

BY DATE: [REVISIONS]

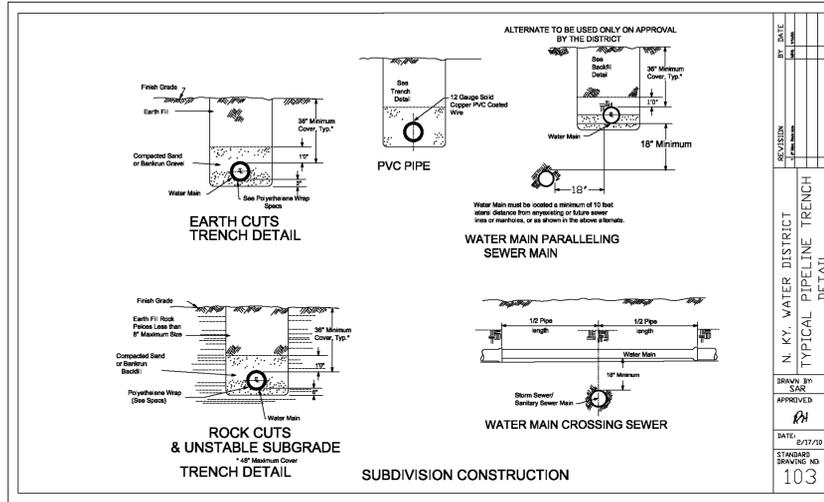
N. KY. WATER DISTRICT WATER MAINS TERMINATIONS

DRAWN BY: SAR

APPROVED: [Signature]

DATE: 2/17/18

STANDARD DRAWING NO: 101



BY DATE: [REVISIONS]

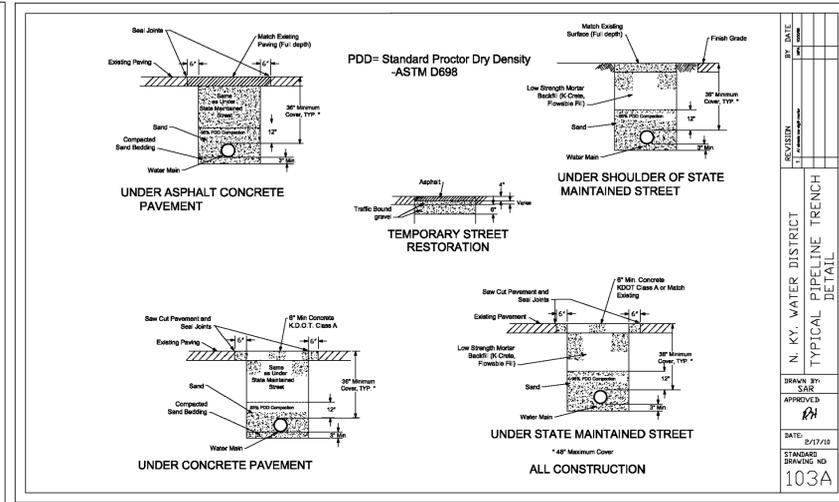
N. KY. WATER DISTRICT TYPICAL PIPELINE TRENCH DETAIL

DRAWN BY: SAR

APPROVED: [Signature]

DATE: 2/17/18

STANDARD DRAWING NO: 103



BY DATE: [REVISIONS]

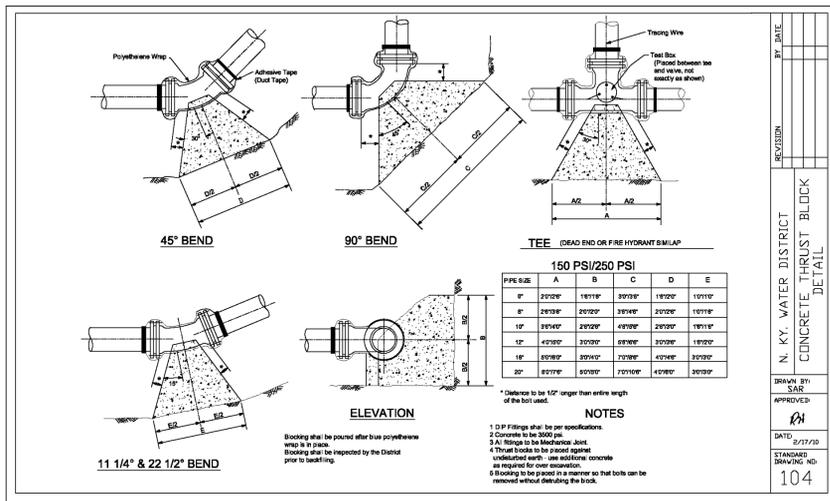
N. KY. WATER DISTRICT TYPICAL PIPELINE TRENCH DETAIL

DRAWN BY: SAR

APPROVED: [Signature]

DATE: 2/17/18

STANDARD DRAWING NO: 103A



BY DATE: [REVISIONS]

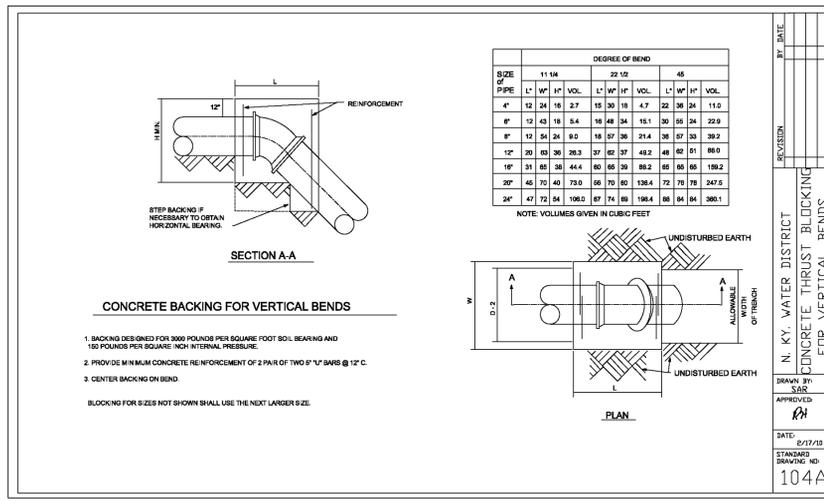
N. KY. WATER DISTRICT CONCRETE THRUST BLOCK DETAIL

DRAWN BY: SAR

APPROVED: [Signature]

DATE: 2/17/18

STANDARD DRAWING NO: 104



BY DATE: [REVISIONS]

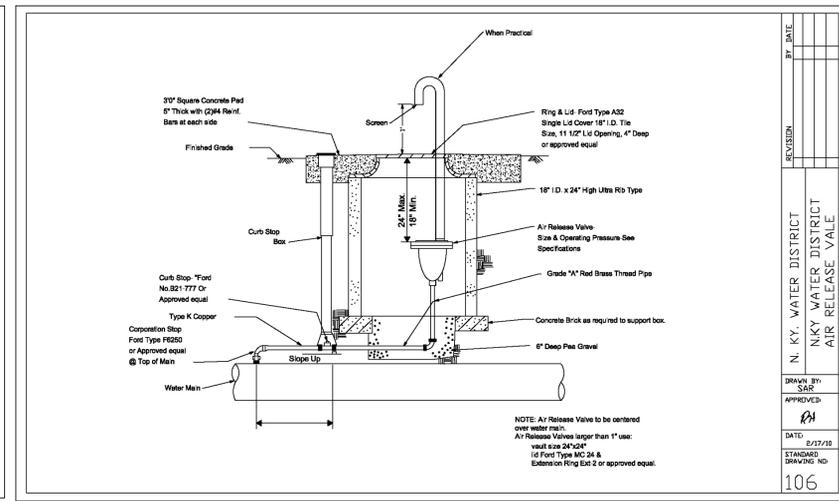
N. KY. WATER DISTRICT CONCRETE THRUST BLOCKING FOR VERTICAL BENDS

DRAWN BY: SAR

APPROVED: [Signature]

DATE: 2/17/18

STANDARD DRAWING NO: 104A



BY DATE: [REVISIONS]

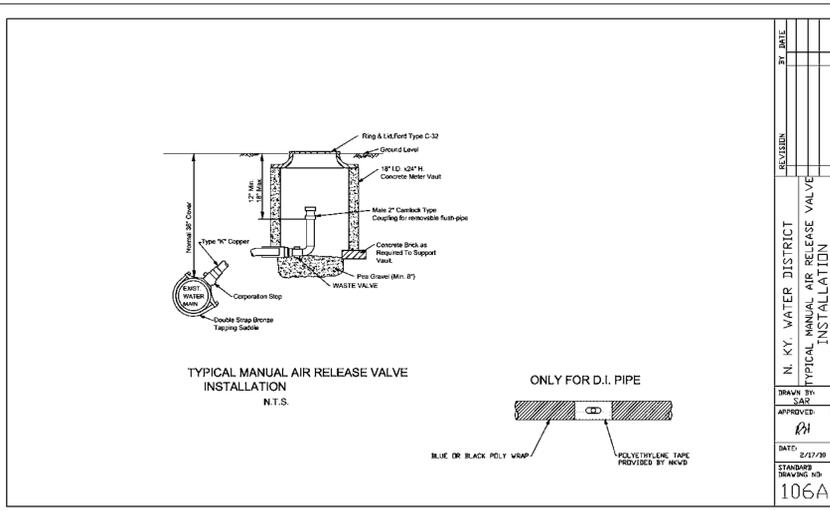
N. KY. WATER DISTRICT AIR RELEASE VALVE

DRAWN BY: SAR

APPROVED: [Signature]

DATE: 2/17/18

STANDARD DRAWING NO: 106



BY DATE: [REVISIONS]

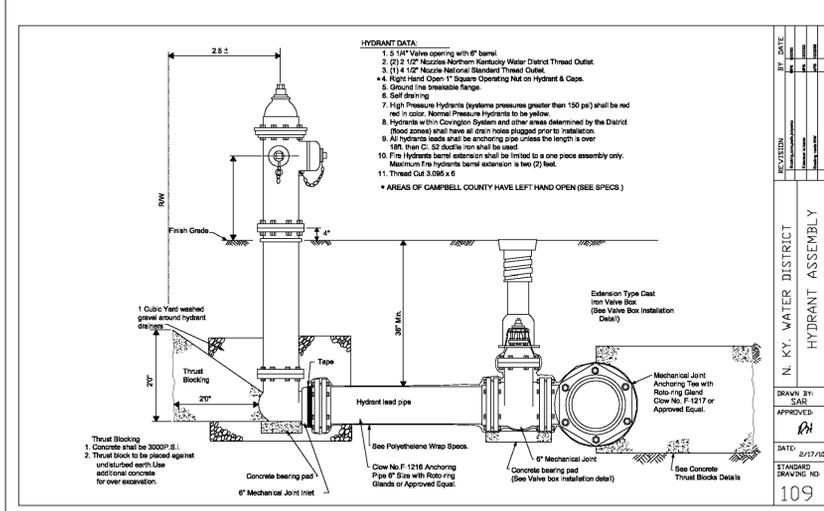
N. KY. WATER DISTRICT TYPICAL MANUAL AIR RELEASE VALVE INSTALLATION

DRAWN BY: SAR

APPROVED: [Signature]

DATE: 2/17/18

STANDARD DRAWING NO: 106A



BY DATE: [REVISIONS]

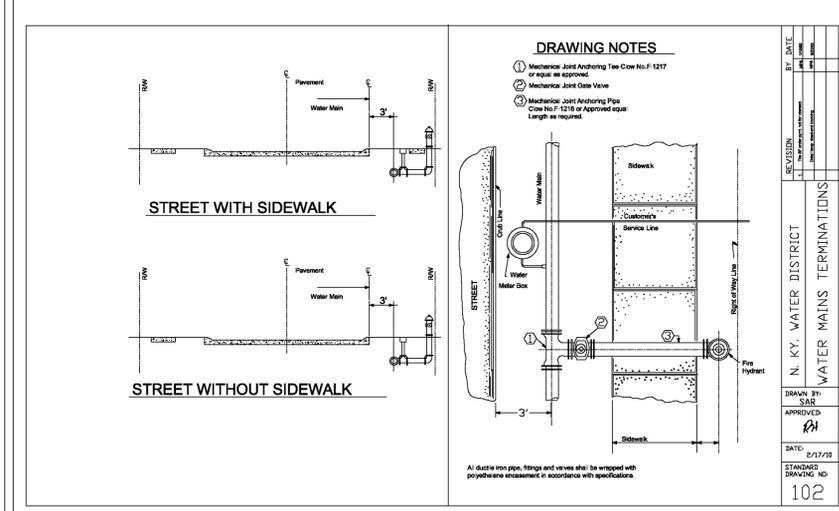
N. KY. WATER DISTRICT HYDRANT ASSEMBLY

DRAWN BY: SAR

APPROVED: [Signature]

DATE: 2/17/18

STANDARD DRAWING NO: 109



BY DATE: [REVISIONS]

N. KY. WATER DISTRICT WATER MAINS TERMINATIONS

DRAWN BY: SAR

APPROVED: [Signature]

DATE: 2/17/18

STANDARD DRAWING NO: 102

DRAWINGS CONTAINED ON THIS SHEET ARE FOR REFERENCE ONLY. CONTRACTOR SHALL REFER TO THE MOST CURRENT NORTHERN KENTUCKY WATER DISTRICT STANDARD SPECIFICATIONS AND DRAWINGS.

REVISIONS

DATE	#	ITEM

CARDINAL

ENGINEERING
ARCHITECTURE
LAND SURVEYING

ONE MOORE ROAD
WILDER, KENTUCKY 41071
PHONE: (609) 581-3600
FAX: (609) 581-3630

WEBSITE: <http://www.cardinalengineering.net>

PHASE V

PROJECT: RIPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

PROJECT NO. 06-024-05

SCALE AS NOTED

DATE 12-01-09

DETAILS

SHEET **C-2.0**

DRAWN BY: TRP

CHECKED BY: KGH

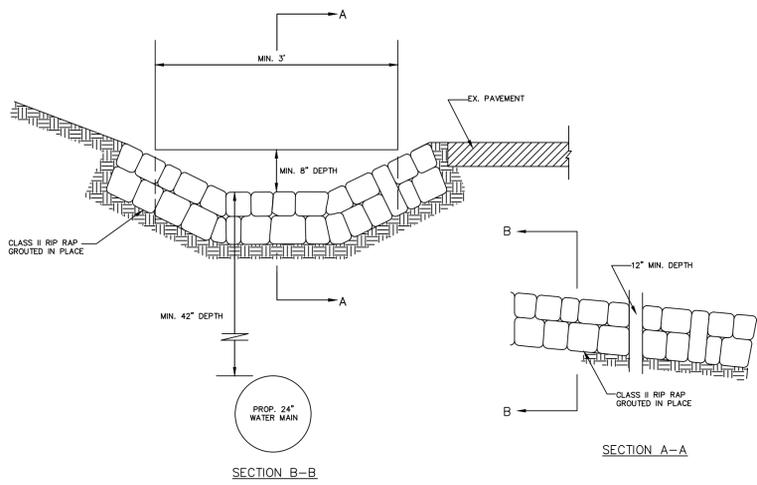
PROJECT MANAGER: KGH

SEAL

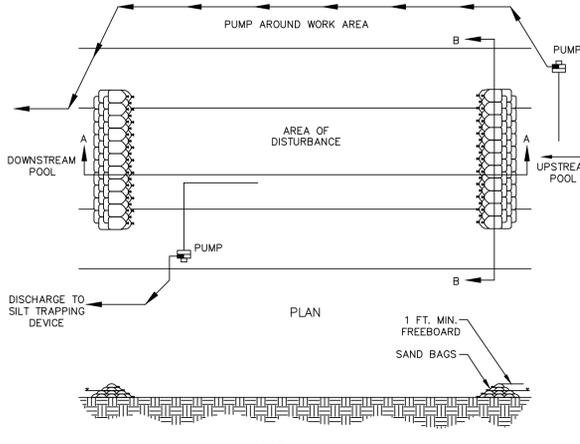
STATE OF KENTUCKY

KEVIN G. HANSON
19893

REGISTERED PROFESSIONAL ENGINEER



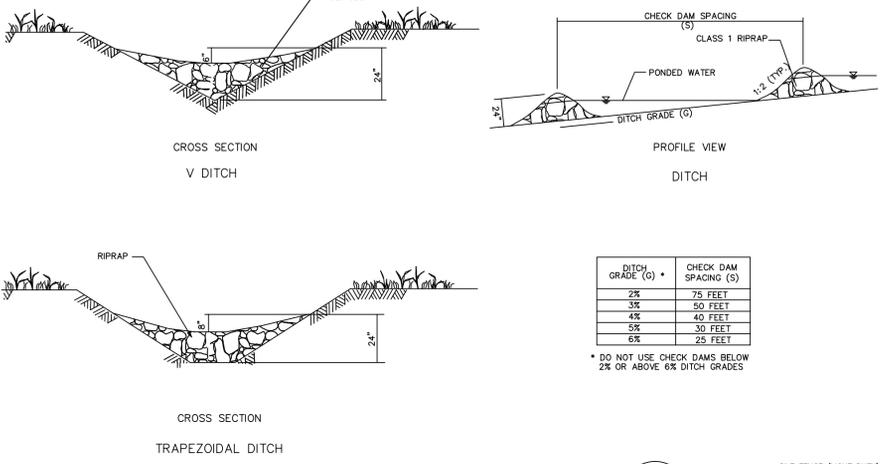
GROUTED RIP RAP DITCH
N.T.S. (GRRC)



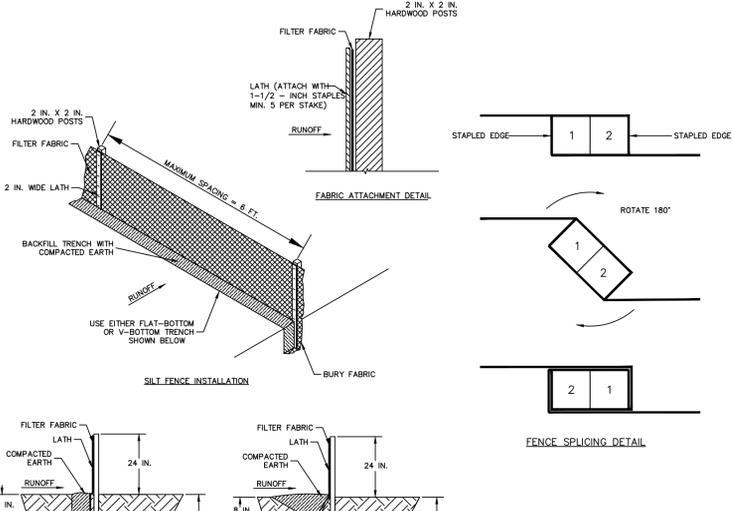
PUMP AROUND FLOW DIVERSION DETAIL
N.T.S.

NOTES

1. USE PUMP AROUND DIVERSION WHEN CONSTRUCTION ACTIVITY IS WITHIN A FLOWING STREAM, CREEK, OR DITCH.
2. PUMP AROUND DIVERSION LOCATIONS IDENTIFIED ON THE PLANS MAY NOT BE REQUIRED IF STREAM, CREEK OR DITCH CROSSING IS DRY AND NOT FLOWING.



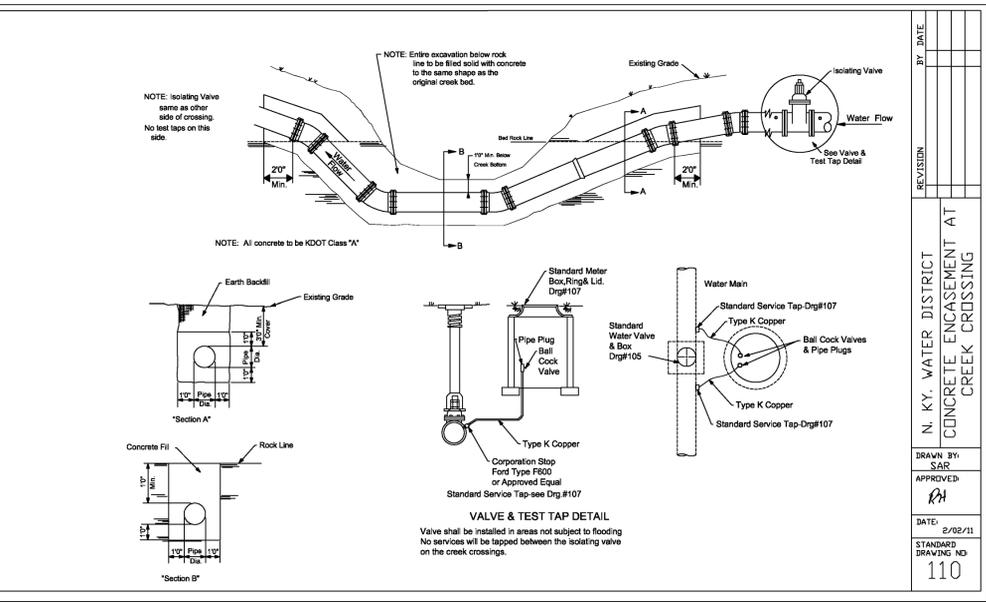
CHECK DAM
N.T.S. (CD)



SILT FENCE - LIGHT DUTY (EPSC-00)
N.T.S. (SF)

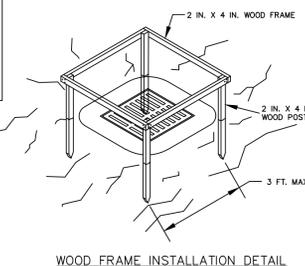
SPECIFICATION	LIGHT DUTY SILT FENCE (SF-LD)
MIN. TENSILE STRENGTH (LBS)	WARP - 120 FILL - 100
ASTM D-4632	
MAX. ELONGATION (%)	40
ASTM D-4632	
APPARENT OPENING SIZE	#30
MAX. FLOW RATE (GAL/MIN/SF)	25
GOT - 87	
ULTRAVIOLET STABILITY	80
(ASTM D-4632 AFTER 300 HOURS PER ASTM D-4355 MIN.)	
BURSTING STRESS (PSI)	WARP - 120 FILL - 100
ASTM D-3786 MIN.	
FABRIC WIDTH (IN)	36 IN.

SILT FENCE - LIGHT DUTY (EPSC-00)
N.T.S. (SF)

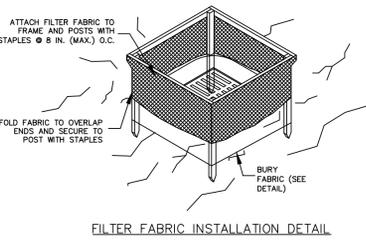


REVISION	DATE
110	2/02/11

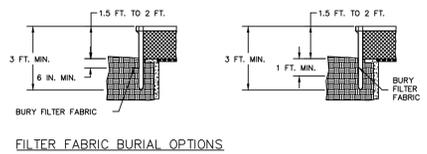
**N. Y. WATER DISTRICT
CONCRETE ENCASEMENT AT
CREEK CROSSING**



WOOD FRAME INSTALLATION DETAIL



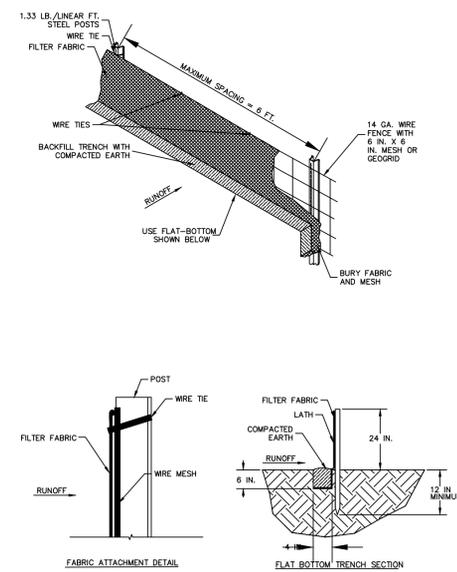
FILTER FABRIC INSTALLATION DETAIL



FILTER FABRIC BURIAL OPTIONS

FILTER FABRIC INLET PROTECTION (EPSC-00)
N.T.S. (IP)

(REFERENCE - CITY OF BOWLING GREEN, LOUISVILLE MSD, INDIANA HANDBOOK FOR EROSION CONTROL IN DEVELOPING AREAS, NORTH CAROLINA SEDIMENT AND EROSION CONTROL PLANNING AND DESIGN MANUAL)



SILT FENCE - HEAVY DUTY (EPSC-00)
N.T.S. (SF)

(REFERENCE - CITY OF BOWLING GREEN, LOUISVILLE MSD, TDEC)

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCKER ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9630

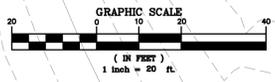
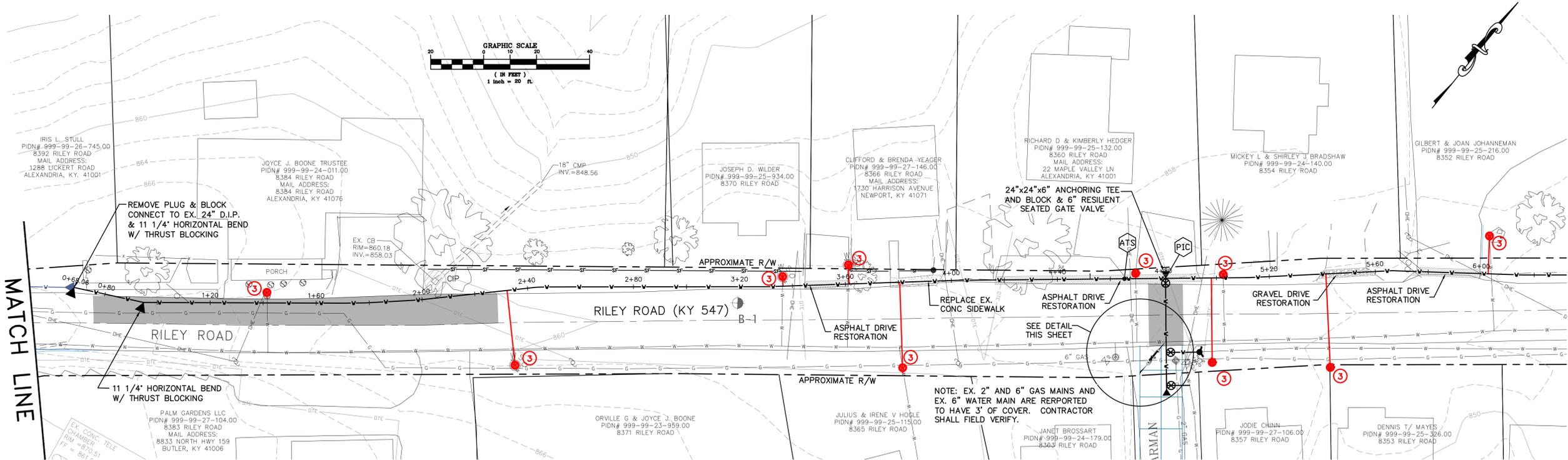
WEBSITE: <http://www.cardinalengineering.net>

PROJECT:
PHASE V
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION
CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KY 41018-0640

DRAWN BY: SEAL
TRP
CHECKED BY: KGH
KGH
PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
SCALE AS NOTED
DATE 12-01-09

SWPP DETAILS
SHEET C-2.1

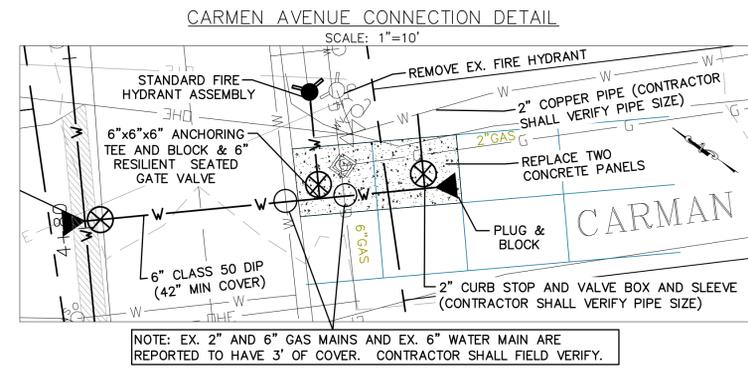


SEE SHEET C-3.1

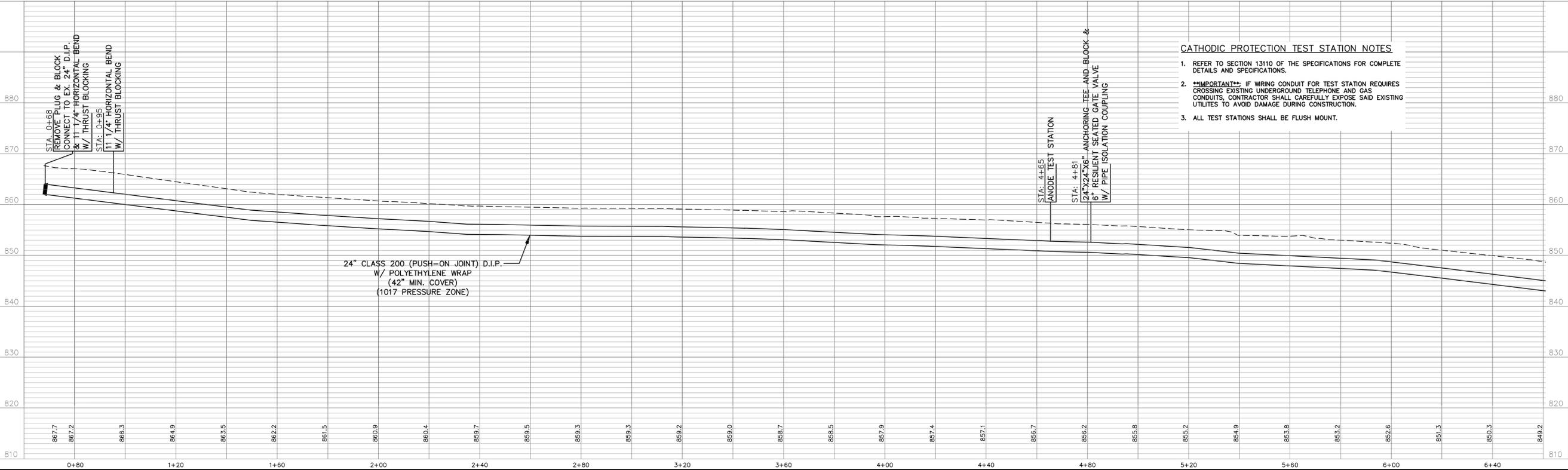
MATCH LINE

MATCH LINE

NOTE: EX. 2" AND 6" GAS MAINS AND EX. 6" WATER MAIN ARE REPORTED TO HAVE 3' OF COVER. CONTRACTOR SHALL FIELD VERIFY.



NOTE: EX. 2" AND 6" GAS MAINS AND EX. 6" WATER MAIN ARE REPORTED TO HAVE 3' OF COVER. CONTRACTOR SHALL FIELD VERIFY.



CATHODIC PROTECTION TEST STATION NOTES

1. REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
2. **IMPORTANT:** IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
3. ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-2600
FAX: (859) 581-2630
WEBSITE: <http://www.cardinalengineering.net>

PROJECT: PHASE V
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

DRAWN BY: SEAL

TRP

CHECKED BY: KGH

PROJECT MANAGER: KGH

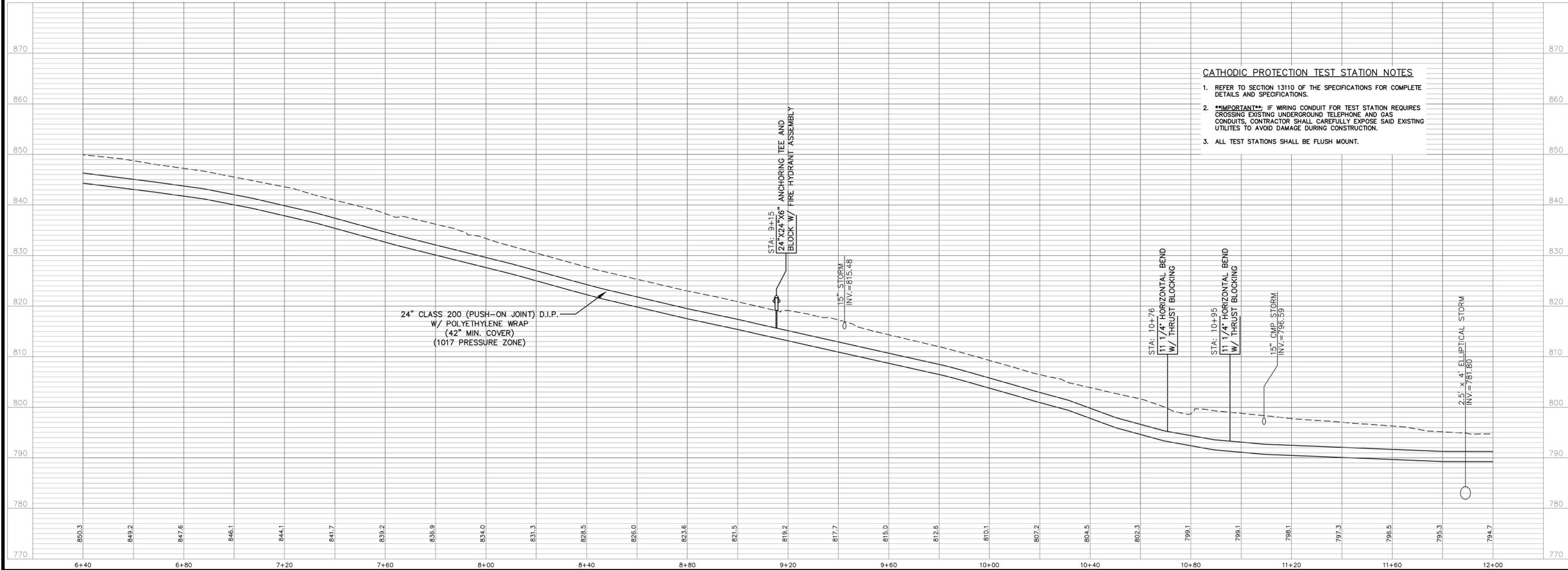
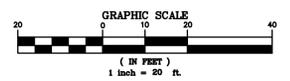
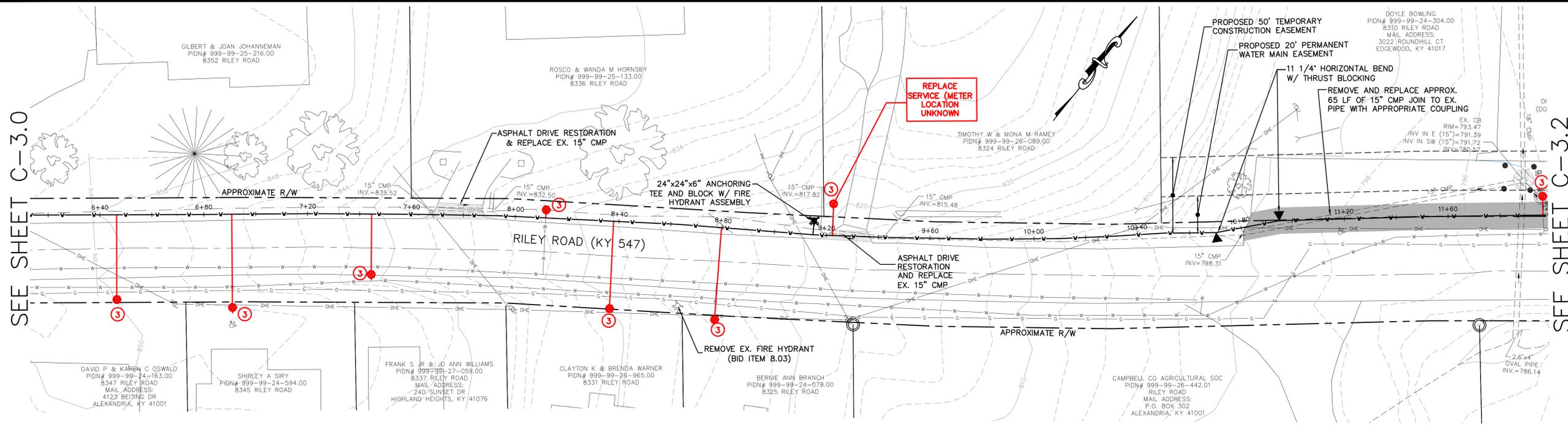
PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE

SHEET **C-3.0**

SEE SHEET C-3.0

SEE SHEET C-3.2



CATHODIC PROTECTION TEST STATION NOTES

1. REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
2. ****IMPORTANT****: IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
3. ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

DOYLE BOWLING
PIDN# 999-99-24-304.00
8310 RILEY ROAD
MAIL ADDRESS:
3022 ROUNDHILL CT
EDGEWOOD, KY 41017

TIMOTHY W & MONA M RAMEY
PIDN# 999-99-26-089.00
8324 RILEY ROAD

DAVID P & KAREN C OSWALD
PIDN# 999-99-24-163.00
8347 RILEY ROAD
MAIL ADDRESS:
4123 BEIJING DR
ALEXANDRIA, KY 41001

SHIRLEY A SIRY
PIDN# 999-99-24-594.00
8345 RILEY ROAD

FRANK S JR & JO ANN WILLIAMS
PIDN# 999-99-27-059.00
8337 RILEY ROAD
MAIL ADDRESS:
240 SUNSET DR
HIGHLAND HEIGHTS, KY 41076

CLAYTON K & BRENDA WARNER
PIDN# 999-99-26-965.00
8331 RILEY ROAD

BERNIE ANN BRANCH
PIDN# 999-99-24-078.00
8325 RILEY ROAD

CAMPBELL CO AGRICULTURAL SOC
PIDN# 999-99-26-442.01
RILEY ROAD
MAIL ADDRESS:
P.O. BOX 302
ALEXANDRIA, KY 41001

2.6'x4' OVAL PIPE / INV=786.14

EX. CB
RIM=793.47
INV IN E (15")=791.59
INV IN SW (15")=791.72
INV=780.57

PROPOSED 50' TEMPORARY CONSTRUCTION EASEMENT

PROPOSED 20' PERMANENT WATER MAIN EASEMENT

11 1/4" HORIZONTAL BEND W/ THRUST BLOCKING

REMOVE AND REPLACE APPROX. 65 LF OF 15" CMP JOIN TO EX. PIPE WITH APPROPRIATE COUPLING

REPLACE SERVICE (METER LOCATION UNKNOWN)

ASPHALT DRIVE RESTORATION & REPLACE EX. 15" CMP

ASPHALT DRIVE RESTORATION AND REPLACE EX. 15" CMP

REMOVE EX. FIRE HYDRANT (BID ITEM 8.03)

APPROXIMATE R/W

APPROXIMATE R/W

RILEY ROAD (KY 547)

24" x 24" x 6" ANCHORING TEE AND BLOCK W/ FIRE HYDRANT ASSEMBLY

GILBERT & JOAN JOHANNEMAN
PIDN# 999-99-25-216.00
8352 RILEY ROAD

ROSCO & WANDA M HORNSBY
PIDN# 999-99-25-133.00
8336 RILEY ROAD

DAVID P & KAREN C OSWALD
PIDN# 999-99-24-163.00
8347 RILEY ROAD
MAIL ADDRESS:
4123 BEIJING DR
ALEXANDRIA, KY 41001

SHIRLEY A SIRY
PIDN# 999-99-24-594.00
8345 RILEY ROAD

FRANK S JR & JO ANN WILLIAMS
PIDN# 999-99-27-059.00
8337 RILEY ROAD
MAIL ADDRESS:
240 SUNSET DR
HIGHLAND HEIGHTS, KY 41076

CLAYTON K & BRENDA WARNER
PIDN# 999-99-26-965.00
8331 RILEY ROAD

BERNIE ANN BRANCH
PIDN# 999-99-24-078.00
8325 RILEY ROAD

CAMPBELL CO AGRICULTURAL SOC
PIDN# 999-99-26-442.01
RILEY ROAD
MAIL ADDRESS:
P.O. BOX 302
ALEXANDRIA, KY 41001

2.6'x4' OVAL PIPE / INV=786.14

EX. CB
RIM=793.47
INV IN E (15")=791.59
INV IN SW (15")=791.72
INV=780.57

PROPOSED 50' TEMPORARY CONSTRUCTION EASEMENT

PROPOSED 20' PERMANENT WATER MAIN EASEMENT

11 1/4" HORIZONTAL BEND W/ THRUST BLOCKING

REMOVE AND REPLACE APPROX. 65 LF OF 15" CMP JOIN TO EX. PIPE WITH APPROPRIATE COUPLING

REPLACE SERVICE (METER LOCATION UNKNOWN)

ASPHALT DRIVE RESTORATION & REPLACE EX. 15" CMP

ASPHALT DRIVE RESTORATION AND REPLACE EX. 15" CMP

REMOVE EX. FIRE HYDRANT (BID ITEM 8.03)

APPROXIMATE R/W

APPROXIMATE R/W

RILEY ROAD (KY 547)

24" x 24" x 6" ANCHORING TEE AND BLOCK W/ FIRE HYDRANT ASSEMBLY

GILBERT & JOAN JOHANNEMAN
PIDN# 999-99-25-216.00
8352 RILEY ROAD

ROSCO & WANDA M HORNSBY
PIDN# 999-99-25-133.00
8336 RILEY ROAD

DAVID P & KAREN C OSWALD
PIDN# 999-99-24-163.00
8347 RILEY ROAD
MAIL ADDRESS:
4123 BEIJING DR
ALEXANDRIA, KY 41001

SHIRLEY A SIRY
PIDN# 999-99-24-594.00
8345 RILEY ROAD

FRANK S JR & JO ANN WILLIAMS
PIDN# 999-99-27-059.00
8337 RILEY ROAD
MAIL ADDRESS:
240 SUNSET DR
HIGHLAND HEIGHTS, KY 41076

CLAYTON K & BRENDA WARNER
PIDN# 999-99-26-965.00
8331 RILEY ROAD

BERNIE ANN BRANCH
PIDN# 999-99-24-078.00
8325 RILEY ROAD

CAMPBELL CO AGRICULTURAL SOC
PIDN# 999-99-26-442.01
RILEY ROAD
MAIL ADDRESS:
P.O. BOX 302
ALEXANDRIA, KY 41001

2.6'x4' OVAL PIPE / INV=786.14

EX. CB
RIM=793.47
INV IN E (15")=791.59
INV IN SW (15")=791.72
INV=780.57

PROPOSED 50' TEMPORARY CONSTRUCTION EASEMENT

PROPOSED 20' PERMANENT WATER MAIN EASEMENT

11 1/4" HORIZONTAL BEND W/ THRUST BLOCKING

REMOVE AND REPLACE APPROX. 65 LF OF 15" CMP JOIN TO EX. PIPE WITH APPROPRIATE COUPLING

REPLACE SERVICE (METER LOCATION UNKNOWN)

ASPHALT DRIVE RESTORATION & REPLACE EX. 15" CMP

ASPHALT DRIVE RESTORATION AND REPLACE EX. 15" CMP

REMOVE EX. FIRE HYDRANT (BID ITEM 8.03)

APPROXIMATE R/W

APPROXIMATE R/W

RILEY ROAD (KY 547)

24" x 24" x 6" ANCHORING TEE AND BLOCK W/ FIRE HYDRANT ASSEMBLY

WEBSITE: <http://www.cardinalengineering.net>

PHASE V
PROJECT:
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

DRAWN BY: SEAL

TRP

CHECKED BY: KGH

PROJECT MANAGER: KGH

PROJECT NO. 06-024-05

SCALE 1"=20' HOR 1"=10' VERT

DATE 12-01-09

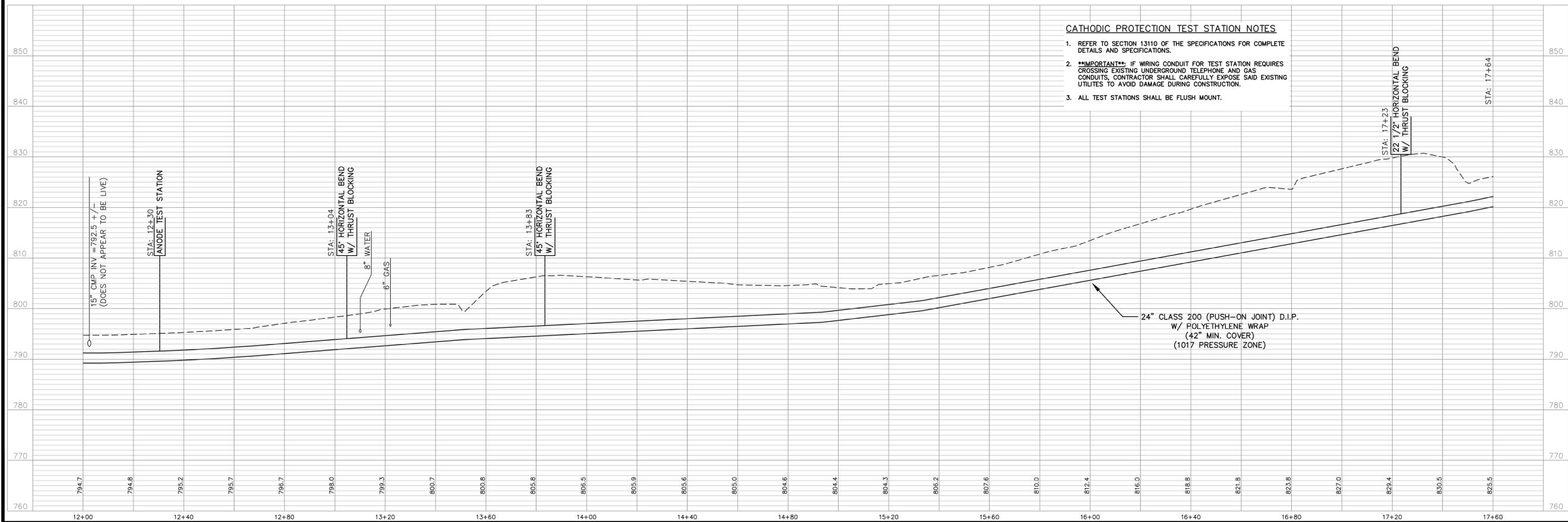
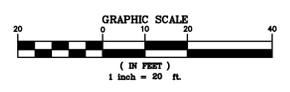
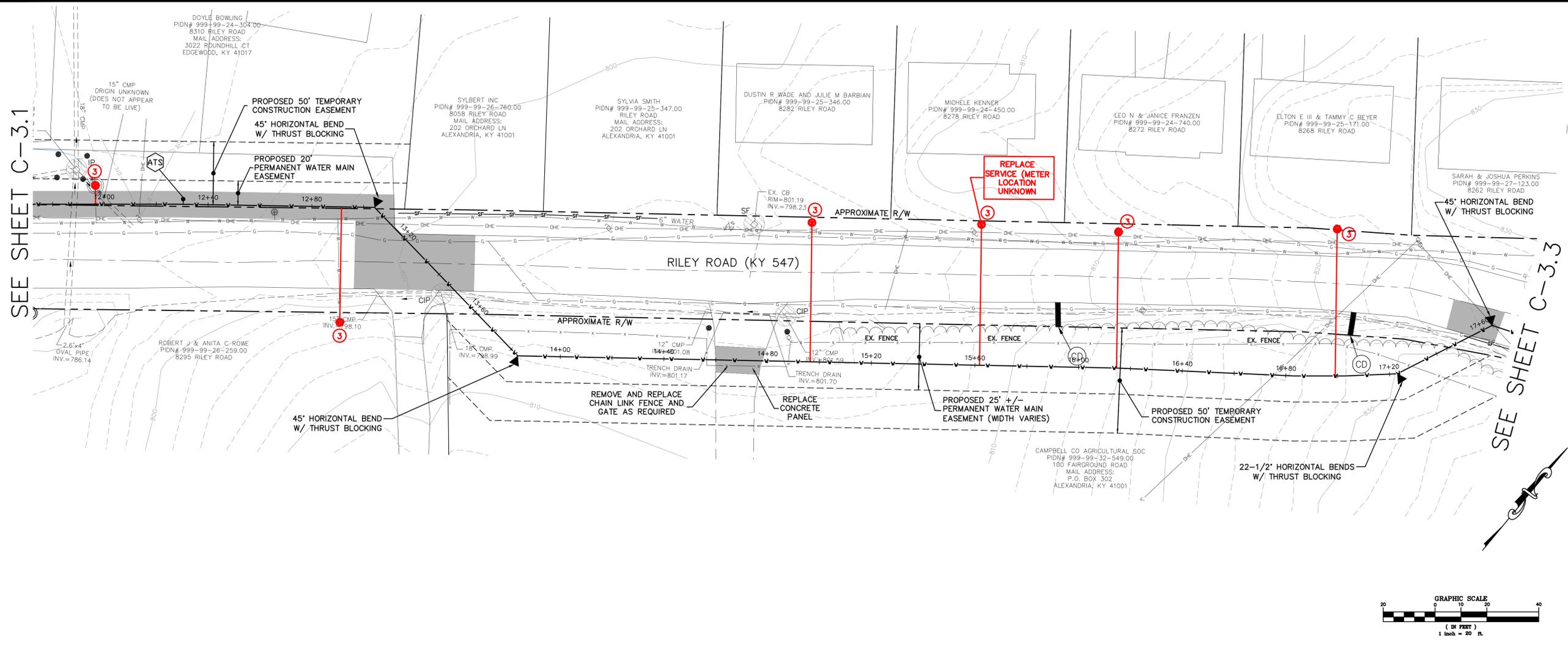
PLAN AND PROFILE

SHEET C-3.1

STATE OF KENTUCKY
KEVIN G. HANSON
1989.3
LICENSED PROFESSIONAL ENGINEER

SEE SHEET C-3.1

SEE SHEET C-3.3



CATHODIC PROTECTION TEST STATION NOTES

1. REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
2. ****IMPORTANT****: IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
3. ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCKER ROAD
WILDER, KENTUCKY 41071
PHONE: (659) 581-9600
FAX: (659) 581-9630

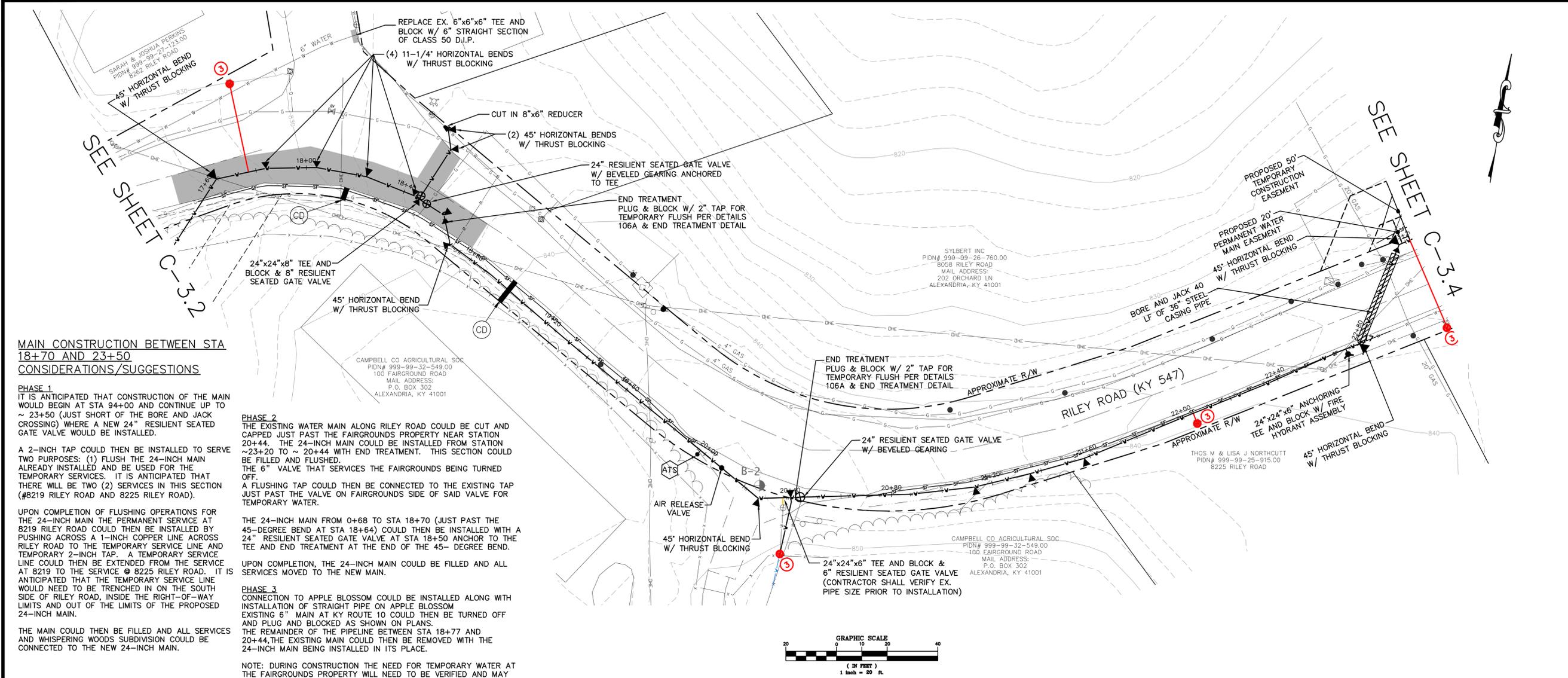
WEBSITE: <http://www.cardinalengineering.net>

PHASE V
PROJECT: RIPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION
CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

DRAWN BY: SEAL
TRP
CHECKED BY: KGH
PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE
SHEET **C-3.2**



MAIN CONSTRUCTION BETWEEN STA 18+70 AND 23+50
CONSIDERATIONS/SUGGESTIONS

PHASE 1
 IT IS ANTICIPATED THAT CONSTRUCTION OF THE MAIN WOULD BEGIN AT STA 94+00 AND CONTINUE UP TO ~ 23+50 (JUST SHORT OF THE BORE AND JACK CROSSING) WHERE A NEW 24" RESILIENT SEATED GATE VALVE WOULD BE INSTALLED.

A 2-INCH TAP COULD THEN BE INSTALLED TO SERVICE TWO PURPOSES: (1) FLUSH THE 24-INCH MAIN ALREADY INSTALLED AND BE USED FOR THE TEMPORARY SERVICES. IT IS ANTICIPATED THAT THERE WILL BE TWO (2) SERVICES IN THIS SECTION (#8219 RILEY ROAD AND 8225 RILEY ROAD).

UPON COMPLETION OF FLUSHING OPERATIONS FOR THE 24-INCH MAIN THE PERMANENT SERVICE AT 8219 RILEY ROAD COULD THEN BE INSTALLED BY PUSHING ACROSS A 1-INCH COPPER LINE ACROSS RILEY ROAD TO THE TEMPORARY SERVICE LINE AND TEMPORARY 2-INCH TAP. A TEMPORARY SERVICE LINE COULD THEN BE EXTENDED FROM THE SERVICE AT 8219 TO THE SERVICE @ 8225 RILEY ROAD. IT IS ANTICIPATED THAT THE TEMPORARY SERVICE LINE WOULD NEED TO BE TRENCHED IN ON THE SOUTH SIDE OF RILEY ROAD, INSIDE THE RIGHT-OF-WAY LIMITS AND OUT OF THE LIMITS OF THE PROPOSED 24-INCH MAIN.

THE MAIN COULD THEN BE FILLED AND ALL SERVICES AND WHISPERING WOODS SUBDIVISION COULD BE CONNECTED TO THE NEW 24-INCH MAIN.

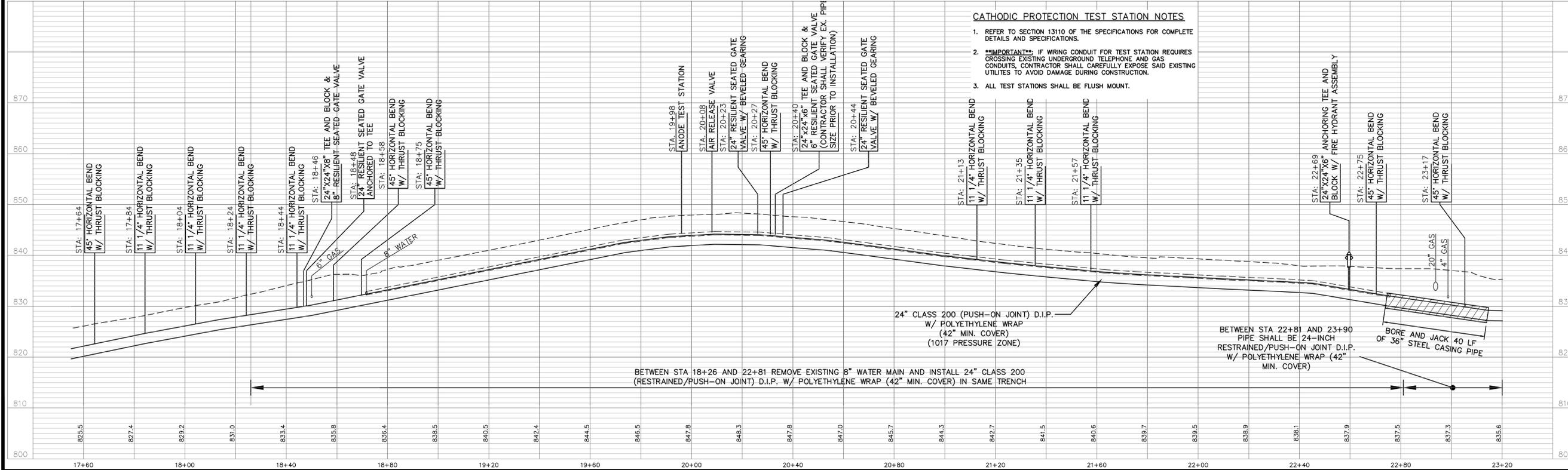
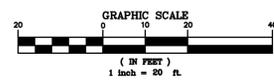
PHASE 2
 THE EXISTING WATER MAIN ALONG RILEY ROAD COULD BE CUT AND CAPPED JUST PAST THE FAIRGROUNDS PROPERTY NEAR STATION 20+44. THE 24-INCH MAIN COULD BE INSTALLED FROM STATION ~23+20 TO ~20+44 WITH END TREATMENT. THIS SECTION COULD BE FILLED AND FLUSHED. THE 6" VALVE THAT SERVICES THE FAIRGROUNDS BEING TURNED OFF. A FLUSHING TAP COULD THEN BE CONNECTED TO THE EXISTING TAP JUST PAST THE VALVE ON FAIRGROUNDS SIDE OF SAID VALVE FOR TEMPORARY WATER.

THE 24-INCH MAIN FROM 0+68 TO STA 18+70 (JUST PAST THE 45-DEGREE BEND AT STA 18+64) COULD THEN BE INSTALLED WITH A 24" RESILIENT SEATED GATE VALVE AT STA 18+50 ANCHOR TO THE TEE AND END TREATMENT AT THE END OF THE 45- DEGREE BEND.

UPON COMPLETION, THE 24-INCH MAIN COULD BE FILLED AND ALL SERVICES MOVED TO THE NEW MAIN.

PHASE 3
 CONNECTION TO APPLE BLOSSOM COULD BE INSTALLED ALONG WITH INSTALLATION OF STRAIGHT PIPE ON APPLE BLOSSOM EXISTING 6" MAIN AT KY ROUTE 10 COULD THEN BE TURNED OFF AND PLUG AND BLOCKED AS SHOWN ON PLANS. THE REMAINDER OF THE PIPELINE BETWEEN STA 18+77 AND 20+44, THE EXISTING MAIN COULD THEN BE REMOVED WITH THE 24-INCH MAIN BEING INSTALLED IN ITS PLACE.

NOTE: DURING CONSTRUCTION THE NEED FOR TEMPORARY WATER AT THE FAIRGROUNDS PROPERTY WILL NEED TO BE VERIFIED AND MAY EFFECT CONSTRUCTION SEQUENCING.



CATHODIC PROTECTION TEST STATION NOTES

- REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
- **IMPORTANT****: IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
- ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

CARDINAL
 ENGINEERING
 ARCHITECTURE
 LAND SURVEYING
 ONE MOCKER ROAD
 WILDER, KENTUCKY 41071
 PHONE: (609) 581-2600
 FAX: (609) 581-2630

WEBSITE: <http://www.cardinalengineering.net>

PHASE V
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

PROJECT NO. 06-024-05
 SCALE 1"=20' HOR 1"=10' VERT
 DATE 12-01-09

PLAN AND PROFILE

SHEET **C-3.3**

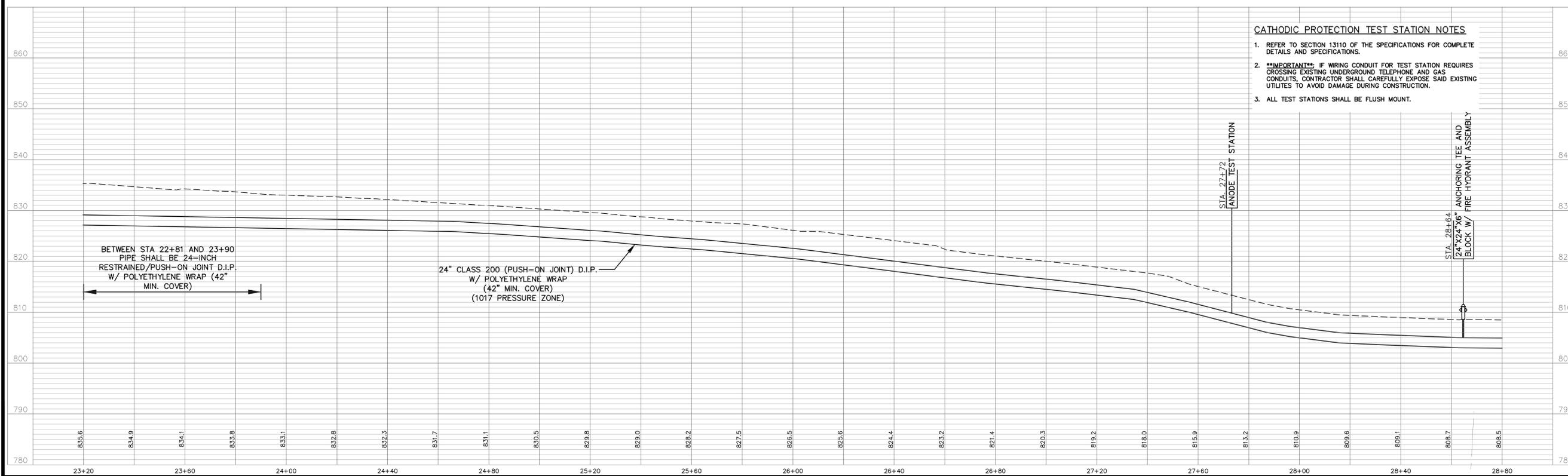
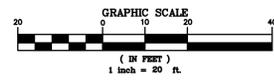
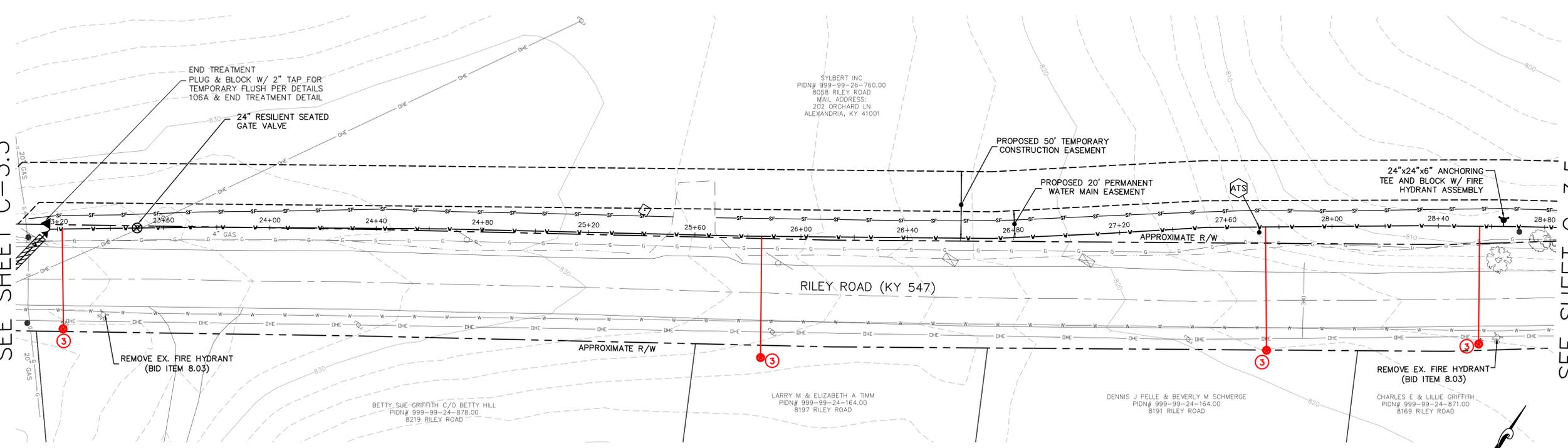
DRAWN BY: SEAL

CHECKED BY: TRP

PROJECT MANAGER: KGH

SEE SHEET C-3.3

SEE SHEET C-3.5



- CATHODIC PROTECTION TEST STATION NOTES**
1. REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
 2. ****IMPORTANT****: IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
 3. ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOORE ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-2600
FAX: (859) 581-2630

WEBSITE: <http://www.cardinalengineering.net>

PHASE V
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

PROJECT: **C-3.4**

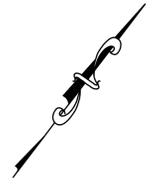
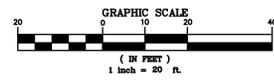
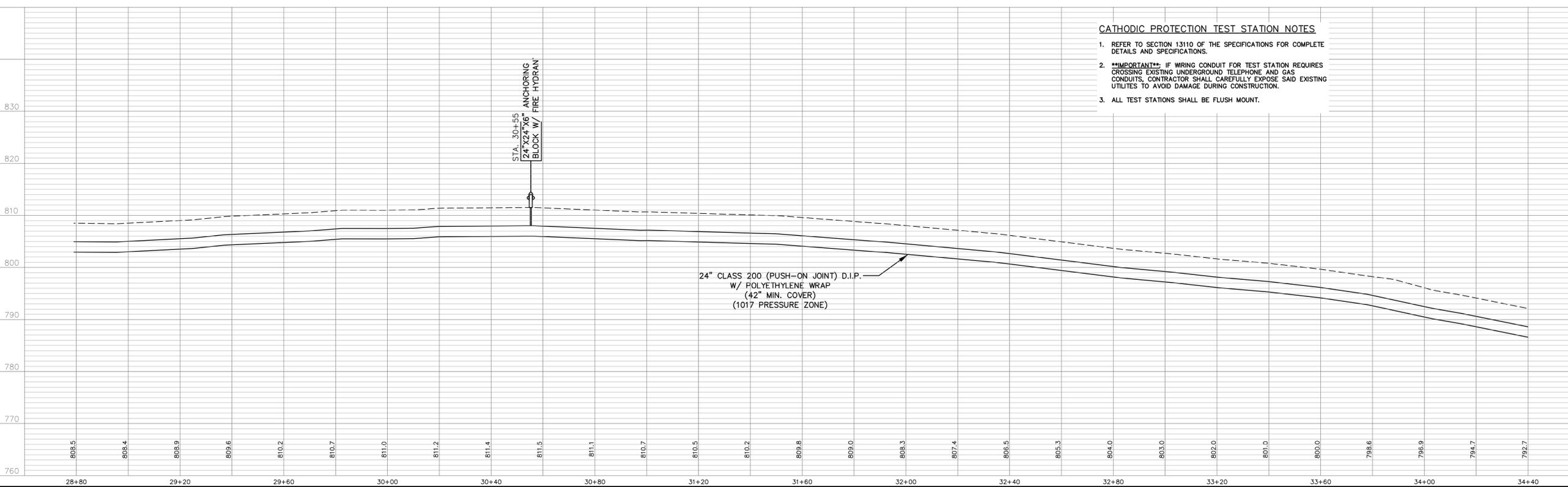
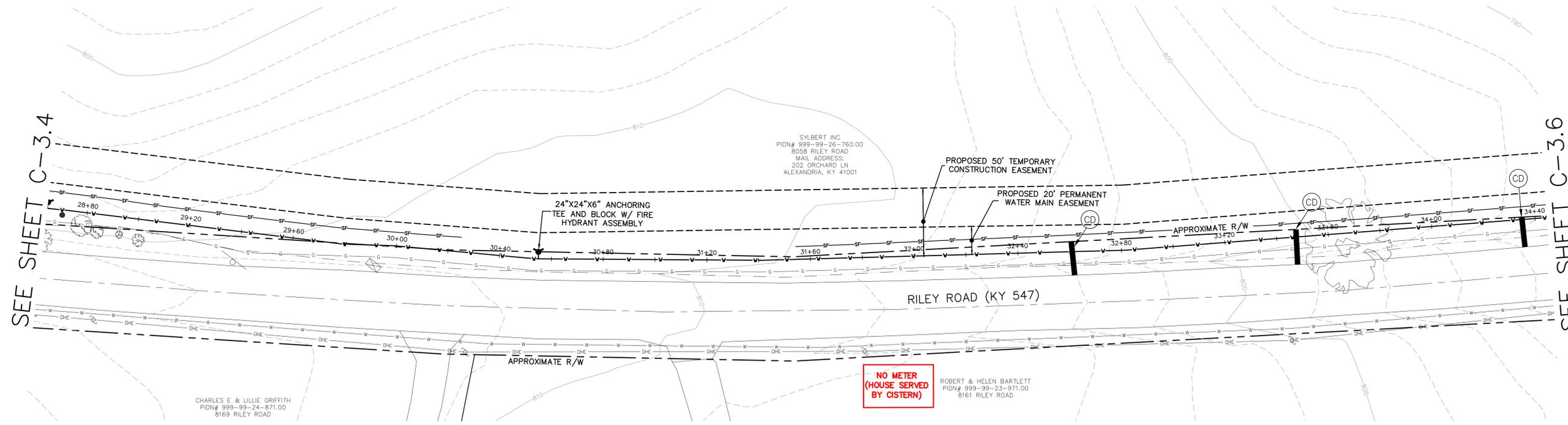
DRAWN BY: SEAL
TRP

CHECKED BY: KGH
KEVIN G. HANSON
1989.3
LICENSED PROFESSIONAL ENGINEER

PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE
SHEET **C-3.4**



REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCKER ROAD
WILDER, KENTUCKY 41071
PHONE: (609) 581-2600
FAX: (609) 581-2630

WEBSITE: <http://www.cardinalengineering.net>

PHASE V
PROJECT:
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

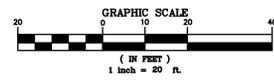
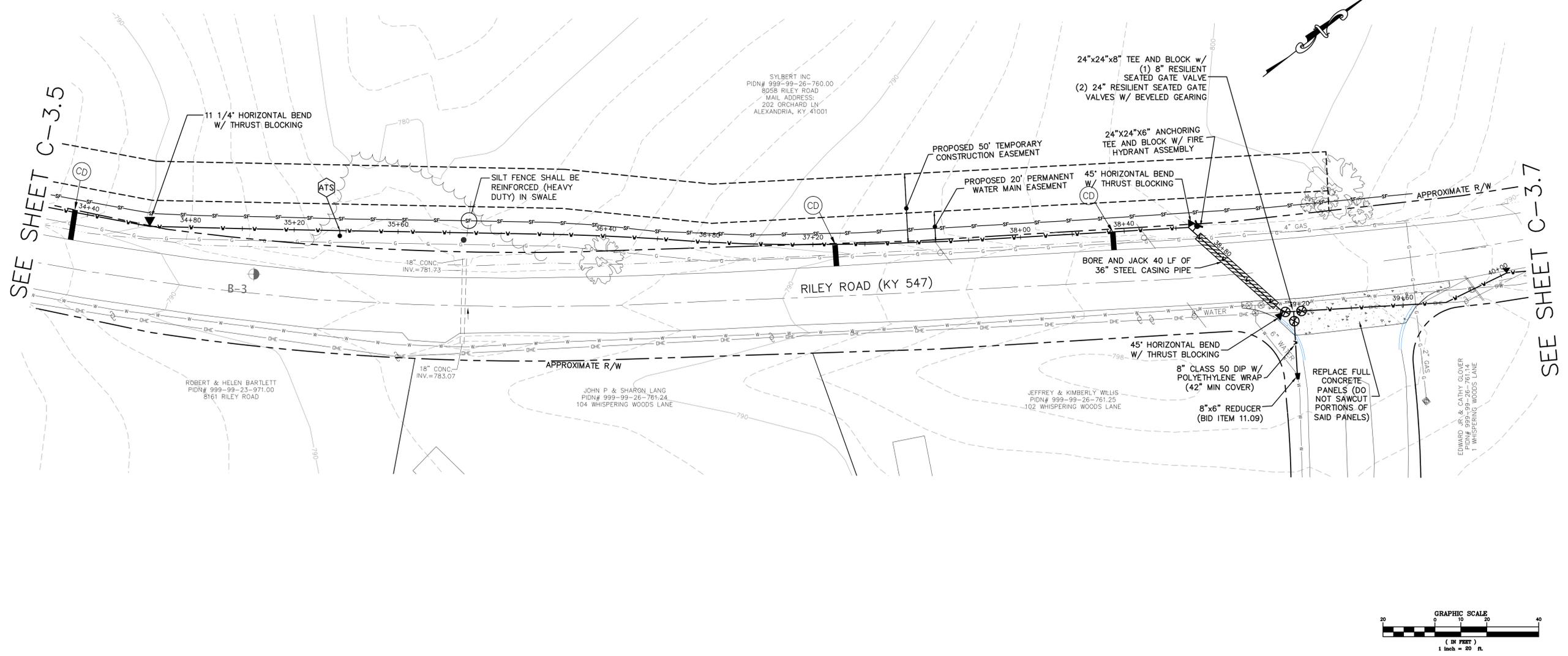
DRAWN BY: TRP
CHECKED BY: KGH
PROJECT MANAGER: KGH

SEAL
STATE OF KENTUCKY
KEVIN G. HANSON
19893
LICENSED PROFESSIONAL ENGINEER

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09
PLAN AND PROFILE
SHEET **C-3.5**

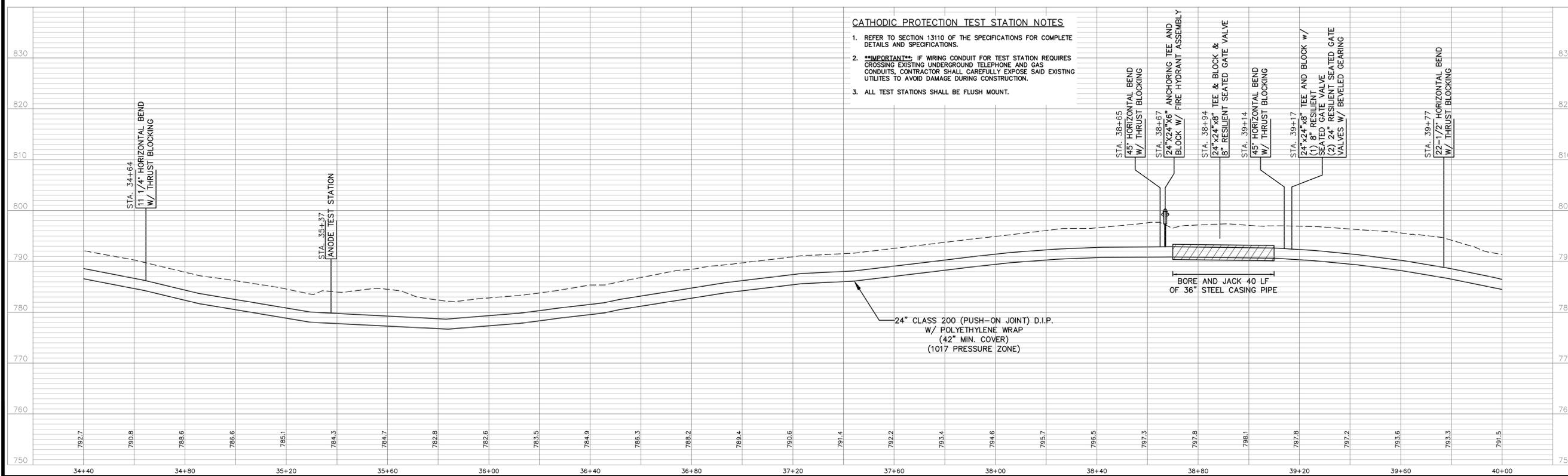
SEE SHEET C-3.5

SEE SHEET C-3.7



CATHODIC PROTECTION TEST STATION NOTES

1. REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
2. ****IMPORTANT**** IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
3. ALL TEST STATIONS SHALL BE FLUSH MOUNT.



REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCKER ROAD
WILDER, KENTUCKY 41071
PHONE: (609) 581-2600
FAX: (609) 581-2630
WEBSITE: <http://www.cardinalengineering.net>

PHASE V
PROJECT:
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION
CLIENT:
NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

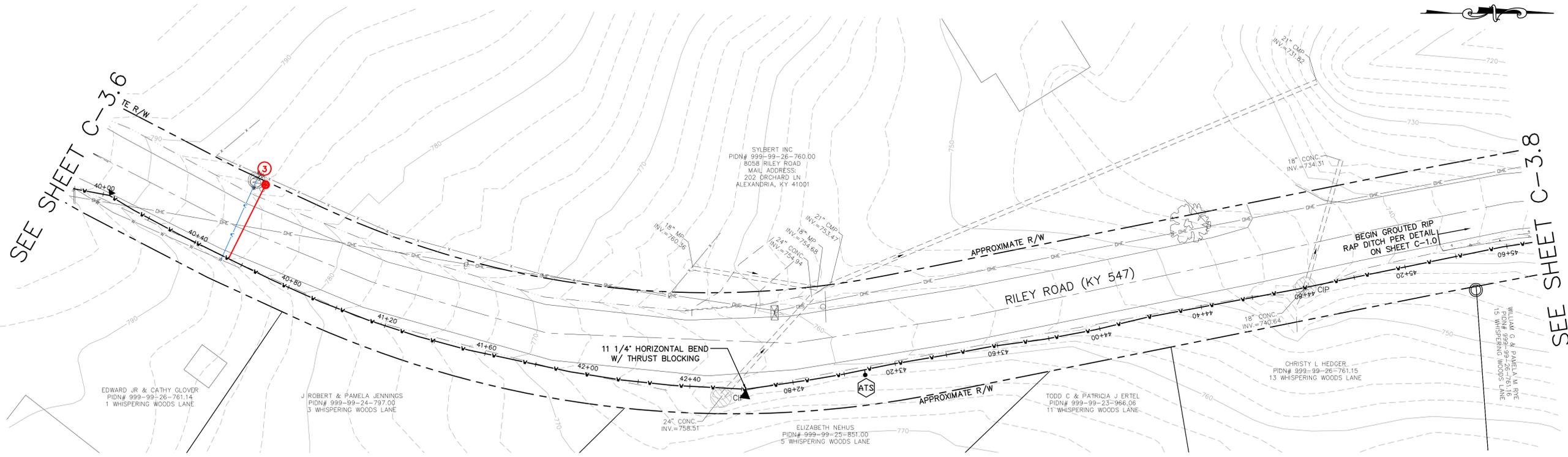
DRAWN BY: SEAL
TRP
CHECKED BY: KGH
PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE
SHEET **C-3.6**

SEE SHEET C-3.6

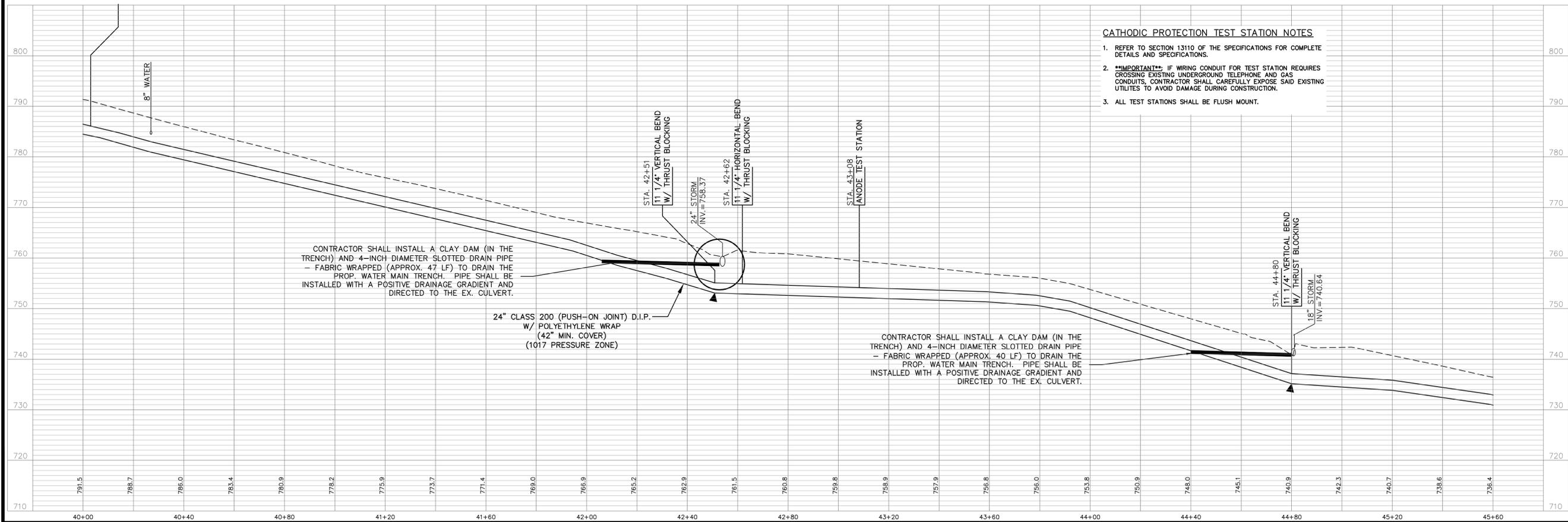
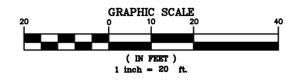
SEE SHEET C-3.8



KY 547 (RILEY ROAD) PAVEMENT

CONTRACTOR SHALL MAKE EVERY EFFORT TO PREVENT DAMAGE TO THE KY 547 (RILEY ROAD) PAVEMENT DURING CONSTRUCTION. IF ANY DAMAGE DOES OCCUR DURING CONSTRUCTION, THE CONTRACTOR, AT HIS/HER EXPENSE, SHALL REPAIR SAID DAMAGE TO THE SATISFACTION OF THE KENTUCKY DEPARTMENT OF TRANSPORTATION DISTRICT 6.

FOR BIDDING PURPOSES, THE CONTRACTOR SHOULD ANTICIPATE REPAIRING NOT ONLY THE DAMAGED SECTIONS, BUT MILLING AND PAVING ONE (1) LANE WIDTH IN SAID AREAS.



CATHODIC PROTECTION TEST STATION NOTES

- REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
- **IMPORTANT**** IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
- ALL TEST STATIONS SHALL BE FLUSH MOUNT.

CONTRACTOR SHALL INSTALL A CLAY DAM (IN THE TRENCH) AND 4-INCH DIAMETER SLOTTED DRAIN PIPE - FABRIC WRAPPED (APPROX. 47 LF) TO DRAIN THE PROP. WATER MAIN TRENCH. PIPE SHALL BE INSTALLED WITH A POSITIVE DRAINAGE GRADIENT AND DIRECTED TO THE EX. CULVERT.

CONTRACTOR SHALL INSTALL A CLAY DAM (IN THE TRENCH) AND 4-INCH DIAMETER SLOTTED DRAIN PIPE - FABRIC WRAPPED (APPROX. 40 LF) TO DRAIN THE PROP. WATER MAIN TRENCH. PIPE SHALL BE INSTALLED WITH A POSITIVE DRAINAGE GRADIENT AND DIRECTED TO THE EX. CULVERT.

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9630

WEBSITE: <http://www.cardinalengineering.net>

PHASE V
PROJECT: RIPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

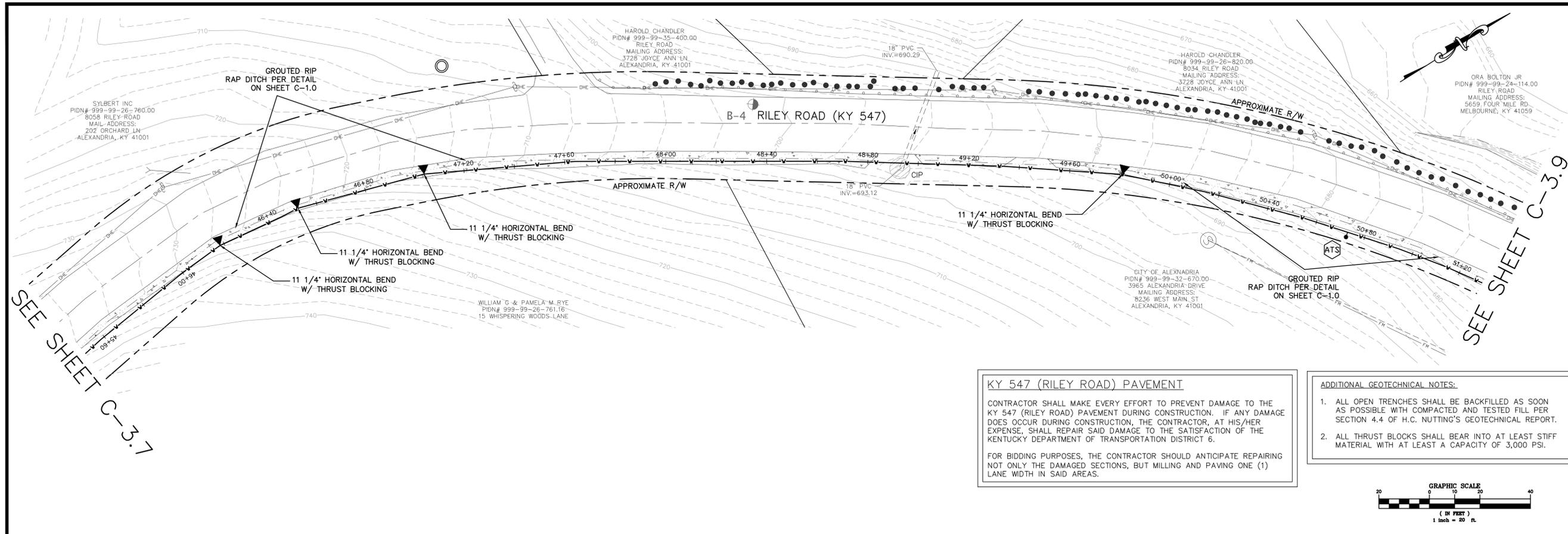
DRAWN BY: SEAL
TRP

CHECKED BY: KGH
KEVIN G. HANSON
1989.3
LICENSED PROFESSIONAL ENGINEER

PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE
SHEET **C-3.7**



SEE SHEET C-3.7

SEE SHEET C-3.9

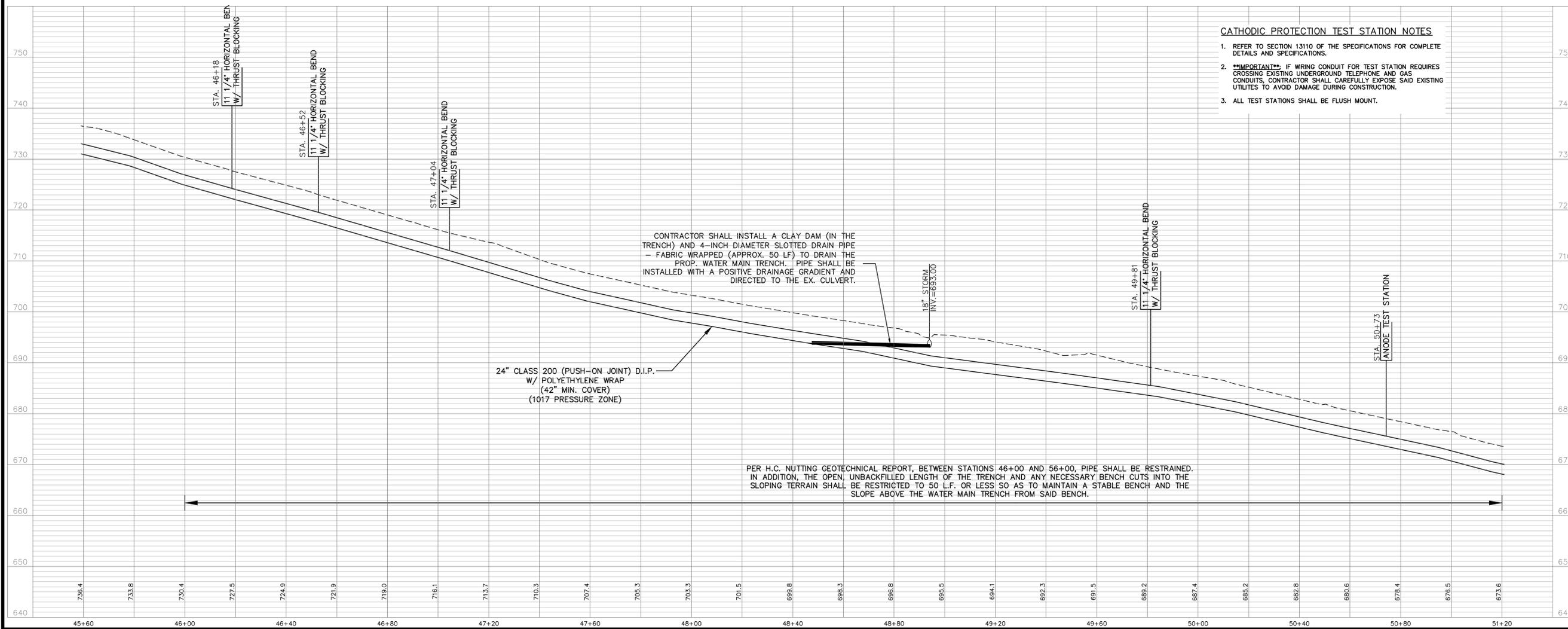
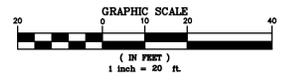
KY 547 (RILEY ROAD) PAVEMENT

CONTRACTOR SHALL MAKE EVERY EFFORT TO PREVENT DAMAGE TO THE KY 547 (RILEY ROAD) PAVEMENT DURING CONSTRUCTION. IF ANY DAMAGE DOES OCCUR DURING CONSTRUCTION, THE CONTRACTOR, AT HIS/HER EXPENSE, SHALL REPAIR SAID DAMAGE TO THE SATISFACTION OF THE KENTUCKY DEPARTMENT OF TRANSPORTATION DISTRICT 6.

FOR BIDDING PURPOSES, THE CONTRACTOR SHOULD ANTICIPATE REPAIRING NOT ONLY THE DAMAGED SECTIONS, BUT MILLING AND PAVING ONE (1) LANE WIDTH IN SAID AREAS.

ADDITIONAL GEOTECHNICAL NOTES:

- ALL OPEN TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE WITH COMPACTED AND TESTED FILL PER SECTION 4.4 OF H.C. NUTTING'S GEOTECHNICAL REPORT.
- ALL THRUST BLOCKS SHALL BEAR INTO AT LEAST STIFF MATERIAL WITH AT LEAST A CAPACITY OF 3,000 PSI.



CATHODIC PROTECTION TEST STATION NOTES

- REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
- **IMPORTANT**** - IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
- ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

CARDINAL

ENGINEERING
ARCHITECTURE
LAND SURVEYING

ONE MOORE ROAD
WILDER, KENTUCKY 41071
PHONE: (609) 581-9600
FAX: (609) 581-9630

WEBSITE: <http://www.cardinalengineering.net>

PHASE V
PROJECT: RIPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

DRAWN BY: SEAL

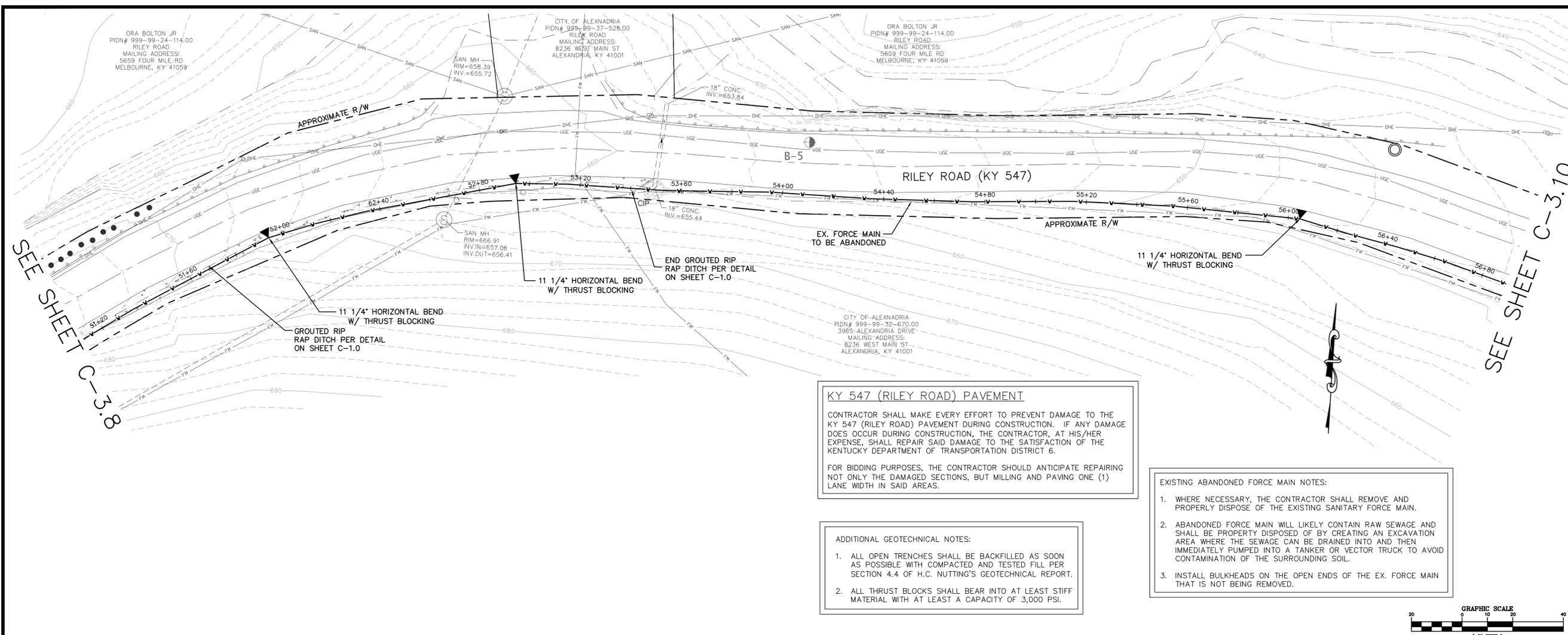
TRP

CHECKED BY: KGH

PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE
SHEET **C-3.8**



SEE SHEET C-3.8

SEE SHEET C-3.10

KY 547 (RILEY ROAD) PAVEMENT

CONTRACTOR SHALL MAKE EVERY EFFORT TO PREVENT DAMAGE TO THE KY 547 (RILEY ROAD) PAVEMENT DURING CONSTRUCTION. IF ANY DAMAGE DOES OCCUR DURING CONSTRUCTION, THE CONTRACTOR, AT HIS/HER EXPENSE, SHALL REPAIR SAID DAMAGE TO THE SATISFACTION OF THE KENTUCKY DEPARTMENT OF TRANSPORTATION DISTRICT 6.

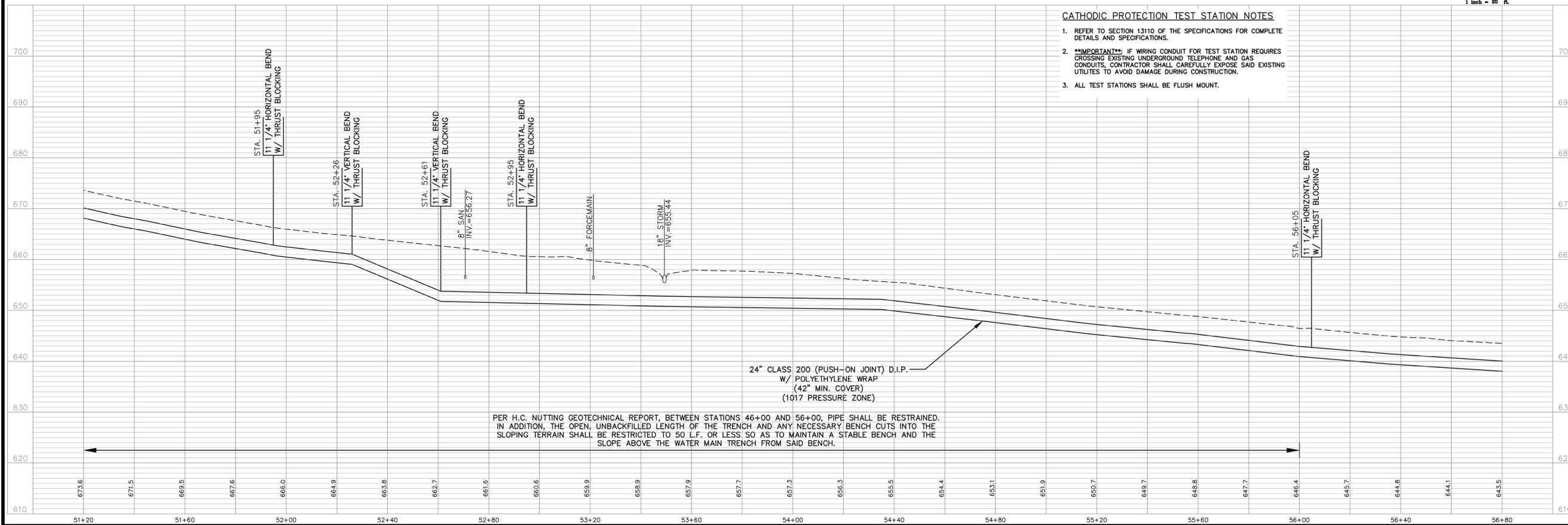
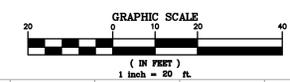
FOR BIDDING PURPOSES, THE CONTRACTOR SHOULD ANTICIPATE REPAIRING NOT ONLY THE DAMAGED SECTIONS, BUT MILLING AND PAVING ONE (1) LANE WIDTH IN SAID AREAS.

ADDITIONAL GEOTECHNICAL NOTES:

- ALL OPEN TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE WITH COMPACTED AND TESTED FILL PER SECTION 4.4 OF H.C. NUTTING'S GEOTECHNICAL REPORT.
- ALL THRUST BLOCKS SHALL BEAR INTO AT LEAST STIFF MATERIAL WITH AT LEAST A CAPACITY OF 3,000 PSI.

EXISTING ABANDONED FORCE MAIN NOTES:

- WHERE NECESSARY, THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF THE EXISTING SANITARY FORCE MAIN.
- ABANDONED FORCE MAIN WILL LIKELY CONTAIN RAW SEWAGE AND SHALL BE PROPERLY DISPOSED OF BY CREATING AN EXCAVATION AREA WHERE THE SEWAGE CAN BE DRAINED INTO AND THEN IMMEDIATELY PUMPED INTO A TANKER OR VECTOR TRUCK TO AVOID CONTAMINATION OF THE SURROUNDING SOIL.
- INSTALL BULKHEADS ON THE OPEN ENDS OF THE EX. FORCE MAIN THAT IS NOT BEING REMOVED.



CATHODIC PROTECTION TEST STATION NOTES

- REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
- **IMPORTANT**** IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
- ALL TEST STATIONS SHALL BE FLUSH MOUNT.

PER H.C. NUTTING GEOTECHNICAL REPORT, BETWEEN STATIONS 46+00 AND 56+00, PIPE SHALL BE RESTRAINED. IN ADDITION, THE OPEN, UNBACKFILLED LENGTH OF THE TRENCH AND ANY NECESSARY BENCH CUTS INTO THE SLOPING TERRAIN SHALL BE RESTRICTED TO 50 L.F. OR LESS SO AS TO MAINTAIN A STABLE BENCH AND THE SLOPE ABOVE THE WATER MAIN TRENCH FROM SAID BENCH.

REVISIONS	DATE	#	ITEM

CARDINAL

ENGINEERING
ARCHITECTURE
LAND SURVEYING

ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9630

WEBSITE: <http://www.cardinalengineering.net>

PHASE V
PROJECT: RIPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

DRAWN BY: TRP

CHECKED BY: KGH

PROJECT MANAGER: KGH

SEAL

STATE OF KENTUCKY
KEVIN G. HANSON
1989.3
LICENSED PROFESSIONAL ENGINEER

PROJECT NO. 06-024-05

SCALE 1"=20' HOR 1"=10' VERT

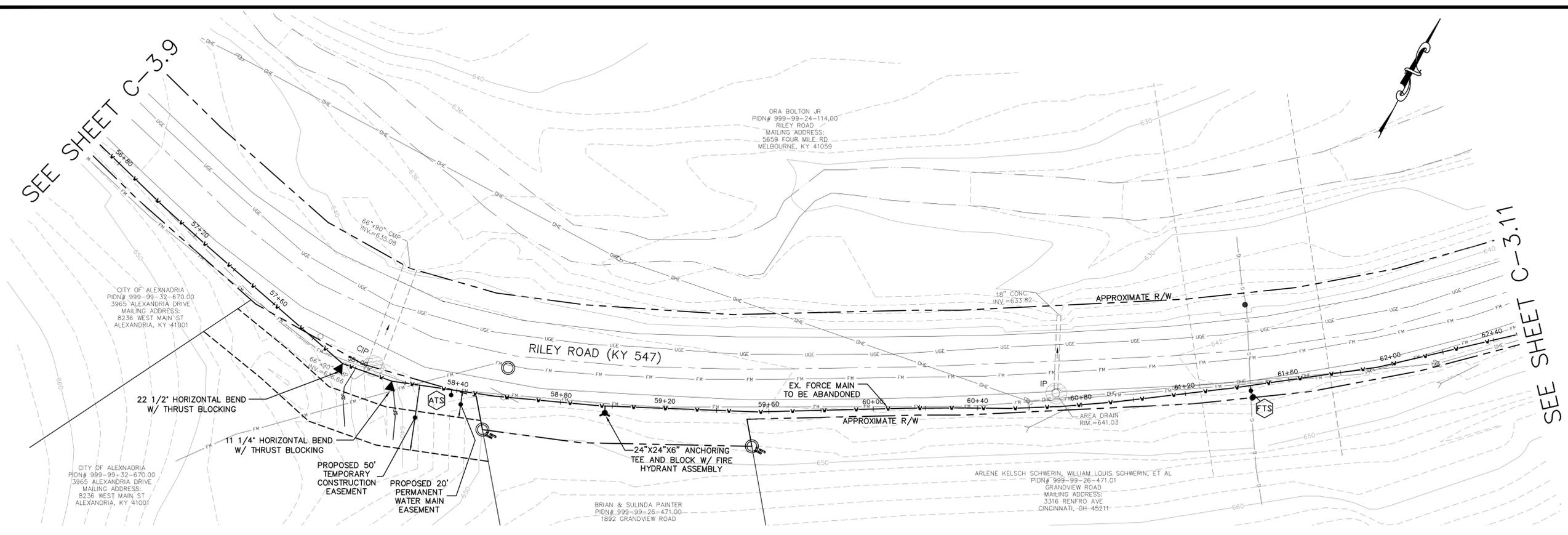
DATE 12-01-09

PLAN AND PROFILE

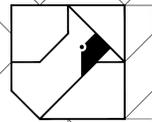
SHEET **C-3.9**

SEE SHEET C-3.9

SEE SHEET C-3.11



REVISIONS	DATE	#	ITEM



CARDINAL

ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCKER ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-2600
FAX: (859) 581-2630

WEBSITE: <http://www.cardinalengineering.net>

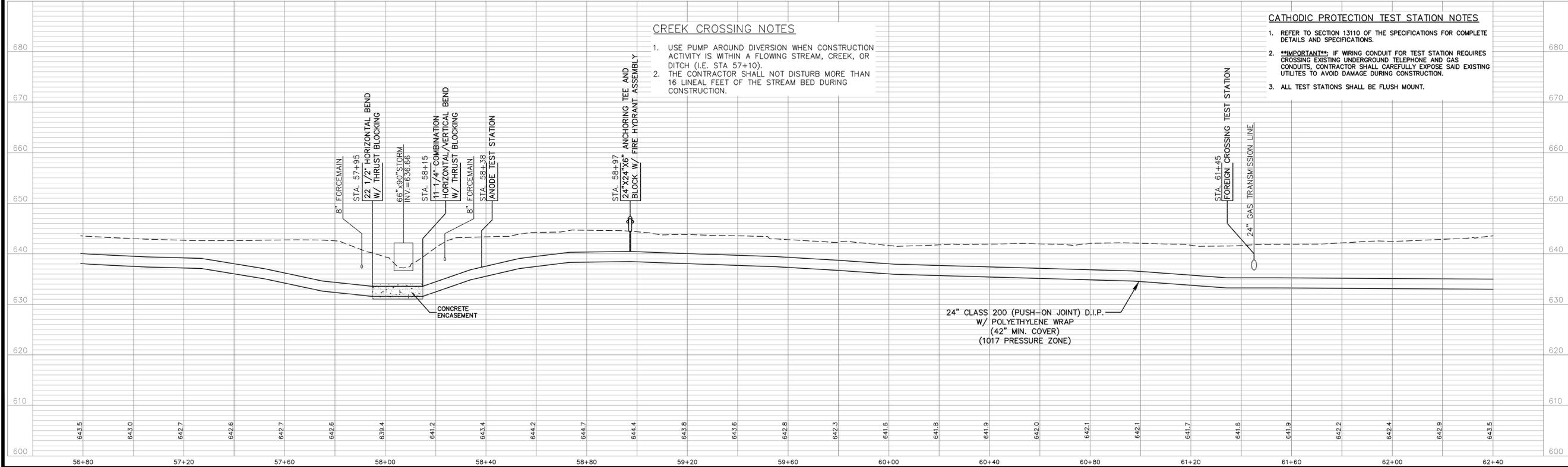
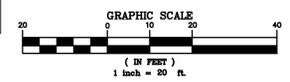
PHASE V
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION
CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

ADDITIONAL GEOTECHNICAL NOTES:

- ALL OPEN TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE WITH COMPACTED AND TESTED FILL PER SECTION 4.4 OF H.C. NUTTING'S GEOTECHNICAL REPORT.
- ALL THRUST BLOCKS SHALL BEAR INTO AT LEAST STIFF MATERIAL WITH AT LEAST A CAPACITY OF 3,000 PSI.

EXISTING ABANDONED FORCE MAIN NOTES:

- WHERE NECESSARY, THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF THE EXISTING SANITARY FORCE MAIN.
- ABANDONED FORCE MAIN WILL LIKELY CONTAIN RAW SEWAGE AND SHALL BE PROPERLY DISPOSED OF BY CREATING AN EXCAVATION AREA WHERE THE SEWAGE CAN BE DRAINED INTO AND THEN IMMEDIATELY PUMPED INTO A TANKER OR VECTOR TRUCK TO AVOID CONTAMINATION OF THE SURROUNDING SOIL.
- INSTALL BULKHEADS ON THE OPEN ENDS OF THE EX. FORCE MAIN THAT IS NOT BEING REMOVED.



CREEK CROSSING NOTES

- USE PUMP AROUND DIVERSION WHEN CONSTRUCTION ACTIVITY IS WITHIN A FLOWING STREAM, CREEK, OR DITCH (I.E. STA 57+10).
- THE CONTRACTOR SHALL NOT DISTURB MORE THAN 16 LINEAL FEET OF THE STREAM BED DURING CONSTRUCTION.

CATHODIC PROTECTION TEST STATION NOTES

- REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
- **IMPORTANT**** IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
- ALL TEST STATIONS SHALL BE FLUSH MOUNT.

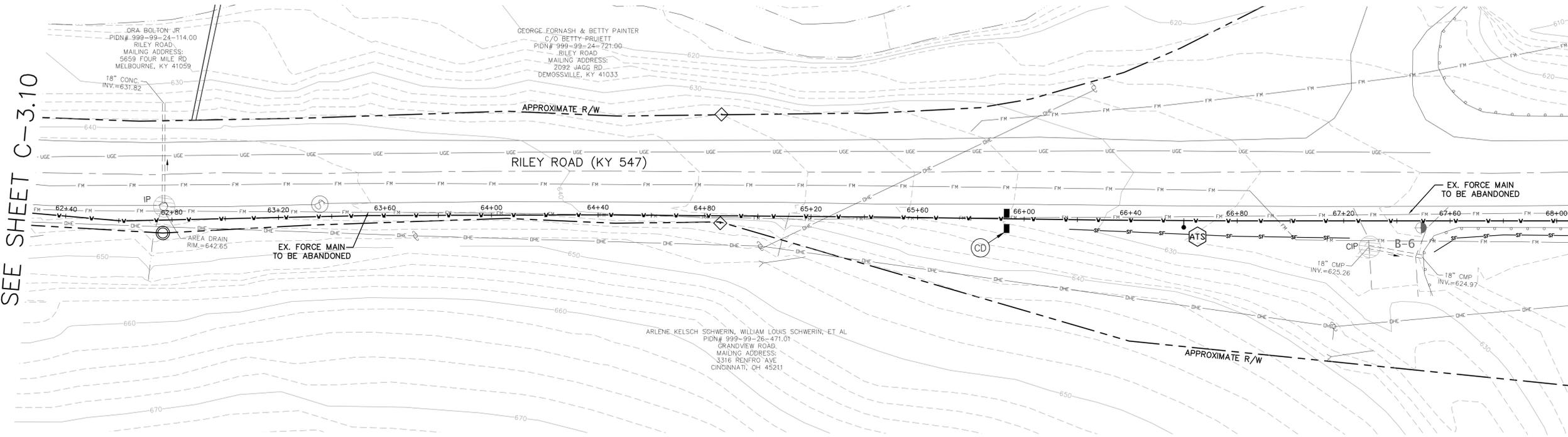
DRAWN BY: SEAL
TRP
CHECKED BY: KGH
PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE
SHEET **C-3.10**

SEE SHEET C-3.10

SEE SHEET C-3.12

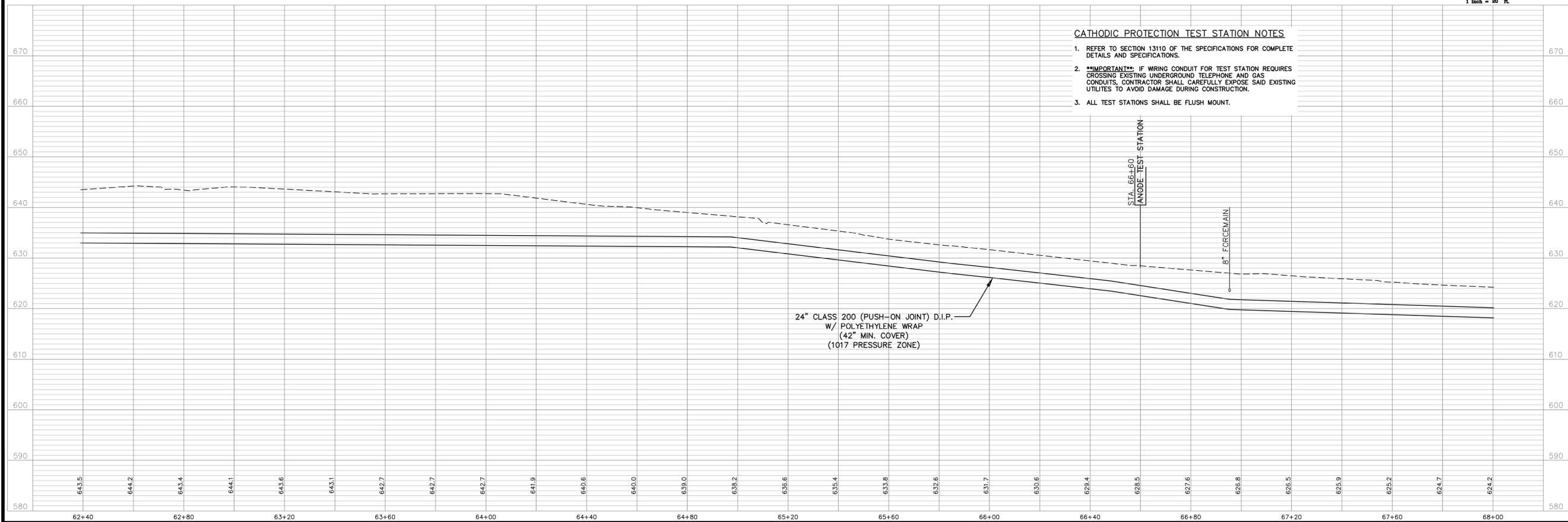
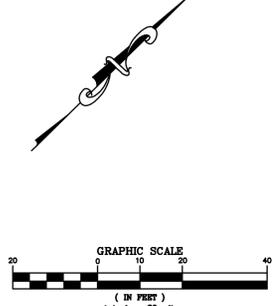


ADDITIONAL GEOTECHNICAL NOTES:

1. ALL OPEN TRENCHES SHALL BE BACKFILLED AS SOON AS POSSIBLE WITH COMPACTED AND TESTED FILL PER SECTION 4.4 OF H.C. NUTTING'S GEOTECHNICAL REPORT.
2. ALL THRUST BLOCKS SHALL BEAR INTO AT LEAST STIFF MATERIAL WITH AT LEAST A CAPACITY OF 3,000 PSI.

EXISTING ABANDONED FORCE MAIN NOTES:

1. WHERE NECESSARY, THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF THE EXISTING SANITARY FORCE MAIN.
2. ABANDONED FORCE MAIN WILL LIKELY CONTAIN RAW SEWAGE AND SHALL BE PROPERLY DISPOSED OF BY CREATING AN EXCAVATION AREA WHERE THE SEWAGE CAN BE DRAINED INTO AND THEN IMMEDIATELY PUMPED INTO A TANKER OR VECTOR TRUCK TO AVOID CONTAMINATION OF THE SURROUNDING SOIL.
3. INSTALL BULKHEADS ON THE OPEN ENDS OF THE EX. FORCE MAIN THAT IS NOT BEING REMOVED.



CATHODIC PROTECTION TEST STATION NOTES

1. REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
2. ****IMPORTANT**** IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
3. ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCKER ROAD
WILDER, KENTUCKY 41071
PHONE: (609) 581-9600
FAX: (609) 581-9630

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: PHASE V
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

DRAWN BY: SEAL
TRP

CHECKED BY: KGH
KEVIN G. HANSON
1989.3
LICENSED PROFESSIONAL ENGINEER

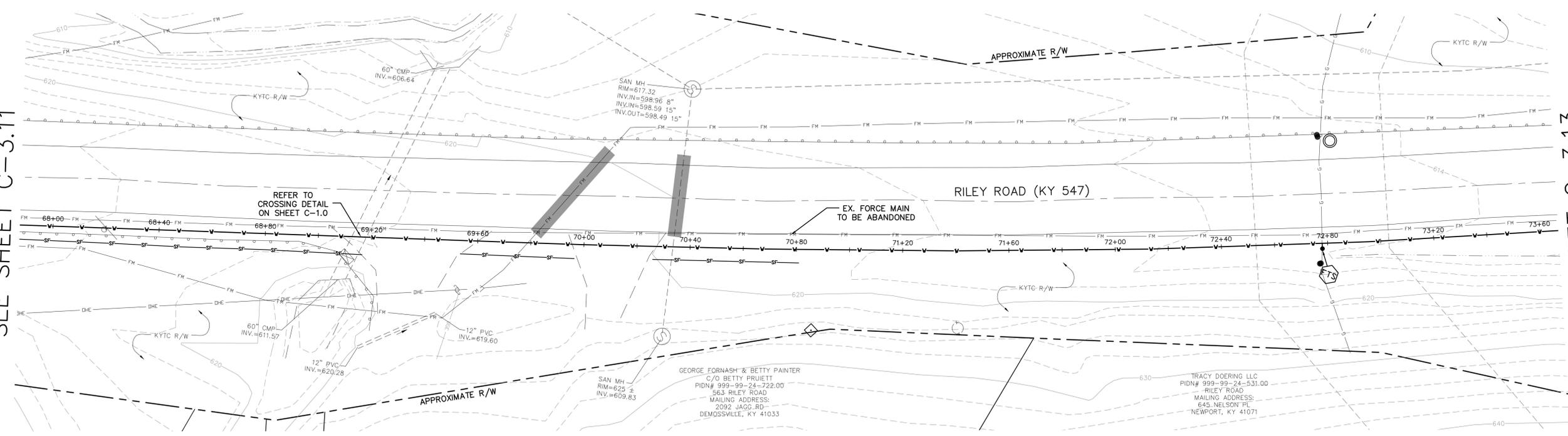
PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE
SHEET **C-3.11**

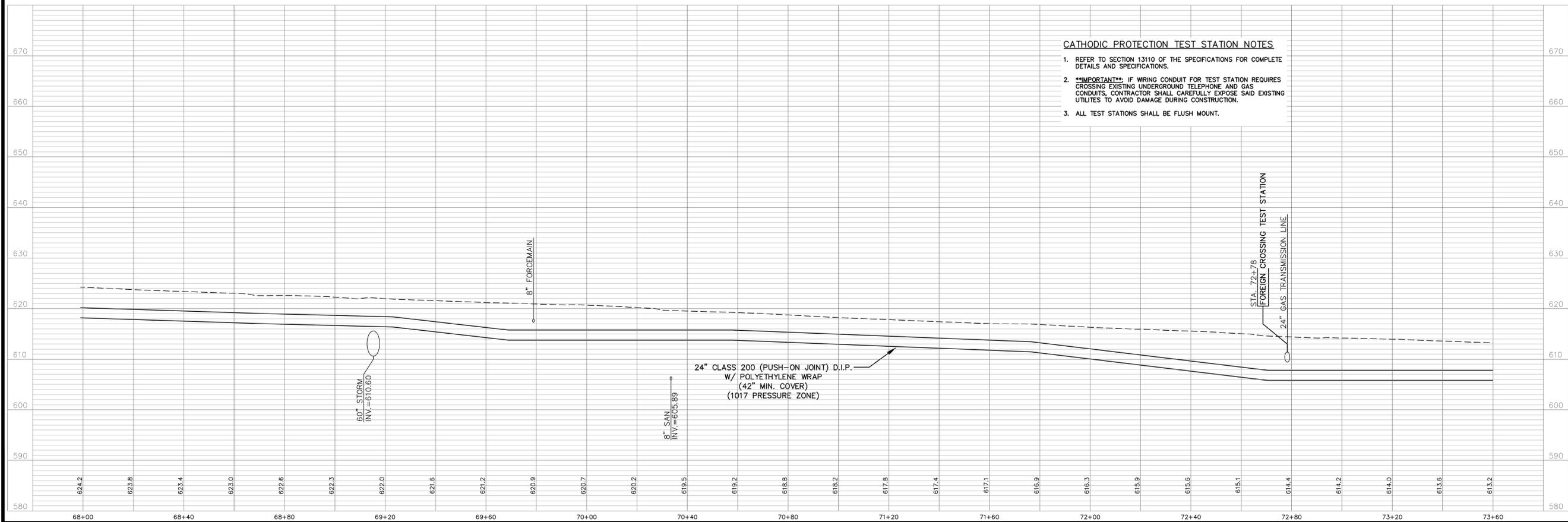
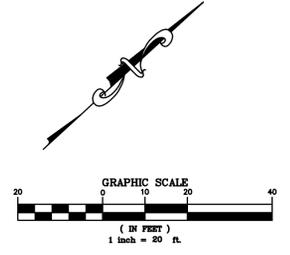
SEE SHEET C-3.11

SEE SHEET C-3.13



EXISTING ABANDONED FORCE MAIN NOTES:

- WHERE NECESSARY, THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF THE EXISTING SANITARY FORCE MAIN.
- ABANDONED FORCE MAIN WILL LIKELY CONTAIN RAW SEWAGE AND SHALL BE PROPERTY DISPOSED OF BY CREATING AN EXCAVATION AREA WHERE THE SEWAGE CAN BE DRAINED INTO AND THEN IMMEDIATELY PUMPED INTO A TANKER OR VECTOR TRUCK TO AVOID CONTAMINATION OF THE SURROUNDING SOIL.
- INSTALL BULKHEADS ON THE OPEN ENDS OF THE EX. FORCE MAIN THAT IS NOT BEING REMOVED.



CATHODIC PROTECTION TEST STATION NOTES

- REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
- **IMPORTANT**** IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
- ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
FAX: (859) 581-9630

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: PHASE V
 RIPPLE CREEK PUMP TO MAIN STREET
 24-INCH WATER MAIN EXTENSION
 CLIENT: NORTHERN KENTUCKY WATER DISTRICT
 2835 CRESCENT SPRINGS ROAD
 P.O. BOX 18640
 ERLANGER, KENTUCKY

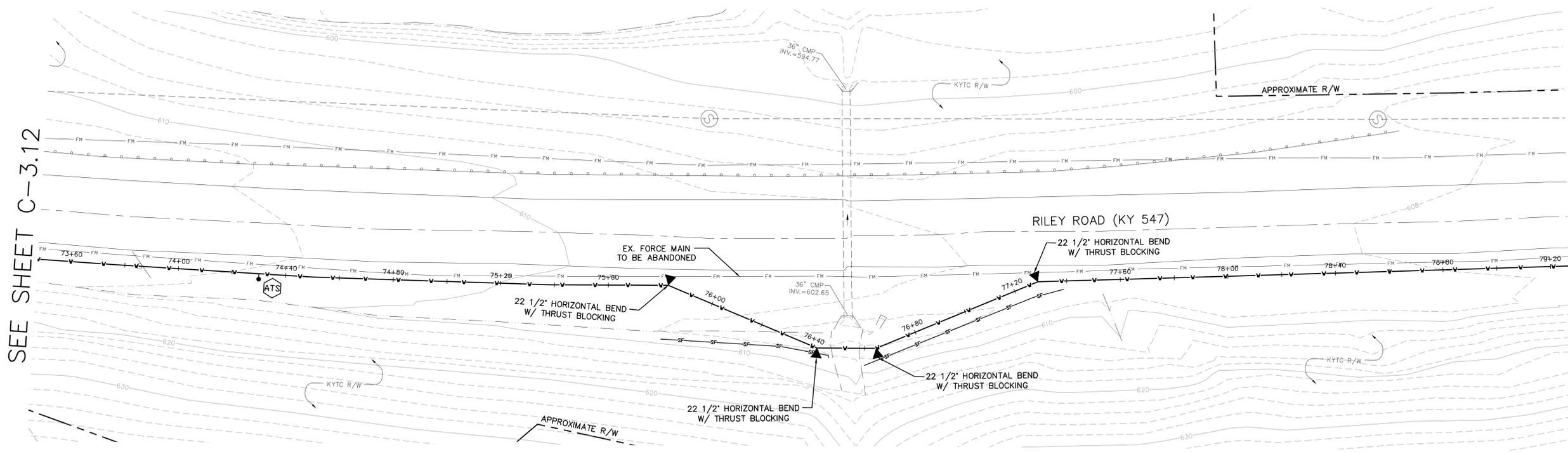
DRAWN BY: SEAL
 TRP
 CHECKED BY: KGH
 PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
 SCALE 1"=20' HOR 1"=10' VERT
 DATE 12-01-09

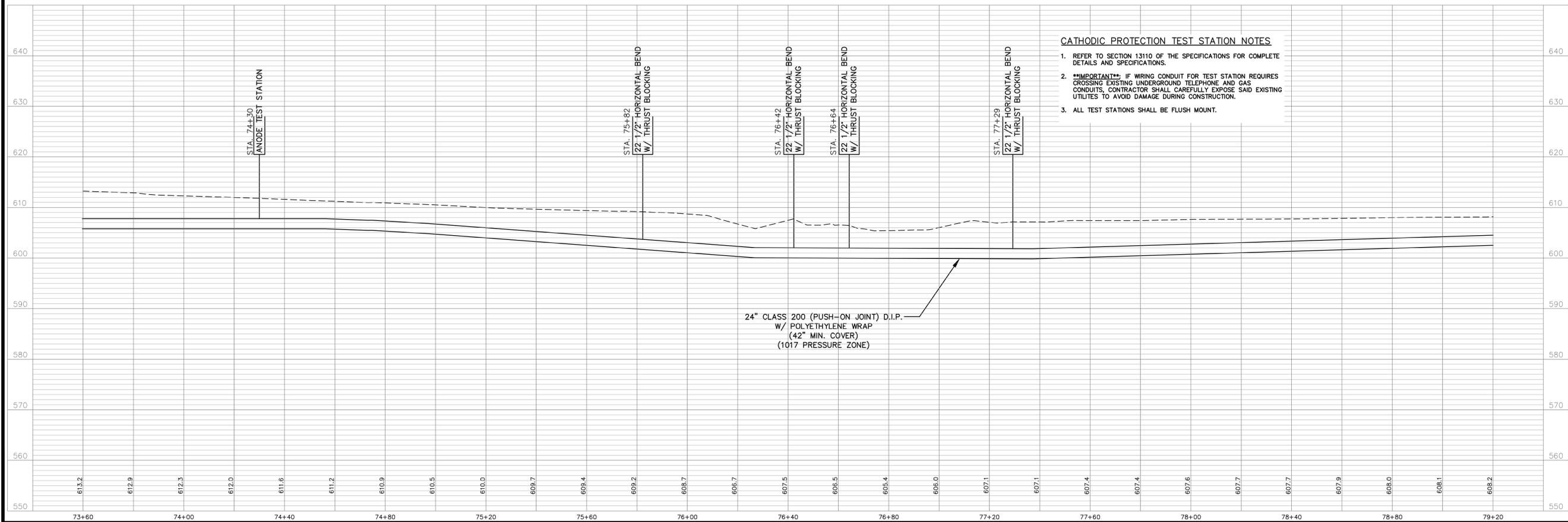
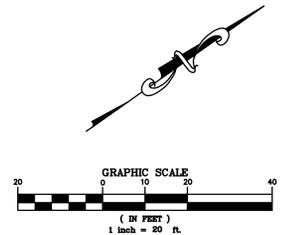
PLAN AND PROFILE
 SHEET **C-3.12**

SEE SHEET C-3.12

SEE SHEET C-3.14



- EXISTING ABANDONED FORCE MAIN NOTES:**
1. WHERE NECESSARY, THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF THE EXISTING SANITARY FORCE MAIN.
 2. ABANDONED FORCE MAIN WILL LIKELY CONTAIN RAW SEWAGE AND SHALL BE PROPERLY DISPOSED OF BY CREATING AN EXCAVATION AREA WHERE THE SEWAGE CAN BE DRAINED INTO AND THEN IMMEDIATELY PUMPED INTO A TANKER OR VECTOR TRUCK TO AVOID CONTAMINATION OF THE SURROUNDING SOIL.
 3. INSTALL BULKHEADS ON THE OPEN ENDS OF THE EX. FORCE MAIN THAT IS NOT BEING REMOVED.



- CATHODIC PROTECTION TEST STATION NOTES**
1. REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
 2. ****IMPORTANT****: IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
 3. ALL TEST STATIONS SHALL BE FLUSH MOUNT.

24" CLASS 200 (PUSH-ON JOINT) D.I.P. W/ POLYETHYLENE WRAP (42" MIN. COVER) (1017 PRESSURE ZONE)

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCKER ROAD
WILDER, KENTUCKY 41071
PHONE: (659) 581-9600
FAX: (659) 581-9630

WEBSITE: <http://www.cardinalengineering.net>

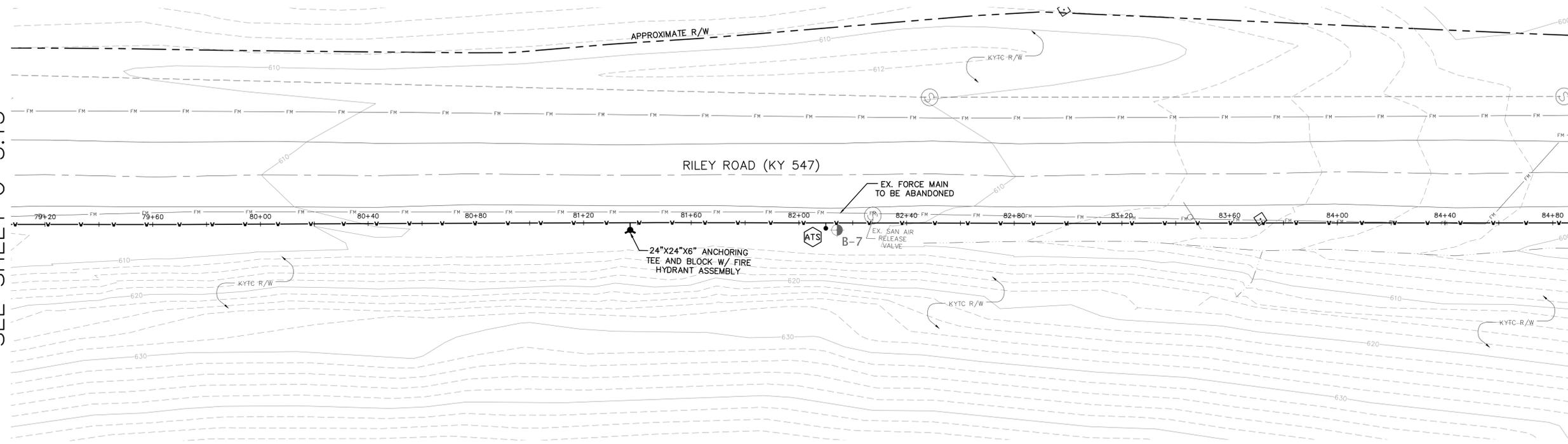
PHASE V
 PROJECT: RIPLE CREEK PUMP TO MAIN STREET
 24-INCH WATER MAIN EXTENSION
 CLIENT: NORTHERN KENTUCKY WATER DISTRICT
 2835 CRESCENT SPRINGS ROAD
 P.O. BOX 18640
 ERLANGER, KENTUCKY

DRAWN BY: SEAL
 TRP
 CHECKED BY: KGH
 PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
 SCALE 1"=20' HOR 1"=10' VERT
 DATE 12-01-09

PLAN AND PROFILE
 SHEET **C-3.13**

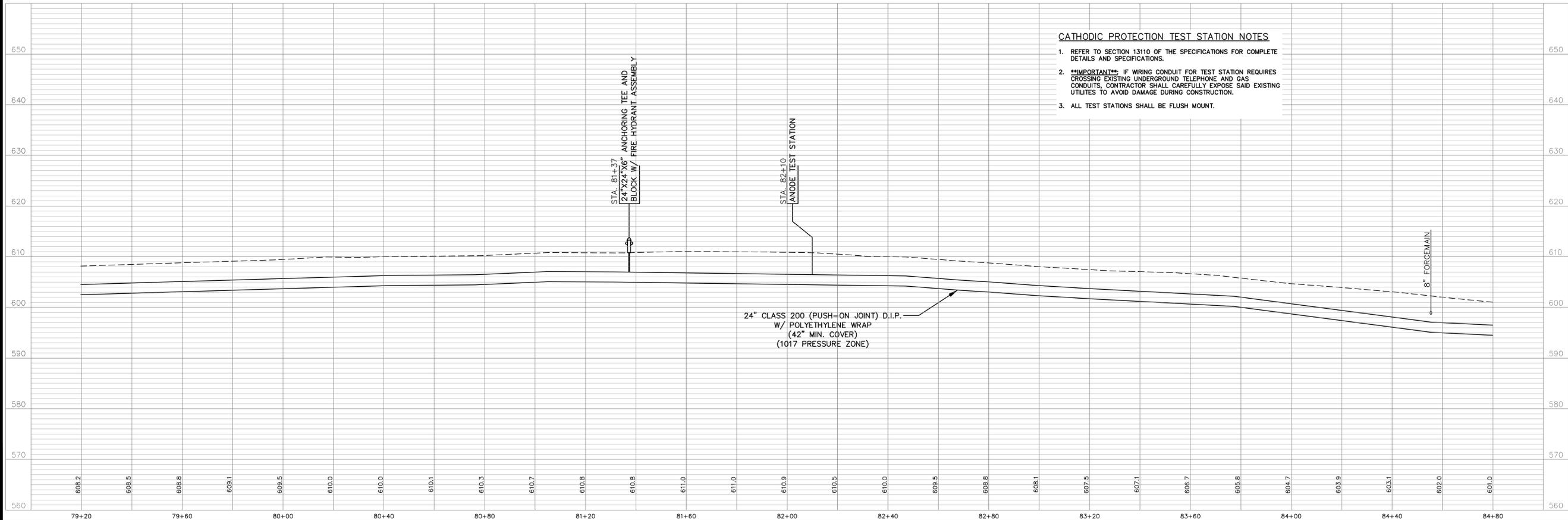
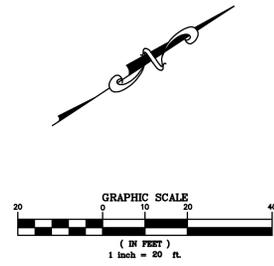
SEE SHEET C-3.13



SEE SHEET C-3.15

EXISTING ABANDONED FORCE MAIN NOTES:

- WHERE NECESSARY, THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF THE EXISTING SANITARY FORCE MAIN.
- ABANDONED FORCE MAIN WILL LIKELY CONTAIN RAW SEWAGE AND SHALL BE PROPERLY DISPOSED OF BY CREATING AN EXCAVATION AREA WHERE THE SEWAGE CAN BE DRAINED INTO AND THEN IMMEDIATELY PUMPED INTO A TANKER OR VECTOR TRUCK TO AVOID CONTAMINATION OF THE SURROUNDING SOIL.
- INSTALL BULKHEADS ON THE OPEN ENDS OF THE EX. FORCE MAIN THAT IS NOT BEING REMOVED.



CATHODIC PROTECTION TEST STATION NOTES

- REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
- **IMPORTANT****: IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
- ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOORE ROAD
WILDER, KENTUCKY 41071
PHONE: (609) 581-9600
FAX: (609) 581-9630

WEBSITE: <http://www.cardinalengineering.net>

PHASE V
PROJECT: RIPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION
CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

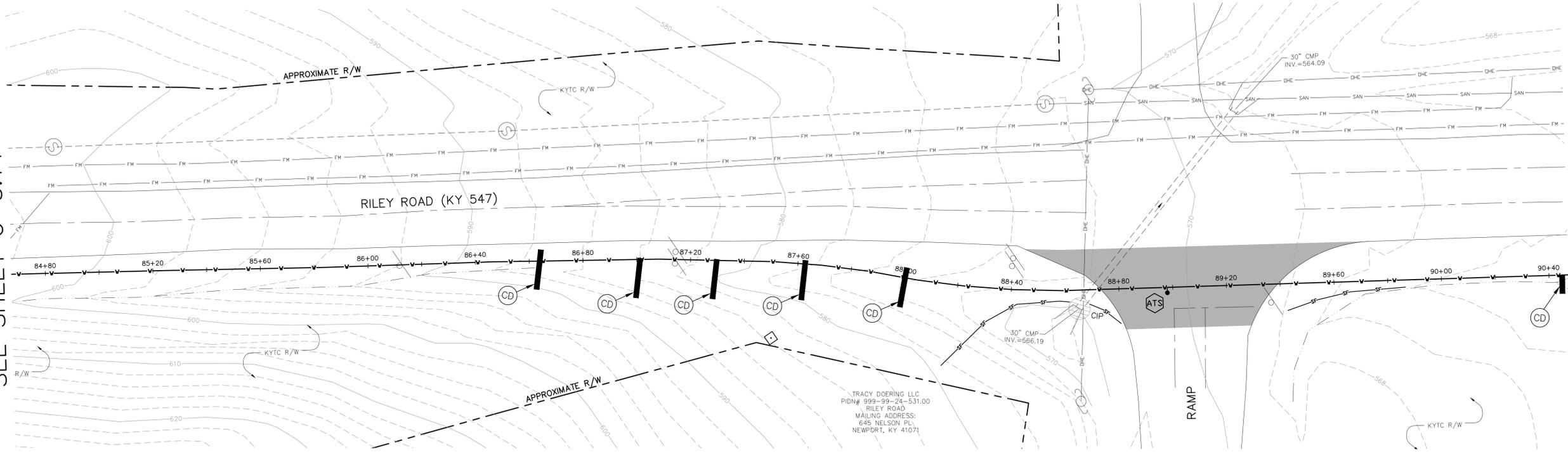
DRAWN BY: SEAL
TRP
CHECKED BY: KGH
PROJECT MANAGER: KGH

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE
SHEET **C-3.14**

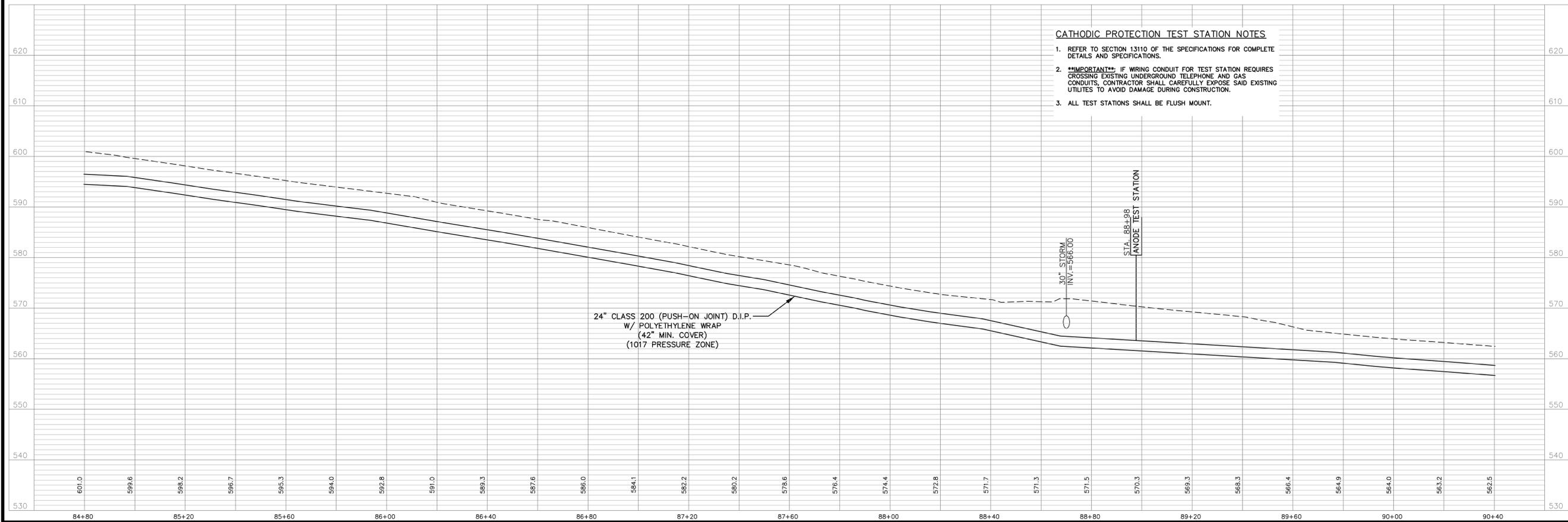
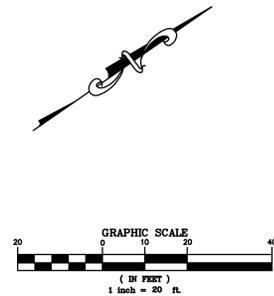
SEE SHEET C-3.14

SEE SHEET C-3.16



TRACY DOERING LLC
 PID# 999-99-24-531.00
 RILEY ROAD
 MAILING ADDRESS:
 645 NELSON PKY
 NEWPORT, KY 41071

- EXISTING ABANDONED FORCE MAIN NOTES:
1. WHERE NECESSARY, THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF THE EXISTING SANITARY FORCE MAIN.
 2. ABANDONED FORCE MAIN WILL LIKELY CONTAIN RAW SEWAGE AND SHALL BE PROPERLY DISPOSED OF BY CREATING AN EXCAVATION AREA WHERE THE SEWAGE CAN BE DRAINED INTO AND THEN IMMEDIATELY PUMPED INTO A TANKER OR VECTOR TRUCK TO AVOID CONTAMINATION OF THE SURROUNDING SOIL.
 3. INSTALL BULKHEADS ON THE OPEN ENDS OF THE EX. FORCE MAIN THAT IS NOT BEING REMOVED.



- CATHODIC PROTECTION TEST STATION NOTES
1. REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
 2. ****IMPORTANT**** IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
 3. ALL TEST STATIONS SHALL BE FLUSH MOUNT.

REVISIONS	DATE	#	ITEM

CARDINAL
 ENGINEERING
 ARCHITECTURE
 LAND SURVEYING
 ONE MOORE ROAD
 WILDER, KENTUCKY 41071
 PHONE: (606) 581-0600
 FAX: (606) 581-0630

WEBSITE: <http://www.cardinalengineering.net>

PHASE V
 RIPPLE CREEK PUMP TO MAIN STREET
 24-INCH WATER MAIN EXTENSION

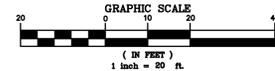
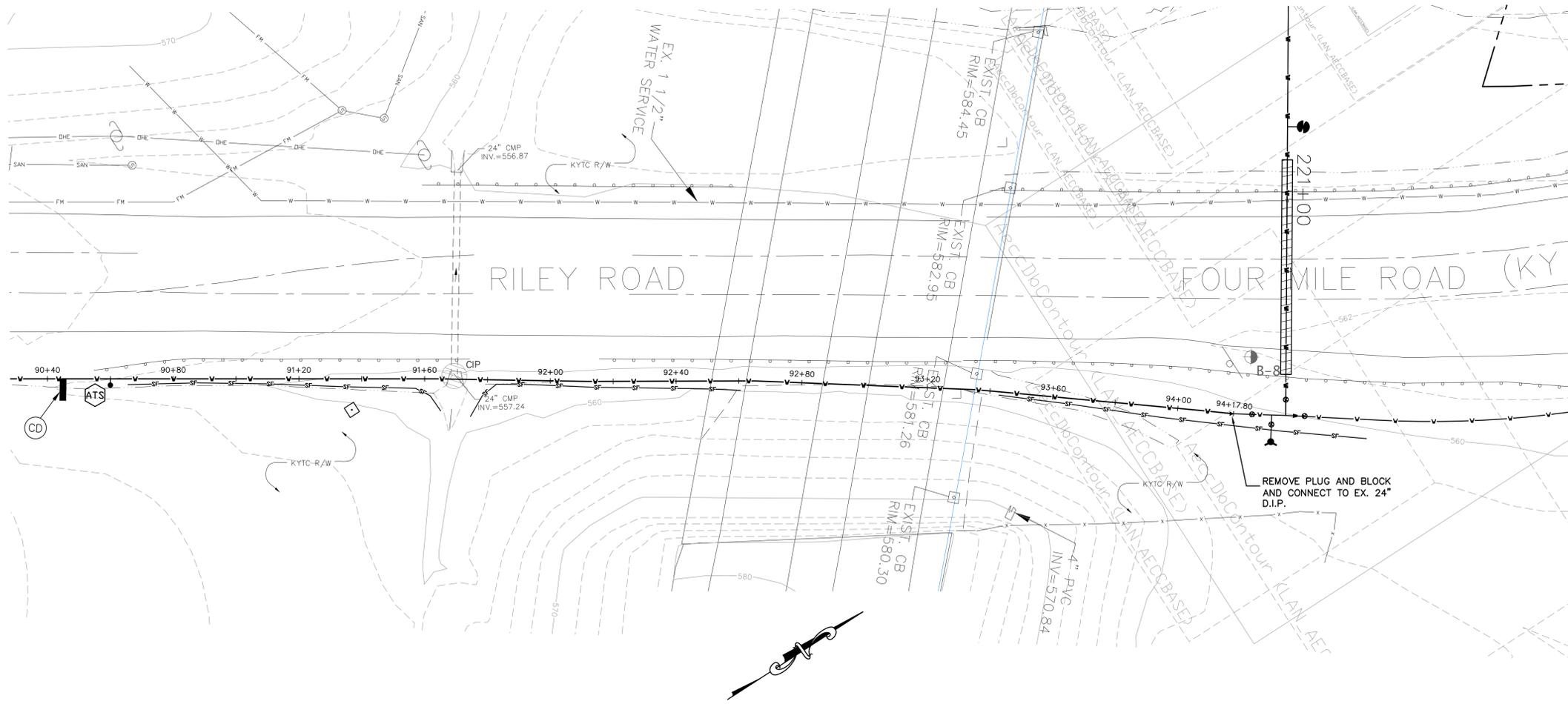
CLIENT: NORTHERN KENTUCKY WATER DISTRICT
 2835 CRESCENT SPRINGS ROAD
 P.O. BOX 18640
 ERLANGER, KENTUCKY

DRAWN BY:	SEAL
TRP	
CHECKED BY:	KGH
PROJECT MANAGER:	KGH

PROJECT NO. 06-024-05
 SCALE 1"=20' HOR 1"=10' VERT
 DATE 12-01-09

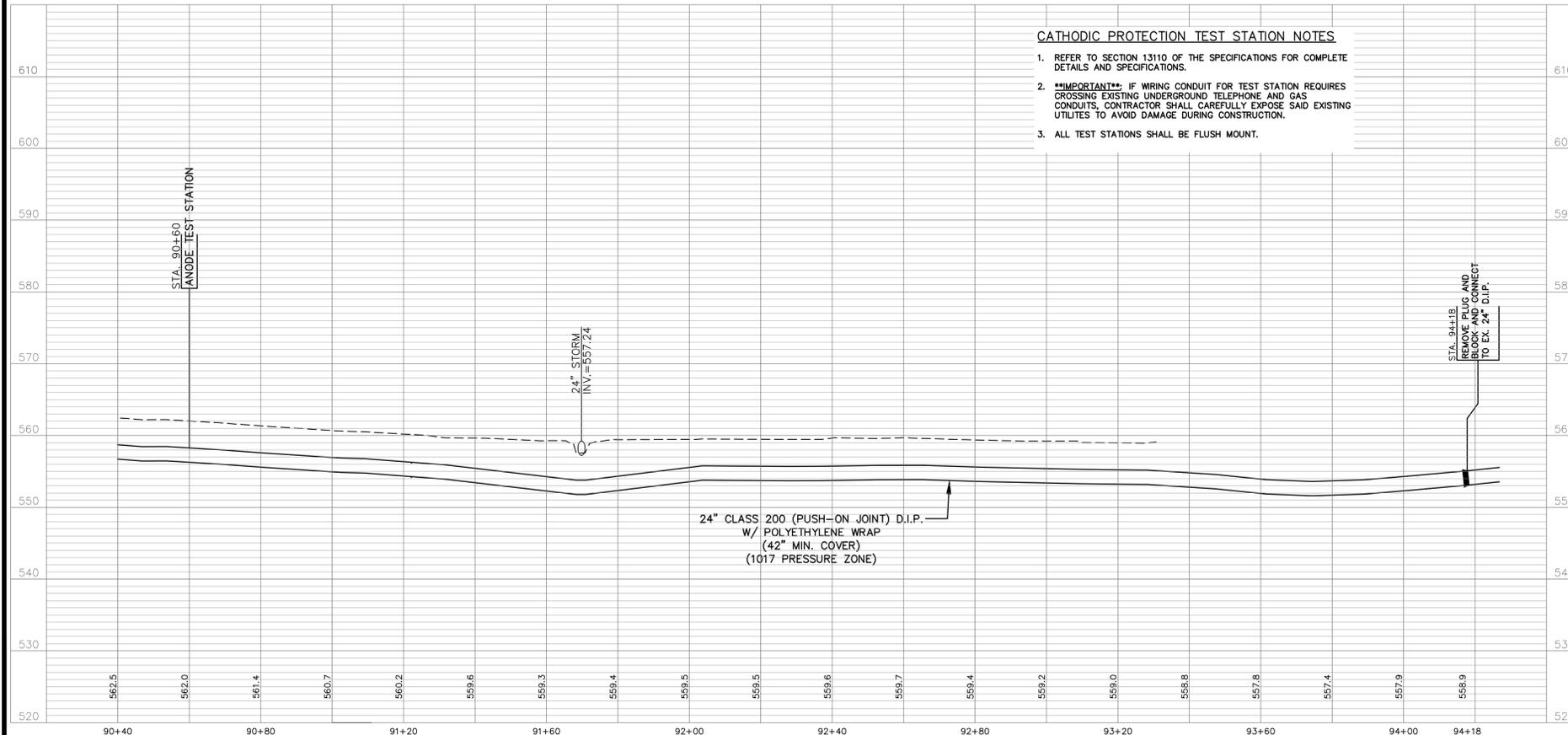
PLAN AND PROFILE
 SHEET
C-3.15

SEE SHEET C-3.15



CATHODIC PROTECTION TEST STATION NOTES

1. REFER TO SECTION 13110 OF THE SPECIFICATIONS FOR COMPLETE DETAILS AND SPECIFICATIONS.
2. **IMPORTANT:** IF WIRING CONDUIT FOR TEST STATION REQUIRES CROSSING EXISTING UNDERGROUND TELEPHONE AND GAS CONDUITS, CONTRACTOR SHALL CAREFULLY EXPOSE SAID EXISTING UTILITIES TO AVOID DAMAGE DURING CONSTRUCTION.
3. ALL TEST STATIONS SHALL BE FLUSH MOUNT.



- EXISTING ABANDONED FORCE MAIN NOTES:**
1. WHERE NECESSARY, THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF THE EXISTING SANITARY FORCE MAIN.
 2. ABANDONED FORCE MAIN WILL LIKELY CONTAIN RAW SEWAGE AND SHALL BE PROPERTY DISPOSED OF BY CREATING AN EXCAVATION AREA WHERE THE SEWAGE CAN BE DRAINED INTO AND THEN IMMEDIATELY PUMPED INTO A TANKER OR VECTOR TRUCK TO AVOID CONTAMINATION OF THE SURROUNDING SOIL.
 3. INSTALL BULKHEADS ON THE OPEN ENDS OF THE EX. FORCE MAIN THAT IS NOT BEING REMOVED.

REVISIONS	DATE	#	ITEM

CARDINAL
ENGINEERING
ARCHITECTURE
LAND SURVEYING
ONE MOCKER ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-2600
FAX: (859) 581-2630

WEBSITE: <http://www.cardinalengineering.net>

PROJECT: PHASE V
RIPPLE CREEK PUMP TO MAIN STREET
24-INCH WATER MAIN EXTENSION

CLIENT: NORTHERN KENTUCKY WATER DISTRICT
2835 CRESCENT SPRINGS ROAD
P.O. BOX 18640
ERLANGER, KENTUCKY

DRAWN BY:	SEAL
TRP	
CHECKED BY:	
KGH	
PROJECT MANAGER:	
KGH	

PROJECT NO. 06-024-05
SCALE 1"=20' HOR 1"=10' VERT
DATE 12-01-09

PLAN AND PROFILE
SHEET **C-3.16**