CT CONSULTANTS, INC.

BID SET

PLANS REVISED
MAY 20, 1993

IMPROVEMENT PLANS
FOR
CORDUROY ROAD

CITY OF MENTOR, LAKE COUNTY, OHIO

CITY OF MENTOR OFFICIALS

CITY MANAGER	JULIAN SUSO
LAW DIRECTOR	I. JAMES HACKENBERG
FINANCE DIRECTOR	JOHN C. ATEN
CITY ENGINEER	JOHN W. KONRAD, P.E.
DIRECTOR OF PUBLIC WORKS	ALVIN E. BEASLEY
PARKS AND RECREATION DIRECTOR	KURT KRAUS
COMMUNITY DEVELOPMENT DIRECTOR	RONALD TRAUB
CHIEF OF POLICE	RICHARD A. AMIOTT
FIRE CHIEF	JOHN D. PREUER

MEMBERS OF COUNCIL

MAYOR AND PRESIDENT OF COUNCIL	JAMES F. STRUNA (AT LARGE)
VICE MAYOR AND VICE PRESIDENT OF COUNCIL	EDWARD R. WALSH (WARD 3)

KENNETH RAKES (WARD 1)

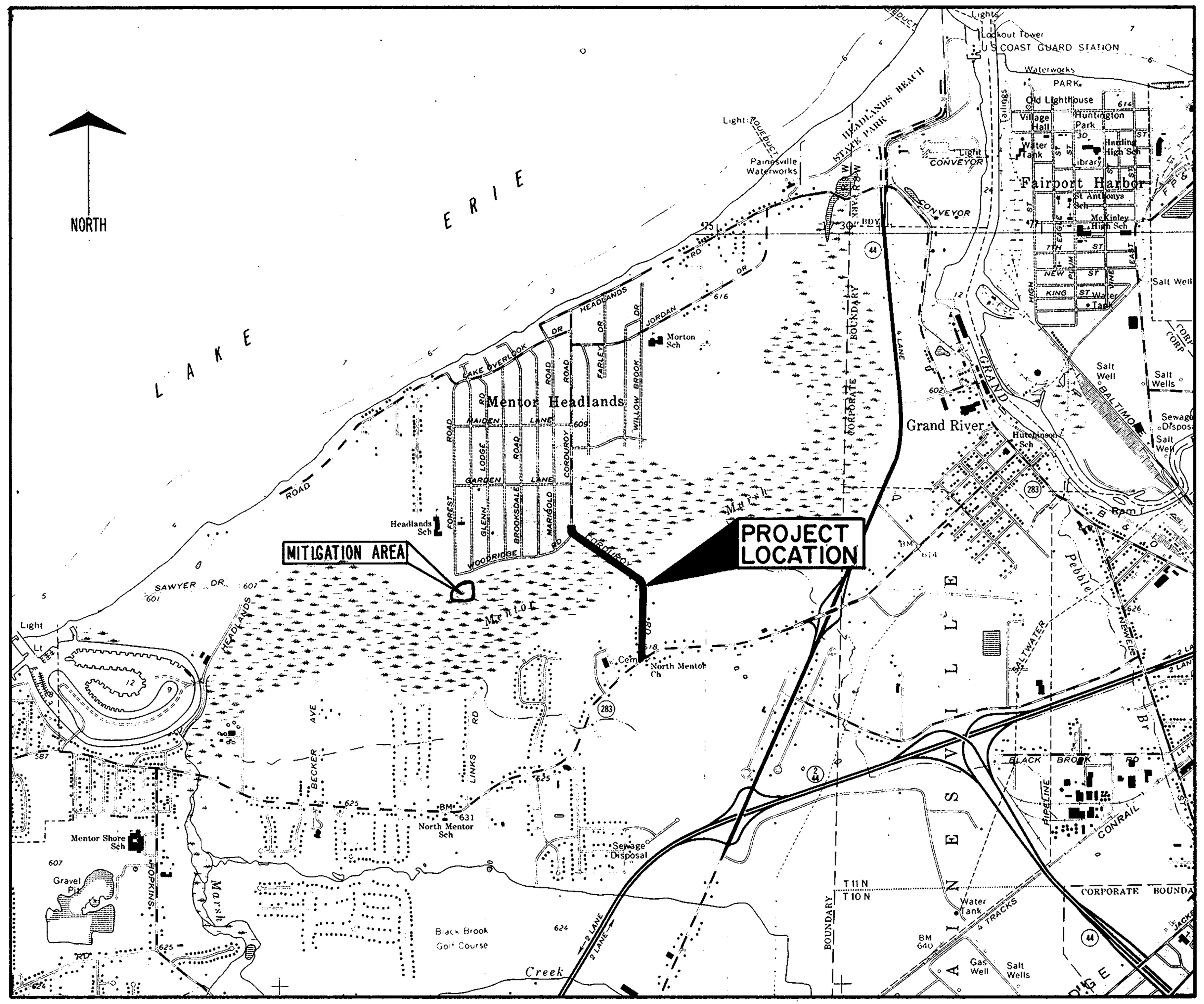
RICHARD A. HENNIG (AT LARGE)

EVELYN KIFFMEYER (WARD 2)

RONALD L. MICCHIA (WARD 4)

LYNNE L. MAZEIKA (AT LARGE)

CLERK OF COUNCIL MAUREEN H. RUSSO



VICINITY MAP

0 2000 4000 6000

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PLANS PREPARED BY:

STATE OF OHIO CLYDE C. HADDEN E-54964 REGISTERED PROFESSIONAL ENGINEER

CT Consultants, Inc.
Engineers • Architects • Planners
Willoughby • Mentor • North Canton • Steubenville • Lorain

Clyde C. Hadden
CLYDE C. HADDEN P.E. No. 54964

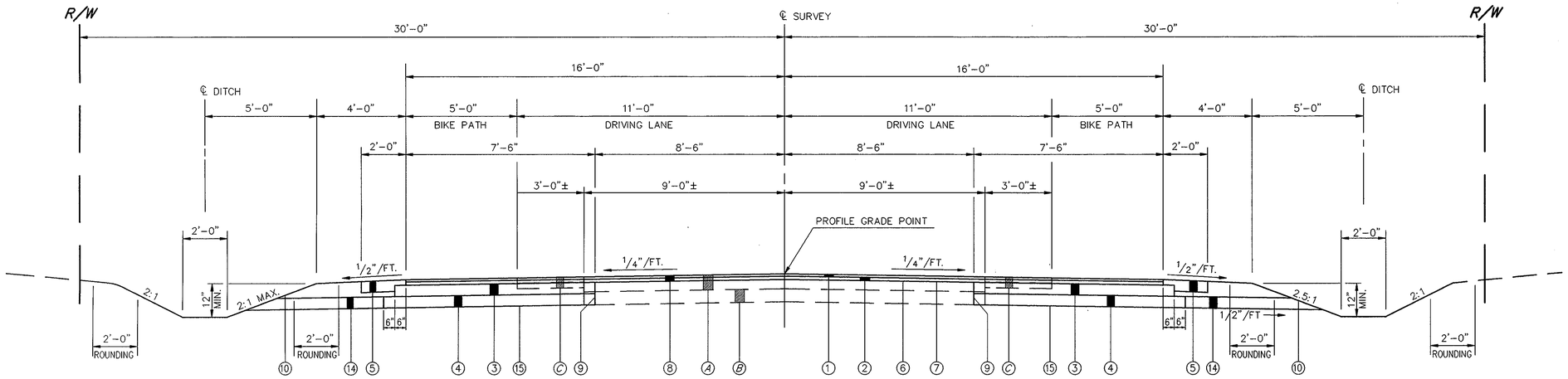
4/26/93
DATE

TYPICAL SECTIONS

TYPE 404

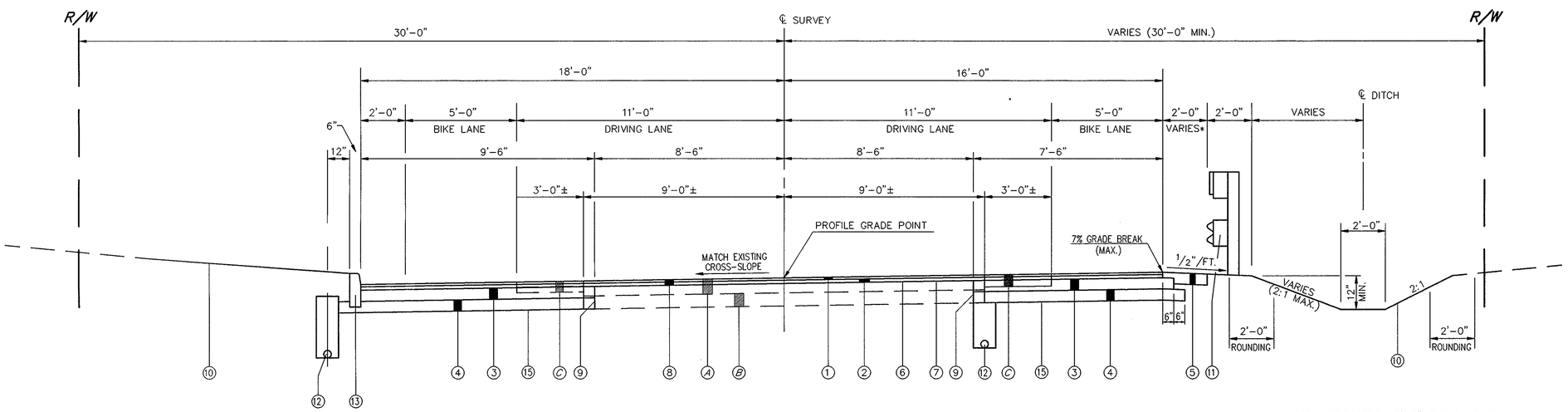
NOTE – TYPICAL SECTIONS ARE INTENDED TO SHOW GENERAL ROADWAY AND PAVEMENT FEATURES ONLY. FOR FURTHER DETAILS SEE PLAN AND PROFILE DRAWINGS AND CROSS-SECTIONS.

0 1 2 3 4 5 6
SCALE : 3/8" = 1'-0"



NORMAL WIDENING AND RESURFACING SECTION

STA. 1+00 TO STA. 14+75 = 1375 LIN. FT.



SUPERELEVATED WIDENING AND RESURFACING SECTION

STA. 14+75 TO STA. 19+50 = 475 LIN. FT.

*NOTE: VARIES FROM 2'-0" @ STA. 19+00 TO 1'-0" @ STA. 19+50.

LEGEND

1. ITEM 404 – 1-1/4" ASPHALT CONCRETE, AC-20
2. ITEM 402 – 1-3/4" ASPHALT CONCRETE, AC-20
3. ITEM 301 – 6" BITUMINOUS AGGREGATE BASE
4. ITEM 304 – 6" AGGREGATE BASE
5. ITEM 411 – 6" STABILIZED CRUSHED AGGREGATE
6. ITEM 403 – 0" MIN. ASPHALT CONCRETE, AC-20 (1/2" AVG.)
7. ITEM 407 – TACK COAT
8. ITEM 254 – PAVEMENT PLANING, BITUMINOUS (3" AVG. DEPTH)
9. ITEM 252 – FULL DEPTH PAVEMENT SAWING
10. ITEM 659 – SEEDING AND MULCHING
11. ITEM 606 – GUARDRAIL, TYPE 5 WITH RUB RAILS
12. ITEM 605 – 4" SHALLOW PIPE UNDERDRAIN
13. ITEM 609 – CURB, TYPE 6
14. ITEM 605 – AGGREGATE DRAINS
15. ITEM 203 – SUBGRADE COMPACTION

A. *EXISTING ASPHALT PAVEMENT (8" AVG. THICKNESS)*
B. *EXISTING CONCRETE PAVEMENT (7" AVG. THICKNESS)*
C. *EXISTING BITUMINOUS PAVEMENT (2-3/4"± ASPHALT ON 3"± GRAVEL)*

NOTE – INSTALL AGGREGATE DRAINS AT 100' INTERVALS ON EACH SIDE OF PAVEMENT. LEFT SIDE AGGREGATE DRAINS SHOULD BE LOCATED 50' UP OR DOWN STATION FROM RIGHT SIDE AGGREGATE DRAINS. DELETE AGGREGATE DRAINS ALONG HIGH SIDE OF SUPERELEVATED CUVRVES.

TYP1.DWG

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REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

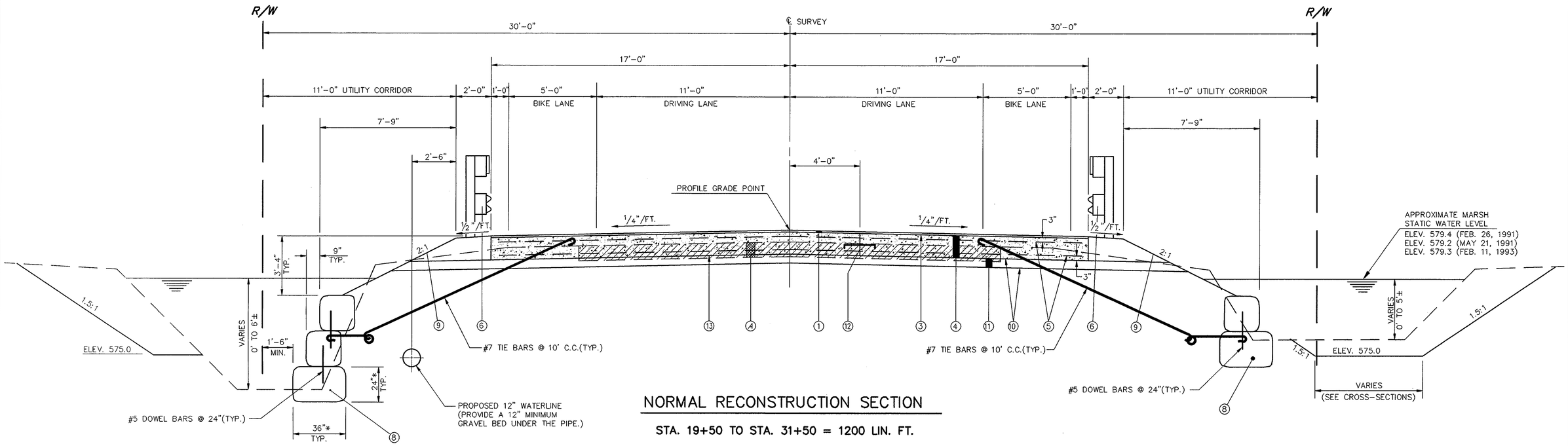
TYPICAL SECTION

SCALES:
HOR. 3/8" =1'
VERT. 3/8" =1'
CONTRACT No. 8929621
SHEET NO. 2 OF 51

TYPICAL SECTIONS

TYPE 404

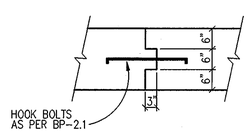
0 1 2 3 4 5 6
SCALE : 3/8" = 1'-0"



NORMAL RECONSTRUCTION SECTION

STA. 19+50 TO STA. 31+50 = 1200 LIN. FT.

*THE BOTTOM BAGS ARE 24" x 36" AND ALL OTHER BAGS ARE 24" x 24" (TYP.). THE SIZE AND SHAPE ARE APPROXIMATE.



DETAIL "A"

NOTES

TYPICAL SECTIONS ARE INTENDED TO SHOW GENERAL ROADWAY AND PAVEMENT FEATURES ONLY. FOR FURTHER DETAILS SEE PLAN AND PROFILE DRAWINGS AND CROSS-SECTIONS. FOR PHASE CONSTRUCTION DETAILS SEE SHEET 8/51. FOR GUARDRAIL MOUNTING DETAILS SEE SHEET 46/51.

TIE BARS – PROVIDE 180° HOOK ON BOTH ENDS OF THE #7 TIE BARS. THE #5 DOWEL BAR IN THE CONCRETE FILLED BAGS SHALL PASS THROUGH THE 180° HOOK OF THE TIE BAR. ALL TIE BARS AND DOWEL BARS SHALL BE EPOXY COATED.

TRANSVERSE PAVEMENT JOINTS – CONTRACTION JOINTS WITH DOWELS AS PER BP-2.2 SHALL BE INSTALLED AT A SPACING NOT TO EXCEED 40 FEET. EXPANSION JOINTS WITH DOWELS AS PER BP-2.2 SHALL BE INSTALLED AT A SPACING NOT TO EXCEED 160 FEET.

LEGEND

1. ITEM 404 – 1-1/4" ASPHALT CONCRETE, AC-20
3. ITEM 407 – TACK COAT
4. ITEM SPECIAL – LIGHT-WEIGHT CONCRETE BASE (15" THICK)
5. SLAB REINFORCEMENT (#4 @ 18" TRANS., #4 @ 12" LONG.)
6. ITEM 606 – GUARDRAIL, TYPE 5 WITH RUB RAILS
7. CONSTRUCTION JOINT (SEE DETAIL, THIS SHEET)
8. ITEM SPECIAL – FABRIC FORMED LIGHT-WEIGHT CONCRETE BAGS
9. ITEM 659 – SEEDING AND MULCHING
10. ITEM 712.09 – GEOTEXTILE FABRIC, TYPE D
11. ITEM 304 – 6" AGGREGATE BASE
12. BUTT JOINT W/HOOK BOLTS (SEE DETAIL "A")
13. 4 MIL VISQUEEN (MOISTURE BARRIER)

A. *EXISTING 24' WIDE ASPHALT PAVEMENT (DEPTH VARIES – 9" AVG.)*

REVTYP2.DWG

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CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
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APPROVED BY:
F.B. No. PG.

TYPICAL SECTION

SCALES:
HOR. 3/8" =1'
VERT. 3/8" =1'
CONTRACT No. 8929621
SHEET NO. 3 OF 51

TYPICAL SECTIONS

TYPE 404

0 1 2 3 4 5 6
SCALE : 3/8" = 1'-0"

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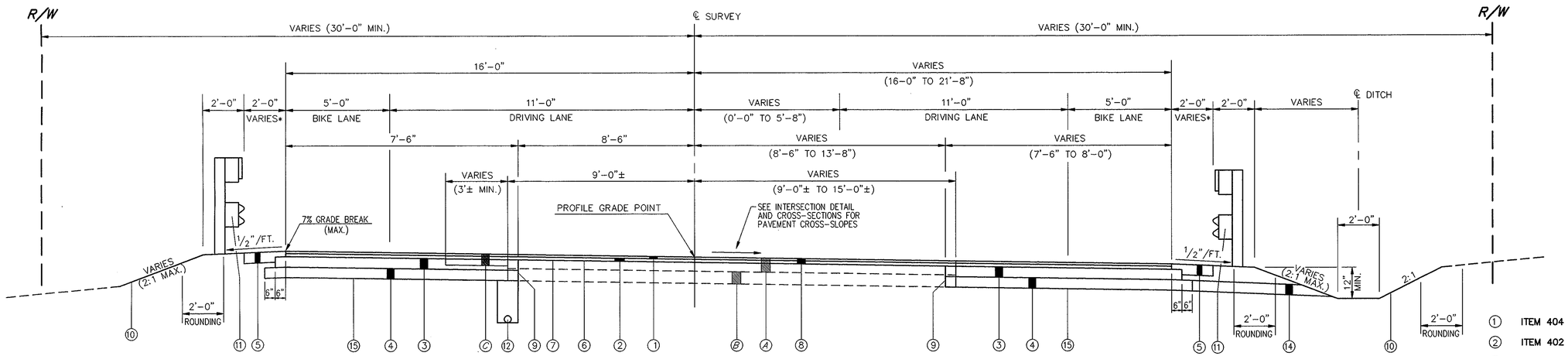
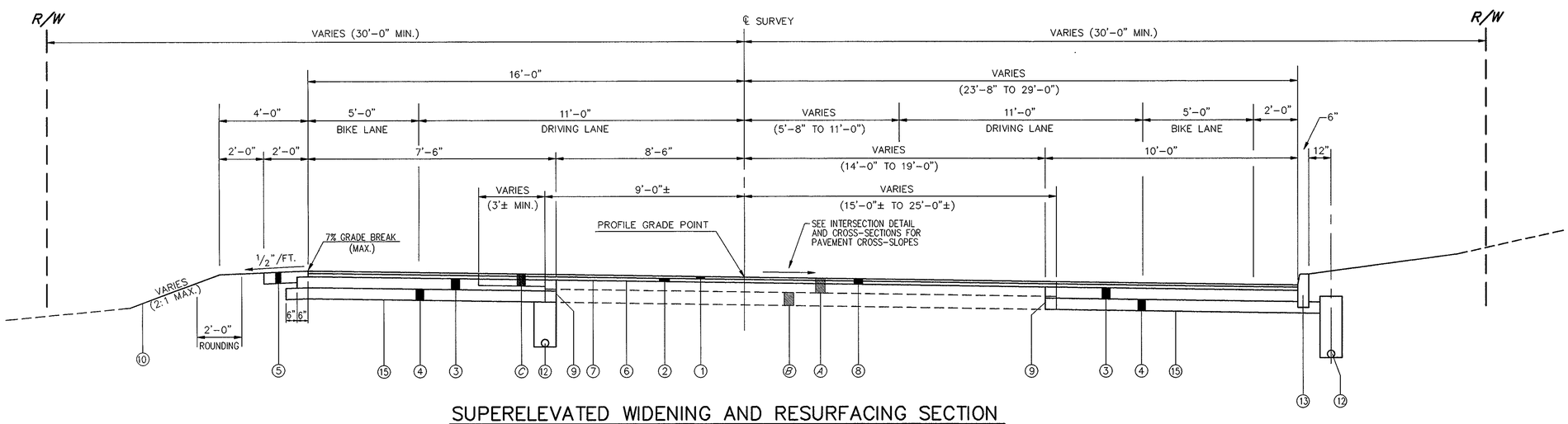


SUPERELEVATED WIDENING AND RESURFACING SECTION

STA. 31+50 TO STA. 32+50 = 100 LIN. FT.

*NOTE: VARIES FROM 1'-0" @ STA. 31+50 TO 2'-0" @ STA. 32+00.



SUPERELEVATED WIDENING AND RESURFACING SECTION

STA. 32+50 TO STA. 36+00 = 350 LIN. FT.

LEGEND

1. ITEM 404 – 1-1/4" ASPHALT CONCRETE, AC-20
2. ITEM 402 – 1-3/4" ASPHALT CONCRETE, AC-20
3. ITEM 301 – 6" BITUMINOUS AGGREGATE BASE
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CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE MAY, 1993
DRAWN BY J.J.C.
CHECKED BY C.C.H.
APPROVED BY
F.B. No. PG.

TYPICAL SECTIONS

SCALES:
HOR. 3/8" =1'
VERT. 3/8" =1'
CONTRACT No. 8929621
SHEET NO. 4 OF 51

GENERAL

A PRE-CONSTRUCTION CONFERENCE SCHEDULED BY THE CITY OF MENTOR ENGINEER SHALL BE HELD PRIOR TO ANY WORK STARTING. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE MENTOR CITY ENGINEER, THE LAKE COUNTY SANITARY ENGINEER AND OHIO WATER SERVICE COMPANY PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION.

THE STANDARD SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION, 1993 EDITION, INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS AND STANDARD DRAWINGS, SHALL GOVERN THIS PROJECT, EXCEPT AS MODIFIED BY THE CONTRACT DOCUMENTS.

ALL WORK CONTEMPLATED SHALL BE GOVERNED BY THE RULES, REGULATIONS AND SPECIFICATIONS OF THE CITY OF MENTOR ENGINEER, THE LAKE COUNTY SANITARY ENGINEER AND OHIO WATER SERVICE COMPANY AND AT ALL TIMES BE SUBJECT TO THEIR DIRECT SUPERVISION AND INSPECTION.

ALL WORK CONTEMPLATED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

MATERIAL TESTING AND PERMITS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL MATERIAL TESTING AND ALL PERMITS REQUIRED FOR THIS PROJECT, EXCEPT FOR COMPACTION AND CONCRETE QUALITY CONTROL TESTING WHICH WILL BE PAID FOR BY THE CITY OF MENTOR. THE EXECUTED PROJECT CONTRACT SHALL SERVE TO FULFILL THE CITY OF MENTOR'S PERMITTING REQUIREMENTS. THE CONTRACTOR SHALL, HOWEVER, BE REQUIRED TO SECURE NECESSARY PERMITS AND/OR LICENSES REQUIRED BY THE LAKE COUNTY SANITARY ENGINEER.

UTILITIES

THE LOCATION OF ALL EXISTING UTILITY FACILITIES ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE FIELD SURVEY IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS AND UTILITY PROTECTION SERVICE LISTED BELOW IN ACCORDANCE WITH SECTION 154.64 OF THE O.R.C. AND AS OUTLINED IN PROJECT SPECIFICATIONS.

THE UTILITY OWNERSHIPS ARE AS FOLLOWS:

OHIO UTILITIES PROTECTION SERVICE
106 WEST RYEN, ROOM 427
YOUNGSTOWN, OHIO 44051
PHONE: (800) 362-2764

THE EAST OHIO GAS COMPANY
1201 EAST 55TH STREET
CLEVELAND, OHIO 44103
PHONE: 432-6803

CITY OF MENTOR SERVICE DEPARTMENT
8500 CIVIC CENTER BOULEVARD
MENTOR, OHIO 44060
PHONE: 255-1100

OHIO WATER SERVICE COMPANY
8644 STATION STREET
MENTOR, OHIO 44060
PHONE: 255-3421

CLEVELAND ELECTRIC ILLUMINATING CO.
P.O. BOX 5000
CLEVELAND, OHIO 44101
PHONE: 622-9800

CONTINENTAL CABLEVISION
7511 MENTOR AVENUE
MENTOR, OHIO 44060
PHONE: 953-1582

THE OHIO BELL TELEPHONE COMPANY
1020 BOLIVAR, ROOM 421
CLEVELAND, OHIO 44115
PHONE: 822-6025

LAKE COUNTY UTILITIES DEPARTMENT
105 MAIN STREET
PAINESVILLE, OHIO 44077
PHONE: 357-2645

CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

AT POINTS WHERE THE CONTRACTOR'S OPERATIONS ARE ADJACENT TO PROPERTIES OF TELEGRAPH, TELEPHONE, AND POWER COMPANIES, OR ARE ADJACENT TO OTHER PROPERTY, DAMAGE TO WHICH MIGHT RESULT IN CONSIDERABLE EXPENSE, LOSS, OR INCONVENIENCE, WORK SHALL NOT BE COMMENCED UNTIL ALL ARRANGEMENTS NECESSARY FOR THE PROTECTION THEREOF HAVE BEEN MADE.

THE CONTRACTOR SHALL COOPERATE WITH THE OWNERS OF ANY UNDERGROUND OR OVERHEAD UTILITY LINES IN THEIR REMOVAL AND REARRANGEMENT OPERATIONS IN ORDER THAT THESE OPERATIONS MAY PROGRESS IN A REASONABLE MANNER, THAT DUPLICATION OF REARRANGEMENT WORK MAY BE REDUCED TO A MINIMUM, AND THAT SERVICES RENDERED BY THOSE PARTIES WILL NOT BE UNNECESSARILY INTERRUPTED.

IN THE EVENT OF INTERRUPTION TO UNDERGROUND OR OVERHEAD UTILITY SERVICES AS A RESULT OF ACCIDENTAL BREAKAGE OR AS A RESULT OF BEING EXPOSED OR UNSUPPORTED, THE CONTRACTOR SHALL IMMEDIATELY ALERT THE OCCUPANTS OF NEARBY PREMISES AS TO ANY EMERGENCY AND/OR INTERRUPTION OF SERVICE THAT THE CONTRACTOR MAY CREATE OR DISCOVER AT OR NEAR SUCH PREMISES. THE CONTRACTOR SHALL THEN NOTIFY THE ENGINEER AND THE OWNER OR OPERATOR OF THE UTILITY FACILITY OF THE DISRUPTION AND SHALL COOPERATE WITH THE SAID UTILITY OWNER OR OPERATOR IN THE RESTORATION OF SERVICE. IF WATER SERVICE IS INTERRUPTED, REPAIR WORK SHALL BE CONTINUOUS UNTIL THE SERVICE IS RESTORED. NO WORK SHALL BE UNDERTAKEN AROUND FIRE HYDRANTS UNTIL PROVISIONS FOR CONTINUED SERVICE HAVE BEEN APPROVED BY THE LOCAL FIRE AUTHORITY.

SUBSURFACE INVESTIGATIONS

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL. SUBSURFACE SOIL INVESTIGATIONS WERE PERFORMED FOR THIS PROJECT AND THE INFORMATION GATHERED FROM THOSE INVESTIGATIONS IS CONTAINED IN SEPARATE REPORTS ENTITLED "SUBSURFACE INVESTIGATION REPORT – CORDUROY ROAD OVER THE MENTOR MARSH, MENTOR, OHIO", DATED SEPTEMBER 25, 1989, AND "SUPPLEMENT SUBSURFACE INVESTIGATION REPORT – CORDUROY ROAD IMPROVEMENTS, MENTOR, LAKE COUNTY, OHIO", DATED JANUARY 18, 1991. A COPY OF THESE REPORTS ARE AVAILABLE FOR THE CONTRACTOR'S REFERENCE FROM THE ENGINEER.

PROTECTION AND RESTORATION OF PROPERTY

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY OF ANY CHARACTER, DURING THE PROSECUTION OF THE WORK, RESULTING FROM ANY ACT, OMISSION, NEGLECT, OR MISCONDUCT IN HIS MANNER OR METHOD OF EXECUTING THE WORK, OR AT ANY TIME DUE TO DEFECTIVE WORK OR MATERIALS, AND SAID RESPONSIBILITY WILL NOT BE RELEASED UNTIL THE PROJECT SHALL HAVE BEEN COMPLETED AND ACCEPTED.

DUST NUISANCE ORIGINATING FROM ANY PLANT OPERATIONS EITHER INSIDE OR OUTSIDE THE RIGHT-OF-WAY SHALL BE CONTROLLED BY THE CONTRACTOR IN ACCORDANCE WITH LOCAL ORDINANCES AND REGULATIONS AT THE SOLE EXPENSE OF THE CONTRACTOR.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLECT, OR MISCONDUCT IN THE EXECUTION OF THE WORK, OR IN CONSEQUENCE OF THE NONEXECUTION THEREOF BY THE CONTRACTOR, HE SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIRING, REBUILDING OR OTHERWISE RESTORING AS MAY BE DIRECTED, OR HE SHALL MAKE GOOD SUCH DAMAGE OR INJURY IN AN ACCEPTABLE MANNER.

WHEN MAIL BOXES, ROAD OR STREET NAME SIGNS AND SUPPORTS INTERFERE WITH CONSTRUCTION, THE CONTRACTOR SHALL REMOVE AND ERECT THEM IN A TEMPORARY LOCATION DURING CONSTRUCTION IN A MANNER SATISFACTORY TO THE ENGINEER. AFTER COMPLETION OF THE CONSTRUCTION AND BEFORE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL ERECT THE MAIL BOXES, ROAD OR STREET NAME SIGNS AND SUPPORTS IN THEIR ORIGINAL LOCATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR CLEARING AND GRUBBING.

PROTECTION/REPLACEMENT OF PROPERTY CORNERS

THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT PROPERTY OWNERS ADJACENT TO THE WORK, PRIOR TO CONSTRUCTION BEGINNING, TO DETERMINE THE LOCATION OF EXISTING PROPERTY CORNER MONUMENTS, SUCH AS, IRON PINS, IRON PIPE, ETC. THOSE MONUMENTS NOTED BY THE PROPERTY OWNERS OR SHOWN ON THE PLANS SHALL BE CLEARLY MARKED IN THE FIELD AND PROTECTED DURING THE COURSE OF CONSTRUCTION. SHOULD THE CONTRACTOR BE UNABLE TO PROTECT THE EXISTING PROPERTY CORNER MONUMENTS, HE SHALL BE RESPONSIBLE TO HAVE A REGISTERED SURVEYOR REFERENCE THE LOCATION OF EACH MONUMENT AND REPLACE EACH MONUMENT AFTER CONSTRUCTION AND FINAL GRADING HAS BEEN COMPLETED.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A COPY OF AN AFFIDAVIT SIGNED BY EACH PROPERTY OWNER ADJACENT TO THE WORK STATING THAT THEY DO NOT HAVE EXISTING PROPERTY CORNER MONUMENTS OR THAT THEY DO HAVE EXISTING PROPERTY CORNER MONUMENTS AND HAVE SHOWN THE CONTRACTOR THEIR LOCATION. IF AN AFFIDAVIT FOR A PARTICULAR PROPERTY OWNER IS NOT PROVIDED TO THE ENGINEER AND THE OWNER FILES A CLAIM THAT HIS PROPERTY CORNER MONUMENTS HAVE BEEN LOST OR DISTURBED DUE TO THE CONTRACTOR'S WORK, THE CONTRACTOR SHALL PROVIDE FOR A PROPERTY SURVEY BY A REGISTERED SURVEYOR TO REPLACE SAID DISTURBED MONUMENTS PRIOR TO FINAL PAYMENT BEING MADE BY THE OWNER.

COPIES OF THE AFFIDAVIT TO BE UTILIZED SHALL BE PROVIDED TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION MEETING. A COPY OF THE AFFIDAVIT IS INCLUDED IN THE SPECIFIC PROJECT REQUIREMENT SECTION OF THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE VERIFICATION THAT ALL EXISTING MONUMENTS PRIOR TO CONSTRUCTION WERE NOT DISTURBED OR HAVE BEEN REPLACED PRIOR TO FINAL PAYMENT.

CLEARING AND GRUBBING

ALL TREES, STUMPS, ROOTS AND DEBRIS REMOVED FROM THE WORK LIMITS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE AT A LOCATION ACCEPTABLE TO THE ENGINEER. STUMPS SHALL NOT BE BURIED WITHIN THE CORPORATION LIMITS OF THE CITY OF MENTOR.

EXISTING WATER MAIN FACILITIES

THE OHIO WATER SERVICE COMPANY (O.W.S.) SHALL BE RESPONSIBLE FOR ALL RELOCATIONS OF THEIR WATER MAIN FACILITIES REQUIRED, EXCEPT WHERE NOTED ON THE PLANS INCLUDING HYDRANT AND VALVE RELOCATIONS AND VALVE BOX ADJUSTMENTS TO GRADE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH O.W.S. THE EXISTING 8" WATERLINE BETWEEN STATIONS 25+00 & 28+00 MAY REQUIRE RELOCATION DUE TO PROPOSED CULVERT CROSSINGS. QUANTITIES ARE INCLUDED IN THE PLAN TO PERFORM THIS WORK AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL GIVE O.W.S. 48 HOURS NOTICE PRIOR TO STARTING THIS WORK. ALL WATERWORK PERFORMED BY THE CONTRACTOR AS PART OF THIS PROJECT SHALL BE DONE IN ACCORDANCE WITH O.W.S. SPECIFICATIONS.

EXISTING UNDERGROUND TELEPHONE FACILITIES

THE OHIO BELL TELEPHONE COMPANY SHALL BE RESPONSIBLE FOR ALL RELOCATIONS OF THEIR FACILITIES REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE OHIO BELL TELEPHONE COMPANY.

EXISTING SANITARY SEWER FACILITIES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS OR ADJUSTMENTS TO THE EXISTING SANITARY SEWER FACILITIES NOTED ON THE PLANS. THE BID PRICE(S) TO PERFORM THIS WORK SHALL INCLUDE ALL INSPECTION AND LICENSING COSTS REQUIRED BY THE LAKE COUNTY UTILITIES DEPARTMENT.

CONNECTION OF EXISTING DRAINAGE FACILITIES TO PROPOSED STORM SEWER

EXISTING STORM SEWERS, ROOF DRAINS, FOOTER DRAINS, YARD DRAINS, AND/OR FIELD TILES ENCOUNTERED OR DISTURBED BY THE PROPOSED WORK SHALL BE CONNECTED TO THE PROPOSED STORM SEWER OR DRAINAGE CHANNEL FACILITIES WITH UNOBSTRUCTED OUTLETS. THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS OR CONNECTIONS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION. QUANTITIES FOR VARIOUS PIPE SIZES TO CONNECT EXISTING DRAINAGE FACILITIES TO PROPOSED FACILITIES ARE INCLUDED IN THE PROPOSAL FOR USE AS DIRECTED BY THE ENGINEER. COST OF NECESSARY BENDS, COUPLINGS, FITTINGS AND TEE CONNECTIONS INTO THE PROPOSED STORM SEWER SHALL BE INCLUDED IN THE PAYMENT FOR THE PERTINENT CONDUIT ITEM.

EXCESS EXCAVATION

EXCESS EXCAVATION, INCLUDING TOPSOIL AND VEGETATIVE PEAT FROM THE MARSH AREA, NOT UTILIZED TO COMPLETE THE REQUIRED EMBANKMENTS FOR THE PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE AT AN UPLAND DISPOSAL SITE APPROVED BY THE CITY OF MENTOR. COST OF DISPOSAL INCLUDING EROSION CONTROL AND RESTORATION OF WASTE SITE SHALL BE INCLUDED IN THE BID PRICE FOR EXCAVATION.

PROOF ROLLING PRIOR TO REPLACING PAVEMENT AND DRIVEWAYS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A MINIMUM OF TWO (2) PROOF ROLLINGS, AS DIRECTED BY THE ENGINEER, PRIOR TO PAVING. THE FIRST PROOF ROLLING SHALL BE PERFORMED AFTER THE INSTALLATION OF THE UNDERGROUND IMPROVEMENTS AND ROUGH GRADING HAS BEEN COMPLETED. AFTER FINE GRADING, JUST PRIOR TO PAVING, THE SUBGRADE SHALL BE PROOF ROLLED AGAIN.

MOISTURE CONTENT OF THE SUBGRADE AT THE TIME OF PROOF ROLLING SHALL CONFORM TO SECTION 203.11 OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, 1993.

WHERE THIS OPERATION SHOWS THE SUBGRADE TO BE UNSTABLE OR TO HAVE NON-UNIFORM STABILITY, THE CONTRACTOR SHALL CORRECT THE UNSTABLE AREAS AS DIRECTED BY THE ENGINEER. PAYMENT IN ACCORDANCE WITH 203.13(C).

PROOF ROLLING EQUIPMENT SHALL CONSIST OF A SINGLE UNIT, TANDEM AXLE DUMP TRUCK CAPABLE OF BEING LOADED TO 30,000 POUND AXLE LOAD, 60,000 POUNDS GVW. TIRE PRESSURE SHALL BE MAINTAINED AT 90 P.S.I. LOADING, AS DIRECTED BY THE ENGINEER, SHALL BE VERIFIED BY A CERTIFIED WEIGHT SLIP. THE EQUIPMENT SHALL BE OPERATED AT A SPEED NOT GREATER THAN FIVE (5) MPH NOR LESS THAN TWO (2) MPH. MAXIMUM SPACING BETWEEN PASSES SHALL NOT EXCEED SIX (6) FEET.

UNSTABLE ROADWAY SUBGRADE

AFTER ROUGH GRADING OF THE ROADWAY AREA HAS BEEN ACCOMPLISHED BUT PRIOR TO BEGINNING THE INSTALLATION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL BE REQUIRED TO REQUEST THE ENGINEER TO INSPECT THE AREA TO IDENTIFY ALL UNSTABLE ROADWAY SUBGRADE AREAS. THE PLAN DIMENSION LIMITS OF THESE AREAS SHALL BE MUTUALLY AGREED TO BY BOTH THE CONTRACTOR AND THE ENGINEER. THESE AREAS SHALL BE RECORDED TO ESTABLISH THE FINAL PAYMENT AMOUNT TO REMOVE AND REPLACE UNSTABLE SUBGRADE. ONLY THOSE AREAS RECORDED, INCLUDING OTHER UNSTABLE SUBGRADE AREAS LATER IDENTIFIED BY THE ENGINEER WILL BE PAID FOR.

ROADWAY SUBGRADE AREAS WHICH BECOME UNSTABLE DUE TO THE CONTRACTOR'S NEGLECT, SUCH AS LACK OF PROPER DRAINAGE OR POOR CONSTRUCTION PRACTICES AND AREAS WHICH BECOME UNSTABLE DUE TO TRANSPORTATION OF MATERIALS OVER AND ALONG THE ROADWAY, SHALL BE PROPERLY REPLACED OR CORRECTED AT THE CONTRACTOR'S EXPENSE.

THE PROJECT PROPOSAL QUANTITIES INCLUDE THE FOLLOWING ESTIMATED CONTINGENCY QUANTITIES TO CORRECT UNSTABLE ROADWAY SUBGRADE:

O.D.O.T. ITEM 203 – EXCAVATION – 200 C.Y.
O.D.O.T. ITEM 203 – EMBANKMENT – 200 C.Y.
O.D.O.T. ITEM 304 – AGGREGATE BASE – 100 C.Y.

REMOVAL ITEMS

ALL ITEMS NOTED ON THE PLANS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER BY THE CONTRACTOR.

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REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: APRIL, 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

GENERAL NOTES

SCALES:
HOR. 1"=20'
VERT.
CONTRACT No. 8929621
SHEET NO. 5 OF 51

MATERIAL SPECIFICATIONS

MATERIAL SPECIFICATIONS CALLED FOR ON THE PLANS REPRESENT THE MINIMUM REQUIRED FOR EACH APPLICATION. THE OWNER MAY REQUEST OR THE CONTRACTOR MAY DESIRE TO SUBSTITUTE ALTERNATE MATERIALS. ANY SUCH SUBSTITUTIONS MUST BE EQUIVALENT IN QUALITY TO THE MATERIAL CALLED FOR AND MUST BE APPROVED IN WRITING BY THE APPROVING AGENCIES AND THE CONSULTING ENGINEER.

CONTRACTOR SHALL INCLUDE COST OF GRANULAR BACKFILL MATERIAL UNDER ALL EXISTING AND PROPOSED PAVEMENTS AND WITHIN THE "ZONE OF INFLUENCE" AS SHOWN ON THE TRENCH AND BEDDING DETAILS, IN PRICE BID PER LINEAR FOOT OF PIPE.

SLAG SHALL NOT BE USED FOR BEDDING OR BACKFILL OR ANY OTHER PROPOSED WORK ON THIS PROJECT. THE CONTRACTOR SHALL ALSO INCLUDE THE COST OF TAMPING ALL OTHER TRENCH BACKFILL.

THE FOLLOWING PIPE MATERIALS SHALL BE UTILIZED FOR THIS PROJECT:

1. STORM SEWER PIPING SHALL BE:

   A. 30" ROADWAY CULVERT SHALL BE R.C.P., C-76, CLASS IV PIPE WITH BITUMINOUS JOINTS.

   B. 36" ROADWAY CULVERTS SHALL BE SMOOTH LINED CORRUGATED POLYETHYLENE PIPE MEETING O.D.O.T. SUPPLEMENTAL SPECIFICATION 944.

   C. 12" STORM SEWER PIPING AND DRIVEWAY CULVERTS SHALL BE R.C.P., C-76, CLASS IV PIPE WITH BITUMINOUS JOINTS.

   D. PIPING TO CONNECT EXISTING DRAINAGE FACILITIES LESS THAN 12" IN DIAMETER MAY BE EITHER V.C.P., C-700, E.S. PIPE OR ASTM 3034-SDR 35 P.V.C. PIPE WITHOUT JOINT GASKETS.

PROTECTION OF TREES

SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGE TO TREES WHICH ARE NOT CALLED FOR REMOVAL AND THEIR ROOT SYSTEMS. MACHINE EXCAVATION SHALL NOT BE USED WHEN, IN THE OPINION OF THE ENGINEER, IT WOULD ENDANGER TREE ROOTS. IN GENERAL, WHERE THE LINE OF TRENCH FALLS WITHIN THE LIMITS OF THE LIMB SPREAD, THE LEAVING OF HEADERS ACROSS THE TRENCH TO PROTECT ROOTS WILL BE REQUIRED. THE OPERATION OF ALL EQUIPMENT, PARTICULARLY WHEN EMPLOYING BOOMS, THE STORAGE OF MATERIALS, AND THE DEPOSITION OF EXCAVATION SHALL BE CONDUCTED IN A MANNER WHICH WILL NOT INJURE TREES, TRUNKS, BRANCHES OR THEIR ROOTS UNLESS SUCH TREES ARE DESIGNATED BY THE ENGINEER FOR REMOVAL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH PROVIDING A QUALIFIED TREE SERVICE TO TRIM TREE BRANCHES AND DAMAGED ROOTS (1/4" DIAMETER OR LARGER) AND TO PAINT ALL CUTS OR WOUNDS TO THE TREE WITH APPROVED TREE WOUND DRESSING. A REPRESENTATIVE OF THE TREE SERVICE SHALL BE ON THE JOB SITE AT ALL TIMES WHEN EXCAVATION AND BACKFILLING OPERATIONS ARE TAKING PLACE WITHIN THE LIMITS OF THE LIMB SPREAD OF ALL TREES TO BE SAVED. SHOULD THE CONTRACTOR'S OPERATIONS DAMAGE ANY TREE TO SUCH AN EXTENT THAT IT WILL NOT LIVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REMOVING THE TREE AND ALL PAYMENTS TO THE PROPERTY OWNER FOR THE VALUE OF THE REMOVED TREE, AS DETERMINED BY AN MUTUALLY AGREED UPON ARBORIST.

THE CONTRACTOR SHALL STATE THE NAME AND ADDRESS OF THE QUALIFIED TREE SERVICE TO BE UTILIZED AS A SUBCONTRACTOR.

EXISTING TRAFFIC SIGNAL LOOP DETECTORS

THE CONTRACTOR IS CAUTIONED AS TO THE PRESENCE OF EXISTING TRAFFIC SIGNAL LOOP DETECTORS LOCATED IN THE PAVEMENT AT THE INTERSECTION OF STATE ROUTE 283 (LAKESHORE BOULEVARD) AND CORDUROY ROAD.

THE CONTRACTOR SHALL CONDUCT HIS PAVEMENT REPAIR OPERATIONS AS DIRECTED BY THE ENGINEER AND SHALL NOT REMOVE, DISTURB OR DAMAGE EXISTING LOOP DETECTORS UNLESS AUTHORIZED TO DO SO BY THE ENGINEER. LOOP DETECTORS DAMAGED BY THE CONTRACTOR WITHOUT THE AUTHORIZATION OF THE ENGINEER SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE CITY OF MENTOR.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE QUANTITIES TO REPLACE LOOP DETECTORS LOCATED IN THE PAVEMENT AS DIRECTED BY THE ENGINEER.

ITEM 632	LOOP DETECTOR WIRE, TYPE E	400 L.F.
ITEM 632	LOOP DETECTOR PAVEMENT CUTTING	175 L.F.

SEQUENCE OF CONSTRUCTION

CONSTRUCTION OF THE LIGHTWEIGHT CONCRETE PORTION OF THIS PROJECT THROUGH THE MENTOR MARSH SHALL BE PERFORMED IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC TYPICAL SECTIONS (SHEET NO. 8) AND TEMPORARY SIGNAL DETAILS (SHEET NO. 9). ADDITIONALLY, THIS WORK SHALL BE LIMITED TO TAKE PLACE DURING THE SUMMER RECESS FOR THE MENTOR PUBLIC SCHOOL SYSTEM (JUNE 11TH TO AUGUST 29TH).

EARTHWORK

EXTREME CARE MUST BE EMPLOYED THROUGHOUT THE COURSE OF THIS PROJECT TO AVOID THE CREATION OF UNNECESSARY TURBIDITY WHICH MAY DEGRADE WATER QUALITY OR ADVERSELY AFFECT THE AQUATIC LIFE OUTSIDE OF THE PROJECT AREA.

FILL USED FOR THIS PROJECT SHALL CONSIST OF SUITABLE MATERIAL (O.D.O.T. ITEM 203) FREE FROM TOXIC CONTAMINANTS IN OTHER THAN TRACE QUANTITIES AND SHALL EXCLUDE BROKEN ASPHALT.

VIDEOTAPING

THE OWNER WILL PROVIDE ABOVE GROUND VIDEOTAPING OR STILL PHOTOGRAPHY OF ALL WORK AREAS PRIOR TO AND AFTER COMPLETION OF THE WORK. THE CONTRACTOR SHALL NOT START WORK UNTIL SUCH TIME AS THE ENGINEER HAS ADVISED THAT THE VIDEOTAPING OR PHOTOGRAPHY IS COMPLETE.

THE STORM SEWERS SHALL BE TELEVISED IN A MANNER APPROVED BY THE MENTOR CITY ENGINEER AND SUBMITTED PRIOR TO ACCEPTANCE. A COPY OF THE VIDEOTAPE (1/2" VHS) SHALL BE PROVIDED TO THE CITY.

DREDGING FOR PROPOSED POND

THE CONTRACTOR IS REQUIRED TO CREATE AN OPEN WATER AREA TO A MINIMUM DEPTH OF FIVE FEET (5') AS CALLED FOR ON THE PLAN AND IN ACCORDANCE WITH THE PLAN TYPICAL SECTIONS AND GENERAL NOTES.

THE CONTRACTOR'S LUMP SUM BID PRICE FOR THE ABOVE WORK SHALL INCLUDE ALL WORK AND COSTS ASSOCIATED WITH THE MITIGATION PLAN NOTES AND THE INSTALLATION OF 15 SWAMP-TYPE SHRUBS AS DIRECTED BY MR. BILL HUDSON OF THE OHIO DEPARTMENT OF NATURAL RESOURCES.

THE CONTRACTOR SHALL NOT DEMOBILIZE OR REMOVE HIS DREDGING EQUIPMENT OFF-SITE UNTIL AFTER THE ENGINEER HAS VERIFIED THAT THE MINIMUM POND WATER DEPTH HAS BEEN OBTAINED. THE ENGINEER SHALL CONDUCT A WATER DEPTH SOUNDING SURVEY ONE TIME AT NO COST TO THE CONTRACTOR UPON 48 HOURS NOTICE BY THE CONTRACTOR THAT THE DREDGING OPERATION IS COMPLETE. IF THE WATER DEPTH SOUNDING SURVEY DETERMINES THAT THE PROPOSED MINIMUM DEPTH OF THE LAKE IS LESS THAN THAT CALLED FOR ON THE TYPICAL SECTIONS, THE CONTRACTOR SHALL CONTINUE HIS DREDGING OPERATIONS UNTIL THE MINIMUM DEPTH IS ACHIEVED. THE POND SHALL AGAIN BE SOUNDED BY THE ENGINEER.

THE COST FOR ADDITIONAL WATER DEPTH SOUNDING SURVEYS SHALL BE PAID TO THE ENGINEER BY THE CONTRACTOR PRIOR TO THE ENGINEER'S APPROVAL OF THE WORK.

EASEMENT SUMMARY

EASEMENT NUMBER	NAME	ADDRESS	EASEMENT DESCRIPTION	PERMANENT PARCEL NUMBER
1	VANCE	5210 CORDUROY	PERMANENT SLOPE EASEMENT	16D-116B-00-008
2A	DeMARK	5186 CORDUROY	PERMANENT DRAINAGE EASEMENT	16D-116B-00-007
2B	DeMARK	5186 CORDUROY	PERMANENT SLOPE EASEMENT	16D-116B-00-007
3A	RICKARD & McDERMITT	5207 CORDUROY	PERMANENT DRAINAGE EASEMENT	16D-116B-00-001
3B	RICKARD & McDERMITT	5207 CORDUROY	PERMANENT SLOPE EASEMENT	16D-116B-00-001
4	CLEVELAND MUSEUM OF NATURAL HISTORY	5185 CORDUROY	PERMANENT SLOPE EASEMENT	16D-116B-00-010
5	PROVINCE	5162 CORDUROY	PERMANENT HIGHWAY EASEMENT	16D-116B-00-005
6	SMULSKI	5144 CORDUROY	PERMANENT HIGHWAY EASEMENT	16D-116B-00-004
7	FRISSELL & PERRYMAN	5140 CORDUROY	PERMANENT HIGHWAY EASEMENT	16D-116B-00-009
8	LANGFORD	5021 CORDUROY	PERMANENT HIGHWAY EASEMENT	16D-116A-00-002

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REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: DEC., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

GENERAL NOTES

SCALES:
HOR. 1"=20'
VERT.
CONTRACT No. 8929621
SHEET NO. 6 OF 51

MAINTENANCE OF TRAFFIC

1. NOTIFICATION

THE CITY OF MENTOR POLICE, FIRE AND PUBLIC WORKS DEPARTMENTS AND THE MENTOR EXEMPTED VILLAGE BOARD OF EDUCATION SHALL BE NOTIFIED AT LEAST ONE (1) WEEK PRIOR TO THE ACTUAL START OF CONSTRUCTION AND OF EACH CHANGE IN CONSTRUCTION PHASING BY THE CONTRACTOR.

CITY OF MENTOR POLICE DEPARTMENT
RICHARD A. AMIOTT, CHIEF (255–8856)

CITY OF MENTOR FIRE DEPARTMENT
JOHN D. PREUER, CHIEF (255–1215)

CITY OF MENTOR DEPARTMENT OF PUBLIC WORKS
ALVIN E. BEASLEY, DIRECTOR (255–1100)

MENTOR EXEMPTED VILLAGE BOARD OF EDUCATION
DR. BROSKI, DIRECTOR OF TRANSPORTATION (255–4444)

2. SYSTEM FOR MAINTAINING TRAFFIC

WHENEVER ANY TRAVELED SURFACE IS BEING WORKED ON OR OTHERWISE NOT SUITABLE FOR SAFE AND CONVENIENT USE BY VEHICLES AND PEDESTRIANS, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS AND TO ASSURE THE SAFE PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, HEREINAFTER REFERRED TO AS THE MANUAL. WHENEVER THE ENGINEER DEEMS IT NECESSARY, HE MAY DIRECT THAT ADDITIONAL OR ALTERNATIVE DEVICES BE USED. ALSO THE CONTRACTOR SHALL PROVIDE SUFFICIENT ADDITIONAL BARRICADES, ETC. TO PROTECT FRESH CONCRETE AND/OR ASPHALT DURING THE CURING PERIOD FROM ANY VEHICLES WHICH DRIVE AROUND OR THROUGH THE TRAFFIC CONTROL.

TRAFFIC CONTROL DEVICES SHALL BE SET UP PRIOR TO THE START OF CONSTRUCTION, AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH 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 PHASES, THERE SHALL BE IN PLACE ONLY THOSE DEVICES THAT APPLY TO THE CONDITION PRESENT DURING THE PHASE IN PROGRESS. ALL SIGNS WITH MESSAGES WHICH DO NOT APPLY DURING A CERTAIN PERIOD SHALL BE COVERED OR SET ASIDE OUT OF THE VIEW OF TRAFFIC. CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED IN ACCORDANCE WITH 621.134 OF THE ODOT SPECIFICATIONS BEFORE ANY SECTION OF ROADWAY IS MADE AVAILABLE TO USE BY TRAFFIC.

3. PROTECTION OF PUBLIC

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A COMPLETE SCHEDULE OF CONSTRUCTION OPERATIONS ALONG WITH PLANS DETAILING EACH PHASE OF CONSTRUCTION, AND PROPOSED METHODS TO MAINTAIN ACCESS TO ALL ADJOINING PROPERTIES. THESE PLANS SHALL SHOW ALL SAFETY EQUIPMENT THE CONTRACTOR PLANS TO UTILIZE, ALONG WITH LANE AND/OR ROADWAY CLOSURES OR DIVERSIONS THAT MAY BE REQUIRED TO PROVIDE THIS PROTECTION. THESE PLANS MUST BE SUBMITTED AND APPROVED PRIOR TO COMMENCING ANY WORK. NO WORK SHALL BE STARTED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

SHOULD ANY OF THE CONTRACTORS PLANS FOR PUBLIC PROTECTION BE DEEMED INADEQUATE BY THE ENGINEER, ADDITIONAL CLOSURES AND/OR DIVERSIONS WILL BE REQUIRED AT NO COST TO THE CITY.

4. RESTRICTIONS

NO STOPPAGE OF TRAFFIC OR ESTABLISHMENT OF LANE RESTRICTIONS SHALL OCCUR WITHOUT A CITY OF MENTOR LAW ENFORCEMENT OFFICER WITH CAR AT EACH LOCATION TO DIRECT TRAFFIC.

5. LAW ENFORCEMENT OFFICER WITH PATROL CAR

THE CONTRACTOR SHALL PROVIDE AND PAY ALL COSTS FOR THE SERVICES OF THE CITY OF MENTOR LAW ENFORCEMENT OFFICERS WITH PATROL CARS FOR THE EXCLUSIVE PURPOSE OF CONTROLLING TRAFFIC WHENEVER A CHANGE IN THE TRAFFIC PATTERN TAKES PLACE. THE NUMBER OF OFFICERS AND CARS REQUIRED FOR THIS PURPOSE SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE OFFICERS SHALL MOVE THEIR PATROL CARS AS NECESSARY TO INSURE THEIR CONSTANT PRESENCE AT THE POINT(S) OF SLOW DOWN, STOPPAGE OR BACK–UP. PAYMENT FOR THE ABOVE WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL – LAW ENFORCEMENT OFFICER WITH PATROL CAR.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ARRANGEMENTS WITH THE CITY OF MENTOR CHIEF OF POLICE REGARDING SCHEDULING AND PAYMENT OF LAW ENFORCEMENT OFFICER WITH PATROL CAR. THE FOLLOWING ESTIMATE HAS BEEN INCLUDED IN THE QUANTITIES:

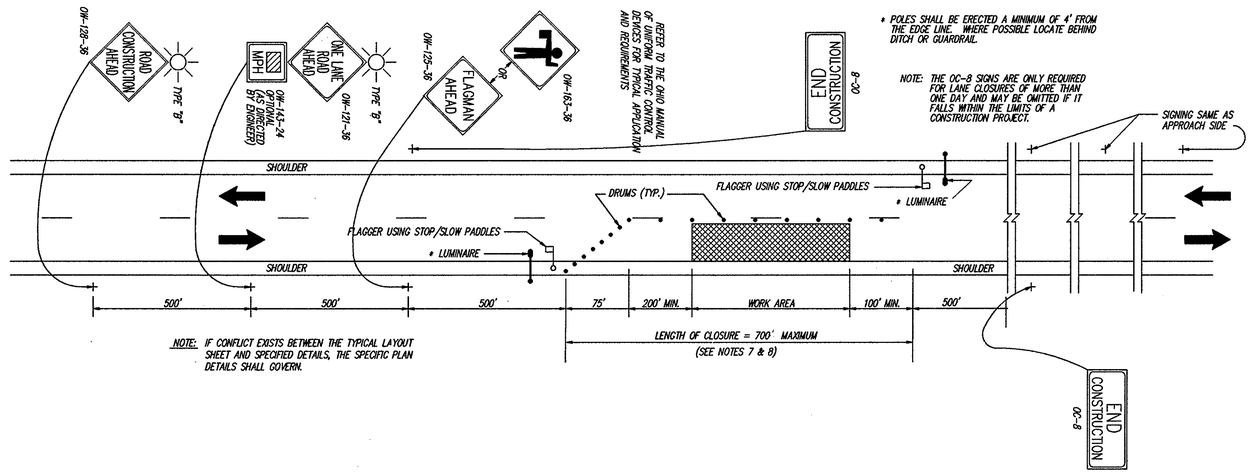
ITEM SPECIAL – LAW ENFORCEMENT OFFICER WITH PATROL CAR 200 HOURS.

6. CONSTRUCTION CONDITIONS

TRAFFIC SHALL BE MAINTAINED AROUND OR THROUGH EACH CONSTRUCTION ZONE AS FOLLOWS:

A. FLAGGERS SHALL BE UTILIZED TO DIRECT TRAFFIC AROUND MOVING WORK AREAS IN ACCORDANCE WITH THE TYPICAL MAINTENANCE OF TRAFFIC CONSTRUCTION ZONE PLAN SHOWN ON THIS SHEET. THIS METHOD OF MAINTAINING TRAFFIC IS APPLICABLE FROM STATION 1+00 TO STATION 19+50. AND FROM STATION 31+50. TO STATION 35+00..

B. A TEMPORARY SIGNALIZED CLOSING TO ONE LANE OF A TWO LANE HIGHWAY SHALL BE UTILIZED TO MAINTAIN TRAFFIC DURING THE PROPOSED CONSTRUCTION OF IMPROVEMENTS BETWEEN STATION 19+50 AND STATION 31+50. REFER TO SHEET NO. FOR TYPICAL DETAILS AND REQUIREMENTS.



NOTE: IF CONFLICT EXISTS BETWEEN THE TYPICAL LAYOUT SHEET AND SPECIFIED DETAILS, THE SPECIFIC PLAN DETAILS SHALL GOVERN.

1. FLAGGERS, ONE FOR EACH DIRECTION, SHALL BE USED TO CONTROL TRAFFIC CONTINUOUSLY FOR AS LONG AS A ONE–LANE OPERATION IS IN EFFECT. THE FLAGGERS SHALL BE ABLE TO COMMUNICATE WITH EACH OTHER AT ALL TIMES AND CONFORM TO OTHER REQUIREMENTS AS DESCRIBED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) IN SECTION 7H: CONTROL OF TRAFFIC THROUGH WORK AREAS.

2. DRUMS SHALL BE SPACED AT 50' CENTER TO CENTER ALONG THE CLOSURE. DRUMS ON THE ADVANCE TAPER SHALL BE SPACED AT 10' CENTER TO CENTER. CONES HAVING A MINIMUM HEIGHT OF 28" MAY BE SUBSTITUTED FOR DRUMS FOR DAYTIME LANE CLOSURES. PROVISIONS SHALL BE MADE TO STABILIZE THE CONES TO PREVENT THEM FROM BLOWING OVER.

3. ADEQUATE AREA ILLUMINATION TO CLEARLY IDENTIFY THE FLAGGER STATION AT NIGHT SHALL BE PROVIDED BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINAIRES OR 250 WATT MINIMUM MERCURY VAPOR LUMINAIRES. THE LUMINAIRES SHALL BE LOCATED ADJACENT TO THE FLAGGER STATION FOR EACH DIRECTION OF TRAFFIC AS SHOWN ABOVE. THE MOUNTING HEIGHT FOR THE LUMINAIRES SHALL BE A MINIMUM OF 27 FEET ABOVE THE PAVEMENT AND MOUNTED ON A SUPPORT OF ADEQUATE STRENGTH TO PROVIDE A SATISFACTORY INSTALLATION. THE OVERHEAD CONDUCTOR CLEARANCE SHALL BE A MINIMUM OF 15 FEET ABOVE THE PAVEMENT.

THE LUMINAIRE ARMS SHALL BE OF SUFFICIENT LENGTH TO EXTEND TO THE EDGE OF THE PAVEMENT.

NO NIGHT WORK SHALL BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE MENTOR CITY MANAGER.

4. THE LOCATION OF THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT. THE DISTANCES SHOWN ARE MINIMUMS.

5. THE TYPE "B" FLASHING BARRICADE WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" AND THE "ONE LANE ROAD AHEAD" SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.

6. TYPE "C" STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS FOR NIGHT LANE CLOSURES. THE MAXIMUM SPACING SHALL BE IDENTICAL TO THE CHANNELIZING DEVICE SPACING REQUIREMENTS DESCRIBED IN NOTE 2.

7. WITHIN THE LENGTH OF CLOSURE, PROVISIONS SHALL BE MADE TO CONTROL TRAFFIC ENTERING FROM INTERSECTING STREETS AND DRIVES AS NECESSARY TO PREVENT WRONG WAY MOVEMENTS.

8. THE ENGINEER MAY SHORTEN THE MAXIMUM ALLOWABLE LENGTH OF CLOSURE TO RELIEVE EXCESSIVE TRAFFIC BACKUPS. ALL TRAFFIC CONTROL SIGNS, CHANNELIZING DEVICES, THE FLAGGER SHALL BE MOVED FORWARD BEFORE THE CLOSURE REACHES THE MAXIMUM ALLOWABLE LENGTH. ONLY ONE SIDE OF THE ROAD SHALL BE CLOSED AT ANY ONE TIME.

9. PAYMENT FOR ALL OF THE ABOVE, UNLESS ITEMIZED SEPARATELY, SHALL BE INCLUDED IN "ITEM 614 – MAINTAINING TRAFFIC".

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REV. NO.	DESCRIPTION	DATE	BY	CHK'D.

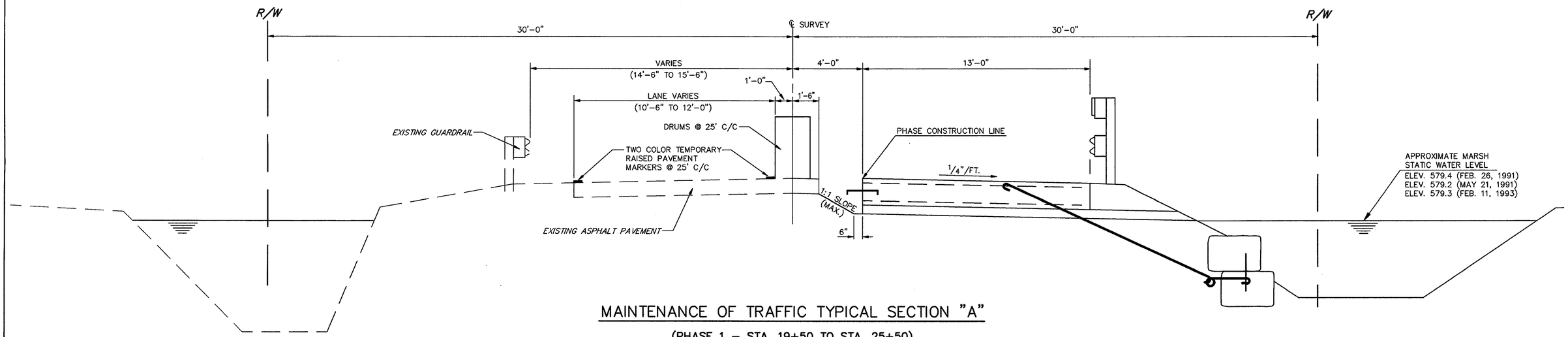
CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: DEC., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

GENERAL NOTES

SCALES:
HOR. 1"=20'
VERT.
CONTRACT No. 8929621
SHEET NO. 7 OF 51

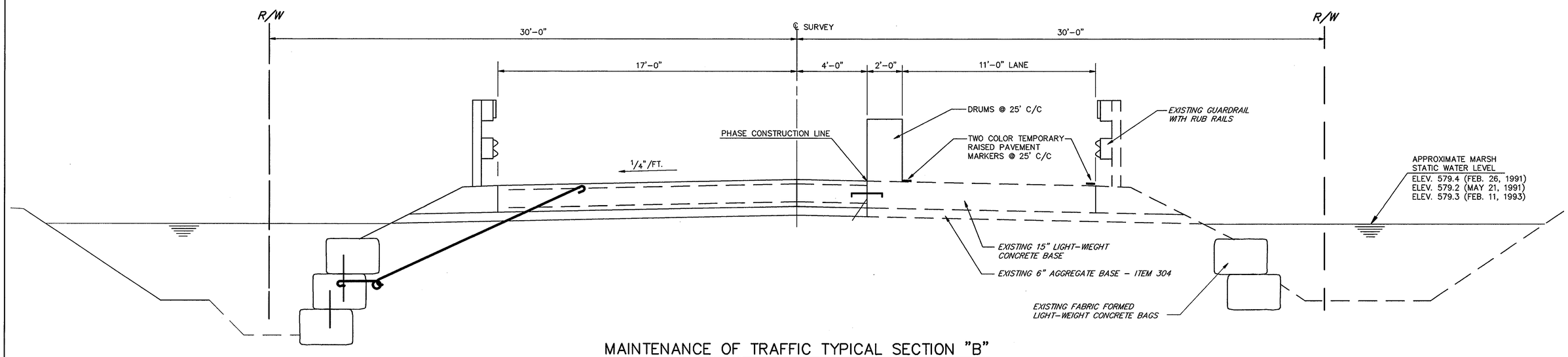
MAINTENANCE OF TRAFFIC TYPICAL SECTIONS



MAINTENANCE OF TRAFFIC TYPICAL SECTION "A"

(PHASE 1 – STA. 19+50 TO STA. 25+50)
(PHASE 3 – STA. 25+50 TO STA. 31+50)

NOTE: SEE SHEET NO. 3 FOR PAVEMENT DETAILS



MAINTENANCE OF TRAFFIC TYPICAL SECTION "B"

(PHASE 2 – STA. 19+50 TO STA. 25+50)
(PHASE 4 – STA. 25+50 TO STA. 31+50)

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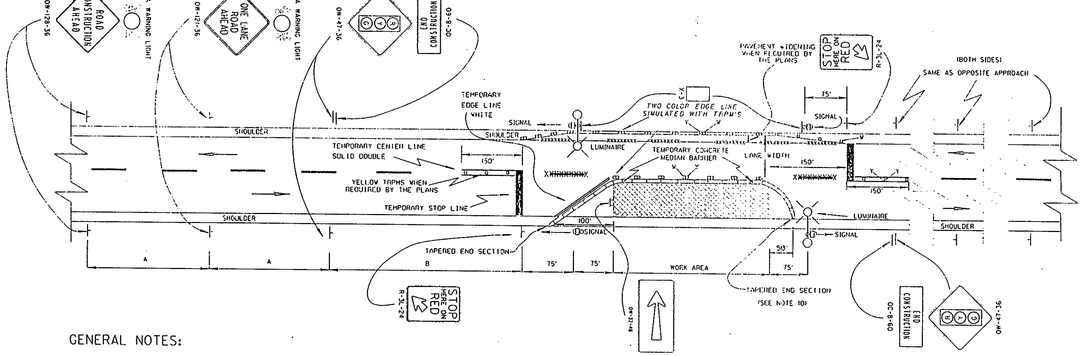
REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS

SCALES:
HOR. 3/8" =1'
VERT. 3/8" =1'
CONTRACT No. 8929621
SHEET NO. 8 OF 51



GENERAL NOTES:

1. INITIAL SIGNAL TIMING SHALL BE AS SHOWN IN THE PLANS. SIGNAL TIMING CHANGES SHALL BE APPROVED BY THE ENGINEER.

2. SIGNALS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 6 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

3. ADEQUATE AREA ILLUMINATION TO CLEARLY IDENTIFY BOTH ENDS OF THE WORK AREA AT NIGHT SHALL BE PROVIDED BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINAIRES OR 250 WATT MINIMUM MERCURY LUMINAIRES. LUMINAIRES SHALL BE LOCATED ADJACENT TO THE SIGNAL LOCATIONS AS SHOWN ABOVE. THE MOUNTING HEIGHT FOR LUMINAIRES SHALL BE A MINIMUM OF 27 FEET ABOVE THE PAVEMENT BUT IN NO CASE LESS THAN 15 FEET ABOVE THE TOP OF THE SIGNAL AND MOUNTED ON A SUPPORT OF ADEQUATE STRENGTH TO PROVIDE A SATISFACTORY INSTALLATION. THE OVERHEAD CONDUCTOR CLEARANCE SHALL BE A MINIMUM OF 18 FEET ABOVE THE PAVEMENT. THE LUMINAIRE ARM SHALL BE OF SUFFICIENT LENGTH TO EXTEND TO THE EDGE OF "THE PAVEMENT". POLES SHALL BE ERECTED A MINIMUM OF 5.5 FEET BEHIND FACE OF GUARDRAIL WHERE EXISTING, OR 10 FEET FROM THE EDGE OF PAVEMENT. WHERE POSSIBLE LOCATE BEHIND DITCH.

4. TEMPORARY CENTER LINE: SOLID, DOUBLE, AS SHOWN, SHALL BE INSTALLED AND MAINTAINED WHERE NO PASSING LINES ARE NOT ALREADY IN PLACE. 12" STOP LINES SHALL ALSO BE INSTALLED. TEMPORARY RAISED PAVEMENT MARKERS, (TRPM'S) TO SEGREGATE A TWO COLOR EDGE LINE SHALL BE PROVIDED. EXISTING CONFLICTING PAVEMENT MARKINGS OR RAISED PAVEMENT MARKER REFLECTORS BETWEEN THE WORK AREA AND THE STOP LINES OR WITHIN THE ONE WAY LANE WIDTH SHALL BE REMOVED. AFTER COMPLETION OF THE WORK. TEMPORARY MARKINGS AND TRPM'S SHALL BE REMOVED IN ACCORDANCE WITH 621.15X AND THE ORIGINAL MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS SHALL BE RESTORED.

5. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON BARRIER AT 50 FT. SPACING (10 FT. SPACING IN TAPERS) FOR NIGHT LANE CLOSURES. BARRIER REFLECTORS (TWO-WAY, WHITE/YELLOW) SHALL BE PROVIDED AT 50 FT. SPACING (10 FT. SPACING IN TAPERS) ON ALL BARRIERS.

6. THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS.

7. THE HORIZONTAL OR VERTICAL ALIGNMENT OF THE ROADWAY MAY REQUIRE ADJUSTMENTS IN THE LOCATION OF THE ADVANCE WARNING SIGNS OR THE SIGNAL HEADS. TREE OR BRUSH TRIMMING TO PROVIDE ADEQUATE SIGHT DISTANCE TO SIGN AND SIGNALS SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER. THE DISTANCES SHOWN FOR ADVANCE WARNING SIGN SPACINGS ARE MINIMUM.

8. ALL TRAFFIC SIGNAL AND LIGHTING EQUIPMENT USED IN THIS INSTALLATION, SUCH AS SIGNAL OR LIGHTING CABLE, SIGNAL HEADS, LUMINAIRES OR SIGNAL CONTROLLER SHALL BE IN COMPLIANCE WITH SPECIFICATION ITEMS 625, 632, 633, 713, 732 AND 733. HOWEVER, THE PERFORMANCE TESTS OF 625.22E AND 632.27(6). THE WORKING DRAWING REQUIREMENTS OF 625.04, 632.03 AND 633.03. THE WIRING DIAGRAM AND SERVICE MANUAL REQUIREMENT OF 633.04 AND THE TESTING AND PREQUALIFICATION REQUIREMENT OF 633.05 ARE WAIVED. ALSO THE REQUIREMENTS OF 733.01 CONCERNING EXPANSIBLE 3-DIAL UNITS AND TWELVE SIGNAL CIRCUITS ARE WAIVED. USED EQUIPMENT IS ACCEPTABLE. CONFLICT MONITORS SHALL BE USED EXCEPT WITH ELECTROMECHANICAL FLASHED CONTROLLERS WITH CAM SHAFT.

9. IF THE SIGNAL IS CHANGED TO FLASHING OPERATION, RED SHALL BE FLASHED TO BOTH APPROACHES ON ALL SIGNAL HEADS.

10. DURING WORKING HOURS ONLY A LENGTH OF BARRIER SUFFICIENT TO PROVIDE A 10' ACCESS ON THE SHOULDER AND PART OF ROADWAY. MAY BE REMOVED FOR ACCESS. A SIMILAR BARRIER REMOVAL AT THE OPPOSITE END OF THE WORK AREA MAY ALSO BE PERMITTED ONLY WHEN NECESSARY.

DISTANCE	A	B
URBAN	200'	350'
RURAL	500'	750'

EXISTING MARKINGS REMOVED
TRPM, WHITE, 1-WAY
TRPM, YELLOW, 1-WAY
TRPM, YELLOW, 2-WAY
TWO TRPM'S BACK TO BACK

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

*** NOTE: TCMB'S NOT REQUIRED FOR THIS PROJECT.**

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

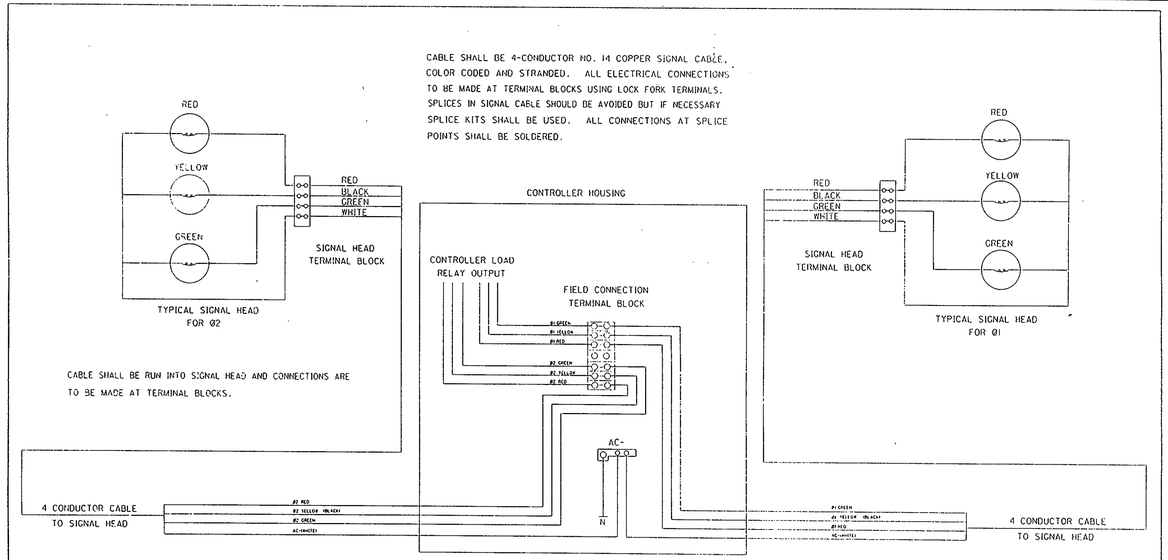
MAINTENANCE OF TRAFFIC — DATE 09/09/88

SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY WITH TCMB'S*

STANDARD CONSTRUCTION DRAWING MT-96.11

APPROVED ENGR. OF DESIGN SERVICES

296.11



NOTE: CONTRACTOR TO PROVIDE ADDITIONAL WIRING REQUIREMENTS FOR ACTUATED CONTROL.

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

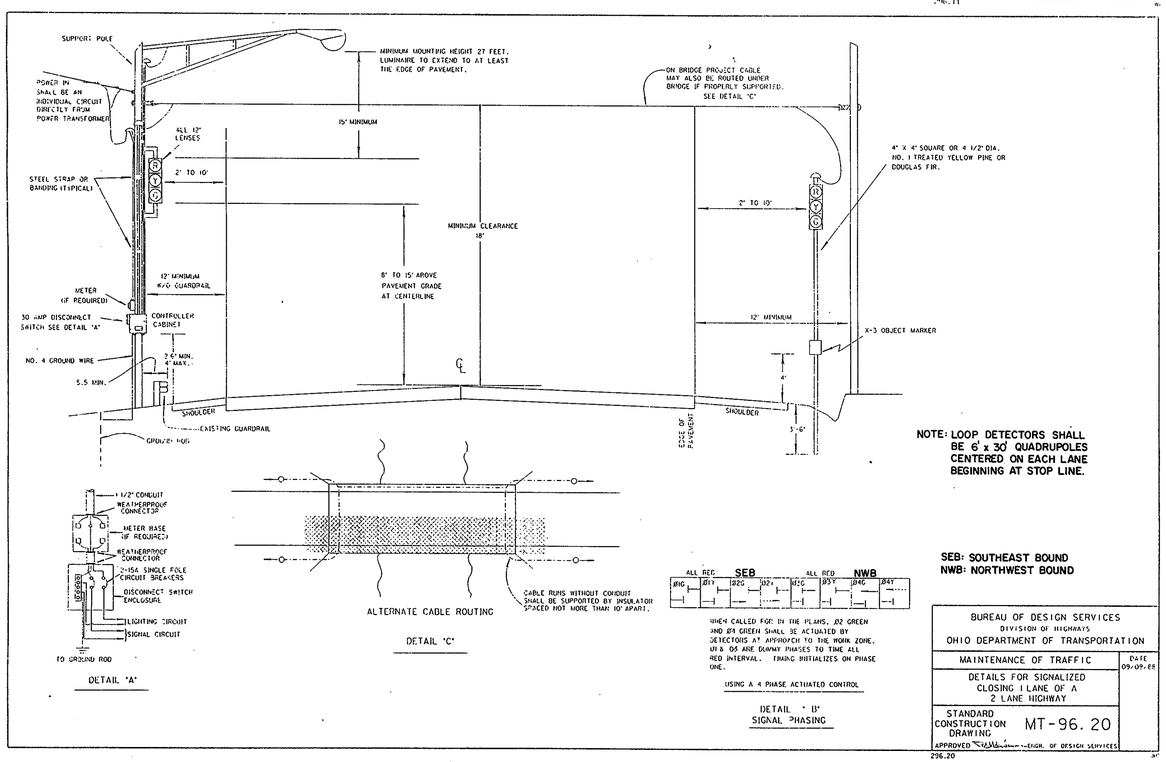
MAINTENANCE OF TRAFFIC — DATE 09/09/88

WIRING DIAGRAM FOR SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY

STANDARD CONSTRUCTION DRAWING MT-96.25

APPROVED ENGR. OF DESIGN SERVICES

295.25



SEB: SOUTHEAST BOUND
NWB: NORTHWEST BOUND

BUREAU OF DESIGN SERVICES
DIVISION OF HIGHWAYS
OHIO DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC — DATE 09-09-88

DETAILS FOR SIGNALIZED CLOSING 1 LANE OF A 2 LANE HIGHWAY

STANDARD CONSTRUCTION DRAWING MT-96.20

APPROVED ENGR. OF DESIGN SERVICES

296.20

FUNCTION	Ø1	Ø2	Ø3	Ø4
INITIAL GREEN	–	15.0	–	15.0
MINIMUM GREEN	–	–	–	–
VEHICLE EXTENSION	–	2.5	–	2.5
MAXIMUM GREEN	–	30	–	30
PEDESTRIAN WALK	–	–	–	–
PEDESTRIAN CLEARANCE	–	–	–	–
VEHICLE YELLOW CLEARANCE	–	3.0	–	3.0
VEHICLE ALL RED CLEARANCE	12.0	2.0	12.0	2.0
RECALL	NO	YES	NO	NO
MEMORY	–	–	–	–

SIGNAL TIMING CHART

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REV. NO.	DESCRIPTION	DATE	BY	CH'KD.

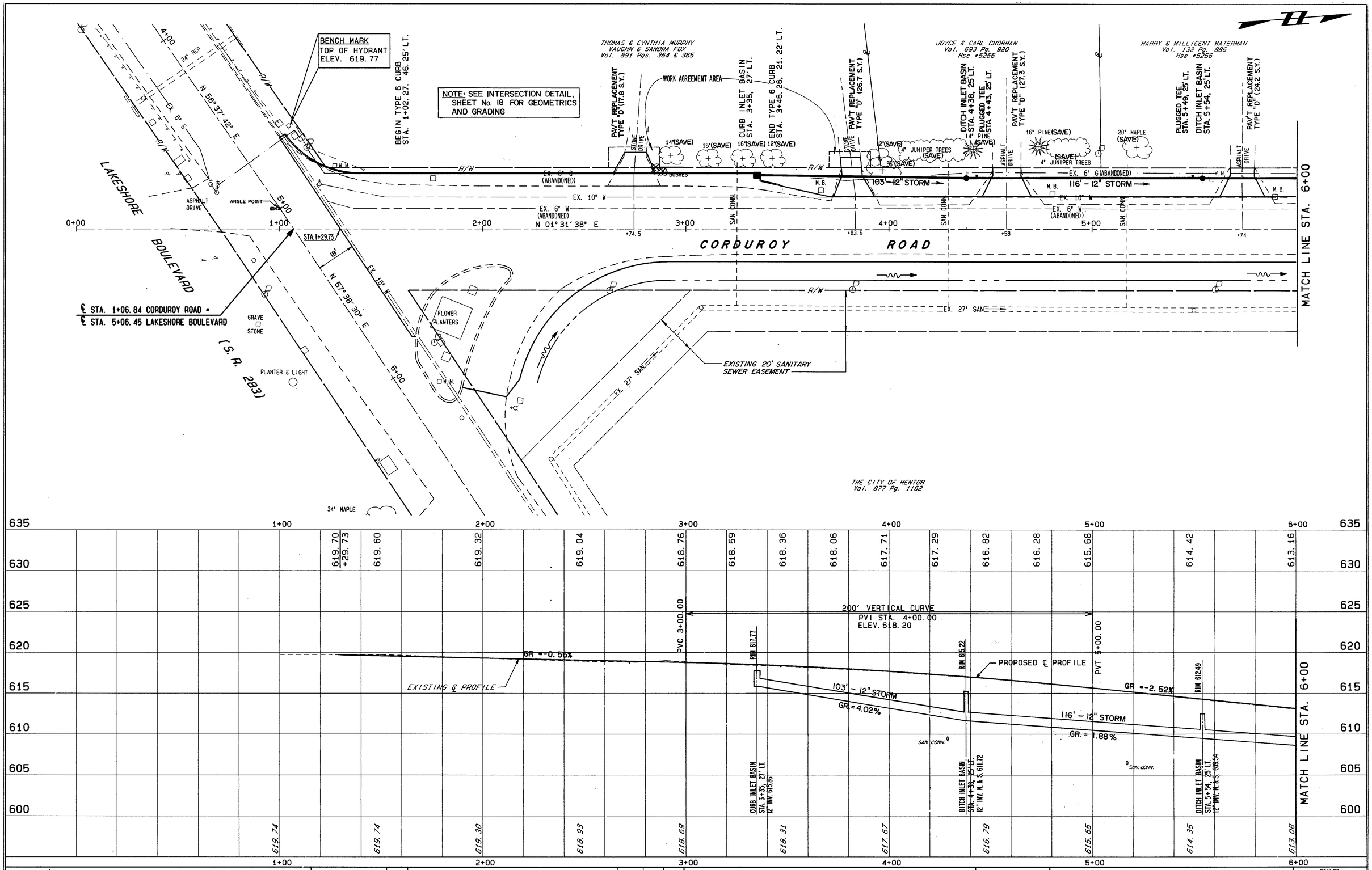
CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: JAN. 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. ____ PG. ____

MAINTENANCE OF TRAFFIC TEMPORARY SIGNAL DETAILS

SCALES
HOR. N. T. S.
VERT. –
CONTRACT No. 8929621
SHEET NO. 9 OF 51



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REV.	DESCRIPTION	DATE	BY	CHECKED
1.	DELETE DRIVE CULVERTS & HEADWALLS; ADD 12" STORM SEWER, DITCH INLET BASINS & PLUGGED TEES	3/4/94	J.J.C.	C.C.H.

CORDUROY ROAD IMPROVEMENTS

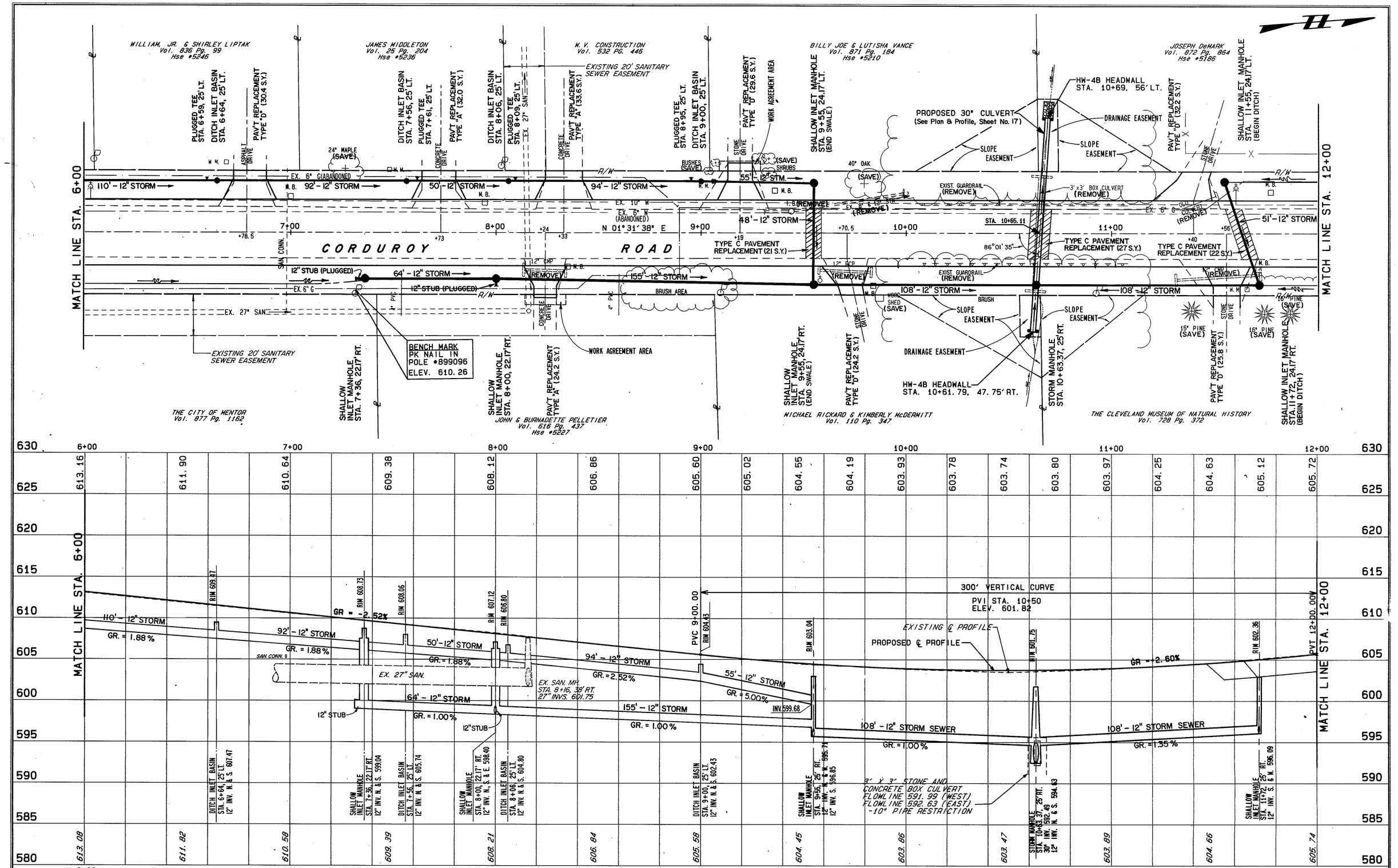
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. 794 PG. 62

PLAN AND PROFILE

STA. 1+00 TO STA. 6+00

SCALES	
HOR.	1" = 20'
VERT.	1" = 5'
CONTRACT No.	8929621
SHEET NO.	OF
10	51



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REV.	DESCRIPTION	DATE	BY	CHECKED
1.	DELETE DRIVE CULVERTS & HEADWALLS - STA. 6+00 TO 8+55; ADD 12" STORM SEWER, DITCH INLET BASINS, PLUGGED TEES & SHALLOW INLET MANHOLES W/STUBS.	1/28/94	JC	CCH

CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. 794 PG. 62

PLAN AND PROFILE

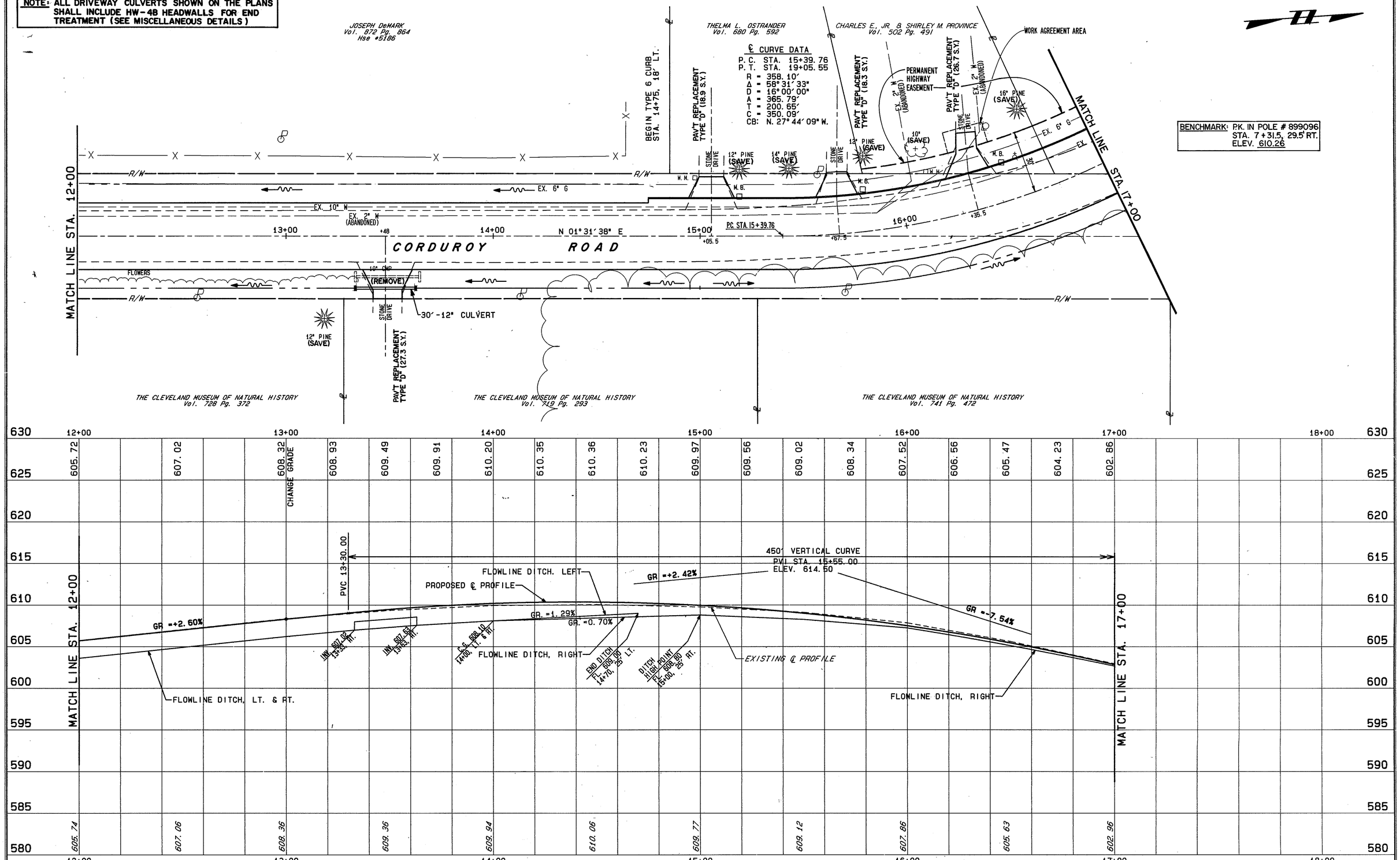
STA. 6+00 TO STA. 12+00

SCALES
HOR. 1" = 20'
VERT. 1" = 5'

CONTRACT No. 8929621

SHEET NO. 11 OF 51

NOTE: ALL DRIVEWAY CULVERTS SHOWN ON THE PLANS SHALL INCLUDE HW-48 HEADWALLS FOR END TREATMENT (SEE MISCELLANEOUS DETAILS)



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REV.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

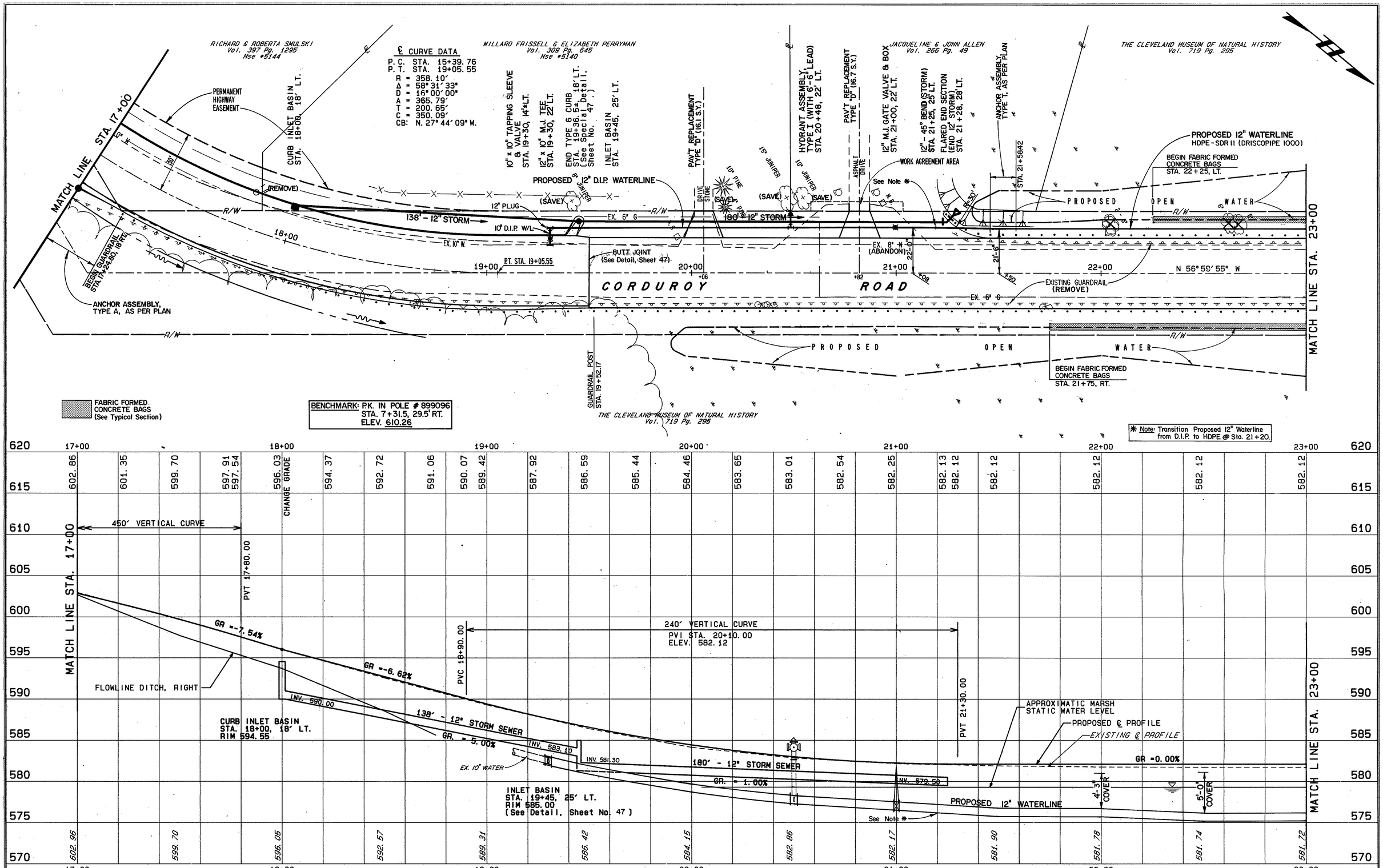
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F.B. No. 794 PG. 62

PLAN AND PROFILE

STA. 12+00 TO STA. 17+00

SCALES
HOR. 1" = 20'
VERT. 1" = 5'
CONTRACT No. 8929621
SHEET NO. 12 OF 51



REV.	DESCRIPTION	DATE	BY	CHECKED

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CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F.B. No. 794 PG. 62

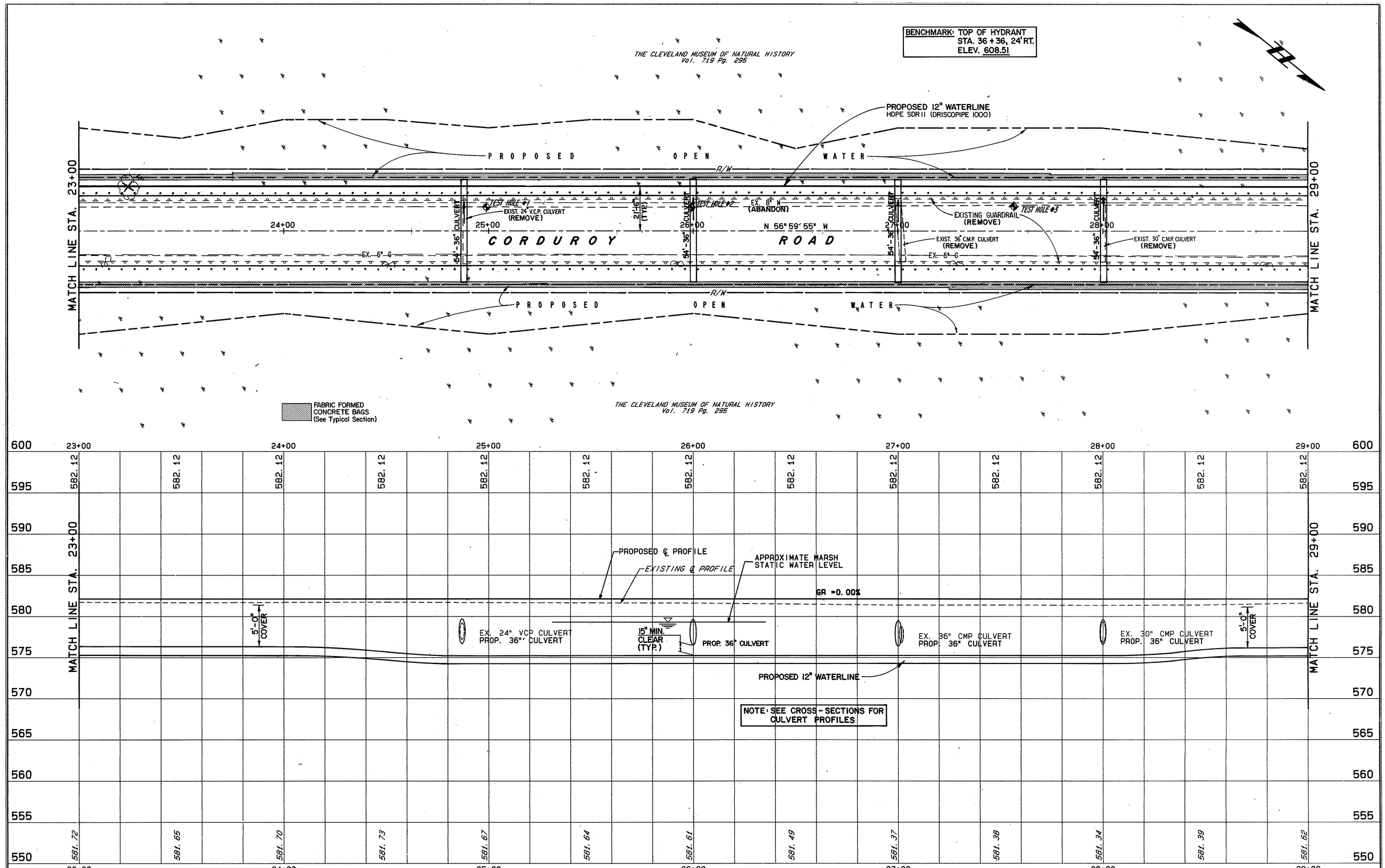
PLAN AND PROFILE

STA. 17+00 TO STA. 23+00

SCALES
HOR. 1" = 20'
VERT. 1" = 5'

CONTRACT No. 8929621

SHEET NO. 13 OF 51



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REV.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

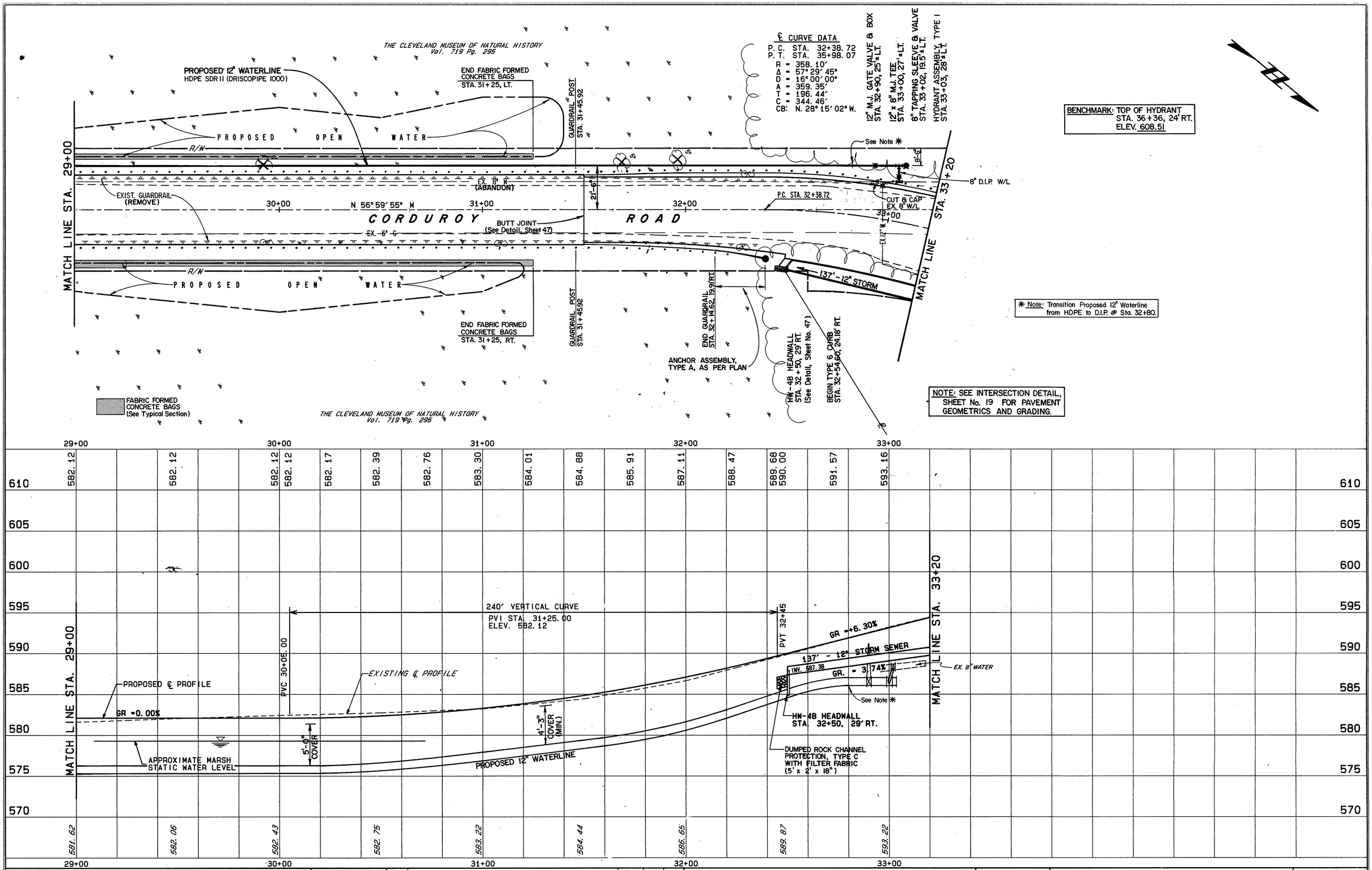
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. 794 PG. 62

PLAN AND PROFILE

STA. 23+00 TO STA. 29+00

SCALES	
HOR.	1" = 20'
VERT.	1" = 5'
CONTRACT No.	8929621
SHEET NO.	OF
14	51



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REV.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

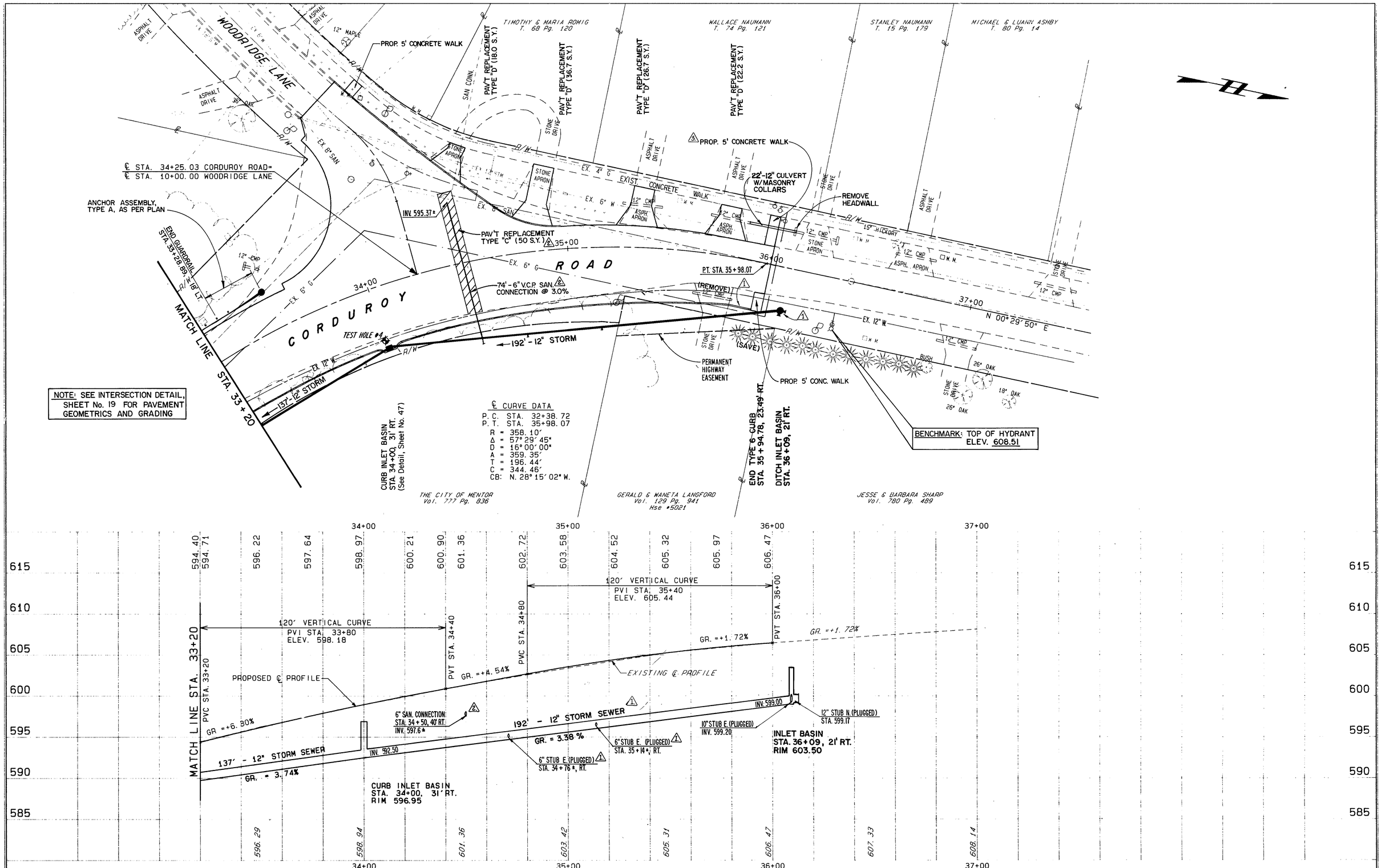
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. 794 PG. 62

PLAN AND PROFILE

STA. 29+00 TO STA. 33+20

SCALES	
HOR.	1" = 20'
VERT.	1" = 5'
CONTRACT No.	
8929621	
SHEET NO.	OF
15	51



REV.	DESCRIPTION	DATE	BY	CHECKED
1	REVISE LOCATION & PROFILE OF STORM SEWER; ADD 2-6" STUBS ON STORM & 12"&10" STUBS TO INLET BASINS; REVISE GEOMETRICS; REMOVE DRIVE	3/17/93	JC	CCH
2	ADD 74'-6" V.C.P. SAN. CONNECTION & 50 SY. TYPE "C" PAV'T REPLACEMENT	8/27/93	J.C.	CCH
3	REVISE WALK LOCATION; ADD 12'-12" CULVERT	3/17/93	JC	CCH

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CORDUROY ROAD IMPROVEMENTS

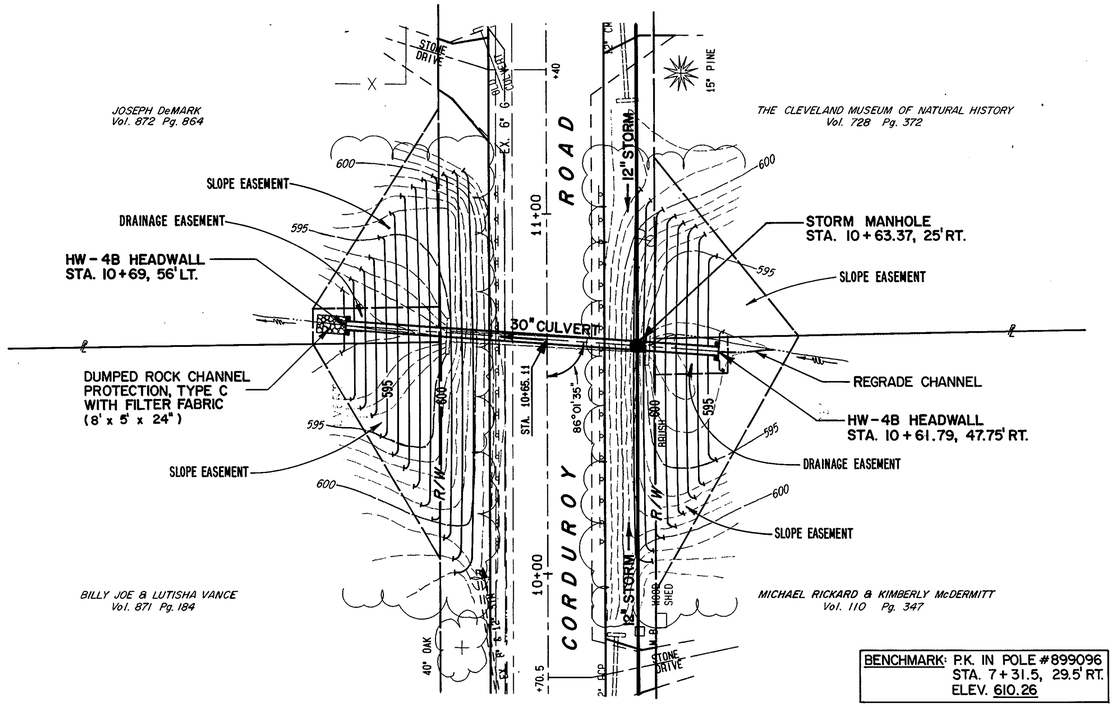
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. 794 PG. 62

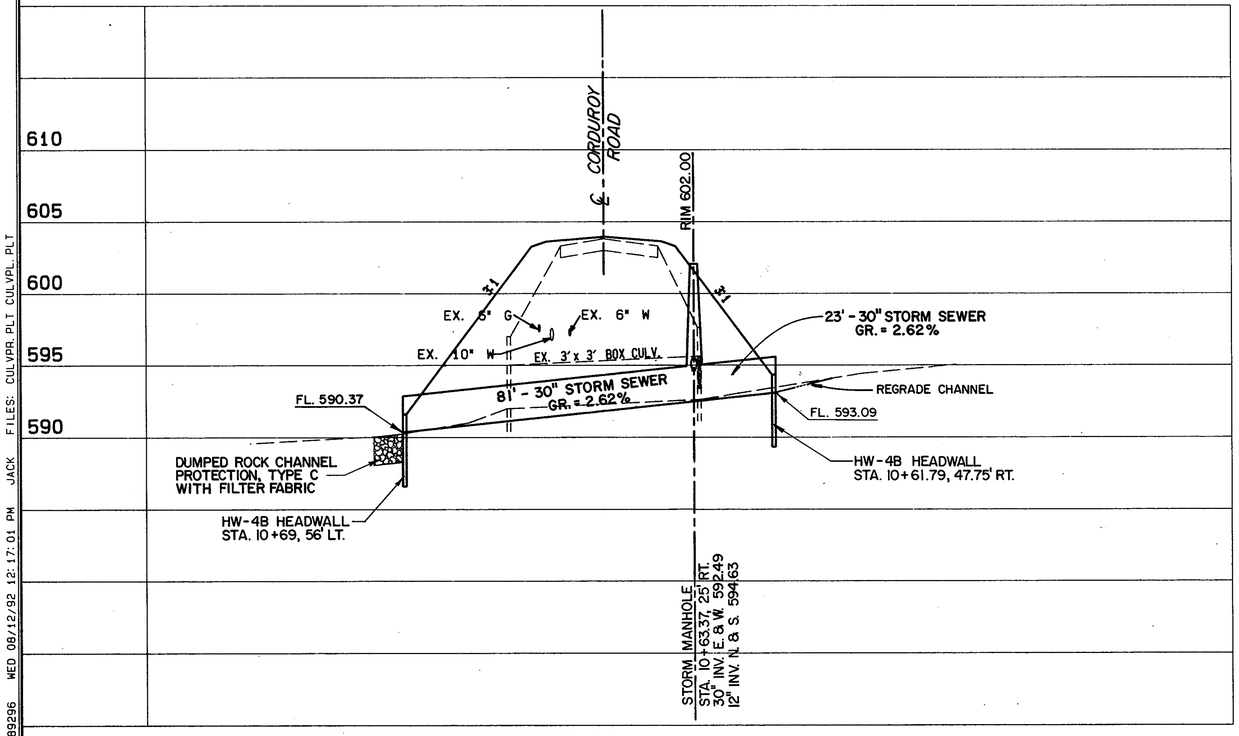
PLAN AND PROFILE

STA. 33+20 TO STA. 37+00

SCALES
HOR. 1" = 20'
VERT. 1" = 5'
CONTRACT No. 8929621
SHEET NO. 16 OF 51



BENCHMARK: P.K. IN POLE #899096
STA. 7+31.5, 29.5' RT.
ELEV. 610.26



89296 WED 08/12/92 12:17:01 PM JACK FILES: CULVPR.PLT CULVPL.PLT

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REV.	DESCRIPTION	DATE	BY	CHECKED

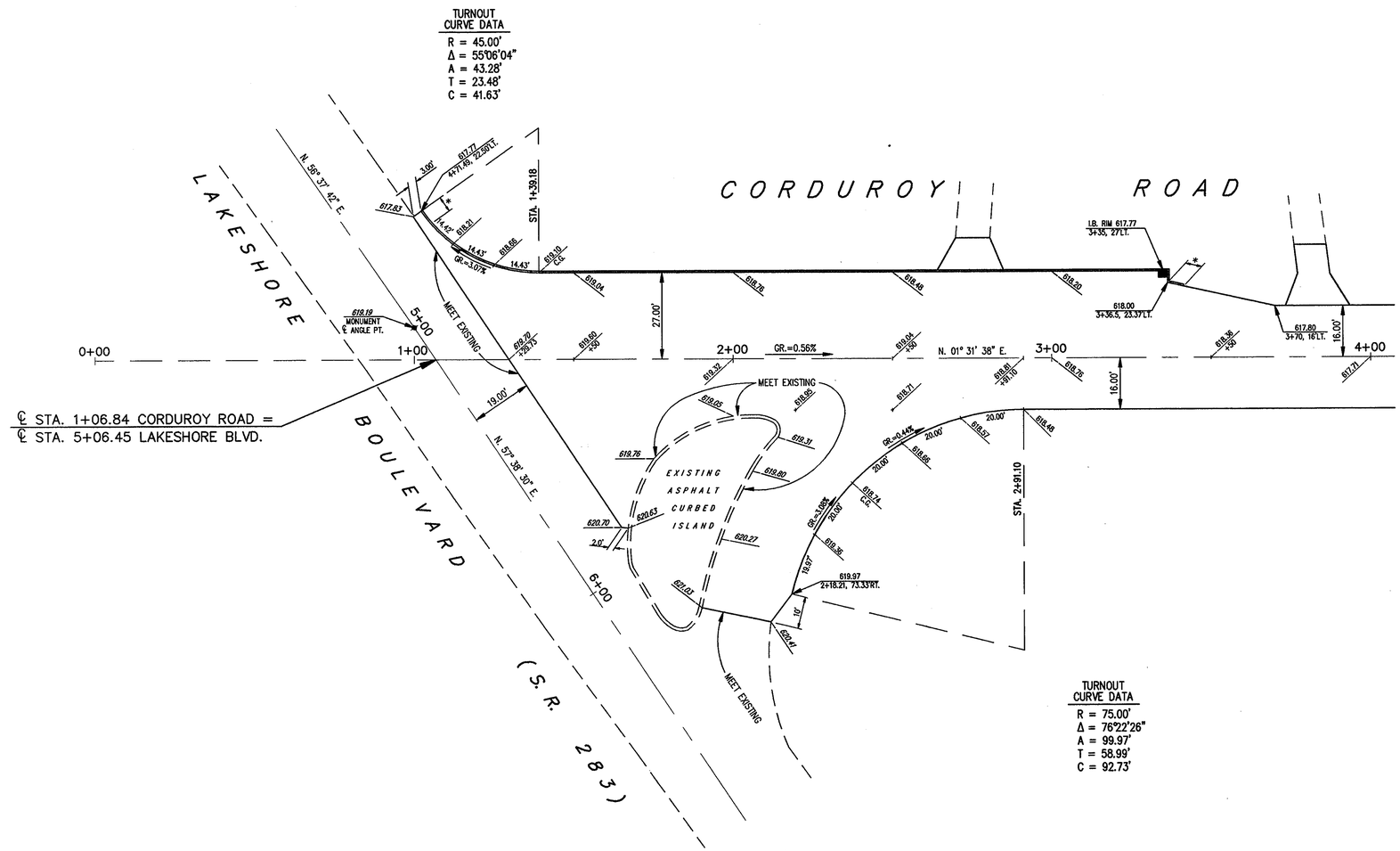
CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F.B. No. 794 PG. 62

CULVERT PLAN AND PROFILE

SCALES	
HOR.	1" = 20'
VERT.	1" = 5'
CONTRACT No.	
8929621	
SHEET NO.	OF
17	51



TURNOUT
CURVE DATA
R = 75.00'
Δ = 76°22'26"
A = 99.97'
T = 58.99'
C = 92.73'

* NOTE: TAPER CURB HEIGHT TO 0" IN 5'-0".

NOTE: ALL DIMENSIONS AND ELEVATIONS ALONG CURBS ARE AT FACE OF CURB.

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REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

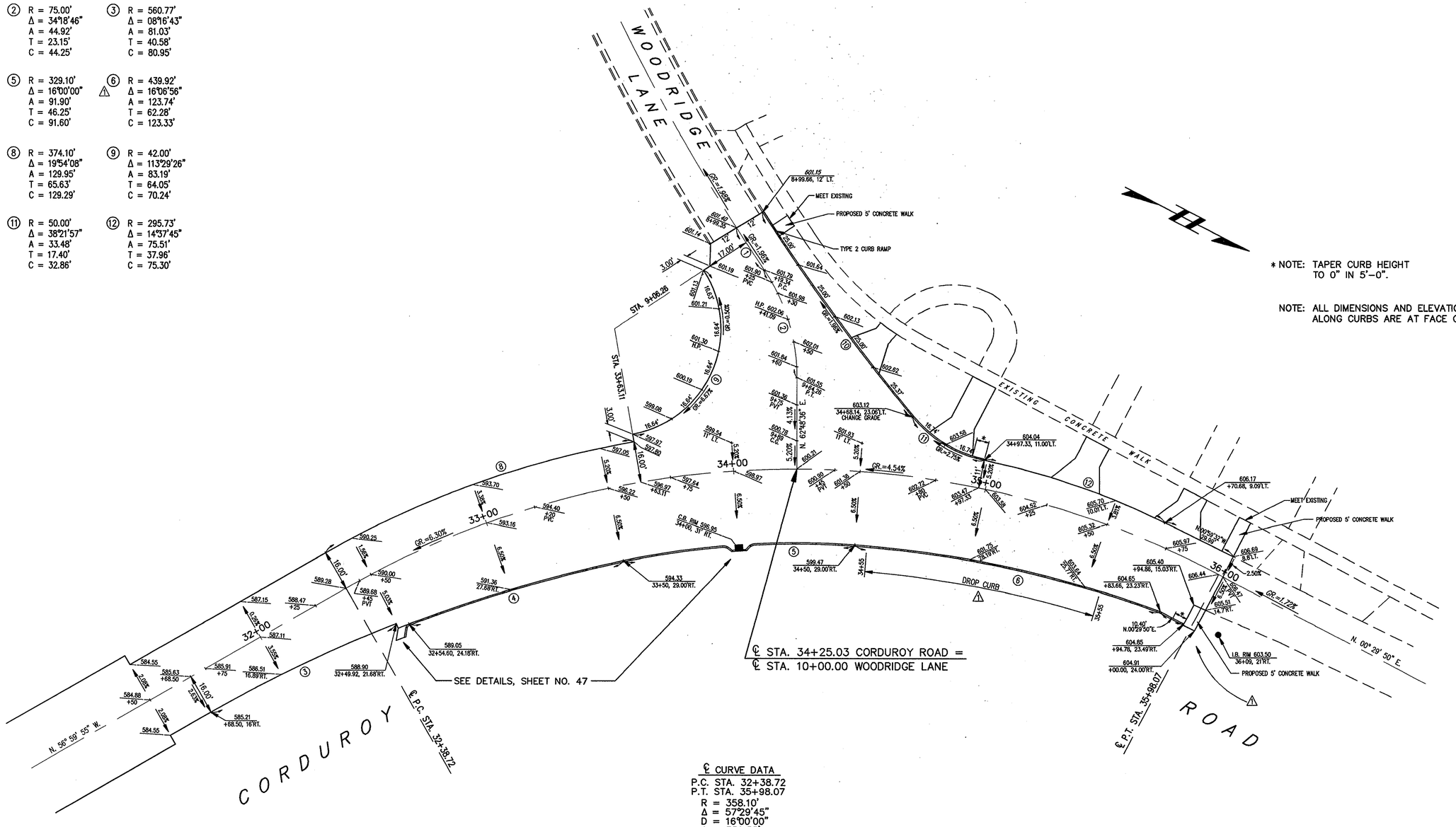
DATE: JULY, 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

LAKESHORE BOULEVARD
INTERSECTION DETAIL

SCALES:
HOR. 1"=20'
VERT.
CONTRACT No. 8929621
SHEET NO. 13 OF 51

CURVE DATA

① R = 818.45' Δ = 01°23'58" A = 19.99' T = 10.00' C = 19.99'	② R = 75.00' Δ = 34°18'46" A = 44.92' T = 23.15' C = 44.25'	③ R = 560.77' Δ = 08°16'43" A = 81.03' T = 40.58' C = 80.95'
④ R = 558.77' Δ = 09°03'05" A = 88.27' T = 44.23' C = 88.18'	⑤ R = 329.10' Δ = 16°00'00" A = 91.90' T = 46.25' C = 91.60'	⑥ R = 439.92' Δ = 16°06'56" A = 123.74' T = 62.28' C = 123.33'
	⑧ R = 374.10' Δ = 19°54'08" A = 129.95' T = 65.63' C = 129.29'	⑨ R = 42.00' Δ = 113°29'26" A = 83.19' T = 64.05' C = 70.24'
⑩ R = 806.45' Δ = 07°07'50" A = 100.37' T = 50.25' C = 100.30'	⑪ R = 50.00' Δ = 38°21'57" A = 33.48' T = 17.40' C = 32.86'	⑫ R = 295.73' Δ = 14°37'45" A = 75.51' T = 37.96' C = 75.30'



* NOTE: TAPER CURB HEIGHT TO 0" IN 5'-0".

NOTE: ALL DIMENSIONS AND ELEVATIONS ALONG CURBS ARE AT FACE OF CURB.

℄ CURVE DATA

P.C. STA. 32+38.72
P.T. STA. 35+98.07
R = 358.10'
Δ = 57°29'45"
D = 16°00'00"
A = 359.35'
T = 196.44'
C = 344.46'
CB: N.28°15'02"W.

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REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
1	REVISE GEOMETRICS AND GRADING @ NORTH END; ADD CURB CUT FOR PROP. FIRE STATION	9/17/93	J.J.C.	C.C.H.

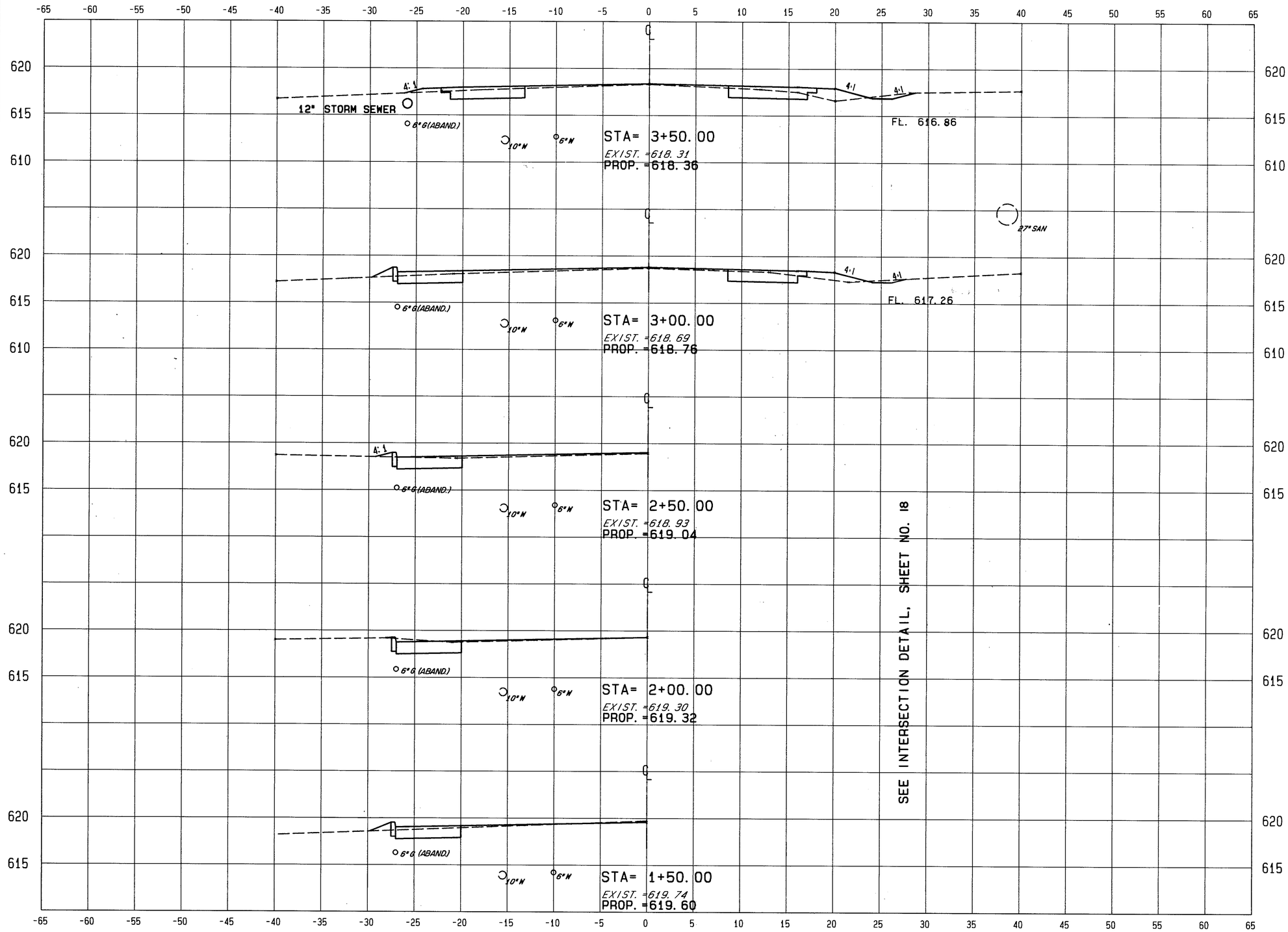
CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: JULY, 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. ____ PG. ____

WOODRIDGE LANE INTERSECTION DETAIL

SCALES:
HOR. 1"=20'
VERT.
CONTRACT No. 8929621
SHEET NO. 19 OF 51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED
1.	REVISE GRADE ELEVATIONS & SIDESLOPES	1/28/94	JC	CCH

CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. ____ PG. ____

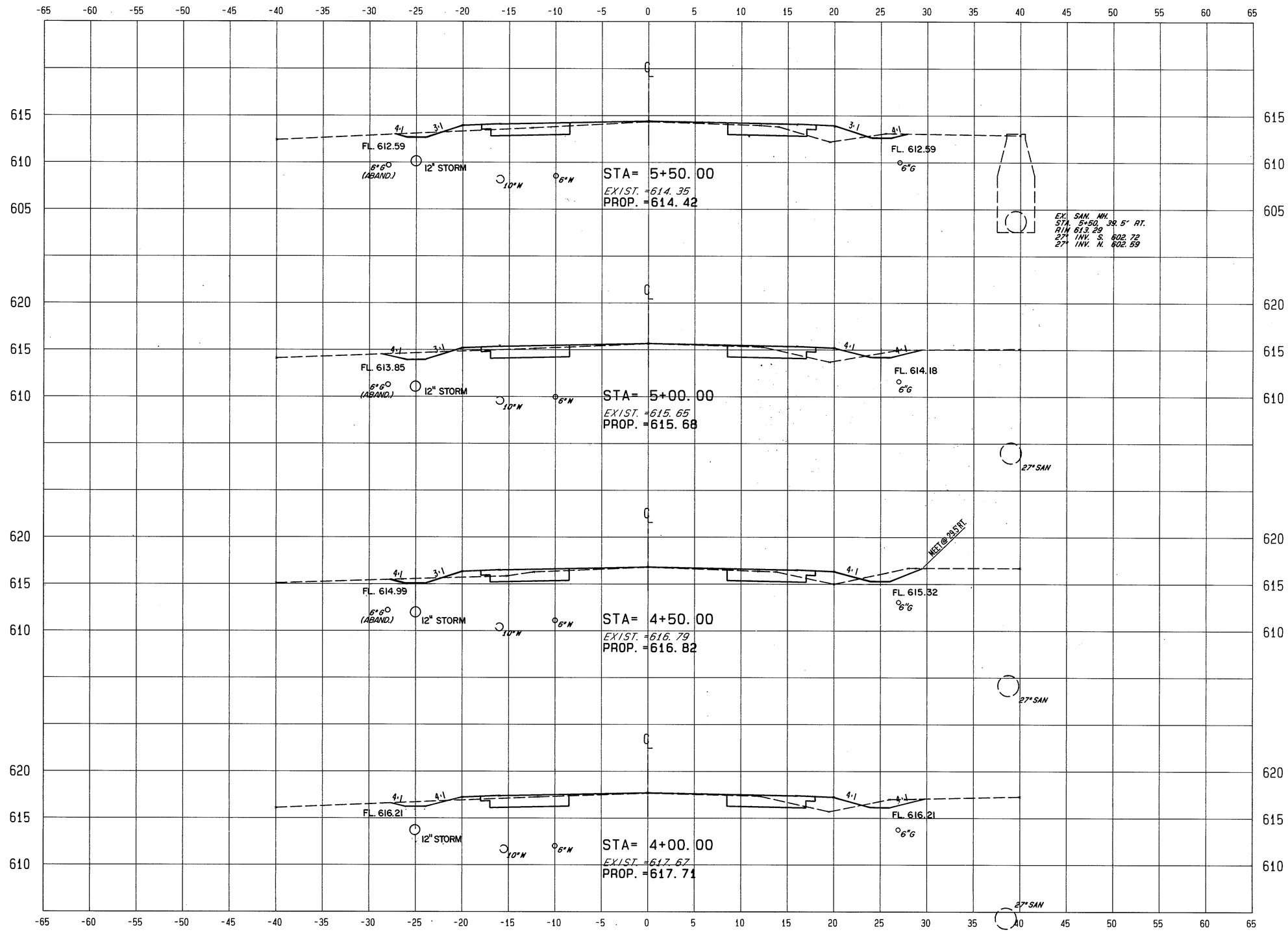
CROSS SECTIONS

STA. 1+50 TO STA. 3+50

SCALES
HOR. 1" = 5'
VERT.

CONTRACT No. 8929621

SHEET NO. 20 OF 51



END AREA SQ. YDS. CUT	END AREA SQ. YDS. FILL	VOLUME CU. YDS. CUT	VOLUME CU. YDS. FILL

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED
1.	REVISE SWALE ELEVATIONS & SIDESLOPES; ADD STORM SEWER; ADD GAS LINE, RIGHT SIDE	1/28/94	J.C.	CCH

CORDUROY ROAD IMPROVEMENTS

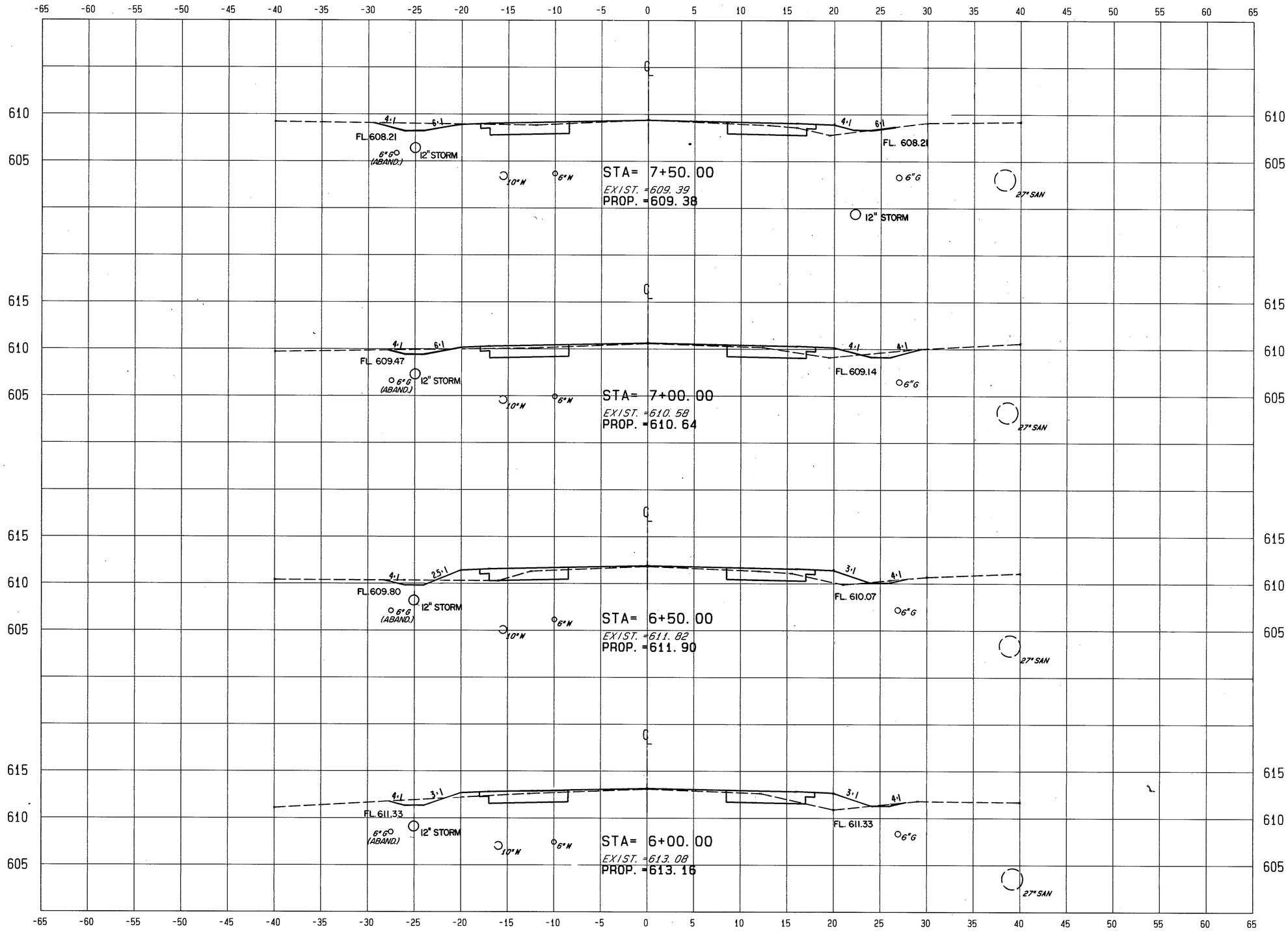
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F.B. No. ____ PG. ____

CROSS SECTIONS

STA. 4+00 TO STA. 5+50

SCALES
HOR. 1" = 5'
VERT.
CONTRACT No. 8929621
SHEET NO. 21 OF 51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED
1.	REVISE SWALE ELEVATIONS & SIDESLOPES; ADD 12" STORM SEWER; ADD GAS LINE ON RIGHT SIDE	1/31/94	J.C.	CCH

CORDUROY ROAD IMPROVEMENTS

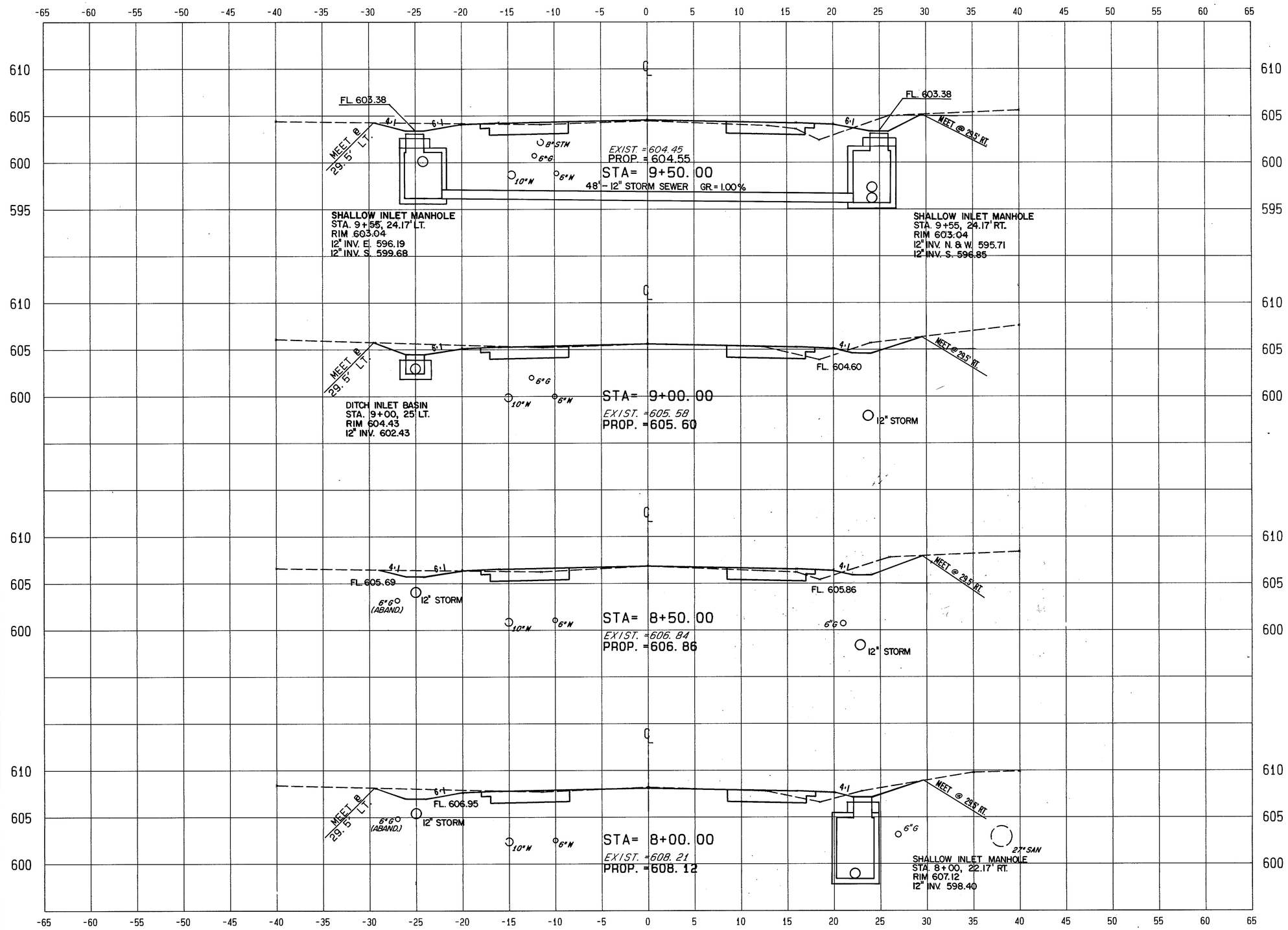
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. ____ PG. ____

CROSS SECTIONS

STA. 6+00 TO STA. 7+50

SCALES	
HOR.	1" = 5'
VERT.	
CONTRACT No.	
8929621	
SHEET NO.	OF
22	51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED
1.	REVISE SWALE ELEVATIONS & SIDESLOPES; ADD STORM SEWER; ADD 6" GAS ON RT. SIDE	1/31/94	J.J.C	C.C.H.

CORDUROY ROAD IMPROVEMENTS

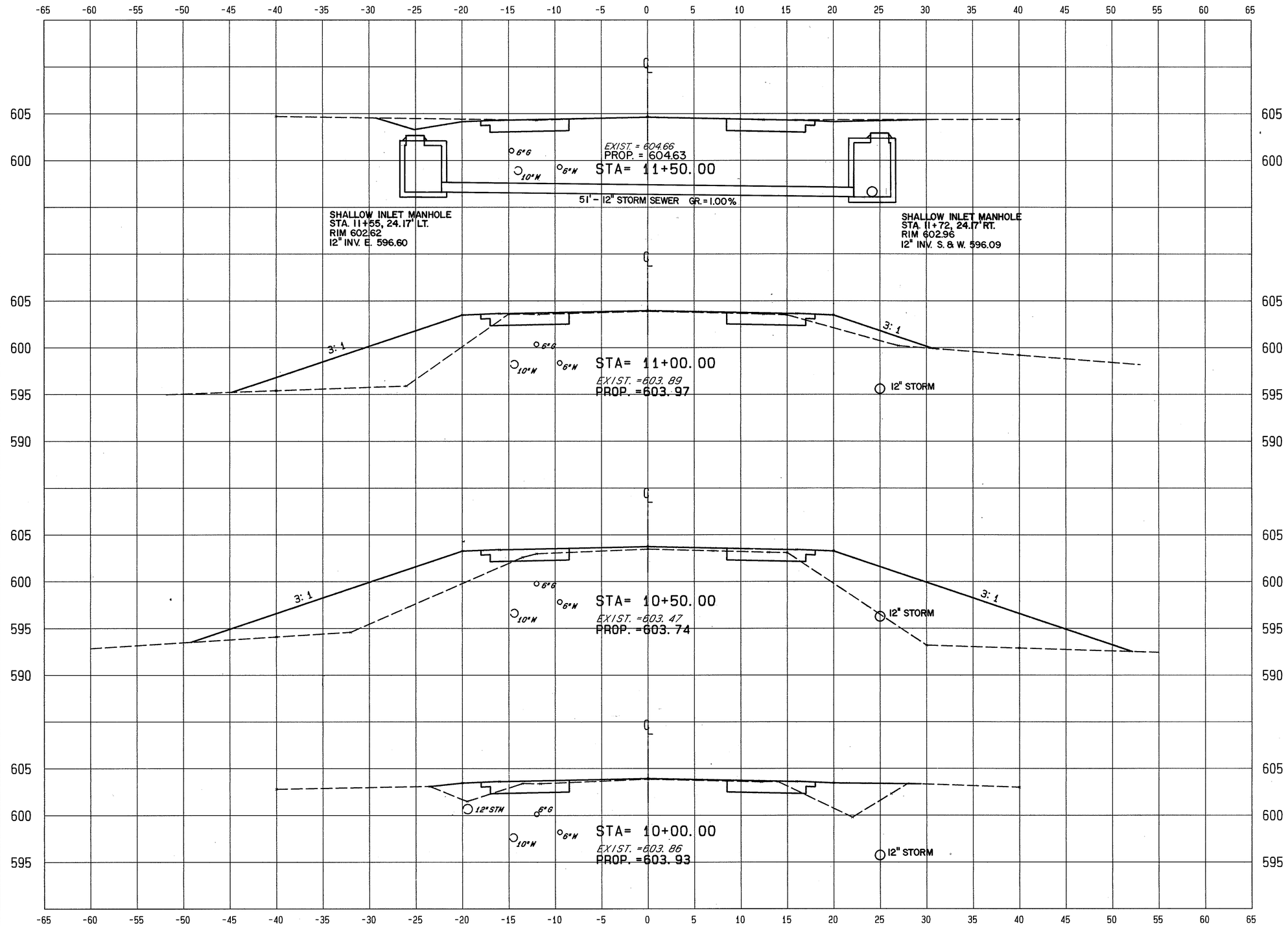
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

CROSS SECTIONS

STA. 8+00 TO STA. 9+50

SCALES	
HOR.	1" = 5'
VERT.	
CONTRACT No.	8929621
SHEET NO.	OF
23	51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

CT Consultants, Inc.
Engineers · Architects · Planners
Willoughby · Mentor · Columbus · Lorain North Canton · Youngstown

REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

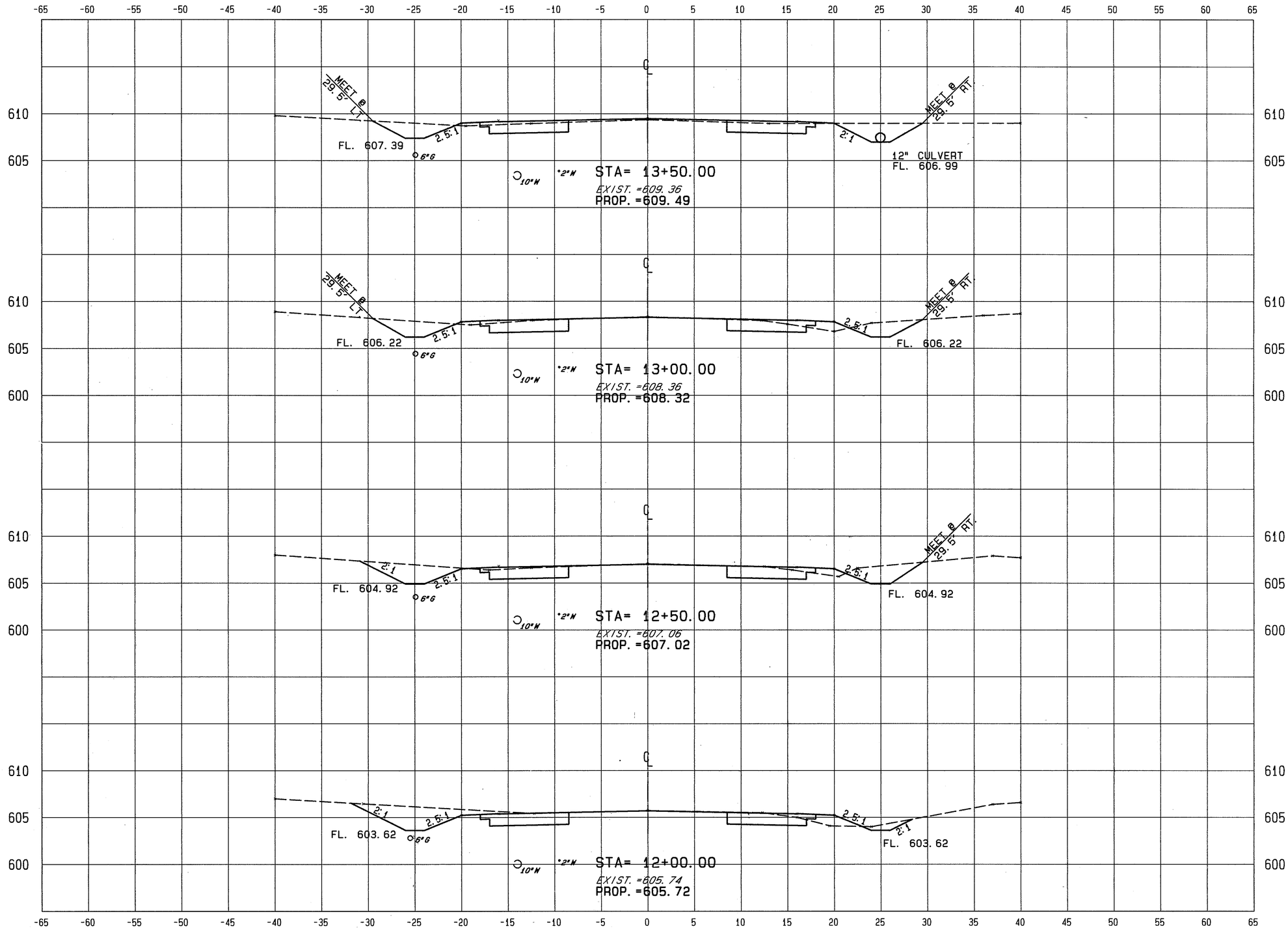
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

CROSS SECTIONS

STA. 10+00 TO STA. 11+50

SCALES
HOR. 1" = 5'
VERT.
CONTRACT No. 8929621
SHEET NO. 24 OF 51



END AREA SQ. YDS.		VOLUME CU. YDS.	
CUT	FILL	CUT	FILL

CT Consultants, Inc.
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REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

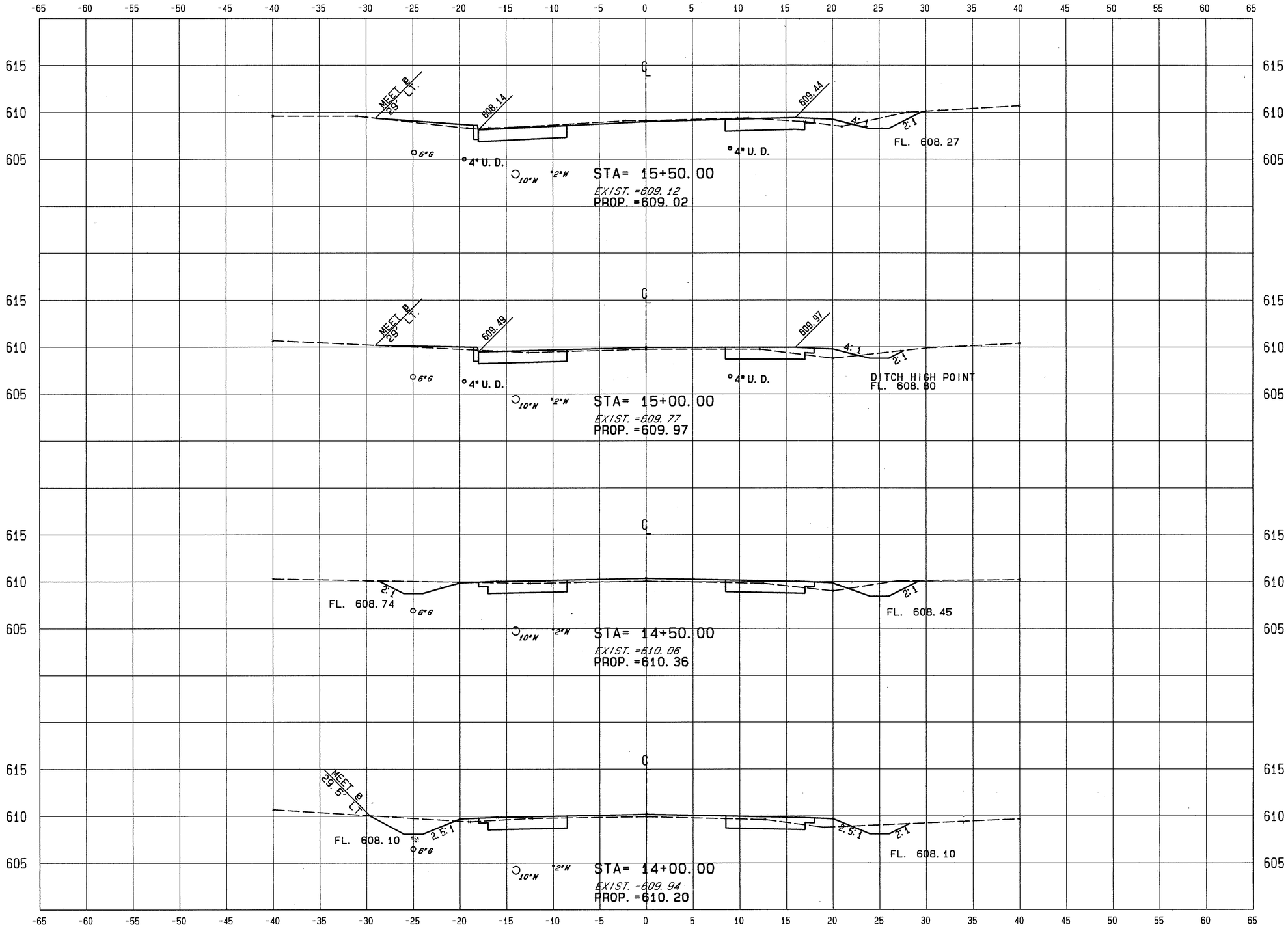
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

CROSS SECTIONS

STA. 12+00 TO STA. 13+50

SCALES
HOR. 1" = 5'
VERT.
CONTRACT No. 8929621
SHEET NO. 25 OF 51



END AREA SQ. YDS.		VOLUME CU. YDS.	
CUT	FILL	CUT	FILL

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

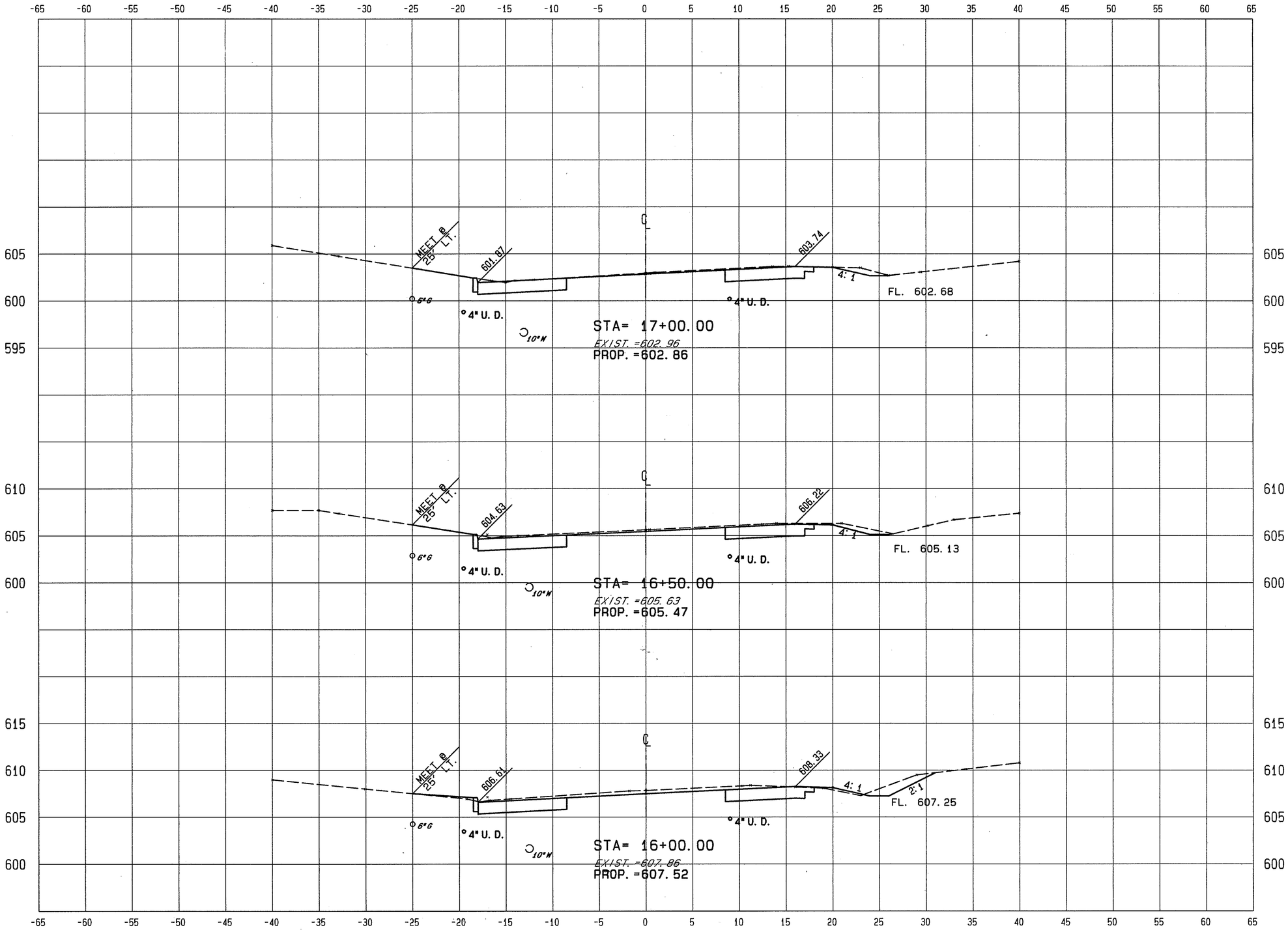
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F.B. No. PG.

CROSS SECTIONS

STA. 14+00 TO STA. 15+50

SCALES
HOR. 1" = 5'
VERT.
CONTRACT No. 8929621
SHEET NO. 26 OF 31



END AREA SQ. YDS.		VOLUME CU. YDS.	
CUT	FILL	CUT	FILL

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

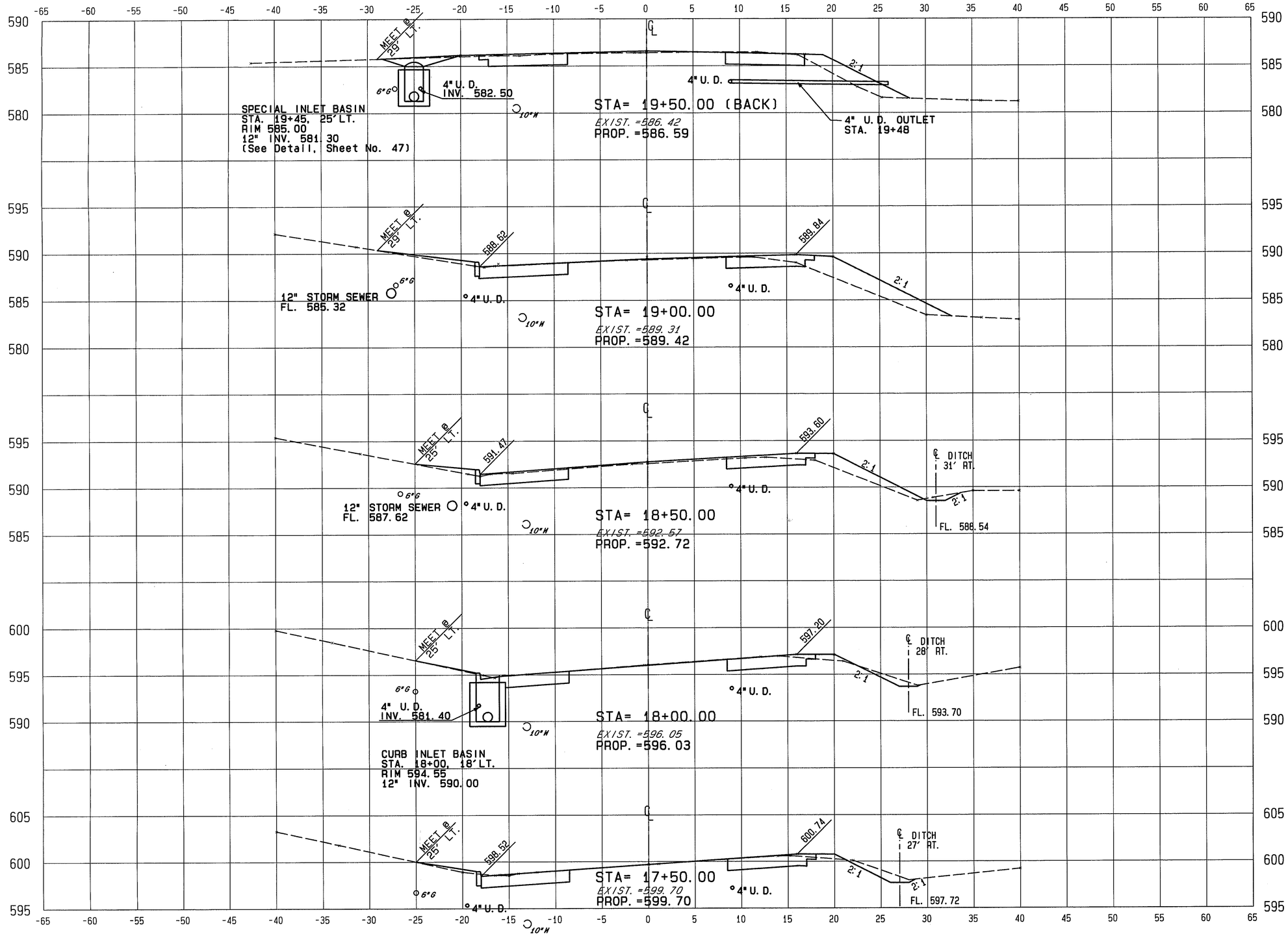
CROSS SECTIONS

STA. 16+00 TO STA. 17+00

SCALES
HOR. 1" = 5'
VERT.

CONTRACT No. 8929621

SHEET NO. 27 OF 51



END AREA SQ. YDS.		VOLUME CU. YDS.	
CUT	FILL	CUT	FILL

89296 FRI 05/21/93 08:33 AM JACK FILES: X19.PLT

C T Consultants, Inc.
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REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

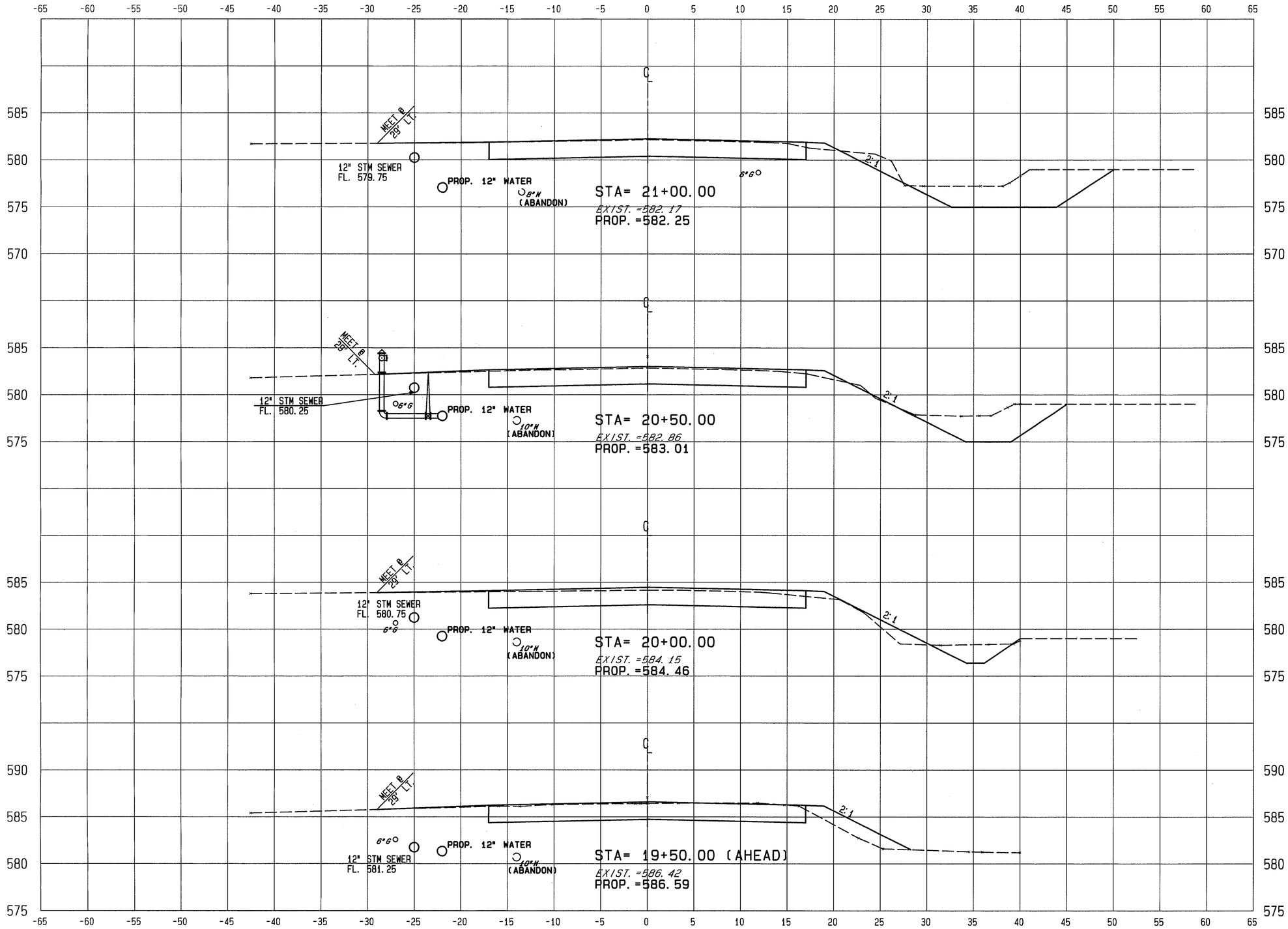
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

CROSS SECTIONS

STA. 17+50 TO STA. 19+00

SCALES
HOR. 1" = 5'
VERT.
CONTRACT No. 8929621
SHEET NO. 28 OF 51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

89296 FRI 05/21/93 08:33 AM JACK FILES: Y20.PLT

CT Consultants, Inc.
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Willoughby · Mentor · Columbus · Lorain · North Canton · Youngstown

REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

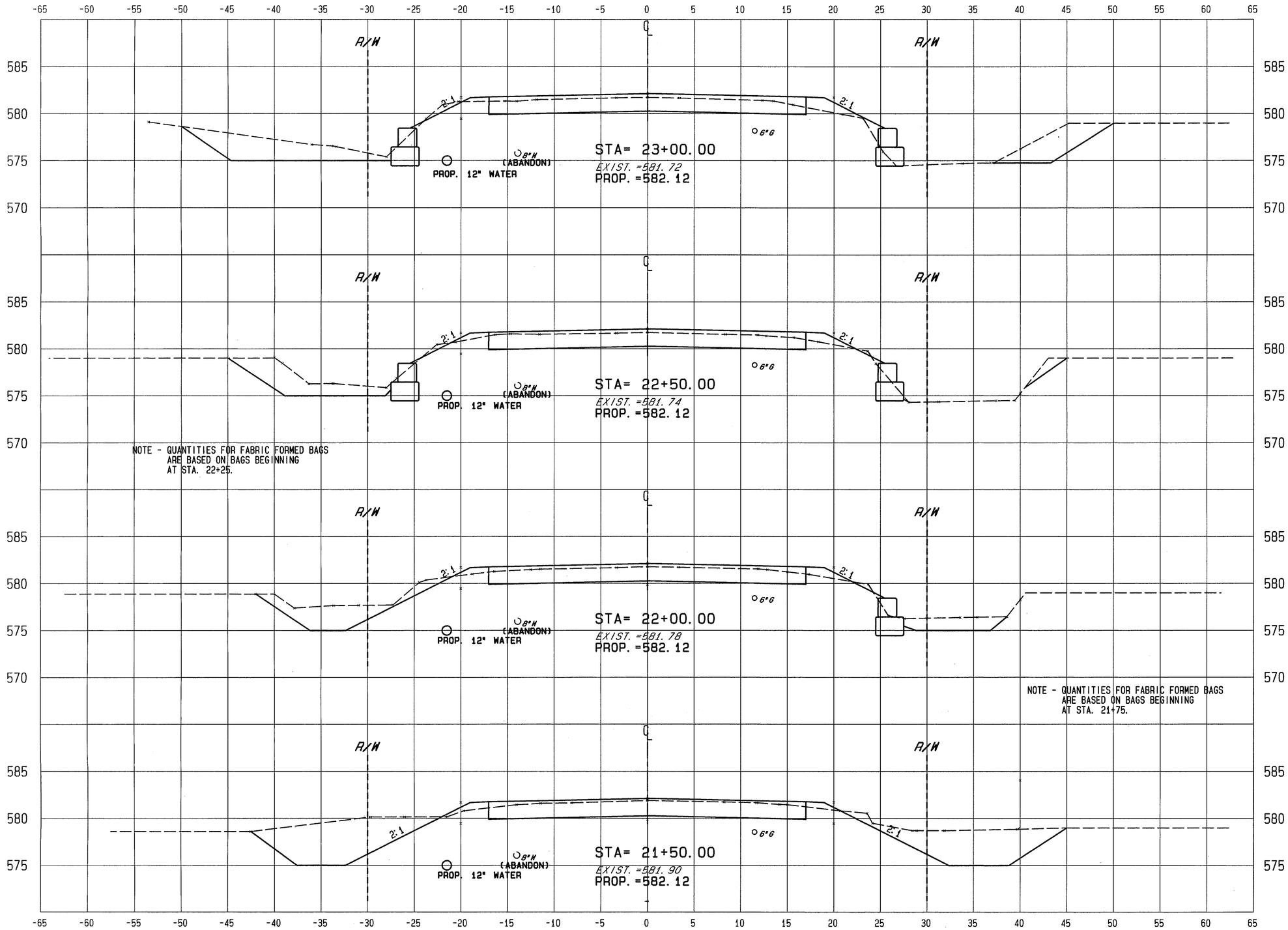
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. ____ PG. ____

CROSS SECTIONS

STA. 19+50 TO STA. 21+00

SCALES	
HOR.	1" = 5'
VERT.	
CONTRACT No.	8929621
SHEET NO.	OF
29	51



END AREA SQ. YDS.		VOLUME CU. YDS.	
CUT	FILL	CUT	FILL

89296 FRI 05/21/93 08:33 AM JACK FILES: X11.PLT

C T Consultants, Inc.
Engineers · Architects · Planners
Willoughby · Mentor · Columbus · Lorain · North Canton · Youngstown

REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

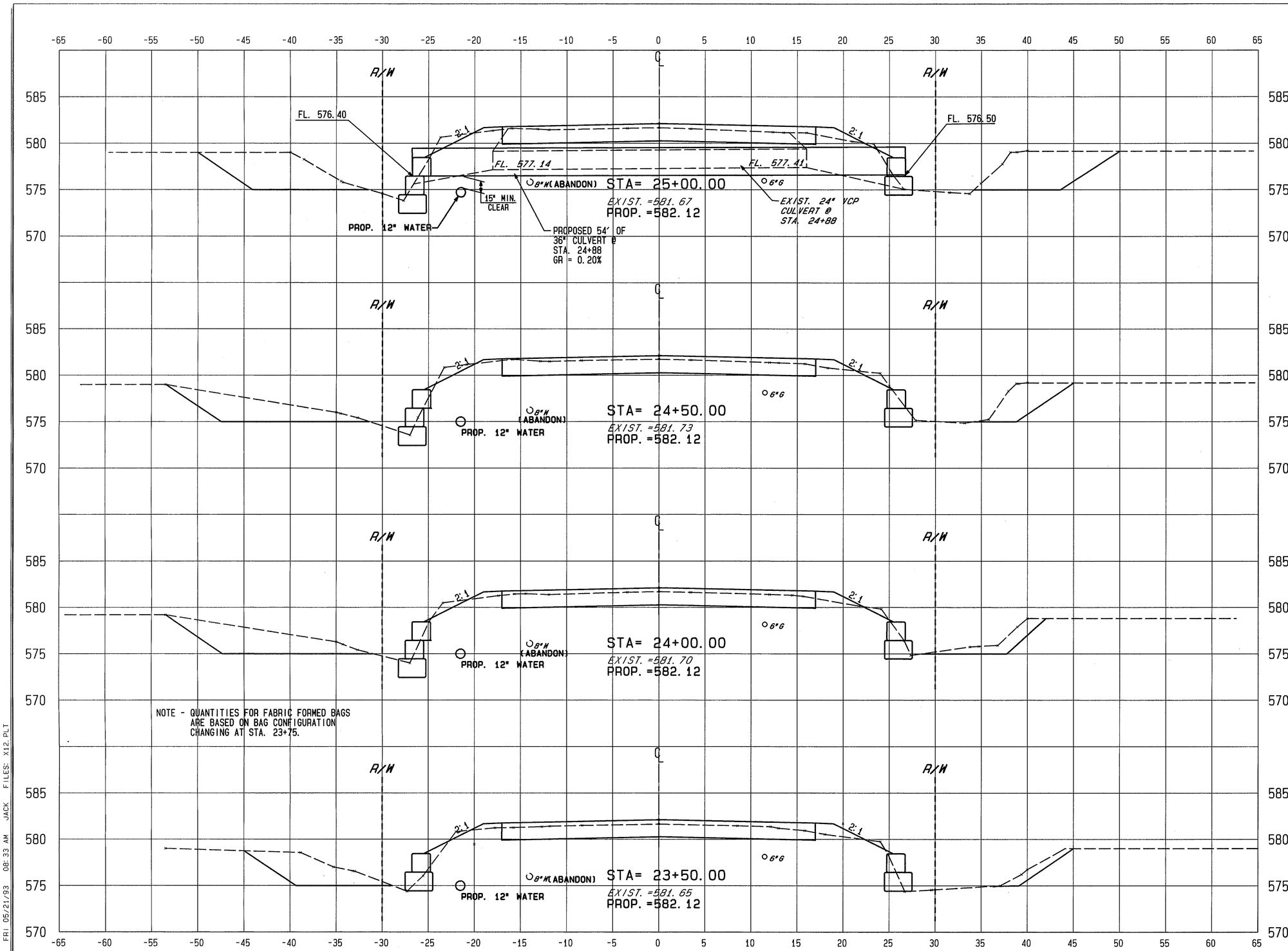
CROSS SECTIONS

STA. 21+50 TO STA. 23+00

SCALES
HOR. 1" = 5'
VERT.

CONTRACT No. 8929621

SHEET NO. 30 OF 51



END AREA SQ. YDS.		VOLUME CU. YDS.	
CUT	FILL	CUT	FILL

89296 FRI 05/21/93 08:33 AM JACK FILES: X12.PLT

C T Consultants, Inc.
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Willoughby · Mentor · Columbus · Lorain · North Canton · Youngstown

REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

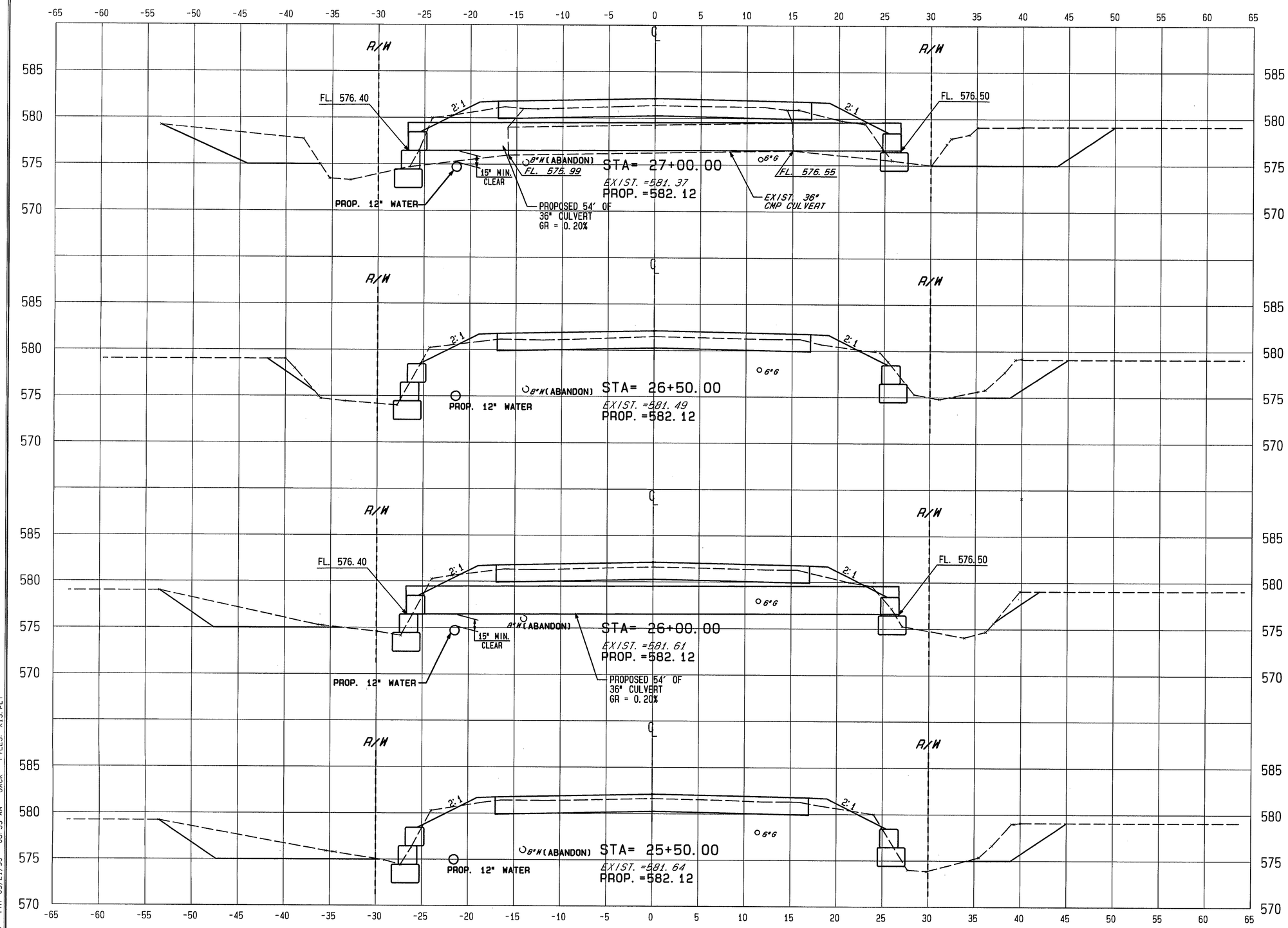
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

CROSS SECTIONS

STA. 23+50 TO STA. 25+00

SCALES
HOR. 1" = 5'
VERT.
CONTRACT No. 8929621
SHEET NO. 31 OF 51



END AREA SQ. YDS.		VOLUME CU. YDS.	
CUT	FILL	CUT	FILL

89296 FRI 05/21/93 08:33 AM JACK FILES: X13.PLT

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

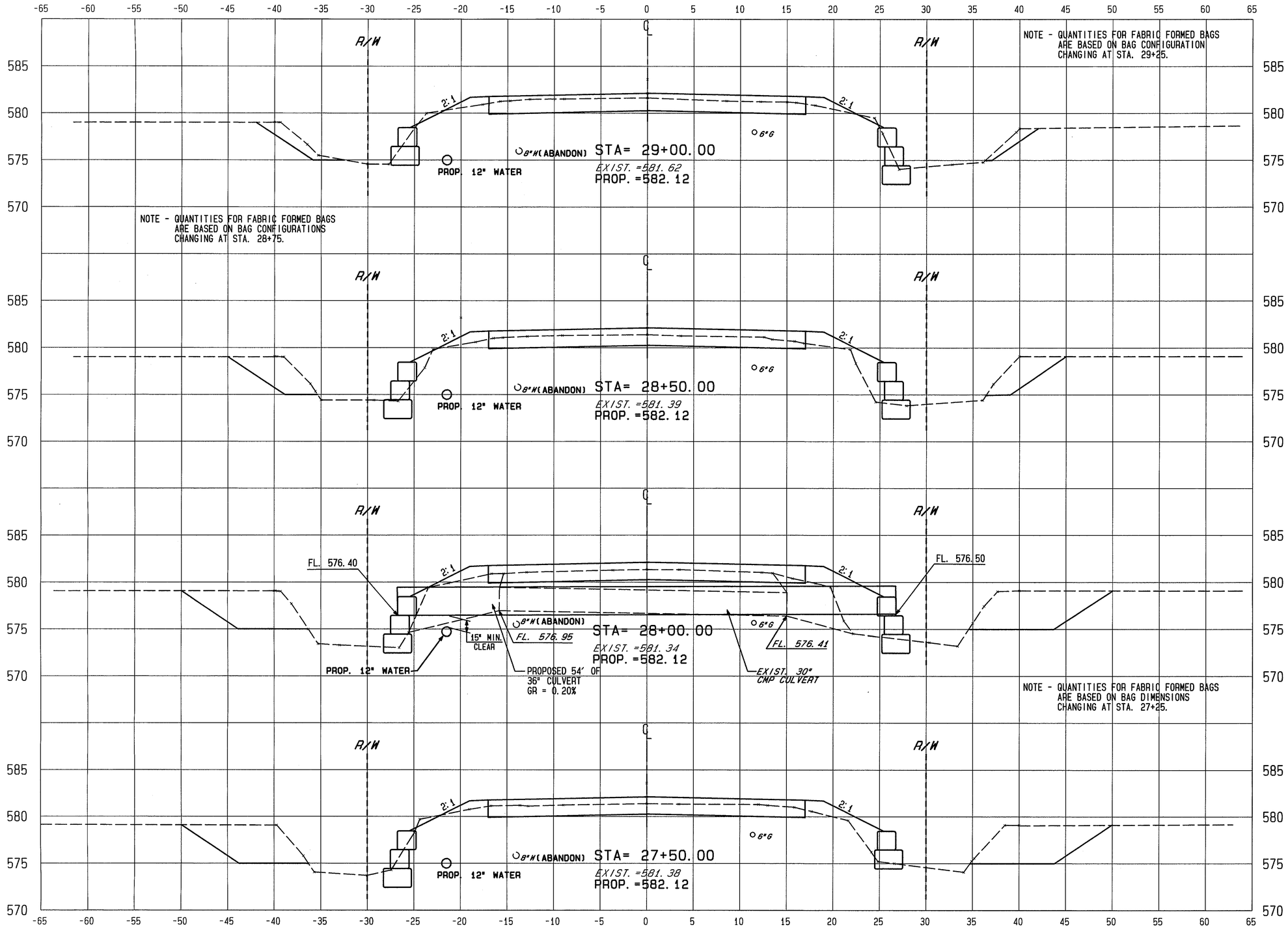
CROSS SECTIONS

STA. 25+50 TO STA. 27+00

SCALES
HOR. 1" = 5'
VERT.

CONTRACT No. 8929621

SHEET NO. 32 OF 51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

89296 FRI 05/21/93 08:33 AM JACK FILES: X14.PLT

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

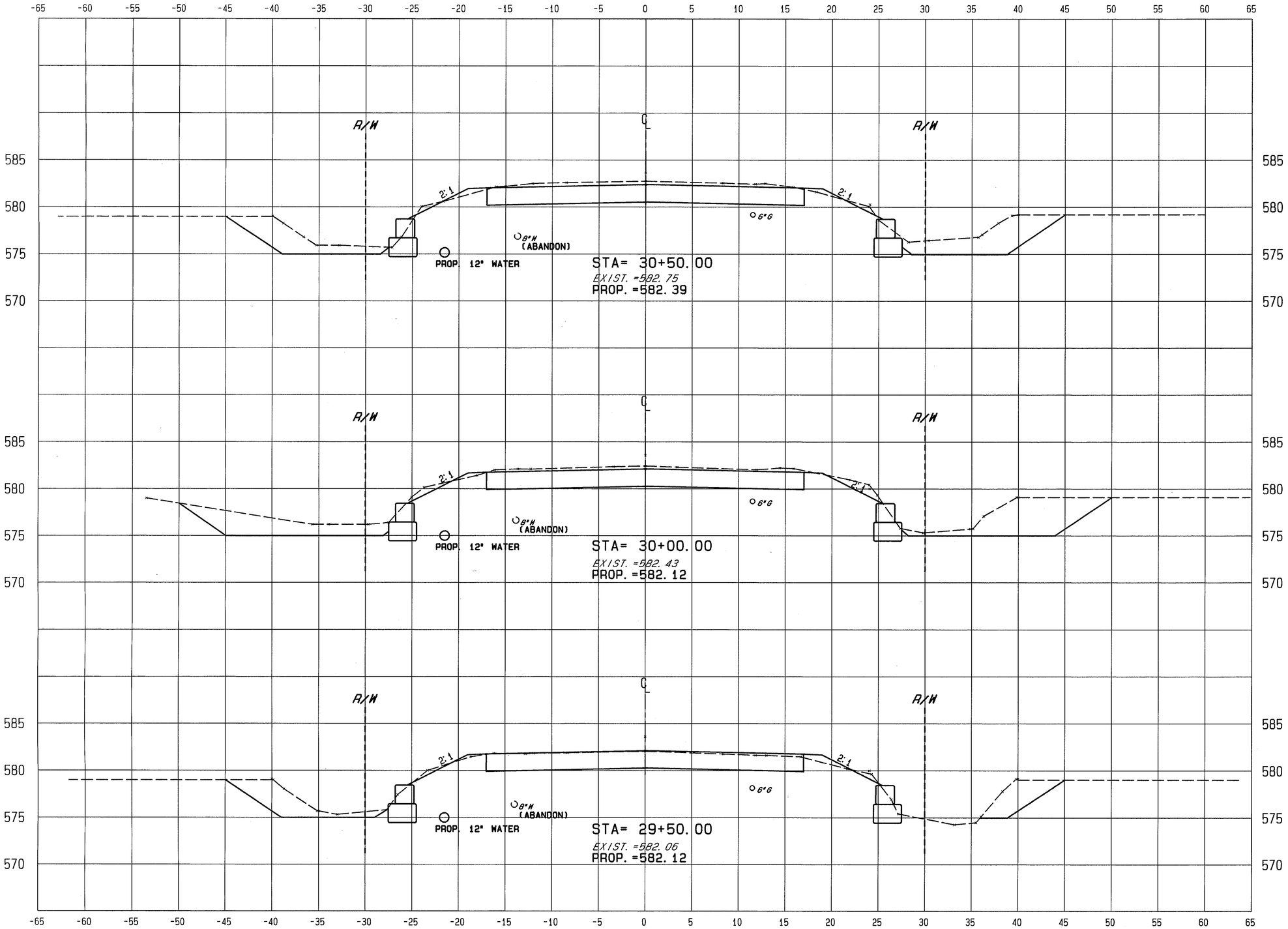
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. ____ PG. ____

CROSS SECTIONS

STA. 27+50 TO STA. 29+00

SCALES
HOR. 1" = 5'
VERT.
CONTRACT No. 8929621
SHEET NO. 33 OF 51



END AREA SQ. YDS.		VOLUME CU. YDS.	
CUT	FILL	CUT	FILL

89296 FRI 05/21/93 08:33 AM JACK FILES: X15.PLT

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

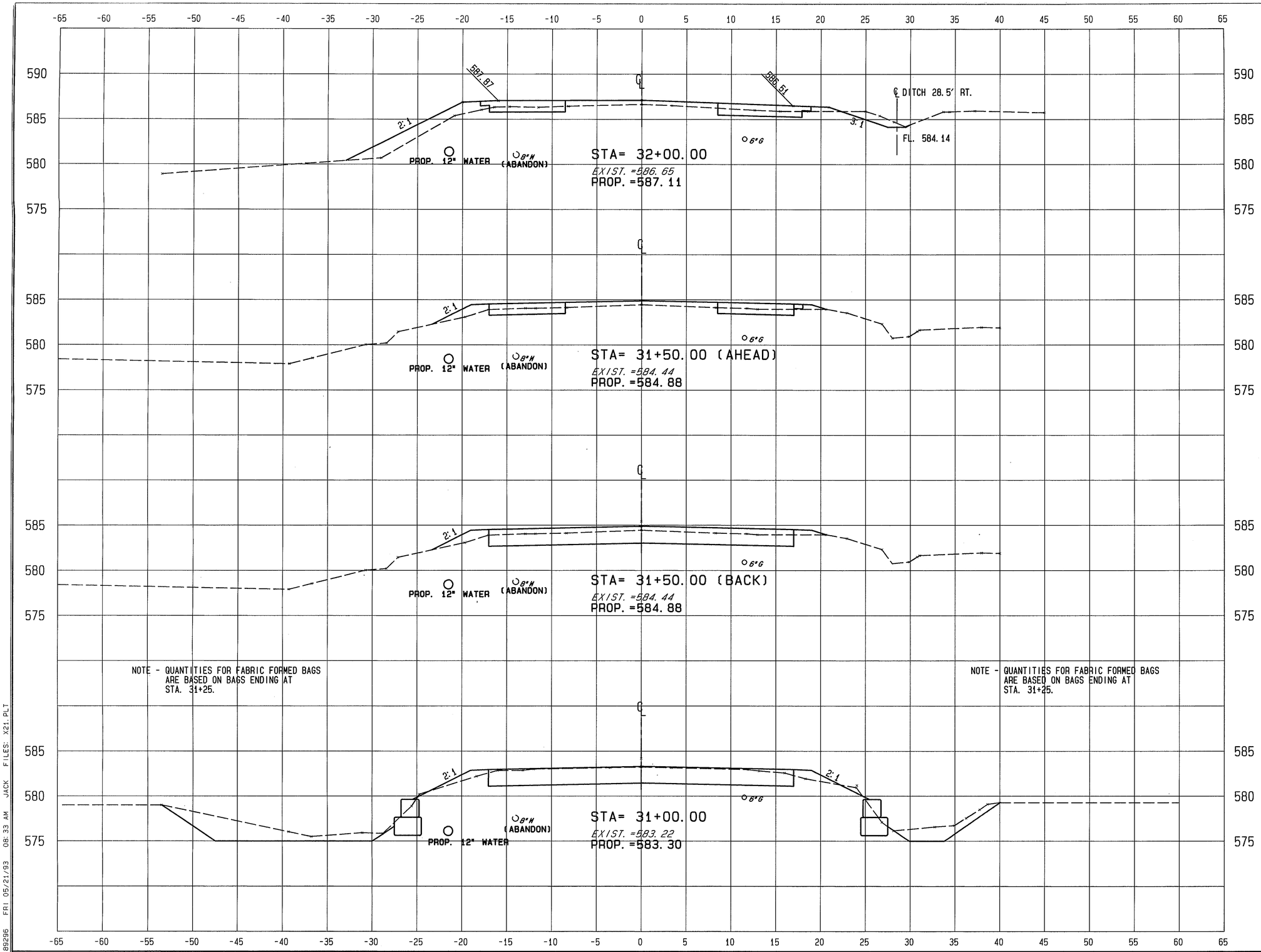
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F.B. No. PG.

CROSS SECTIONS

STA. 29+50 TO STA. 30+50

SCALES
HOR. 1" = 5'
VERT.
CONTRACT No. 8929621
SHEET NO. 34 OF 51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

89296 FRI 05/21/93 08:33 AM JACK FILES: X21.PLT

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Willoughby · Mentor · Columbus · Lorain · North Canton · Youngstown

REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY, 1993
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F.B. No. ____ PG. ____

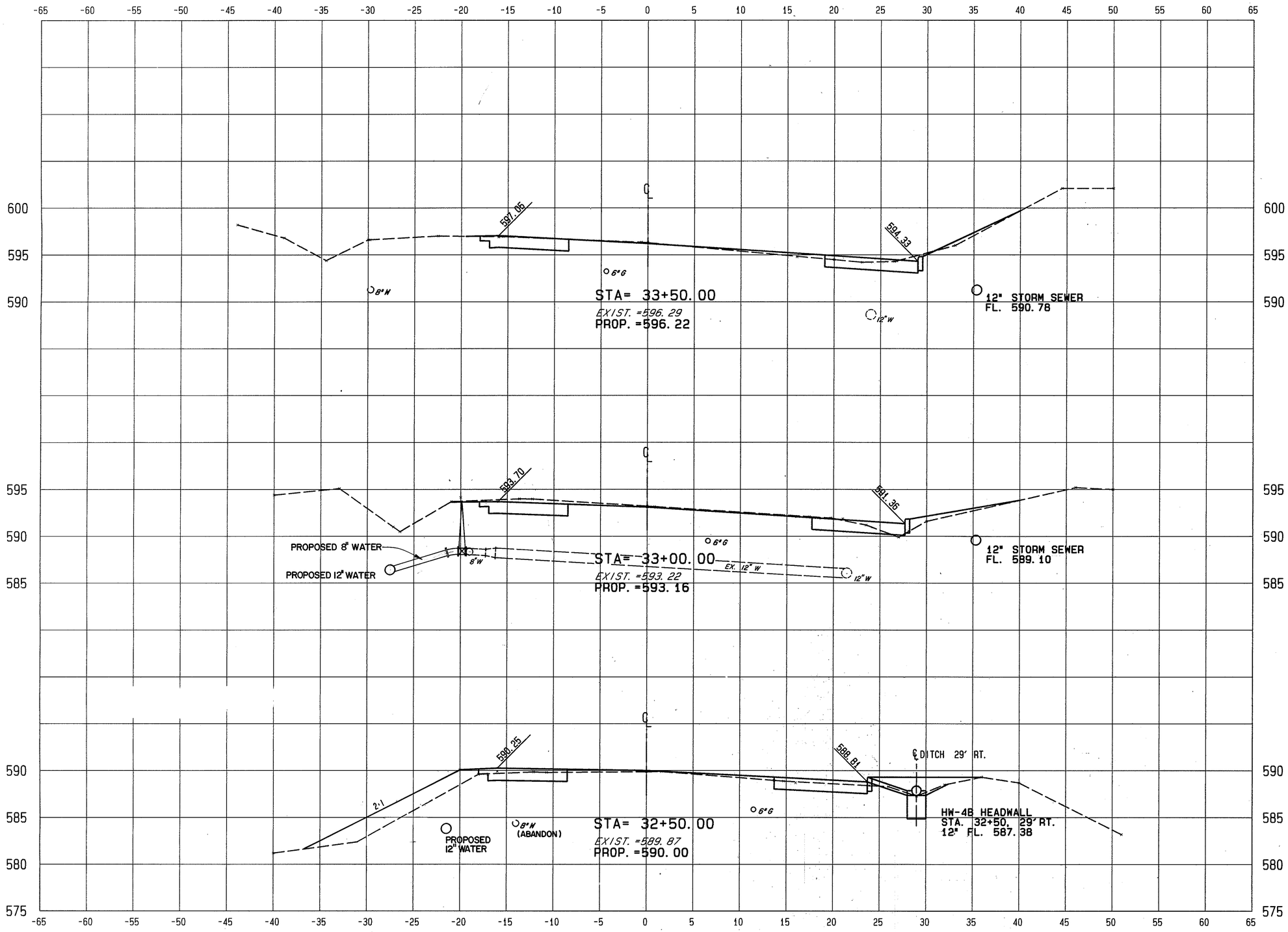
CROSS SECTIONS

STA. 31+00 TO STA. 32+00

SCALES
HOR. 1" = 5'
VERT.

CONTRACT No. 8929621

SHEET NO. 35 OF 51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS

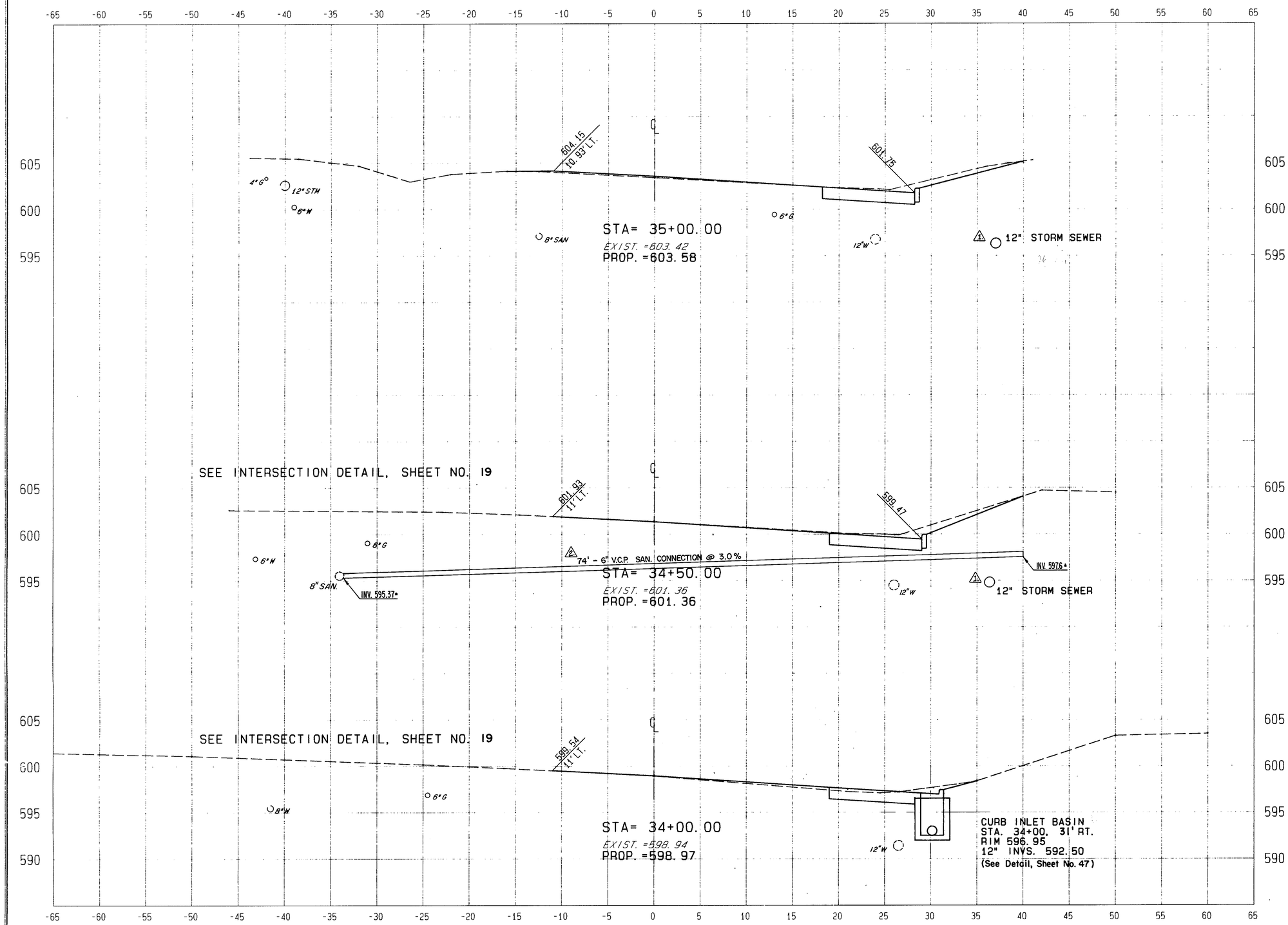
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

CROSS SECTIONS

STA. 32+50 TO STA. 33+50

SCALES	
HOR.	1" = 5'
VERT.	
CONTRACT No.	
8929621	
SHEET NO.	OF
36	51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

CT Consultants, Inc.
Engineers · Architects · Planners
Willoughby · Mentor · Columbus · Lorain North Canton · Youngstown

REV. NO.	DESCRIPTION	DATE	BY	CHECKED
1	LOWER 12" STORM SEWER	8/27/93	JC	
2	ADD 74'-6" SAN. CONNECTION	8/27/93	JC	

CORDUROY ROAD IMPROVEMENTS

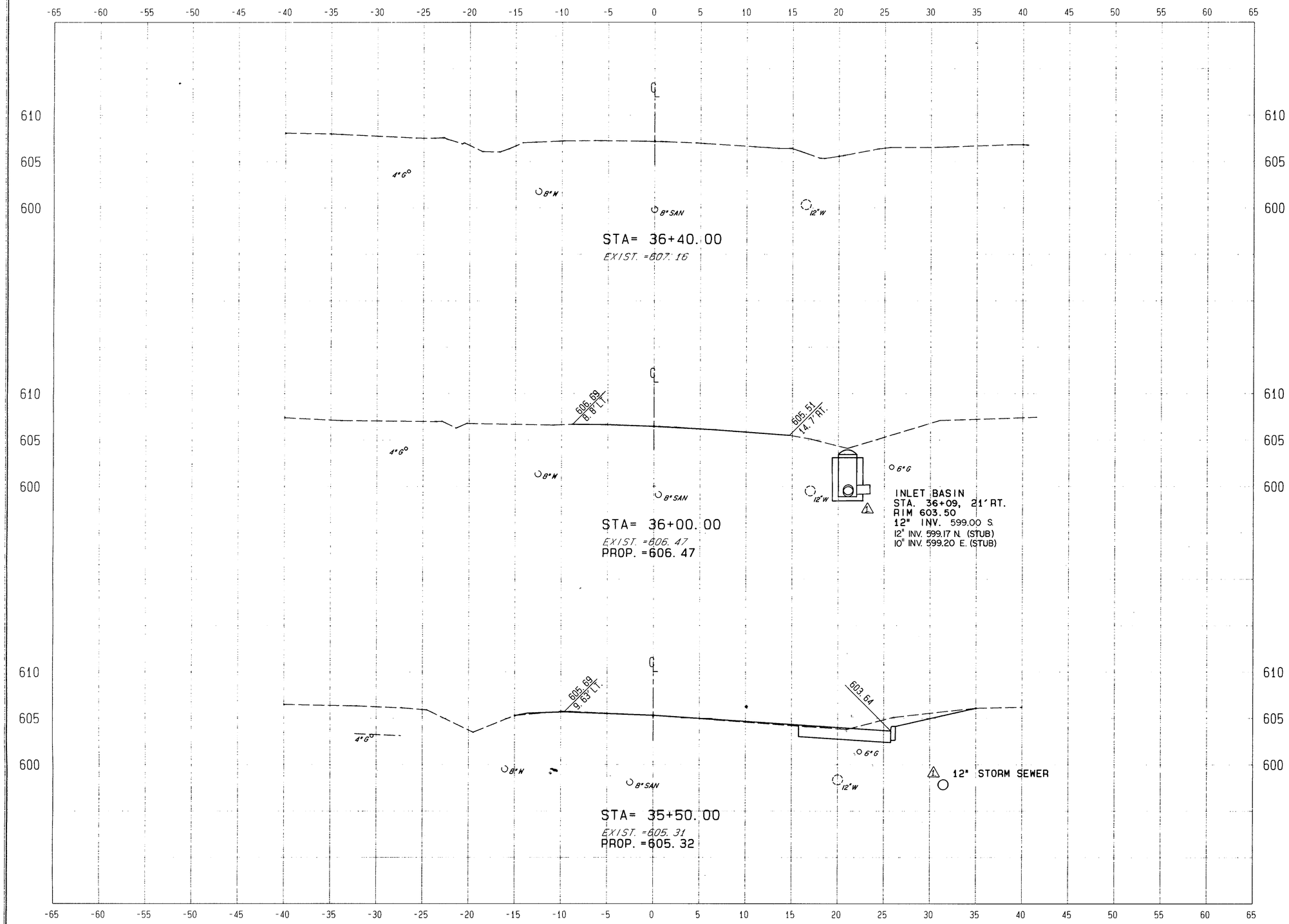
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

CROSS SECTIONS

STA. 34+00 TO STA. 35+00

SCALES
HOR. 1" = 5'
VERT.
CONTRACT No. 8929621
SHEET NO. 37 OF 51



END AREA		VOLUME	
SQ. YDS.		CU. YDS.	
CUT	FILL	CUT	FILL

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REV. NO.	DESCRIPTION	DATE	BY	CHECKED
1	LOWER 12" STORM & INLET BASIN; ADD STUBS	8/27/93	JC	

CORDUROY ROAD IMPROVEMENTS

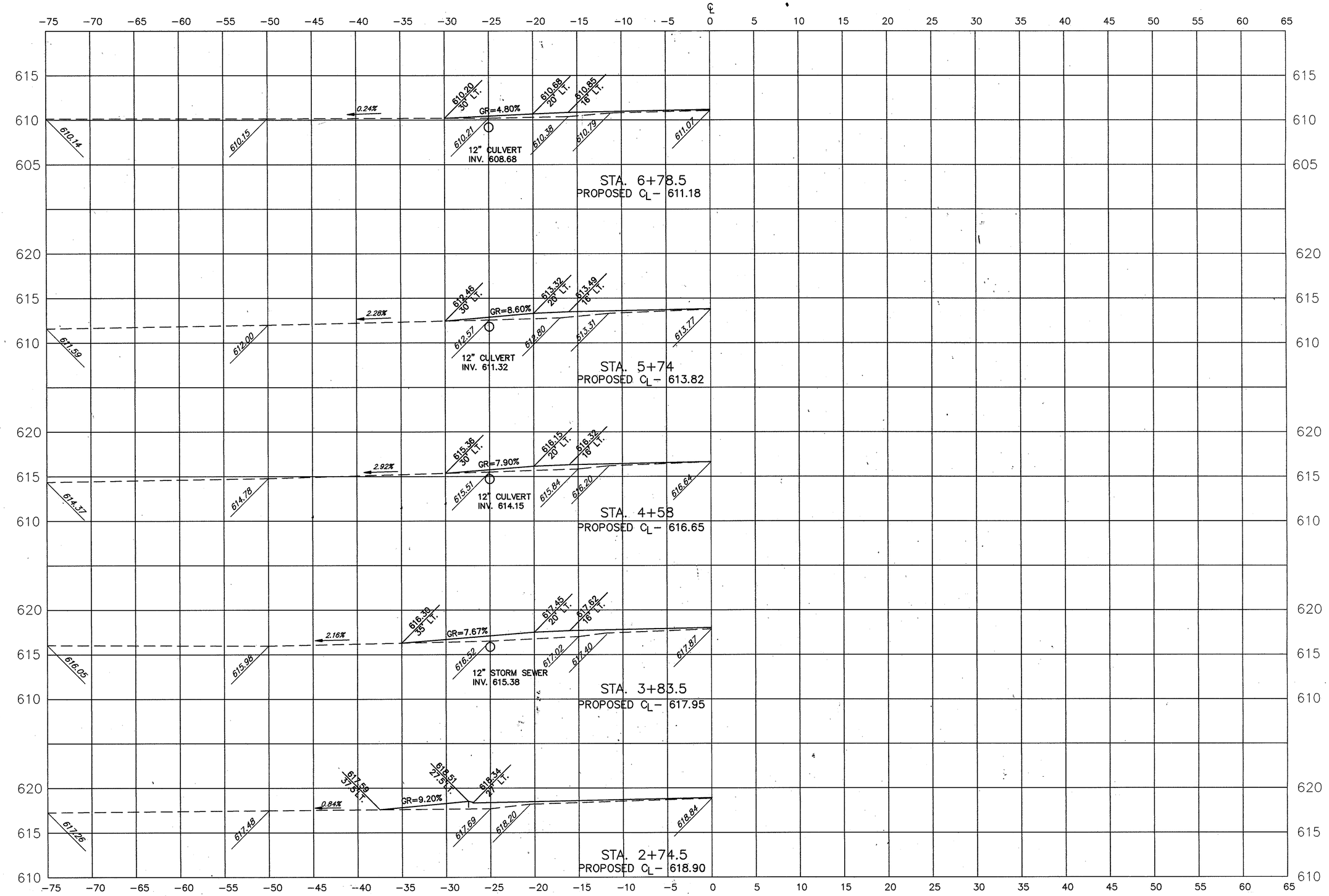
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J. J. C.
CHECKED BY: C. C. H.
APPROVED BY:
F. B. No. PG.

CROSS SECTIONS

STA. 35+50 TO STA. 37+00

SCALES	
HOR.	1" = 5'
VERT.	
CONTRACT No.	
8929621	
SHEET NO.	OF
38	51



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Willoughby • Mentor • North Canton • Steubenville • Lorain

REV. NO.	DESCRIPTION	DATE	BY	CHK'D.

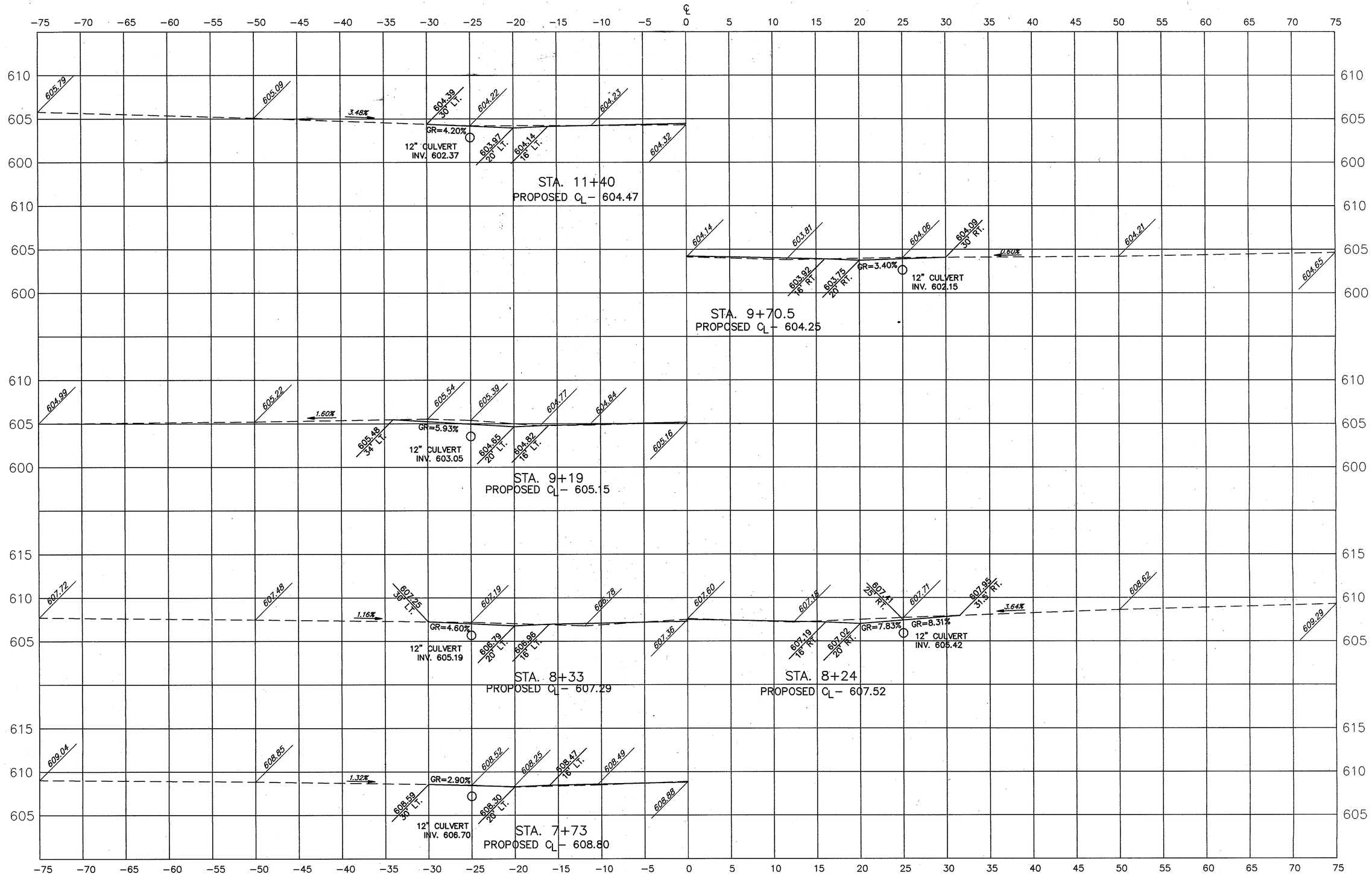
CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

DRIVE PROFILES

SCALES:
HOR. 1"=5'
VERT. 1"=5'
CONTRACT No. 8929621
SHEET NO. 39 OF 51



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REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

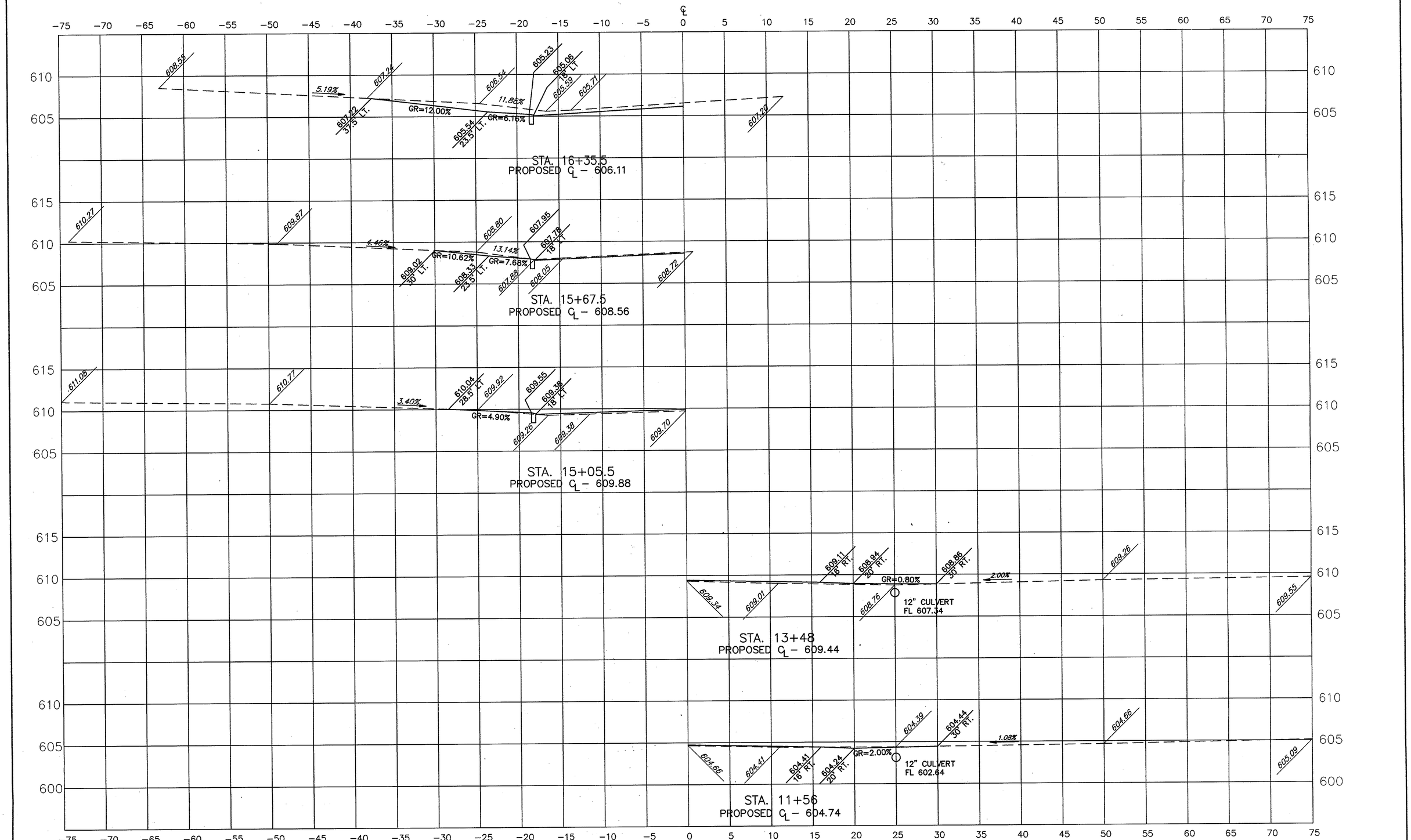
CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

DRIVE PROFILES

SCALES:
HOR. 1"=5'
VERT. 1"=5'
CONTRACT No. 8929621
SHEET NO. 40 OF 51



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REV. NO.	DESCRIPTION	DATE	BY	CHK'D.

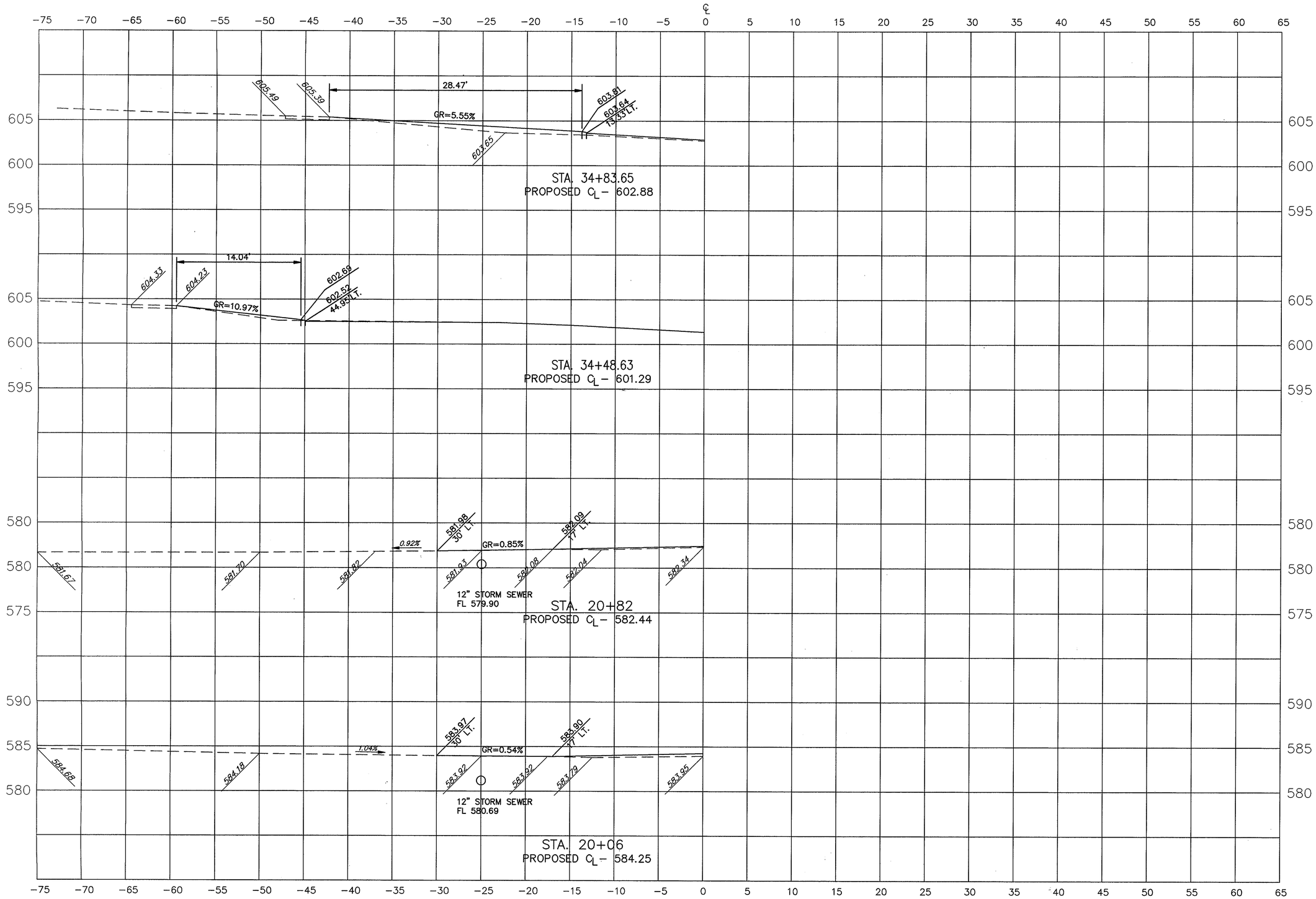
CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

DRIVE PROFILES

SCALES:
HOR. 1"=5'
VERT. 1"=5'
CONTRACT No. 8929621
SHEET NO. 41 OF 51



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REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

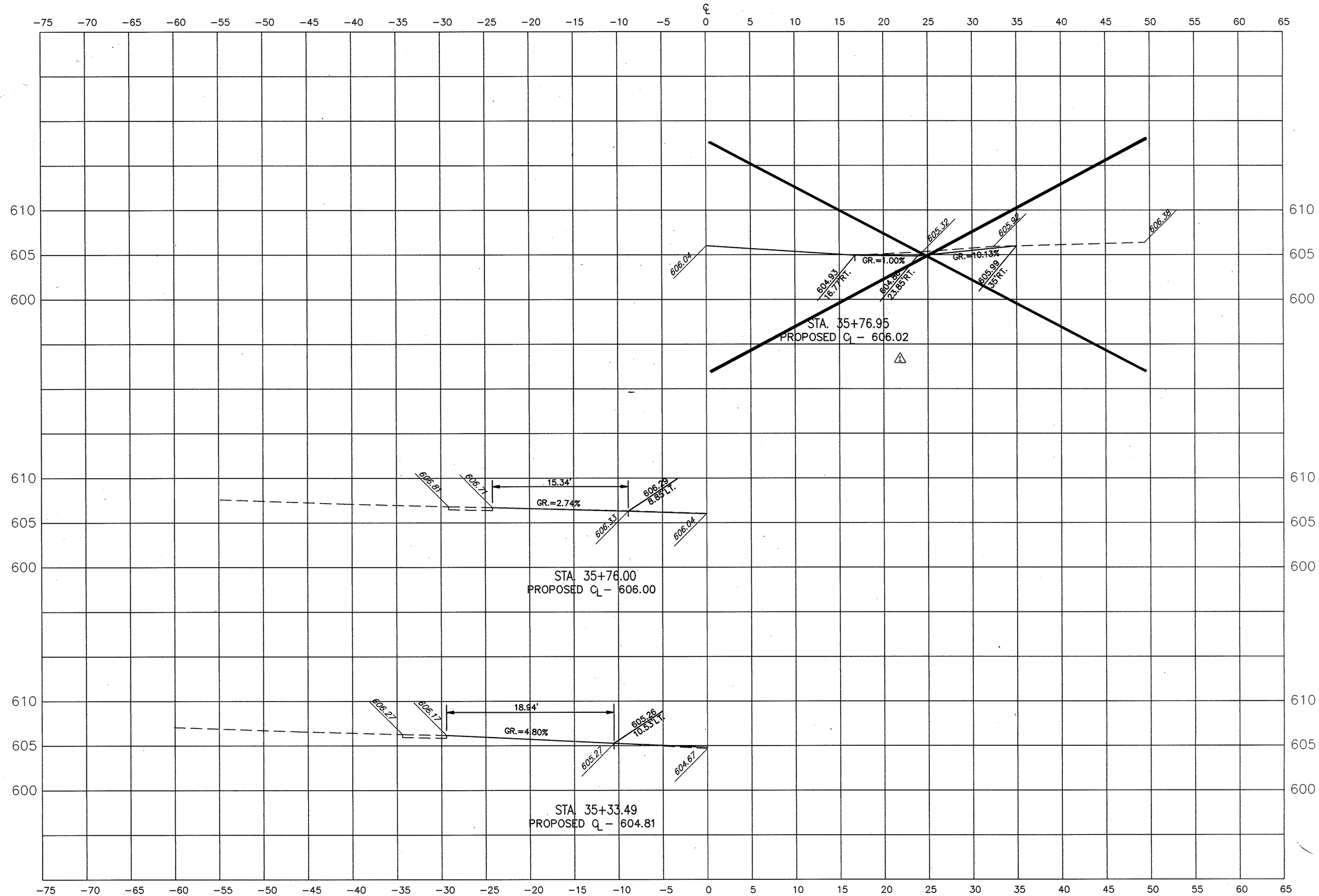
CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

DRIVE PROFILES

SCALES:
HOR. 1"=5'
VERT. 1"=5'
CONTRACT No. 8929621
SHEET NO. 42 OF 51



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Willoughby • Mentor • North Canton • Steubenville • Lorain

REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
1	REVISE TO REMOVE DRIVE @ 35+76.95, RT.	9/17/93	JC	CCH

CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: AUG., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

DRIVE PROFILES

SCALES:
HOR. 1"=5'
VERT. 1"=5'
CONTRACT No. 8929621
SHEET NO. 43 OF 51

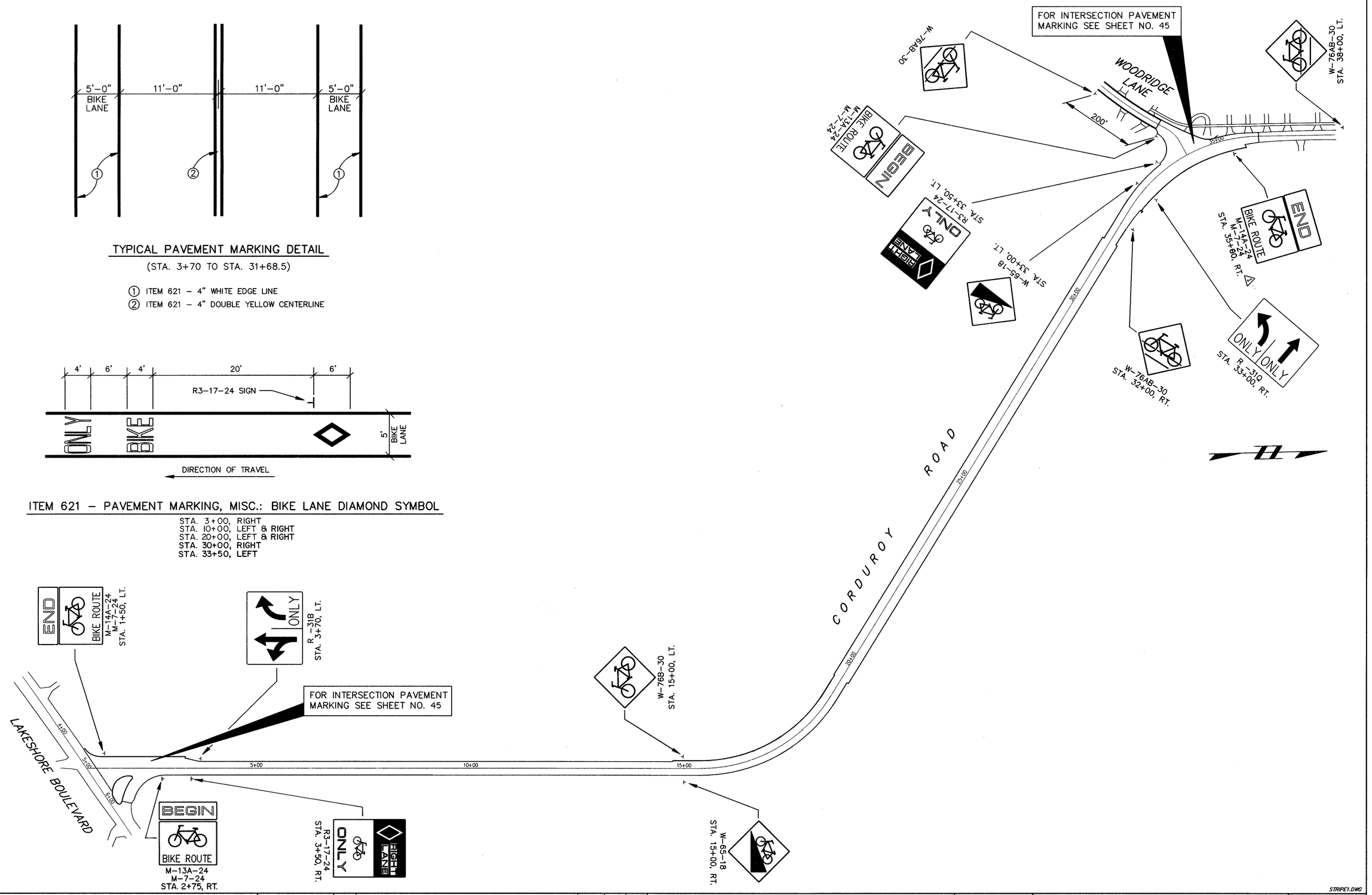
TYPICAL PAVEMENT MARKING DETAIL

(STA. 3+70 TO STA. 31+68.5)

① ITEM 621 – 4" WHITE EDGE LINE
② ITEM 621 – 4" DOUBLE YELLOW CENTERLINE

ITEM 621 – PAVEMENT MARKING, MISC.: BIKE LANE DIAMOND SYMBOL

STA. 3+00, RIGHT
STA. 10+00, LEFT & RIGHT
STA. 20+00, LEFT & RIGHT
STA. 30+00, RIGHT
STA. 33+50, LEFT



STRIPE1.DWG

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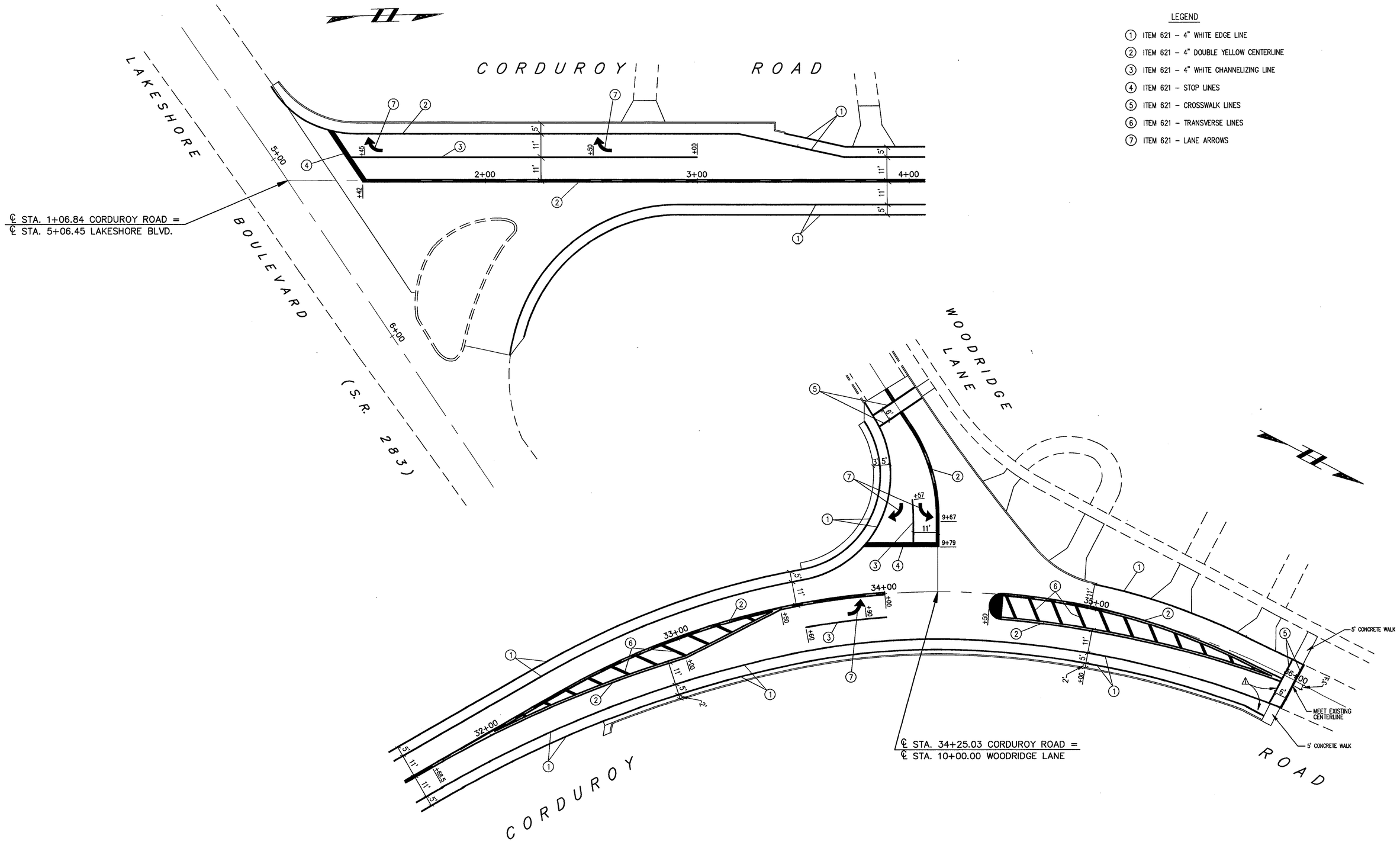
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
1	REVISE LOCATION OF SIGN TO STA. 33+60, RT.	9/17/93	JC	CCH

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: OCT., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

PAVEMENT MARKING AND SIGNING PLAN

SCALES:
HOR. 1"=100'
VERT.
CONTRACT No. 8929621
SHEET NO. 44 OF 51



STRIPE2.DWG

CT Consultants, Inc.
Engineers • Architects • Planners
Willoughby • Mentor • North Canton • Steubenville • Lorain

REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.
1	REVISE STRIPING @ NORTH END OF WORK	9/17/93	J.J.C.	C.C.H.

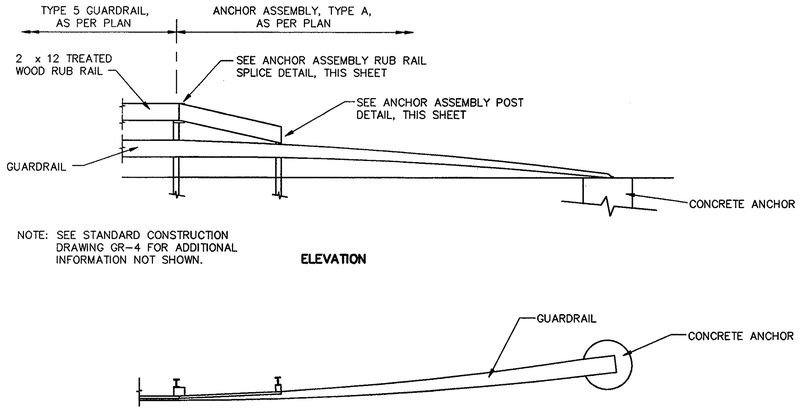
CORDUROY ROAD IMPROVEMENTS

CITY OF MENTOR, LAKE COUNTY, OHIO

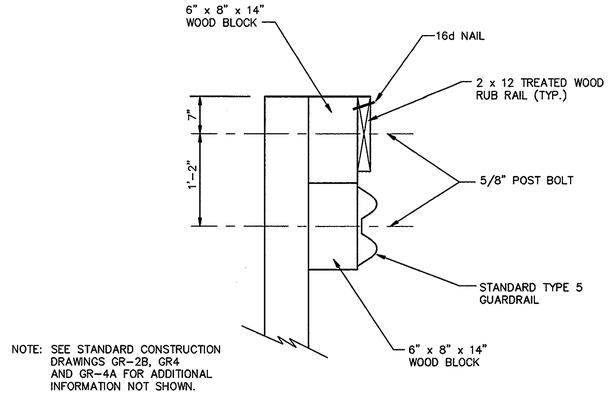
DATE: OCT., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

INTERSECTION PAVEMENT MARKING PLAN

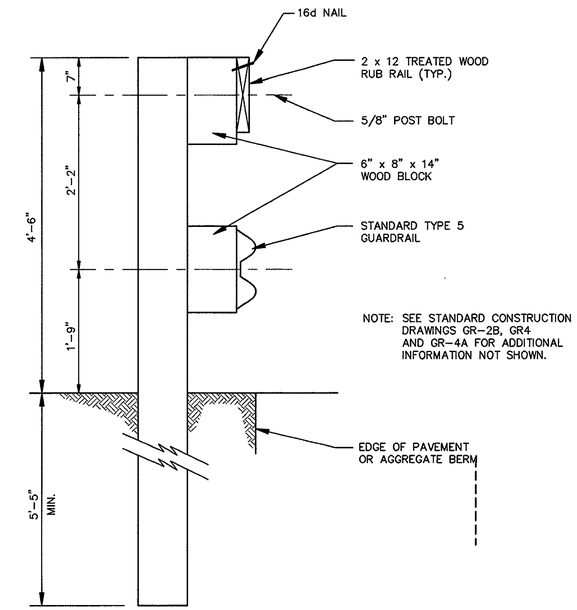
SCALES:
HOR. 1"=20'
VERT.
CONTRACT No. 8929621
SHEET NO. 45 OF 51



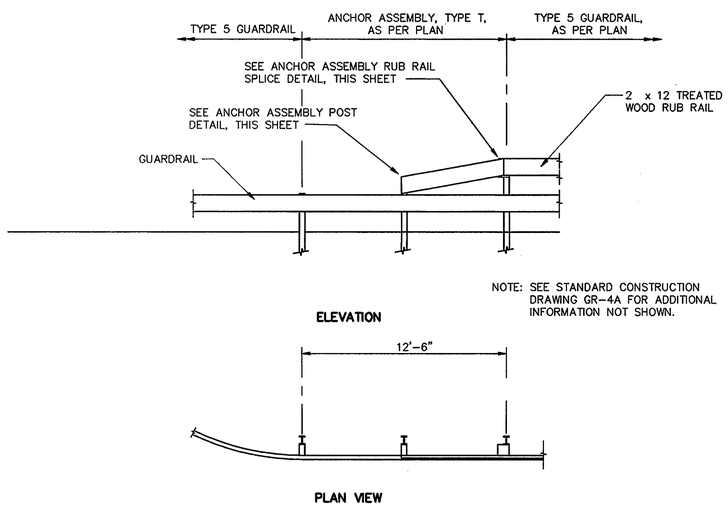
ITEM 606 – ANCHOR ASSEMBLY, TYPE A, AS PER PLAN



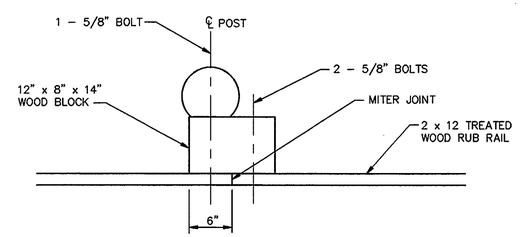
ANCHOR ASSEMBLY POST DETAIL



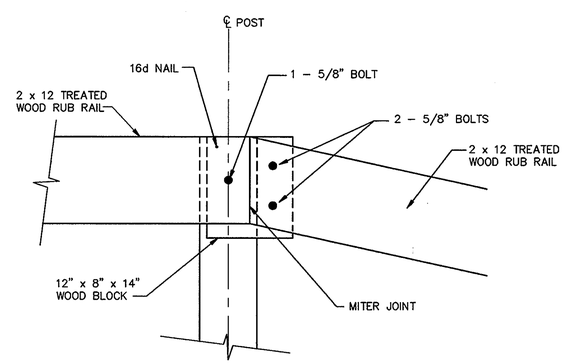
ITEM 606 – GUARDRAIL, TYPE 5, AS PER PLAN
TYPICAL POST & RUB RAIL DETAIL



ITEM 606 – ANCHOR ASSEMBLY, TYPE T, AS PER PLAN

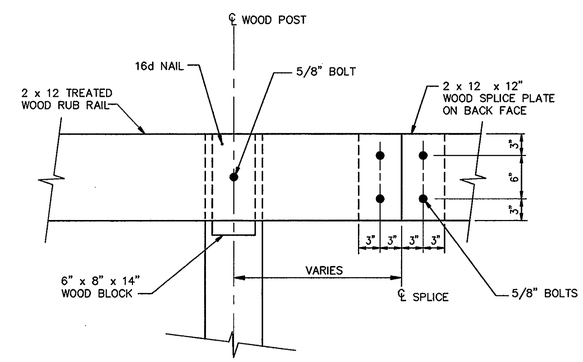


PLAN VIEW



ELEVATION

ANCHOR ASSEMBLY RUB RAIL SPLICE DETAIL



TYPICAL RUB RAIL SPLICE DETAIL

CT Consultants, Inc.
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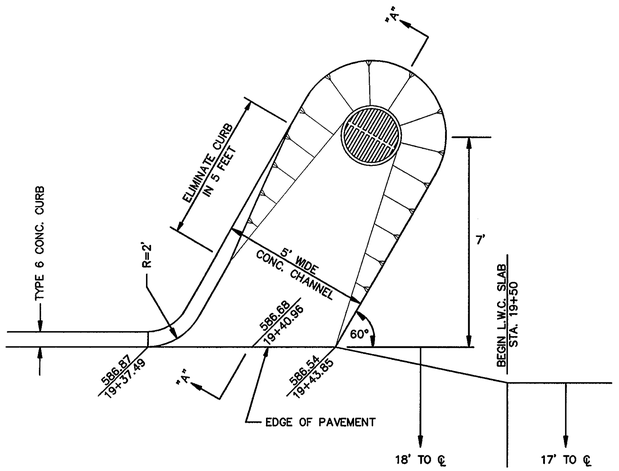
REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

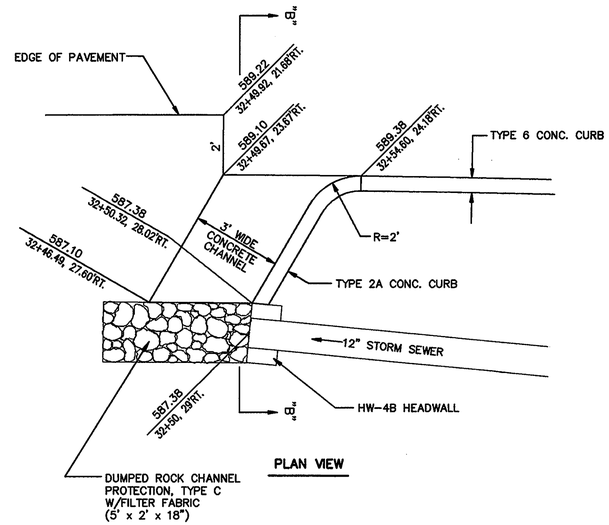
DATE: MAY, 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

GUARDRAIL DETAILS

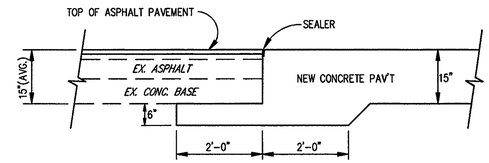
REVGRDET.DWG
SCALES:
HOR. NO SCALE
VERT.
CONTRACT No. 8929621
SHEET NO. 46 OF 51



PLAN VIEW

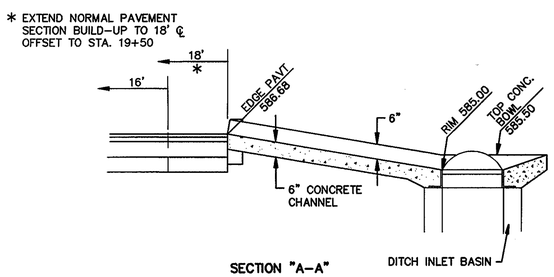


PLAN VIEW



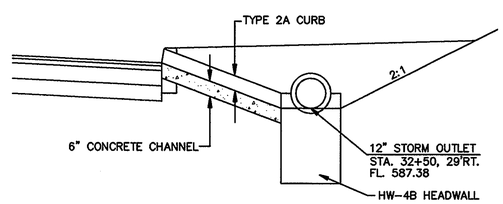
BUTT JOINT DETAIL

STA. 19+50 & STA. 31+50



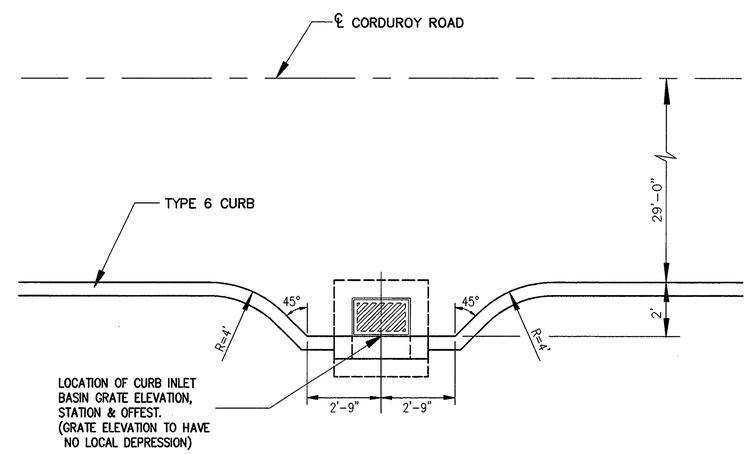
SECTION "A-A"

INLET BASIN – STA. 19+45, 25' LT.



SECTION "A-A"

STORM OUTLET – STA. 32+50, 29' RT.



PLAN VIEW

CURB INLET BASIN DETAIL – STA. 34+00, 31' RT.

IBDET.DWG

CT Consultants, Inc.
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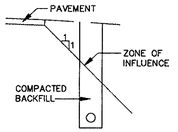
REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

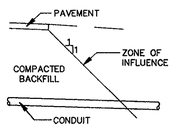
DATE: MAY, 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

MISCELLANEOUS DETAILS

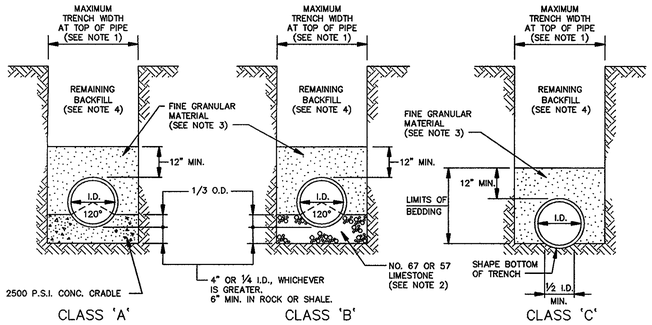
SCALES:
HOR. NO SCALE
VERT.
CONTRACT No. 8929621
SHEET NO. 47 OF 51



PARALLEL
ZONE OF INFLUENCE



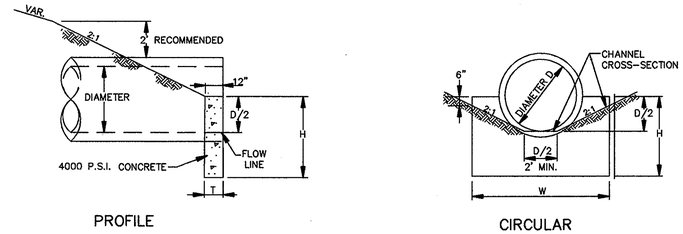
TRANSVERSE
ZONE OF INFLUENCE



NOTES:

1. MAXIMUM TRENCH AT TOP OF PIPE SHALL BE O.D.+ 24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D.; O.D.+ 30" FOR PIPE LARGER THAN 24" I.D. TO 66" I.D.; AND O.D.+ 48" FOR PIPE SIZES 72" AND OVER.
2. PIPE BEDDING SHALL BE NO. 67 OR NO. 57 LIMESTONE.
3. BACKFILL UNDER PAVEMENT AND STRUCTURES OR WITHIN A 1:1 ZONE OF INFLUENCE PARALLEL OR TRANSVERSE TO PAVEMENT OR STRUCTURES SHALL BE NO. 67 OR NO. 57 LIMESTONE TO 12" ABOVE TOP OF PIPE. IN AREAS OUTSIDE THE ZONE OF INFLUENCE, SELECT FRIABLE ON SITE MATERIAL APPROVED BY THE ENGINNER MAY BE USED FOR REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. O.D.O.T. ITEM 310 GRAVEL OR NO. 57 STONE SHALL BE USED FOR VITRIFIED CLAY PIPE AND POLYETHYLENE PLASTIC PIPE. ALL PIPE BACKFILL SHALL BE TAMPED IN 4" LIFTS COMPACTED TO 98% OF STANDARD PROCTOR DENSITY.
4. REMAINING BACKFILL UNDER PAVEMENT AND STRUCTURES OR WITHIN A 1:1 ZONE OF INFLUENCE PARALLEL OR TRANSVERSE TO PAVEMENT AND STRUCTURES SHALL BE O.D.O.T. ITEM 304 LIMESTONE OR O.D.O.T. ITEM 310 GRAVEL TO TOP OF TRENCH. IN AREAS OUTSIDE THE ZONE OF INFLUENCE, SELECT ON SITE MATERIAL APPROVED BY THE ENGINEER MAY BE USED. ALL TRENCH BACKFILL SHALL BE TAMPED IN 4" LIFTS COMPACTED TO 98% OF STANDARD PROCTOR DENSITY.
5. ALL BEDDING SHALL BE CLASS 'B' UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. CLASS 'A' BEDDING SHALL BE USED FOR ALL RCP, POLYETHYLENE PLASTIC AND VCP PIPE UNDER PAVED AREAS WITH LESS THAN 18" COVER TO PAVEMENT SUBGRADE.
6. WATERLINE BEDDING SHALL BE CLASS 'C'.
7. SLAG SHALL NOT BE USED.
8. CLAY DAMS SHALL BE REQUIRED WHEN AND WHERE NECESSARY PER PLAN OR AS DIRECTED BY THE ENGINEER.

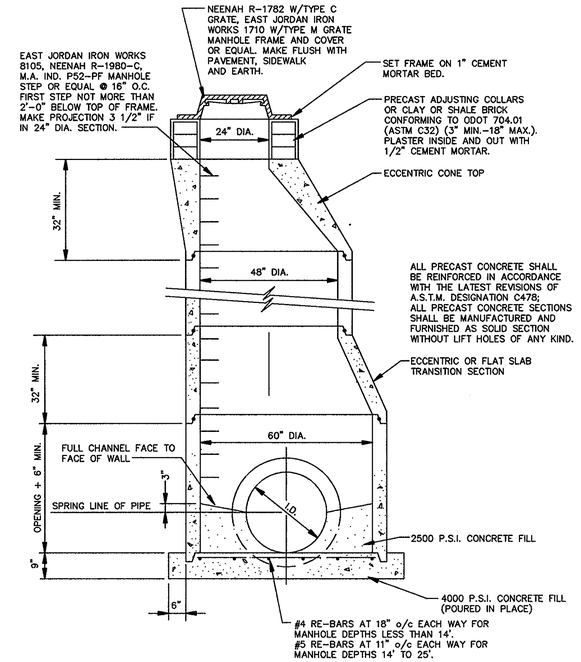
TRENCH & BEDDING DETAILS
(CITY OF MENTOR)



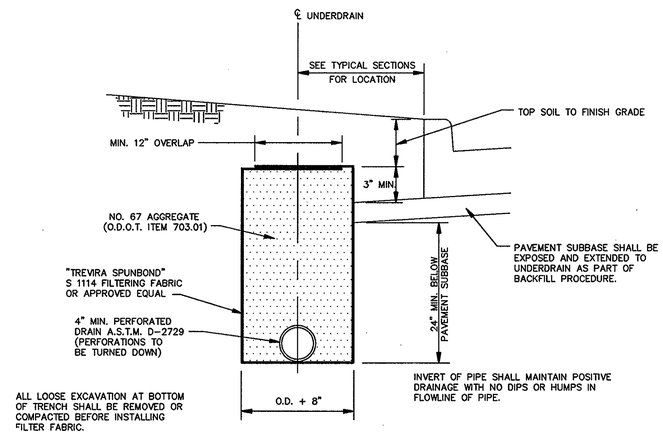
NOTE: CHAMFER ALL EXPOSED CORNERS ¾ OF AN INCH.

CIRCULAR PIPE	DIMENSIONS			ESTIMATED QUANTITY
D	W	H	T	CONC. CU. YDS.
12"	2'-0"	3'-0"	12"	0.20
30"	5'-0"	3'-9"	12"	0.56

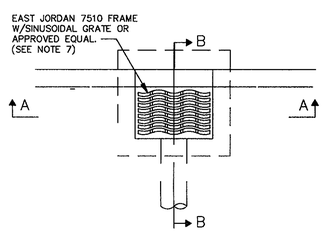
HW-4B HEADWALL DETAIL



STORM MANHOLE DETAIL



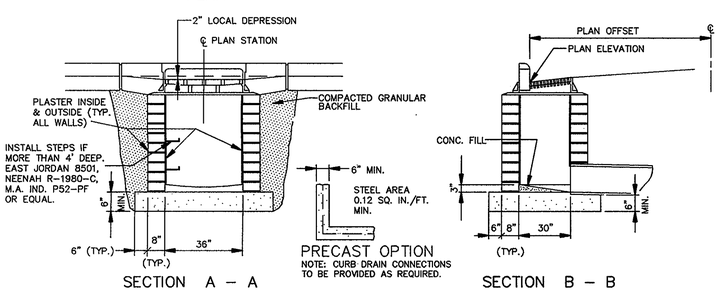
UNDERDRAIN DETAIL



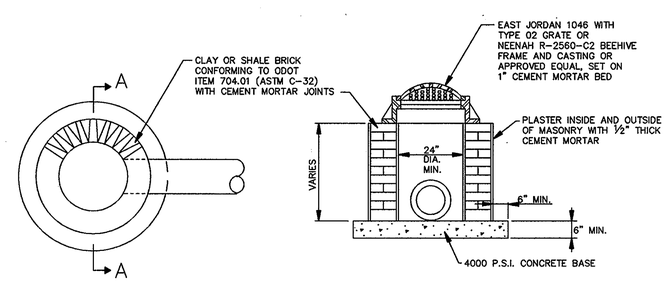
PLAN

GENERAL NOTES:

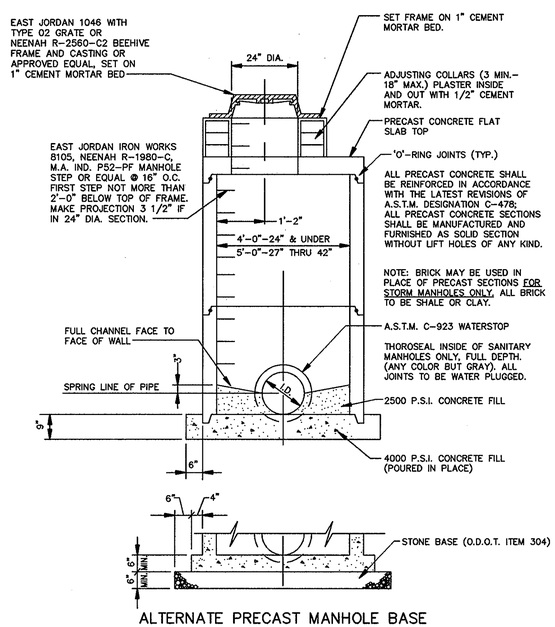
1.) ALL WORK TO CONFORM TO O.D.O.T. ITEM 604.
2.) ALL BRICK SHALL BE CLAY OR SHALE BRICK CONFORMING TO O.D.O.T. ITEM 704.01 (A.S.T.M. C32), UNLESS APPROVED IN WRITING BY THE ENGINEER.
3.) IF PRECAST UNITS ARE USED, THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL. PRECAST UNITS SHALL CONFORM TO O.D.O.T. ITEM 706.13.
4.) PAVEMENT CONCRETE WITHIN BOXOUT SHALL CONFORM TO O.D.O.T. 499, CLASS S 5000 P.S.I. WITH RETARDER. CONCRETE FOR BASE SHALL BE 4000 P.S.I.
5.) THE ENTIRE AREA AROUND THE BASIN SHALL BE BACKFILLED WITH O.D.O.T. ITEM 310.02, MECHANICALLY COMPACTED IN 4" LIFTS.
6.) PRECAST UNITS SHALL BE SET ON 6" STONE BASE.
7.) FOR STEEP SLOPE CONDITIONS USE EAST JORDAN 7030 FRAME WITH TYPE M6 GRATE.



CURB INLET BASIN



DITCH INLET BASIN



ALTERNATE PRECAST MANHOLE BASE

SHALLOW INLET MANHOLE DETAIL

STMDET.DWG

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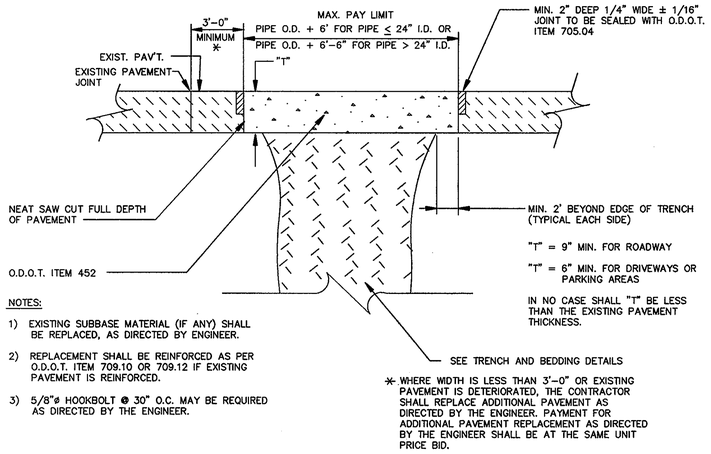
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: JULY, 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

MISCELLANEOUS DETAILS

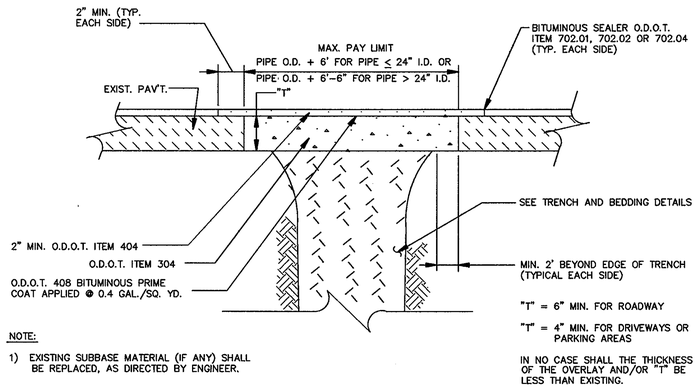
SCALES:
HOR. NO SCALE
VERT.
CONTRACT No. 8929621
SHEET NO. 48 OF 51



NOTES:

1) EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.
2) REPLACEMENT SHALL BE REINFORCED AS PER O.D.O.T. ITEM 709.10 OR 709.12 IF EXISTING PAVEMENT IS REINFORCED.
3) 5/8"ø HOOKBOLT @ 30" O.C. MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

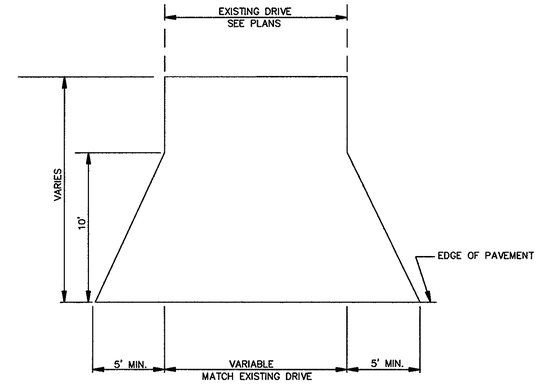
TYPE A PAVEMENT REPLACEMENT



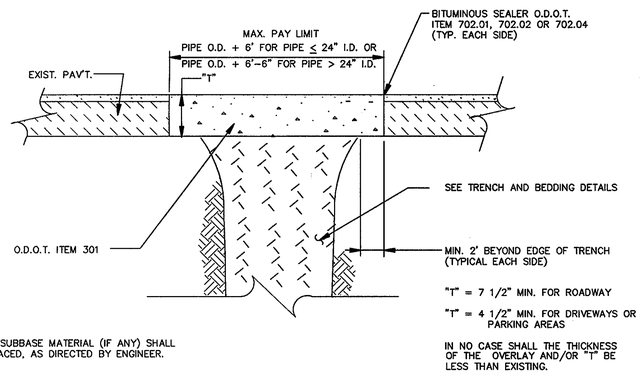
NOTE:

1) EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.

TYPE D PAVEMENT REPLACEMENT



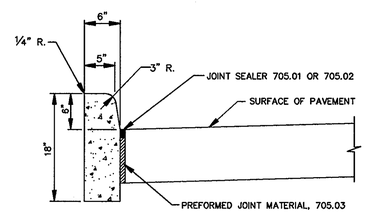
TYPICAL DRIVEWAY APRON



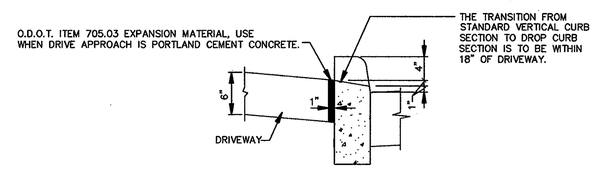
NOTE:

1) EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.

TYPE C PAVEMENT REPLACEMENT



TYPE 6 CONCRETE CURB



DROP CURB AT DRIVEWAY DETAIL

PAVDET.DWG

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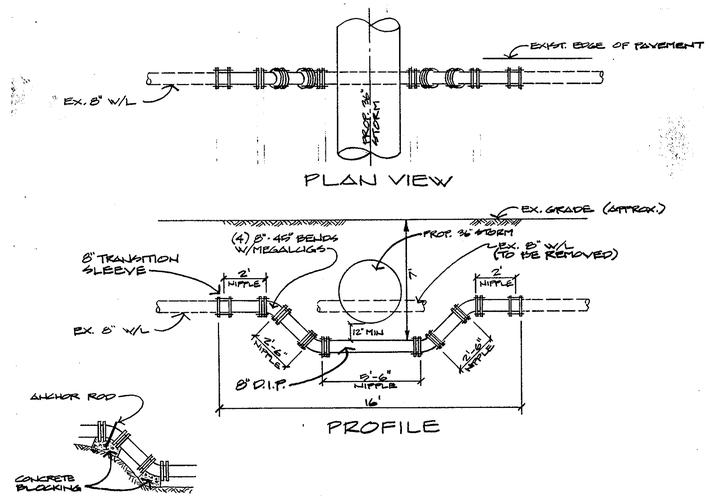
REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: SEPT., 1992
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

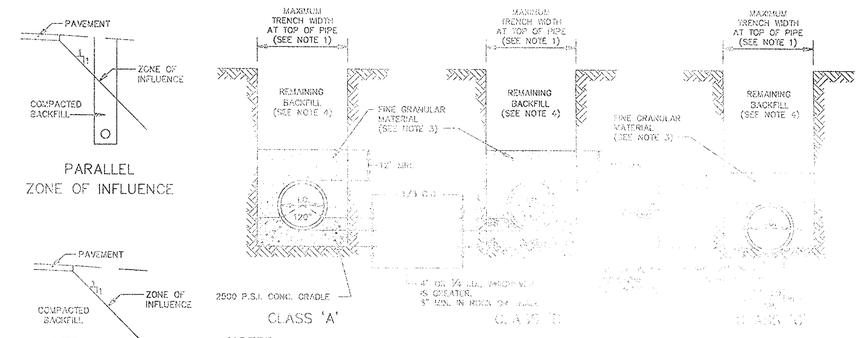
MISCELLANEOUS DETAILS

SCALES:
HOR. NO SCALE
VERT.
CONTRACT No. 8929621
SHEET NO. 49 OF 51



WATER MAIN LOWERING DETAIL

NO SCALE



NOTES:

1. MAXIMUM TRENCH AT TOP OF PIPE SHALL BE O.D.+ 24" FOR ALL PIPES [illegible] AND [illegible] FOR PIPE LARGER THAN 24" I.D. TO 66" I.D.; AND O.D.+ 48" FOR PIPE SIZES 72" AND OVER.
2. PIPE BEDDING SHALL BE NO. 67 OR NO. 57 LIMESTONE.
3. PIPE BACKFILL UNDER PAVEMENT AND STRUCTURES OR WITHIN A [illegible] ZONE OF INFLUENCE PARALLEL OR TRANSVERSE TO PAVEMENT OR STRUCTURES SHALL BE NO. 67 OR NO. 57 LIMESTONE TO 12" ABOVE TOP OF PIPE. [illegible] ZONE OF INFLUENCE, SELECT FRIABLE ON SITE MATERIAL APPROVED BY THE ENGINEER MAY BE USED FOR REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. O.D.O.T. ITEM 310 GRAVEL OR NO. 57 STONE SHALL BE USED FOR VITRIFIED CLAY PIPE AND [illegible] PIPE BACKFILL SHALL BE TAMPED IN 4" LIFTS COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.
4. REMAINING BACKFILL UNDER PAVEMENT AND STRUCTURES OR WITHIN A [illegible] ZONE OF INFLUENCE PARALLEL OR TRANSVERSE TO PAVEMENT AND STRUCTURES SHALL BE O.D.O.T. ITEM 304 LIMESTONE OR O.D.O.T. ITEM 310 GRAVEL OR NO. 57 GRADE. [illegible] MATERIAL OUTSIDE THE ZONE OF INFLUENCE, SELECT ON SITE MATERIAL APPROVED BY THE ENGINEER [illegible] BE TAMPED IN 4" LIFTS COMPACTED TO 98% OF STANDARD PROCTOR DENSITY.
5. ALL BEDDING SHALL BE CLASS 'B' UNLESS OTHERWISE NOTED ON THE PLANS OR [illegible] CLASS 'A' BEDDING SHALL BE USED FOR ALL RCP, POLYETHYLENE PLASTIC AND VCP PIPE UNDER [illegible] PAVEMENT SUBGRADE.
6. WATERLINE BEDDING SHALL BE CLASS 'C'.
7. SLAG SHALL NOT BE USED.
8. CLAY DAMS SHALL BE REQUIRED WHEN AND WHERE NECESSARY PER PLAN OR AS DIRECTED BY THE ENGINEER.

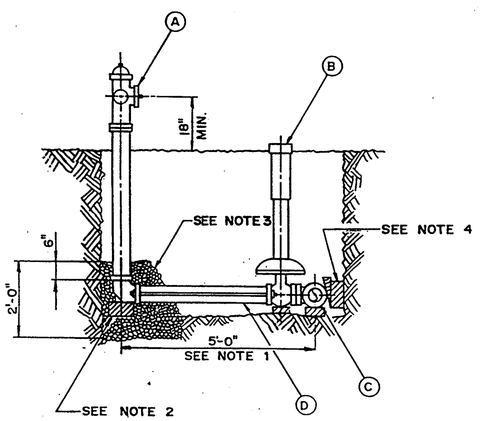
TRENCH & BEDDING DETAILS

(CITY OF MENTOR)

NOTES

1. THE DISTANCE FROM THE CENTERLINE OF MAIN TO THE CENTERLINE OF HYDRANT WILL BE 5' EXCEPT WHEN INDIVIDUAL CIRCUMSTANCES PROVE IT TO BE INFEASIBLE. WHEN SUCH CIRCUMSTANCES OCCUR, THE LENGTH OF THE LEAD WILL BE NOTED ON THE DRAWINGS WITH THE STATIONING.
2. SOLID CONCRETE BLOCK TO BE USED UNDER ALL VALVES, ANGLES, TEES, BENDS, AND HYDRANT ELBOW.
3. CRUSHED STONE FILL AROUND HYDRANT DRAIN AND TO A DEPTH OF 2'-0".
4. SOLID CONCRETE BLOCK WITH OAK WEDGES. (BRACED AGAINST UNDISTURBED SOIL)

ITEM	DESCRIPTION
A	MUELLER HYDRANT, 3-WAY "CENTURION" MODEL
B	6" M.J. GATE VALVE, 3 PIECE VALVE BOX
C	ANCHOR TEE (CLOW F-1217)
D	6" DUCTILE PIPE x 30" LONG (2 DUC-LUG RODS AS ANCHORS)

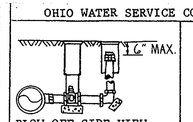


OHIO WATER SERVICE CO.
CORPORATE OFFICE POLAND, O. 44514
AN AFFILIATE OF CONSUMERS WATER COMPANY

SUBJECT TYPICAL FIRE HYDRANT ASSEMBLY TYPE I NOT TO SCALE

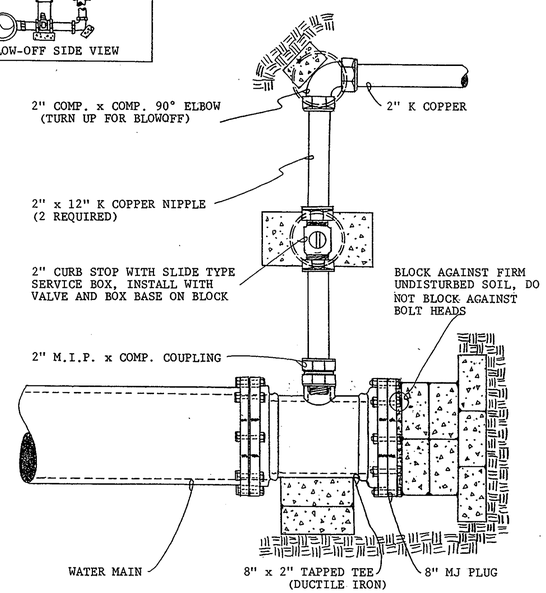
revised | district CORPORATE STANDARDS
drawn R.A.D. | date OCT. 3, 1983 | approved | sheet

OHIO WATER SERVICE COMPANY | LAKE ERIE WEST DISTRICT



BLOW-OFF SIDE VIEW

BLOW-OFF ASSEMBLY NOTE: INSTALL 2" COMP. x I.P. COUPLING 6" FROM TOP OF LID USING STANDARD VALVE BOX TOP



8" x 2" O.W.S. ADAPTOR AND BLOW-OFF ASSEMBLY

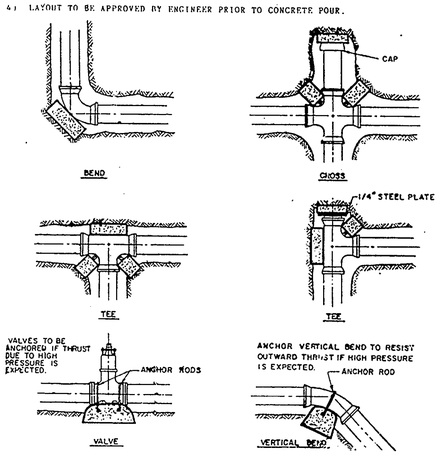
DRAWN: JLK | APPROVED: HEM | DATE: 8-4-92

BEARING AREA OF BLOCK IN SQUARE FEET					
FITTING SIZES	TEES & ENDS	90 BEND	45 BEND	22-1/2 BEND	11-1/4 BEND
4	1-1/2	2	1-1/2	1-1/2	1-1/2
6	3	4	2	1-1/2	1-1/2
8	4-1/2	7	3-1/2	2	1-1/2
10	7-1/2	10-1/2	5	3	1-1/2
12	10-1/2	15	8	4	2-1/2

THRUST BLOCK DETAILS

NOTES:

1) ALL BLOCKING SHALL BE POURED AGAINST FIRM, UNDISTURBED SOIL.
2) BEARING AREA AT FITTINGS NOT GIVEN IN BEARING TABLE SHALL BE AS DIRECTED BY THE ENGINEER.
3) WHEN POURING AGAINST PLUGS AND BLIND FLANGES SET A PIECE OF 3 MIL PLASTIC AGAINST FT. ING. TO KEEP CONCRETE OFF BOLTS.
4) LAYOUT TO BE APPROVED BY ENGINEER PRIOR TO CONCRETE POUR.



OHIO WATER SERVICE COMPANY
LAKE ERIE WEST DISTRICT

"BLOCKING SCHEDULE"

CT Consultants, Inc.
Engineers • Architects • Planners
Willoughby • Mentor • North Canton • Steubenville • Lorain

REV. NO.	DESCRIPTION	DATE	BY	CHKD.

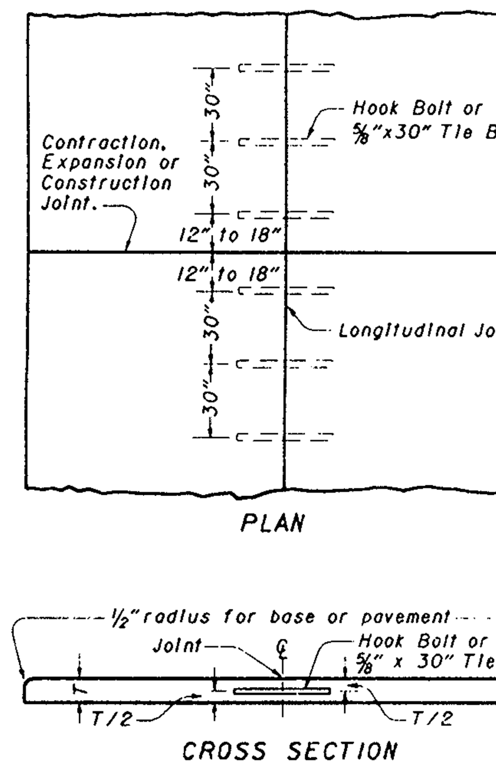
CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: APR., 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. PG.

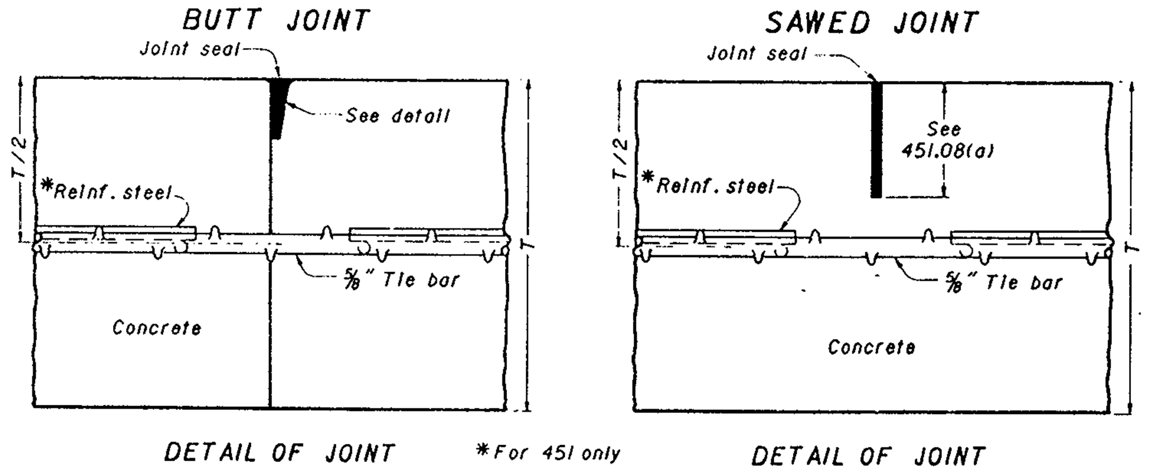
MISCELLANEOUS DETAILS

SCALES: HOR. NO SCALE VERT.
CONTRACT No. 8929621
SHEET NO. 50 OF 51

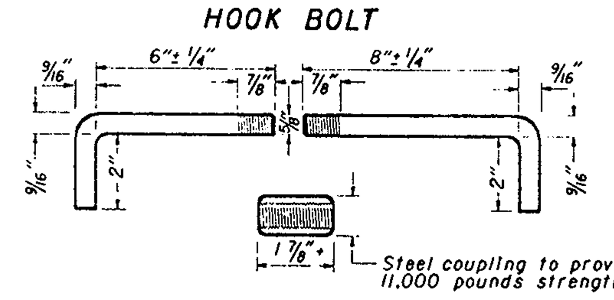
TIE BAR OR HOOK BOLT SPACING



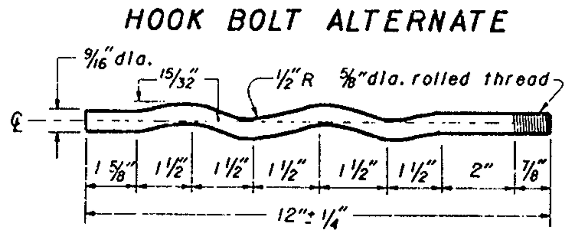
BUTT JOINT / SAWED JOINT



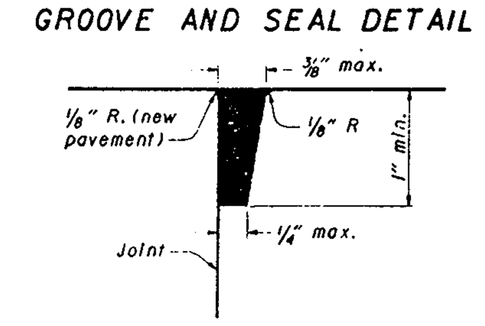
HOOK BOLT



HOOK BOLT ALTERNATE



GROOVE AND SEAL DETAIL



NOTES

GENERAL: Longitudinal joints shall be used when called for on the typical section and shall be constructed as shown on this drawing in 451 and 452 pavement and 305 base.
The joint shall be on the centerline of the pavement unless otherwise shown on the plans.
Tie bars shall be ⅝ inch round, deformed bars. A satisfactory device shall be used to hold the tie bars in proper position or they may be installed by a mechanical installing device.

BUTT JOINT: The longitudinal joint between adjoining slabs poured in separate operations shall be a butt joint with hook bolts or tie bars, unless otherwise shown on plans. Bent tie bar construction shall not be permitted.

TYPE D (DRILLED TIED LONGITUDINAL) JOINT: Type D joints shall be constructed in accordance with 255.05. Grout shall meet the requirements of 255.02. The use of ⅝" expansion anchors, FF-S-325, Group VIII, Type I or Group II, Type 4, Class I may be used lieu of the #5 x 24" deformed bar and shall be installed according to the manufacturer's recommendations.
The use of self drilling expansion shield anchors, FF-S-325, Group III, Type I(a) and (c) shall not be permitted.

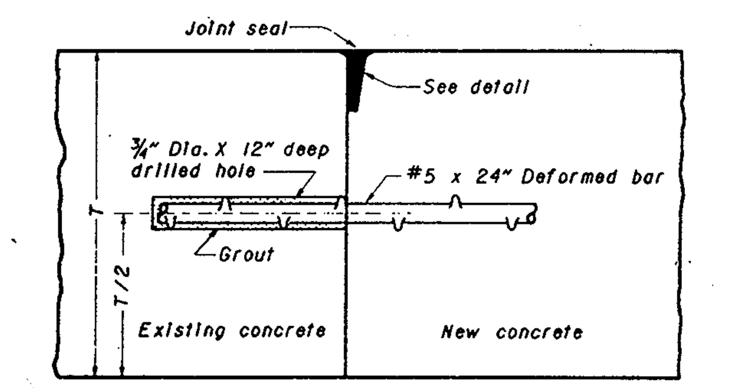
GROOVES: Grooves for sealing expansion bolt or butt joints in 451 or 452 pavements shall be formed by impressing a device or bar into the newly deposited concrete adjacent to the existing or previously poured lane. The device or bar shall be removed as soon as the concrete is in such condition, as to preclude distortion of the concrete.
Adjoining slabs adjacent to grooved joints shall be edged with a thin metal edger having a radius of ⅛ inch. Any impression left in the surface of the pavement by the flat part of the edging tool shall be eliminated.
In lieu of the above method the longitudinal joint may be constructed in accordance with 451.08(a).
After the joint is formed it shall be protected from dirt and foreign matter until the joint seal is placed.

SEALING JOINTS: Sawed or hand-formed joints may be sealed with 705.04 or 705.11 joint sealer.

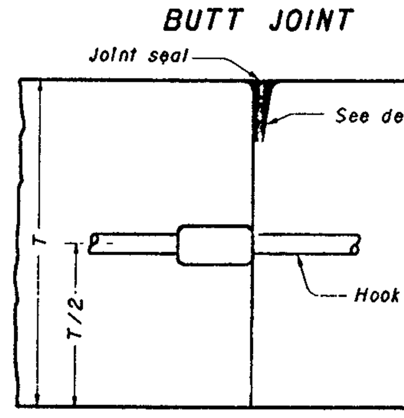
HOOK BOLTS: Hook bolt inserts shall be turned to a tight fit when installed in threaded hook bolts or couplings.

METAL STRENGTH: Tie bars, hook bolt assemblies and hook bolt alternate shall have a minimum strength of 11,000 pounds.

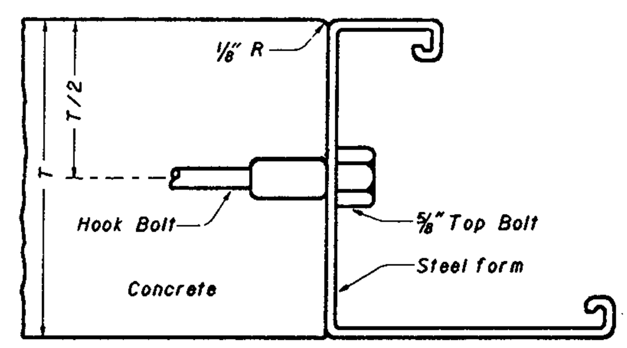
TYPE D (DRILLED TIED LONGITUDINAL) JOINT



BUTT JOINT



ACCEPTABLE METHOD OF FORMING JOINT



BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

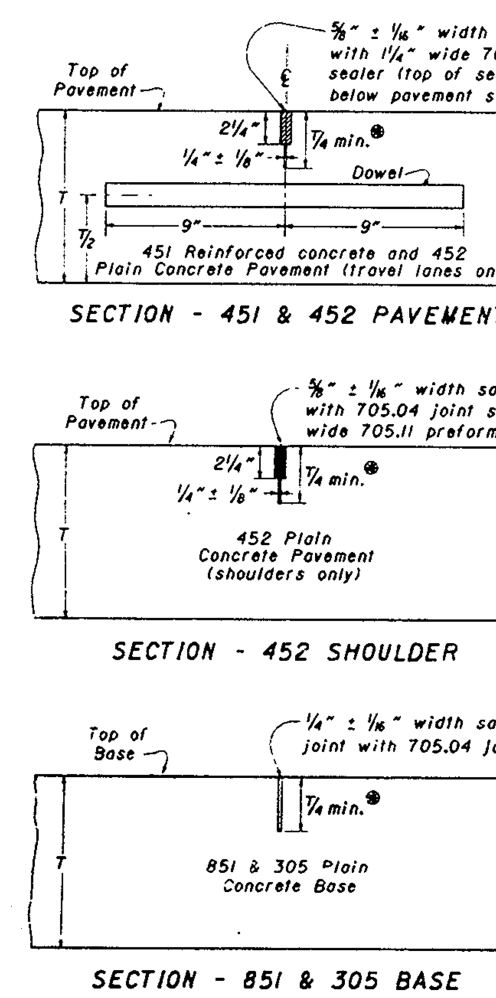
LONGITUDINAL PAVEMENT JOINTS

DATE 2-21-92

STANDARD CONSTRUCTION DRAWING **BP-2.1**

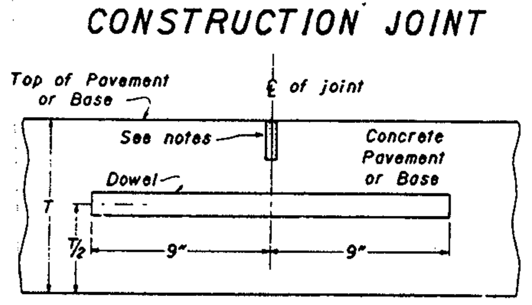
APPROVED D.K. Huhman ENGR., L & D

CONTRACTION JOINTS



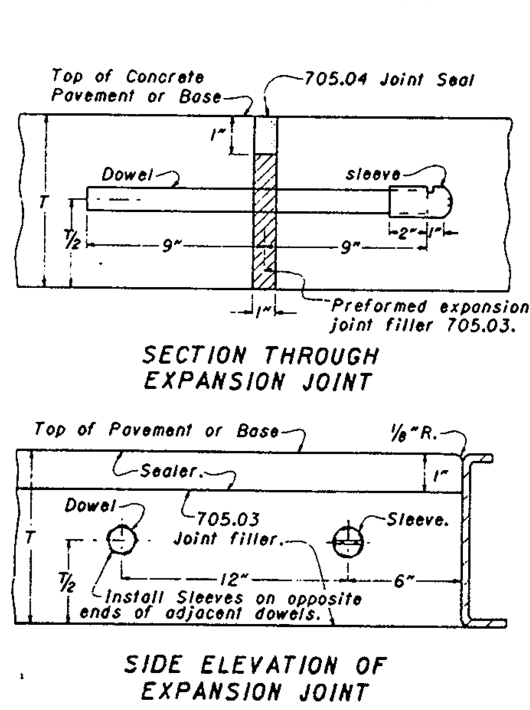
● Where T > 10", the sawcut depth shall be T/3.

CONSTRUCTION JOINT



SECTION THROUGH CONSTRUCTION JOINT

EXPANSION JOINT



GENERAL: Notes and details shown on this drawing shall be considered in conjunction with and supplemental to the pertinent specifications for portland cement concrete pavements and bases, and incidentals related thereto.
All joints shall be constructed normal to the centerline of the pavement lane unless otherwise directed.
Where dowels are specified, they shall be round, straight steel bars of the size indicated in the following table, and shall be coated in accordance with the requirements of specification 709.13. Dowel basket assemblies shall also be coated in accordance with 709.13. Dowels shall be spaced at 12" centers, beginning 6" from the longitudinal joint.

DOWEL SIZE	
(T) THICKNESS OF PAVEMENT	DIAMETER OF DOWEL
8.5" or less	1"
8.6" to 10"	1¼"
over 10"	1½" or as shown on plan

ASSEMBLY: Each joint assembly used to hold dowels in position shall be continuous between longitudinal joints or between longitudinal joint and pavement edge. The assembly shall be firmly held in proper position by at least eight ½" steel pins driven at an angle to brace the assembly from lateral and vertical displacement during the placing of the concrete. These pins shall be at least 18" in length. Two of these pins shall be driven opposite each other at each end of the assembly and the remaining pins shall be driven in staggered positions on each side of the assembly. In exceptional cases where it is impractical to use the 18" length pins, such as where hardpan or rock is encountered, the Engineer may authorize use of shorter pins provided the assembly is held firmly. Where the assembly is placed on granular material which may allow settlement or distortion, the assembly shall be anchored to prevent settlement or distortion with some combination of pins and/or steel plates, or by some other means to the satisfaction of the Engineer.
When concrete pavement is placed on an existing concrete pavement or a stabilized base, the joint assemblies (baskets) shall be held firmly in position by the use of a power driven fastener and an appropriate clip at 6 locations along the assembly (3 each side of the assembly) to secure the basket from lateral and vertical displacement during concrete placement.
Dowel spacing is shown for pavement lanes of even foot widths. Where other widths are specified, standard cages may be used with dowel spacings adjusted as follows:

The 6" dowel spacing shall be maintained at the longitudinal joint. The spacing at the outer edge of the lane may be increased up to 12". Where an odd width of lane occurs, a dowel shall be placed 6" from the outer edge of the lane if the standard cage would provide for a space exceeding 12". Such a dowel shall be held rigidly in proper position by a method satisfactory to the Engineer or a dowel cage of greater length than required may be used by cutting the assembly and splicing to attain the required length.

This drawing is intended for use with a uniform depth pavement. When the project involves the placing of variable depth pavement, the joint components shall be held in place in accordance with the method shown in the plan or as approved by the Engineer.

EXPANSION JOINTS: Expansion joint filler shall be held rigidly in position and shall be continuous for the full width of each lane. The face of the expansion joint shall be perpendicular to the concrete surface and shall not be skewed horizontally except when abutting a skewed bridge approach slab.
Smooth dowels shall be used, and free movement shall be provided by applying a coating of a thin layer of oil or other "bond-breaking" material just prior to placing the concrete. One free end of each dowel shall be equipped, after coating, with a sleeve of metal or other approved material approximately 3" long, designed with crimped end and overlapping seams, fitting closely around the dowel. Each sleeve shall be provided with a depression or interior projection to act as a stop for the dowel, sufficiently distant from the crimped end to allow 1" for longitudinal dowel movement with pavement expansion. In lieu of this requirement, any other means may be used if approved by the Director.
Proper size dowel holes shall be punched or drilled into the preformed expansion joint filler in order to insure tight fitting dowels.

CONTRACTION JOINTS: All contraction joints in 451 reinforced concrete and 452 plain concrete pavements shall be dowelled. Contraction joints in 305 plain concrete base or shoulders shall be dowelled if within 500' of a pressure relief joint.
To provide for longitudinal movement at the joint, dowels shall be smooth and coated with a bond breaking material such as a thin layer of oil just prior to placing the concrete.
Contraction joints of the type specified shall be spaced in accordance with the following table:

CONTRACTION JOINT SPACING	
TYPES OF PAVEMENT OR BASE	MAXIMUM SPACING BETWEEN JOINTS
451 Reinforced Concrete Pavement	21 lin. ft.
452 Plain * Concrete Pavement	17 lin. ft.
851 & 305 Plain Concrete Base	20 lin. ft.

* Where Item 452 Plain Concrete Pavement is being placed next to Item 451 Reinforced Concrete Pavement, the joint spacing in the 452 shall be 21 feet and match the joints in the mainline pavement. Where Item 452 Plain Concrete Pavement is being used as shoulder, rumble strips shall be placed as per BP-8.1.

CONSTRUCTION JOINTS: Smooth dowels shall be used in transverse construction joints in all portland cement concrete pavements, shoulders and base. The joint shall be formed by using an adequate bulkhead that will provide a straight joint. The bulkhead shall have openings provided for dowel bars spaced as outlined under "ASSEMBLY." The bulkhead shall be shaped to fit the typical section of the pavement or base. Dowels shall be held rigidly in position during the placing of the concrete.
Construction joints in reinforced concrete pavement may be located at a contraction joint or between contraction joints, provided they are not closer than 10 feet to another parallel joint. In plain concrete pavement or concrete base a construction joint shall not be located closer than 6 feet to another parallel joint.
Kerf and seal conforming in all respects to details shown for contraction joints shall be provided at each construction joint in concrete pavement and base.

SEALING BASE CONTRACTION JOINTS:
All contraction joints for plain concrete bases shall be sealed as detailed hereon and the cost included in the unit price bid for Item 305 or 851.

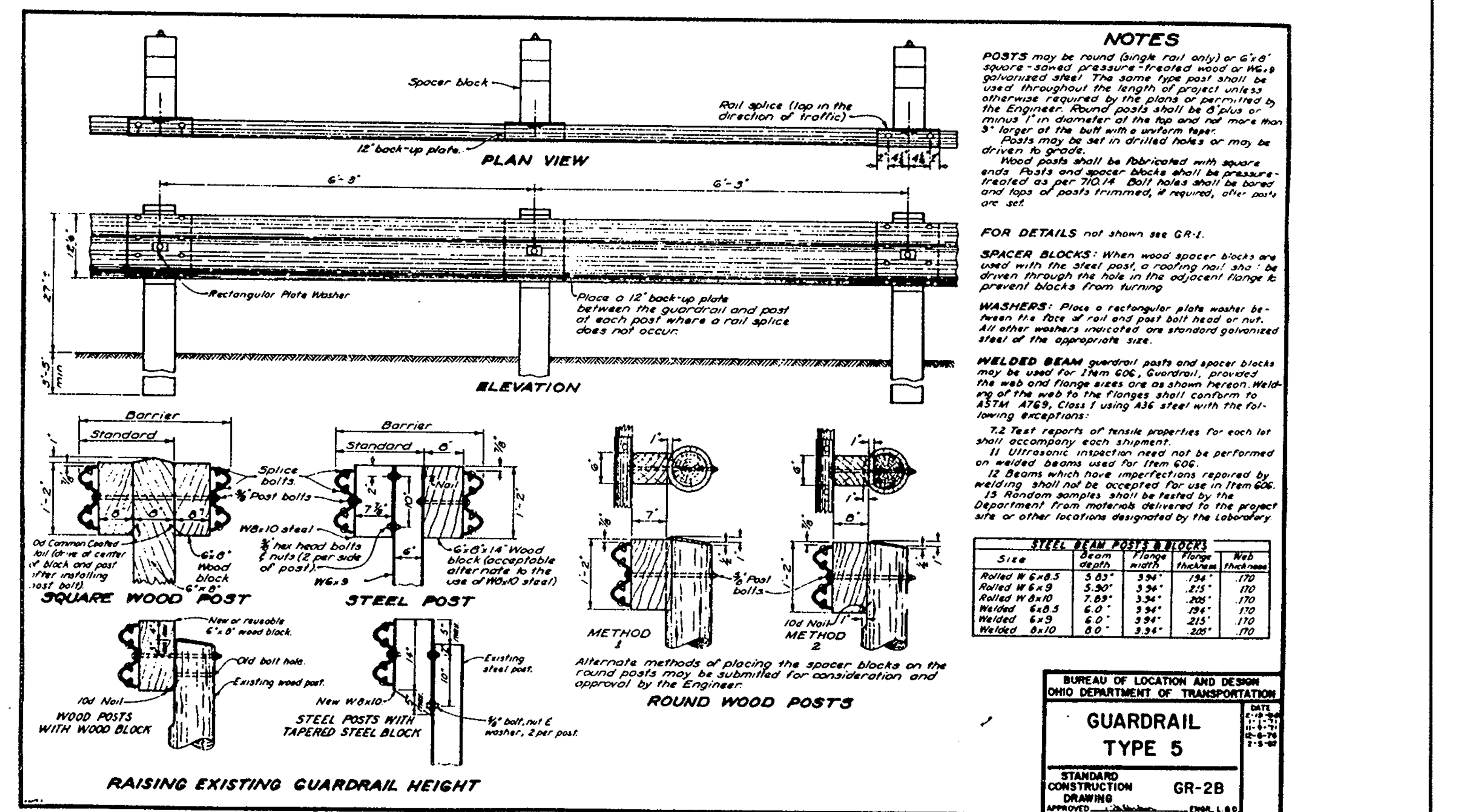
BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

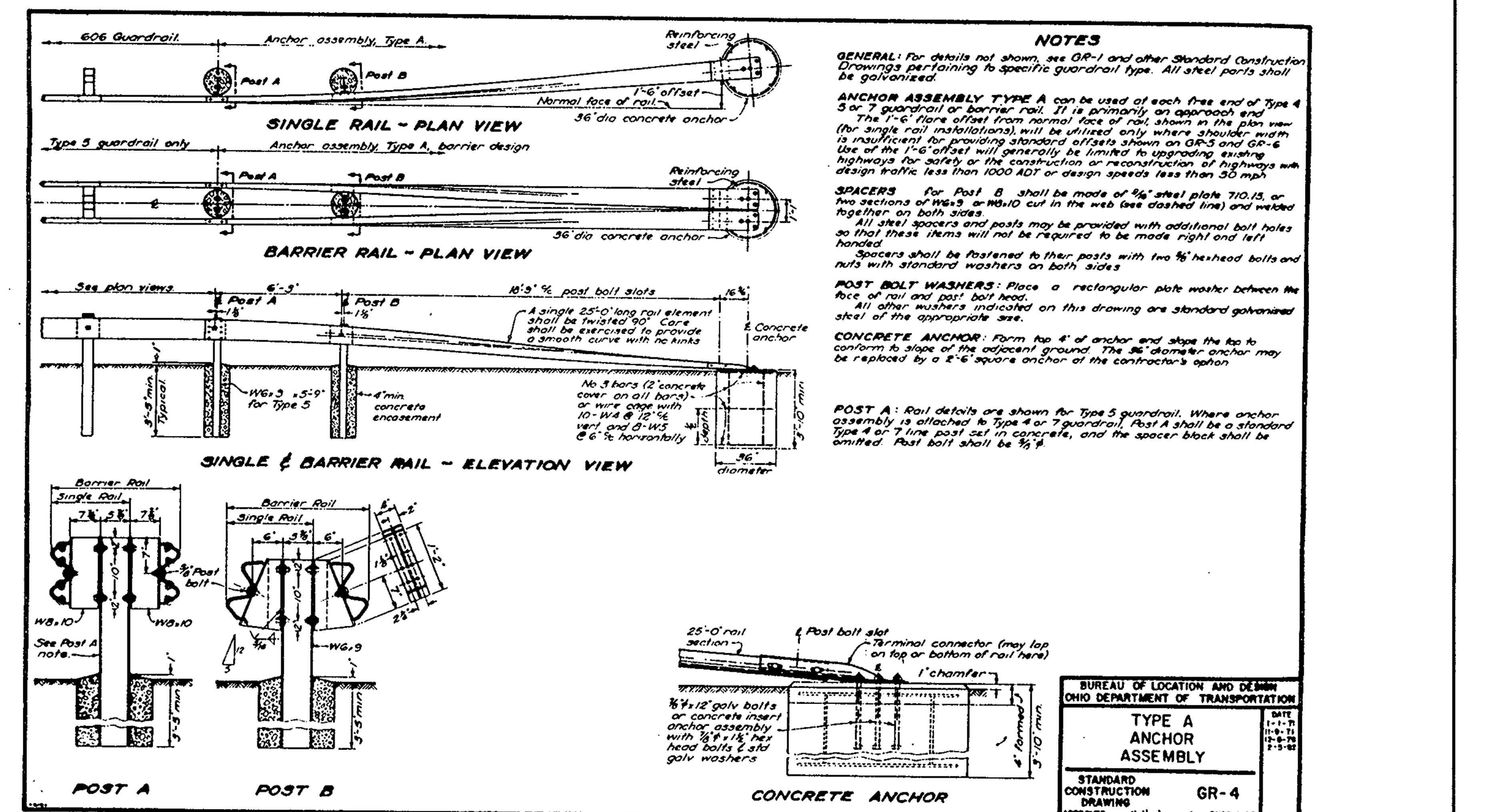
TRANSVERSE PAVEMENT JOINTS

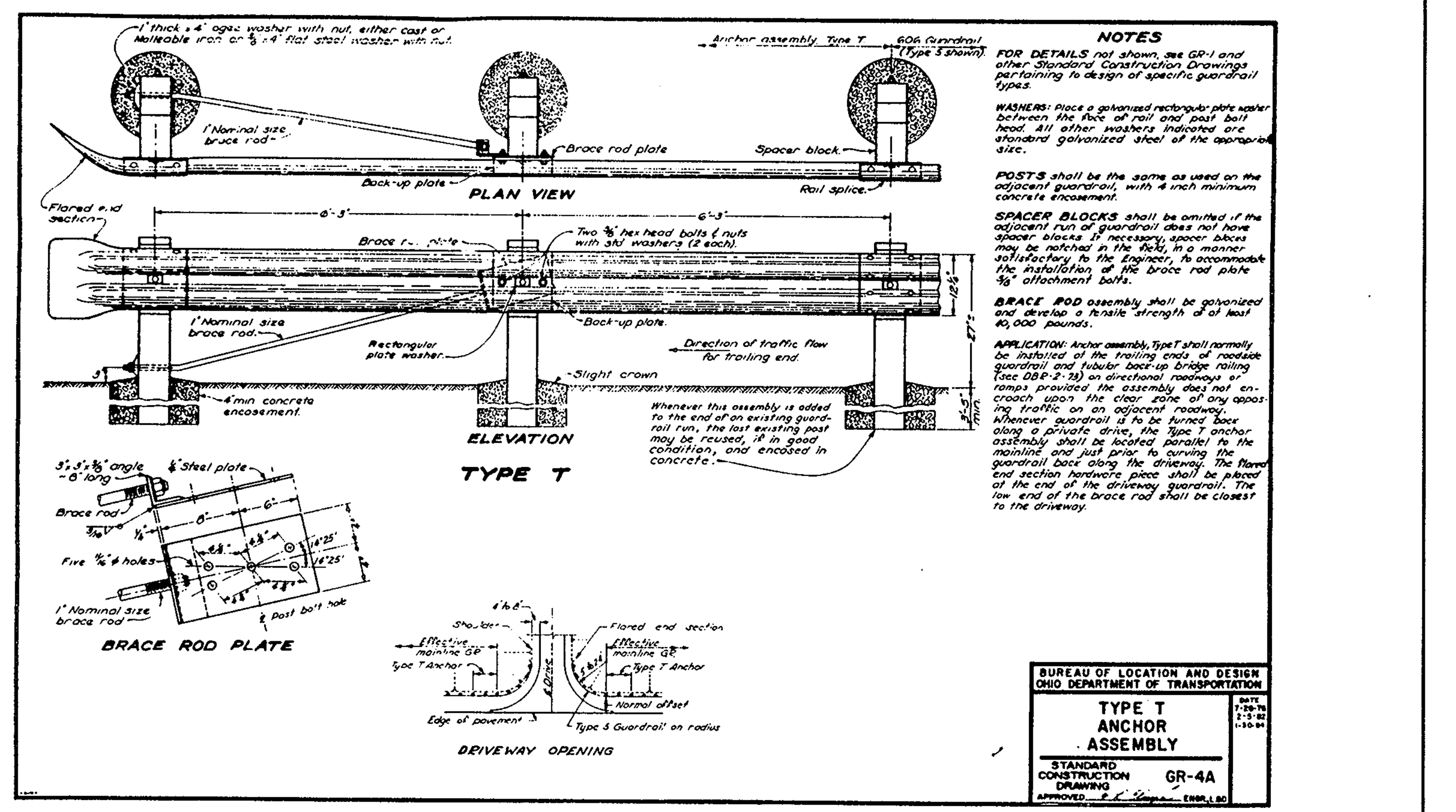
DATE 2-21-92

STANDARD CONSTRUCTION DRAWING **BP-2.2**

APPROVED D.K. Huhman ENGR., L & D







MISC1.DWG

CT Consultants, Inc.
Engineers • Architects • Planners
Willoughby • Mentor • North Canton • Steubenville • Lorain

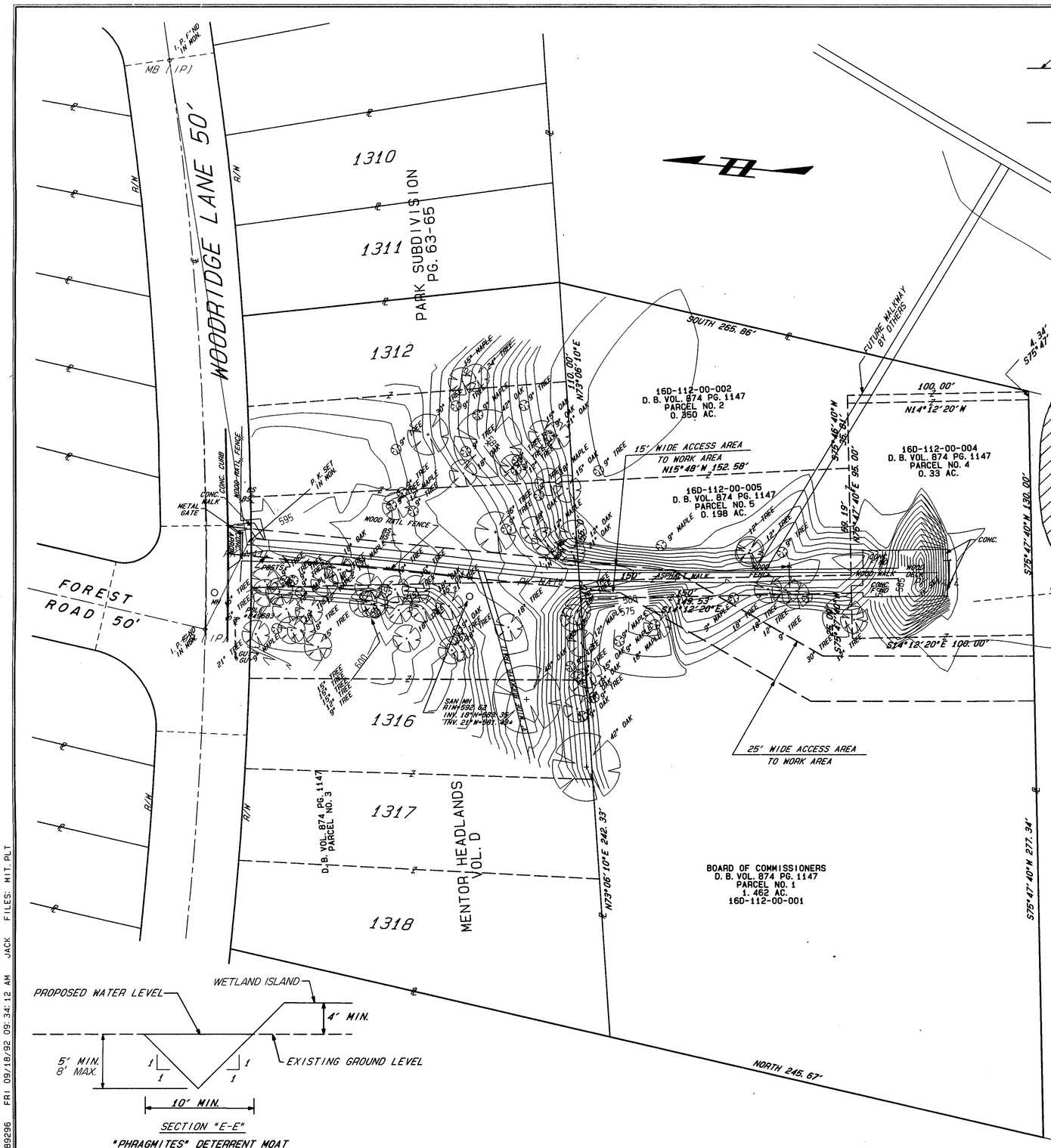
REV. NO.	DESCRIPTION	DATE	BY	CH'K'D.

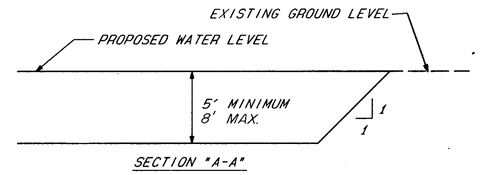
CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: APRIL, 1993
DRAWN BY: J.J.C.
CHECKED BY: C.C.H.
APPROVED BY:
F.B. No. ____ PG. ____

MISCELLANEOUS DETAILS

SCALES: HOR. NO SCALE VERT.
CONTRACT No. 8929621
SHEET NO. 50A OF 51

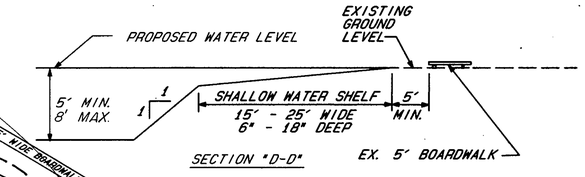




SECTION "A-A"

GENERAL NOTES

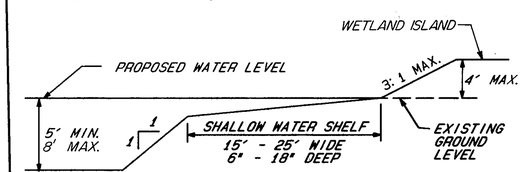
1. THE CONTRACTOR IS REQUIRED TO CREATE AN OPEN WATER AREA OF 0.875 ACRE MINIMUM. THE FINAL POND SHAPE SHALL BE SIMILAR TO THAT SHOWN HEREON. HOWEVER, THE FINAL POND SHAPE MAY BE MODIFIED CONTINGENT ON FIELD CONDITIONS AND AS APPROVED BY THE ENGINEER WITH CONCURRENCE FROM MR. BILL HUDSON OF THE OHIO DEPARTMENT OF NATURAL RESOURCES (O.D.N.R.), (563-9344)
2. THE CONTRACTOR SHALL RESTRICT HIS OPERATIONS TO THE WORK AREA SHOWN ON THE PLAN AND 10' MAXIMUM OUTSIDE THE WORK AREA LIMITS.
3. THE CONTRACTOR SHALL RESTRICT HIS OPERATIONS TO THE ACCESS AREAS SHOWN. TEMPORARY EMBANKMENTS CONSTRUCTED TO RAMP DOWN FROM THE ASPHALT PATH TO THE MARSH LEVEL SHALL BE REMOVED AFTER THE POND HAS BEEN EXCAVATED. THE EXISTING VISITORS FACILITIES AND SITE CONDITIONS SHOULD BE RESTORED TO ORIGINAL CHARACTER OR BETTER UPON COMPLETION OF THE PROJECT. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO REGRADING AND REPLACEMENT OF TOPSOIL, REPLANTING, REPAVING OF VISITOR WALKWAY, CONSTRUCTION OF EROSION CONTROL STRUCTURES; AND REPAIR/REPLACEMENT OF SIGNS, FENCES AND OTHER EXISTING STRUCTURES.
4. NO TREES SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER WITH CONCURRENCE FROM MR. BILL HUDSON OF O.D.N.R.
5. THE CONTRACTOR'S BID PRICE FOR EXCAVATING THE POND SHALL INCLUDE ON-SITE DISPOSAL OF THE EXCAVATED MATERIAL IN APPROVED AREAS AS SHOWN ON THE PLANS, AND REPAIR, RESURFACING AND/OR RECONSTRUCTION OF THE ASPHALT WALKWAY UTILIZED FOR ACCESS.
6. MAN-MADE MATERIALS SUCH AS CONCRETE, ABANDONED PIPELINE AND DEBRIS SHALL BE REMOVED WHEN ENCOUNTERED DURING CONSTRUCTION, AND HAULED FROM SITE.



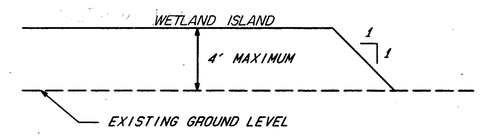
SECTION "D-D"

SECTION "E-E"

"PHRAGMITES" DETERRENT MOAT



SECTION "B-B"



SECTION "C-C"

89296TOP

89296 FRI 09/18/92 09:34:12 AM JACK FILES: MIT.PLT

CT Consultants, Inc.
Engineers · Architects · Planners
Willoughby · Mentor · Columbus · Lorain · North Canton · Youngstown

REV. NO.	DESCRIPTION	DATE	BY	CHECKED

CORDUROY ROAD IMPROVEMENTS
CITY OF MENTOR, LAKE COUNTY, OHIO

DATE: MAY 1992
DRAWN BY: D. L. B.
CHECKED BY: C. C. H.
APPROVED BY: C. C. H.
F. B. No. 835 PG. 106-112

MITIGATION PLAN FOR THE NEWHOUS OVERLOOK MENTOR MARSH

SCALES	
HOR.	1" = 30'
VERT.	
CONTRACT No.	
89296-21	
SHEET NO.	OF
51	51