONTROL	
										DRAINAGE	
										DIVAINAGE	
32 603	50					603	00900	50	FT	6" CONDUIT, TYPE B FOR DRAINAGE CONNECTION	
33 603	16					603	04400	16	FT	12" CONDUIT, TYPE B, 706.02	
34 604	2					604	30101	2	EACH	MANHOLE, NO. 1, AS PER PLAN 6	
35 604	_		2			604	34501	4	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN  6	
36 604 37 604						604 604	50000 98000	2500 2	POUND EACH	SPECIAL — MISCELLANEOUS METAL 6 DRAINAGE STRUCTURE, MISC.: TEST TEE ADJUSTED TO GRADE 6	
38 604	4					604	98000	4	EACH	DRAINAGE STRUCTURE, MISC.: JUNCTION BASIN CLEANOUT 6	
39 604	4					604	98000	4	EACH	DRAINAGE STRUCTURE, MISC.: JUNCTION BASIN COVER 6	
40 605		633				605	05111	633	FT	4" SHALLOW PIPE UNDERDRAINS WITH FABRIC WRAP, AS PER PLAN 7	
41 605 42 605		60	136		+ +	605 605	05211 11110	60 136	FT FT	4" UNCLASSIFIED PIPE UNDERDRAINS, WITH FABRIC WRAP, AS PER PLAN  6" SHALLOW PIPE UNDERDRAINS, 707.41, WITH FABRIC WRAP	<b>—</b>
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NO.	6 7	19 21	25	36				IIEM	EXT.	TOTAL	UNIT	DESCRIPTION	SPECIAL REF.	CALCU B CHEC
												PAVEMENT		_
43 304		293						304	20001	293	CU YD	AGGREGATE BASE, AS PER PLAN	5	
44 407		170						407	10000	170	GALLON	TACK COAT		
45 407		85						407	14000	85	GALLON	TACK COAT FOR INTERMEDIATE COURSE		
46 448		82						448	46051	82	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22, AS PER PLAN	4	
47 448		59						448	47021	59	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	4	_
48 451			138					451	31000	138	FT	SPECIAL - PRESSURE RELIEF JOINT, TYPE B  * REFER TO CUYAHOGA COUNTY STANDARD CONSTRUCTION DWG. BP-2.4C	*	
49 451		1453						451	13001	1453	SQ YD	8" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	5	
50 526		272						526	25001	272	SQ YD	REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN	7, 32	
51 609 52 609		528 40						609 609	16000 16001	528 40	FT FT	CURB, TYPE 2-B  CURB, TYPE 2-B, AS PER PLAN	7	_
53 609		60						609	26000	60	FT	CURB, TYPE 6		
54 690		1453						690	12010	1453	SQ YD	SPECIAL – GEOTEXTILE FABRIC	5	-
												WATER WORK		_
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55 638	7			1				638	10900	3	EACH	VALVE BOY AD HISTED TO CRADE		SUMMAR
56 638	3			1				638	10800 10900	4	EACH	VALVE BOX ADJUSTED TO GRADE  SERVICE BOX ADJUSTED TO GRADE		Σ
57 638				118				638	20310	118	FT	SPECIAL - 8" WATER MAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS AND RETAINED MECHANICAL  JOINT FITTINGS, ANSI CLASS 53	35	l
58 638				62				638	21746	62	FT	SPECIAL - 24" WATER MAIN DUCTILE IRON PIPE WITH BOLTLESS RESTRAINED JOINTS AND FITTINGS,		, A Z Z Z
59 638			2	212				638	22210	212	FT	ANSI CLASS 53  SPECIAL - 24" WATER MAIN GALVANIZED STEEL PIPE ASTM A53, GRADE B, 0.5" WALL WITH FLEXIBLE	38	GENER,
60 678											ЕТ	GRODVED MECHANICAL JOINTS	35	- E
60 638 61 638				2				638 638	22912 23506	60	FT EACH	SPECIAL - 42" STEEL CASING PIPE  SPECIAL - 8" CUTTING-IN VALVE WITH VALVE BOX, COMPLETE PER STD-005	35 35	
62 638				1				638	24600	1	EACH	SPECIAL - FURNISHING AND SETTING 6" HYDRANT, COMPLETE	35	]
63 638 64 638				1				638 638	98000 98000	1 1	EACH EACH	WATER WORK, MISC.: 24" FLANGED EXPANSION JOINT  WATER WORK, MISC.: 24" GATE VALVE ASSEMBLY WITH VALVE BOX AND VALVE VAULT, COMPLETE	35	
										1		PER SM-STD3	35	
65 638 66 638				_UMP				638 638	98000 98100	LUMP	EACH -	WATER WORK, MISC.: AIR RELIEF VALVE ASSEMBLY PER STD A01 WATER WORK, MISC.: CLEVELAND WATER DEPARTMENT CHARGES	35 36	1
67 638				224				638	98600	224	FT	WATER WORK, MISC.: 8" DUCTILE IRON WATER MAIN AND APPURTENANCES REMOVED, AS PER PLAN	35	1
68 638 69 638				255 252				638 638	98600 98600	255 252	FT FT	WATER WORK, MISC.: 24"-30" CONCRETE WATER MAIN AND APPURTENANCES REMOVED, AS PER PLAN WATER WORK, MISC.: 24" WATER MAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS WITH RESTRAINED	35	-
70 070			,	0.75						0.75		FITTINGS PER CWD STANDARDS, ANSI CLASS 53	35	1
70 638 71 638				235 14				638 638	98600 98600	235	FT FT	WATER WORK, MISC.: INSULATION WITH PROTECTIVE JACKET OVER 24" STEEL WATERLINE  WATER WORK, MISC.: FROSTPROOFING INSULATION PER STD-009	35 35	-
72 638				15				638	98600	15	FT	WATER WORK, MISC.: 24" WATER MAIN FLANGED, 0.5" THICK GALVANIZED STEEL PIPE WITH 150# FLAT		]
												FACED FLANGE CONNECTION	35	
														]
				+			+	+						OAD
														TT R( 228
						$\pm$	<u> </u>						<u> </u>	lia .
														] XX X
														TRISKE C.R.
														`
														1
				$ \mp$		+								-
				$ \mp$			+							17
							+						+	100

REF.					SHEET	NUMBER		17514	ITEM	GRAND		DECODIDEON	AS PER PLAN	AH AH KED
NO.	ITEM	7	8	10		40		ITEM	EXT.	TOTAL	UNIT	DESCRIPTION	AS PER PLAN OR ITEM SPECIAL REF. SHEET	CALCUI M, CHEG
												MAINTENANCE OF TRAFFIC		
77	C14		40					614	11100	40	HOUD	LAW ENFORCEMENT OFFICER WITH PATROL CAR		1
73 74	614 614		40 20					614	11200	40 20	HOUR HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR  LAW ENFORCEMENT OFFICER		-
75	614		50					614	12510	50.00	SQ FT	REPLACEMENT SIGN	8	
76	614	4000		65				614 614	13303 18020	65	EACH	BARRIER REFLECTOR, TYPE B2, AS PER PLAN	8	1
77 78	614 614	1800		0.39				614	22200	1800 0.39	HOUR MILE	MAINTAINING TRAFFIC, MISC.: FLAGGING SERVICES FOR GCRTA WORKZONE EDGE LINE (YELLOW), CLASS I, 740.06, TYPE I		-
	011			0.03										
79	622			1395				622 622	40020 40040	1395 230	FT FT	PORTABLE CONCRETE BARRIER, 32" PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED		1
80	622			230				622	40040	230	FI	PURTABLE CUNCRETE BARRIER, 32, BRIDGE MOUNTED		1
												TDA FFIO. CONTROL		
	0.75					10.07		0.70	0.7400	10.87		TRAFFIC CONTROL		
81 82	630 630	+				40.63 15.00		630 630	03100 80102	40.63 15.00	FT SQ FT	GROUND MOUNTED SUPPORT, NO. 3 POST SIGN, FLAT SHEET, TYPE G		-
83	630					1		630	85001	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN	39	
84	644					0.57		644	00200	0.57	MILE	LANE LINE		-
85	644					0.37		644	00300	0.37	MILE	CENTER LINE		┨ .
86	644					65		644	00400	65	FT	CHANNELIZING LINE		
87 88	644 644					22 220.75		644 644	00500 00700	22 220.75	FT FT	STOP LINE TRANSVERSE LINE (YELLOW)		SUMMARY
89	644					41.13		644	00900	41.13	SQ FT	ISLAND MARKING (YELLOW)		1 \(\frac{1}{2}\)
														] าร
														GENERAL
														]
														J 8
														-
														4
														-
														_
												CTDUCTURES (AVED 90')		4
												STRUCTURES (OVER 20')  FOR QUANTITIES, SEE SHEET 44		1
												Total Communication Communicat		1
														4
														-
														_
														4
														-
														1
														1
														┨
														1
-														┨
														1
														+
														J AD
109	SPECIAL							SPECIAL		LUMP	-	PROJECT DVD RECORDING (SEE PROPOSAL NOTE)	P.N.	TT RO,
110	614							614	11000	LUMP	_	MAINTAINING TRAFFIC		E ~
	014							317	11000	LOWII				TRISKET C.R.
111	619	9						619	16001	9	MONTH	FIELD OFFICE, TYPE A, AS PER PLAN	7	]
112	623	-			+			623	10000	LUMP	_	CONSTRUCTION LAYOUT STAKES		<b>┧</b> ⊨
112	023							020	10000	LOWII	_	SALE INCOMENT STATES		1
113	624							624	10000	LUMP	-	MOBILIZATION		]
														-
														18
														100

#### UNDERDRAINS

					605	605	FOR INFO	RMATION ILY	
SHEET NO.	REFER. NO.	STATION /	LOCATION	SIDE	4" SHALLOW PIPE UNDERDRAINS W/ FABRIC WRAP, AS PER PLAN	4" UNCLASSIFIED PIPE UNDERDRAINS, W/ FABRIC WRAP, AS PER PLAN	6" PLUG	DEPTH	COMMENT
<i></i>		FROM	TO		LIN. FT.	LIN. FT.	EACH	INCHES	
			,						
23		69+66.57	69+81.57	LT		15		MATCH	TIE INTO EXISTING UD
23	U-1	69+81.57	70+92.30	LT	111			22	<u></u>
23		70+92.30	71+10.00	LT	18		1	18	
23		69+36.57	69+51.57	RT		15		MATCH	TIE INTO EXISTING UD
23	U-2	69+51.57	70+43.06	RT	91			22	
23		70+43.06	70+60.00	RT	17		1	18	
23		73+55.00	73+73.30	LT	18		1	18	
23-24	U3	73+73.30	75+28.00	LT	155			22	
24		75+28.00	75+43.00	LT		15		MATCH	TIE INTO EXISTING UD
23		73+05.00	73+24.06	RT	19		1	18	
23-24	U4	73+24.06	75+28.00	RT	204			22	
24		75+28.00	75+43.00	RT		15		MATCH	TIE INTO EXISTING UD
		<u> </u>	<u> </u>	<u> </u>					
			SUE	STOTALS:	633	60			
	то	TALS CARRIED	TO GENERAL SU	JMMARY:	633	60			

## EARTHWORK

	LC	CATIO	ON	203	203	659
SHEET NO.	STATION	то	STATION	EXCAVATION	EMBANKMENT	SEEDING & MULCHING, AS PER PLAN
				CU YD	CU YD	SQ YD
	,,					
26	BEGIN		70+41.28	304	2	107
27	70+67.68		73+48.68	284	62	191
28	73+78.01		75+00.00	374	105	761
29	75+25.00		END	43	5	74
	DEDUCT FO	OR PA	V'T REM.			
21	1370	SY x	0.22	-301	1	
					to the second	
	DEDUCT FO	OR AF	PR SLAB.			
		REM	OVED			
21	228	SY x	0.42	-96		
				1.7		
	DEDUCT F	OR W	ALK REM.			
21	4056	SF x	0.01	-50		
	DEDUCT F	OR CL	JRB REM.			
21	651	LF x	0.02	-13		
	·		TOTALS:	545	174	1133

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# EARTHWORK AND UNDERDRAIN

# UNDERDRAINS

					605	605	FOR INFO	RMATION LY		
SHEET NO.	REFER. NO.	STATION	LOCATION	SIDE	4" SHALLOW PIPE UNDERDRAINS W FABRIC WRAP, AS PER PLAN	4" UNCLASSIFIED PIPE UNDERDRAINS, W FABRIC WRAP, AS PER PLAN		DEPTH	COMMENT	
		FROM	TO		LIN. FT.	LIN. FT.	EACH	INCHES		
23		69+66.57	69+81.57	LT		15		MATCH	TIE INTO EXISTING UD	
23	U1	69+81.57	70+92.30	LT	111			22		
23		70+92.30	71+10.00	LT	18		1	18		
23		69+36.57	69+51.57	RT		15		MATCH	TIE INTO EXISTING UD	
23	U-2	69+51.57	70+43.06	RT	91			22		
23		70+43.06	70+60.00	RT	17		1	18		
23		73+55.00	73+73.30	LT	18		1	18		
23-24	. U-3	73+73.30	75+28.00	LT	155			22		
24		75+28.00	75+43.00	LT		15		MATCH	TIE INTO EXISTING UD	
23		73+05.00	73+24.06	RT	19		1	18	ھوسوملوم مارسوم کے جانب مستوم کی مورسوم کا انتخاب میں میں اور میں میں اور انتخاب میں اور انتخاب میں اور انتخاب مورسوم میں اور انتخاب میں اور انتخاب میں انتخاب میں میں انتخاب میں انتخاب میں انتخاب میں انتخاب میں انتخاب میں	
23-24	U-4	73+24.06	75+28.00	RT	204			22	**************************************	
24		75+28.00	75+43.00	RT		15		MATCH	TIE INTO EXISTING UD	
			SUE	STOTALS:	633	60				
	TO	TALS CARRIED	TO CENERAL SI		633	60				

# EARTHWORK

	LC	CATIC	)N	203	203	659
SHEET NO.	STATION	TO	STATION	EXCAVATION	EMBANKMENT	SEEDING & MULCHING, AS PER PLAN
		<u></u>		CU YD	CU YD	SQ YD
		<u></u>	·			
26	BEGIN		70+41.28	304	2	107
27	70+67.68		73+48.68	284	62	191
28	73+78.01		75+00.00	374	105	761
29	75+25.00		END	43	5	74
	DEDUCT FO	OR PA	V'T REM.			
21	1370	SYx	0.22	-301		
	DEDUCT FO		PR SLAB. OVED			
21	228	SYx	0.42	-96		
	DEDUCT FO	OR W	ALK REM.			
21	4056	SF x	0.01	-50		
	DEDUCT F	OR CL	IRB REM.			
21	651	LF x	0.02	-13		
			TOTALS:	545	174	1133

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	1		T	T	<u> </u>	T	T		ITEM :	202			204	304	ITTE	EM 407	I	TEM 448	ITEM	1 608	526	609	609	609	451	SPECIAL
-			DISTANCE	AVERAGE WIDTH	SURFACE AREA	AREA FOR 6" BASE EXTENSION UNDER CURB (ITEMS 204, 304, & 451)	APPROACH SLAB REMOVED	PEMOVED		CURB REMOVED	WALK REMOVED		SUBGRADE COMPACTION	6" AGGREGATE BASE, AS PER PLAN	TACK COAT	TACK COAT FOR INTERMEDIATE COURSE	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN		WALK, AS	6" CONCRETE WALK, AS PER PLAN		CURB, TYPE 2-B	CURB, TYPE 2- B, AS PER PLAN	CURB, TYPE 6	8" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	GEOTEXTIL FABRIC
TATION 1	TO STA	TION	FEET	FEET	SQ. FT.	SQ. FT.	SQ. YD.	SQ. YD.	SQ. YD.	LIN. FT.	SQ. FT.	LIN. FT.	SQ. YD.	CU. YD.	GAL.	GAL.	CU. YD.	CU. YD.	SQ. FT.	SQ. FT.	SQ. YD.	LIN. FT.	LIN. FT.	LIN. FT.	SQ. YD.	SQ. YD.
			1	1	00.11.	00.11.	OQ. 1D.	Ou. 15.																		
ATHERING			:													1.10		1.57				ļ		30.00	<u> </u>	
39+36.57		66.57 LT		25.13	753.90				83.77	30.00					8.38 6.69	4.19 3.35	2.91	4.07 3.25		-	ļ	<u> </u>		30.00	-	-
9+36.57	69+6	66.57 RT	30.00	20.08	602.40	-	-	1	66.93	30.00		-			6.69	3.35	2.32	3.25		-	<u> </u>			30.00	<b>-</b>	
75+43.00	75+7	73.00 LT	30.00	20.00	600.00	<del> </del>	<del> </del>		66.67			<del> </del>		<del> </del>	6.67	3.33	2.31	3.24		<del> </del>	1	<del> </del>				<b>†</b>
5+43.00		73.00 RT		20.37	611.10	<del> </del>	+	+	67.90			<del> </del>			6.79	3.40	2.36	3.30			<b>1</b>					
31-3.00	1,0.7	3.55	1 30.00					1	1		1	1				1.										
JLL DEPTH	PAVEME	ENT																				L			050.05	250.05
9+66.57	70+6	61.95 LT		24.00	2289.12	47.69							259.65	43.27	25.43	12.72	8.83	12.36			-	95.38	10.00		259.65 34.19	259.65 34.19
70+61.95	70+8	86.57 LT	24.62	12.00	295.44	12.31							34.19	5.70	3.28	1.64	1.14	1.60				14.62	10.00	<u> </u>	34.19	34.19
		07.00	70.70	20.05	1500.00	25.00		1	ļ		-	-	177.29	29.55	17.34	8.67	6.02	8,43		-	-	60.76	10.00	<b>-</b>	177.29	177.29
9+66.57		37.33 RT		22.05 12.00	1560.26 295.44	35.38	<b> </b>		<del> </del>	-	-		32.83	5.47	3.28	1.64	1.14	1.60		<del> </del>		00.10	10.00	1	32.83	32.83
70+37.33	70+0	61.95 RT	24.02	12.00	290.44	-	-	1					52.00	0.47	0.20		<del> </del>			1		-				
73+54.41	73+7	79.03 LT	24.62	12.00	295,44	<del> </del>	+	<del> </del>	+		<u> </u>		32.83	5.47	3.28	1.64	1.14	1.60							32.83	32.83
73+79.03		66.56 LT		22.02	1927.41	43.77				-			219.02	36.50	21.42	10.71	7.44	10.41				77.53	10.00		219.02	219.02
74+66.56		43.00 LT		20.04	1531.86	38.22							174.45	29.08	17.02	8.51	5.91	8.27				76.44			174.45	174.45
																		1.00	ļ			44.60	40.00	<u> </u>	34.19	34.19
73+29.79		54.41 RT		12.00	295.44	12.31							34.19	5.70	3.28	1.64	1.14	1.60		<b>-</b>		14.62 23.60	10.00		64.24	64.24
73+54.41		78.01 RT		24.00	566.40	11.80			<u> </u>				64.24 414.49	10.71 69.08	6.29 40.53	3.15 20.27	2.19 14.07	3.06 19.70			-	164.99	-		414.49	414.49
73+78.01	/5+4	43.00 RT	164.99	22.11	3647.93	82.49		-	<b>-</b>	<u> </u>	-	<del></del>	414.49	09.00	40.00	20.27	14.07	19.70		<del> </del>	<del> </del>	1000	<u> </u>	<b>-</b>		
AVEMENT	DEMOVA	N S	-		<del> </del>		<del></del>	-		<b> </b>	+		<u> </u>								<b>-</b>					
69+66.57		18.82 LT	52.25	22.00	1149.50	<b>+</b>	<b></b>	127.72	-	52.25	<u> </u>	52.25														
70+18.82		67.68 LT		20.00	977.20			108.58		48.86	1	48.86														
70+67.68	70+8	88.25 LT	20.57	10.00	205.70			22.86		20.57		20.57												ļ		
																-	-					<b>_</b>		ļ	-	+
69+66.57		47.32 RT		20.00	1615.00			179.44		80.75		80.75			-		-		1		ļ		<del> </del>			<del>-</del>
70+47.32	70+6	67.68 RT	20.36	10.00	203.60			22.62			ļ			-			<del> </del>			-	<del> </del>	-	<del> </del>	<del> </del>		
70. 40.00	7216	69.15 LT	20.47	10.00	204.70	+	-	22.74	-	<del> </del>		<del> </del>		1		<u> </u>	<del>                                     </del>	<del>                                     </del>	<b> </b>	<del> </del>		<del> </del>	<del> </del>			1
73+48.68 73+69.15		43.00 LT		20.00	3477.00			386.33		173.85	<b>-</b>	173.85											1			
73+09.13	17311	43.00 L1	170.00	20.00	0 11 1.00	<del>-</del>	<u> </u>	- 555.55		110.00	<b>†</b>	+														
73+27.93	73+4	48.68 RT	20.75	10.00	207.50			23.06		20.75		20.75														
73+48.68	75+4	43.00 RT	194.32	20.00	3886,40			431.82		194.32		194.32								-			ļ	<b> </b>		
													<b> </b>		<del>                                     </del>		+		-	-	<del> </del>	<del> </del>	<del> </del>	-		+
PPROACH			- 05.60	40.00	4000.00	05.06						1	136,11	22.69	-					-	136.11	+	<del> </del>	+	+	4
70+67.68		92.68 LT/F		48.00 48.00	1200.00				+	1		+	136.11	22.69	<del> </del>		1		-		136.11	<b> </b>	<del> </del>	1		
73+23.68	/3+4	48.68 LT/F	20.00	40.00	1200.00	∠5.00	-			-	1		150.11			1	1		<del>                                     </del>	<b>†</b>	1					
PPROACH	SLAB RE	-MOVALS		+	1	+	+	1	+	<u> </u>	<del>                                     </del>						1									
70+67.68		92.68 LT/F	T 25.00	40.00	1000.00		113.89	1	<b>†</b>		1															
73+23.68		48.68 LT/F		40.00	1000.00		113.89																ļ			
																-				1		-	<u> </u>		-	-
														ļ		-	1		-		-	<del> </del>	<b> </b>	-		-
					1	1		<b></b>	005.05	05:05	<del>  </del>	501.05	1745 40	205.01	169.68	84.86	58.92	82.49	0	0	272.22	527.94	40.00	60.00	1443.18	1443.18
	1			TOTALS C	ARRIED TO	NEXT SHEET	Г: 227.78	1325.17	285.27	651.35	0	591.35	1715.40	285.91	109.00	04.00	1 00.92	1 02.49				1 021.04	1 .5.55	1 50.00	1	

CALCULATIONS

TRISKETT ROAD C.R. 228

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	CHECKED FF
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										ITEM 2				204	304		EM 407		TEM 448	ITEN	<b>1608</b>	526	609	609	609	451	SPECIAL
				DISTANCE	AVERAGE	SURFACE	AREA FOR 6" BASE EXTENSION UNDER CURB (ITEMS 204, 304, & 451)		PAVEMENT	WEARING COURSE REMOVED	CURB	WALK	PIPE REMOVED , 24" AND UNDER	SUBGRADE	6" AGGREGATE BASE, AS PER PLAN	TACK COAT	TACK COAT FOR INTERMEDIATE COURSE	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22, AS PER PLAN	4 1/2" CONCRETE WALK, AS PER PLAN	6" CONCRETE WALK, AS PER PLAN	15" REINFORCEI CONCRETE APPROACH SLAB, AS PER PLAN		CURB, TYPE 2- B, AS PER PLAN	CURB, TYPE 6	8" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	GEOTEXTILE
STATION				FEET		SQ. FT.	SQ. FT.	SQ. YD.	SQ. YD.	SQ. YD.	LIN. FT.	SQ. FT.	LIN. FT.	SQ. YD.	CU. YD.	GAL.	GAL.	CU. YD.	CU. YD.	SQ. FT.	SQ. FT.	SQ. YD.	LIN. FT.	LIN. FT.	LIN. FT.	SQ. YD.	SQ. YD.
EATHERIN	VG					753.00										838	4.19	201	407						30.00		
69+36.57 69+36.57	69	9+66.57	RT	30.00	20.08	602.40				66.93	30.00					6.69	3.35	2.32	3.25						30.00		
				30 00						AA A7						667	222	24	2 24								
75+43.00 75+43.00	7	5+73.00 5+73.00	RT	30.00	20.00	600.00				67.90						6.79	3.40	2.36	3.30								
FULL DEPT	TH PAVE	EMENT 0461 05		05 2 <u>9</u>	24.00	2289 12	17 AQ							259.65	43.27	25.43	12.72	8.83	12.36				95.38			259.65	259.65
69+66.57 70+61.95	7	0+86.57		24.62	12.00	295.44	12.31							34.19	5.70	3.28	1.64	1.14	1.60				14.62	10.00		34.19	34.19
														47700	20055	1721	Ω Α7	A AA	Q 12				60 76	40 00		177.29	177.29
69+66.57 70+27.33	7	0+37.33 0+61.95	RI	70.76 24.62	22.05 12.00	1560.26 295.44	35.38							177.29 32.83	29.00 5.47	3.28	1.64	1.14	1.60							32.83	32.83
73+54.41		3+79.03		24.62	12.00	295.44								32.83	5.47 36.50	3.28 21.42	1.64	7.14	1.60				77.53	10 00		32.83 219.02	32.83 219.02
73+79.03		4+66.56 5+43.00		87.53 76.44	22.02 20.04	1927.41 1531.86	43.77							219.02 174.45	29.08	17.02	8.51	5.91	8.27				76.44			174.45	174.45
73+29.79	7	3+54.41	RT	24.62	12.00	295.44	12.31							34.19 64.24	5.70	3.28 6.20	1.64	7.14	1.60				14.62 23.60	TU.UU		64.24	34.19
73+54.41 73+78.01		3+/8.U1 5+43.00	RT	23.0U 164.99	24.00 22.11	566.40 3647.93	82.49							414.49	69.08	40.53	20.27	14.07	19.70				164.99			414.49	414.49
PAVEMEN	TREMO	WALS			22 00	1149 50					50 OE		<b>よつ つ</b> ち														
69+66.57 70+18.82		0+10.62 0+67.68		22.20 48.86	20.00	977.20			127.72		52.25 48.86		48.86														
70+67.68		0+88.25	LT	20.57	10.00	205.70			22.86		20.57		20.57														
		^ . AT ^		on 76		1615 00			170 11		QN 75		Q0 75							*							
69+66.57 70+47.32	7	0+47.32	RT	80.75 20.36	10.00	203.60			22.62		00.70	*															
*																											
73+48.68	7	3+69.15		20.47 472 05	10.00 20.00	204.70 3477.00			22.74 386.33		173.85		172.05														
73+69.15		JT4J.UU		173.85	Z.V. VV	J-7/ / . UU			JUU.JJ				1/3.00														
73+27.93	7	3+48.68	RT	20.75	10.00	207.50			23.06		20.75		20.75				*			*							
73+48.68		75+43.00	RT	194.32	20.00	3886.40			431.82		194.32		194.32														
APPROAC	HSLAB	S																									
70+67.68		0+92.68	LT/RT	25.00	48.00	1200.00	25.00							136.11	22.69				*			136.11					
73+23.68	7	73+48.68	LT/RT	25.00	48.00	1200.00	25.00							136.11	22.09							100.11					
APPROAC	HSIAR	REMOVA	LS																								
70+67 68	·	70+92.68	LT/RT	25.00	40.00	1000.00		113.89																			

28	CHECKED	t

CALCULATIONS

									ITEM 2	202		<del></del>	204	304	IIE	M 407		EM 448	IIEN	1 608	526	609	609	609	451	SPECIA
TATION TO	STATION	SIDE	DISTANCE	AVERAGE WIDTH	SURFACE AREA	AREA FOR 6" BASE EXTENSION UNDER CURB (ITEMS 204, 304, & 451)	APPROACH SLAB REMOVED	PAVEMENT REMOVED	WEARING COURSE REMOVED	CURB REMOVED	WALK REMOVED	PIPE REMOVED, 24" AND UNDER	SUBGRADE COMPACTION	6" AGGREGATE BASE, AS PER PLAN	TACK COAT	TACK COAT FOR INTERMEDIATE COURSE	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, AS PER PLAN	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22, AS PER PLAN	WALK, AS	6" CONCRETE WALK, AS PER PLAN		CURB, TYPE 2-B	CURB, TYPE 2- B, AS PER PLAN	CURB, TYPE 6	8" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	GEOTEX
ATION TO	STATION	+-+	FEET	FEET	SQ. FT.	SQ. FT.	SQ. YD.	SQ. YD.	SQ YD	LIN. FT.	SQ FT	LIN. FT.	SQ. YD.	CU. YD.	GAL.	GAL.	CU. YD.	CU. YD.	SQ. FT.	SQ. FT.	SQ. YD.	LIN. FT.	LIN. FT.	LIN. FT.	SQ. YD.	SQ. Y
WALK					J G. , , , .	- July 11.	OQ. ID.	OQ. ID.	OQ. ID.		<u> </u>															
+66.57	69+71.57	LT	5.00	5.40	27.00														27.00							
+71.57	70+00.71	LT	29.14	5.00						4.									145.70							
+00.71	70+18.40	LT	17.69	5.75															101.72							
+18.40	70+92.30		73.90	4.50							71. T								332.55							
+92.30	71+20.24	,LT	27.94	4.25	118.74															118.74						
+36.57	69+72.70	RT	36.13	4.75			<del></del>												171.62							
+72.70	69+76.23		3.53	4.80															16.94		ļ	<b></b>				+
+76.23	69+99.91		23.68	5.00			*****									ļ			118.40			<u> </u>			ļ	-
+99.91	70+41.28		41.37	5.75															237.88	<b></b>					ļ	-
+41.28	70+43.06		1.78	4.50								ļ							8.01	02.74		-	ļ	<del> </del>	<u> </u>	+
+43.06	70+65.11	II RI	22.05	4.25	93.71				ļ				<u> </u>			ļ			-	93.71		<b> </b>	ļ		<del> </del>	-
	70.70 0	++++	22.06	4.25	93.76				ļ			ļ				<b> </b>		<u> </u>	<u> </u>	93.76	<b>-</b>	ļ		-	-	+
+51.24	73+73.30 73+78.01		4.71	4.25					ļ		-	<b> </b>	-						21.20	93.70			<u> </u>	<b> </b>	<del> </del>	+
+73.30	74+34.46		56.45	5.75					<b> </b>			<u> </u>							324.59	1		<u> </u>	<b> </b>	<del> </del>	<del> </del>	+
+78.01	75+38.00		103.54	5.00					<b> </b>		<del></del>	ļ						<u> </u>	517.70	<del> </del>	<del> </del>	<b> </b>		<u> </u>		+
1+34.46 5+38.00	75+38.00		5.00	4.84			<del></del>					<u> </u>					<b>-</b>	<b> </b>	24.20	<del></del>	<del> </del>	<del> </del>		<del> </del>		+
+30.00	75743.00	<del>'  -'  </del>	3.00	4.04	24.20				-			-	<b> </b>	-			<b></b>	<del> </del>	24.20			<del> </del>				+
2+96.11	73+24.06	RT	27.95	4.25	118.79				<del> </del>			<del> </del>								118.79						1
3+24.06	73+78.0		53.95	4.50					1					<u> </u>					242.77		1					
3+78.01	74+08.82		30.81	5.75								1							177.16							
4+08.82	75+38.00		129.18	5.00										<u> </u>					645.90							
	75+43.00		5.00	4.90					1			<b>†</b>							24.50							
EWALK RE																										
9+66.57	70+19.84	1 LT	53.27	6.00	319.62						319.62															
+19.84	71+17.74	1 LT	97.90	7.95	778.30						778.30															
																								<u> </u>		
+36.57	70+34.8		98.24	4.75							466.64														ļ	
+34.81	70+67.73	RT	32.92	7.05	232.09						232.09							<b></b>	<u> </u>		ļ	ļ	<u> </u>	ļ	<u>                                     </u>	
																			1					ļ		
3+48.66	73+88.16		39.50	6.85							270.58		ļ						<b>_</b>	-	<u> </u>			<del> </del>		+
+88.16	75+43.00	) LT	154.84	4.80	743.23						743.23	<b></b>							<del> </del>	-	<del> </del>	ļ		ļ		-
			05.40	0.00	470.00						470.00	<u> </u>	ļ			-			-		<b> </b>	<u> </u>			<u> </u>	+
2+98.64	73+24.06		25.42	6.80							172.86	1		<u>                                     </u>		<del> </del>		<b>-</b>	- <del> </del>	<del> </del>	<del> </del>			<u> </u>	<u> </u>	+
3+24.06	75+43.00	J KI	218.94	4.90	1072.81				1		1072.81		<b> </b>		<b>_</b>	<del> </del>	-			<del> </del>			<del>                                     </del>	<del> </del>	<del> </del>	1
VE REPLAC		DT	36.01	10.82	389.63			43.29	1			-	1	7.22		1				1	1	+	<del> </del>	<b> </b>	9.62	9.0
9+36.57	69+72.58 69+75.14		2.56	5.10				1.45	+				<del>                                     </del>	0.24					+	+	<del> </del>	<del> </del>		1	0.32	0.3
9+72.58	09+75.14	+ KI	2.50	5.10	13.00	<u>'</u>		1.45	-			-	<u> </u>	0.24	<del>                                     </del>	1	<del>                                     </del>	<del> </del>	<del> </del>	+	<del> </del>		<del>                                     </del>	<b> </b>	1	1
	+	+			TOTALS	THIS SHEET:	0	44.74	+ 0	0	4056.13	0	0.00	7.46	0	0	0	0	3137.84	425.00	0	0	0	0	9.94	9.
	-	+		TΩ		IOUS SHEET:	227.78	1325.17	285.27	651.35	0	591.35	1715.40	285.91	169.68	84.86	58.92	82.49	0	0	272.22	527.94	40.00	60.00	1443.18	144
	-	+				SUBTOTALS:	227.78	1369.91	285.27	651.35	4056.13	591.35	1715.40	293.37	169.68	84.86	58.92	82.49	3137.84	425.00	272.22	527.94	40.00	60.00	1453.12	145
	-	+				1	227.75	1000.01	1		1.555.10	1									T					
		-1				L SUMMARY:	228	1370	285	651	4056	591	1715	293	170	85	59	82	3138	425	272	528	40	60	1453	14

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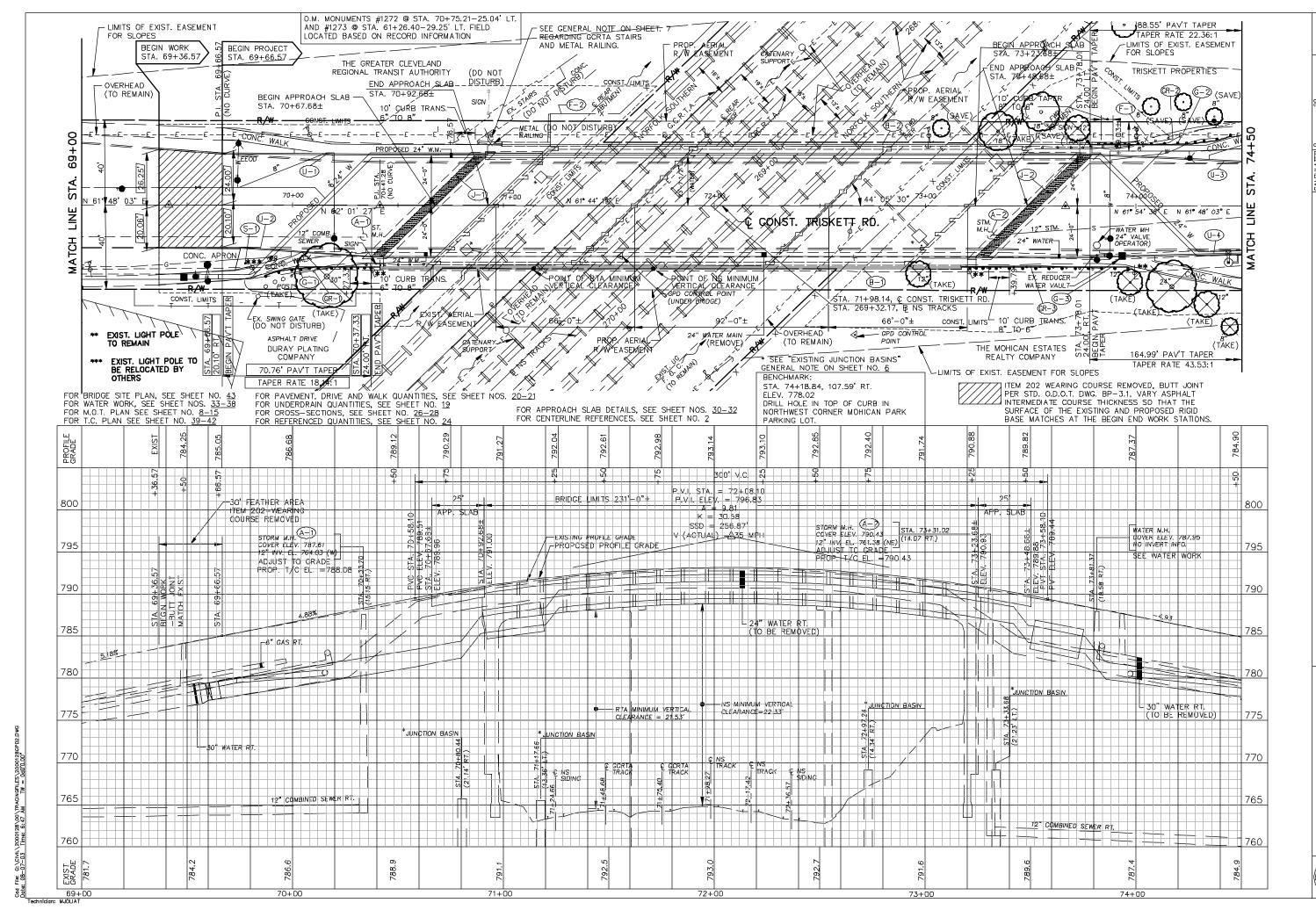
21 100

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							÷	ITEM 2	202			204	304		EM 407		EM 448	ITEN	608	526	609	609	609	451	SPECIAL
		SIDE DISTANCE	AVERAGE	SURFACE	AREA FOR 6" BASE EXTENSION UNDER CURB (ITEMS 204, 304, & 451)	APPROACH SLAB REMOVED	PAVEMENT	WEARING COURSE REMOVED	CURB	WALK	PIPE REMOVED, 24" AND UNDER	SUBGRADE	6" AGGREGATE BASE, AS PER PLAN	TACK COAT	TACK COAT FOR INTERMEDIATE	COURSE, TYPE 1, PG64-22, AS PER	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22, AS PER PLAN	4 1/2" CONCRETE WALK, AS PER PLAN	CONCRETE WALK, AS	15" REINFORCED CONCRETE APPROACH SLAB, AS PER PLAN	CURB, TYPE 2-B	CURB, TYPE 2- B, AS PER PLAN	CURB, TYPE 6	8" REINFORCED CONCRETE PAVEMENT, AS PER PLAN	SUBGRAD GEOTEXTI FABRIC
TION TO	STATION								1 181 = T				CU. YD.	GAI		PLAN	CII VI		SQ. FT.	SO VD	IIN ET	LIN FT	LIN ET	SQ.YD.	SQ. YD.
WALK				SQ.FT.	SQ. FT.	SQ. YD.	SQ. YD.	SW. YD.	LIIV. F. I.	SQ. FT.	LIIV. F.	SQ. YD.					CU. YD.								
36.57	69+71.57	LT 5.00	5.40	27.00					*							**		27.00							
71.57	70+00.71	LT 29.14	5.00	145.70					¥									145.70							
00.71	70+18.40	LT 17.69		101.72							*							101.72							
18.40	70+92.30	LT 73.9	4.50	332.55														332.55	11071						
92.30	71+20.24	,LT 27.94	4.25	118.74															178.74						
			A 7E	171 60														17160							
36.57 72.70	09+12.10 60176.00		4./D	16.02														16.02							
2.70 A 72	60+99.91	RT 23.6	5 00	118 40														118.40							
9.27	70+41.28	RT 41.3	5.75	237.88			*											237.88							
1.28	70+43.06	RT 1.7	3 4.50	8.01														8.01							
3.06	70+65.11	RT 22.0	4.25	93.71															93.71						
					*																				
1.24	73+73.30	LT 22.06	3 4.25	93.76															93.76						
3.30	73+78.01	LT 4.7	4.50	21.20														21.20							
78.01	74+34,46	LT 56.4	5.75	324.59														324.59							
4.46	75+38.00	LT 103.5	5.00	51/./0														31/./U 2/20							
8.00	/5+43.00	LI J.V	J 4.04	24.2U						*						*	**************************************	44.40							
26.11	7242/106	RT 27.9	5 4.25	118.79															118.79						
24.06	73+7801	RT 53.9									**							242.77					8	2	
8.01	74+08.82	RT 30.8	1 5.75	177.16							* A							177.16							
)8.82	75+38.00	RT 129.1	5.00	645.90														645.90							
8.00	75+43.00	RT 5.0	0 4.90	24.50														24.50							
ALK RE	MOVALS																								
6.57	70+19.84			319.62						319.62															
9.84	71+17.74	LT 97.9	7.95	778.30						778.30															
				16661																					
36.57	70+34.81	K   30.2		400.04						466.64								; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;							
4.81	10+01./3	RT 32.9	2 /. UO	232.09						232.09															
18.66	73+88.16	LT 39.5	0 6.85	270.58						270.58															
38.16	75+43.00			743.23	**					743.23															
			6						:																
8.64	73+24.06	RT 25.4	2 6.80	172.86						172.86															
24.06	75+43.00			1072.81						1072.81						*									
	CEMENT																								
36.57	69+72.58	ITI JU.U		J03.00			43.29						7.22										*	9.62	9.62
72.58	69+75.14	RT 2.5	6 5.10	13.06			1.45						0.24											U.32	0.32
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				TOTALS		O	44.74	0	O	4056.13		U.UU	1.46	U	U	U		3137.84	425.00	U	U	1 1000		1//2/12	1443.
	1			many V 1 Now John Town to your	OUS SHEET:	227 78	1325 17	285.27	651.35		L CO1 2C	1715.40	285.91	169.68	84.86	58.92	82.49		<b>1</b>	272.22	527.94	1 VIII (16)	[ W(1) (1)()	1/1/1 < 1 ><	1 1/1/1/4 '



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PROFILE

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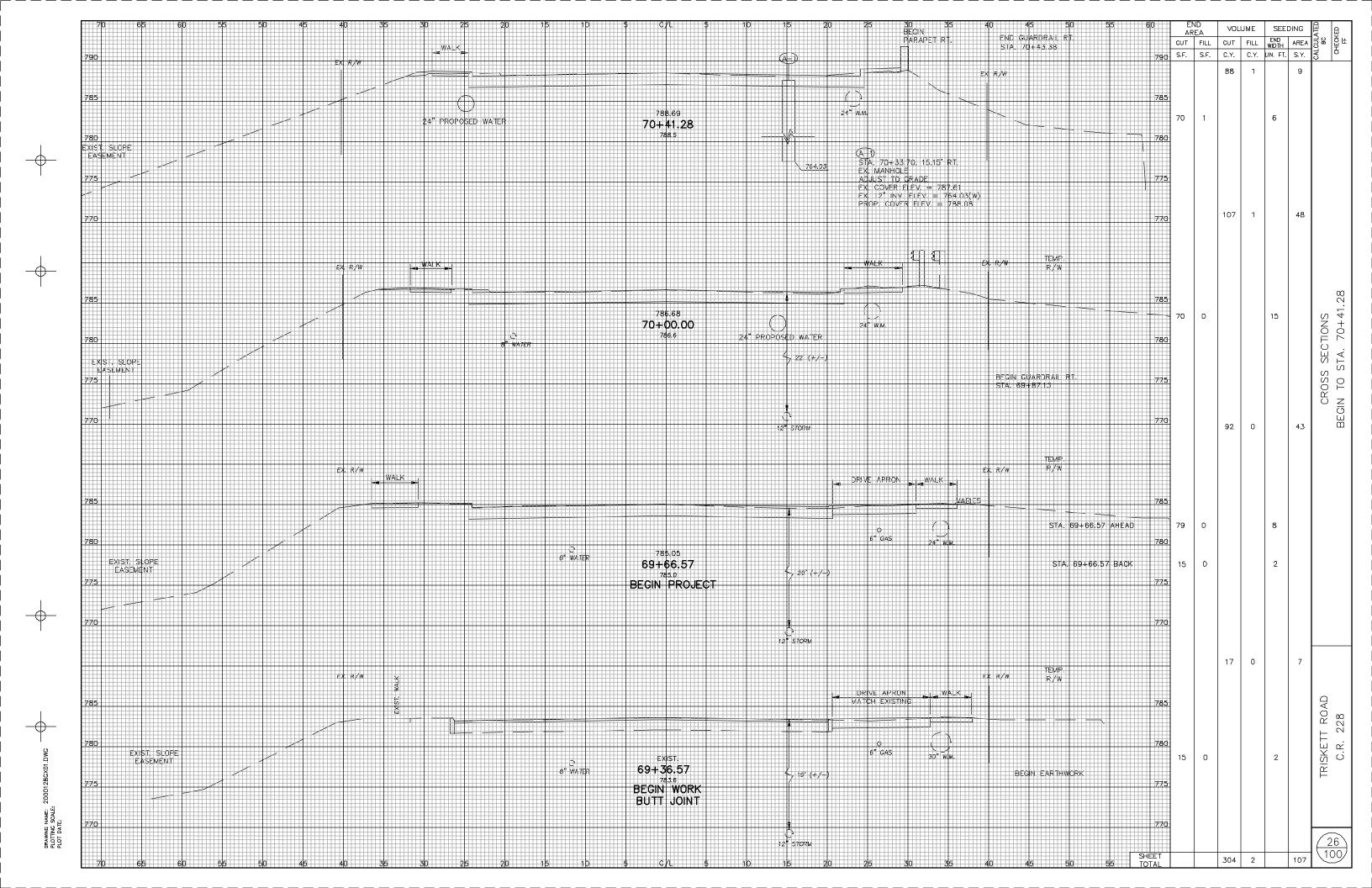
228 TRISKETT C.R. 2

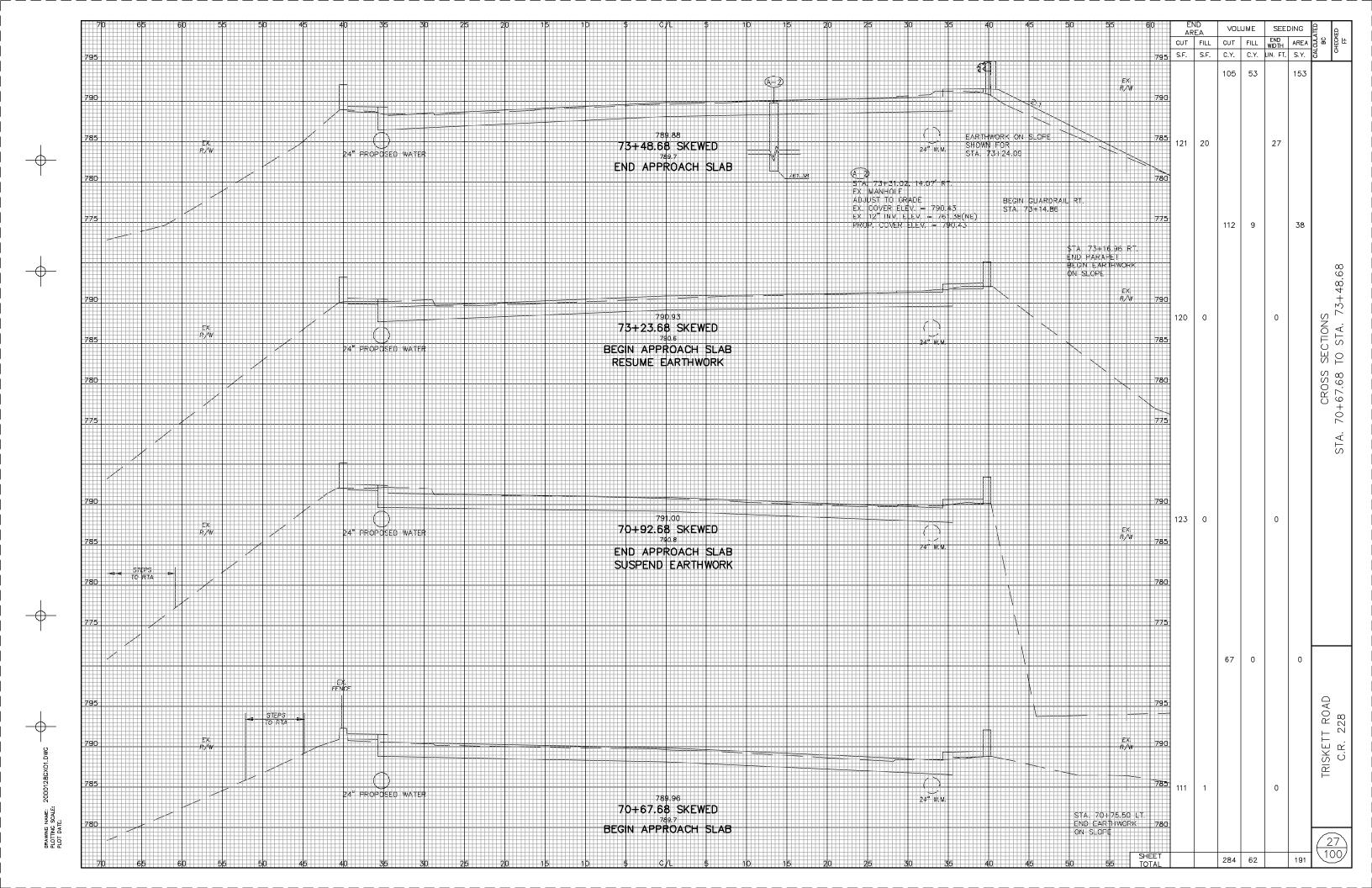
24 (100

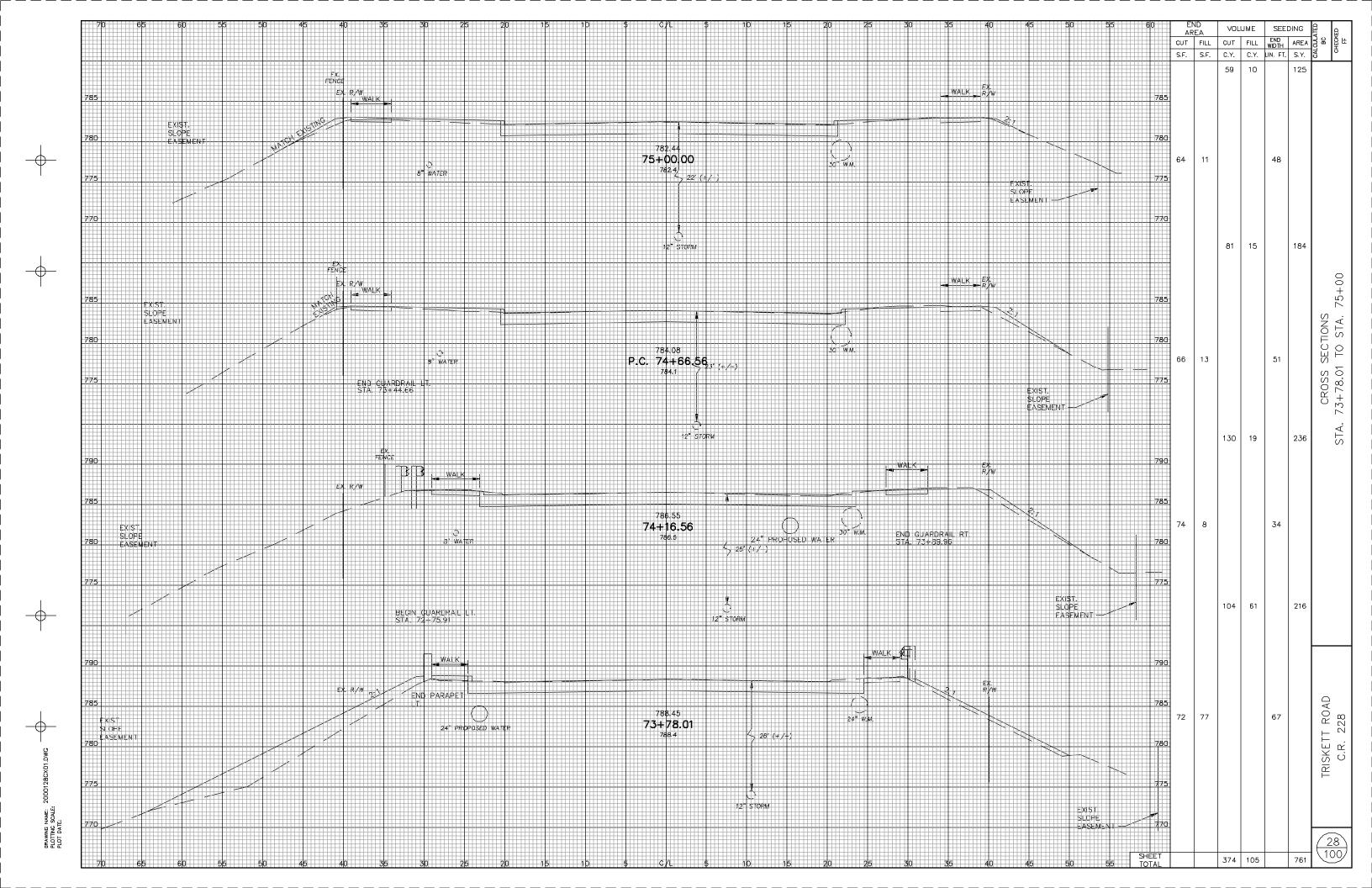
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				12.71	g	9	193	3		2	22	162.5	136	5	138	193		JBTOTALS:							
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				15.85														142.65	87.3	24.68	RT	28.66+69	bl.87+68		
				1.36					<del></del>									12.24	87.4			pr.87+68	89,27+68		23
				961																			SLAND SEEDI		
							33.00						<u> </u>			33.00				00.88	117	00.33+17	71+22.00		53
							160.00									160.00		***************************************				59.85+37	89.87+87		23-24
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															<del> </del>		39.40		<u> </u>	39.40	<del>                                     </del>	36.71+47	96.77+87	C-Y-0	53
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					7															89.875	I TA	96.91+67			23
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						ı			l		8	37.50								00.03		98.68+67	98.66+67		23
						L		L			4	25.00								25.00	TA	73+39,86	38.41+87		٥٥
						L	l			l l		52.00								37.50	ΙI	99.44+47	91.70+47		07
						i	l	L				31.25								31.25	TJ	91.70+47	16.37+87	G-2	23
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						L L		1				31.25			· · · · · · · · · · · · · · · · · · ·	11.7		1		31.25	TA.	70+43.38	51,21+07		
								·		1		12.50		<del> </del>								70+12,13			23
						<b>-</b>	<del> </del>			<u> </u>		10 60	-	-								101 01 02	JIARDRAUE		
														-					<del> </del>	·	T		175557775		
													89	1	69						רואו	14.43+64.41	89.84+67	7-5	23
OUTLET TO 4"	2	7	7										89		09	<del> </del>				<u> </u>	120121	77 73.02	00 07 102		
													89		69				<del> </del>	ļ	דועוד	89.79+07	96'19+0/	ı ı-r	23
OUTLET TO 4"	2	5	2										89	-	09	<del> </del>	·			<b></b>			RESSURE RE		
																	<b>-</b>		<del> </del>	<del> </del>	T	T T		-	
														1101/7	LIN. FT.	11 1 1807	TH .NIJ	TH OS	TEET	T337		<del> </del>	<del> </del>	<del> </del>	
	EACH	EACH	EACH	SQ. YD.	EACH	EACH	LIN.FT.	EACH	EACH	EACH	EACH	LIN ET.	LIN FT.	EACH	TH INI	13 NI	T3 M1	13 03	1333	1233	-	1			
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				PLAN				1 3 d YT					PABRIC WRAP		TYPE B						i	1 1		1	
		BEND		AS PER	TYPE B2	SA 39YT	TYPE CL		T 39YT	86-8 34YT	TH 6, TSOH	TYPE 5	HTIW , 14, 707	AS PER	,TNIOL	KEWOVED	KEWONED	A∃AA	HTGIW			1	l l	NOMBER	ABBN
COMMENT	JAW "p	DEGKEE	6" PLUG	мпгсніив'	,яотоатая	,яотовляя	FENCE,	JANIMAET VIGNESSA	ASSEMBLY,	YSSEMBLY,		GUARDRAIL,	иирекркыи,	TO GRADE,	RELIEF	LENCE	POPKDKAIL	SURPACE	HAPHAGE	DISTANCE	SIDE	NOITATS	OT   MOITATE	REFERENCE S	133
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				SEEDING				BRIDGE			1 1 1 2		WOJJAHS "8	MANHOLE	3011223dC		1				1				
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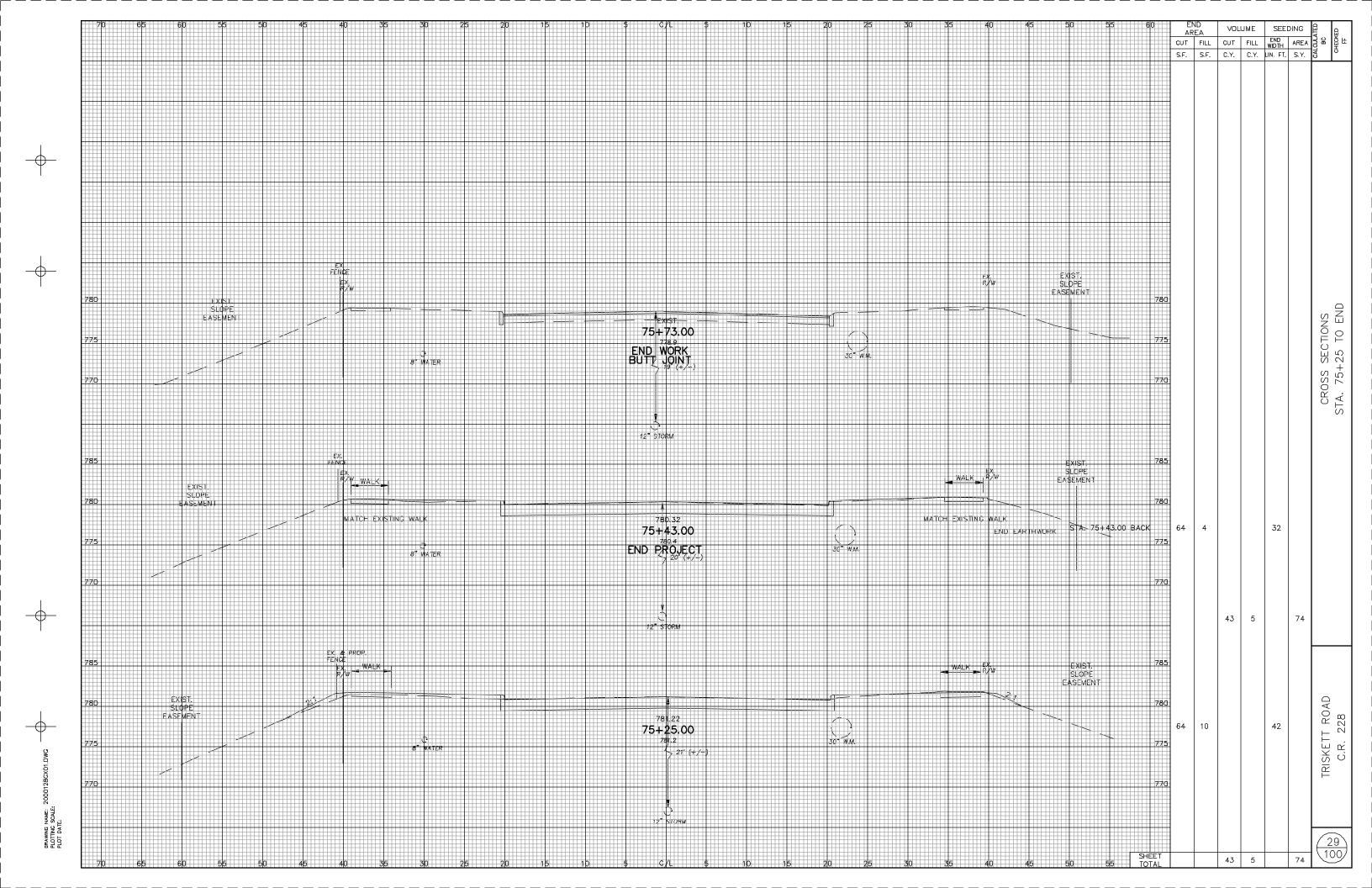
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DETAIL 2

13-506 SPA. @ 2'-0" 25-505 SPA. @ 1'-0"

33-STUDS SPACED @ 9"

END REAR APP. SLAB STA, 70+92.68±

— SKEW 45'54'30"±

505 & 506

DETAIL (1)

-CONST. JT.

-505 & 506

DETAIL 4

BEGIN REAR APP. SLAB STA. 70+67.68±

CONST. TRISKETT RD.

33-STUDS SPACED ®

- 504 (TOP)

13-506 SPA. @ 2'-0"

25-505 SPA. @ 1'-0"

<u>5-504-</u>

508 ——— (TOP & BOT.)

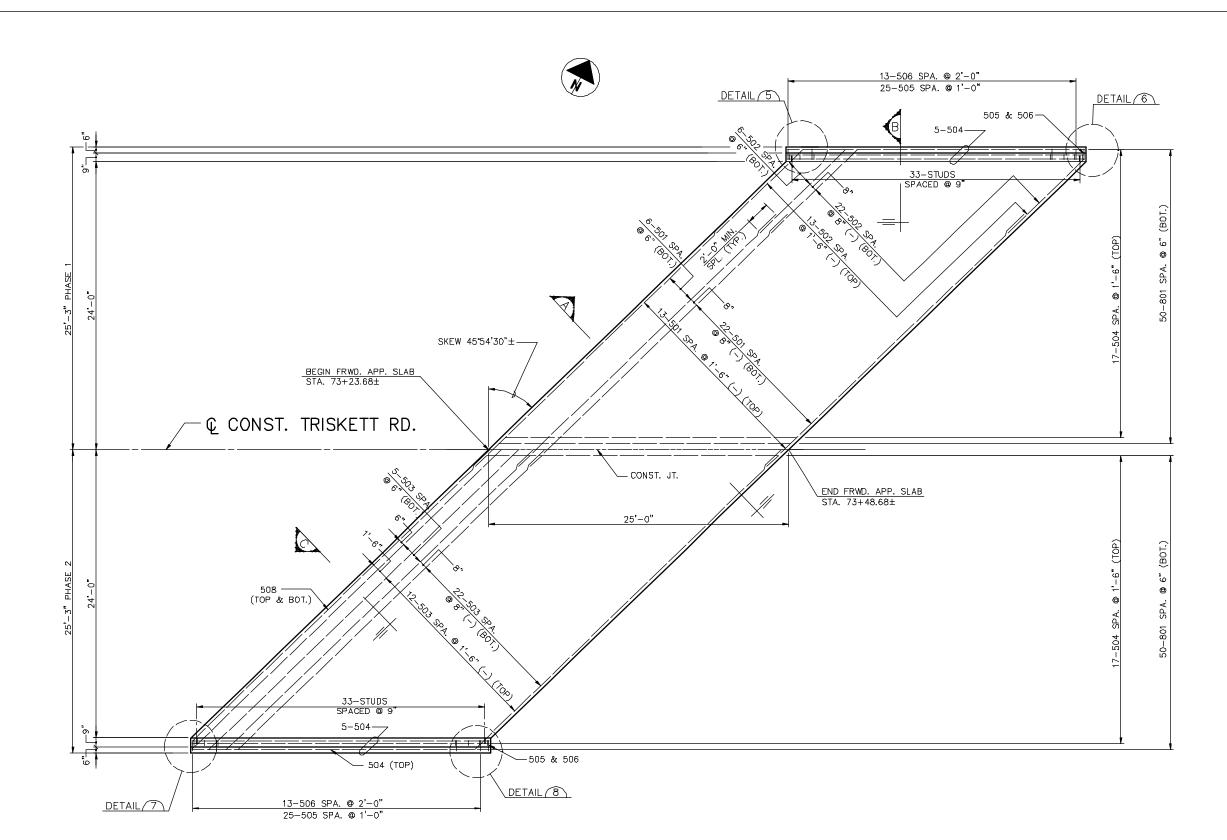
DETAIL 3

- 1. PREFIX "AP" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE APPROACH SLABS. SEE REINFORCING SCHEDULE.
- 2. MINIMUM CLEARANCE TO REBARS SHALL BE 2" UNLESS NOTED.
- 3. ALL REINFORCING STEEL SHALL BE GRADE 60 EPDXY COATED.
- 5. FOR ADDITIONAL NOTES AND REINF. SCHEDULE, SEE SHT. ND. 32/100 .

- 4. FOR SECTIONS A & B, AND DETAILS 1, 2, 3 & 4, SEE SHT. NO. 32/100 .

31

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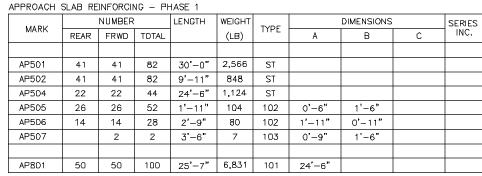
#### NOTES:

- 1. PREFIX "AP" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE APPROACH SLABS. SEE REINFORCING SCHEDULE.
- 2. MINIMUM CLEARANCE TO REBARS SHALL BE 2" UNLESS NOTED.
- 3. ALL REINFORCING STEEL SHALL BE GRADE 60 EPOXY COATED.
- 4. FOR SECTIONS A & B, AND DETAILS 5, 6, 7 & 8, SEE SHT. NO. 32/100 .
- 5. FOR ADDITIONAL NOTES AND REINF, SCHEDULE, SEE SHT. NO.  $\overline{\bf 32/100}$  .

DETAILS

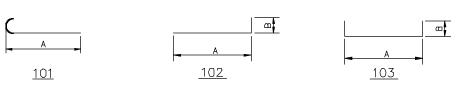
SLAB

APPROACH



#### APPROACH SLAB REINFORCING - PHASE 2

MARK		NUMBER		LENGTH	WEIGHT	TYPE		DIMENSIONS		SERIES
MARK	REAR	FRWD	TOTAL		(LB)	TIPE	Α	В	С	INC.
AP503	39	39	78	35'-9"	2,909	ST				
AP504	23	23	46	24'-6"	1,175	ST				
AP505	26	26	52	1'-11"	104	102	0'-6"	1'-6"		
AP506	14	14	28	2'-9"	80	102	1'-11"	0'-11"		
AP507	2		2	3'-6"	7	103	0'-9"	1'-6"		
AP508	2	2	4	34'-9"	145	ST				
AP801	50	50	100	25'-7"	6,831	101	24'-6"			



### STANDARD BAR TYPE

SUMMARY AND GRAND TOTAL OF BAR WEIGHTS

APPROACH SLABS - PHASE 1 11.560 APPROACH SLABS - PHASE 2 11,251

GRAND TOTAL 22,811

TYPE "A" WATERPROOFING, INCLUDED FOR PAYMENT WITH ITEM 611, REINFORCED CONCRETE APPROACH SLAB, T=15" A.P.P. REFER TO DETAIL "B" IN STANDARD CONSTRUCTION DRAWING AS-1-81.

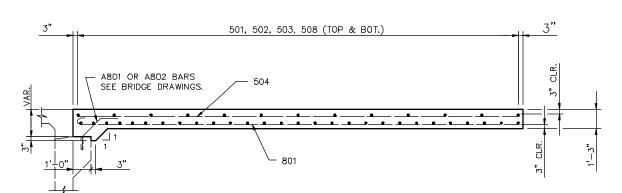
#### NOTES:

ITEM 611 REINFORCED CONCRETE APPROACH SLAB, T = 15", AS PER PLAN CONCRETE FOR THIS ITEM SHALL BE HIGH PERFORMANCE CONCRETE, REFER TO THE STRUCTURAL GENERAL NOTES, SHEET  $\frac{46}{100}$ . REFER TO ODDT STANDARD CONSTRUCTION AS-1-81 FOR ADDITIONAL DETAILS.

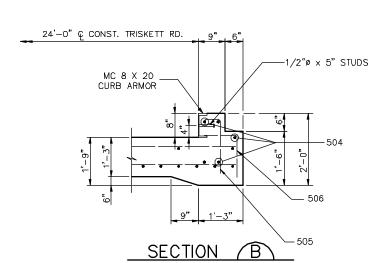
- PREFIX "AP" WILL BE ADDED TO ALL REBAR MARKS SHOWN FOR APPROACH SLABS.
- 2. FOR ADDITIONAL NOTES AND DETAILS PERTAINING TO THE STEEL CURB ARMOR, REFER TO SHEET  $\frac{45}{100}$
- 3. PAYMENT FOR THE CURB ARMOR SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER POUND FOR ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN.
- 4. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE. WHEN NO BAR LEG DIMENSIONS ARE SHOWN, IT INDICATES STANDARD BEND. All BARS ARE EPOXY COATED
- 5. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK. THE FIRST TWO ALPHABETICAL LETTERS INDICATE LOCATION. THE NEXT TWO DIGITS INDICATES BAR SIZE NUMBER.

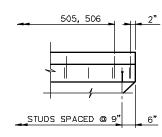
**EXAMPLES:** 

-NO. 5 SIZE BAR -APPROACH SLAB



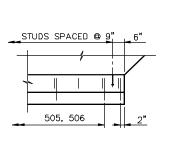
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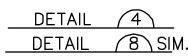


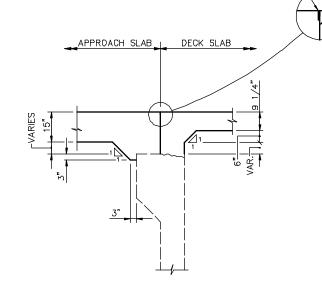


505, 506	2"
,	
STUDS SPACED @ 9"	<u>6"</u>

DETAIL	(2)
DETAIL	6 SIM.







30'-0" TO & CONST. TRISKETT RD. 29'-0" TO @ CONST. TRISKETT RD.

6" SIDEWALK

TYPICAL SECTION THRU

WINGWALL AND APPROACH SLAB

PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, 705.11 (1 1/4" WDE FOR A 1/2" WIDE GROOVE) PLACED IN A 1/2"x2 1/4" GROOVE, INCLUDED WITH ITEM 611, REINFORCED CONCRETE APPROACH SLAB, T=15" A.P.P.—

SLAB

-1/2" P.E.J.F.

-WING WALL

24'-0" TO € CONST.

TRISKETT RD.

MC 8 X 20

CURB ARMOR

APPROACH SLAB

<u>SECTION (C)</u>
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505, 506 DETAIL

DETAI

505, 506

DETAIL

STUDS SPACED @ 9"

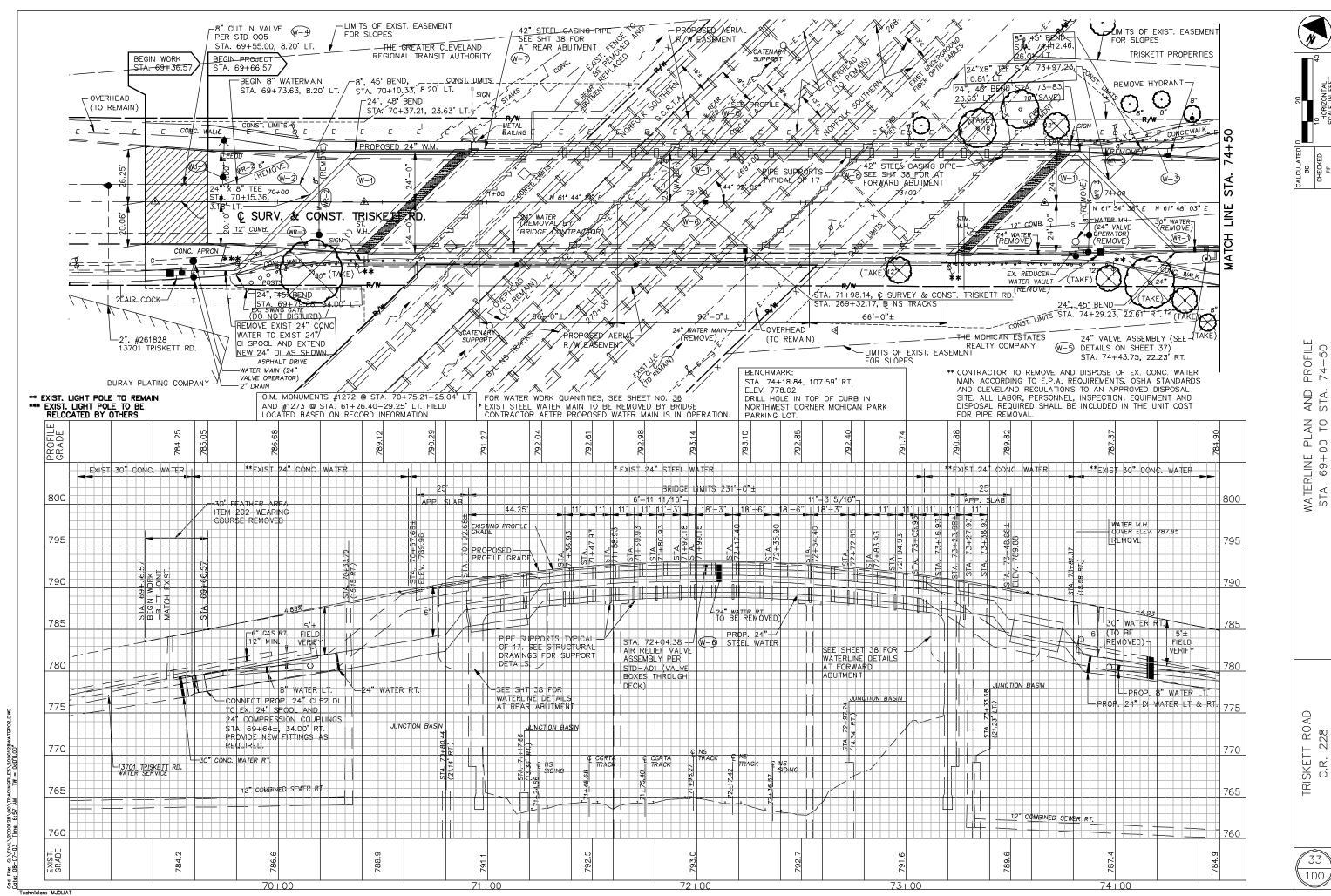
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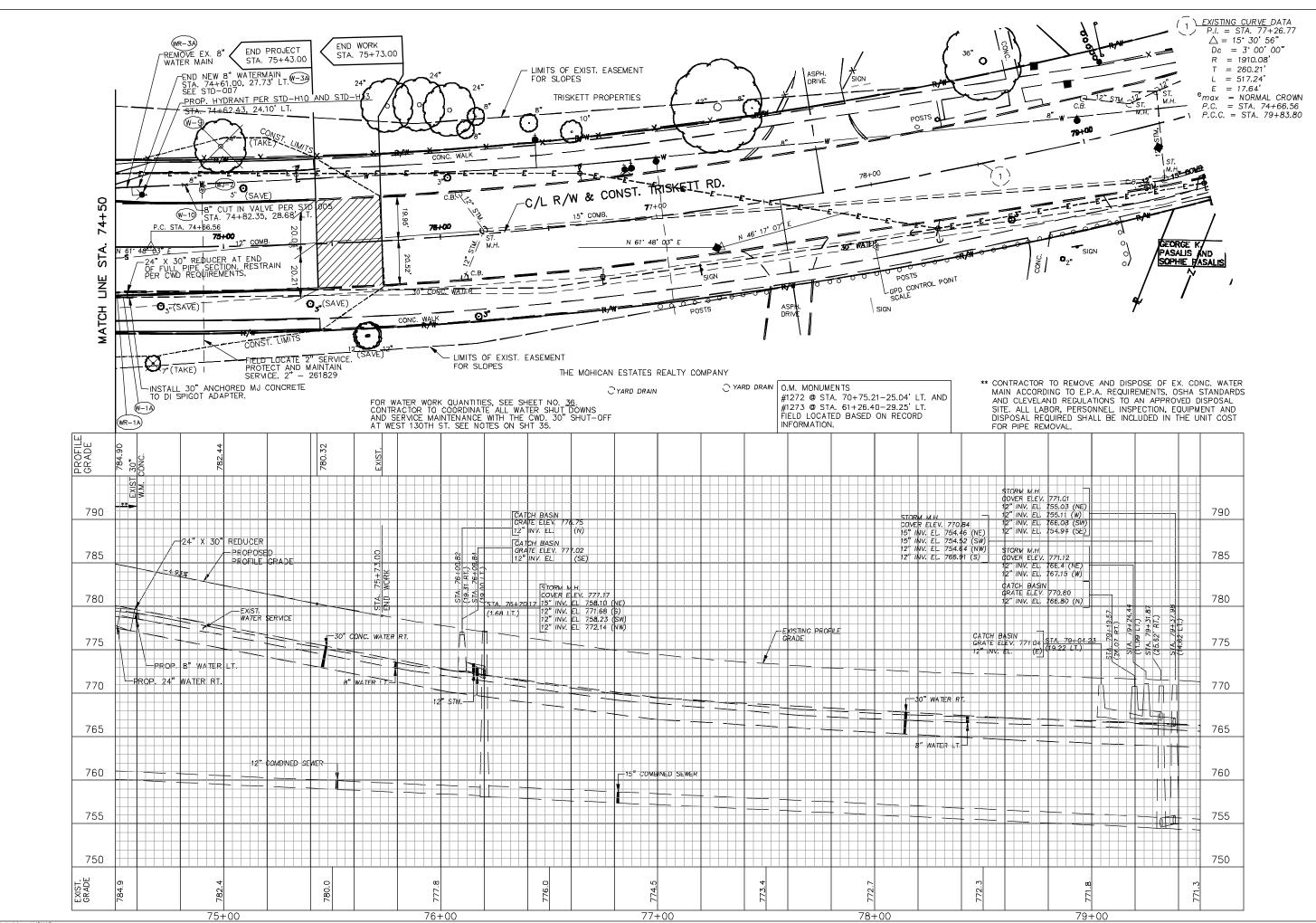
ROAD

TRISKETT F



ROAD

TRISKETT C.R. 2



TRISKETT C.R. 2.

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228

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CALCULATED BC CHECKED FF

PROFILE

AND

PLAN 74+50

WATERLINE STA. 7

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PAYTON HALL-CONTROL CENTER 216-664-4018 PIERRE HADDAD-ENGINEERING 216-664-2444 EXT. 5571 DWIGHT WILSON-DISTRIBUTION 216-348-7277

SHORT PERIODS OF SHUTDOWN MAY BE AUTHORIZED THROUGH COORDINATION WITH THE ABOVE INDIVIDUALS WITH THE SAME ADVANCE SHUTDOWN NOTICE.

VALVES 16" AND LARGER SHALL BE OPERATED BY CLEVELAND DIMSION OF WATER PERSONNEL ONLY. VALVES SMALLER THAN 16" MAY BE OPERATED BY THE CONTRACTOR ONLY IF A CLEVELAND DIVISION OF WATER INSPECTOR IS PRESENT.

#### NOTES:

#### REFER TO SPECIAL PROVISIONS SECTION IN BID PACAKGE FOR ADDITIONAL WATERWORK NOTES.

CONTRACTOR TO NOTE GENERAL NOTES ON SHEET NOS. 4-7.

THE EFFORT REQUIRED TO LOCATE THE EXISTING WATERLINE IS INCIDENTAL TO PLACING THE NEW LINE.

THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATION AND DEPTH OF THE EXISTING WATERLINES OF ALL POTENTIAL UTILITY CROSSINGS BEFORE WATER MAIN INSTALLATION.

BEFORE A HYDROSTATIC TEST IS APPLIED TO ANY NEWLY CONSTRUCTED WATER MAIN, THE MAIN SHALL BE FLUSHED OR CLEANED AND FLUSHED. DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL USE CARE TO ASSURE THAT THE INTERIOR SURFACES OF ALL PIPE FITTINGS ARE MAINTAINED IN A SATISFACTORY CONDITION. EVERY EFFORT SHALL BE MADE TO KEEP LOOSE FOREICN MATERIAL OUT OF ALL PIPE AND FITTINGS. PARTICULAR CARE SHALL BE TAKEN TO PROTECT THE WATER MAIN WHENEVER WORK IS TEMPORARILY INTERRUPTED.

PIPES SHALL BE FLUSHED THROUGH AVAILABLE FIRE HYDRANTS AS DIRECTED AND WITNESSED BY A DESIGNATED REPRESENTATIVE OF THE OWNER. VALVING OPERATIONS MAY BE REQUIRED TO ASSURE THAT ALL SECTIONS OF THE MAIN ARE THOROUGHLY CLEANED.

A MINIMUM OF 35 PSI SHALL BE MAINTAINED AT THE CURB STOPS DURING NORMAL OPERATING CONDITIONS.

BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

BEFORE ACCEPTANCE, THE WATER MAIN SHALL BE INSTALLED AND PRESSURE TESTED ACCORDING TO AWWA C-605, LATEST EDITION, AND DISINFECTED ACCORDING TO AWWA C-651, LATEST EDITION.

THE CONTRACTOR MUST MAINTAIN A 12-INCH MINIMUM VERTICAL CLEARANCE FROM THE EDGE OF ALL WATER MAINS TO THE EDGE OF ALL STORM SEWER PIPES AND/OR INLET LEAD PIPES WHERE THEY CROSS.

THE CONTRACTOR MUST MAINTAIN A 4-FOOT MINIMUM HORIZONTAL CLEARANCE FROM THE EDGE OF ALL WATER MAINS TO THE EDGE OF ALL STORM SEWER PIPE INLETS AND STORM SEWER MANHOLES.

THE CONTRACTOR MUST MAINTAIN A 10-FOOT MINIMUM HORIZONTAL CLEARANCE FROM THE EDGE OF ALL WATER MAINS TO THE EDGE OF ALL SANITARY SEWER AND/OR FORCE MAIN PIPES.

THE CONTRACTOR MUST MAINTAIN AN 18-INCH MINIMUM VERTICAL CLEARANCE FROM THE EDGE OF ALL WATER MAINS AND/DR SERVICES TO THE OUTSIDE EDGE OF ALL SANITARY SEWER PIPES WHERE THEY CROSS.

THE CONTRACTOR MUST MAINTAIN A 12-INCH MINIMUM VERTICAL CLEARANCE FROM THE EDGE OF ALL WATER MAINS TO THE EDGE OF ALL DIRECT BURIAL CONDUITS, CONCRETE ENCASED ELECTRICAL CONDUITS, LIGHT POLE BASES, AND HAND HOLE PULL BOXES.

THE CONTRACTOR MUST MAINTAIN A 36-INCH MINIMUM HORIZONTAL CLEARANCE FROM THE EDGE OF ALL WATER MAINS TO THE EDGE OF ALL DIRECT BURIAL CONDUITS, CONCRETE ENCASED ELECTRICAL CONDUITS, LIGHT POLE BASES, AND

PRICE FOR ALL PIPE IS COMPLETE IN PLACE REGARDLESS OF SOIL GROUNDWATER OR ROCK CONDITIONS.

THE REMOVAL OF EXISTING WATERMAINS AS NOTED ON THE PLANS, SHALL INCLUDE THE COMPLETE REMOVAL OF VALVES, VALVE BOXES, VALVE VAULTS, HYDRANTS AND OTHER APPURTEMANCES WITHIN THE LIMITS OF WATERMAIN REMOVAL.

ADAPTERS REQUIRED TO FIT NEW WATER MAIN TO EXISTING PIPE AND ANY FITTINGS, BENDS, OR ELBOWS SHALL BE INCLUDED IN THE BID PRICE (PER LINEAR FOOT) FOR THE PIPE. NO SEPARATE PAYMENT WILL BE MADE FOR FITTINGS.

CUIT-IN VALVE WORK IS TO BE PERFORMED AT NIGHT OR AT A TIME WHICH WILL NOT PUT ANY DIVISION OF WATER CUSTOMERS OUT OF SERVICE. CONTACT WATER INSPECTION ENFORCEMENT UNIT AT (216) 664-2342 PRIOR TO PERFORMING ANY WATER WORK OR SHUTTING ANY VALVES. NO EXTRA PAYMENT WILL BE PROVIDED FOR COMPLIANCE WITH CWD REQUIREMENTS.

WATERWORK ITEMS SHALL BE CONSTRUCTED PER CLEVELAND WATER STANDARDS ON SHEETS 35-37 & 37A-37G. LABOR & MATERIAL INCIDENTAL TO THIS CONSTRUCTION SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

SERVICE SHALL BE MAINTAINED FOR ALL PROPERTIES EXCEPT WHEN WORK IS BEING PERFORMED FOR THE PURPOSE OF CONNECTING THE SERVICE TO THE WATERMAIN. ANY TEMPORARY SERVICE TO WATERMAIN IS INCIDENTAL TO THE PROPOSED MAIN.

#### <u>JOINTS</u>

#### (A) FLANGED JOINTS:

FLANGED JOINTS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS. FLANGES SHALL STRADDLE VERTICAL AND HORIZONTAL CENTERLINES, FLANGES FOR 24" STEEL PIPE SHALL BE CLASS "E" OR WELDED NECK CLASS "E" FLANGES. FLANGES SHALL BE OF EITHER CAST STEEL, FORCED OR ROLLED STEEL, OR PROPERLY WELDED AND MACHINED FABRICATED STEEL PLATES, WELDED TO PIPE WITH TWO (2) CONTINUOUS WELDS. THEY SHALL HAVE PLAIN FACES AND SHALL BE FACED TRUE AND SMOOTH AT RIGHT ANGLES TO THE AXIS OF THE PIPE AND SHALL BE SPOT FACED ON THE BACK. DRILLING SHALL CONFORM TO "AMERICAN 1928 STANDARD" DRILLING 150 POUND TEMPLATE. BLIND FLANGES, WHERE REQUIRED, SHALL BE RIBBED STEEL OR SHALL BE DISHED CAST IRON HAVING BOSSES TAPPED AT TOP AND BOTTOM FOR TWO (2) INCH STANDARD PIPE AND FURNISHED WITH MALLEABLE IRON PLUGS. ALL BOLTS AND NUTS FOR FLANGES AND OTHER TYPES OF BOLTING SHALL BE MADE OF STAINLESS STEEL: ASTM A 276–89g, "SPECIFICATION FOR STAINLESS AND HEAT-RESISTING STEEL BARS AND SHAPES," TYPE 304, AND ASTM A 193/A 193m—89, "SPECIFICATION FOR ALLOY—STEEL AND STAINLESS STEEL BOLTING MATERIALS FOR HIGH TEMPERATURE SERVICE", HEAVY HEX.

(B) EXPANSION JOINT ASSEMBLY:

THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE CITY THROUGH THE ENGINEER FOR APPROVAL OF THE EXPANSION JOINT ASSEMBLY.

THE EXPANSION JOINT ASSEMBLY SHALL BE, "DRESSER STYLE 6.3, TYPE 1" SLIP TYPE, OR APPROVED EQUAL, WITH MINIMUM 1/2" THICK BODY AND SLIP, WITH AN 8 INCH, TRAVERSE.

#### JOINTS CONT'D

THE EXPANSION JOINT ASSEMBLY SHALL INCLUDE ALL MATERIALS, BOLTS, NUTS AND WASHERS, WELDED NECK FLANCES A.S.A. 150# AND CASKETS. ALL BOLTS AND NUTS SHALL BE MADE OF STAINLESS STEEL: ASTM A 276-89A, TYPE 304, "SPECIFICATION FOR STAINLESS AND HEAT-RESISTING SHEET BARS AND SHAPES." NO FIELD WELDING OF GALVANIZED STEEL PIPE WILL BE PERMITTED. THE EXPANSION JOINT SHALL BE CALVANIZED EXCEPT SLIP PIPE. THE EXPANSION JOINT SHALL HAVE FIELD APPLIED INSULATION AS PER DETAILS ON THE CONTRACT DRAWINGS.

(C) VICTAULIC TYPE COUPLINGS:

THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE CITY THROUGH THE ENGINEER FOR APPROVAL OF THE VICTAULIC COUPLING.

(1) WHERE SHOWN ON THE DRAWINGS, OR WHERE REQUIRED, THE CONTRACTOR SHALL FURNISH AND INSTALL MCTAULIC TYPE JOINTS, INCLUDING COUPLINGS, FOR CONNECTION OF PIPE ENDS. STEEL PIPE ENDS SHALL BE FABRICATED AND GROOVED, AS SHOWN ON THE DRAWINGS, ADAPTED FOR INSTALLATION OF A STYLE 77 JOINT AND COUPLING.

VICTAULIC COUPLINGS SHALL BE STYLE 77 AND SHALL BE COMPOSED OF MALLEABLE IRON HOUSINGS HELD TOGETHER WITH STEEL BOLTS HEAT TREATED AND "HOT-OIP" GALVANIZED ACCORDING TO ASTM A 123-89A, "SPECIFICATION FOR ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS," AND WITH A CONTINUOUS, HOLLOW, MOLDED RUBBER SEALING RING OF SUCH TYPE THAT THE SEAL BECOMES TIGHT AS THE PRESSURE WITHIN THE PIPE INCREASES. THE JOINTS SHALL BE CONSTRUCTED AND INSTALLED AND BE EQUAL IN ALL RESPECTS TO THOSE MANUFACTURED BY THE "MCTAULIC COMPANY OF AMERICA." MALLEABLE HOUSINGS SHALL CONFORM TO ASTM A 47-89, "SPECIFICATION FOR FUNCTILE-IRON CASTINGS."

BOLTS AND NUTS SHALL BE MANUFACTURED BY THE COUPLING MANUFACTURER AND SHALL COMPLY IN MATERIAL WITH THE REQUIREMENTS ASTM A 183-83, "SPECIFICATION FOR CARBON STEEL TRACK BOLTS AND NUTS."

(2)ALL METAL PARTS OF THE COUPLINGS SHALL BE COATED AT THE SHOP WITH ONE COAT OF BITUMINOUS PRIMER FURNISHED BY THE SAME MANUFACTURER WHO FURNISHES THE COATINGS AS SPECIFIED UNDER "COATINGS."

#### INSULATION AND OUTER PROTECTIVE JACKET

INSULATION SHALL BE MINIMUM THREE AND ONE—HALF (3—1/2") FOR 12.75" O.D. STEEL PIPE, THREE INCHES (3") FOR 16" O.D. STEEL PIPE AND TWO INCHES (2") FOR 24" O.D. STEEL PIPE OF A MINIMUM DENSITY OF 2 POUNDS PER CUBIC FOOT OF POLYURETHANE FOAM FACTORY APPLIED TO COMPLETELY FILL THE SPACE BETWEEN THE PIPE AND THE OUTER WEATHERPROOF JACKET. THE OUTER JACKET SHALL BE CALVANIZED STEEL, SPIRAL LOCK SEAM CONSTRUCTION. TO ASSURE NO VOIDS IN THE FOAM INSULATION ARE PRESENT, AN INFRARED OR X—RAY INSPECTION OF EACH PREINSULATED UNIT AT THE FACTORY IS REQUIRED.

IN LIEU OF THE ABOVE, CONTRACTOR MAY FURNISH A FACTORY PREINSULATED SPRAY APPLIED POLYURETHANE FOAM INSULATION, THICKNESS AS INDICATED ABOVE, WITH A FIBERGLASS REINFORCED POLYESTER RESIN (FRP) JACKET APPLIED DIRECTLY OVER THE FOAM INSULATION. THE SYSTEM HEREIN SPECIFIED SHALL BE ONE WHICH IS DESIGNED TO BE SUPPORTED DIRECTLY ON THE FIBERGLASS JACKET AND PIPE SUPPORTS.

PIPE JOINTS, INCLUDING EXPANSION JOINTS AND SUPPORT AREAS, AND PIPE BETWEEN THE BACKWALLS OF THE BRIDGE ABUTMENTS SHALL BE FIELD INSULATED WITH FIBERGLASS OR PREFORMED POLYURETHANE FOAM (OR FRP IF APPUICABLE) AND JACKETED WITH GALVANIZED STEEL BANDED OVER ADJACENT JACKET. ALL FIELD APPUIED INSULATION SHALL BE INSTALLED TO FULLY FILL ANY VOIDS. FIELD PLACED INSULATION AND JACKET SHALL BE REMOVABLE IN ORDER TO PERFORM MAINTENANCE OR MAKE ADJUSTMENTS TO THE PACKING CLAND OF THE EXPANSION JOINT(S).

THE VOID BETWEEN THE SLEEVE AND THE STEEL WATER MAIN THROUGH EACH BRIDGE ABUTMENT WALL SHALL BE FILLED WITH JUTE PACKING AND SEALED AT BOTH ENDS WITH THREE (3") INCHES OF NON-SHRINKING GROUT AS SHOWN IN THE "SLEEVE PACKING DETAIL" ON THE PLANS.

#### <u> SPECIAL NOTICE - CLOSING VALVES</u>

THE CLOSING OF ANY VALVES ON EXISTING WATER MAINS FOR MAKING CONNECTIONS, TESTING, OR ANY OTHER CAUSE, SHALL ONLY BE DONE BY THE DIVISION OF WATER, SUFFICIENT WRITTEN NOTICE SHALL BE GIVEN TO THE DIVISION OF WATER, BY THE CONTRNZL BECOME?ACTOR, SO THAT THE WORK MAY BE DONE WITH A MINIMUM OF INCONVENIENCE TO THE PUBLIC AND MINIMUM DELAY TO THE CONTRACTOR. SYSTEM OR SEASONAL DEMANDS MAY CONTROL THE TIME OF DAY, WEEK MONTH OR YEAR WHEN THE VALVES MAY BE CLOSED. IN GENERAL, THE CLOSING OF ALL VALVES ON EXISTING TRUNK MAINS, OR OTHER FEEDER MAINS, FOR MAKING CONNECTIONS TESTING OR ANY OTHER CAUSE WILL ONLY BE PERMITTED FROM NOVEMBER 1 THROUGH APRIL 1 OF THE SUBSEQUENT YEAR. NO CONSIDERATION FOR DELAYS BY SUCH CONTROLLING DEMANDS WILL BE ALLOWED. THE CONTRACTOR SHALL THOROUGHLY INVESTIGATE POSSIBLE CONDITIONS WHERE CLOSING OF VALVES MAY BE RESTRICTED TO A CERTAIN TIME.

# ITEM 638 — WATER WORK, MISC.: B" DUCTILE IRON WATERMAIN AND APPURTENANCES REMOVED, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE REMOVAL OF 8" DUCTILE IRON WATERMAIN AND ASSOCIATED VALVES, HYDRANTS, VAULTS AND APPURTENANCES AS INDICATED IN THE PLANS. WORK SHALL CONFORM TO CLEVELAND WATER DEPARTMENT (CWD) REQUIREMENTS AND INCLUDE COORDINATION, MAINTENANCE OF SERVICE, ALL REQUIRED EXCAVATION, SHORING, BECDING, BACKFILL, COMPACTION, TESTING, SURFACE RESTORATION, DEWATERING AND OTHER ANCILLARY REQUIREMENTS TO REMOVE THE REQUIRED PIPE AND RESTORE THE REMAINING SYSTEM TO OPERATIONAL CONDITION.

# ITEM 638 — WATER WORK, MISC.: 24"-30" CONCRETE WATERMAIN AND APPURTENANCES REMOVED, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE REMOVAL OF 24"-30" CONCRETE WATERMAIN AND ASSOCIATED VALVES, HYDRANTS, VAULTS AND APPURTENANCES INDICATED IN THE PLANS. WORK SHALL CONFORM TO CLEVELAND WATER DEPARTMENT (CWD) REQUIREMENTS AND INCLUDE COORDINATION, MAINTENANCE OF SERVICE, ALL REQUIRED EXCAVATION, SHORING, BEDDING, BACKFILL, COMPACTION, TESTING, SURFACE RESTORATION, DEWATERING AND OTHER ANCILLARY REQUIREMENTS TO REMOVE THE REQUIRED PIPE AND RESTORE THE REMAINING SYSTEM TO OPERATIONAL CONDITION. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING CONCRETE WATERMAIN ACCORDING TO E.P.A. REQUIREMENTS, OSHA STANDARDS AND CLEVELAND REGULATIONS TO AN APPROVED DISPOSAL SITE. ALL LABOR, PERSONNEL, INSPECTION, EQUIPMENT AND DISPOSAL REQUIRED SHALL BE INCLUDED IN THE UNIT COST FOR PIPE REMOVAL.

# ITEM SPECIAL — 24" WATERMAIN GALVANIZED STEEL PIPE ASTM A53, GRADE B, 0.5" WALL WITH FLEXIBLE GROOVED MECHANICAL JOINTS

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 24" GALVANIZED STEEL PIPE WITH GROOVED (VICTAULIC STYLE) JOINTS PER THE PLANS AND IN COMPLIANCE WITH CLEVELAND WATER DEPARTMENT (CWD) REQUIREMENTS AND STANDARDS.

GALVANIZED STEEL PIPE SHALL BE 24" O.D. X 0.50" WALL ASTM A-53 GRADE B, HAVING A MINIMUM WORKING PRESSURE OF 350 PSI.

THE INTERIOR OF ALL STEEL PIPE SHALL BE TOTALLY PRIMED AND COATED WITH WATER RESISTANT WHITEWASH FOR A DISTANCE OF THREE  $\langle 3 \rangle$  FEET FROM EACH END.

THE BRIDGE CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPE SUPPORTS AND FURNISH THE HARDWARE, FITTINGS AND APPURTENANCES REQUIRED FOR THE WATERLINE CONTRACTOR TO INSTALL THE PIPE SYSTEM TO MEET THE INTENT OF THE PLANS. PIPE SUPPORT ASSEMBLES SHALL BE FABRICATED AS DETAILED ON THE PLANS AND SHALL BE COMPLETE IN ALL RESPECTS INCLUDING ALL MATERIALS, CADMIUM PLATED SHOULDER AND CLAMP BOLTS, FASTENERS AND NUTS. THE SUPPORT ASSEMBLY CLAMP, SEAT PLATE ("LUBRITE" PLATE) AND SHIMS SHALL ALL BE HOT—DIPPED CALVANIZED AFTER FABRICATION PER ASTIN A—123, LATEST REVISION THEREOF. NO FIELD WELDING OF GALVANIZED STEEL PIPE WILL BE PERMITTED. THERE SHALL BE A MINIMUM OF TWO (2) PIPE SUPPORTS FOR EACH PIPE LENGTH.

SEE STRUCTURAL PLANS FOR SUPPORT DETAILS.

#### ITEM SPECIAL - 8" CUTTING-IN VALVE WITH VALVE BOX, COMPLETE, PER STD-005

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 8" CUTTING—IN VALVES, VALVE BOXES AND LIDS PER CLEVELAND WATER DEPARTMENT (CWD) STANDARD DRAWING STD—005. ALL WORK SHALL COMPLY WITH STD—005 AND ALL CWD STANDARDS AND REQUIREMENTS. INCLUDE ALL REQUIRED EXCAVATION, SHORING, BEDDING, BACKFILL, JOINT RESTRAINT, COMPACTION, TESTING, SURFACE RESTORATION, DEWATERING, FITTINGS AND OTHER ANCILLARY REQUIREMENTS TO PROVIDE A COMPLETE OPERATING VALVE.

## ITEM SPECIAL - 8" WATERMAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS WITH RESTRAINED MECHANICAL JOINT FITTINGS, ANSI CLASS 53

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 8" CL53 DUCTILE IRON PIPE PER CLEVELAND WATER DEPARTMENT (CWD) STANDARDS AND REQUIREMENTS. INCLUDE ALL REQUIRED EXCAVATION, SHORING, BEDDING, BACKFILL, JOINT RESTRAINT, COMPACTION, TESTING, SURFACE RESTORATION, DEWATERING, FITTINGS AND OTHER ANCILLARY REQUIREMENTS TO PROVIDE A COMPLETE OPERATING SYSTEM.

## ITEM 638 - 24" WATERMAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS WITH RESTRAINED FITTINGS PER CWD STANDARDS, ANSI CLASS 53

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 24" CL53 DUCTILE IRON PIPE PER CLEVELAND WATER DEPARTMENT (CWD) STANDARDS AND REQUIREMENTS. INCLUDE ALL REQUIRED EXCAVATION, SHORING, BEDDING, BACKFILL, JOINT RESTRAINT, COMPACTION, TESTING, SURFACE RESTORATION, DEWATERING, FITTINGS AND OTHER ANCILLARY REQUIREMENTS TO PROVIDE A COMPLETE OPERATING SYSTEM.

## SHOP DRAWINGS — EXTRA STRONG WELDED GALVANIZED STEEL PIPE ASTM A-53. GRADE B AND APPURTENANCES

(A) THE CONTRACTOR SHALL SUBMIT TO THE CITY THROUGH THE ENGINEER FOR APPROVAL A MINIMUM OF SIX (6) SETS OF PRINTS OF ALL SHOP DRAWINGS GENERATED BY THE PIPE OR STRUCTURAL FABRICATOR OF ALL PIPE, FITTINGS AND MISCELLANEOUS OR SPECIAL DETAILS OF PIPE AND FITTING JOINTS INCLUDING LINE AND ASSEMBLY LAYOUT, FLANGE DETAILS, VICTAULIG GROOVING, WCTAULIC COUPLINGS, EXPANSION JOINTS, WELDING DETAILS, FACTORY APPLIED INSULATION, FIELD APPLIED INSULATION, JACKET, SLEEVE PACKING DETAILS, PIPE SUPPORT DETAILS INCLUDING CLAMP, SHIMS AND "LUBBITE" PLATE, AND ANY OTHER PIPE APPURTENANCES. THE LINE AND ASSEMBLY LAYOUT SHALL INCLUDE ALL PIPE AND FITTING DIMENSIONS, LOCATION OF ALL PIPE JOINT AND TYPE, ALL PIPE SUPPORTS, ELEVATIONS OF PIPE AT SUPPORTS, EXPANSION JOINTS AND LOCATION OF ANY OTHER PIPE APPURTENANCES. NO WORK SHALL BE DODE IN THE SHOP UNTIL AFTER THE DRAWINGS HAVE BEEN APPROVED. JOINT DEFLECTION AT EACH JOINT SHALL BE IDENTIFIED.

(B) THE APPROVAL OF THE DRAWINGS BY THE CITY SHALL NOT RELIEVE THE CONTRACTOR OF ANY OF HIS OBLIGATIONS IN CONNECTION WITH THIS CONTRACT.

#### LTEM SPECIAL - 42" STEEL CASING PIPE

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 0.5" THICK 42" DIAMETER STEEL CASING PIPE WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI PER THE PLANS AND CLEVELAND WATER DEPARTMENT (CWD) REQUIREMENTS. INSTALLATION SHALL INCLUDE THE NECESSARY COORDINATION AND CONSTRUCTION OF WALL PENETRATIONS, SPACERS, CASING FILL AND END TREATMENTS. INCLUDE ALL REQUIRED EXCAVATION, SHORING, BEDDING, BACKFILL, COMPACTION, TESTING, SURFACE RESTORATION, DEWATERING AND OTHER ANCILLARY REQUIREMENTS TO PROVIDE A COMPLETE OPERATING SYSTEM.

#### ITEM 638 - INSULATION WITH PROTECTIVE JACKET OVER 24" STEEL WATERLINE

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING THE INSULATION AND PROTECTIVE JACKET OVER THE 24" CALVANIZED STEEL PIPE PER THE PLANS, NOTES AND DETAILS. INCLUDE ALL NECESSARY COORDINATION, SUPPORT, FIELD FABRICATION AND ANCILLARY HARDWARE TO PROVIDE A COMPLETE, INSTALLED INSULATION SYSTEM.

#### ITEM 638 - FROSTPROOFING INSULATION PER STD-009

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING SUBGRADE FROSTPROOFING PER CLEVELAND WATER DEPARTMENT (CWD) STANDARD DRAWING STD-009, THE NOTES AND THE PLANS. BURIED PIPE BEYOND THE BACKWALLS OF THE BRIDGE ABUTMENTS HAVING LESS THAN FOUR AND DNE-HALF (4-1/2') FEET OF COVER SHALL BE INSULATED WITH A MINIMUM OF A ONE (1) FOOT INSULATION ENVELOPE EQUAL TO "WITCOLITE" OR "GILSULATE 500XR." INCLUDE ALL REQUIRED EXCAVATION, SHORING, BEDDING, BACKFILL, COMPACTION, ITESTING, SURFACE RESTORATION, DEWATERING AND OTHER ANCILLARY REQUIREMENTS TO PROVIDE A COMPLETE OPERATING SYSTEM.

#### ITEM 638 - 24" FLANGED EXPANSION JOINT

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 24" FLANGED EXPANSION JOINTS PER THE PLANS, NOTES AND DETAILS. INCLUDE ALL ANCILLARY FITTINGS, SUPPORTS, AND HARDWARE TO PROVIDE A COMPLETE OPERATIONAL SYSTEM. INSULATION, CAPABLE OF ACCOMMODATING THE TRAVERSE MOVEMENT OF THE EXPANSION JOINT SHALL BE PROVIDED AND PAID FOR UNDER "ITEM SPEC — INSULATION WITH PROTECTIVE JACKET OVER 24" STEEL WATERLINE."

#### ITEM SPECIAL - FURNISHING AND SETTING 6" HYDRANT, COMPLETE

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 6" HYDRANTS INCLUDING ALL VALVES, TEES, FITTINGS AND APPURTENANCES AS REQUIRED BY THE PLANS AND THE CLEVELAND WATER DEPARTMENT STANDARD NOTES AND DETAILS. INCLUDE ALL REQUIRED EXCAVATION, SHORING, BEDDING, BACKFILL, JOINT RESTRAINT, COMPACTION, TESTING, SURFACE RESTORATION, DEWATERING, FITTINGS AND OTHER ANCILLARY REQUIREMENTS TO PROVIDE A COMPLETE OPERATING HYDRANT.

## ITEM 638 - 24" GATE VALVE ASSEMBLY WITH VALVE BOX AND VALVE VAULT, COMPLETE PER SM-STD3

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 24" GATE VALVES INCLUDING THE VALVE CHAMBER AND VALVE BOX AS REQUIRED BY DETAIL SM-STD3, THE PLANS AND THE CLEVELAND WATER DEPARTMENT STANDARDS AND DETAILS, INCLUDE ALL REQUIRED EXCAVATION, SHORING, BEDDING, BACKFILL, JOINT RESTIRAINT, COMPACTION, TESTING, SURFACE RESTORATION, DEWATERING, FITTINGS AND OTHER ANCILLARY REQUIREMENTS TO PROVIDE A COMPLETE OPERATING VALVE.

#### ITEM 638 - AIR RELIEF ASSEMBLY PER STD-A01

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING AND AIR RELEASE ASSEMBLY PER CLEVELAND WATER DEPARTMENT (CWD) STANDARD DRAWING STD-AO1, THE PLANS, NOTES AND CWD REQUIREMENTS. INCLUDE THE COORDINATION, FITTINGS, SUPPORTS AND APPURTENANCES NECESSARY TO EXTEND THE VALVE BOXES THROUGH THE BRIDGE DECK AND PROVIDE A COMPLETE OPERATING AIR RELIEF ASSEMBLY.

# LTEM 638 - 24" WATERMAIN FLANGED, 0.5" THICK GLAVANIZED STEEL PIPE WITH 150# FLAT FACED FLANGE CONNECTION

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 24" WATERMAIN FLANGED, GALVANIZED STEEL PIPE AS REQUIRED BY THE PLANS AND THE CLEVELAND WATER DEPARTMENT STANDARDS, NOTES AND DETAILS. INCLUDE ALL REQUIRED JOINT RESTRAINT, TESTING, FITTINGS AND OTHER ANCILLARY REQUIREMENTS TO PROVIDE A COMPLETE OPERATING SYSTEM. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH OTHER CONTRACTORS. FIELD VERIFICATION OF AS—BUILT CONDITIONS IS REQUIRED PRIOR TO FABRICATION.

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7. USE BACKTLL MATERIAL AS SECRETED AND CORMACT SUFFICIENTLY IN THOSE AREAS WHERE CREATING MAIN WATER STRVICE COUNCECTIONS ARE EXPOSED.

REPAIRS BE REGULBED DUE ID DEFECTIVE MATERIAL DR PODR VOCRETANCE DUNG COUNTED DAY OF THE WIND AND LEGAR COUNTECTION WIND SERVICE CONNECTION WIND AND CHARLES SHAPE BE PORTLY BECLATOR COUNTED BY THE PROPERTY OF THE PROPERTY

5, FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MEINS THE CUMRKOTING SHALL FROUND WAS AND UNITED WITH THE DIVISION OF WATER, ELUSHING/SAMPLING TARS OF SIZES TO BE DETERMINED BY THE DIVISION OF WATER, ELUSHING/SAMPLING TARS OF SIZES TO BE DETERMINED BY THE DIVISION OF WATER, CONTING TARS OF SIZES TO BE DETERMINED BY THE DIVISION OF WATER, CONTING TARS OF SIZES TO BE DETERMINED BY THE DIVISION OF WATER, CONTING THE DIVISION OF WATER, CONTING THE DIVISION OF WATER WATER OF SIZES OF SIZ

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THE MUNICIPALITY SHALL REQUIRE THE THE PROJECT'S PROFESSIONAL ENGINEER OBTAIN

S. THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF ACCURACY IS NOT GUARANTEED.

AND THEIR ACCURACY IS NOT GUARANTEED.

I ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE EXPENSE OF THE PROJECT.

CENERAL CLEVELAND DIVISION OF WATER NOTES FOR NEW WATER MAIN INSTALLATION

14. ALL WATER MAIN CURB VALVE BOXES & METER VAULTS WILL BE INSTALL IN GRASS AREAS

DATE: 5-21-99 BY: RSK

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SUMMARY

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13 THE CONTRACTOR SHELL SECTION, DIVISION OF WATER AT ST6-664-2444 EXT. 3203.

13 THE WORK IS PREVIOWED, THE AMOUNT OF CHARGES CAN BE OBTAINED FROM THE STEVEN OF WATER SHAPEN.

13 THE CONTRACTOR SHALL ARRANGE FOR A PERMIT WITH TRAY THE DIVISION OF WATER FOR ALL AND THE DIVISION OF WATER FOR ALL AND THE WATER FOR ALL AND THE WATER FOR FOR THE WATER FOR FOR THE WATER FOR FOR THE WATER FOR THE WATER FOR THE WATER FOR FOR FOR FOR FOR FO

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CONTRACTOR SHALL CONSLIT WITH THE LOCAL MUNIOR PLATER SEGUIREERING OR SERVICE
CONTRACTOR SHALL CONSLIT WITH THE LOCAL MUNICALITY'S ENGINEERING OR SERVICE
INDICATED ON THE APPROVED PLANS. HYDRAUTS

11D, WHERE SHOWN ON THE PLANS, DR WHEN DTHERWISE CALLED FOR, PIPE AND FITTINGS SHALL HAVE AN APPROVED 'TYPE I' OR 'TYPE II' BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.

ABYBLING IN YCCOBDANCE MILH BNSIVAMAY C-102/ASI2-88° CLAZZ ,C. WELHOD .B., DNE (1) CDYL DE BILDWYZIC EVINING EDITIONED BY AN ENCYSENENT DE BOTNEHATENE IIC AFT BUTLZ AND NAIZ DN AFT KEELVINED, WECHANICAT TOURIZ SHAFT HANE EIETD VBB-FIED

BEFT ENDS:

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AND ANSI/AWAY C-111/ACSIII, OR "COMMECRED IN EITHINGS SHALL BE RESETRANCES
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THE FITTINGS, UNLESS DIHERVISE CALLED FOR, SHALL BE RESETRANCE AND ASSOCIATION OF THE PROPERTY OF THE

TIA ALL PIPE, UNLESS OTHERWISE CALLED FOR, SHALL BE DUCTILE IRON, MINIMUM CLASS SE.

MULEK MAINS

CHARGES BY THE DIVISION OF WATER. CONTRACTOR TO NOTE CHARGE LETTER IN BID PACKAGE
AND CWD NOTE #13 REGARDING MONETARY

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32							,													<b> </b>			74+61-27.73' RT.	.TJ '61.72-02+47	AE-AW	34
		<del></del>					· · · · · · · · · · · · · · · · · · ·													bll	•			TA '73.62-86.78+67		
			·																	66			78+58-22' RT. 79+19.68-22.33' RT.	.TA+50.22.07' RT. .TJ '02.8-8.20' LT.	MR-7N MR-2	33
					,						·								742					.TA '00.46-48+68		
																					L		1-26.2' LT.		WJ-2	75
#																		1				<u> </u>	.TJ '88.8S-8 .TJ '7.11-	After 1 to 1 t	01-W 1-LW	
<u> </u>											·							<u> </u>					3-24.10' LT.		6-M	75
<u> </u>													30										.T3+53.87-23.63' LT.	T3+46.53-23.63' LT	7 8-W	33
]													30									***	.T1+18.521-23.63' LT.		4 2·M	33
<del>20</del>							l																.TJ '88.82-8		9-M 9-M	<u>33</u>
9								l															-8.20' LT. 5-22.23' RT.		<i>₽-</i> M	<u> </u>
5																							74+61-27.73' LT.	TJ '61,72-02+47	AE-W	
				l													63						.TJ'61.72-02+47	TJ '18.01-ES.79+E7	7 E-W	33
				L L													pp.					· · · · · · · · · · · · · · · · · · ·	.TJ'81.6-36.31+07			
		L L														8							74+50-22.07' RT. 74+58-22' RT.	.TA '00.46-48+66 .TA '70.52-02+47		33
7	t					<u>31</u>				<u> </u>	Þl			212	62	244							TG 170 CC 03±1/7	TG 100 AS AQ 100		<u></u>
														<u> </u>												<u></u>
HOA	CH EY	EACH EA	EACH	EACH	LUMP	LIN. FT.	EACH	EACH	EACH	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	LIN. FT.	LIN. FT.	EACH	EACH	OT	MOAF		<u> </u>
24", 22 1/2 DEGREE BEND S	• • • • • • • • • • • • • • • • • • • •	24" × 30" REDUCER  AN AS DECEMBER AND AN AS DECEMBER AND AN AS DECEMBER AND AN AS DECEMBER AND ASSAULT AND ASSAULT AS DECEMBER AND AS DECEMBER AND ASSAULT AS DECEMBER		8", 45 DEGREE BENDS	DEPARTMENT CHARGES	24" WATERMAIN FLANGED, ).5" THICK GALVANIZED STEEL PIPE WITH 150# FLAT FACED FLANGE CONNECTION	AIR RELIEF ASSEMBLY PER STD A01	24" GATE VALVE ASSEMBLY WITH VALVE BOX AND VALVE VAULT, COMPLETE PER SM- STD3	FURNISHING AND SETTING 6" S HYDRANT, COMPLETE	24" FLANGED EXPANSION S JOINT	ROSTPROOFING INSULATION C	PROTECTIVE JACKET OVER S 24" STEEL WATERLINE	42" STEEL CASING PIPE	4" WATER MAIN GALVANIZED STEEL PIPE ASTM A53, GRADE B, 0.5" WALL WITH FLEXIBLE GROOVED MECHANICAL JOINTS	24" WATER MAIN DUCTILE IRON PIPE WITH BOLTLESS SESTRAINED JOINTS AND FITTINGS, ANSI CLASS 53	24" WATER MAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS WITH RESTRAINED STANDARDS, ANSI CLASS 53	"WATER MAIN DUCTILE IRON PIPE WITH PUSH-ON JOINTS OF AND RESTRAINED AND RESTRAINED ANSI CLASS 53	8" CUTTING-IN VALVE WITH GALVE BOX, COMPLETE PER THE STD-005	WATER WORK, MISC.: 24"-30" ONCRETE WATER MAIN AND EARPURTENANCES REMOVED, AS PER PLAN	WATER WORK, MISC.: 8" DUCTILE IRON WATER MAIN AND APPURTENANCES REMOVED, AS PER PLAN	SERVICE BOX ADJUSTED TO   6	VALVE BOX ADJUSTED TO 68	NOITA	DOT	CODE	SHEET
	ال	10 NOITAMAC	FOR INF	·	889	889	889	869	SPEC	859	869	889	SPEC	SPEC	<u> </u>	869	1 2303	1 0305	1 868	1 000	1 000	1 000				
	1			JIW STJUAV		1 COBB ANTAE BOXE	•	OITA	THE HYDROST	P MAIN FIRE '	1E NEM MATE	JUNNECTING TE	BEUE MHEN !	THE CONTRACTOR SI APPURTENANCES THE APPURTENANCES APPURTENANCES THE APPURTENANCES TH												

WATER INSPECTOR.

ADRK/CHARGE LETTER AND STRIP MAPS ARE TAKEN FROM EXISTING AVAILABLE RECORDS, 2. THE INFORMATION SHOWN ON THE CLEVELAND DIVISION OF WATER'S SUMMARY OF

I. ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY THE ALL WATER WORK REQUIRED, WHETHER SHOWN ON THE PLANS OR AS DIRECTED BY THE

CHARGES BY THE DIVISION OF WATER. AND CWD NOTE #13 REGARDING MONETARY IN BID PACKAGE CHARGE LETTER

INDICATED DN THE APPROVED PLANS,

OCCUTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE

OCCUTRACTOR SHALL CONSULT WITH THE LOCAL MUNICIPALITY'S ENGINEERING OR SERVICE

NOZZLE TOWARD THE PAVEMENT MODEL AND NOZZLE THREAD REQUIREMENTS IF NOT

INDICATED ON THE APPROVED PLANS, 6. A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL CONNECTION BUILDER/DEVELOPER AND CHLORINGTON SHALL BE PROVIDED BY THE CONTRACTOR, INCLUDING RETAPS, SHOULD ANY LEAKS OCCUR AND SHOULD BY THE CONNECTION ALL WATER MAINS AND SERVICE CONNECTION BUILDER/DEVELOPER AND SERVICE CONNECTION ALL WATER MAINS AND LEAKS OCCUR AND SHOULD BY THE FINAL OF A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL OF A TWO YEAR WARRANTY, COMMENCING FROM THE DATE OF ACCEPTANCE OF THE FINAL OF A TWO YEARS WARRANTY, COMMENCING FROM THE DATE OF A TWO YEARS WARRANTY, COMMENCING FROM THE DATE OF A TWO YEARS WARRANTY. HYDRANTS 11D, WHERE SHOWN ON THE PLANS, OR WHEN OTHERWISE CALLED FOR, PIPE AND FITTINGS TO THE LIMITS SHOWN ON THE DRAWINGS. 5, FOR THE PURPOSES OF CHLORINATION AND BACTERIOLOGICAL TESTING OF THE WATER MAINS THE CONTRACTOR SHALL BE SIX (6) FOOT SQUARE MEETING OSHA STANDARDS.

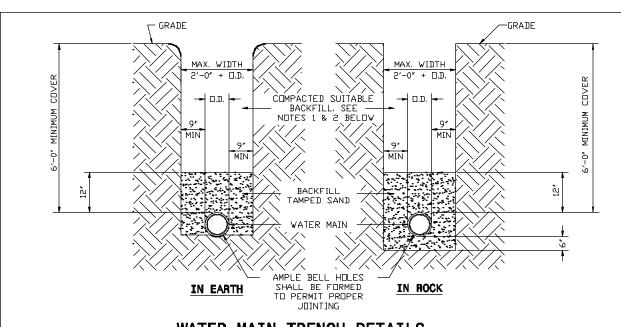
CHLORINATION PITS SHALL BE SIX (6) FOOT SQUARE MEETING OSHA STANDARDS.

CHLORINATION PITS SHALL BE SIX (6) FOOT SQUARE MEETING OSHA STANDARDS. TIC. ALL BOLTS AND NUTS ON ALL "RETAINED" MECHANICAL JOINTS SHALL HAVE FIELD APPLIED

WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/AR1,5-88, CLASS 'C', METHOD 'B'.

WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/AR1,5-88, CLASS 'C', METHOD 'B'. 4. THE MUNICIPALITY SHALL REQUIRE THAT THE PROJECT'S PROFESSIONAL ENGINEER OBTAIN ACTUAL FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CWD INSPECTOR WITH RECORD PRINTS IN A FORM ACCEPTABLE TO THE DIVISION OF THE TWO COPPIES OF THE PRESCURE THE DIVISION OF THE TWO COPPIES OF THE PRESCURE THE PRESCURE FURNISH OF TWO MEASUREMENTS OF THE MAIN, CHLORINATION OF THE MAIN, BETT END2' WHEN DIRECTED BY CLEVELAND DIVISION OF WATER, ALL FITTINGS ARE TO HAVE C-153/ARI, SIN EXCEPT FOR ANOHOR TEES, REDUCERS OR OTHER SPECIAL CIRCUMSTANCES US OF LITTINGS ANOTHOR TO SING A "RETAINED" MECHANICAL JOINT IN ACCORDANCE WITH ANSI/AWWA C-110/ARI, OR "CEMENT LINED, MECHANICAL JOINT IN ACCORDANCE WITH ANSI/AWWA C-110/ARI, OR "RETAINED AND PRICE AND PIPE CONNECTED TO FITTINGS SHOLL BE RESTRAINED CEMENT LINED, ALL FITTINGS AND PLANE TO HAVE AND AND CLASS 350, DOINE OF THE PRICE OF 3. CALL MR. RICHARD KMETZ, SUPERVISOR OF THE INSPECTION AND ENFORCEMENT UNIT AT 216-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING, THE OPERATION OF THEIR S16-664-2342 TO SCHEDULE A PRECONSTRUCTION MEETING, THE OPERATION OF THEIR ANY VALVE OPERATION OF ANY VALVE OPERATION OF THEIR ANY VALVE OPERATION OF THE SUPERVISOR OF THE SUPERVISO 11A, ALL PIPE, UNLESS OTHERWISE CALLED FOR, SHALL BE DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED HAVING PUSH-ON JOINTS WITH RADIALLY COMPRESSED RUBBER RING GASKET. WATER MAINS 10. ALL HYDROSTATIC PRESSURE TESTING SHALL BE DONE BY THE CONTRACTOR IN THE PRESSURE, SHOULD THE PRESSURE TEST FALL BE 75 PSI ABOVE THE PRESSURE TEST SHALL BE 75 PSI ABOVE THE PRESSURE TEST SHALL BE FOR A DURATION OF THE REQUIRED CASE LESS THAN 150 PSI, THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO SHALL BE 75 PSI ABOVE THE PRESSURE TEST SHALL BE FOR A DURATION OF TWO SHALL BE 75 PSI OF THE REQUIRED PRESSURE TEST SHALL BE FOR A DURATION OF TWO OF THE PRESSURE TEST SHALL BE 75 PSI OF THE REQUIRED OF TWO OF THE TWO OF THE

DATE: 10-1-97



WATER MAIN TRENCH DETAILS

ES: - NOT TO SCALE -

1) PREMIUM BACKFILL REQUIRED UNDER EXISTING OR FUTURE PAVEMENTS, SIDEWALKS, AND/OR DRIVES OR WHEN REQUIRED BY LOCAL MUNICIPALITY.

2) PREMIUM BACKFILL SHALL BE LIMESTONE SCREENINGS GRADED PER ODDT 304.02 OR ODDT 411. NO SLAG IS PERMITTED.

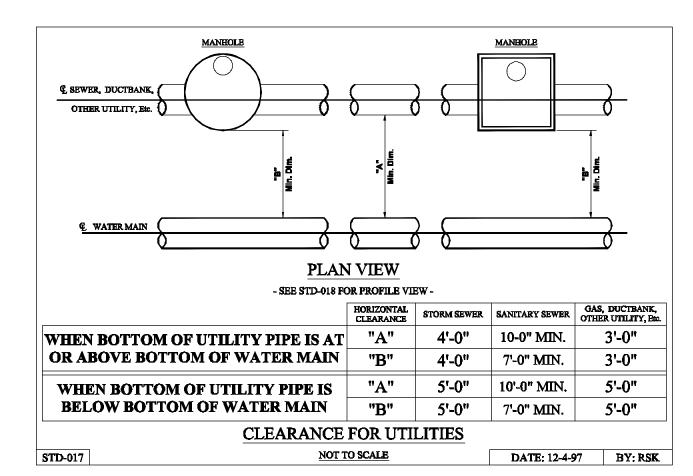
3) CONTRACTOR SHALL USE SPECIAL CARE IN PLACING THE SAND BEDDING BACKFILL, SO AS TO AVOID SCRAPING OF THE EXTERIOR COATING, INJURING THE PIPE, DISTORTING OR MOVING THE PIPE WHEN COMPACTING THE SAME. THE SAND BEDDING BACKFILL SHALL BE TAMPED IN SIX (6) INCH LAYERS, SIMULTANEOUSLY ON EACH SIDE OF THE PIPE, AND THOROUGHLY COMPACTED SO AS TO APPROVIDE A SOLD PROVIDE AS THE PROPERTY OF THE PIPE.

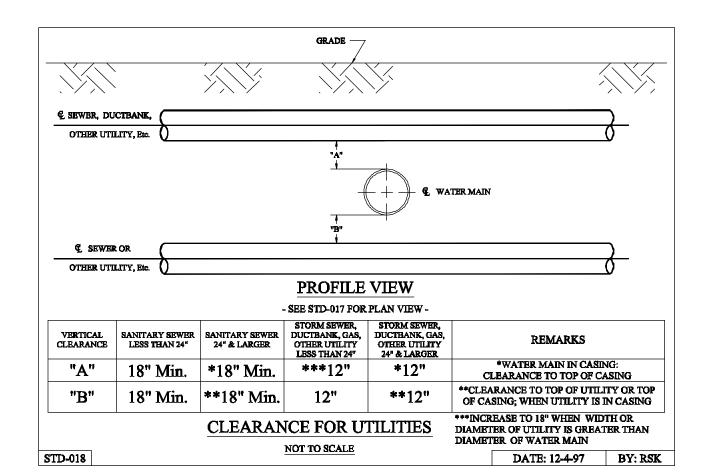
COMPACTED SO AS TO PROVIDE A SOLID BACKING AGAINST THE EXTERNAL SURFACE OF THE PIPE.

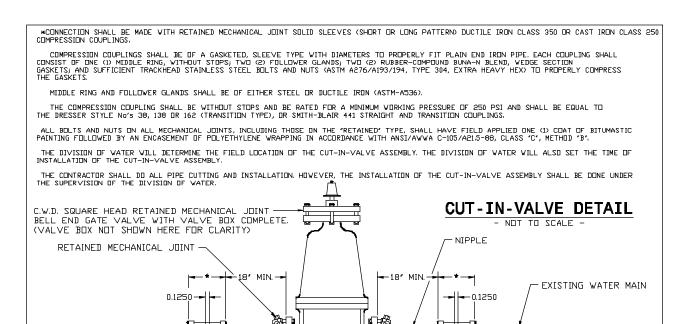
4) MINIMUM COMPACTION FOR ALL SAND BEDDING BACKFILL, BACKFILL AND PREMIUM BACKFILL SHALL BE 95% STANDARD PROCTOR.

5) PAVEMENT, SIDEWALK OR DRIVES TO BE INSTALLED IN ACCORDANCE WITH LOCAL MUNICIPALITY'S SPECIFICATIONS.

STD-001 DATE: 10-1-97 BY: RSK







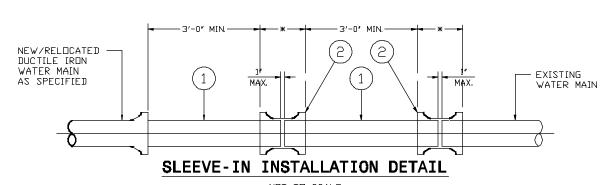
BEFORE CUTTING EXISTING WATER MAIN, THE NIPPLES SHALL BE CONNECTED TO THE MECHANICAL JOINT BELL END

GATE VALVE. AFTER CUTTING PIPE, FINAL CONNECTIONS SHALL BE MADE WITH COUPLINGS/SOLID SLEEVES AS

SPECIFIED.

STD-005

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- NOT TO SCALE -

1) PLAIN END x PLAIN END DUCTILE IRON PIPE AS SPECIFIED (CUT TO SUIT).

2) *CONNECTION SHALL BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS.

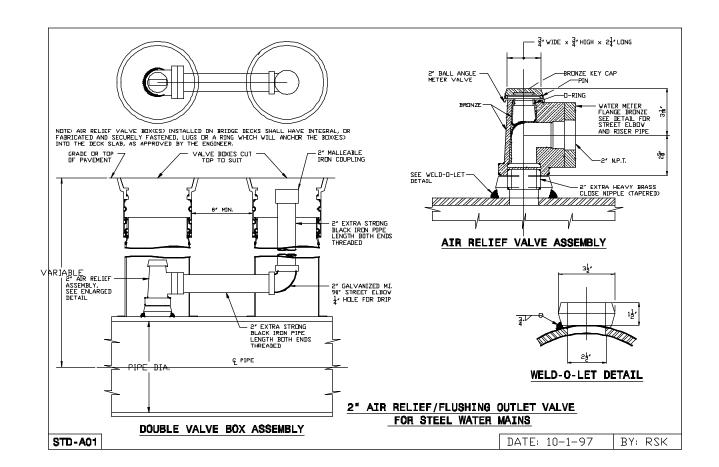
COMPRESSION COUPLINGS SHALL BE OF A GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS; TWO (2) FOLLOWER GLANDS; TWO (2) RUBBER-COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS; AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

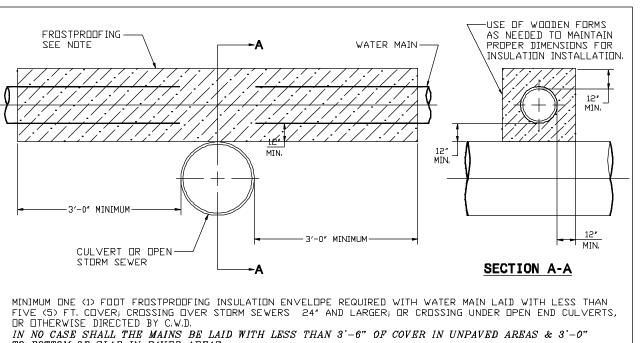
MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM-A536).

THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE No's 38, 138 OR 162 (TRANSITION TYPE), OR SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.

3) ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE "RETAINED" TYPE, SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF POLYETHYLENE WRAPPING IN ACCORDANCE WITH ANSI/AWWA C-105/A21.5-88, CLASS "C", METHOD "B".

DATE: 10-1-97 BY: RSK STD-007



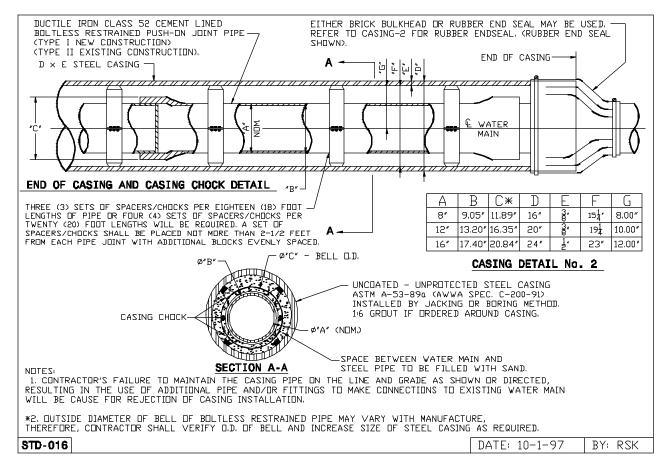


TO BOTTOM OF SLAB IN PAVED AREAS.

COMPACTED "WITCOLITE" INSULATION AS MANUFACTURED BY PIONEER PRODUCTS, DIVISION OF WITCO CHEMICAL COMPANY, INC. OR "GILSULATE 500 XR" AS MANUFACTURED BY AMERICAN THERMAL PRODUCTS, INC.

## TYPICAL FROSTPROOFING DETAIL

- NOT TO SCALE -STD-009 DATE: 10-1-97 | BY: RSK



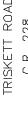
CONCRETE BACKING TO

UNDISTURBED EARTH

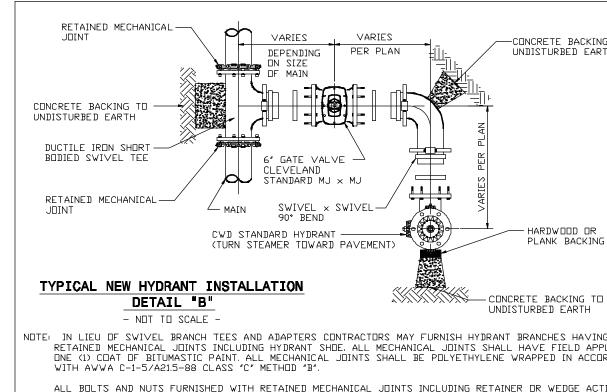
HARDWOOD OR

PLANK BACKING





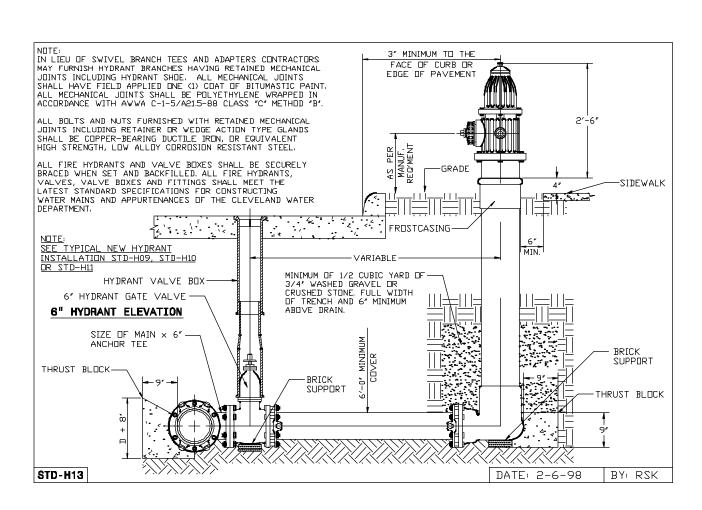
37B 100



NOTE: IN LIEU OF SWIVEL BRANCH TEES AND ADAPTERS CONTRACTORS MAY FURNISH HYDRANT BRANCHES HAVING RETAINED MECHANICAL JOINTS INCLUDING HYDRANT SHOE, ALL MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE (1) COAT OF BITUMASTIC PAINT, ALL MECHANICAL JOINTS SHALL BE POLYETHYLENE WRAPPED IN ACCORDANCE

ALL BOLTS AND NUTS FURNISHED WITH RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE COPPER-BEARING DUCTILE IRON, OR EQUIVALENT HIGH STRENGTH, LOW ALLOY CORROSION RESISTANT STEEL.

STD-H10 DATE: 10-1-97 | BY: RSK



ALVE BOXES CUT

DOUBLE VALVE BOX ASSEMBLY

SEE ENLARGED DETAIL

STD-A03

- ¾" WIDE × ¾" HIGH × 2¼"LONG

-D-RING

AIR RELIEF VALVE ASSEMBLY

DATE: 10-1-97

2" TAPPING SADDLE FOR DUTILE IRON

GALVANIZED M.I. STREET ELBOW

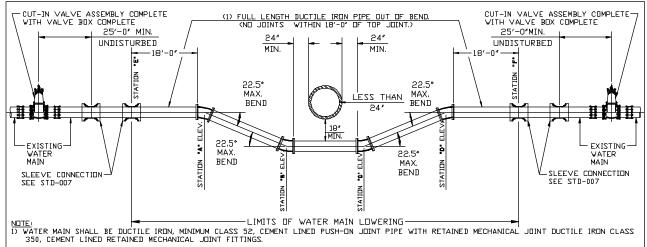
2' EXTRA STRONG
GALVANIZED BLACK
JRON PIPE LENGTH
BOTH ENDS THREADED

TO SUPPORT VALVE BOX AND TO STABILEZE THE GRAVEL

- 1 CU. FT. GRAVEL

WATER METER FLANGE BRONZE SEE DETAIL FOR STREET ELBOW AND RISER PIPE

BY: RSK



- 2) WHERE DEPTH OF LOWERING REQUIRES AN INTERMEDIATE JOINT BETWEEN STATIONS "A" & "B" AND/OR "C" & "D" THE ENTIRE LOWERING SHALL BE MADE VITH DUCTILE IRON, MINIMUM CLASS 52, CEMENT LINED PIPE AND DUCTILE IRON CLASS 350, CEMENT LINED FITTINGS ALL HAVING BOLTLESS RESTRAINED
- 3) WHERE LENGTH OF LOWERING UNDER OBSTRUCTION(S) REQUIRES AN INTERMEDIATE JOINT ONLY BETWEEN STATIONS '8' & 'C', THAT INTERMEDIATE JOINT(S) SHALL BE MADE WITH A BOLTLESS RESTRAINED PUSH-ON JOINT, TYPE II.
- 4) WHERE EXISTING WATER MAIN IS SIX (6)-INCHES IN DIAMETER THE PIPE LOWERING SHALL BE MADE WITH PIPE AND FITTINGS NO LESS THAN EIGHT (8)-INCH IN DIAMETER WITH REDUCERS INSTALLED AT STATIONS "E" AND "F". THE REDUCERS SHALL BE RETAINED MECHANICAL JOINT WITH SMALL END OF REDUCER PLAIN END FOR CONNECTION WITH SLEEVES OR COMPRESSION COUPLINGS.
- 5) ALL EXISTING WATER SERVICE CONNECTIONS BETWEEN THE CUT-IN-VALVE ASSEMBLIES SHALL BE MAINTAINED BY "TEMPORARY SERVICE CONNECTIONS" PROVIDED AND MAINTAINED BY THE CONTRACTOR.
- 6> EXISTING WATER SERVICE CONNECTIONS NEEDED TO BE RETAPPED AND RECONNECTED WILL ONLY BE PERMITTED BETWEEN STATIONS "A" AND "E" AND STATIONS "O" AND "F", NO RETAPPING OF SERVICE CONNECTIONS WILL BE ALLOWED BETWEEN STATIONS "A" AND "O".

DETAIL FOR WATER MAIN LOWERING UNDER OBSTRUCTIONS LESS THAN 24" IN DIAMETER OR WIDTH FOR "EXISTING CONSTRUCTION"

- NOT TO SCALE

PUSH-ON JOINTS, TYPE II.

STD-L02 DATE: 10-1-97 BY: RSK

ine: G:\CiviL\2000128\00\DWG\2000128WDA.DWG 12-16-02 Time: 3:36 PM TW = 040'0.00"

WATER

RIECT VALVE VAULT DETAILS

DRAWN BY DLT\PB

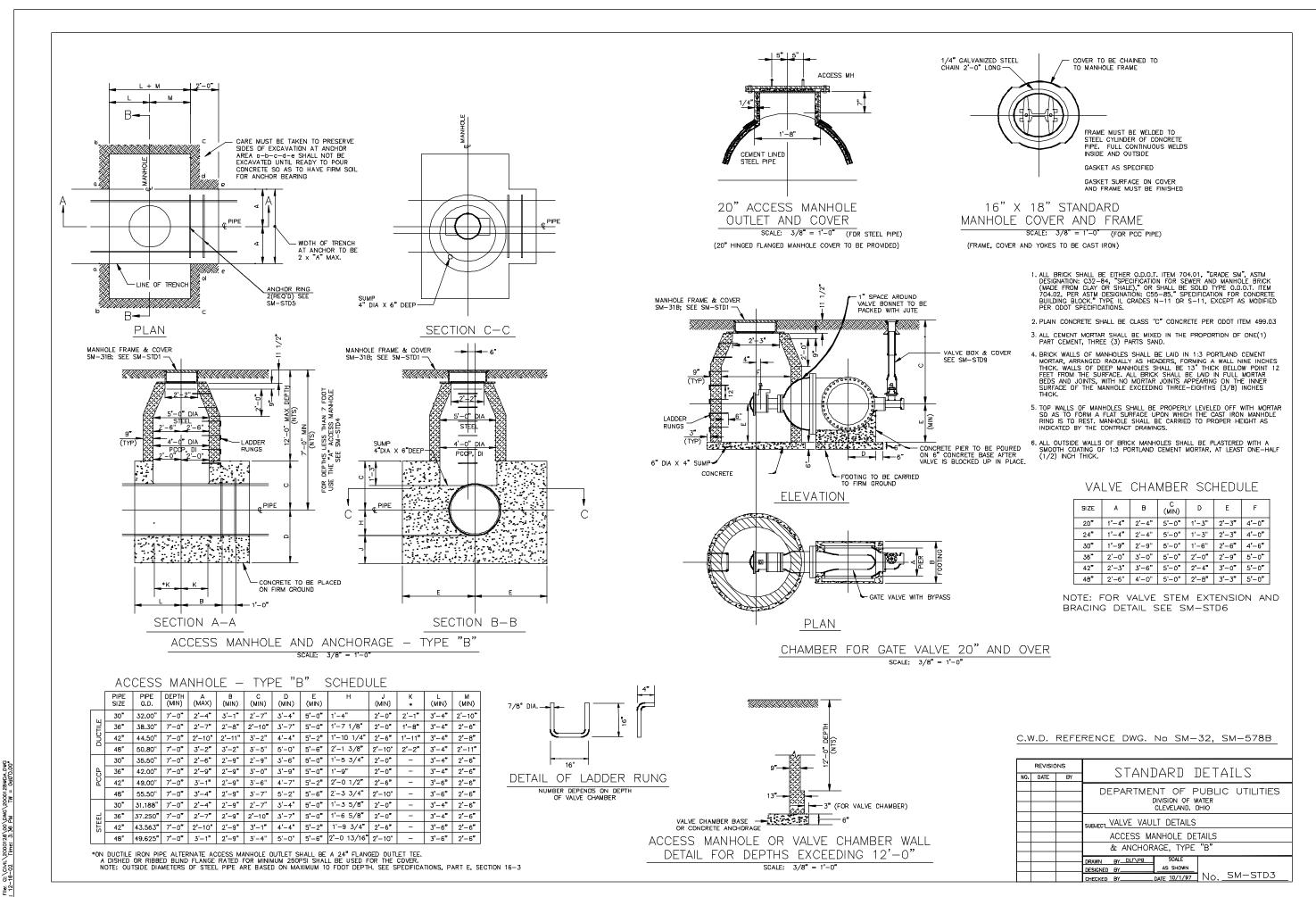
ACCESS MANHOLE DETAILS

AS SHOWN

DATE 10/1/97 NO.

SM-STD3

& ANCHORAGE, TYPE "B



VALVE CHAMBER BASE -

ACCESS MANHOLE OR VALVE CHAMBER WALL

DETAIL FOR DEPTHS EXCEEDING 12'-0"

SCALE: 3/8'' = 1'-0''

OR CONCRETE ANCHORAGE

30" 31.188" 7'-0" 2'-4" 2'-9" 2'-7" 3'-4" 5'-0"

36" 37.250" 7'-0" 2'-7" 2'-9" 2'-10" 3'-7" 5'-0" 1'-6 5/8"

42" 43.563" 7'-0" 2'-10" 2'-9" 3'-1" 4'-4" 5'-2" 1'-9 3/4" 2'-6"

48° | 49.625" | 7'-0" | 3'-1" | 2'-9" | 3'-4" | 5'-0" | 5'-6" | 2'-0 13/16" | 2'-10" |

1'-3 5/B*

*ON DUCTILE IRON PIPE ALTERNATE ACCESS MANHOLE OUTLET SHALL BE A 24" FLANGED DUTLET TEE.
A DISHED OR RIBBED BLIND FLANGE RATED FOR MINIMUM 250PSI SHALL BE USED FOR THE COVER.
NOTE: OUTSIDE DIAMETERS OF STEEL PIPE ARE BASED ON MAXIMUM 10 FOOT DEPTH. SEE SPECIFICATIONS, PART E, SECTION 16-3

2'-0"

2'-0"

3'-4" 2'-6"

3'-4" 2'-6"

3'-6" 2'-6"

- 3'-6" 2'-6"

(100)

CALCULATED

MAXIMUM TRENCH WIDTH AT TOP OF PIPE

SEE NOTE 1

BACKFILL AS SPECIFIED SEE NOTE 3,4, &5 BELOW

SAND BEDDING

LIMITS OF REDDING

6" MIN. IN EARTH

9" MIN. IN ROCK

NOTES:

— 12" (MIN)

CONCRETE TO BE CARRIED TO SOLID BACKING

6" (MIN) -

<u>PLAN</u>

SECTION E-E

CONCRETE PIERS FOR TEES

NOT TO SCALE

CONCRETE PIERS-SCHEDULE

20"

PIPE D E F SIZE (APPROX.) (MIN) (MIN)

12" 2'-0" 1'-10" 4'-0"

16* 2'-6" 2'-2" 4'-6"

24" 3'-8" 3'-8" 5'-8" 30" 4'-2" 4'-2" 6'-2"

36" 4'-8" 4'-8" 6'-8"

42" 5'-2" 5'-4" 7'-2"

48" 5'-8" 5'-10" 7'-8"

1'-6" 1'-6" 3'-6"

3'-0" 3'-2" 5'-0"

C.L.(MIN)

- 2'-0" (MIN)

CONCRETE TO BE PLACED ON FIRM GROUND

<u>PLAN</u>

SECTION F-F

CONCRETE PIERS FOR BENDS

NOT TO SCALE

CONCRETE PIERS-SCHEDULE

11-1/4", 22-1/2", 45"

PIPE A B C SIZE (MIN) (MIN) (APPROX.)

6"-8" 2'-8" 1'-6" 0'-8"

12" 3'-0" 1'-10" 1'-0"

16" 3'-2" 2'-2" 1'-0" 20" 3'-10" 3'-2" 1'-3"

24" 4'-3" 3'-8" 1'-6"

30" 5'-0" 4'-2" 2'-0"

36" 5'-6" 4'-8" 2'-6"

42" 6'-0" 5'-4" 3'-0"

48" 7'-0" 5'-10" 3'-6"

NOTE: DIMENSIONS HEREON FOR CONCRETE PIER ARE APPROXIMATE AND FOR AND FOR REFERENCE ONLY. ALL CONCRETE SHALL BE FORMED AND POURED TO UNDISTURBED EARTH.

2'-0" (MIN.)

SEE PAVEMENT REPLACEMENT DETAILS

12" MIN., 15" MAX.

PRING LINE

THE MINIMUM WIDTH OF UNSHEETED TRENCH SHALL BE EIGHTEEN(18) INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE EXCEPT BY CONSENT OF THE ENGINEER: THE MAXIMUM CLEAR WIDTH OF THE TRENCH SHALL NOT BE NOT MORE THAN TWO(2) FEET GREATER THAN THE OUTSIDE PIPE DIAMETER: WHEN SHEETING AND BRACING IS USED, THE TRENCH WIDTH SHALL BE INCREASED ACCORDINGLY.

ALL TRENCH EXCAVATION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE OHIO STATE INDUSTRIAL COMMISSION (OSIC) AND THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

PREMIUM BACKFILL SHALL CONSIST OF CRUSHED LIMESTONE.
THE PREMIUM BACKFILL SHALL BE AS SUCH THAT CAN BE
READILY INCORPORATED IN AN 8-INCH LAYER AND SHALL
BE IN ACCORDANCE WITH OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS,
ITEM 304, "AGGREGATE BASE," SECTION304.02, "AGGREGATE."
SEE DETAIL SPECIFICATIONS, PART D, SECTION D-27, PARAGRAPH H.

TRENCH & BEDDING DETAILS

3. BACKELLING SHALL CONSIST OF A SAND REDDING BACKELL, AND BACKELL EXCAVATED

DAUKFILLING SHALL CONSIST OF A SAND BEDDING BACKFILL, AND BACKFILL EXCAVATED
FROM THE TRENCHES, OR WHERE REQUIRED, PREMIUM BACKFILL MATERIAL. BACKFILL ABOVE
THE ONE (1) FOOT SAND BEDDING BACKFILL MAY BE MADE WITH MATERIAL EXCAVATED FROM
THE TRENCHES, PROVIDING SAME IS SATISFACTORY TO THE ENGINEER. IF, IN THE OPINION OF
THE ENGINEER, THE MATERIAL EXCAVATED IS UN SATISFACTORY, THE CONTRACTOR SHALL FURNISH,
AT HIS OWN EXPENSE, OTHER MATERIAL SUITABLE FOR BACKFILL. ALL BACKFILL SHALL BE
CAREFULLY
PLACED INTO TRENCH AND NOT DOZED OR DUMPED FROM THE TOP OF THE TRENCH.

4. PREMIUM BACKFILL SHALL BE PLACED WHERE EXISTING AND FUTURE PERMANENT PAVEMENT, SIDEWALKS, DRIVEWAYS, SEWER PIPE CROSSINGS AND CURB CROSSINGS HAVE BEEN OPEN OR UNDERCUT. THE PLACE OF PREMIUM BACKILL ALSO APPLIES TO ALL EXCAVATION WITHIN THREE(3) FEET OF EXISTING OR FUTURE PERMANENT PAVEMENT, SIDEWALKS, DRIVEWAYS, DRIVEWAY APRONS, SEWER PIPE CROSSINGS AND CURB CROSSINGS. IF PART OF THE TRENCH IS UNDER EXISTING OR FUTURE PAVEMENT, SIDEWALK, DRIVEWAY, DRIVEWAY APRONS, OR CURB THE ENTIRE TRENCH SHALL BE BACKFILLED WITH PREMIUM BACKFILL.

REGULAR LENGTHS (TYPICAL)

REGULAR LENGTHS

(TYPICAL)

RESTRAINED JOINTS

-CONCRETE PIERS

TYPICAL HORIZONTAL BENDS NOT TO SCALE

REGULAR LENGTHS (TYPICAL)

SEE NOTE , DISTANCE

TYPICAL VERTICAL BENDS

NOT TO SCALE

RESTRAINED DISTANCE

DESIGNED BY_

NOTES:

REVISIONS

NO. DATE BY

RESTRAINED JOINTS

RESTRAINED DISTANCE

TYPICAL HORIZONTAL BEND NOT TO SCALE

RESTRAINED JOINTS (TYPICAL)

1. THE HORIZONTAL AND VERTICAL BENDS LAYOUTS SHOW TYPICAL ARRANGEMENT FOR BOTH HORIZONTAL AND VERTICAL BENDS. IN SPECIAL CASES MAY REQUIRE A COMBINATION OF HORIZONTAL AND VERTICAL "RESTRAINED DISTANCES," OR THE TIED DISTANCE MAY END AT AN ANCHOR INSTEAD OF TYPICAL JOINT. THE PLAN AND PROFILE DRAWINGS GIVE DEFINITE "RESTRAINED DISTANCES" AT ALL REQUIRED POINTS. THE STRAIGHT LENGTHS OF PIPE DESIGNATED AS "REGULAR LENGTHS" SHALL BE MINIMUM 20'-0" LONG.

STANDARD DETAILS

AND TRENCH DETAILS

NONE

DEPARTMENT OF PUBLIC UTILITIES CLEVELAND, OHIO

THRUST BLOCK, RESTRAINT &

CONCRETE PIERS

TYPICAL JOINT OR ANCHOR

CONCRETE PIERS

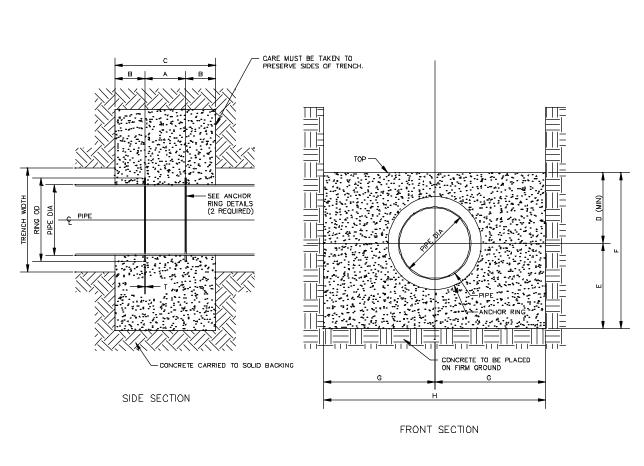
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#### PLAIN ANCHOR AND ANCHORAGE DETAIL

#### NOTES:

- 1. ALL PIPE AND FITTING THICKNESSES SHALL BE AS SPECIFIED.
- 2. ALL PIPE JOINTS SHALL BE OF THE TYPE SPECIFIED OR AS SHOWN ON APPROVED DETAILED SHOP DRAWINGS.
- 3. ALL WELDS, REINFORCEMENT PLATES AND OTHER PERTINENT INFORMATION SHALL BE OF THE TYPE AND SIZE SHOWN ON APPROVED SHOP DRAWINGS.
- 4. ALL WELDS SHALL BE SHOP WELDS AND SHALL BE FULL AND CONTINUOUS.
- 5. ALL JOINTS NOT WELDED SHALL BE BONDED TO MAKE THE ENTIRE STRUCTURE ELECTRICALLY CONTINUOUS.

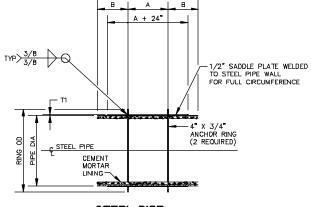
#### ANCHOR RING DETAILS

NOTE: RING DIAMETERS AND RING THICKNESS ARE MINIMUMS. DIAMETERS ARE/OR THICKNESS SHALL BE INCREASED WHEN WORKING PRESSURES EXCEED 150PSI

#### ANCHOR AND FLANGE SCHEDULE

	DIA	Α	В	C * *	D (MIN)	E (MIN)	F (MIN)	G (MIN)	H (MIN)	TRENCH WIDTH (MAX)	RING OD (MIN) DUCTIL	T (MIN)	W
	20"	1'-0"	1'-0"	3'-0"	2'-3"	2'-3"	4'-6"	3'-6"	7'-0"	4'-0"	25.70"	1/2"	3/8"
	24"	1'-0"	1'-0"	3'-0"	2'-8"	3'-0"	5'-8"	4'-0"	8'-0"	4'-6"	30.25"	1/2"	7/16"
*	30"	1'-0"	1'-3"	3'-6"	3'-0"	3'-6"	6'-6"	5'-0"	10'-0"	5'-0"	36.50"	5/8"	1/2"
*	36"	1'-0"	1'-3"	3'-6"	3'-3"	3'-9"	7'-0"	5'-6"	11'-0"	5'-6"	43.40"	5/8"	1/2"
*	42"	2'-0"	1'-6"	5'-0"	3'-6"	4'-6"	8'-0"	6'-0"	12'-0"	6'-0"	49.50"	3/4"	5/8"
*	48*	2'-0"	1'-6"	5'-0"	4'-0"	5'-0"	9'-0"	6'-6"	13'-0"	6*-8"	56.50"	3/4"	5/8"

- NOTES: 1.) RING DIAMETERS AND RING THICKNESS ARE MINIMUMS. DIAMETER AND/ OR THICKNESS SHALL BE INCREASED WHEN WORKING PRESSURES EXCEED 150PSI
  - * 2.) FOR ANCHORAGE ON ACCESS MANHOLES, "TYPE A" AND "TYPE B", ON 42" AND 48" PIPE, DIMENSION "A" IS 1'-0".
  - * 3.) FOR ANCHORAGE ON ACCESS MANHOLES, TYPE "A" AND TYPE "B", DIMENSION "B" IS 1'-0".
  - ** 4.) FOR PLAIN ANCHORS ONLY.



T1: FOR THICKNESS OF STEEL PIPE SEE DETAILED SPECIFICATIONS, PART E, SECTION 3-6

	REVISIO	2NC	OTANDADD DETAIL O									
NO.	DATE	BY	STANDARD DETAILS									
			DEPARTMENT OF PUBLIC UTILITIES  DMSION OF WATER CLEVELAND, OHIO									
			SUBJECT_ANCHOR RING AND PLAIN									
			CONCRETE ANCHOR DETAILS									
			DRAWN BY_DLT\PB SCALE     DESGMED BY 1" - 1'-0'     CHECKED BY DATE 19/1/97   NO. SM - STD5									

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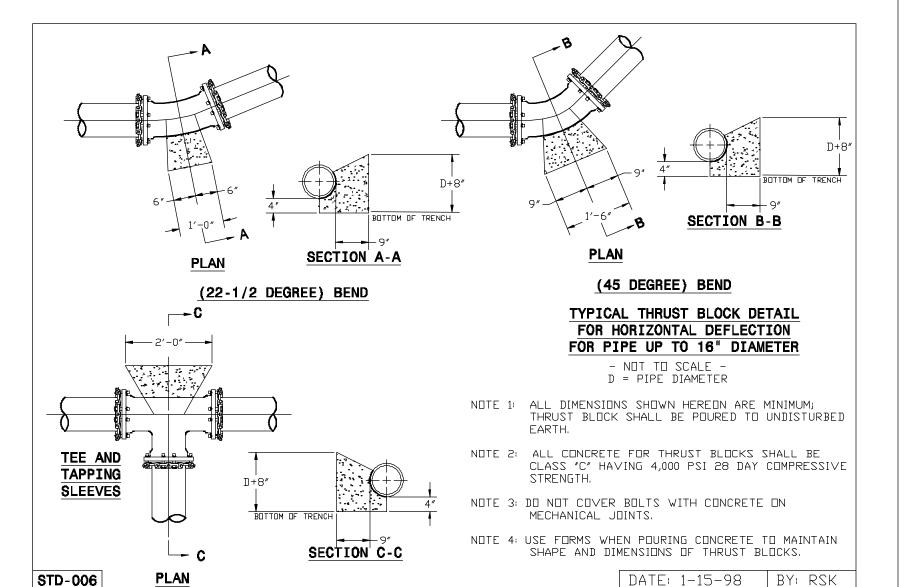
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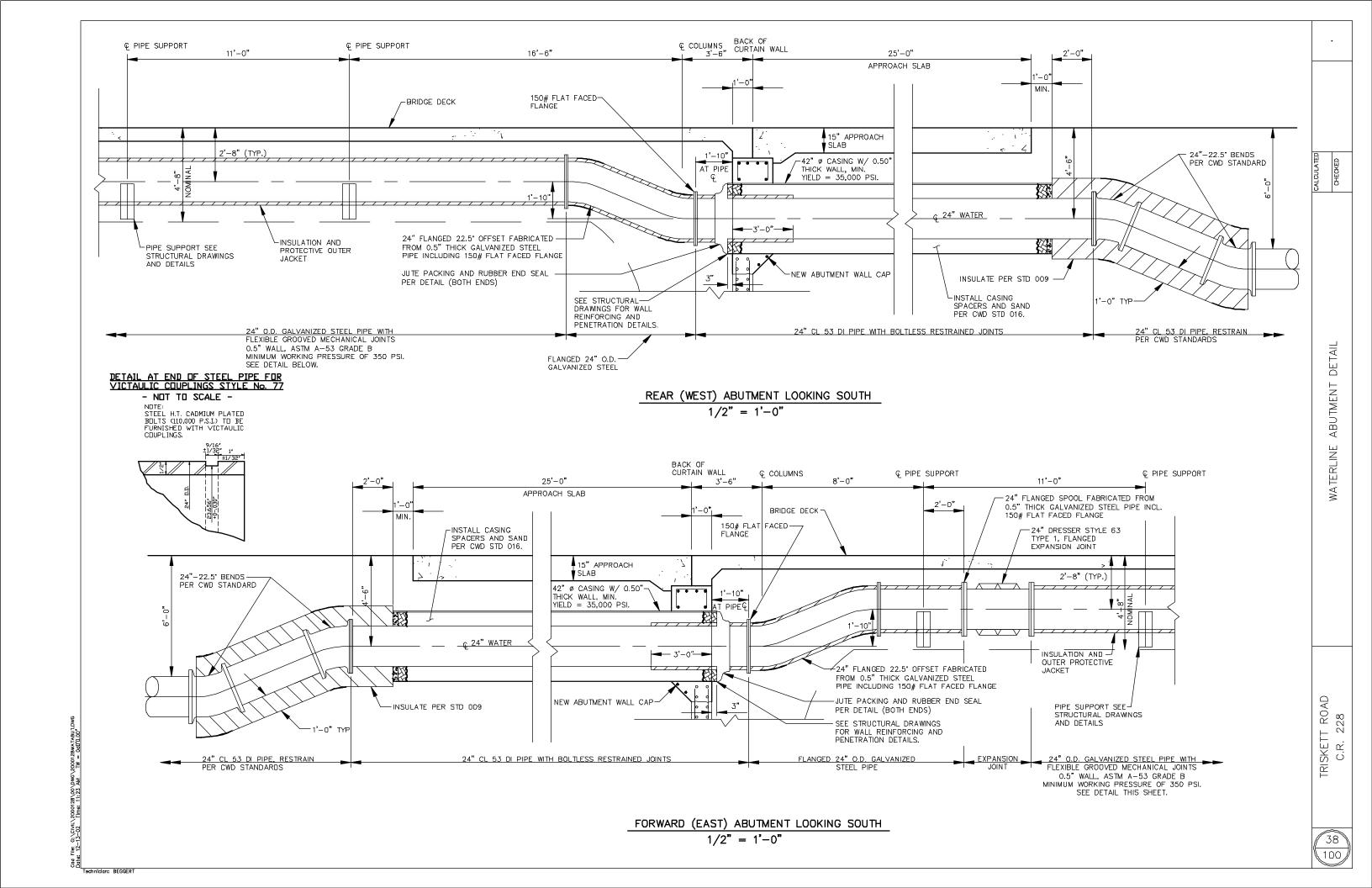
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## PAVEMENT MARKINGS REMOVED

ANY ROADWAY PAVEMENT MARKINGS REMOVED BY THE CONTRACTOR FOR MAINTENANCE OF TRAFFIC PURPOSES AND NOT SPECIFICALLY CALLED OUT FOR REPLACEMENT IN THESE PLANS SHALL BE REPLACED IN KIND BY THE CONTRACTOR AND PAID FOR UNDER ITEM 614—MAINTENANCE OF TRAFFIC.

## TRAFFIC CONTROL CONSTRUCTION PROCEDURES

THE CONTRACTOR SHALL REFERENCE THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS AND THE CUYAHOGA COUNTY STANDARD CONSTRUCTION DRAWINGS LISTED ON THE TITLE SHEET OF THE PLANS, THE 2002 ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE OMUTCD — LATEST EDITION, AND ANY OTHER APPLICABLE STATE OF OHIO OR CUYAHOGA COUNTY SPECIFICATIONS AND GUIDELINES FOR THE CONSTRUCTION OF THE TRAFFIC CONTROL ITEMS ILLUSTRATED IN THE PLANS.

## PROPOSED SIGN AND PAVEMENT MARKING INSTALLATIONS

THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL PROPOSED SIGNS AND PAVEMENT MARKINGS PRIOR TO PLACEMENT. THE PROPOSED SIGNS SHALL NOT INTERFERE WITH ANY DRIVEWAYS OR BUSINESS ENTRANCE/ EGRESS AREAS. IN THE EVENT THAT THE SIGN DOES INTERFERE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO RECEIVE A NEW LOCATION FOR THE SIGN.

## ITEM 630 - REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN

THIS ITEM SHALL BE AS OUTLINED IN 630 EXCEPT THAT ANY REMOVED SIGNS AND SUPPORTS FROM WITHIN THE PROJECT LIMITS SHALL BE STORED ON SITE FOR SALVAGE BY CUYAHOGA

THE CONTRACTOR SHALL REMOVE ALL SIGNS AND SUPPORTS SHOWN ON THE TRAFFIC CONTROL PLAN AND AS SUMMARIZED IN THE SUBSUMMARY.

IF SIGNS ARE NOT PICKED UP BY THE COUNTY, AND WHEN WRITTEN APPROVAL OF THE ENGINEER HAS BEEN RECEIVED, THE CONTRACTOR SHALL DISPOSE OF THE SIGNS AT NO ADDITIONAL COST TO

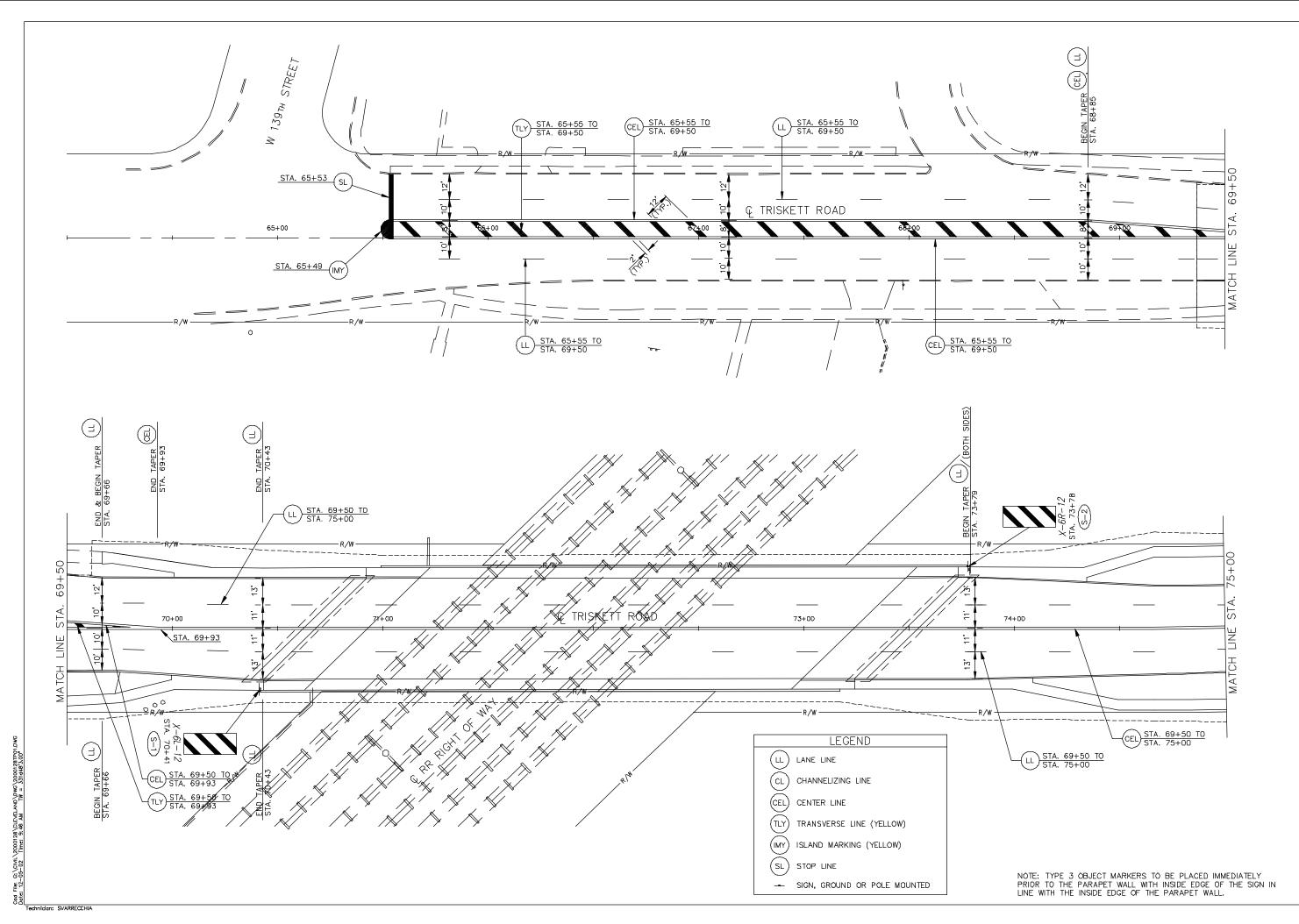
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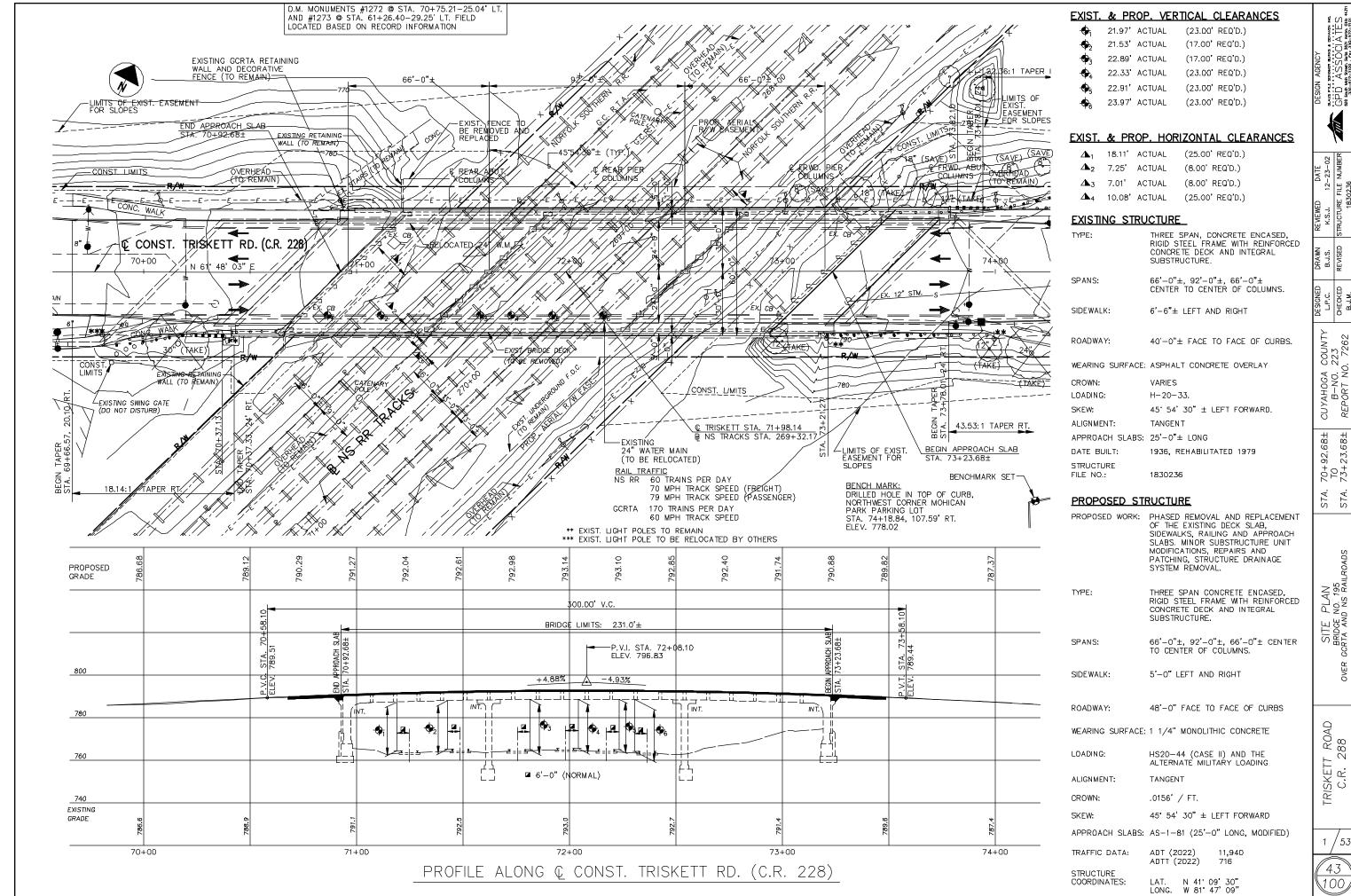
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		T						644	644	644	644	644	644	630	630	630	
SHEET NO.	LOCATION	STA	TION	SIDE	CODE	SIZE	REFERENCE NO.	LANE LINE	CENTERLINE	CHANNELIZING LINE		ISLAND MARKING (YELLOW)		<b>†</b>	SIGN, FLAT SHEET TYPE G	REMOVAL OF	CALCULAT MAH CHECKET R. IT
		FROM	TO					L.F.	L.F.	L.F.	L.F.	SQ. FT.	L.F.	L.F.	SQ. FT.	EACH	1
41	TRISKETT ROAD	65+49		LT.				1				41.13			-		-
41	TRISKETT ROAD	65+53		LT.							22.00	11110					]
41	TRISKETT ROAD	65+55	69+50	LT.				395.00	395.00								4
41	TRISKETT ROAD TRISKETT ROAD	65+55 65+55	69+50 69+50	LT.					395.00				217.50				1
41	TRISKETT ROAD	65+55	69+50	CEN.					395.00								1
41	TRISKETT ROAD TRISKETT ROAD	65+55 69+50	69+50 75+00	RT. LT.				395.00 550.00									1
41	TRISKETT ROAD	69+50	75+00	CEN.				330.00	550.00								1
41	TRISKETT ROAD	69+50	75+00	RT.				550.00	47.00								]
41	TRISKETT ROAD TRISKETT ROAD	69+50 68+50	69+93 69+93	LT.				+	43.00				3.25				1
41	TRISKETT ROAD	70+41		RT.	X-6L-12	12" X 36"	S-1							13.25	3.00		1
41	TRISKETT ROAD	73+78		LT.	X-6R-12	12" X 36"	S-2							13.25	3.00		-
42	TRISKETT ROAD	75+00	80+00	LT.				500.00									1
42	TRISKETT ROAD	75+00	80+00	CEN.					500.00								1
42 42	TRISKETT ROAD TRISKETT ROAD	75+00 79+85	80+00 00+08	RT. RT.				500.00		15.00							-
42	TRISKETT ROAD	75+34	30.00	LT.	W-47		R-1			10.00						1	1 、
42	TRISKETT ROAD	75+50 80+00	מחובת	LT.	W-47-36	36" X 36"	S-3	50.00						14.13	9.00		SUBSUMMARY
42 42	TRISKETT ROAD TRISKETT ROAD	80+00 80+00	80+50 80+50	LT. CEN.			1	50.00	50.00			1	-		1	1	₹
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## ESTIMATED QUANTITIES

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REFERENCE NUMBER	ITEM	EXT	TOTAL	UNITS	DESCRIPTION	ABUT	PIER	SUPER	GENERAL	AS PER PLAN SHT. NO./53
90	100	00300	LUMP	-	SPECIAL-PREMIUM ON RAILROAD'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE (GCRTA)				LUMP	**
91	100	00300	LUMP	-	SPECIAL-PREMIUM ON RAILROAD'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE (NS)				LUMP	**
92	202	11203	LUMP	_	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	3
93	202	23500	1027	SQ YD	WEARING COURSE REMOVED			1027		
94	509	20001	1000	POUND	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN				1000	3
95	511	50001	700	CU YD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN	31		669		4, 42
96	511	50101	55	CU YD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN			55		4, 42
97	511	52000	LUMP	-	CLASS HP CONCRETE TEST SLAB				LUMP	
98	511	52500	LUMP	-	CLASS HP CONCRETE TESTING				LUMP	
99	512	33300	19	SQ YD	TYPE A WATERPROOFING	19				
100	513	10201	31740	POUND	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN			31240		7 40
100	213	10201	31240	POUND	STRUCTURAL STEEL MEMBERS, LEVEL OF, AS PER PLAN			31240		3, 42
101	516	13201	100	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	100				3
102	516	13601	48	SQ FT	1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN	48				3
107	E 1 0	01100	1.5	011.70	PODGUIS DAGYEN I	1.5				
103	518	21100	15	CU YD	PORDUS BACKFILL	15				
104	519	11100	4183	5Q FT	PATCHING CONCRETE STRUCTURE	907	206	970	2100	
105	519	12600	141	FT	SPECIAL - CONCRETE REPAIR BY EPOXY INJECTION		71		70	*
106	607	39901	555	FT	SPECIAL - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	99		456		4
107	864	10050	265	SQ YD	SEALING OF CONCRETE SURFACES (NON-EPOXY)	+		265		
108	864	10100	2552		SEALING OF CONCRETE SURFACES (NON-LI OXT)	834	861	857		
		10100	1 2002	ני אכן	1 SELECTION OF SELECTION SOURCES	1 00 1	1 201	10,		1

* SEE PROPOSAL NOTE.

** SEE BID PACKAGE-SECTION 200 OF CUYAHOGA COUNTY SPECIFICATION BOOKLET

CALCULATED: <u>L.P.C.</u> DATE: <u>01/08/02</u>

CHECKED: S.A.M. DATE: 01/14/02

DESIGN SPECIFICATIONS

RECONSTRUCTION OF THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS 1996 16TH EDITION, INCLUDING THE 1997, 1998, 1999, 2000 AND 2002 INTERIM SPECIFICATIONS. THE OHIO DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL AND THE CUYAHOGA COUNTY SUPPLEMENT.

#### DESIGN STRESSES

CLASS HP CONCRETE-COMPRESSIVE STRENGTH 4500 PSI REINFORCING STEEL-ASTM A615, A616, A617
-GRADE 60 MINIMUM YIELD STRENGTH 60,000 PSI STRUCTURAL STEEL-A572/A709 GRADE 50-YIELD STRENGTH 50,000 PSI DESIGN LOADING-HS20-44 & ALTERNATIVE MILITARY LOADING

REFERENCE SHALL BE MADE TO STANDARD DRAWING(S):

TC-41.40 07/16/04 MT-95.30 07/16/04 MT-95.32 07/16/04 MT-95.41 07/16/04 MT-97.12 04/19/02 MT-101.60 10/18/02 MT-105.10 10/18/02 MT-105.11 10/18/02 MT-110.20 10/18/02 BP-1.1 07/28/00 BP-2.1 07/16/04 BP-2.2 07/16/04 BP-2.3 07/16/04 BP-2.5 07/28/00 07/16/04 BP-4.1 07/16/04 07/28/00 RM-1.1 04/18/03 GR-1.1 07/16/04 GR-2.1 01/16/04 GR-3.1 04/18/03 GR-4.2 10/17/03 07/19/02 F-1.1 07/16/04 AS-1-81 07/19/02 VPF-1-90 07/19/02

AND TO SUPPLEMENTAL SPECIFICATION(S):

846 DATED 09/09/97 864 DATED 07/11/00 908 DATED 11/07/00 954 DATED 09/09/97

#### DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL 3" CONCETE COVER

#### EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND/OR FROM FIELD MEASUREMENTS. THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND PROPOSED WORK, BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO SECTIONS 102.05 AND 105.02 IN THE CUYAHOGA COUNTY ENGINEER'S SPECIFICATION BOOKLET.

CONTRACT BID PRICES SHALL BE BASED UPON THE RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

<u>PLANS OF THE EXISTING STRUCTURE</u> ARE ON FILE AT THE CUYAHOGA COUNTY ENGINEER'S OFFICE, 2100 SUPERIOR VIADUCT CLEVELAND, OHIO 44113, AND ARE AVAILABLE FOR REFERENCE, CONTRACTOR SHALL FAMILIARIZE HIM/HER SELF WITH ALL PERTINENT DRAWINGS.

#### SEQUENCE OF OPERATIONS

THE FOLLOWING NARRATIVE IS DESCRIPTIVE OF THE GENERAL SEQUENCE OF PHASED REMOVAL AND CONSTRUCTION TO BE USED IN THE REHABILITATION OF THIS STRUCTURE, ADDITIONAL DETAILS OF THE PHASED REMOVAL AND CONSTRUCTION ARE SHOWN ON SHEET 5. THE CONTRACTOR SHALL SUBMIT IN WRITING HIS/HER PROPOSED METHODS AND SEQUENCE FOR PERFORMING THIS WORK TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WORK.

PHASE 1:

ESTABLISH PHASE 1 MOT, MAINTAINING ONE LANE OF EB TRAFFIC ON THE SOUTH SIDE OF STRUCTURE AND DETOURING WB TRAFFIC.

REMOVE PORTIONS OF THE NORTH SIDE OF THE STRUCTURE TO THE LIMITS SHOWN IN THE PLANS.

INSTALL SUPPORTING MEMBERS AND RELOCATED 24" WATER MAIN

CONSTRUCT NEW REINFORCED CONCRETE DECK ON NORTH SIDE OF STRUCTURE.

#### PHASE 2:

ESTABLISH PHASE 2 MOT, MAINTAINING ONE LANE OF WB TRAFFIC, ON THE RECONSTRUCTED NORTH SIDE OF THE STUCTURE AND DETOURING EB TRAFFIC.

REMOVE PORTIONS OF THE SOUTH SIDE OF THE STRUCTURE TO THE LIMITS SHOWN IN THE PLANS.

CONNECT, TEST AND ACTIVATE THE RELOCATED 24" WATER MAIN.

REMOVE EXISTING 24" WATER MAIN.

CONSTRUCT NEW REINFORCED CONCRETE DECK ON SOUTH SIDE OF STRUCTURE.

REMOVE MOT DEVICES AND REESTABLISH NORMAL TRAFFIC PATTERNS.

THE FOLLOWING ITEMS OF WORK ON THE BRIDGE ARE INDEPENDENT OF MOT PHASING OPERATIONS:

PATCH EXISTING REINFORCED CONCRETE SUPERSTRUCTURE AND SUBSTRUCTURE ELEMENTS.

SEALING OF NEW, PATCHED OR EXISTING CONCRETE SURFACES.

= PREFORMED EXPANSION JOINT FILLER

INSTALLATION OF VANDAL PROTECTION FENCING.

## **ABBREVIATIONS**

#### PROTECTION OF TRAFFIC:

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE. THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF VEHICULAR, PEDESTRIAN AND RAIL TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE ENGINEER FOR APPROVAL. PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.

#### PROTECTION OF REINFORCED CONCRETE SUPPORT SYSTEMS:

BEFORE DECK SLAB CUTTING IS PERMITTED, THE OUTLINE OF PRIMARY CONCRETE MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK (RIB ENCASEMENT AND DIAPHRAGMS) SHALL BE DRAWN ON THE SURFACE OF DECK. SMALL DIAMETER PILOT HOLES SHALL BE DRILLED 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF THE EDGES OF THOSE MEMBERS. DECK CUTS OVER OR WITHIN 2 INCHES OF MEMBER EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF DECK SLAB REINFORCING STEEL. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. DURING CUTTING OF THE DECK SLAB, CARE SHALL BE TAKEN NOT TO DAMAGE REINFORCED CONCRETE MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE.

#### REMOVAL METHODS:

CONCRETE MAY BE REMOVED BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER BRIDGE MEMBERS (REINFORCED CONCRETE ENCASED STEEL RIBS, INTERMEDIATE DIAPHRAGMS, ETC), A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS MAY BE USED AT THE APPROVAL OF THE ENGINEER. REMOVAL METHODS OVER BRIDGE MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STEEL MEMBERS (ENCASED STEEL RIBS). EXISTING REINFORCING STEEL SHALL NOT BE CUT. BUT LEFT AT LOCATIONS SHOWN ON THE PLANS TO SERVE AS DOWELS AND PRINCIPAL REINFORCEMENT IN THE REBUILT STRUCTURE. IT IS IMPERATIVE THAT THE LENGTH RETAINED SHALL NOT BE LESS THAN THAT SHOWN. CARE SHALL BE TAKEN TO PRESERVE THE BOND OF SUCH DOWELS IN THE EXISTING CONCRETE, THESE BARS SHALL BE CLEANED OF ALL CONCRETE FRAGMENTS AND FOREIGN MATTER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH THE BARS HAND TOOLS SHALL BE EMPLOYED FOR FINAL CLEANING. WHERE REINFORCING IS DAMAGED, THE ENGINEER MAY DIRECT REPAIRS THERETO, OR THAT STRESS TRANSFER BE ACCOMPLISHED BY LAPPING EXISTING BARS, OR PROVIDING DOWELS. OTHER REINFORCEMENT WITHIN THE REPLACEMENT SECTIONS SHALL BE REMOVED AND DISPOSED OF.

#### DECK REMOVALS

DUE TO THE PRESENCE OF REINFORCING STEEL BETWEEN THE DECK AND THE RIB ENCASEMENT AND DIAPHRAGMS, THE CONTRACTOR SHALL SUBMIT A DETAILED PROCEDURE OF THE DECK REMOVAL TO THE ENGINEER. THE PROCEDURE SHALL INCLUDE ALL DETAILS, EQUIPMENT AND METHODS OF REMOVAL OVER THE RIB ENCASEMENT AND DIAPHRAGMS AND AROUND THE EXISTING REINFORCING STEEL TO REMAIN. REINFORCED CONCRETE MEMBERS AND REINFORCING DAMAGED BY THE CONTRACTOR'S REMOVAL OPERATIONS SHALL, AT NO COST TO THE PROJECT, BE REPLACED OR REPAIRED. PROPOSED REPAIRS, DEVELOPED AND SEALED BY A OHIO REGISTERED PROFESSIONAL ENGINEER, SHALL BE SUBMITTED IN WRITING FOR REVIEW AND APPROVAL BY THE ENGINEER.

#### EXTRANEOUS MEMBERS:

EXISTING EXTRANEOUS MEMBERS (i.e., FINISHING MACHINE AND FORM SUPPORTS, ETC., AND THE SUPPORT FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) ATTACHED TO THE TOP FLANGES OF EXISTING STEEL MEMBERS SHALL BE REMOVED AND THE FLANGE SURFACES GROUND SMOOTH. GRINDING SHALL BE CAREFULLY DONE AND PARALLEL TO THE FLANGES.

#### LOADING LIMITATIONS:

NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHODS OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

#### DISPOSAL OF REMOVED MATERIAL:

ALL CONCRETE, REINFORCING STEEL, ASPHALT, ABANDONED LIGHTING CONDUIT, LIGHTING SYTEM TRANSFORMERS, ETC. REMOVED FROM THE STRUCTURE AND NOT REUSED SHALL, UNLESS OTHERWISE SPECIFIED, BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED BY HIM/HER FROM THE SITE. UNDER NO CIRCUMSTANCES SHALL THE MATERIALS BE PERMITTED TO REMAIN ON THE PREMISES, RIGHT—OF—WAY OR ELSEWHERE UNLESS SPECIFIED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL LOCAL, STATE AND FEDERAL LAWS, RULES AND REGULATIONS CONCERNING THE PROPER DISPOSAL OF ALL MATERIALS REMOVED UNDER THIS CONTRACT.

#### ITEM 202-PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, CONT'D

#### CUT LINE CONSTRUCTION JOINT PREPARATION:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT ALL PACK AND LOOSE RUST SHALL BE REMOVED. EXISTING CONCRETE SURFACES, WHICH NEW CONCRETE WILL BE PLACED AGAINST, SHALL BE TREATED WITH AN APPROVED BONDING GROUT AT THE TIME OF CONCRETE PLACEMENT.

#### SUBSTRUCTURE CONCRETE REMOVAL:

SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, HAMMERS NOT EXCEEDING 90 POUNDS MAY BE USED UPON THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

#### PAYMENT.

THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF SECTION 202 OF THE CMS, AND TO THE SATISFACTION OF THE ENGINEER.

#### MODIFICATION AND REPAIR OF EXISTING CONCRETE ELEMENTS

#### GENERAL.

EXISTING REINFORCED CONCRETE STRUCTURAL ELEMENTS WHICH ARE TO BE INCORPORATED INTO THE REBUILT STRUCTURE SHALL BE MODIFIED AND/OR REPAIRED. A CONDITION SURVEY WAS PERFORMED IN MAY 2001. REPAIR AREAS WERE DETERMINED BY VISUAL INSPECTION AND SOUNDING, AND DELINEATED FOR REPAIR BY SPRAY PAINT. THE STRUCTURAL ELEMENTS INSPECTED INCLUDE THE ABUTMENT CURTAIN WALLS AND WINGWALLS (EXPOSED SURFACES ONLY): THE PIER COLUMNS AND PIER DIAPHRAGMS; THE RIB ENCASEMENT AND INTERMEDIATE DIAPHRAGMS. THE RECORDS OF THIS INSPECTION ARE THE BASIS FOR THE REPAIR PLANS AS DETAILED ON SHEETS 9 THROUGH 41 OF 53.

#### ABILITMENTS:

DELINEATED AREAS ON THE ABUTMENT CURTAIN WALLS SHALL BE REPAIRED PER THE REQUIREMENTS OF "ITEM 519, PATCHING CONCRETE STRUCTURE" AND SEALED PER THE REQUIREMENTS OF "ITEM 864, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

DELINEATED AREAS ON THE PIERS SHALL BE REPAIRED PER THE REQUIREMENTS OF "ITEM 519, PATCHING CONCRETE STRUCTURE" AND ITEM SPECIAL, CONCRETE REPAIR BY EPDXY INJECTION; AND SEALED PER THE REQUIREMENTS OF "ITEM 864. SEALING OF CONCRETE SURFACES (FPOXY-URFTHANE).

#### SUPERSTRUCTURE:

DELINEATED AREAS ON THE RIB ENCASEMENT AND INTERMEDIATE DIAPHRAGMS SHALL BE REPAIRED PER THE REQUIREMENTS OF "ITEM 519, PATCHING CONCRETE STRUCTURE" AND SEALED PER THE REQUIREMENTS OF "ITEM 864, SEALING OF CONCRETE SURFACES (FPOXY-URETHANE)

#### CONTINGENCY QUANTITIES:

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN CARRIED TO THE ESTIMATED QUANTITIES. THESE QUANTITIES SHALL BE USED AS DIRECTED BY THE ENGINEER TO REPAIR NEW OR INCREASED AREAS OF DETERIORATION ON THE ABUTMENTS, PIERS AND SUPERSTRUCTURE NOT DELINEATED DURING THE 2001 CONDITION SURVEY. USE OF THE CONTINGENCY QUANTITIES IS NOT LIMITED TO ELEMENTS SCHEDULED FOR REPAIR IN THESE PLANS. THAT IS, THESE QUANTITIES MAY BE USED ON ELEMENTS LISTED AS REQUIRING NO REPAIR AT THE TIME OF

ITEM	DESCRIPTION	QUANTITY	UNIT
540	DATOUNO CONODETE STRUCTURE	2100	SQ. FT.
519	PATCHING CONCRETE STRUCTURE	70	LIN. FT.
519	SPECIAL—CONCRETE REPAIR BY EPOXY INJECTION.		

ALL SURFACES TO BE PATCHED AND THE EXPOSED REINFORCING STEEL WITHIN SHALL BE THOROUGHLY CLEANED BY ABRASIVE BLASTING PRIOR TO THE CLEANING SPECIFIED BY 519.04. CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL OR ERECTION OF THE FORMS BY NOT MORE THAN 24 HOURS.

#### CONSTRUCTION CLEARANCES

NOREDLK SOUTHERN CONSTRUCTION CLEARANCES OF THE LESSER OF 9 FEET HORIZONTALLY OR THE EXISTING HORIZONTAL CLEARANCE, AND THE LESSER OF 22 FEET MEASURED VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL AND 6 FEET FROM THE CENTER OF TRACKS OR THE EXISTING VERTICAL CLEARANCE, SHALL BE MAINTAINED AT ALL TIMES.

GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY:
CONSTRUCTION CLEARANCES OF 7 FEET HORIZONTALLY MEASURED FROM THE CENTER OF THE
TRACKS, AND 20 FEET VERTICALLY, MEASURED FROM A POINT LEVEL WITH THE TOP OF THE
HIGHER RAIL AND 6 FEET FROM THE CENTER OF THE TRACKS, SHALL BE MAINTAINED AT ALL

#### RAILROAD AERIAL LINES

THE CONTRACTOR SHALL USE ALL PRECAUTIONS NECESSARY TO SEE THAT THE LINES ARE NOT DISTURBED DURING THE CONSTRUCTION STAGE AND SHALL COOPERATE WITH THE RAILROAD IN THE RELOCATION OF THESE LINES. THE COST OF THE RELOCATION SHALL BE INCLUDED IN THE RAILROAD FORCE ACCOUNT WORK.

#### ITEM 509 REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

ANY EXISTING REINFORCING BARS, WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS, SHALL BE REPLACED WITH NEW STEEL AT THE CONTRACTOR'S COST. ANY EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION SHALL BE REPLACED WITH NEW STEEL.

THE NUMBER OF POUNDS OF REINFORCING STEEL PAID FOR AT CONTRACT PRICES SHALL BE THE ACTUAL POUNDS OF REINFORCING STEEL SPECIFIED BY THE ENGINEER AS UNUSABLE DUE TO CORROSION AND SHALL INCLUDE PLACEMENT, DOWELING, BENDING, SUPPORTING, TIE WIRES AND TYING OF THAT SPECIFIED REINFORCING STEEL. FOR BIDDING PURPOSES, A CONTINGENCY QUANTITY OF 1000 POUNDS OF NEW REINFORCING STEEL HAS BEEN ESTIMATED FOR ITEM 509-REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN.

#### CONCRETE COVER FOR REINFORCING STEEL

MINIMUM CONCRETE COVER FOR ALL REINFORCING BARS SHALL BE TWO INCHES (2") UNLESS SHOWN OTHERWISE.

#### ITEM 513 STRUCTURAL STEEL MEMBERS LEVEL UF, AS PER PLAN

THE ENGINEER IS RESPONSIBLE FOR ENSURING ANY SHOP OR FIELD FABRICATED STEEL SUPPLIED UNDER THIS BID ITEM IS ACCEPTABLE. THE REQUIREMENTS FOR SUBMITTAL OF SHOP DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING IS WAIVED. AT THE ENGINEER'S OPTION, THE CONTRACTOR SHALL EITHER SUPPLY THE ENGINEER WITH SHOP DRAWINGS, REQUIRED IN SECTION 513.06, PRIOR TO ANY INCORPORATION OF SHOP FABRICATED STEEL AT THE PROJECT, OR SUPPLY THE ENGINEER WITH "AS FABRICATED" DRAWINGS, MEETING 513.06, AFTER COMPLETION OF FIELD FABRICATION. THE ENGINEER SHALL ASSURE THE SUBMITTED DRAWINGS MATCH THE FINAL AS BUILT STEEL INCORPORATED INTO THE WORK. IF THE ENGINEER IS SATISFIED WITH THE DRAWINGS AND DELIVERED MATERIALS, THE CONTRACTOR SHALL SUPPLY A COPY SET, STAMPED AND DATED AS PER 513.06, TO THE COUNTY ENGINEER'S OFFICE FOR RECORD PURPOSES. SUBMITTAL REQUIREMENTS UNDER 513.08, MATERIALS, SHALL BE MADE TO THE ENGINEER. THE CONTRACTOR SHALL FURNISH A COPY OF THE WRITTEN LETTER OF ACCEPTANCE, 513.08, TO THE COUNTY ENGINEER'S OFFICE.

STEEL MEMBERS INCLUDED IN THIS SECTION INCLUDE MC 8X20 CURB ARMOR, PIPE SLEEVES AND SUPPORT CRADLES FOR WATER MAIN.

MC 8X20 CURB ARMOR PIPE SLEEVES AND SUPPORT CRADLES 11240 POUNDS 20000 POUNDS

THE CURB ARMOR AND PIPE SUPPORT CRADLES REQUIRE METALIZING WITH 100% ZINC WRE. SURFACE PREPARATION AND APPLICATION OF THE COATING SHALL BE AS PER THE SOCIETY FOR PROTECTIVE COATINGS SSPC-CS-23.00(L). THE COATING THICKNESS SHALL BE 6 MILS MINIMUM. METALIZED SURFACES EMBEDDED OR PARTIALLY EMBEDDED IN CAST-IN-PLACE CONCRETE REQUIRE SEALING. THE SEALER SHALL BE THE INTERMEDIATE EPOXY COATING MEETING THE REQUIREMENTS OF SS 708.02 (c). THE SEALER SHALL COVER ALL PEAKS. VALLEYS AND SURFACE ROUGHNESS ATTRIBUTED TO METALIZING.

COATINGS DAMAGED DURING SHIPPING, CONSTRUCTION OR FIELD WELDING SHALL BE REPAIRED BY ASTM A780, ANNEX A1, "REPAIR USING ZINC BASED ALLOYS". THE PROCEDURE SHALL BE AS FOLLOWS: REMOVE SURFACE CONTAMINANTS, PREHEAT TO 600 DEGREES F. APPLY ZINC COATING BY RUBBING WITH A PURE ZINC STICK OR SPRINKLING ZINC POWDER ON THE PREHEATED SURFACE TO ACHIEVE A MINIMUM COATING THICKNESS OF 6 MILS. PIPE SLEEVES SHALL CONFORM TO CMS 748.06

## ITEM 516 1/2" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN ITEM 516 1" PREFORMED EXPANSION JOINT FILLER, AS PER PLAN

A POURED POLYURETHANE JOINT SEALANT (SPECTREM 1 JOINT SEALANT, DOW CORNING NS PARKING STRUCTURE SEALANT OR APPROVED EQUAL) SHALL BE APPLIED TO THE TOP OF ALL PREFORMED EXPANSION JOINT FILLER TO A DEPTH OF 1/2", FOR THE FULL WIDTH OF THE JOINT BEING SEALED. ALL COST SHALL BE INCLUDED WITH ITEM 516 FOR PAYMENT

511.03 PROPORTIONING, SLIPFORMING:

SLIPFORMING OF BRIDGE PARAPETS SHALL NOT BE PERMITTED. THE PARAPETS SHALL BE FORMED AND THE FOLLOWING REQUIREMENTS FOLLOWED.

THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF ALL CONCRETE PARAPETS SHALL BE 6 INCHES. THE MAXIMUM SLUMP ALLOWED DURING PLACEMENT IS 8 INCHES.

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE COUNTY.

AS SOON AS CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE (WITHIN 24 HOURS OF PLACEMENT), THE CONTRACTOR SHALL SAW 1 1/4 INCH DEEP AND 1/4 WIDE CONTROL JOINTS INTO THE PERIMETER OF THE CONCRETE PARAPET. THE CONTROL JOINTS SHALL BE SPACED AS SHOWN IN THE PARAPET DETAILS IN THE CONTRACT PLANS. IN NO CASE SHALL THE SPACING OF THE CONTROL JOINTS EXCEED 10 FEET ON CENTERS. THE CONTRACTOR SHALL USE AN EDGE GUIDE, FENCE OR JIG TO ENSURE THAT THE SAW CUT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE PARAPET. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFATION TT—S—002277E TO A MINIMUM DEPTH OF 1 INCH. THE BOTTOM 1/2 INCH OF THE INSIDE AND OUTSIDE FACES SHALL BE LEFT UNSEALED TO LET WATER ESCAPE.

511.04 MIX OPTIONS:

ALL SUPERSTRUCTURE CONCRETE SHALL BE THIS MIX, MIX 4, AS PER PLAN (GGBF SLAG+MICROSILICA).

THE FOLLOWING PROPORTIONS SHALL BE USED AS A STARTING MIX DESIGN.

## CONCRETE TABLE QUANTITIES PER CUBIC YARD AGGREGATE (SSD) MIX 4, AS PER PLAN (GGBF SLAG + MICROSILICA)

AGGREGATE TYPE	FINE AGOREG. (LB.)	#8 COARSE* AGGREGATE (LB.)	#57 COARSE* AGGREGATE (LB.)	TOTAL (LB.)	CEMENT CONTENT (LB.)	GGBF SLAG (LB.)	MICRO- SILICA (LB.)	MAX. WATER CEMENT RATIO	AIR CONTENT +/- 2%
GRAVEL	1245	360	1315	2920	400	170	30	0.42	7
LIMESTONE	1245	360	1335	2940	400	170	30	0.42	7
SLAG	1245	315	1155	2715	400	170	30	0.42	7

 * all coarse aggregate shall have an absorption of 1.00% or greater as per astm

THE WEIGHTS SPECIFIED IN THE CONCRETE TABLE WERE CALCULATED FOR MATERIALS OF THE FOLLOWING BULK SPECIFIC GRAVITIES (SSD): NATURAL SAND AND GRAVEL 2.62, LIMESTONE SAND 2.68, LIMESTONE 2.65, SLAG 2.30, FLY ASH 2.65, GGBF SLAG 2.90, MICROSILICA SOLIDS 2.2D AND PORTLAND CEMENT 3.15. FOR AGGREGATES OF SPECIFIC GRAVITIES DIFFERING MORE THAN PLUS OR MINUS 0.02 FROM THESE, THE WEIGHTS IN THE TABLE WILL BE CORRECTED.

511 25 BASIS OF PAYMENT

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNITS	DESCRIPTION
511E50001	CUBIC YARD	CLASS HP CONCRETE, BRIDGE DECK, AS PER PLAN
511E50101	CUBIC YARD	CLASS HP CONCRETE, BRIDGE DECK (PARAPET), AS PER PLAN
511E52000	LUMP	CLASS HP CONCRETE TEST SLAB
511E52500	LUMP	CLASS HP CONCRETE TESTING

THE FOLLOWING EXPOSED CONCRETE SURFACES SHALL BE SEALED WITH NON-EPOXY SEALER AS PER ODOT SUPPLEMENTAL SPECIFICATION 864, DATED 7/11/00:

1. CONCRETE SIDEWALK WEARING SURFACES (SEE SHEET 91/100)

COLOR OF FINISHED SEALER SHALL BE CLEAR AS STATED IN ODOT SUPPLEMENTAL SPECIFICATION 864.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 864-SEALING CONCRETE SURFACES (NON-EPOXY)

#### ITEM 864 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

A CONCRETE SEALER SHALL BE APPLIED TO THE SURFACES AS SHOWN IN THE PLANS. COLOR OF FINISHED SEALER SHALL BE PEARL, FED NO. 5958-36521.

SEALING SHALL NOT BE DONE UNTIL ALL CONCRETE REPAIRS TO THE BRIDGE HAVE BEEN

PAYMENT SHALL BE INCLUDED IN ITEM 864 - SEALING OF CONCRETE SURFACES, (EPOXY-URETHANE)

#### BONDING GROUT

THE BONDING GROUT TO BE USED BETWEEN OLD AND NEW CONCRETE SHALL BE "SIKA ARMATEC 110" AS MANUFACTURED BY SIKA CORPORATION 201 POLITO AVENUE, LYNDHURST, NEW JERSEY 07071; "EUCO NO. 452 EPOXY SYSTEM" AS MANUFACTURED BY THE EUCLID CHEMICAL CO., 19218 REDWOOD ROAD, CLEVELAND, OHIO 44110; "CONCRESIVE STANDARD LIQUID" AS MANUFACTURED BY MASTERBUILDERS, INC., 23700 CHAGRIN BOULEVARD, CLEVELAND, OHIO 44122; OR AN APPROVED ALTERNATE. SURFACE PREPARATION MIXING AND PLACING OF GROUT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. BONDING GROUT SHALL BE INCLUDED WITH ITEM 511-CLASS HP, CONCRETE BRIDGE DECK, AS

#### ITEM SPECIAL-VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC

REFERENCE SHALL BE MADE TO ODOT STANDARD DRAWNG NO. VPF-1-90 FOR ALL APPLICABLE VANDAL PROTECTION FENCE DETAILS. THE FENCE POST BASE PLATE AND CONNECTION DETAILS ARE SHOWN ON SHEET NO. 52/53 OF THE STRUCTURE PLANS. THE PVC COATING FOR THE WIRE MESH FABRIC SHALL BE BLACK, FEDERAL COLOR NO. 595B-17038, OR AS DIRECTED BY THE ENGINEER. THE FENCE POST SLEEVES AND MESH FABRIC SHALL BE PLACED NEAREST THE ROADWAY FACE OF THE CONCRETE PARAPET, AS DETAILED IN THE PLANS. ALL MATERIAL AND LABOR REQUIRED FOR INSTALLING THE FENCE SHALL BE IN ACCORDANCE WITH CMS 607 AND PAID FOR UNDER THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR ITEM SPECIAL-VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC.

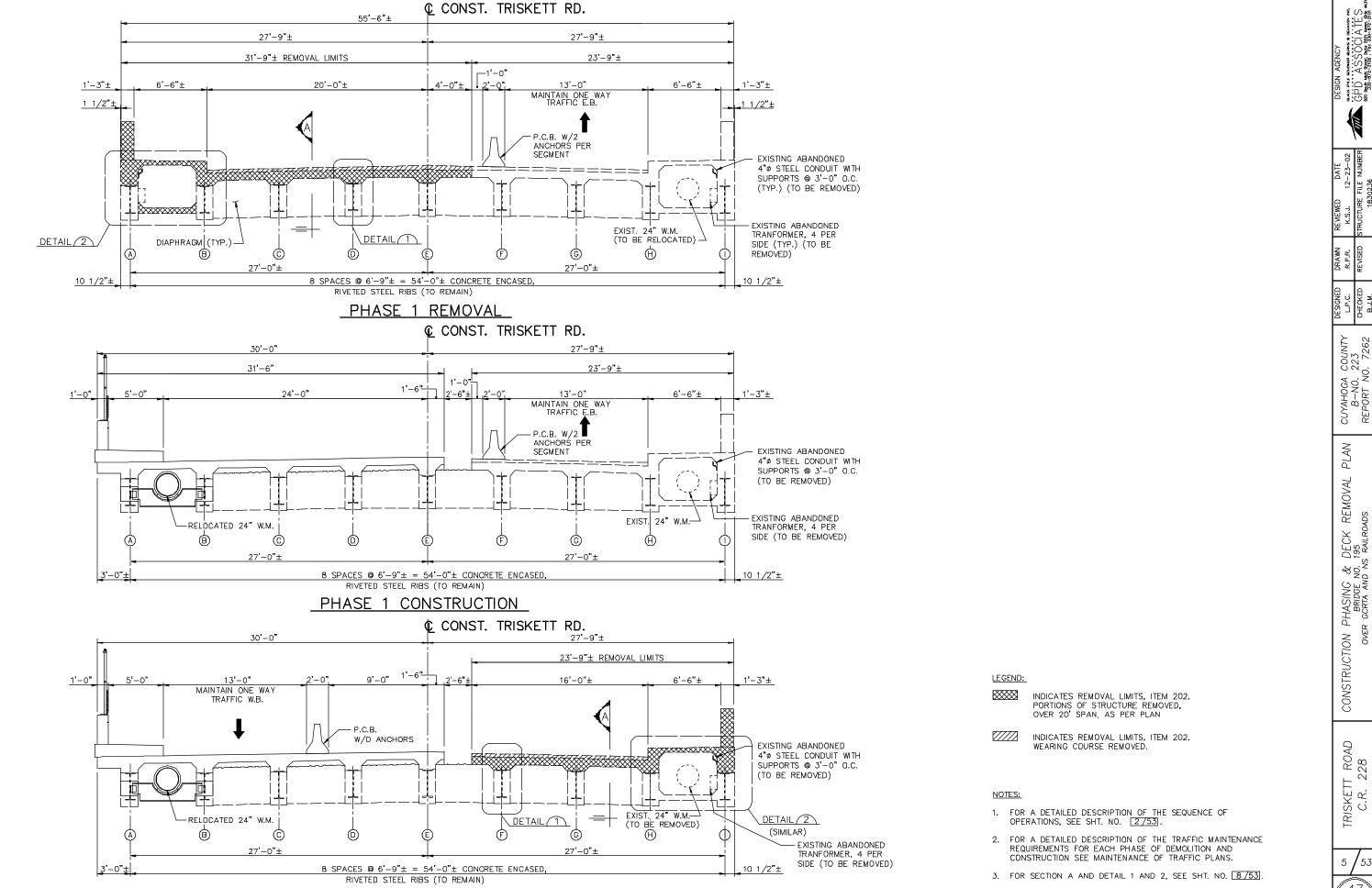
ITEM 864 - SEALING OF CONCRETE SURFACES (NON-EPOXY)

DESIGN AGENCY
CALAB PINE SOURCE BERNSON NE.
CPD ASSOCIATES
SED BANK HAS 1984 LESS NOV-1210

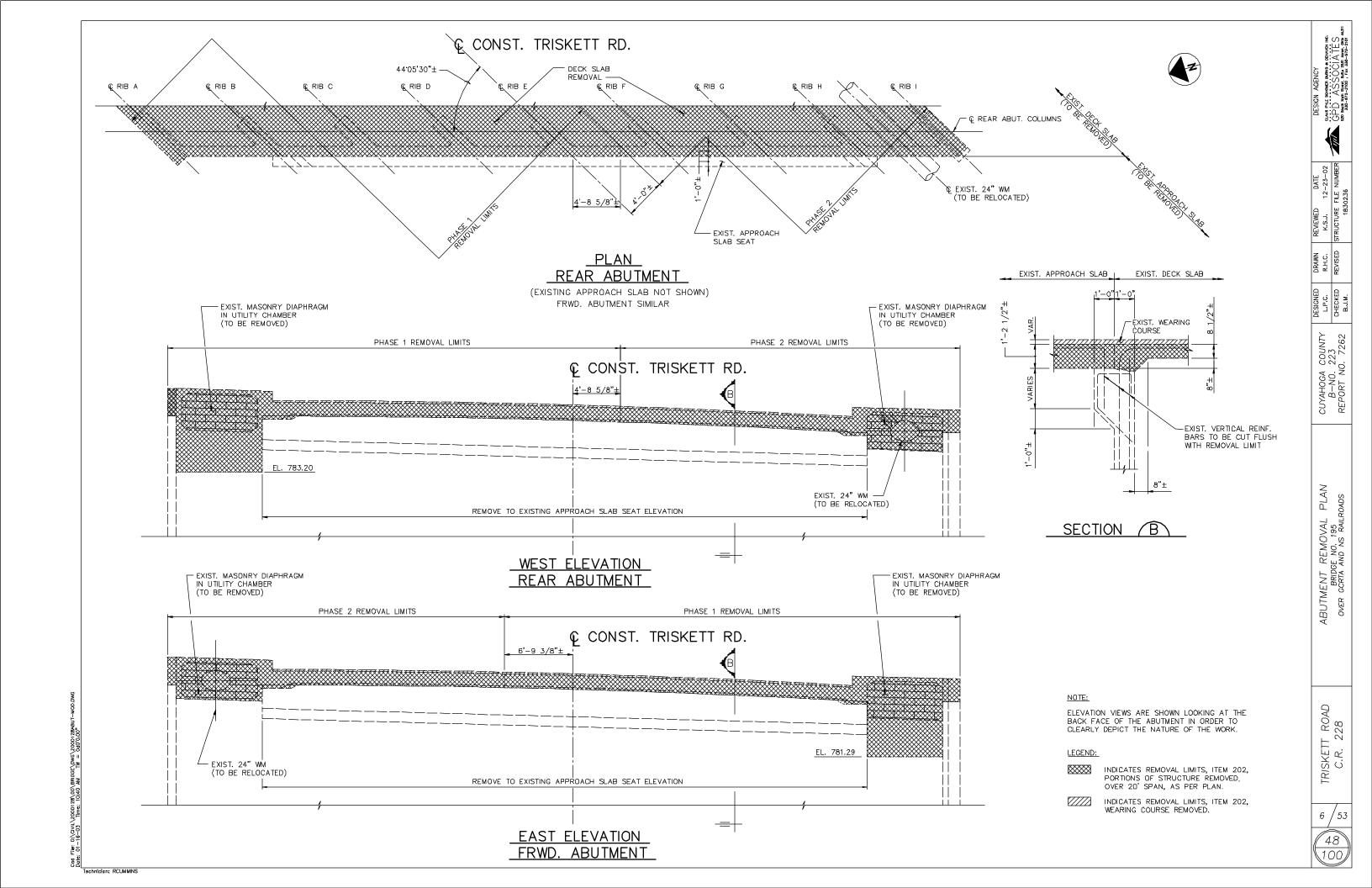


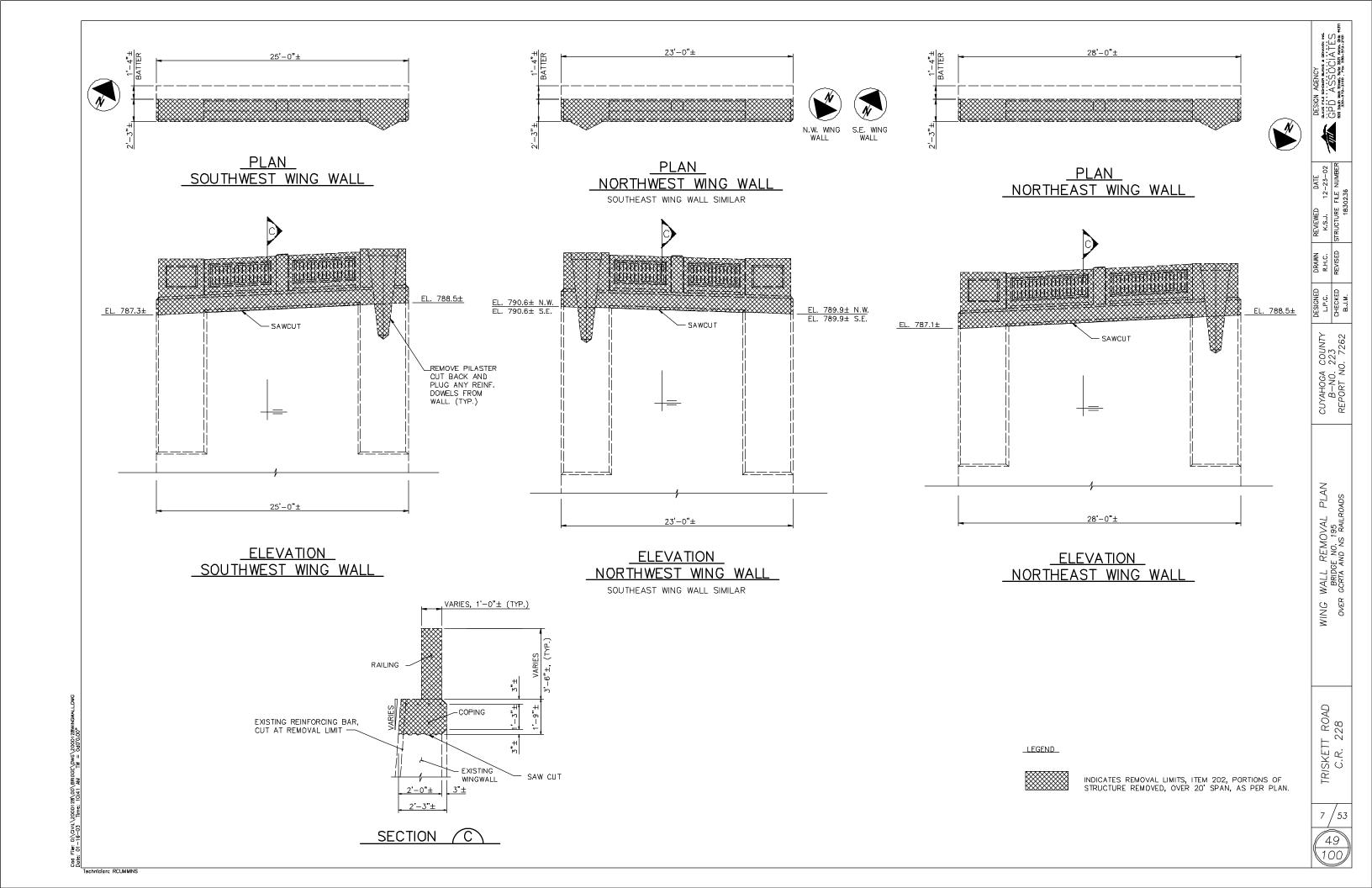
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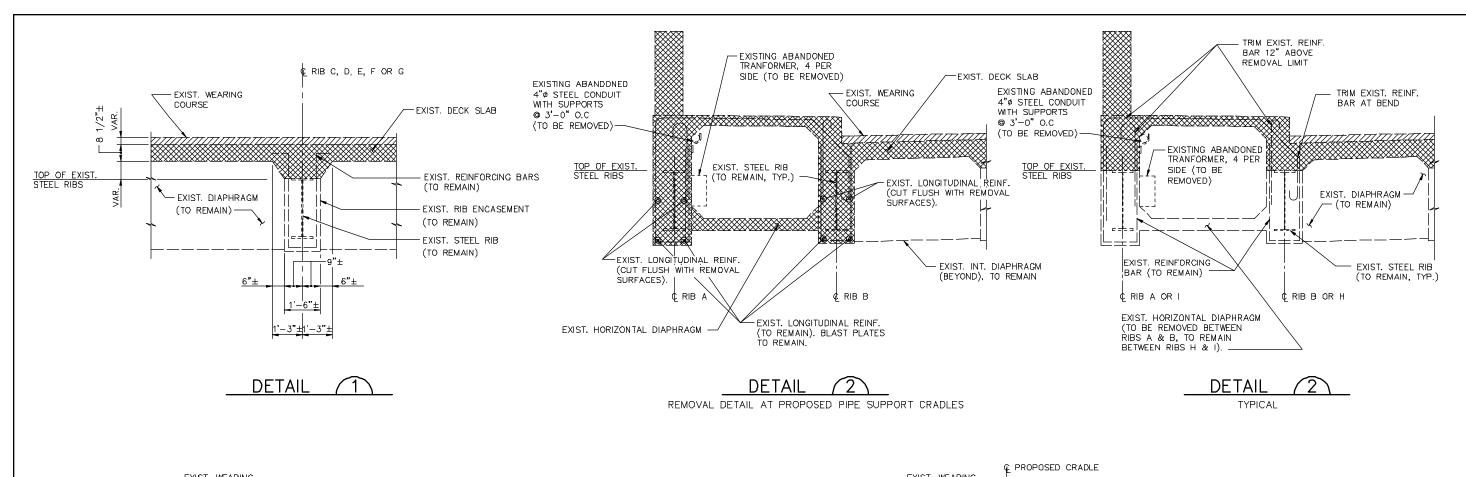
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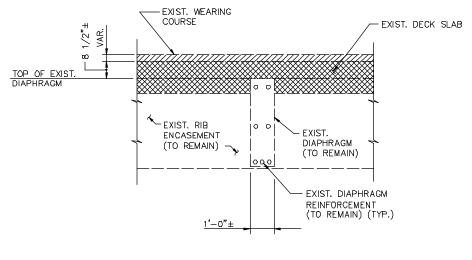


PHASE 2 REMOVAL

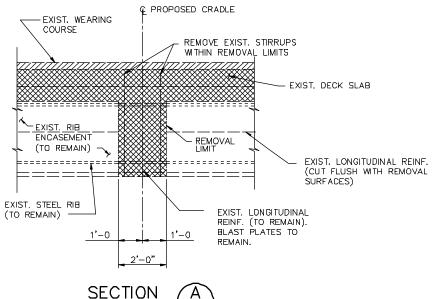








SECTION INTERMEDIATE DIAPHRAGM SHOWN, PIER DIAPHRAGM SIMILAR



RIB ENCASEMENT REMOVAL AT PROPOSED PIPE SUPPORT CRADLES

LEGEND:

INDICATES REMOVAL LIMITS, ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20' SPAN, AS PER PLAN.

INDICATES REMOVAL LIMITS, ITEM 202, WEARING COURSE REMOVED.

NOTES:

1. FOR LOCATION OF SECTION A DETAILS 1 AND 2, SEE SHT. NO. 5/53

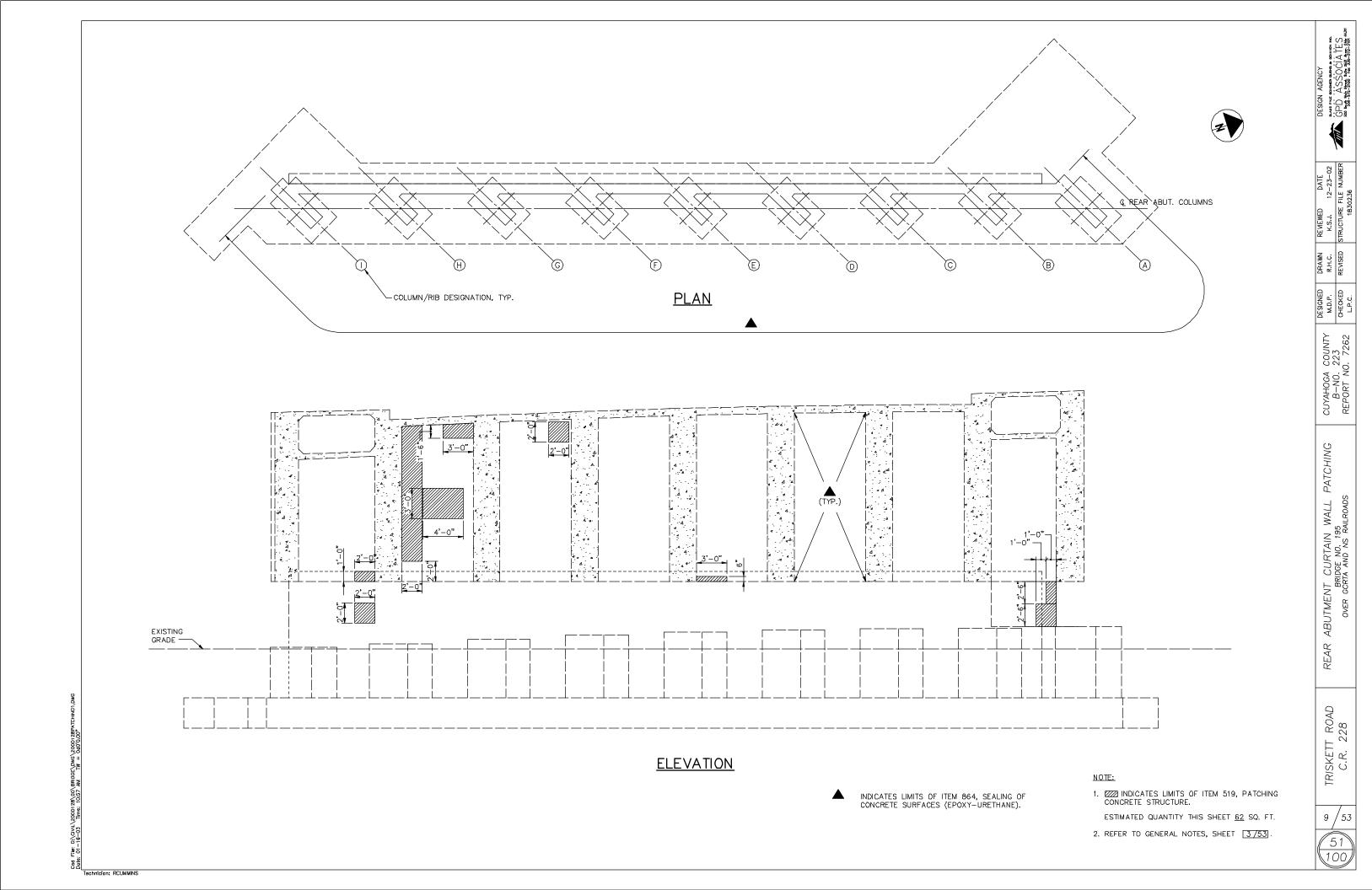
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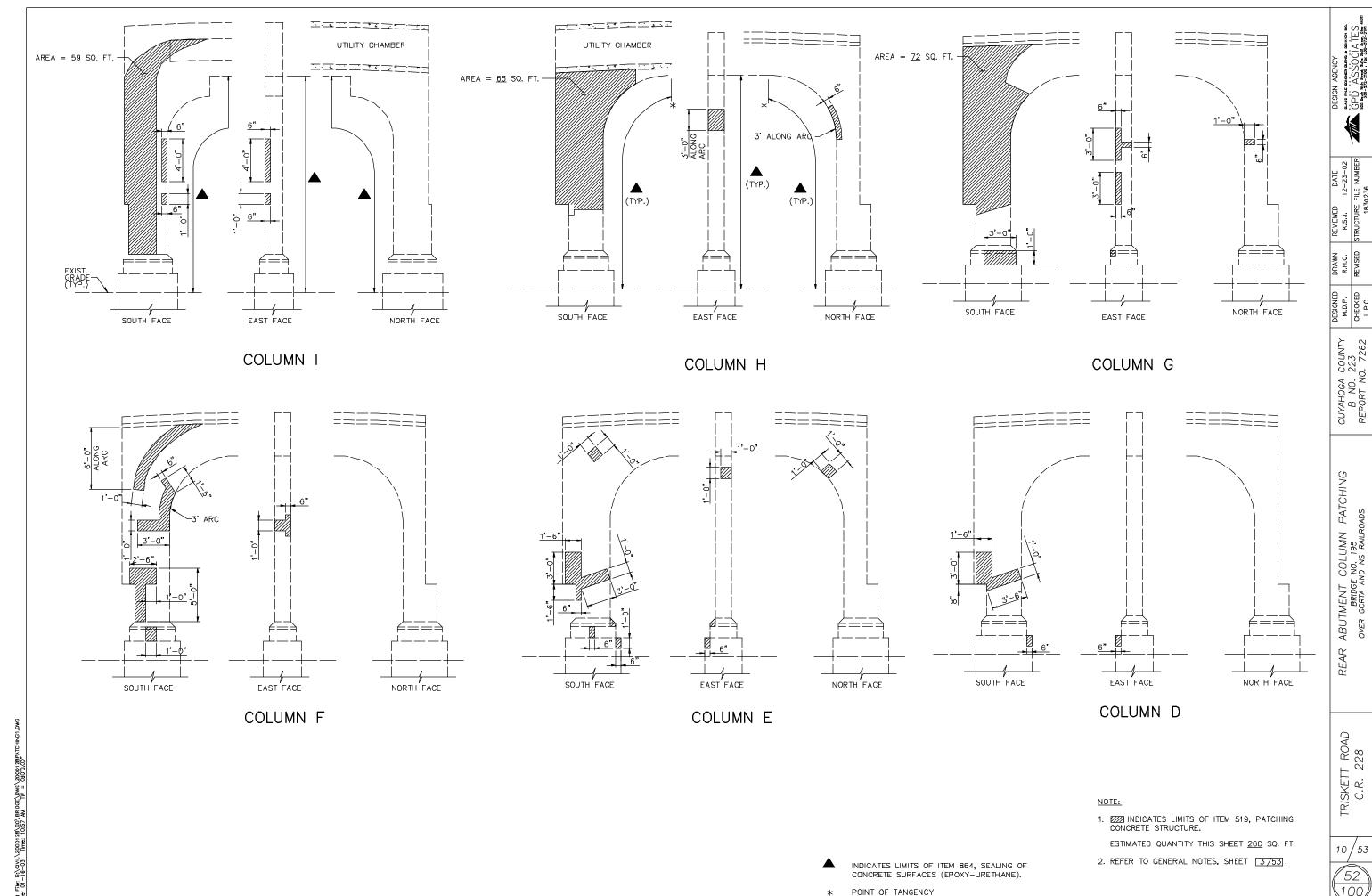
TRISKETT ROAD C.R. 228

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

REMOVAL DETAILS BRIDGE NO. 195 ER GCRTA AND NS RAILROAD

OVER



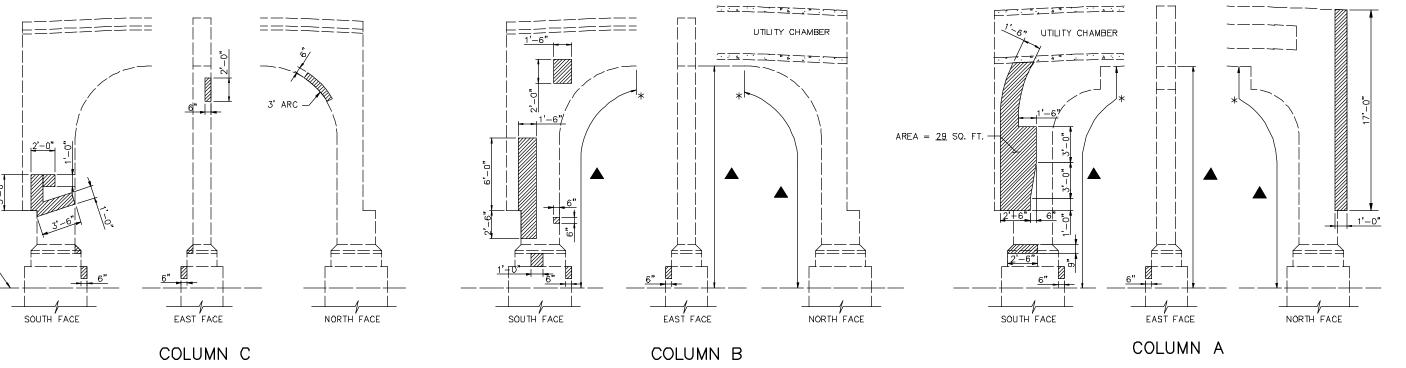


11/53

53

100

ESTIMATED QUANTITY THIS SHEET 76 SQ. FT.

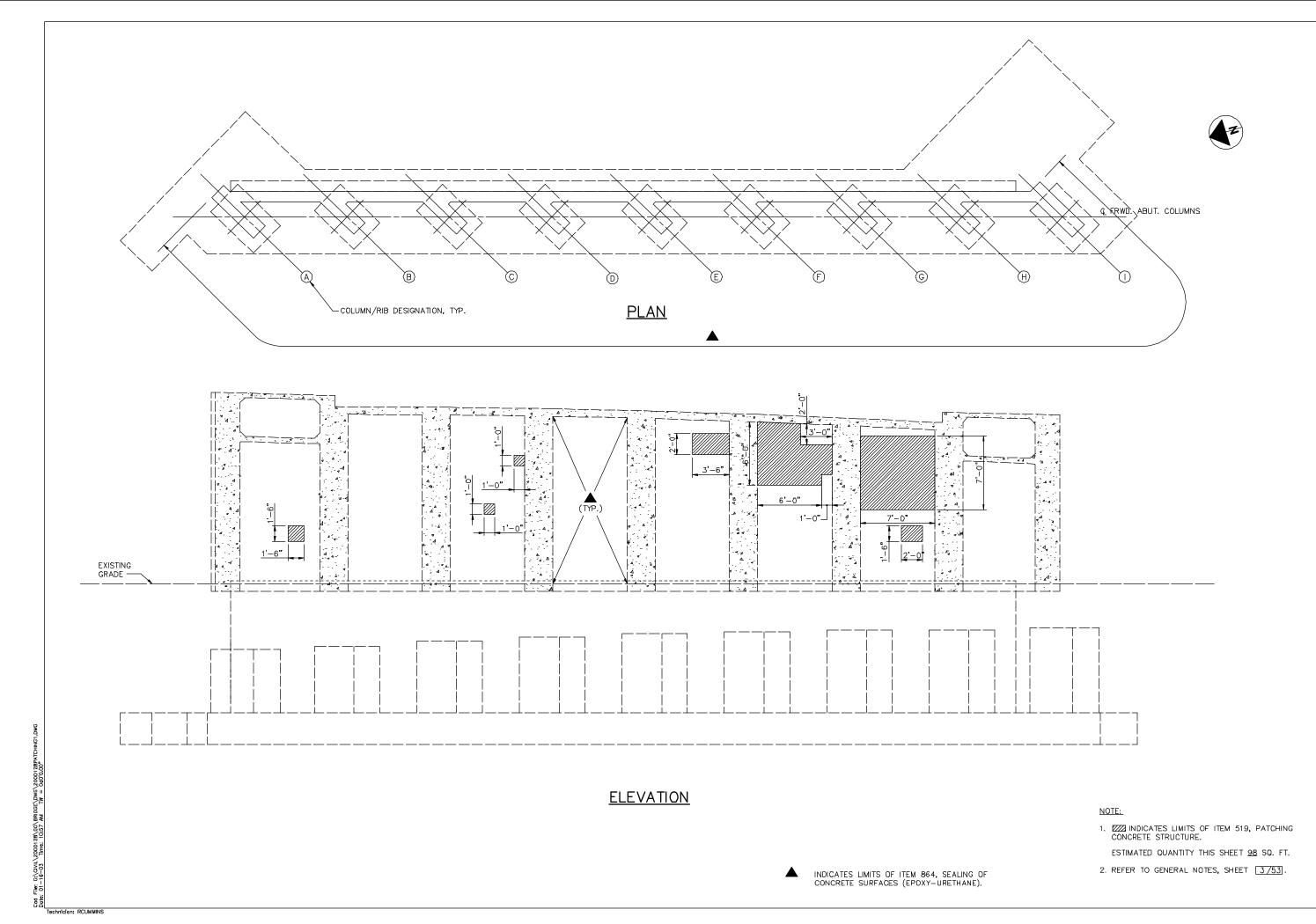


## NOTE:

1. ZZZZ INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.

2. REFER TO GENERAL NOTES, SHEET 3/53.

* POINT OF TANGENCY



DESIGN AGENCY
a.ue put society and a service reGPD ASSOCIATES
sta bas \$15,550 ft TES

EK.S.J. 12–23–02 STRUCTURE FILE NUMBER 1830236

REVIEWED K.S.J.

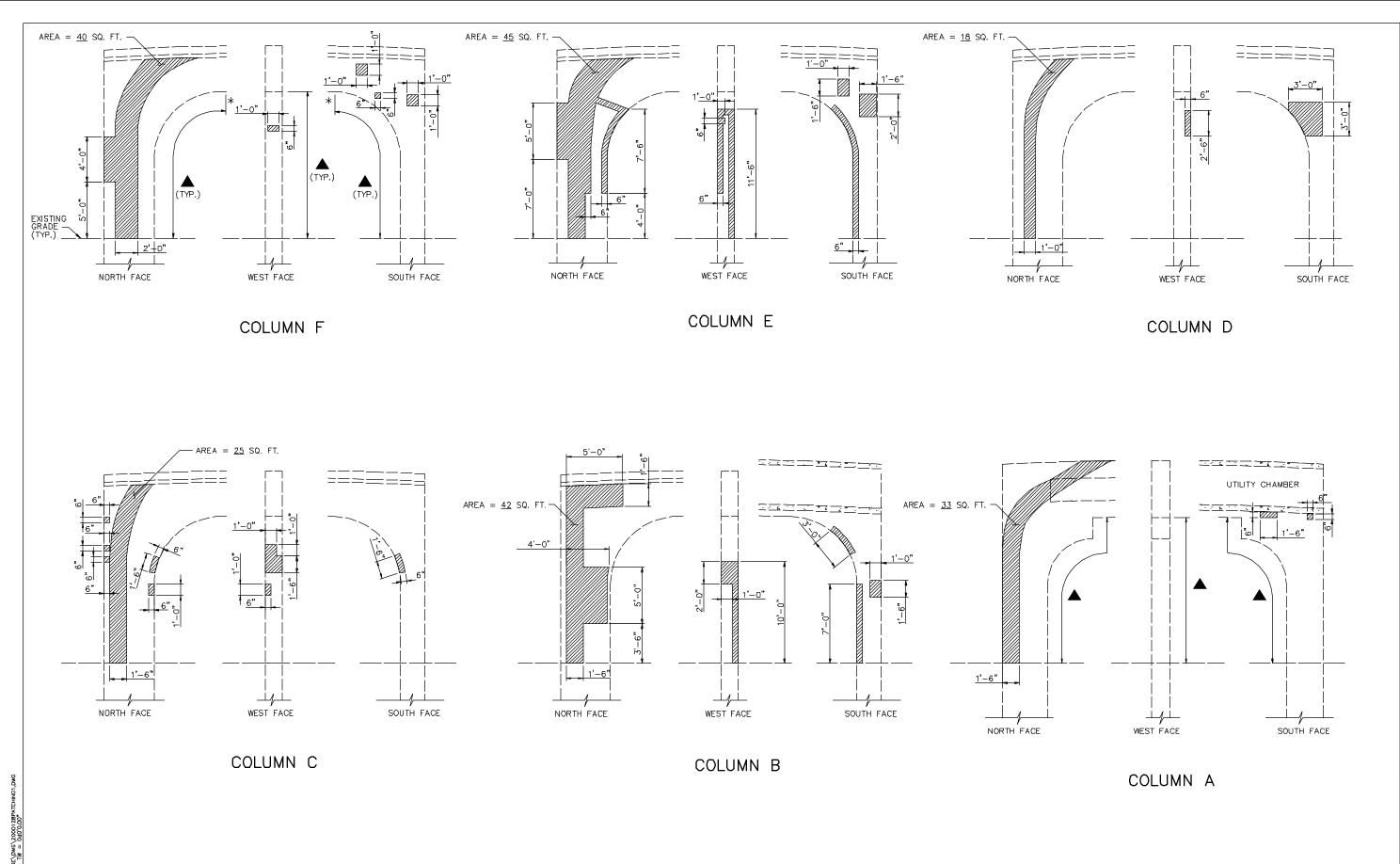
DRAWN R.H.C. REVISED

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

ABUTMENT CURTAIN WALL PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

FRWD.

TRISKETT ROAD C.R. 228



NOT

 IMMICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
 ESTIMATED QUANTITY THIS SHEET 252 SQ. FT.

2. REFER TO GENERAL NOTES, SHEET 3/53.

INDICATES LIMITS OF ITEM 864, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

POINT OF TANGENCY

Technician: RCUMMINS

TRISKETT ROAD C.R. 228

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

ABUTMENT COLUMN PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

FRWD.

TRISKETT ROAD C.R. 228

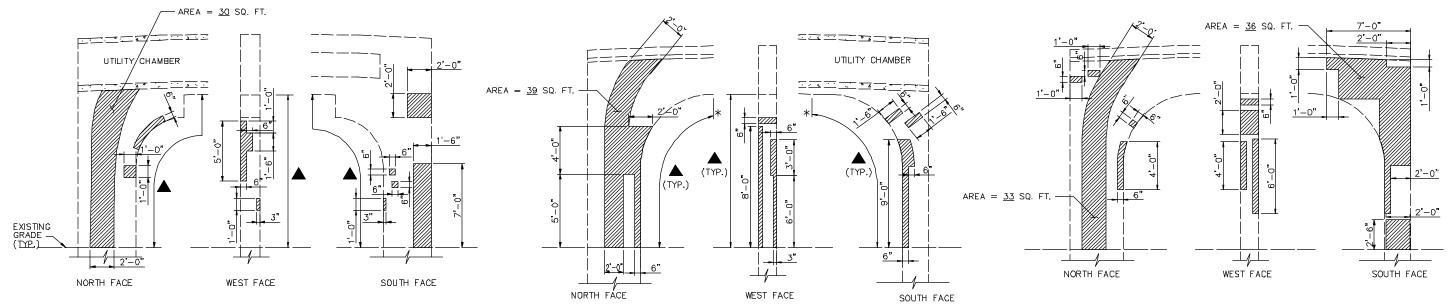
CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

ABUTMENT COLUMN PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

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1. INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.

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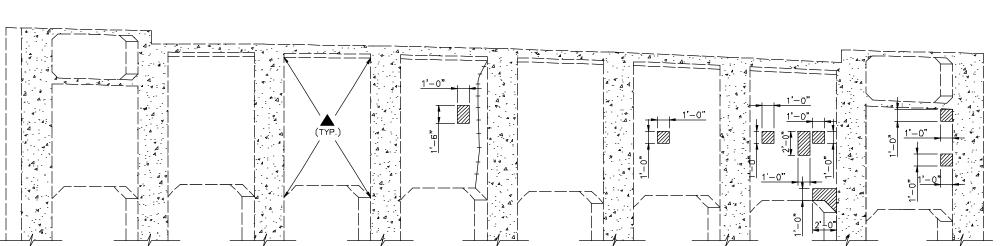
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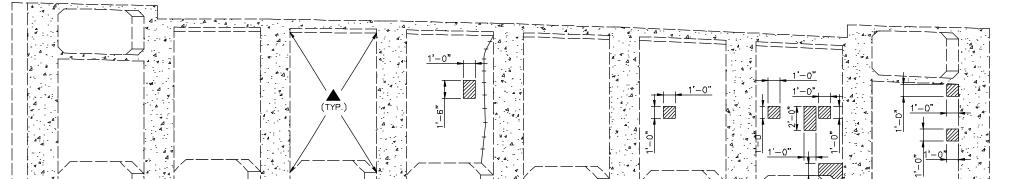
DRAWN R.H.C. REVISED

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

# INDICATES LIMITS OF ITEM 864, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

# WEST ELEVATION





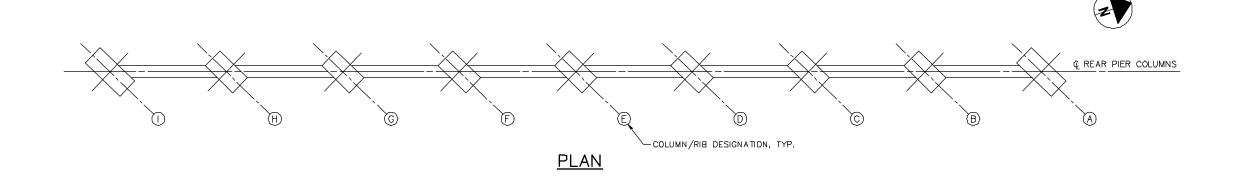
<u>PLAN</u>

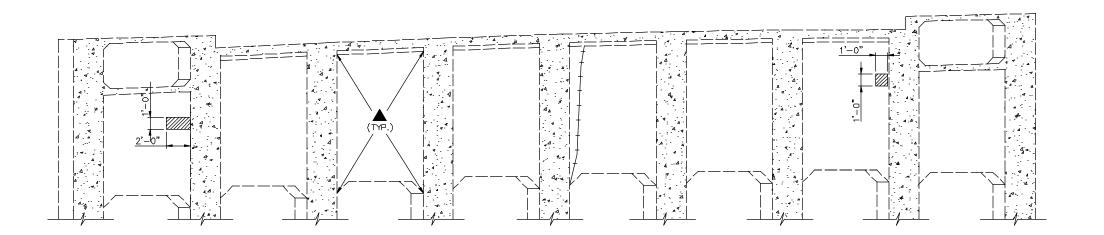
COLUMN/RIB DESIGNATION, TYP.

1. INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.

& REAR PIER COLUMNS

- ESTIMATED QUANTITY THIS SHEET 11 SQ. FT.
- 2. ++ INDICATES LIMITS OF ITEM 519-SPECIAL CONCRETE REPAIR BY EPOXY INJECTION.
- ESTIMATED QUANTITY THIS SHEET 11 LIN. FT. 3. REFER TO GENERAL NOTES SHEET 3/53.



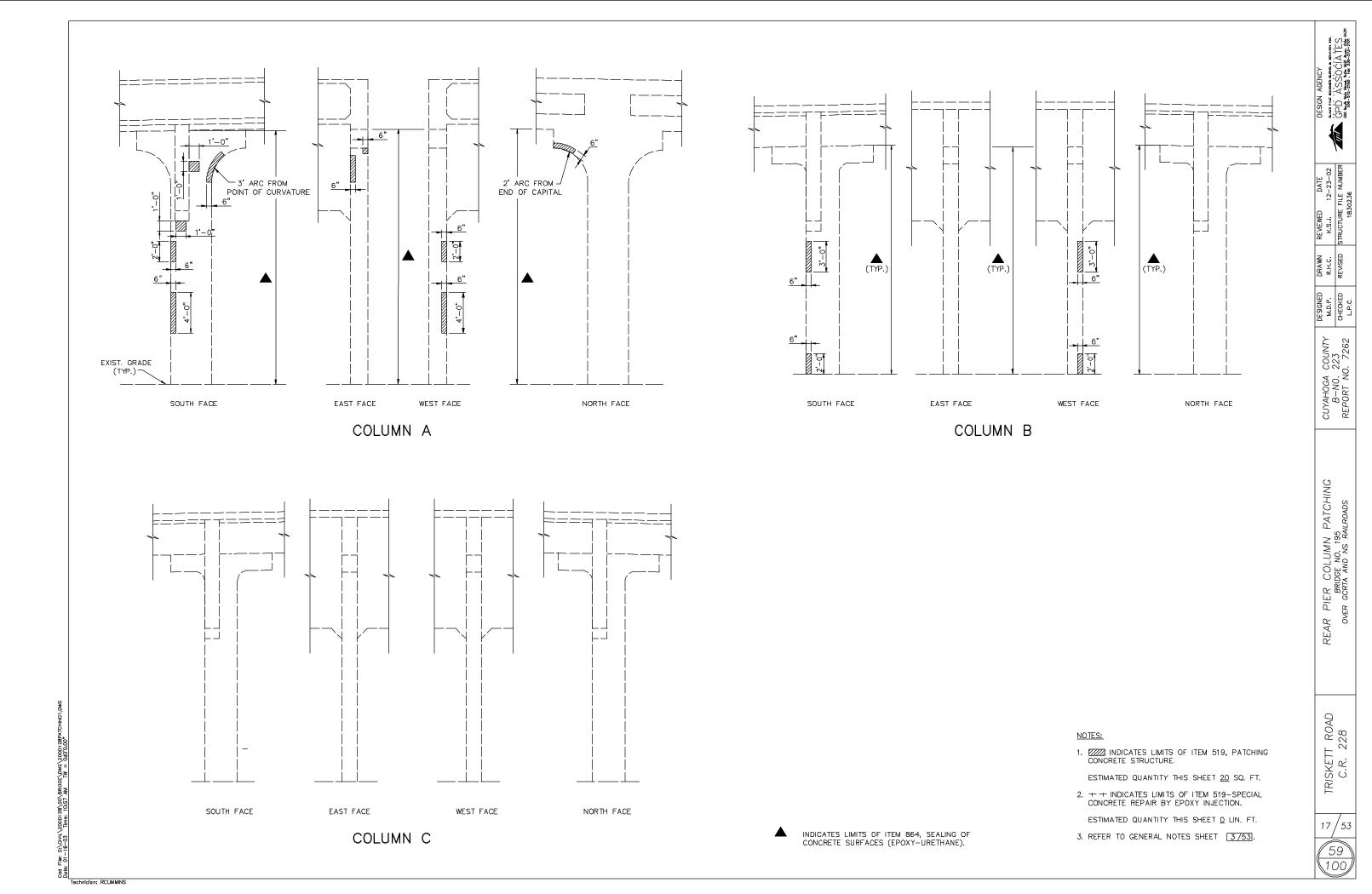


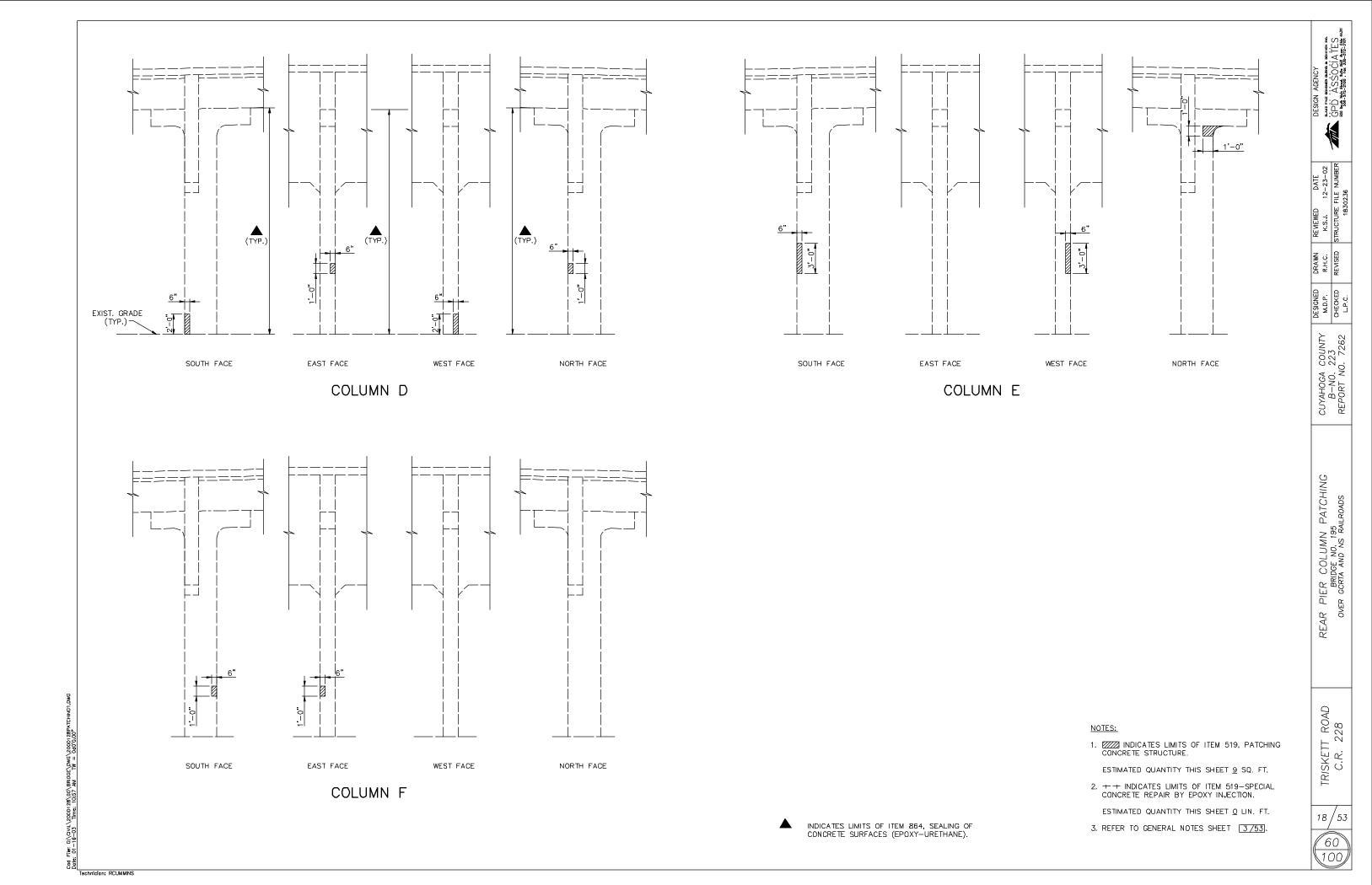
# EAST ELEVATION

- 1. ZZZZ INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET 3 SQ. FT.
- 2. ++ INDICATES LIMITS OF ITEM 519-SPECIAL CONCRETE REPAIR BY EPOXY INJECTION.

3. REFER TO GENERAL NOTES SHEET 3/53.

ESTIMATED QUANTITY THIS SHEET 12 LIN. FT.





- 1. ZZZZ INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
  - ESTIMATED QUANTITY THIS SHEET 43 SQ. FT.
- 2. ++ INDICATES LIMITS OF ITEM 519-SPECIAL CONCRETE REPAIR BY EPOXY INJECTION.
- ESTIMATED QUANTITY THIS SHEET O LIN. FT.

3. REFER TO GENERAL NOTES SHEET 3/53.

COLUMN I

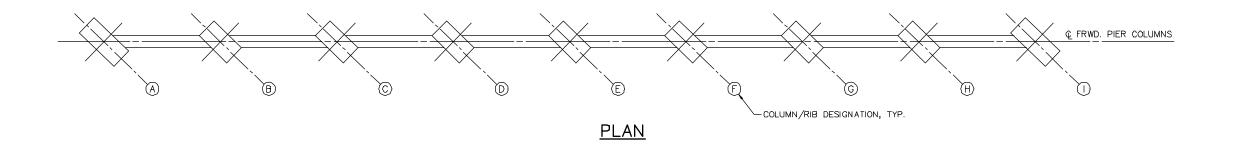
TRISKETT ROAD C.R. 228

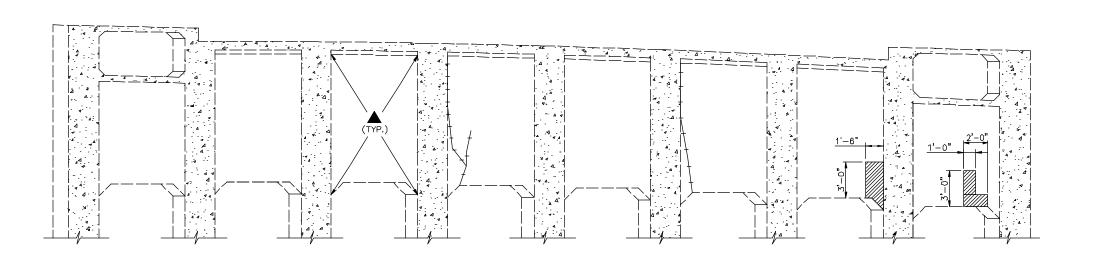
CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

REAR PIER COLUMN PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

100







# WEST ELEVATION

#### NOTES:

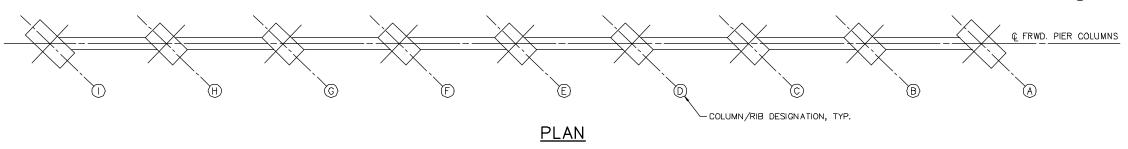
- 1. INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET 9 SQ. FT.
- 2. ++ INDICATES LIMITS OF ITEM 519-SPECIAL CONCRETE REPAIR BY EPOXY INJECTION. ESTIMATED QUANTITY THIS SHEET 26 LIN. FT.
- 3. REFER TO GENERAL NOTES SHEET 3/53.

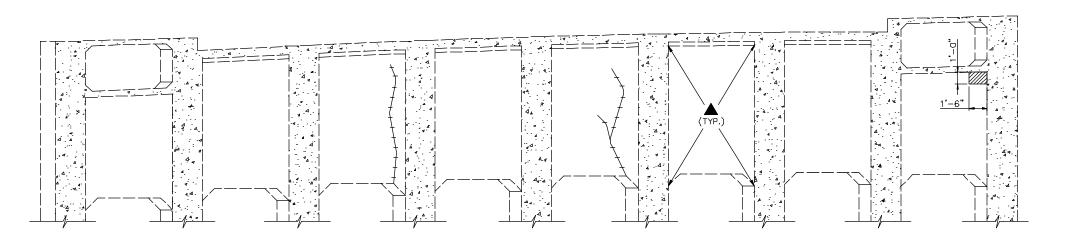
DESIGNED
M.D.P.
CHECKED
L.P.C.

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

PIER DIAPHRAGM PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

FRWD.





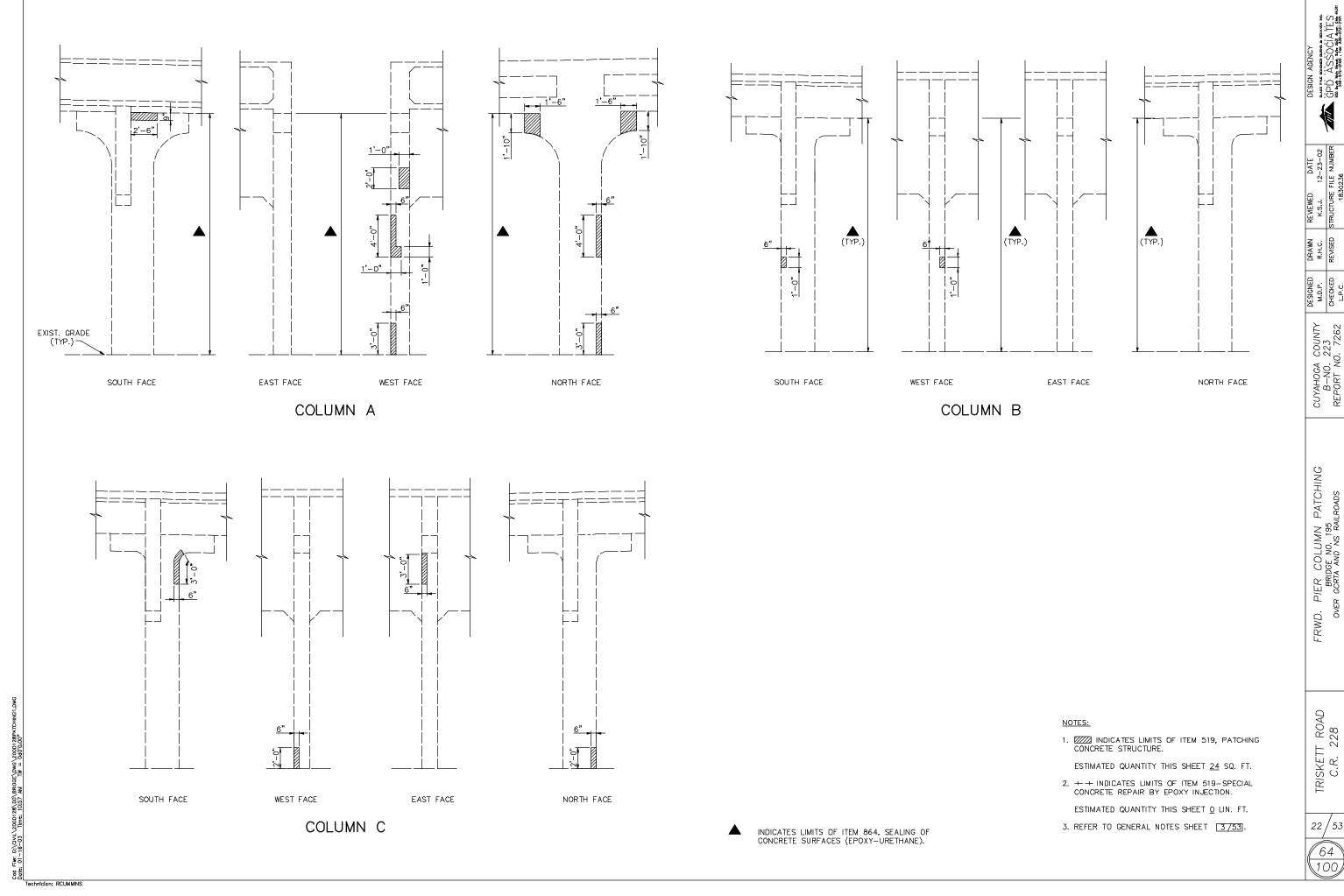
## **EAST ELEVATION**

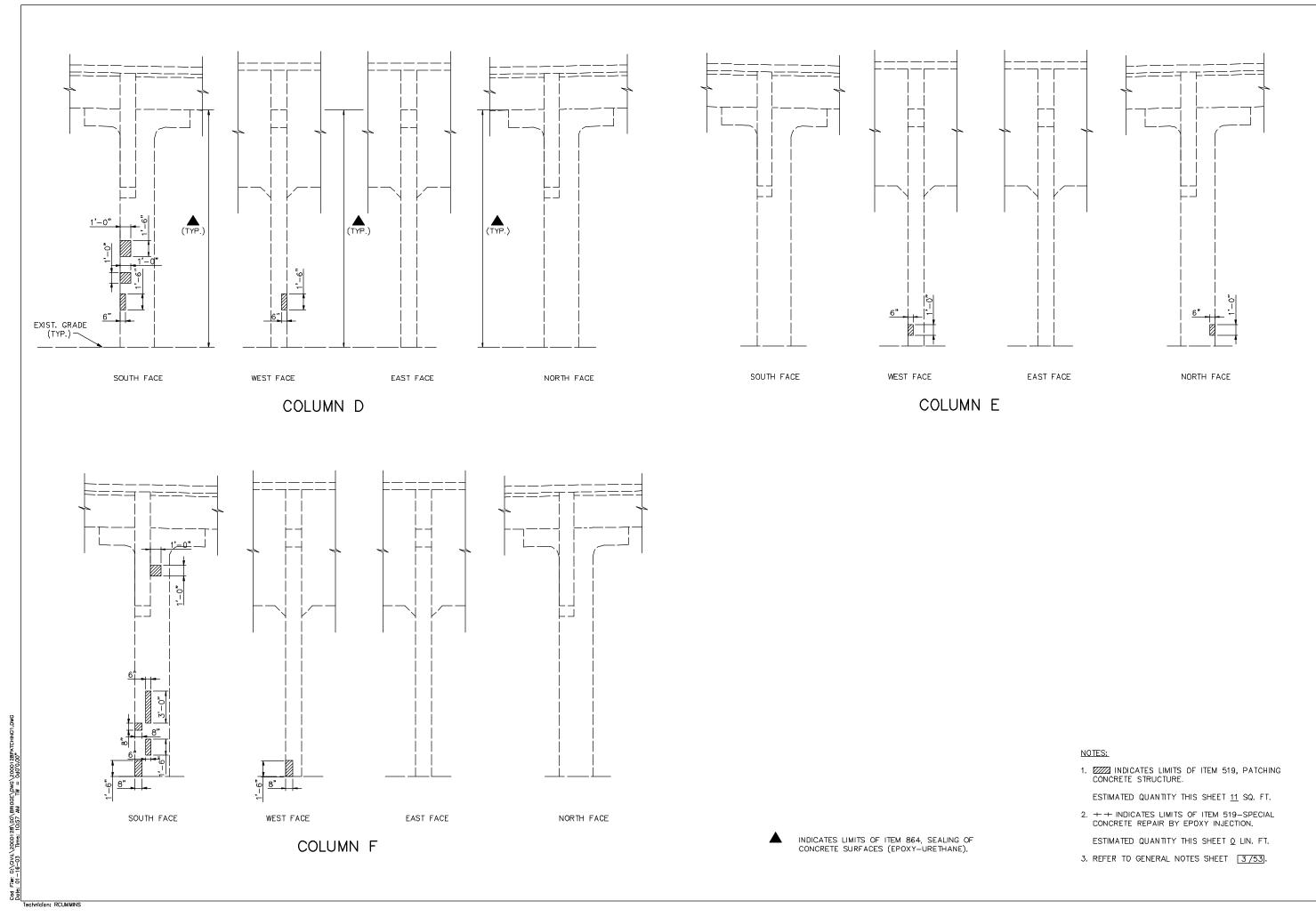
## NOTES:

- 1. ZZZZ INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET 2 SQ. FT.
- 2. ++ INDICATES LIMITS OF ITEM 519-SPECIAL CONCRETE REPAIR BY EPOXY INJECTION.
- ESTIMATED QUANTITY THIS SHEET 22 LIN. FT. 3. REFER TO GENERAL NOTES SHEET 3/53.

INDICATES LIMITS OF ITEM 864, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

TRISKETT ROAD C.R. 228

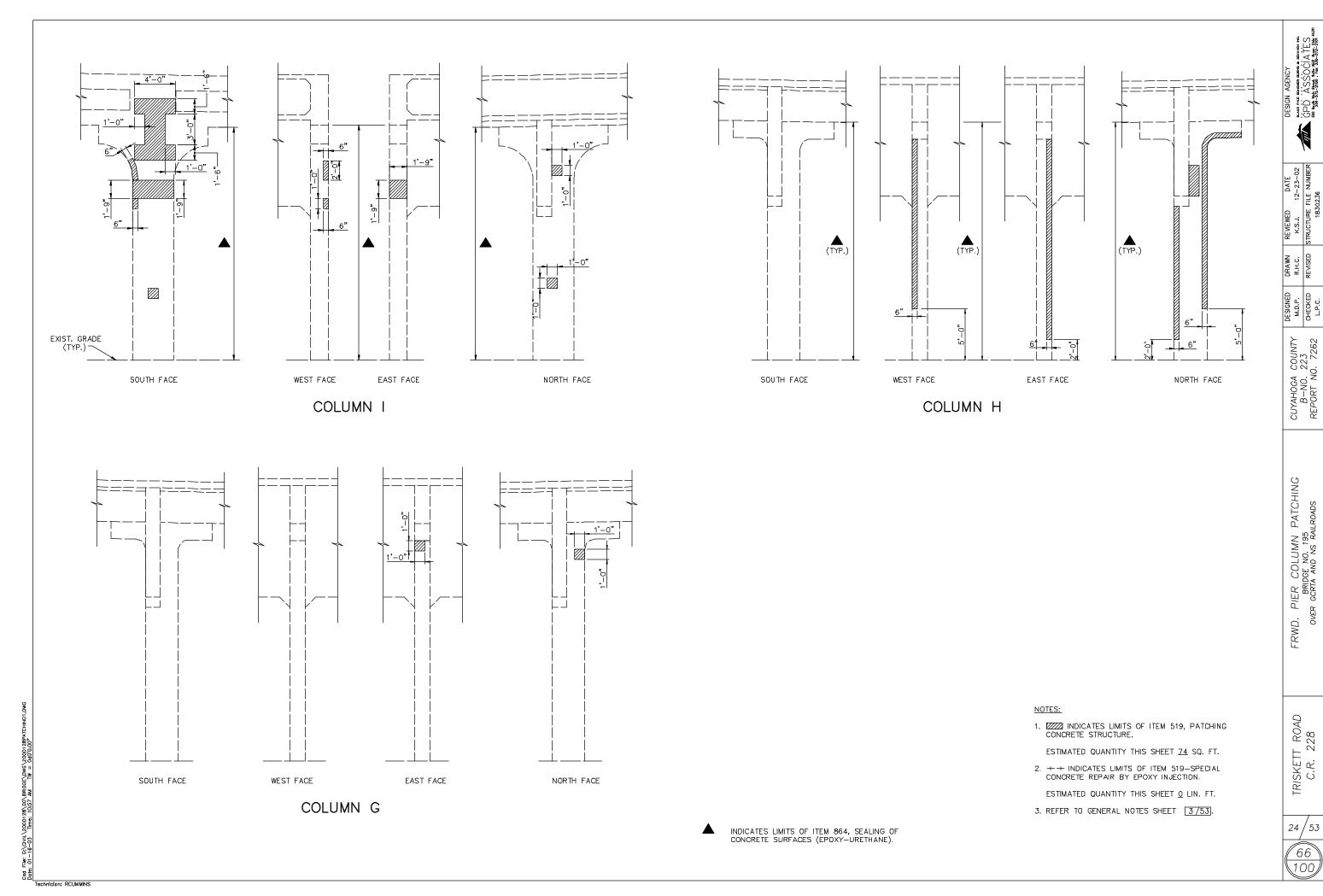




TRISKETT ROAD C.R. 228

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

FRWD. PIER COLUMN PATCHING BRIDGE NO. 195 OVER CCRTA AND NS RAILROADS



CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

DIAPHRACM BOTTOM PATCHING BRIDGE NO. 195 GCRTA AND NS RAILROADS

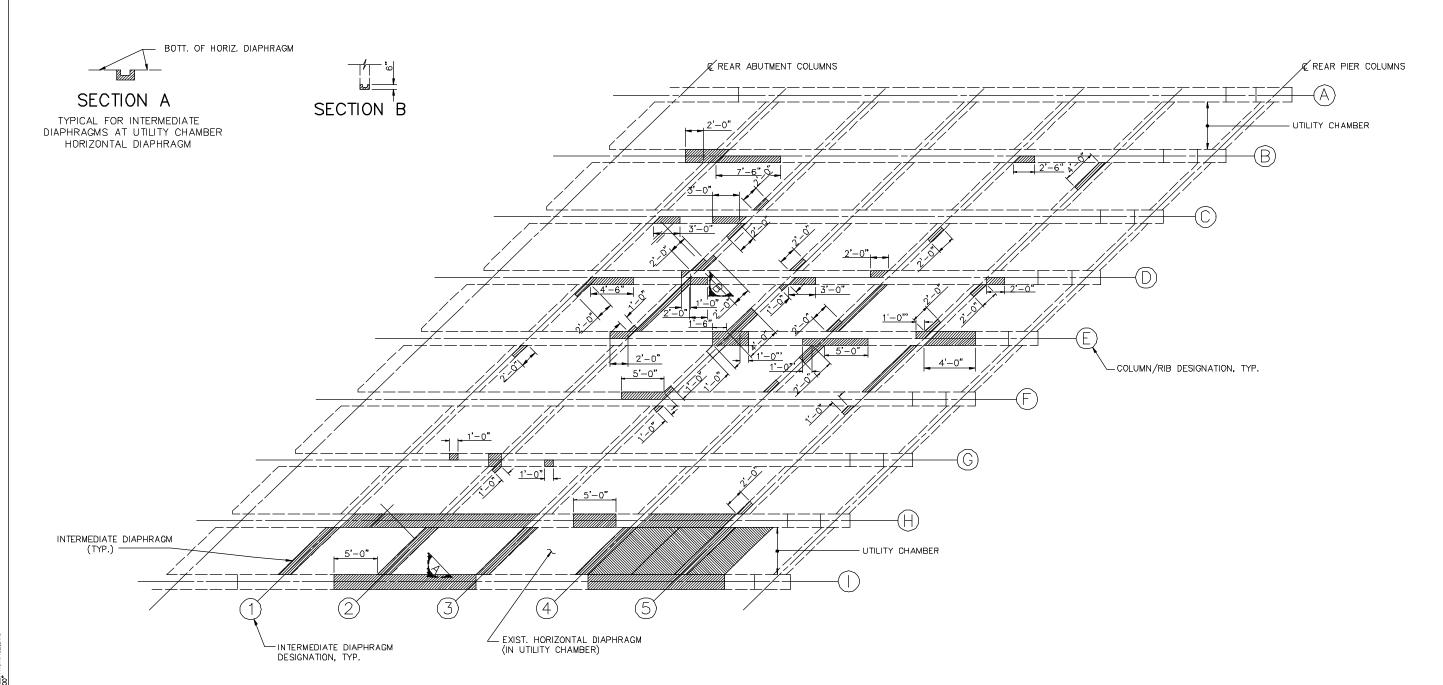
સ્ત્ર RIB SPAN

TRISKETT ROAD C.R. 228



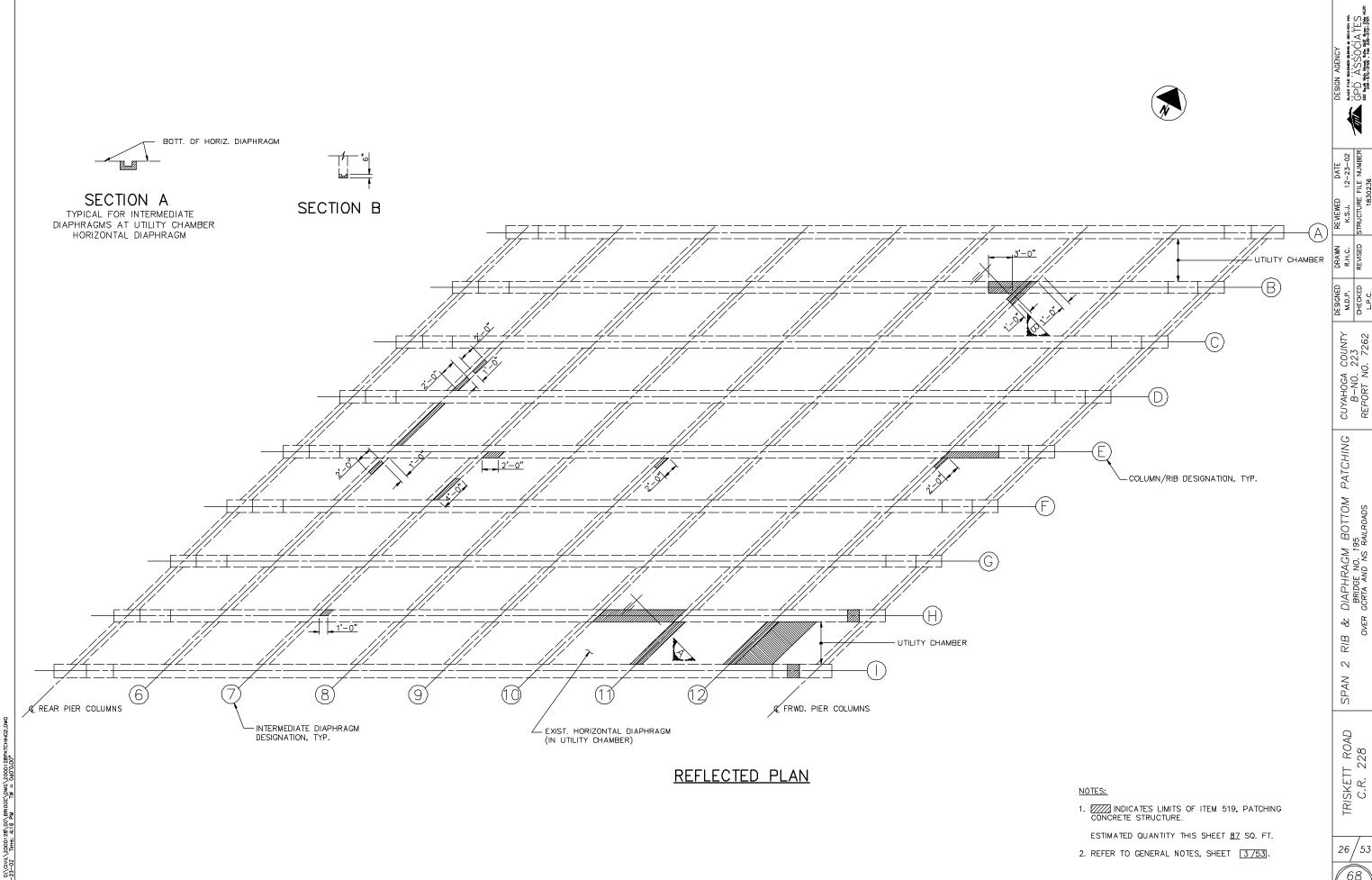
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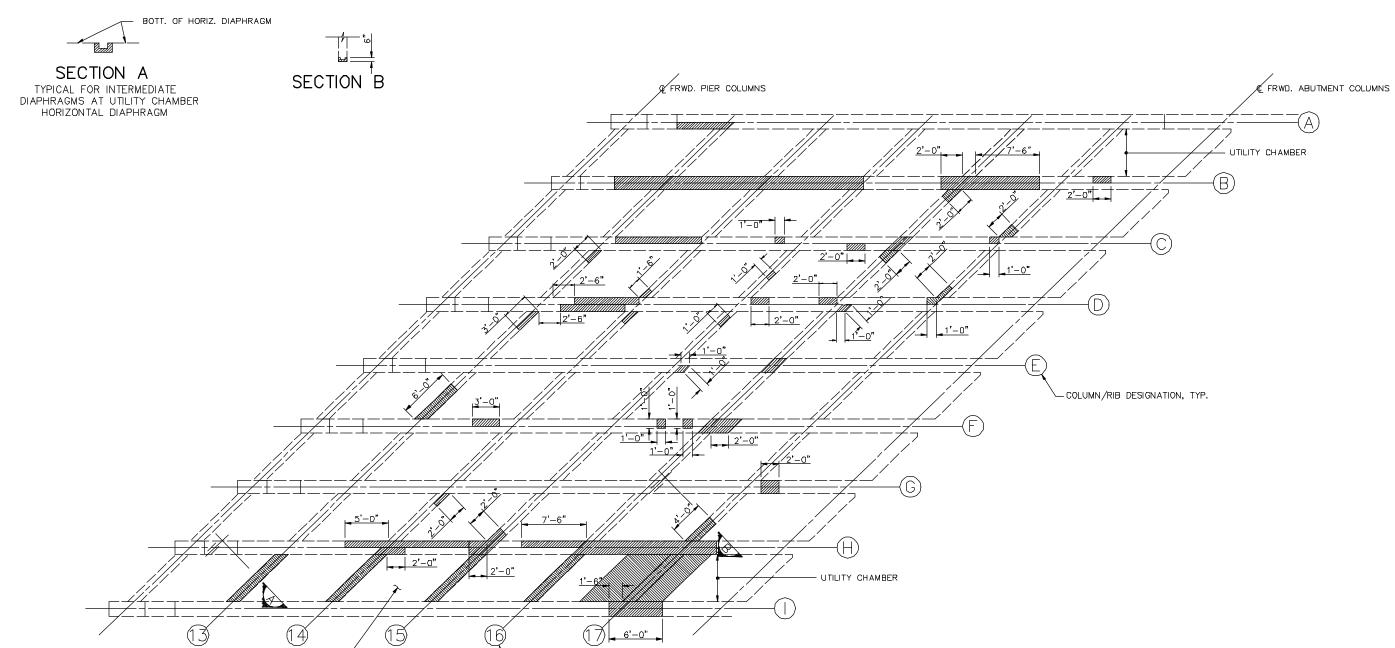
# REFLECTED PLAN

- 1. MIMICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET 304 SQ. FT.
- 2. REFER TO GENERAL NOTES, SHEET 3/53.



SPAN

69 100



-INTERMEDIATE DIAPHRAGM DESIGNATION, TYP.

EXIST. HORIZONTAL DIAPHRAGM (IN UTILITY CHAMBER)

# REFLECTED PLAN

#### NOTES:

- 1. MIDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET 266 SQ. FT.
- 2. REFER TO GENERAL NOTES, SHEET 3/53.



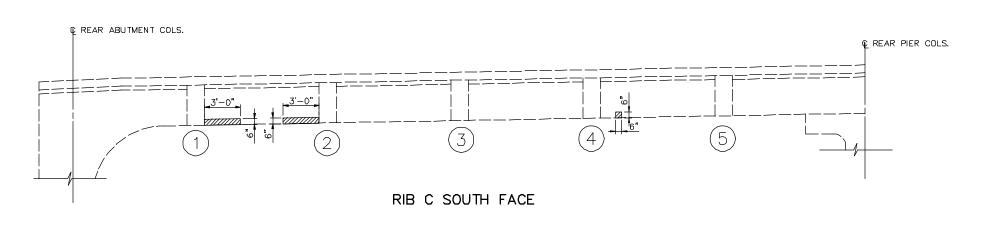
SPAN 1 RIB PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

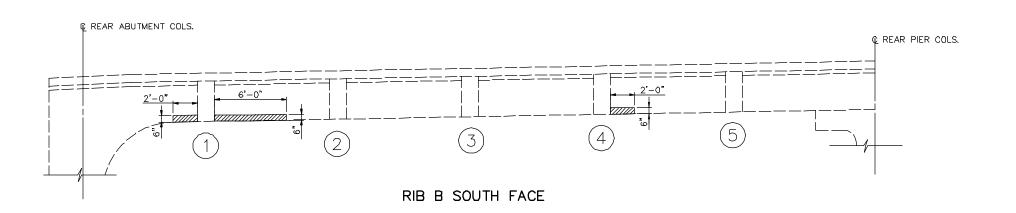
TRISKETT ROAD C.R. 228

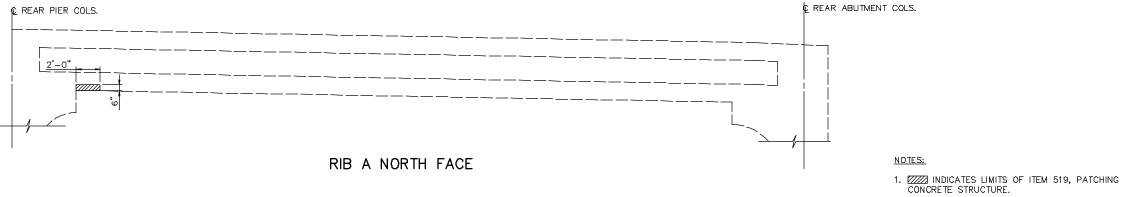
ESTIMATED QUANTITY THIS SHEET 9 SQ. FT.

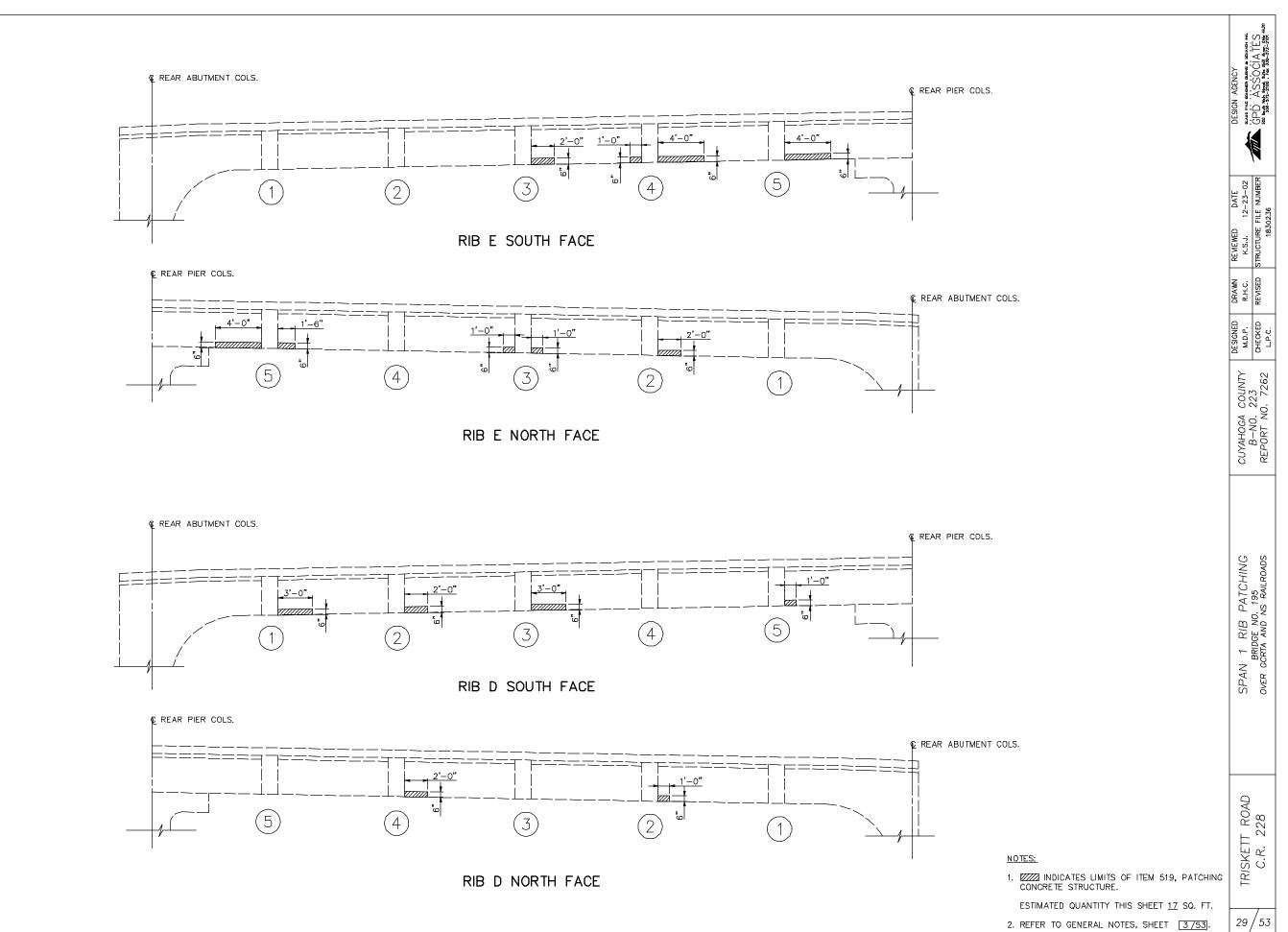
2. REFER TO GENERAL NOTES, SHEET 3/53.

3. FOR RIB IDENTIFICATION AND LOCATION REFER TO SHEET [25/53].





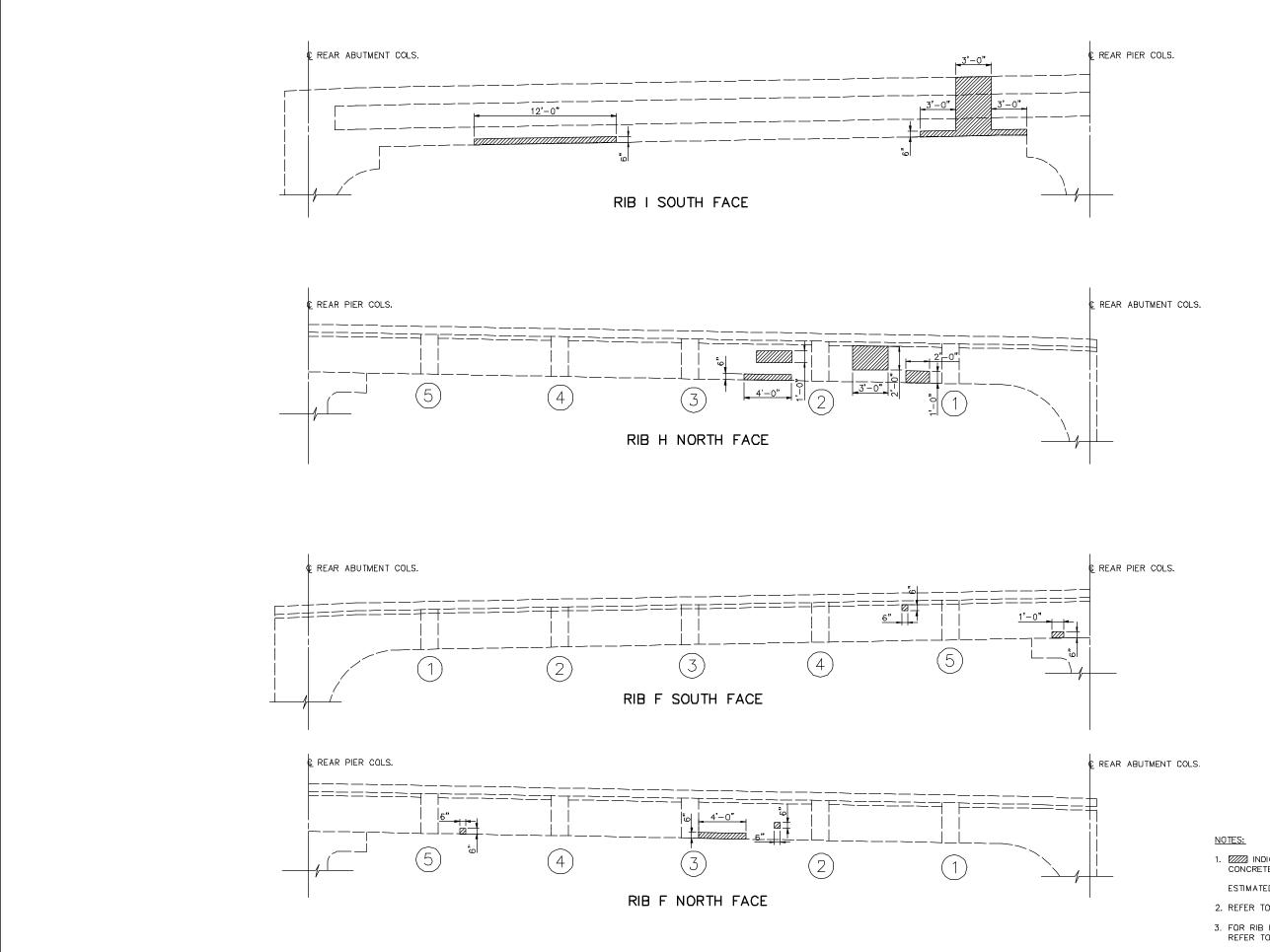




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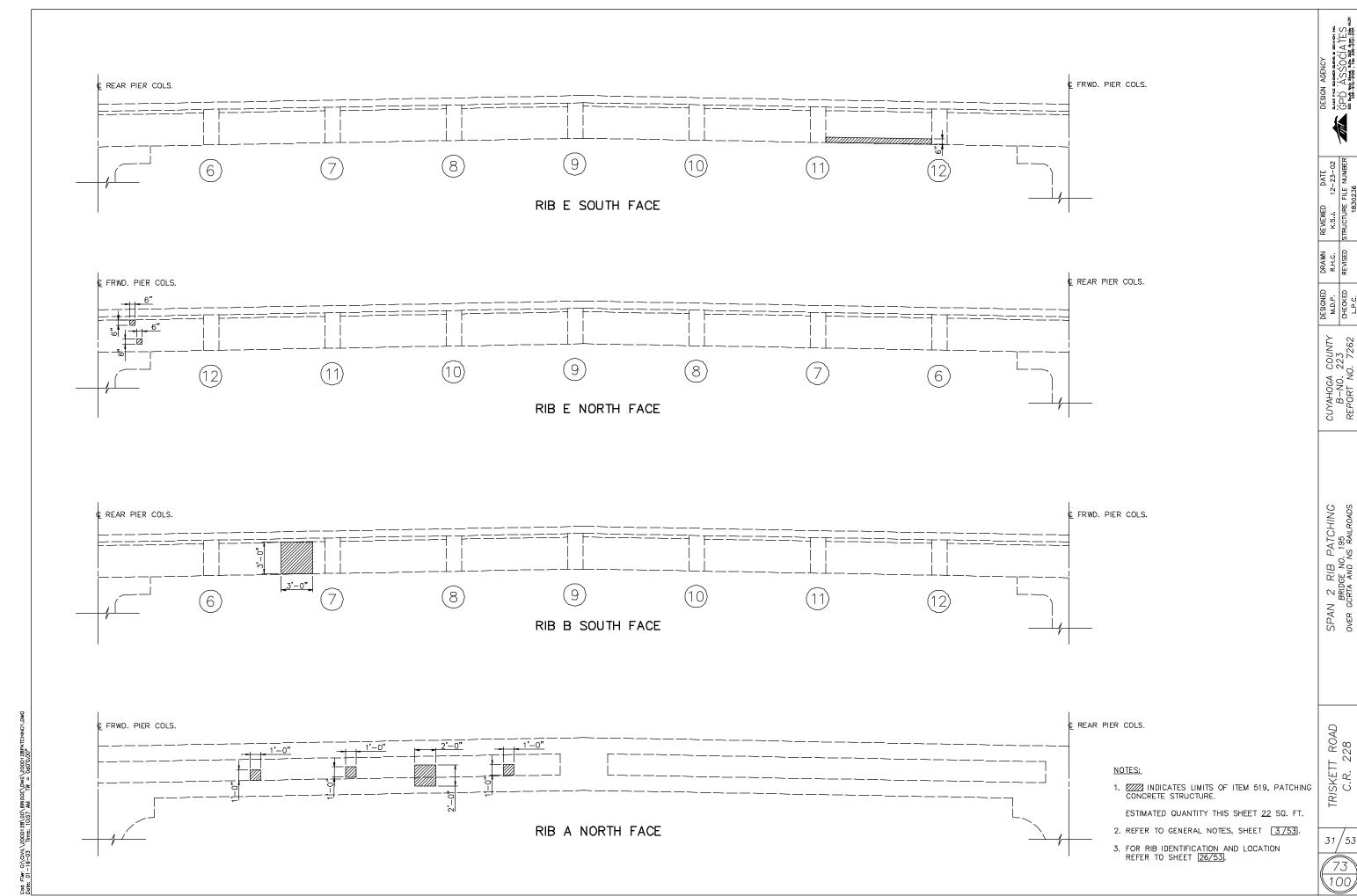
3. FOR RIB IDENTIFICATION AND LOCATION REFER TO SHEET 25/53.

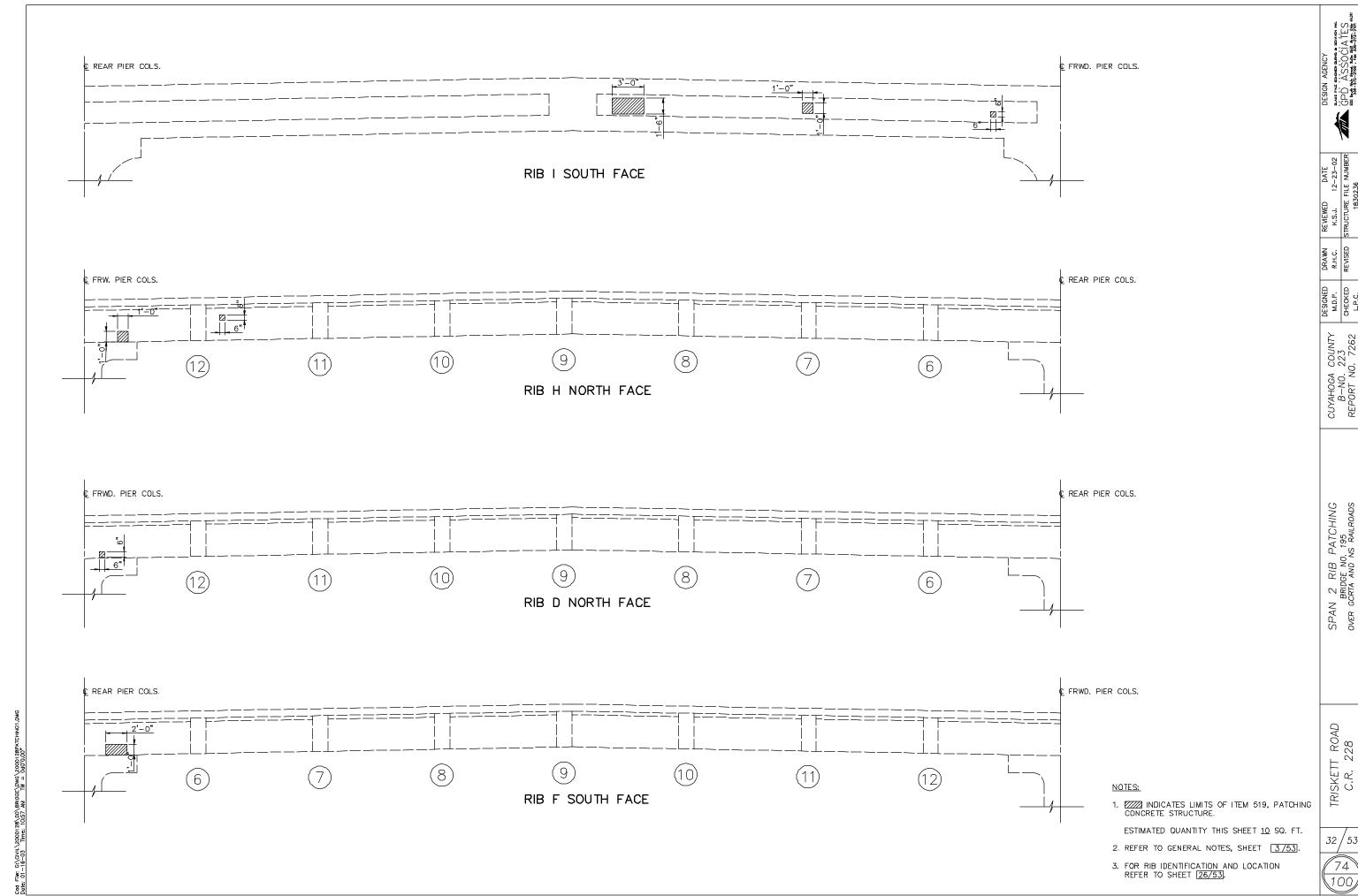


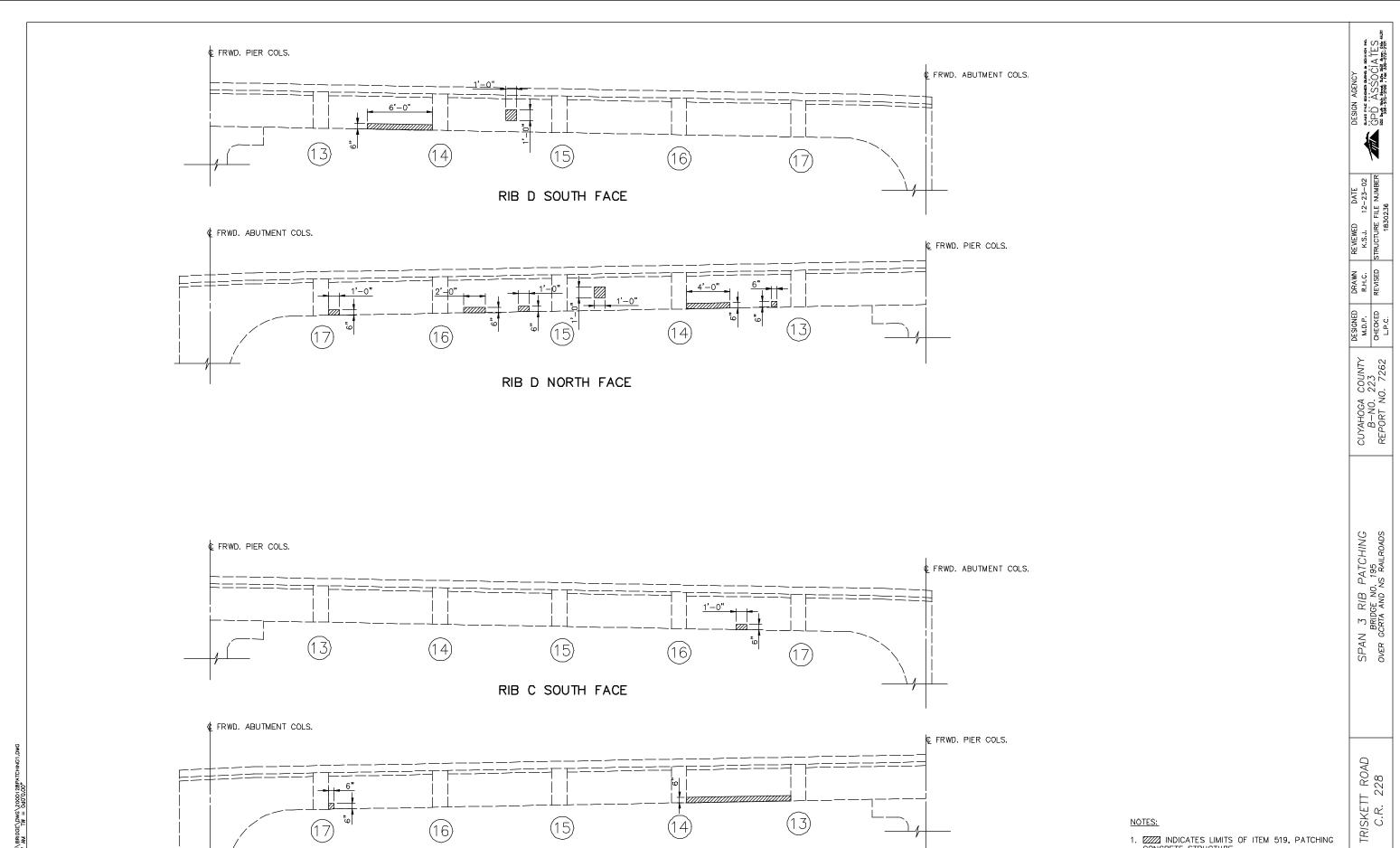
- INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET  $\underline{41}$  SQ. FT.
- 2. REFER TO GENERAL NOTES, SHEET 3/53.
- 3. FOR RIB IDENTIFICATION AND LOCATION REFER TO SHEET [25/53].

TRISKETT ROAD C.R. 228

SPAN 1 RIB PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS







(14)

(15)

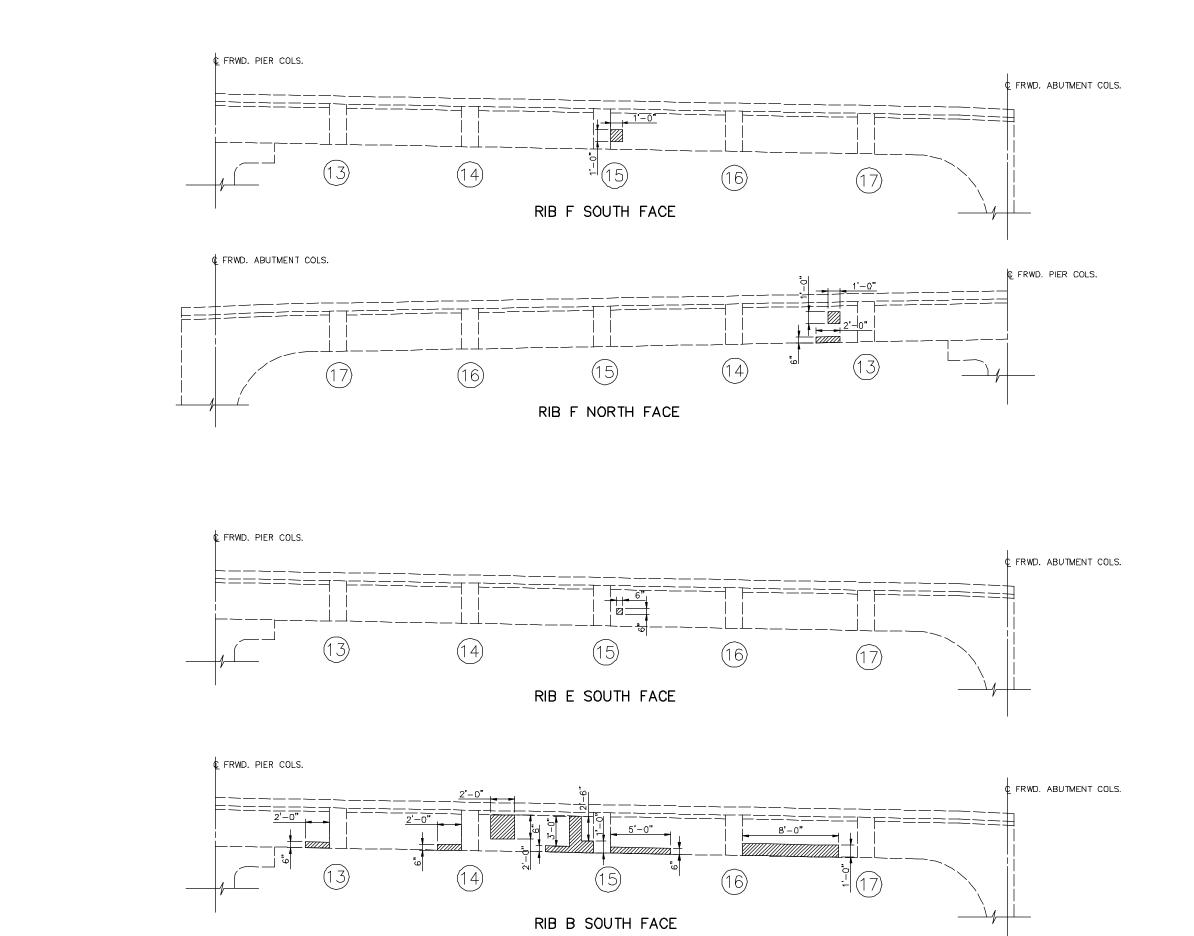
RIB C NORTH FACE

(16)

(13)

## NOTES:

- 1. ZZZZ INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET 15 SQ. FT.
- 2. REFER TO GENERAL NOTES, SHEET 3/53.
- 3. FOR RIB IDENTIFICATION AND LOCATION REFER TO SHEET [27/53].



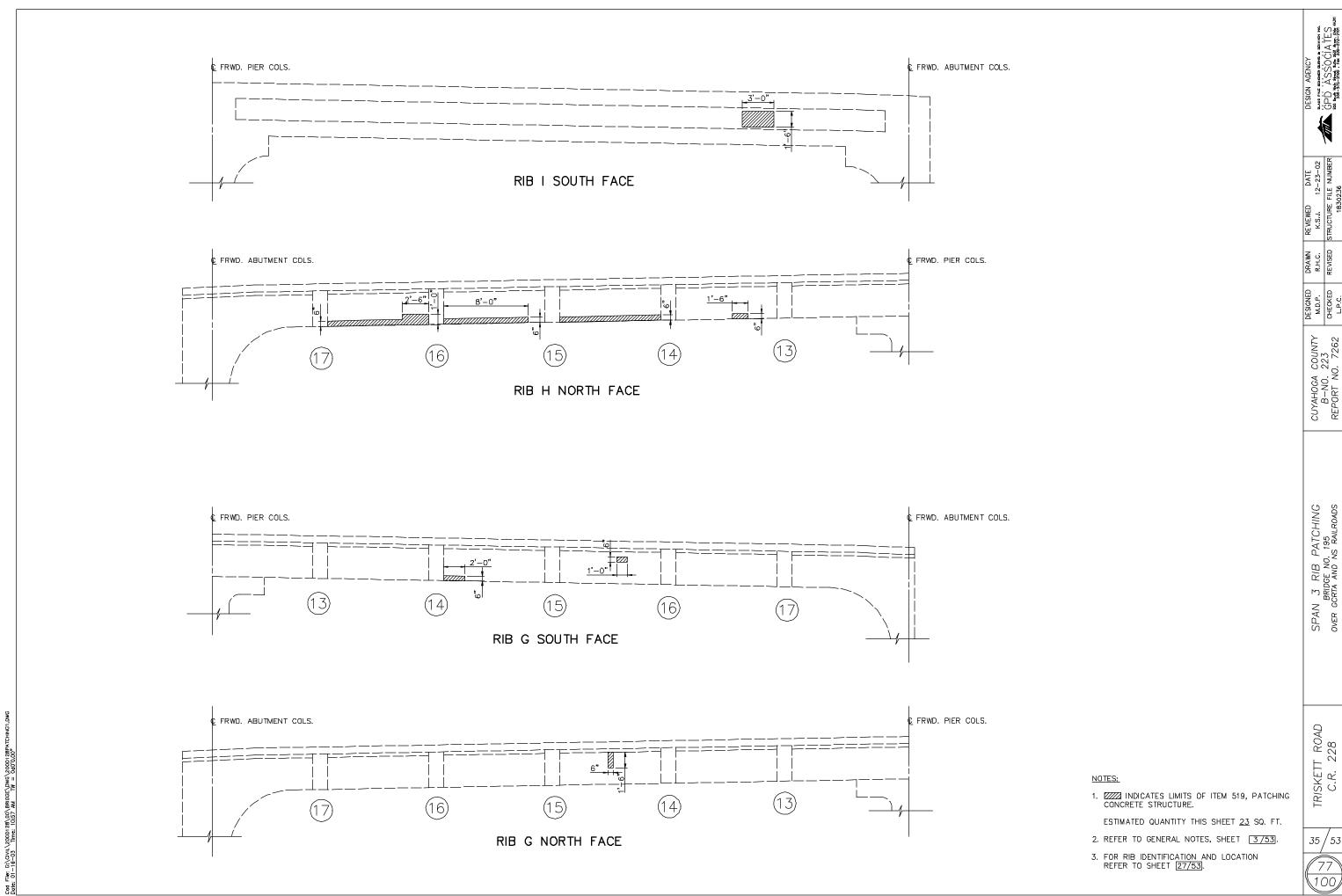
TES:

- IMDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
   ESTIMATED QUANTITY THIS SHEET 25 SQ. FT.
- 2. REFER TO GENERAL NOTES, SHEET 3/53.
- 3. FOR RIB IDENTIFICATION AND LOCATION REFER TO SHEET [27/53].

34/53 76 100

TRISKETT ROAD C.R. 228

SPAN 3 RIB PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

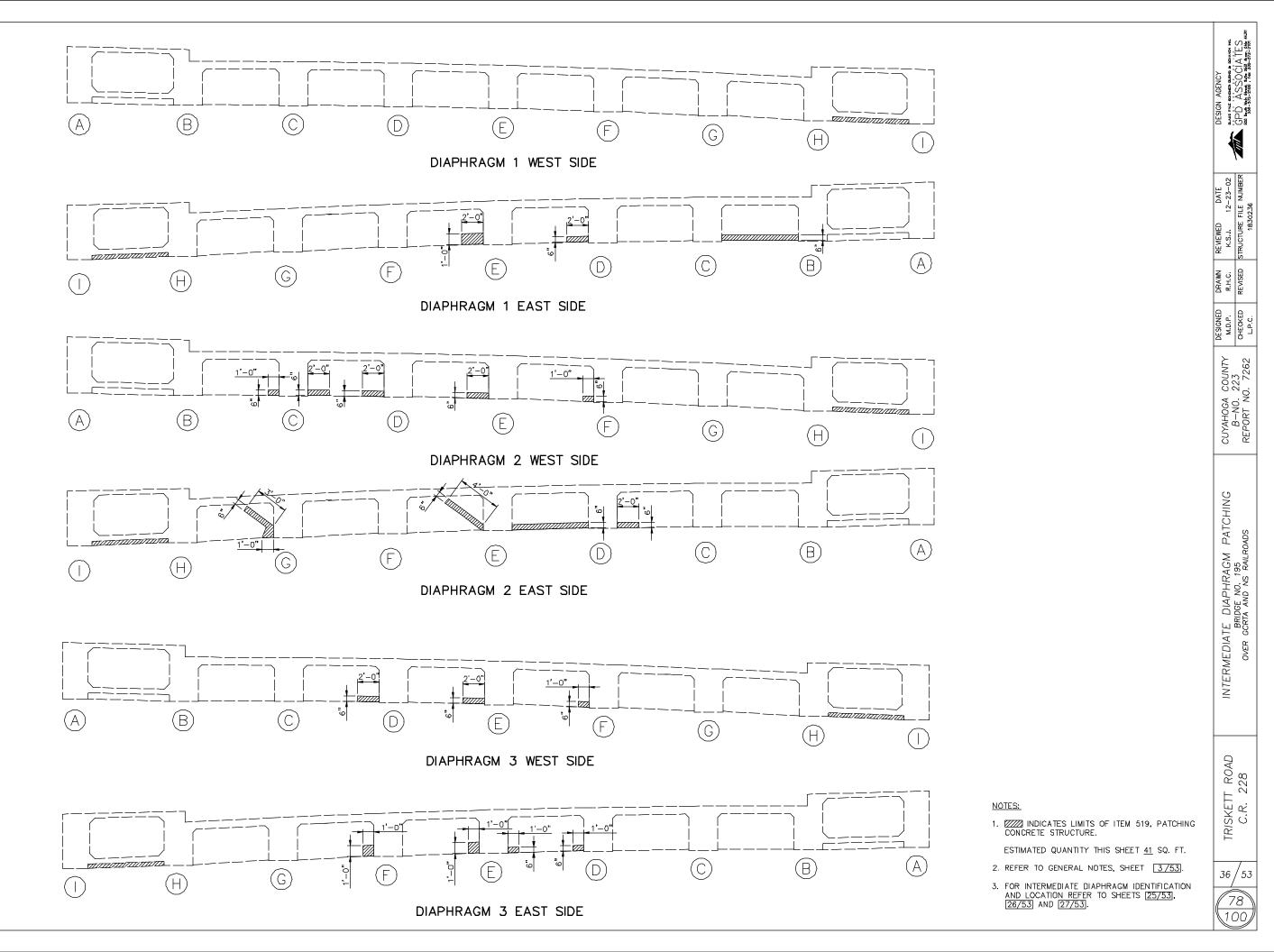


(16)

RIB G NORTH FACE

(13)

- 1. ZZZZ INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET 23 SQ. FT.
- 2. REFER TO GENERAL NOTES, SHEET 3/53.
- 3. FOR RIB IDENTIFICATION AND LOCATION REFER TO SHEET [27/53].



DESIGN AGENCY
a.ue put society and a service reGPD ASSOCIATES
sta bas \$155,550 of ATES

DRAWN REVIEWED
R.H.C. K.S.J.
REVISED STRUCTURE F

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

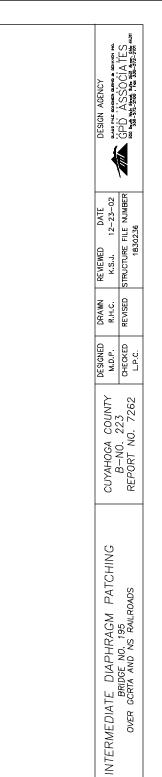
INTERMEDIATE DIAPHRAGM PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

TRISKETT ROAD C.R. 228

36 / 53

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TRISKETT ROAD C.R. 228

37 / 53

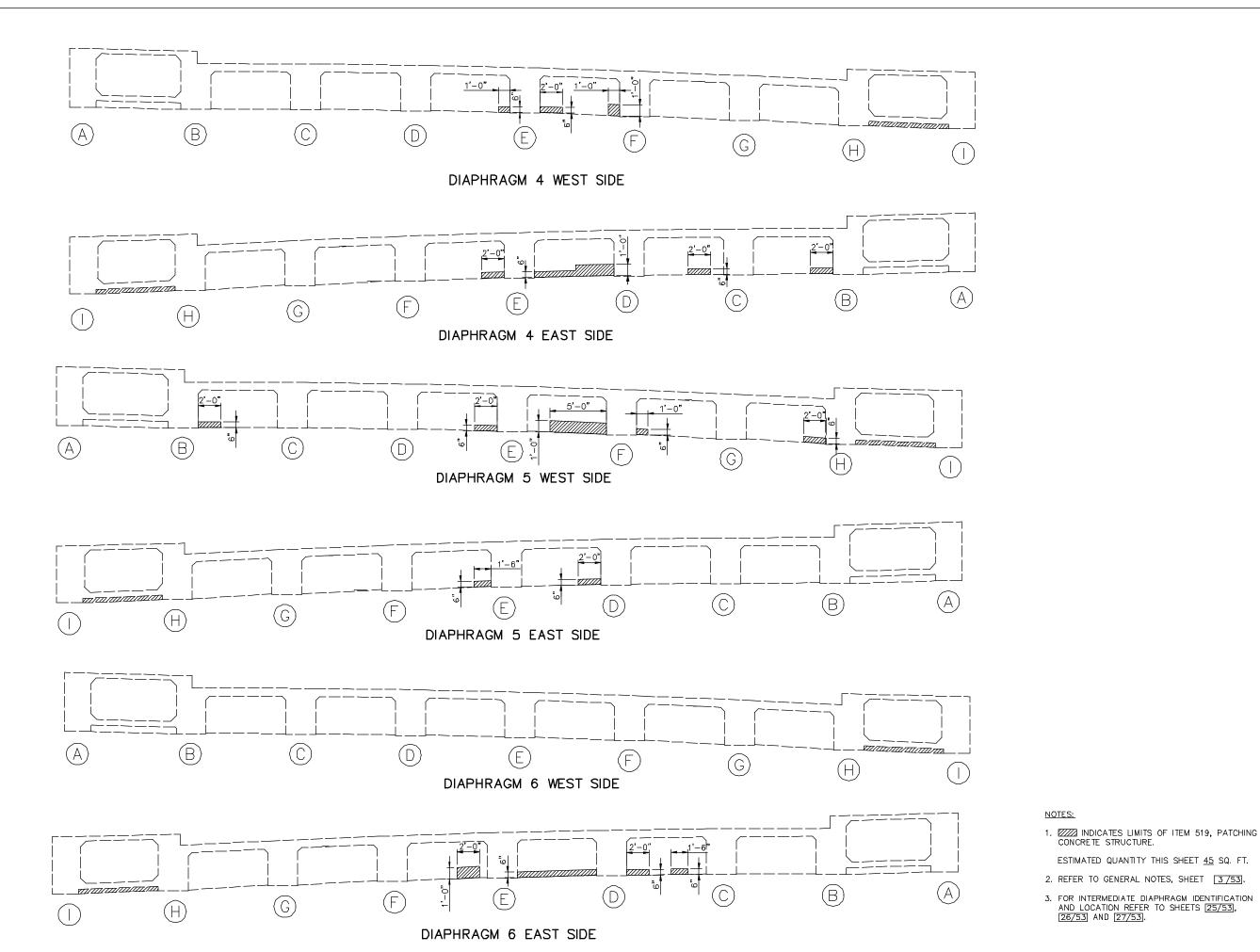
79

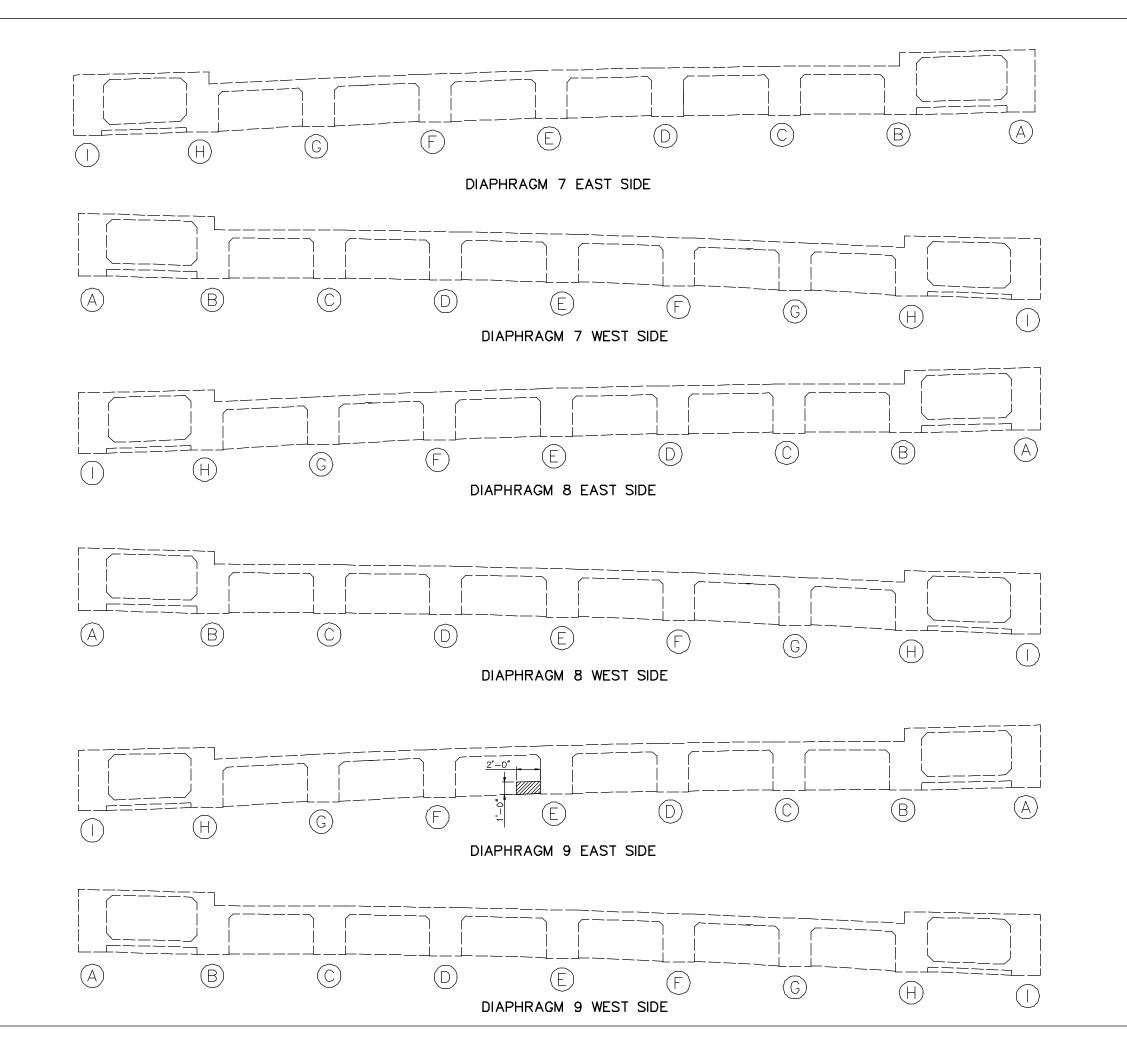
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ESTIMATED QUANTITY THIS SHEET 45 SQ. FT.

2. REFER TO GENERAL NOTES, SHEET 3/53.

3. FOR INTERMEDIATE DIAPHRAGM IDENTIFICATION AND LOCATION REFER TO SHEETS [25/53], [26/53] AND [27/53].





TES:

- 1. WWW INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET 2 SQ. FT.
- 2. REFER TO GENERAL NOTES, SHEET 3/53.
- 3. FOR INTERMEDIATE DIAPHRAGM IDENTIFICATION AND LOCATION REFER TO SHEETS 25/53, 26/53 AND 27/53.

TRISKETT ROAD C.R. 228

DATE

DATE

12–23–02

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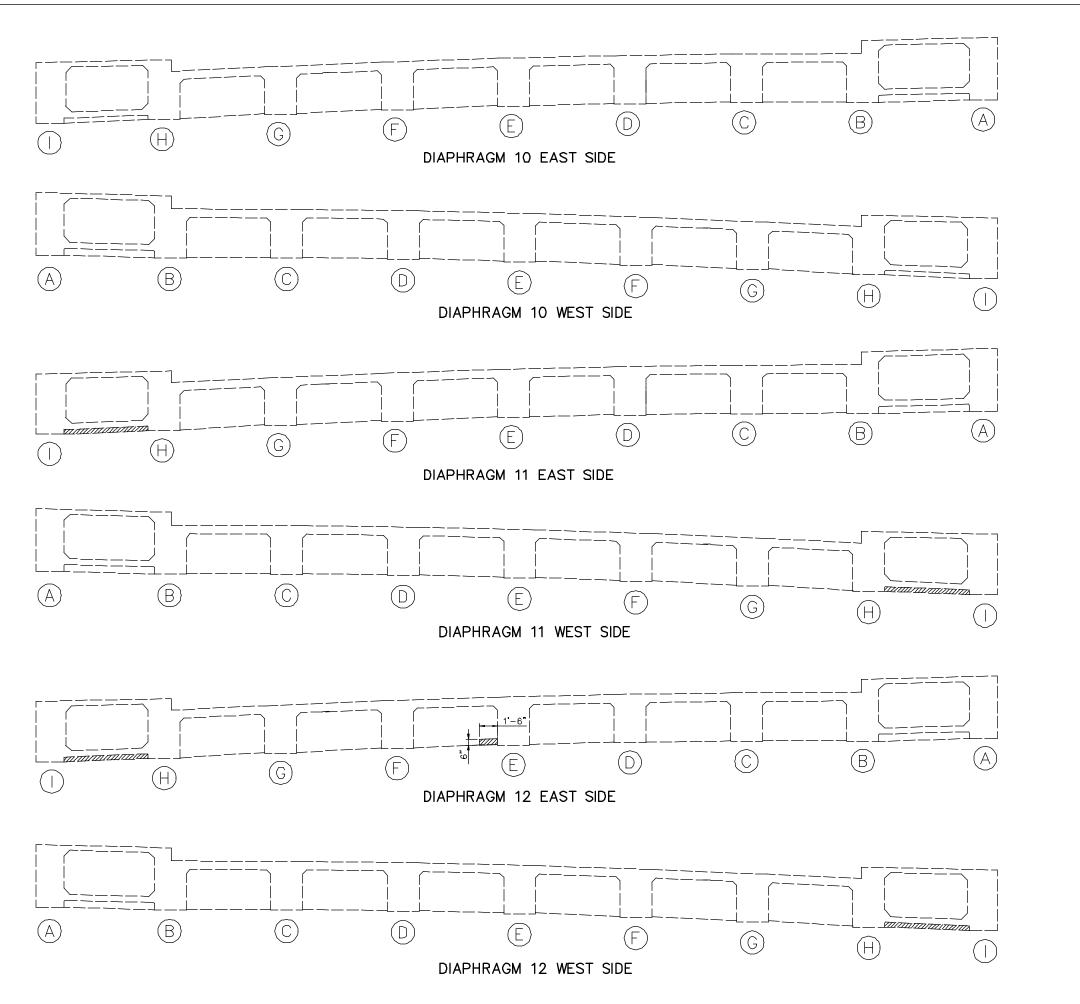
1830236

REVIEWED K.S.J.

DRAWN R.H.C. REVISED

> CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

INTERMEDIATE DIAPHRAGM PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS



1. ZZZZ INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.

ESTIMATED QUANTITY THIS SHEET 12 SQ. FT.

- 2. REFER TO GENERAL NOTES, SHEET 3/53.
- 3. FOR INTERMEDIATE DIAPHRAGM IDENTIFICATION AND LOCATION REFER TO SHEETS [25/53], [26/53] AND [27/53].

TRISKETT ROAD C.R. 228

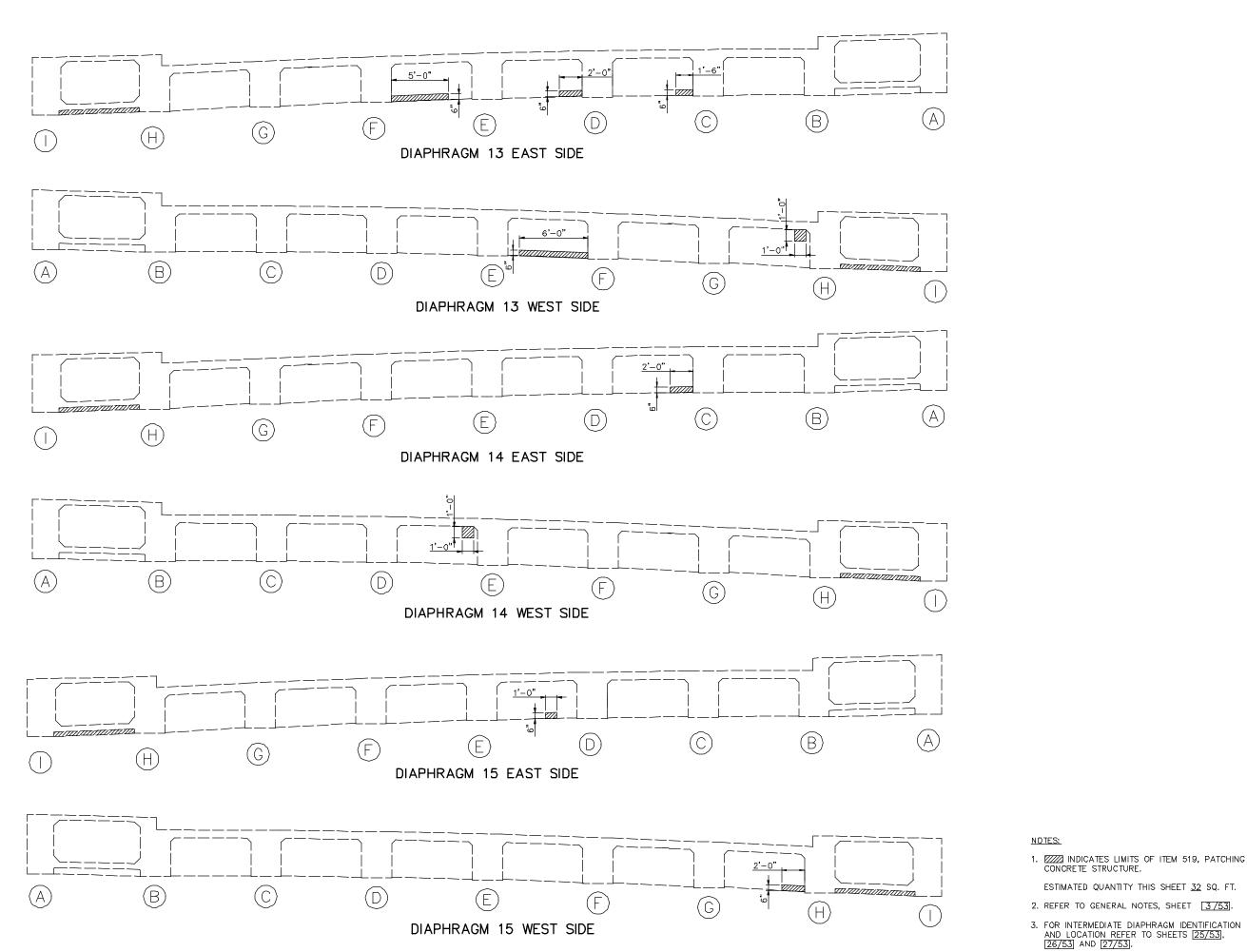
DATE
K.S.J. 12–23–02
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1830236

REVIEWED K.S.J.

DRAWN R.H.C. REVISED

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

INTERMEDIATE DIAPHRAGM PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS



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TRISKETT ROAD C.R. 228

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K.S.J. 12–23–02
TRUCTURE FILE NUMBER
1830236

REVIEWED K.S.J.

DRAWN R.H.C.

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

INTERMEDIATE DIAPHRAGM PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS



DATE
K.S.J. 12–23–02
STRUCTURE FILE NUMBER
1830236 REVIEWED K.S.J.

DRAWN R.H.C. REVISED

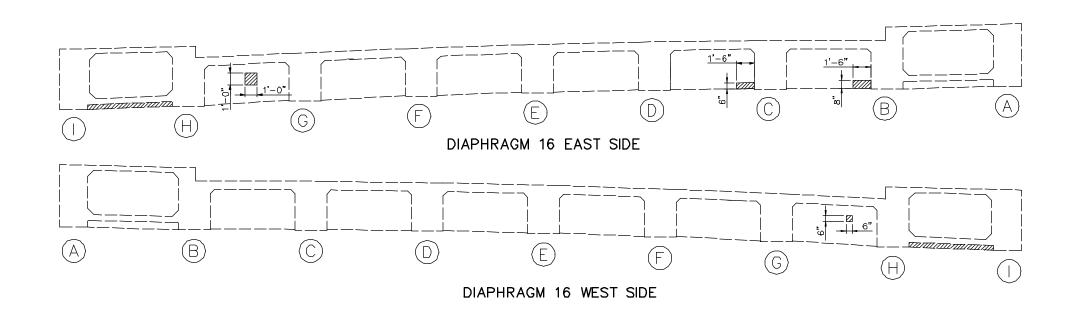
CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

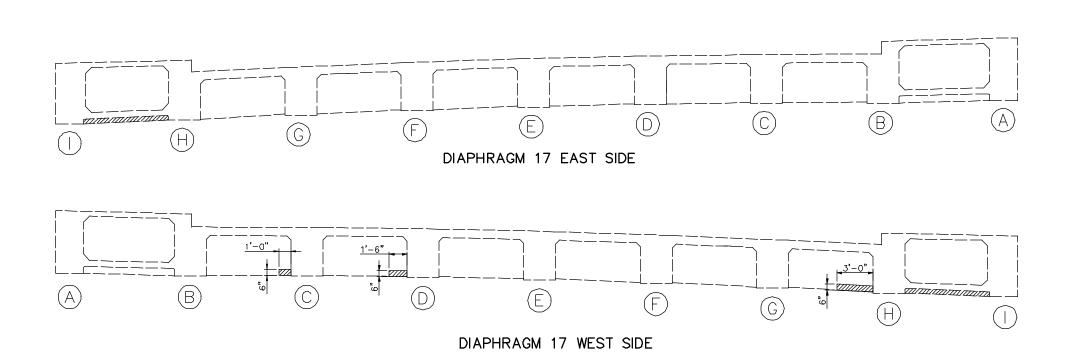
INTERMEDIATE DIAPHRAGM PATCHING BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

TRISKETT ROAD C.R. 228

41 / 53

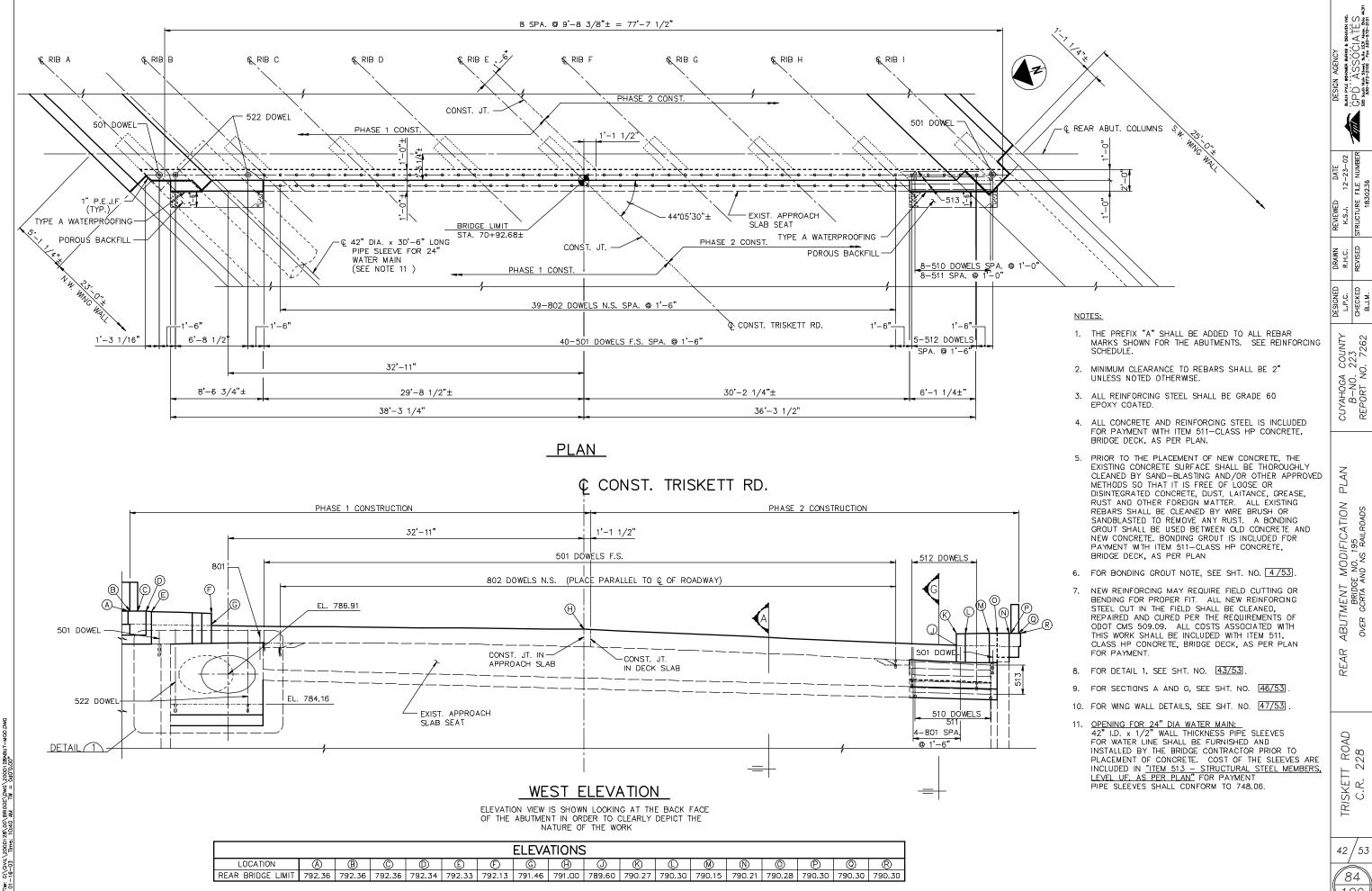
83 100

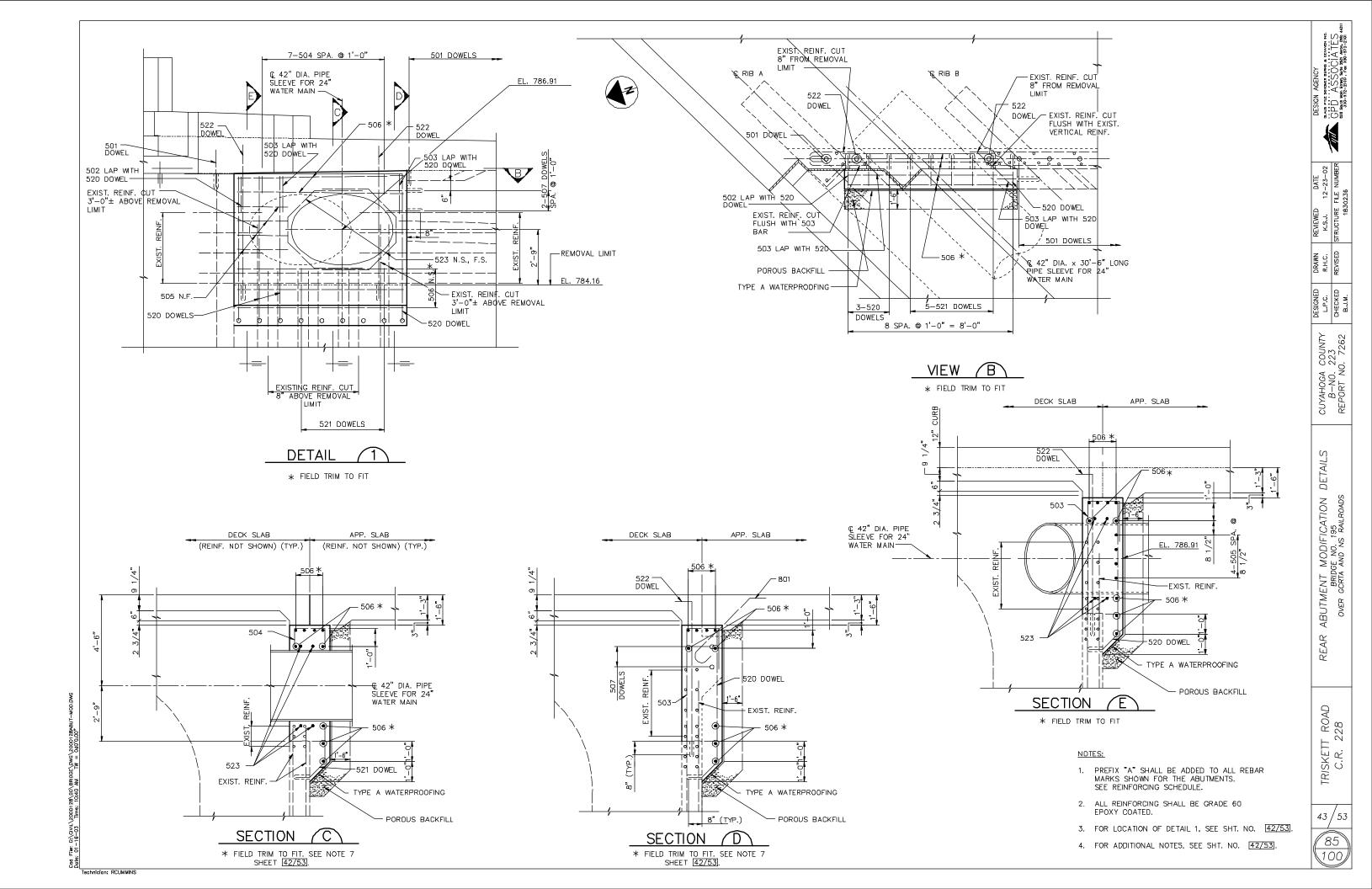


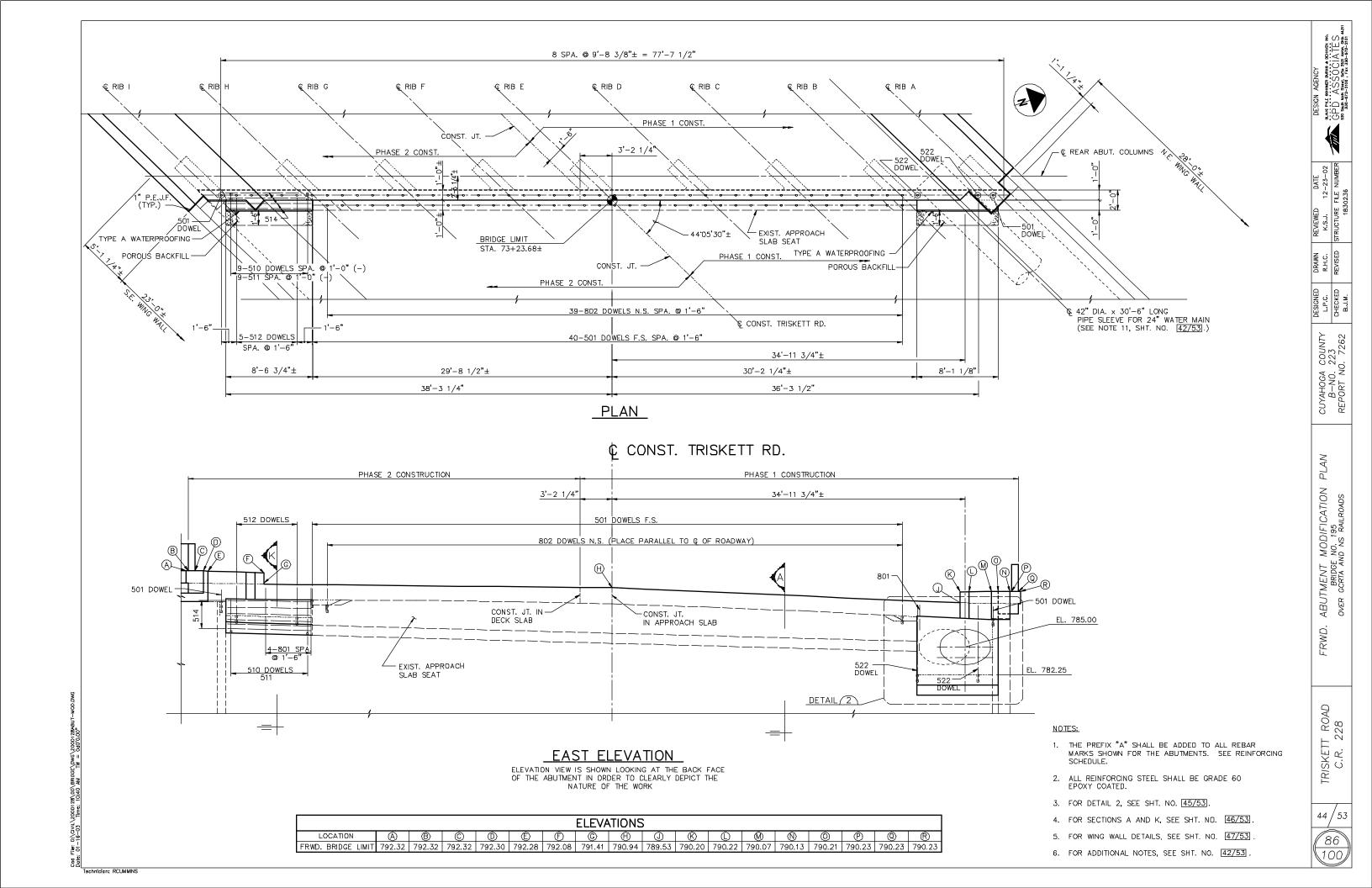


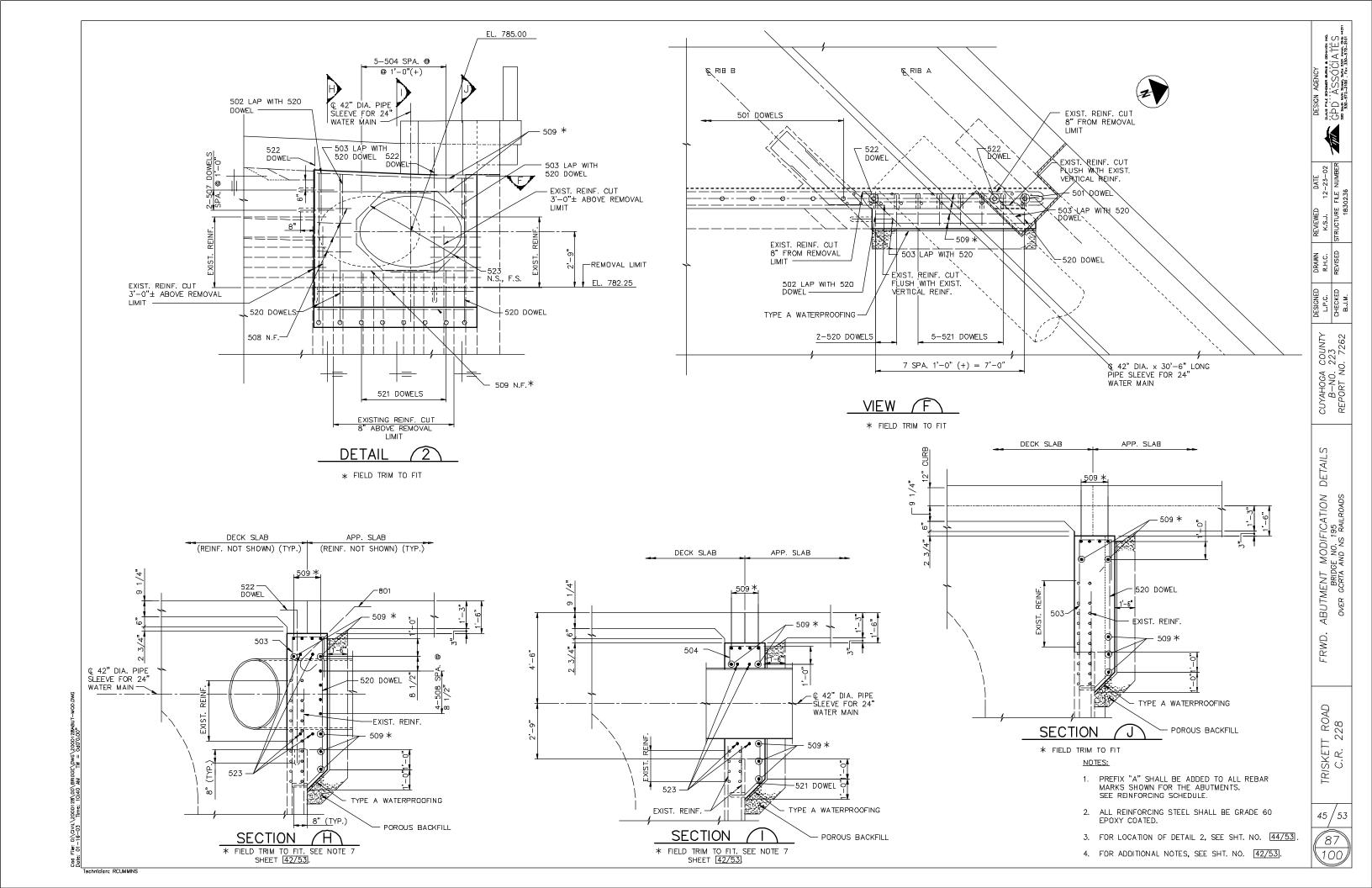
#### NOTES:

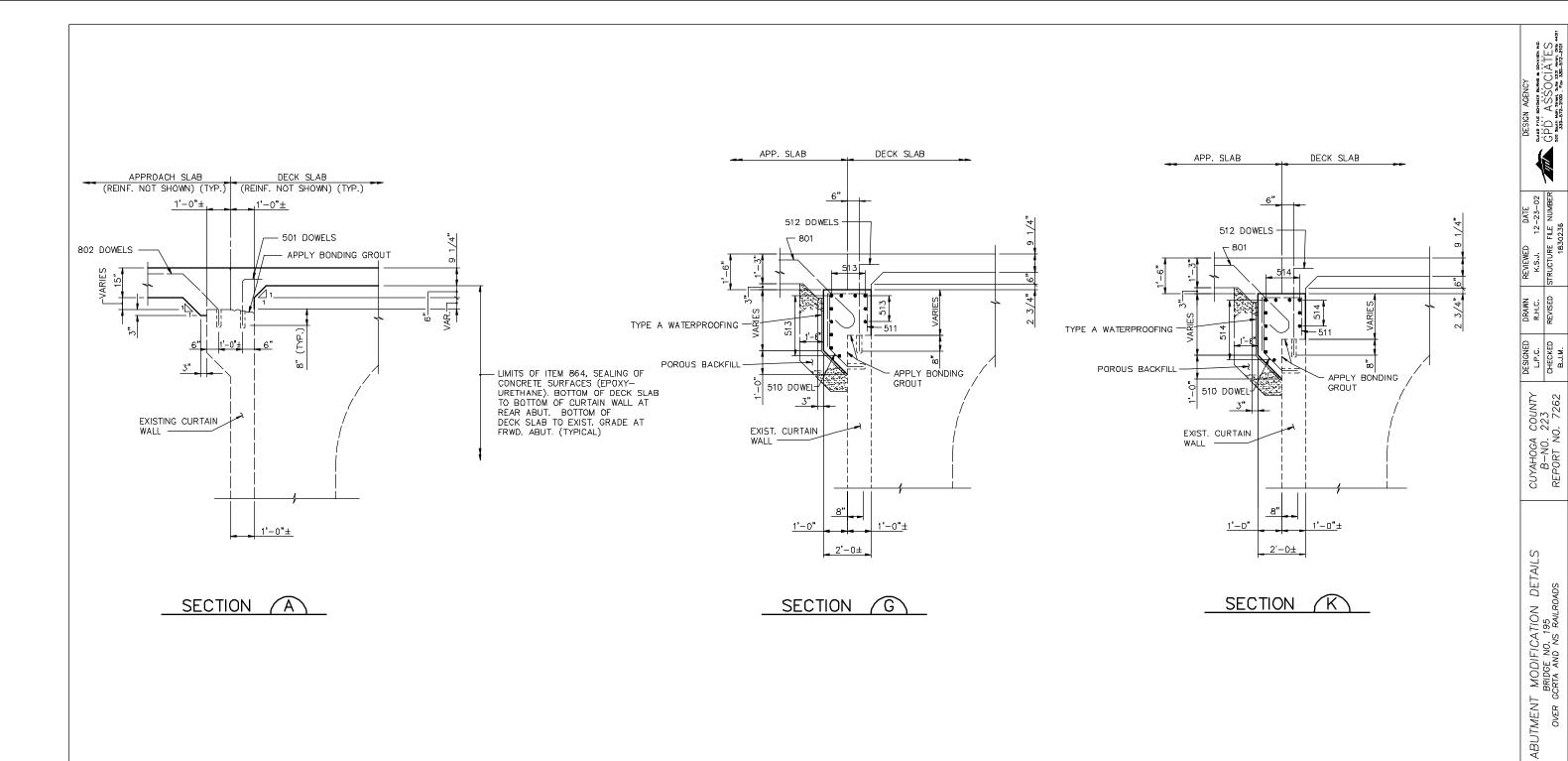
- 1. ZZZZ INDICATES LIMITS OF ITEM 519, PATCHING CONCRETE STRUCTURE.
- ESTIMATED QUANTITY THIS SHEET 19 SQ. FT.
- 2. REFER TO GENERAL NOTES, SHEET 3/53.
- 3. FOR INTERMEDIATE DIAPHRAGM IDENTIFICATION AND LOCATION REFER TO SHEETS 25/53, 26/53 AND 27/53.







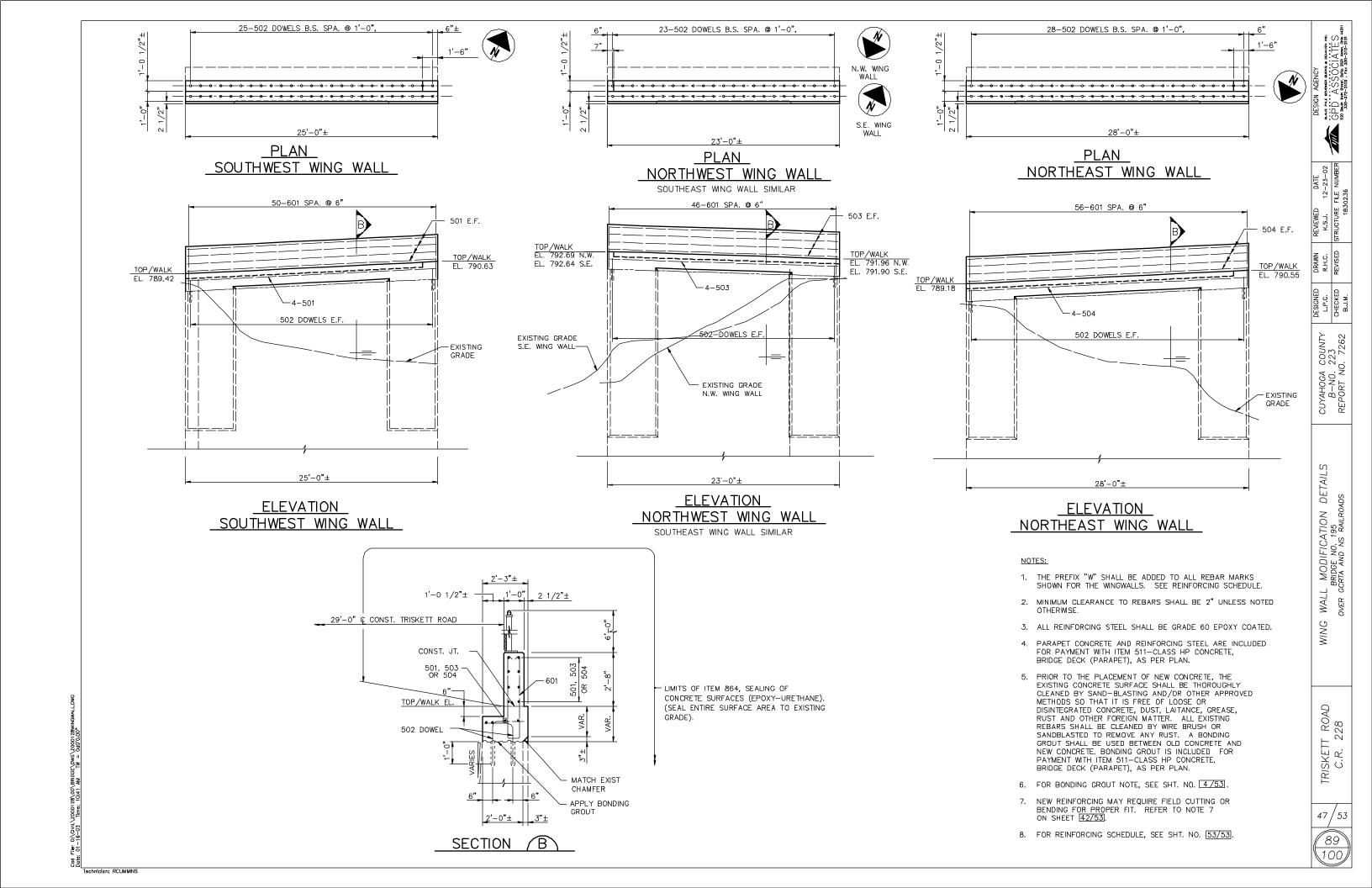


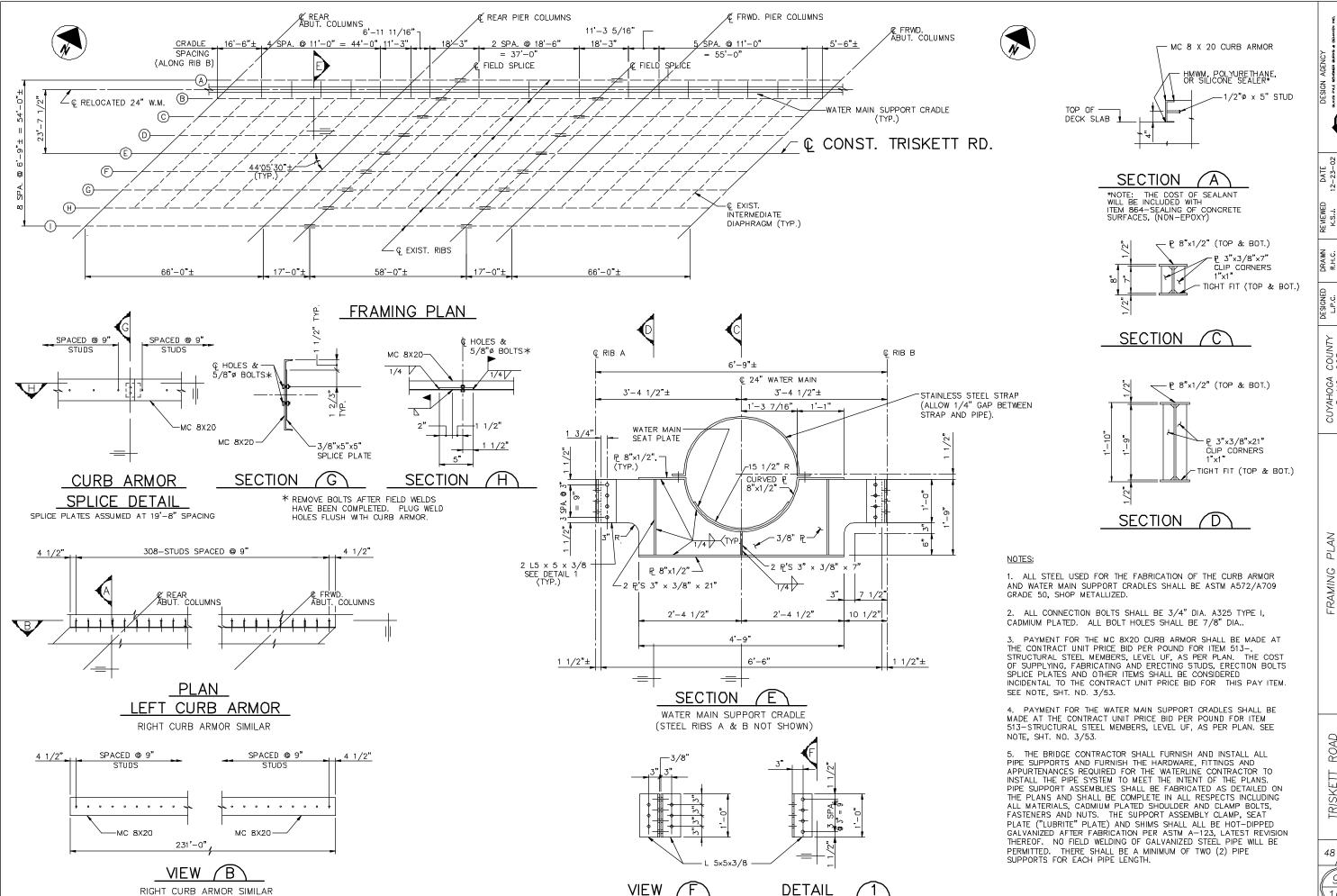


#### NOTES:

- PREFIX "A" SHALL BE ADDED TO ALL REBAR MARKS SHOWN FOR THE ABUTMENTS. SEE REINFORCING SCHEDULE.
- 2. ALL REINFORCING SHALL BE GRADE 60 EPOXY COATED.
- 3. FOR LOCATION OF SECTION A, G AND K, SEE SHT. NOS. 42/53. & 44/53.
- 4. FOR ADDITIONAL NOTES, SEE SHT. NO. 42/53.

TRISKETT ROAD C.R. 228





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CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

FRAMING PLAN BRIDGE NO. 195 GCRTA AND NS RAILRO

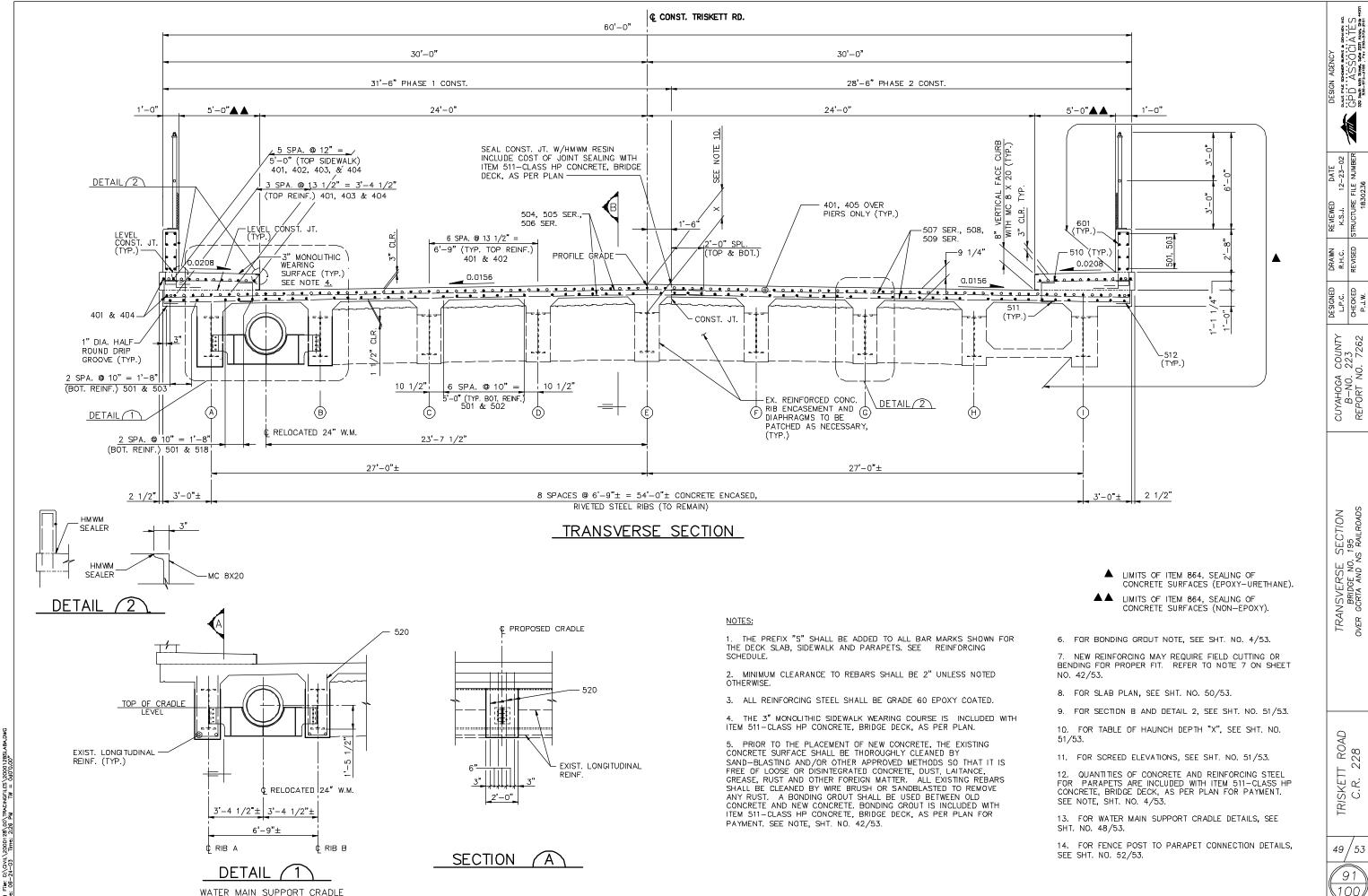
OVER

TRISKETT ROAD C.R. 228

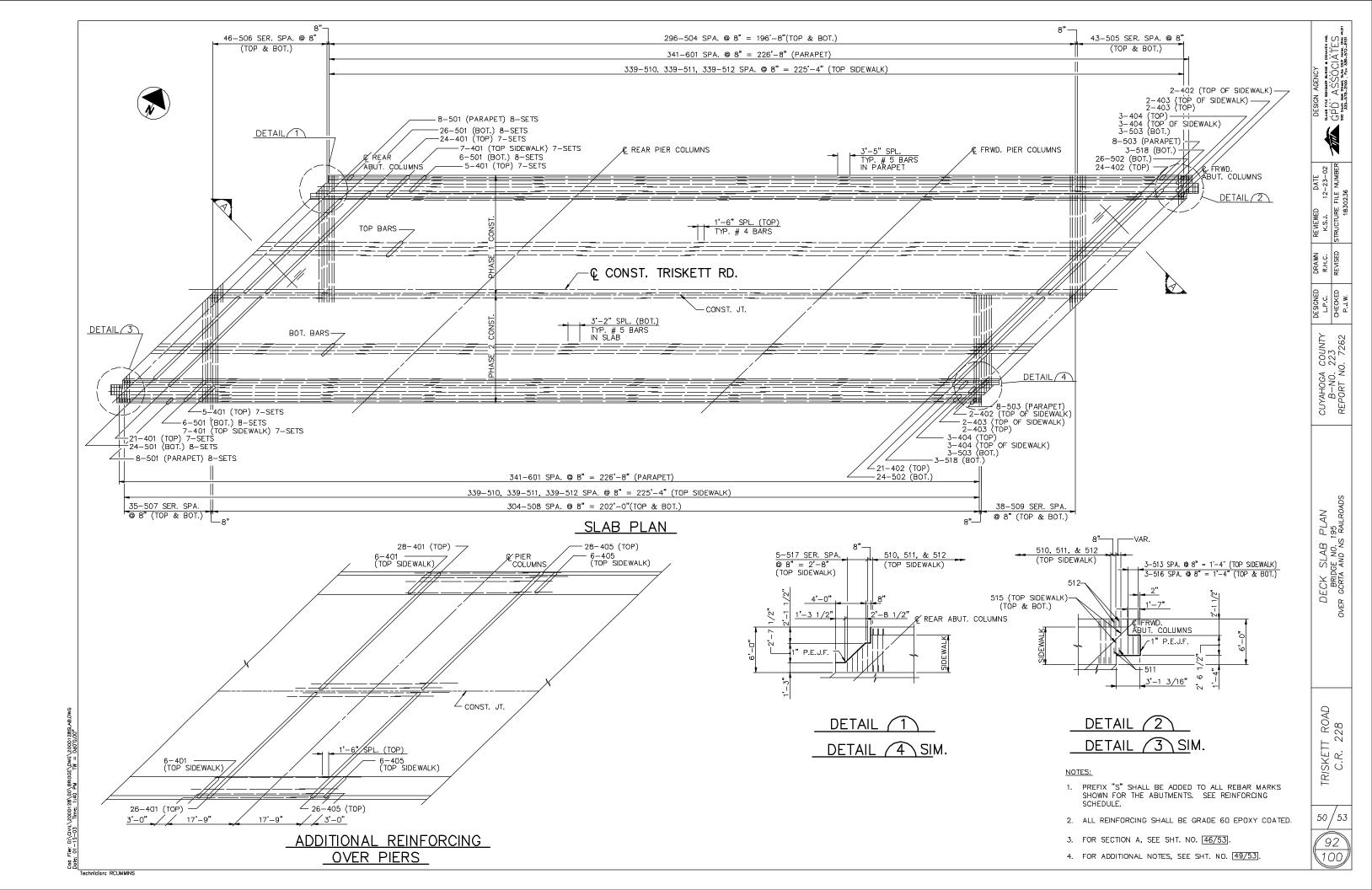
48 / 53

90

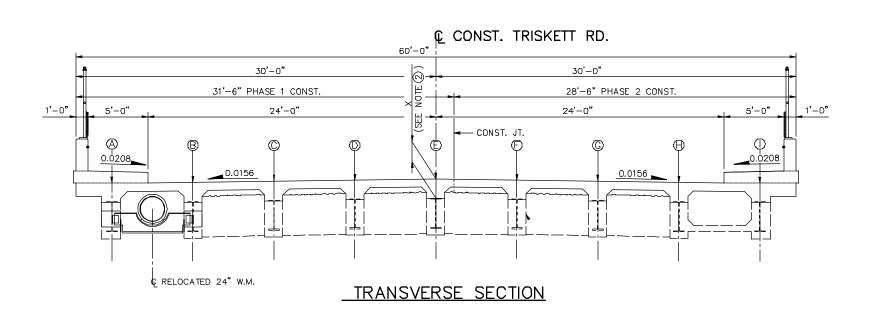
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OVER



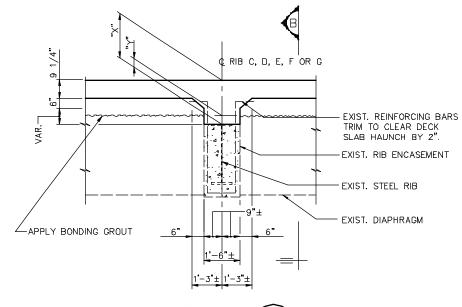
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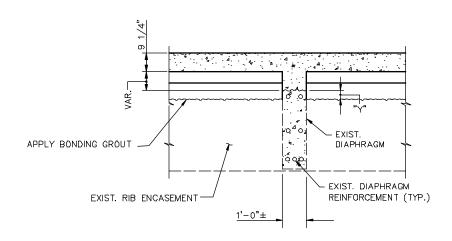
	ANTICIPATED HAUNCH DEPTH (X) TABLE													
	LOCATION	RIB A	RIB B	RIB C	RIB D	RIB E	RIB F	RIB G	RIB H	RIB I				
	Ç REAR ABUT. COL'S	1'-8 13/16"	1'-11"	1'-8 3/16"	1'-6 5/8"	1'-8 1/8"	1'-6 7/16"	1'-7 1/2"	1'-8 9/16"	1'-8"				
	1/4 SPAN 1	1'-9 7/16"	2'-0 5/8"	1'-7 1/2"	1'-8 11/16"	1'-9 3/4"	1'-9 7/16"	1'-8 9/16"	1'-10 1/8"	1'-10"				
	1/2 SPAN 1	1'-8 13/16"	2'-1 3/8"	1'-9 3/4"	1'-9 9/16"	1'-10 3/8"	1'-10"	1'-8 11/16"	1'-10 5/8"	1'-9 7/16"				
	3/4 SPAN 1	1'-10"	2'-1"	1'-8 9/16"	1'-9 7/16"	1'-9 7/8"	1'-8 7/16"	1'-7 5/8"	1'-10"	1'-9 5/16"				
	© REAR PIER COL'S	1'-11 1/8"	1'-11 9/16"	1'-8 5/16"	1'-8 3/16"	1'-8 7/16"	1'-7"	1'-5 11/16"	1'-8 7/16""	1'-10"				
	1/4 SPAN 2	1'-10 5/8"	1'-9 7/16"	1'-6 3/16"	1-6 9/16"	1'-6 5/16"	1'-5 15/16"	1'-3 9/16"	1'-6 3/16"	1'-8 15/16"				
	1/2 SPAN 2	1'-9 1/16"	1'-10 5/8"	1'-6 3/4"	1'-8 1/8"	1'-7 1/4"	1'-6 7/16"	1'-6 1/16"	1'-7"	1'-10 3/4"				
	3/4 SPAN 2	1' 9 5/16"	1 9 9/16"	1'-7"	1'-6 7/16"	1'-6 3/16"	1'-4 7/8"	1'-4 5/8"	1'-5 13/16"	1'-11 1/8"				
<b>4</b>	€ FRWD. PIER COL'S	1'-8 13/16"	1'-10 7/8"	1'-6 5/8"	1'-6 7/8"	1'-7 1/4"	1'-6 7/16"	1'-6 7/16"	1'-7 1/2"	1'-9 1/16"				
	1/4 SPAN 3	1'-9 7/8"	1'-11 11/16"	1'-8"	1'-7 5/8"	1'-8 7/16"	1'-7 5/8"	1- 7 3/4"	1'-8 11/16"	1'-9 9/16"				
	1/2 SPAN 3	1'-10 3/8"	2'-0 5/16"	1'-8 9/16"	1'-8 3/16"	1'-9 3/16"	1'-8 1/8"	1'-8 7/16"	1'-9 5/8"	1'-10 1/4"				
	3/4 SPAN 3	1'-10"	1'-11 13/16"	1'-8 5/16"	1'-7 3/4"	1'-8 15/16"	1'-7 5/8"	1'-8 1/8"	1'-9 7/16"	1'-9 7/8"				
	© FRWD, ABUT, COL'S	1'-8 5/16"	1'-10 3/8"	1'-7"	1'-6 5/16"	1'-7 5/8"	1'-6 1/16"	1'-6 9/16"	1'-8 1/8"	1'-8 7/16"				

DEPTHS ARE SHOWN FROM TOP OF DECK TO TOP OF EXISTING RIB FLANGE.

ANTICIPATED DRY RUN DISTANCES CAN BE OBTAINED BY ADDING THE ADJUSTED REBOUND TO THE ANTICIPATED DECK SLAB DEPTHS.



# **DETAIL**





### NOTES:

- 1. HAUNCH DEPTH "X": THE DIMENSION SHOWN IS FROM TOP OF REINF, CONC. DECK SLAB TO TOP OF EXIST, STEEL RIB. HAUNCH DEPTH AT PIER LOCATIONS (M) SHALL BE CALCULATED BY DEDUCTING DIMENSION "Y" FROM DIM. "X". DIM. "Y" SHALL BE FIELD MEASURED AFTER DECK REMOVAL.
- 2. FOR LOCATION OF SECTION B AND DETAIL 2, SEE SHT. NO. 49/53.

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51A 53
93A
100)

			DECK	SCR	EED	ELEV	ATION	I TAE	BLE					
			5	PAN No.	1			SPAN No.				SPAN	No. 1	
	ELEVATION LOCATION	© REAR ABUT. COL'S	1/4	1/2	3/4	© REAR PIER COL'S	1/4	1/2	3/4	© REAR PIER COL'S	1/4	1/2	3/4	© FRW ABUT COL'S
	ITTER FINAL TOP DECK ELEV.	791.56	791.98	792.31	792.55	792.71	792.78	792.67	792.39	791.94	791.51	790.99	790.38	789.6
LEFT GU	ITTER DECK SCREED ELEV.	791.56				792.71				791.94				789.6
	* ELEV. AFTER DECK REMOVAL													
	* ELEV. BEFORE DECK REMOVAL													
BEAM A	** SURVEYED REBOUND													
,_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	*** ADJUSTED REBOUND													
	FINAL TOP DECK ELEV.	791.64	792.05	792.36	792.59	792.73	792.77	792.64	792.34	791.86	791.42	790.88	790.25	789.5
	**** DECK SCREED ELEV.	791.64				792.73				791.86				789.5
	* ELEV. AFTER DECK REMOVAL													
	* ELEV. BEFORE DECK REMOVAL													
BEAM B	** SURVEYED REBOUND													
	*** ADJUSTED REBOUND				700 50			70070	700 51				700 50	700
	FINAL TOP DECK ELEV.	791.50	791.95	792.30	792.56	792.74	792.84	792.76	792.51	792.09	791.68	791.18	790.59	789.9
	**** DECK SCREED ELEV.	791.50				792.74				791.09				789.9
	* ELEV. AFTER DECK REMOVAL													
	* ELEV. BEFORE DECK REMOVAL  ** SURVEYED REBOUND													
BEAM C	*** ADJUSTED REBOUND													
	FINAL TOP DECK ELEV.	791.40	791.88	792.27	792.57	792.78	792.93	792.91	792.71	792.34	791.96	791.50	790.95	790.3
	**** DECK SCREED ELEV.	791.40	791.00	/92.2/	792.37	792.78	792.30	732.31	/92./1	792.34	791.90	791.30	790.35	790.
	* ELEV. AFTER DECK REMOVAL	731.40				/92./6				732.34				790.
	* ELEV. BEFORE DECK REMOVAL													
	** SURVEYED REBOUND													
BEAM D	*** ADJUSTED REBOUND													
	FINAL TOP DECK ELEV.	791.27	791.79	792.22	792.56	792.81	793.01	793.04	792.89	792.57	792.24	791.82	791.30	790.7
	**** DECK SCREED ELEV.	791.27	731.73	732.22	732.00	792.81	730.01	730.04	732.03	792.57	/32.27	731.02	731.50	790.7
	* ELEV. AFTER DECK REMOVAL	751.27				7 3 2.01				7 32.07				, 30.7
	* ELEV. BEFORE DECK REMOVAL													
	** SURVEYED REBOUND													
BEAM E	*** ADJUSTED REBOUND													
	FINAL TOP DECK ELEV.	791.13	791.68	792.15	792.53	792.82	793.07	793.15	793.06	792.79	792.50	792.11	791.63	791.0
	**** DECK SCREED ELEV.	791.13				792.82				792.79				790.0
	* ELEV. AFTER DECK REMOVAL													
	* ELEV. BEFORE DECK REMOVAL													
BEAM F	** SURVEYED REBOUND													
DEAW F	*** ADJUSTED REBOUND													
	FINAL TOP DECK ELEV.	790.76	791.36	791.86	792.28	792.60	792.91	793.04	793.00	792.79	792.53	792.18	791.74	791.2
	**** DECK SCREED ELEV.	790.76				792 <i>.</i> 60				792.79				791.2
	* ELEV. AFTER DECK REMOVAL													
	* ELEV. BEFORE DECK REMOVAL													
EAM G	** SURVEYED REBOUND													
	*** ADJUSTED REBOUND													
	FINAL TOP DECK ELEV.		791.01	791.55	792.01	792.37	792.73	792.91	792.92	792.76	792.54	792.23	791.83	791.3
	**** DECK SCREED ELEV.	790.38				792.37				792.76				791.3
	* ELEV. AFTER DECK REMOVAL													
	* ELEV. BEFORE DECK REMOVAL													
BEAM H	** SURVEYED REBOUND													
	*** ADJUSTED REBOUND	700.00	700 CE	791.23	701.70	702.12	700 57	700 77	700.07	700 77	702 54	700.07	701.00	701.4
	FINAL TOP DECK ELEV.		790.65	791.23	791.72	792.12	792.53	792.77	792.83	792.73	792.54	792.27	791.90	791.4
	**** DECK SCREED ELEV.	789.98				792.12		<u> </u>		792.73	<u> </u>	<u> </u>		791.4
	* ELEV. AFTER DECK REMOVAL  * ELEV. BEFORE DECK REMOVAL													
	** ELEV. BEFORE DECK REMOVAL  ** SURVEYED REBOUND													
BEAM I	*** ADJUSTED REBOUND													
	FINAL TOP DECK ELEV.	789.62	790.32	790.94	791.47	791.91	792.37	792.66	792.77	792.72	792.57	792.34	792.01	791.6
	**** DECK SCREED ELEV.	789.62	/30.02	/30.34	/31.4/	791.91	/32.3/	/32.00	192.11	792.72	/32.3/	/32.34	132.01	791.6
FET CU	ITTER FINAL TOP DECK ELEV.	789.76	790,44	791.04	791.56	791.91	792.42	792.68	792.78	792.72	792.53	792.28	791.94	791.5
ייי-	ITTER DECK SCREED ELEV.	789.76	/30.44	731.04	/31,00	791.98	132.42	/ 32.00	132.10	792.70	/32.00	/ 32.20	/31.34	791.5

* BOTTOM OF BEAM ELEVATION SURVEYED DURING CONSTRUCTION

 $\frac{PROPOSED\ DEAD\ LOAD}{EXISTING\ DEAD\ LOAD}\ =\ \underline{0.95}$ 

** SURVEYED REBOUND - BEAM ELEVATION BEFORE DECK REMOVAL MINUS BEAM ELEVATION AFTER DECK REMOVAL

ADJUSTED REBOUND - RATIO OF PROPOSED DEAD LOAD TO EXISTING DEAD LOAD (PROVIDED BY DESIGNER) MULTIPLIED TIMES THE SURVEYED REBOUND

**** DECK SCREED ELEV. - ADJUSTED REBOUND ADDED TO THE FINAL TOP OF DECK ELEVATION.

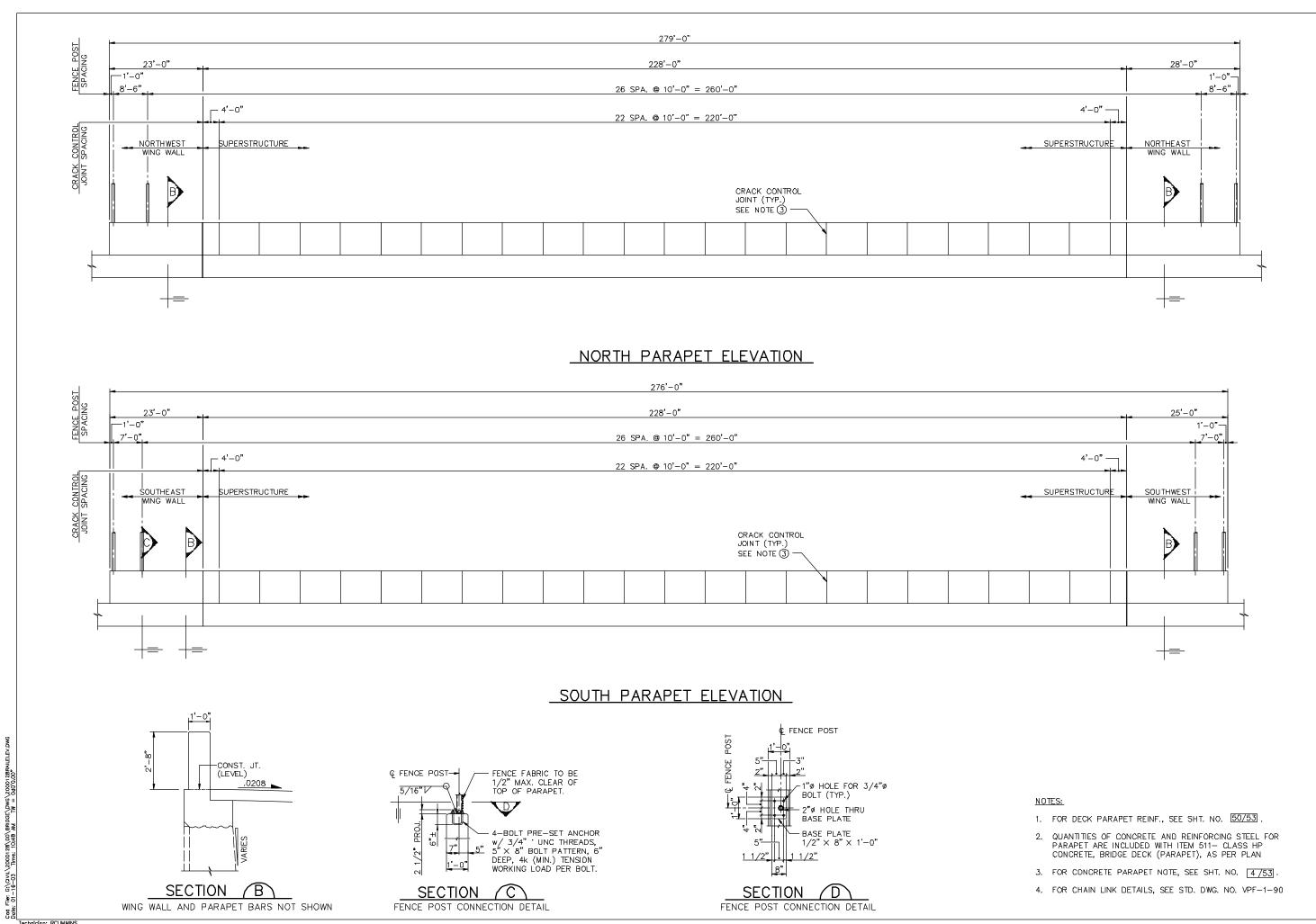
#### SCREED ELEVATIONS:

FIELD PROCEDURES DURING PHASED CONSTRUCTION OF DECKS WITHOUT CLOSURE POURS.

- 1. SURVEY BOTTOM OF EXISTING BEAMS IN PHASE I AT THE LOCATIONS SHOWN IN THE TABLE PRIOR TO PHASE I DECK REMOVAL AND AFTER PHASE I DECK REMOVAL.
- 2. COMPUTE THE AMOUNT OF SURVEYED REBOUND FOR THESE BEAMS BY SUBTRACTING THE ELEVATIONS AFTER REMOVAL FROM THE ELEVATIONS BEFORE REMOVAL.
- 3. COMPUTE THE ADJUSTED REBOUND FOR THESE BEAMS BY MULTIPLYING THE SURVEYED REBOUND BY THE RATIO OF THE PROPOSED DEAD LOAD TO EXISTING DEAD LOAD,
- 4. ADD THE AMOUNT OF ADJUSTED REBOUND TO THE FINAL TOP OF DECK ELEVATIONS TO OBTAIN THE DECK SCREED ELEVATIONS. USE REBOUND OF CLOSEST BEAM TO DETERMINE GUTTER DECK SCREED ELEVATION.
- 5. AFTER PHASE I DECK PLACEMENT. REPEAT STEPS 1 THRU 4 FOR REMAINING BEAMS PRIOR TO AND AFTER PHASE 2 DECK REMOVAL.

#### NOTES:

- DECK SLAB DEPTH. THE QUANTITY OF DECK SLAB CONCRETE TO BE PAID FOR SHALL BE BASED ON THE MINIMUM REQUIRED DECK SLAB THICKNESS OF 9-1/4 INCHES. THE QUANTITY OF CONCRETE REQUIRED FOR THE HAUNCH SHALL BE BASED ON THE DESIGN HAUNCH OF 21-1/4 INCHES EVEN THOUGH DEVIATION FROM THAT DEPTH MAY BE NECESSARY BECAUSE THE TOP FLANGE OF THE BEAM MAY NOT BE PARALLEL TO THE FINISHED GRADE. ACTUAL HAUNCH DEPTHS MAY VARY FROM A 15-1/4 INCH MINIMUM TO A 25-1/2 INCH
- 2. THE COST OF SURVEYING IS CONSIDERED INCIDENTAL TO DECK CONSTRUCTION AND SHALL BE INCLUDED WITH ITEM 511-CLASS HP CONCRETE, BRIDGE DECK FOR PAYMENT
- FOR PHASE CONSTRUCTION DETAILS, SEE SHEET 5/53.



DATE 12-23-02 : FILE NUMBER 30236

REVIEWED

DRAWN R.H.C. REVISED

DESIGNED L.P.C. CHECKED B.J.M.

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

PARAPET ELEVATION BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

TRISKETT ROAD C.R. 228

52 / 53

94

100

SUPERST	FRUCTUR	E, EPOXY		D BARS	- PHASE			
MARK	NO.	LENGTH	WEIGHT	TYPE		DIMENSIONS		SERIES
IVICALATA	110.	LLINGIII	(LB)	1111 -	Α	В	C	INC.
S401	320	30' 0"	6,413	ST				
5402	26	33' 2"	576	ST				
S403	4	35' 0"	94	ST				
5404	6	30' 8"	123	ST				
S405	68	10' 0"	454	ST				
S501	320	30' 0"	10,013	ST				
S502	26	18' 4"	497	ST				
S503	11	16' 11"	194	ST				
S503		33' 4"	20,582					
	592		20,562	ST				
\$505\$	2	6' 4"	4 770					0, 7, 7, 4,
	SER	TO	1,779	ST				0' 7 3/4'
	OF 43	33' 4"						
55065	2	2'4"						_, ,,
	SER	TO	1,607	ST				0' 7 3/4'
	OF 46	31' 2"						
S510	339	5' 10"	2,063	ST				
S511	341	2' 3"	800	103	10"	10"		
5512	341	2'6"	889	103	1' 1"	10"		
S513	3	2' 11"	9	103	2' 2"	6"		
S515	6	4' 5"	28	ST				
S516	6	2'2"	14	ST				
S517S	1	1' 11"			1' 2"			
	SER	то	16	103	то	6"		0' 7"
	0F 5	4' 3"			3' 6"			
S518	3	19' 10"	62	ST				
S520	136	8′11″	1,265	103	1'2"	4'0"		
5601	341	9' 8"	4951	134	3' 1"	8"	2' 11"	

SUPERSTRUCTURE,	EPOXY	COATED	BARS	_	PHASE	2
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SUPERS1	<u> FRUCTUR</u>	E, EPOXY		D BARS	- PHASE	E 2		
MARK	NO.	LENGTH	WEIGHT	TYPE		DIMENSIONS	;	SERIES
WATER	NO.	LLINGIII	(LB)		Α	В	С	INC.
5401	295	30' 0"	5,912	ST				
S402	23	33' 2"	510	ST				
S403	4	35' 0"	94	ST				
5404	6	30' 8"	123	ST				
\$405	64	10'0"	428	ST				
S501	304	30' 0"	9,512	ST				
S502	24	18' 4"	459	ST				
S503	11	16′11″	194	ST				
\$507\$	2	6'0"						
	SER	то	1,241	ST				0' 7 3/
	OF 35	28' 0"						
S508	608	28' 4"	17,967	ST				
55095	2	2' 9"						
	SER	TO	1,146	ST				0' 7 5/
	OF 38	26' 2"						
S510	339	5' 10"	2,063	ST				
S511	341	2' 3"	800	103	10"	10"		
S512	341	2' 6"	889	103	1' 1"	10"		
S513	3	2' 11"	9	103	2' 2"	6"		
S515	6	4' 5"	28	ST				
S516	6	2' 2"	14	ST				
S517S	1	1' 11"			1' 2"			
	SER	то	16	103	то	6"		0' 7"
	0F 5	4' 3"			3' 6"			
S518	3	19' 10"	62	ST				
S601	341	9' 8"	4951	134	3' 1"	8"	2' 11"	

#### ABUTMENT, EPOXY COATED BARS - PHASE 1

MARK		NUMBER	!	LENGTH		TVDE		DIMENSIONS		SERIES
MARK	REAR	FRWD	TOTAL	]	(LB)	TYPE	Α	В	С	INC.
A501	22	23	45	2' 6"	117	102	1' 10"	10"		
A502	1	1	2	8' 9"	18	104	1'8"	5' 4"	2' 0"	
A503	2	2	4	9' 7"	40	104	2' 6"	5' 4"	2' 0"	
A504	7	5	12	2' 11"	37	103	1'8"	9"		
A505	4		4	2' 3"	9	ST				
A506	9		9	8' 2"	77	ST				
A507	2	2	4	1'8"	7	ST				
A508		4	4	1'8"	7	ST				
A509		9	9	7' 9"	73	ST				
A520	4	3	7	8' 0"	58	117	1'0"	6"	4' 6"	
A521	5	5	10	3' 5"	36	117	1'0"	6"	1' 3"	
A522	2	2	4	8' 2"	34	102	7' 6"	10"		
A523	4	4	8	9, 9,	81	135	1' 3"	1'4"	2' 5"	
A801	1	1	2	5' 10"	31	116	3' 7"	1' 0"		
A802	20	19	39	3' 9"	390	117	1'9"	6"	1' 0"	

#### ABUTMENT, EPOXY COATED BARS - PHASE 2

MARK		NUMBER		LENGTH	WEIGHT	TYPE		DIMENSIONS		SERIES
MARK	REAR	FRWD	TOTAL		(LB)	TIPE	Α	В	С	INC.
A501	20	19	39	2' 6"	102	102	1' 10"	10"		
A510	8	9	17	3' 9"	66	117	1'0"	6"	1' 6"	
A511	8	9	17	5' 1"	90	104	1'8"	2' 0"	1' 8"	
A512	5	5	10	4' 3"	44	102	3' 7"	10"		
A513	11		11	7' 4"	84	ST				
A514		11	11	8' 2"	94	ST				
A801	4	4	8	5' 10"	125	116	3' 7"	1' 0"		
A802	19	20	39	3' 9"	390	117	1'9"	6"	1' 0"	

## WING WALL, EPOXY COATED BARS - PHASE 1

MARK		NUMBER		LENGTH WEIGHT T	TYPE		DIMENSIONS			
MARK	REAR	FRWD	TOTAL		(LB)	IIFE	Α	A B C		INC.
W502	46	56	102	3' 5"	363	102	2' 3"	1'4"		
W503	12		12	22' 8"	284	ST				
W504		12	12	27' 8"	346	ST				
W601	46	56	102	9' 7"	1,468	124	4'1"	8"		

#### WING WALL, FPOXY COATED BARS - PHASE 2

WIING WAL				KS - Pr				DIMENSIONS		
MARK	NUMBER			LENGTH	WEIGHT	TYPE		SERIES		
MARK	REAR	FRWD	TOTAL		(LB)	TIPE	Α	В	С	INC.
W501	12		12	24' 8"	309	ST				
W502	50	46	96	3' 5"	342	102	2' 3"	1' 4"		
W503		12	12	22' 8"	284	ST				
W601	50	46	96	9'7"	1,382	124	4'1"	8"		

#### SUMMARY AND GRAND TOTAL OF BAR WEIGHTS

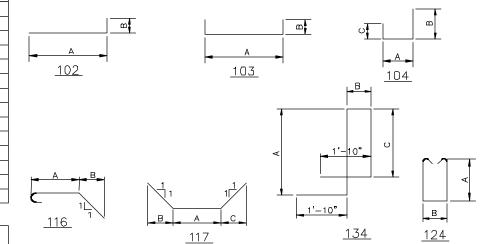
ABUTMENTS	- PHASE 1	1,015
SLAB	- PHASE 1	52,42 <b>9</b>
WING WALL	- PHASE 1	2,461

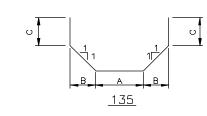
GRAND TOTAL - PHASE 1 55,905

#### SUMMARY AND GRAND TOTAL OF BAR WEIGHTS

ABUTMENTS	- PHASE 2	<b>99</b> 5
SLAB	- PHASE 2	48,418
WING WALL	- PHASE 2	2,317
GRAND TOTAL	- PHASE 2	4 <b>9,</b> 730

# STANDARD BAR TYPES

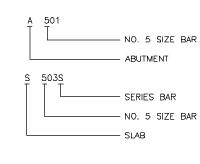




#### NOTES:

- 1. BAR DIMENSIONS ARE OUT TO OUT UNLESS NOTED OTHERWISE.
- 2. ALL BARS ARE GRADE 60 EPDXY COATED.
- 3. BAR SIZE AND LOCATION ARE INDICATED IN THE BAR MARK.
  THE FIRST ALPHABETICAL LETTER INDICATES LOCATION.
  THE NEXT DIGIT OF THE THREE DIGIT SERIES AND THE
  NEXT TWO DIGITS OF THE FOUR DIGIT SERIES INDICATE BAR SIZE NUMBER.

### EXAMPLES:



FIN: G:\CVIL\2DOD12B\D0\BRIDGE\DWG\200D12BREBAN : 01-16-03 Time: 10:47 AN TW = 040'0.00

TRISKETT ROAD C.R. 228

CUYAHOGA COUNTY B-NO. 223 REPORT NO. 7262

REINFORCING SCHEDULE BRIDGE NO. 195 OVER GCRTA AND NS RAILROADS

