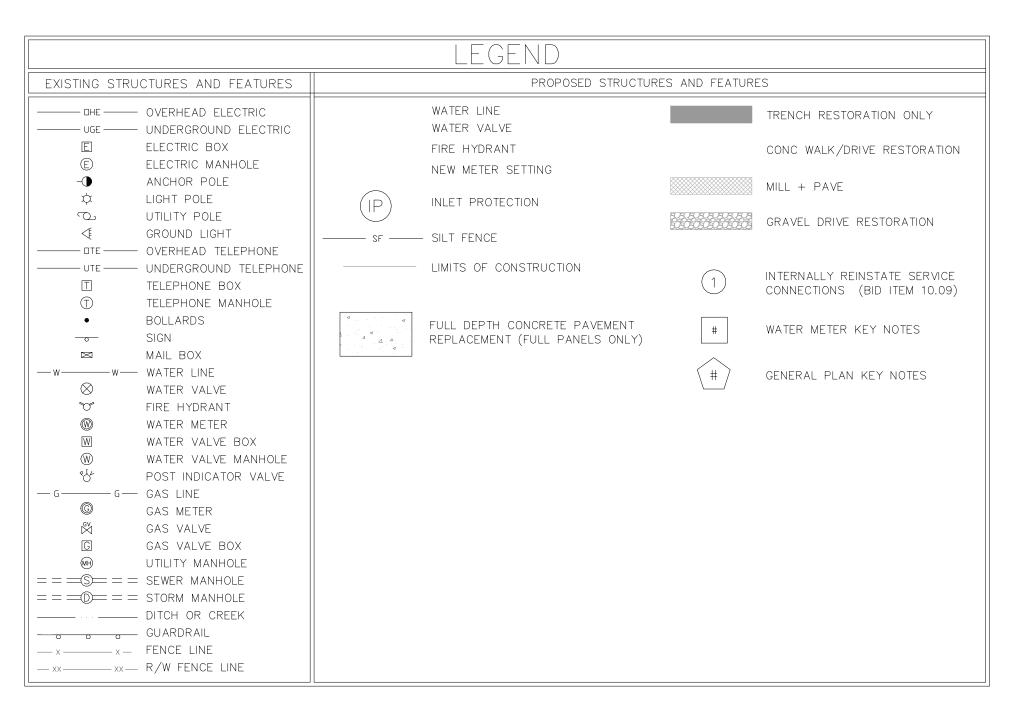
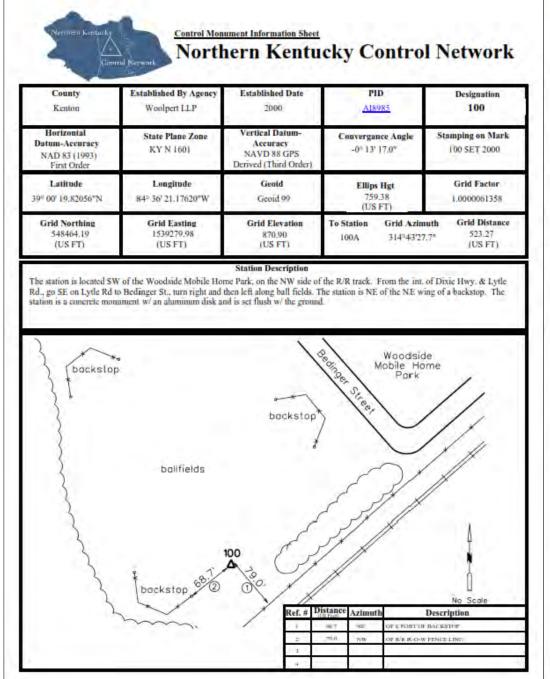
# DIXIE HIGHWAY

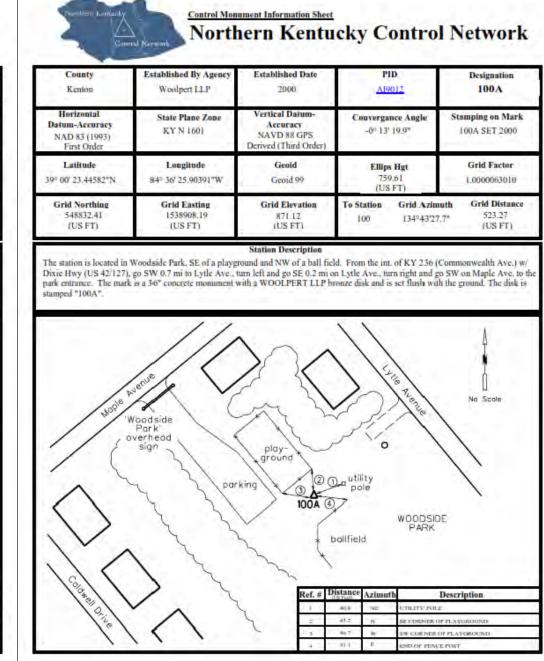
WATER MAIN REHABILITATION PROJECT NKWD PHASE AND CITY OF FLORENCE PHASES 1, 2, & 3 ERLANGER, ELSMERE, AND FLORENCE, KENTUCKY





### BENCHMARK INFORMATION





C-0.0 TITLE/VICINITY MAP
C-1.0 SPECIFICATION SHEET
C-2.0 - 2.1 DETAIL SHEETS
C-3.0 - 3.9 PLAN SHEETS

#### **GENERAL NOTES:**

BEST MANAGEMENT PRACTICES (BMP) SHOWN ON THE PLANS ARE MINIMUM. THE CONTRACTOR SHALL REVISE AND PROVIDE ADDITIONAL BMP'S AS DEEMED NECESSARY PER SECTION 700 OF THE SANITATION DISTRICT NO. 1'S RULES AND REGULATIONS.

| PROJECT LOCATION INFORMATION |                |                |                |                |  |
|------------------------------|----------------|----------------|----------------|----------------|--|
|                              | BEGIN          |                | END            |                |  |
|                              | LATITUDE       | LONGITUDE      | LATITUDE       | LONGITUDE      |  |
| FLORENCE PHASE 1             | 39°00'15.5637" | 84°37'15.2359" | 39°00'20.3145" | 84°37'00.0928" |  |
| FLORENCE PHASE 2             | 39°00'19.5526" | 84°37'00.8460" | 39°00'17.1354" | 84°37'07.3114" |  |
| FLORENCE PHASE 3             | 39°00'17.1354" | 84°37'07.3114" | 39°00'11.5992" | 84°37′03.0027" |  |
| NKWD PHASE                   | 39°00'20.3145" | 84°37'00.0928" | 39°00'53.9247" | 84°36'13.6920" |  |



NOTE:
UNDERGROUND UTILITIES ARE SHOWN BASED
ON ABOVE GROUND OBSERVATIONS AND
CONSTRUCTION PLANS PROVIDED TO
CARDINAL ENGINEERING AND MAY NOT BE
COMPLETE OR ACCURATE.

CONTRACTOR TO VERIFY LOCATION AND USE CAUTION WHEN EXCAVATING IN AREAS OF SUSPECTED BURIED UTILITIES.

## CONTACTS

WATER:

NORTHERN KENTUCKY WATER DISTRICT 2835 CRESCENT SPRINGS ROAD P.O. BOX 18640 ERLANGER, KY 41018-0640 (859) 578-9898

SEWER:

SANITATION DISTRICT NO. 1 1045 EATON DRIVE FORT WRIGHT, KENTUCKY 41011 (859) 578-7450

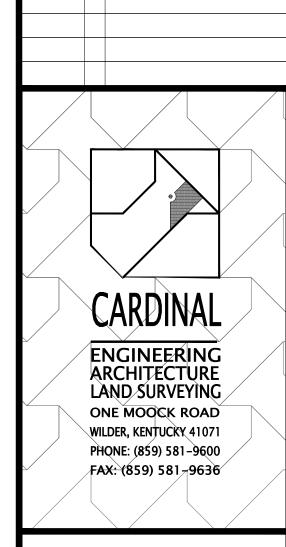
ELECTRIC:
DUKE ENERGY
1262 COX ROAD
ERLANGER, KENTUCKY 41018
(513) 287-3589

GAS:
DUKE ENERGY
1262 COX ROAD
ERLANGER, KENTUCKY 41018
(859) 287-5408

TELEPHONE:
CINCINNATI BELL TELEPHONE COMPANY
201 EAST FOURTH STREET
103–1175
CINCINNATI, OHIO 45202
(513) 566–7185

CABLE TELEVISION: INSIGHT COMMUNICATIONS 7906 DIXIE HIGHWAY FLORENCE, KENTUCKY 41076 (888) 735-0300

OTHER UTILITIES: UNITED UTILITIES PROTECTION (800) 752-6007



REVISIONS DATE #

WEBSITE: http://www.cardinalengineering.net

R DISTRICT S ROAD

THERN KENTUCKY WATER DISTR 2835 CRESCENT SPRINGS ROAD P.O. BOX 18640

WA.

| DRAWN BY:           | SEAL |  |  |  |
|---------------------|------|--|--|--|
| KGH                 |      |  |  |  |
| CHECKED BY:         |      |  |  |  |
| DRW                 |      |  |  |  |
| PROJECT<br>MANAGER: |      |  |  |  |
| KGH                 |      |  |  |  |
| PROJECT NO. 13-146  |      |  |  |  |

PROJECT NO. 13–146
SCALE AS NOTED
DATE 02–05–14

SPECIFICATIONS

C-1.0

#### GENERAL NOTES

- 1. CONTRACTOR SHALL SUBMIT A PROPOSED TEMPORARY WATER SYSTEM LAYOUT A MINIMUM OF 2 WEEKS PRIOR TO PIPE REHABILITATION WORK THAT IS NEATLY SKETCHED ON AT LEAST AN 11 X 17 COPY OF THE PLANS. THE PROPOSED TEMPOARY WATER SYSTEM LAYOUT(S) SHALL ALSO INCLUDEAT A MINIMUM, PROPOSED PROCEDURES AND SCHEDULE OF PIPE DISINFECTION, TESTING AND ACTIVATION, AND TEMPORARY FIRE HYDRANT LOCATIONS TO ENSURE ADEQUARE FIRE FLOW.
- 2. PROVIDE A MINIMUM 48—HOUR NOTICE TO CITIES/NKWD STAFF, ENGINEER, AND ALL AFFECTED PROPERTY OWNERS PRIOR TO WATER SERVICE DISRUPTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO WORK DIRECTLY WITH EACH AFFECTED PROPERTY OWNER TO DETERMINE TEMPORARY WATER SERVICE CONNECTIONS AS SHOWN ON THE PLANS.
- 3. CONTRACTOR MAY USE WATER FROM CITY/NKWD AFFECTED FIRE HYDRANTS DURING THE CONSTRUCTION OF THIS PROJECT. HYDRANTS SHALL BE USED ONLY WITH CITY/NKWD ISSUED VALVE ASSEMBLY. THE HYDRANT VALVE SHALL BE OPENED SLOWLY ALLOWING AIR PRESSURE TO BLEED OUT FULLY, AND THEN THE HYDRANT VALVE SHALL BE CLOSED AND OPENED FULLY. OPERATION OF THE HYDRANT SHALL OCCUR WITH THE HYDRANT VALVE FULLY OPENED FLOW CONTROL SHALL BE ACTUATED USING THE CITY/NKWD ISSUED VALVE ASSEMBLY (NOT HYDRANT VALVE). HYDRANTS LOCATED IN CUL-DE-SACS SHALL NOT BE USED.
- 4. APPROPRIATE UTILITY COMPANIES SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO BREAKING GROUND FOR THE PURPOSE OF VERIFYING BY FIELD INSPECTION THE EXACT LOCATION OF UNDERGROUND UTILITIES.
- 5. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE, AND ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH SANITATION DISTRICT NO. 1'S BEST MANAGEMENT PRACTICES.
- 6. BACKFILL ALL EXCAVATIONS BENEATH PAVED AREAS SHALL BE CLSM (CONTROLLED LOW STRENGTH MORTAR) PER KYTC SPECIFICATION 601.03.03.
- 7. CONTRACTOR SHALL NOTIFY KENTUCKY UTILITIES PROTECTION SERVICE AND ALL ENTITIES NOT COVERED BY UTILITY PROTECTION SERVICE AT LEAST (2) DAYS PRIOR TO THE START OF CONSTRUCTION OR ANY EARTHWORK OPERATIONS.
- 8. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR PERMITS, LICENSES, FEES & TAXES AND PAY ALL ASSOCIATED COSTS.
- 9. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH OWNER. PROVIDE BARRICADES, LIGHTING, SIGNS & MARKERS AS REQUIRED TO PROTECT VEHICULAR & PEDESTRIAN TRAFFIC. MAINTAIN FACILITY SECURITY AS DIRECTED BY OWNER.
- 10. EX. R/W BOUNDARIES AND PROPETRY LINED ARE APPROXIMATE AND BASED ON DEEDS AND PLATS OF RECORD AND RECOVERED MONUMENTATION AND DO NOT REPRESENT A COMPLETE BOUNDARY SURVEY.
- 11. UTILITY CROSSING (VERTICAL) CONFLICTS SHALL BE RESOLVED ACCORDING TO THE FOLLOWING RULES AND HEIRARCHY: SANITARY HAS FIRST PRIORITY, STORM HAS SECOND PRIORITY, DUE TO BOTH BEING GRAVITY SYSTEMS. NO OTHER UTILITY SHALL BE INSTALLED TO CONFLICT WITH STORM AND SANITARY. ALL OTHER UTILITIES NEED TO COORDINATE CLEARANCES AND LOCATIONS WITH EACH OTHER, CITY INSPECTOR, AND PUBLIC UTILITY, WITH THE PRIORITY GIVEN TO SPECIFIC PLAN NOTES FOR INDIVIDUAL CROSSINGS. LAST PRIORITY SHALL BE BASED ON ORDER OF INSTALLATION, WITH ALL WORK ADHERING TO MINIMUM COVER AND CLEARANCES. MAINTAIN 18—INCH MINIMUM CLEARANCE TYPICAL BETWEEN ALL UTILITIES AT CROSSINGS.
- 12. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND STRUCTURES FROM DAMAGE, REGARDLESS OF WHETHER THEY ARE SHOWN ON THE PLANS. IF DAMAGE IS CAUSED, THE CONTRACTOR IS RESPONSIBLE FOR THE REPAIR AND/OR RESTORATION OF SAME TO THE SATISFACTION OF THE ENGINEER AND/OR NORTHERN KENTUCKY WATER DISTRICT.
- 13. THE CONTRACTOR SHALL TAKE OVER AND ASSUME ALL RESPONSIBILITY FOR THE ENTIRE PREMISES, MAINTAIN ALL EXISTING PROTECTIONS, AND SHALL PROVIDE AND MAINTAIN SUITABLE TEMPORARY SIDEWALKS, FENCES, OR OTHER STRUCTURES AS MAY BE REQUIRED BY LAW SO AS NOT TO OBSTRUCT OR INTERFERE WITH TRAFFIC IN PUBLIC STREETS, ALLEYWAYS, OR PRIVATE RIGHT OF WAYS; LEAVE AN UNOBSTRUCTED WAY ALONG PUBLIC AND PRIVATE PLACES FOR TRAVELERS, TRUCKS, ETC. LEAVE AN ACCESS TO HYDRANTS, PROVIDE WALKS OVER OR AROUND OBSTRUCTIONS MADE IN A PUBLIC PLACE IN CARRYING ON THE CONTRACT, AND TO MAINTAIN FROM THE BEGINNING OF TWILIGHT THROUGHOUT THE WHOLE OF EVERY NIGHT SUFFICIENT LIGHT AND GUARDS TO PROTECT TRAVELERS FROM INJURY THEREBY. THE CONTRACTOR IS RESPONSIBLE FOR ALL EQUIPMENT AND MATERIAL SUPPLIED BY THE OWNER AND PLACED ON PREMISES.
- 14. BEFORE ORDERING ANY MATERIAL OR PERFORMING ANY WORK, EACH CONTRACTORS SHALL VERIFY ALL MEASUREMENTS AND SHALL BE RESPONSIBLE FOR SAME. NO EXTRA CHARGE WILL BE ALLOWED OR COMPENSATION ALLOWED ON ACCOUNT OF DIFFERENCE TO ACTUAL DIMENSIONS AND THE MEASUREMENTS INDICATED ON THE PLANS AND ANY DIFFERENCE WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CORRECTION BEFORE PROCEEDING WITH WORK.
- 15. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT OF HIS OWN WORK. THE OWNER WILL PROVIDE AN ACCESSIBLE BENCHMARK ON OR NEAR THE SITE. ANY CONTRACTOR WHICH DAMAGES, DESTROYS, OR DISTURBS ANY BOUNDARY MARKER OR BENCHMARK SHALL AT HIS EXPENSE, HAVE SAID MARKER REPLACED BY A LAND SURVEYOR LICENSED TO PRACTICE IN THE COMMONWEALTH OF KENTUCKY.
- 16. THE CONTRACTOR SHALL CAREFULLY PROTECT ALL TREES, SHRUBS, AND LAWNS FROM INJURY DURING THE COURSE OF HIS WORK AND PAY FOR ANY DAMAGE TO SAME RESULTING FROM INSUFFICIENT OR IMPROPER PROTECTION. TREES AND BUSHES SHALL ONLY BE REMOVED AS DIRECTED BY THE ENGINEER.
- 17. THE CONTRACTOR SHALL SUPPLY THE ENGINEER AND NORTHERN KENTUCKY WATER DISTRICT WITH A SET OF FIELD NOTES IN SUFFICIENT DETAIL UPON COMPLETION OF THE PROJECT FOR RECORD DRAWING PREPARATION.
- 18. ALL CONSTRUCTION TO CONFORM TO THE CURRENT NORTHERN KENTUCKY WATER DISTRICT SPECIFICATIONS AND DETAILS. A COPY CAN BE OBTAINED @ www.nkywater.org.
- 19. WATER MAIN IN STREET PAVEMENT OR PAVED SHOULDER SHALL BE BACKFILLED WITH LOW STRENGTH MORTAR (FLOWABLE FILL) IN ACCORDANCE WITH NKWD STD DETAIL 103A AND REPLACE FULL DEPTH CONCRETE TO THE NEAREST CONSTRUCTION JOINT.
- 20. UTILITIES BASED ON MARKINGS PROVIDED BY KENTUCKY UTILITY PROTECTION SERVICES, UTILITY DRAWINGS AND ABOVE—GROUND EVIDENCE.
- 21. <u>Existing gas mains</u>: according to duke energy maps of record, the depth of the gas mains typically have three (3) feet of cover.
- 22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF TRAFFIC DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH KYTC DISTRICT 6 AND GOVERNING FIRE DISTRICTS.
- 23. AT ANY LOCATION WHERE THE EXISTING MAIN IS CUT AND ABANDONED THE PIPE END WILL BE PROPERLY SEALED AS DIRECTED BY THE INSPECTOR.
- 24. ALL PAVING/DRAINAGE CONSTRUCTION MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT KENTUCKY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION MANUAL.

#### ELECTRIC AND TELEPHONE NOTES

- 1. EX. UNDERGROUND TELEPHONE FIBER OPTIC LINE DEPTHS AND LOCATIONS BASED ON MANHOLE CARDS, PLANS, AND MAPS OF RECORD FROM CINCINNATI BELL TELEPHONE.
- 2. THE CONTRACTOR SHALL CONTACT THE COMPANY PRIOR TO EXCAVATION IN VICINITY OF ELECTRIC UNDERGROUND FACILITIES (APPROXIMATE PLAN LOCATION SHOWN) OR WHEN WORKING NEAR OVERHEAD ELECTRIC FACILITIES.
  - a. FOR FIELD INSPECTOR TO LOCATE UNDERGROUND ELECTRIC LINE IN KENTUCKY CALL "KENTUCKY UNDERGROUND PROTECTION INC." 1—800—752—6007 (AT LEAST 48 HOURS IN ADVANCE), EXCLUDING HOURS, SAT. SUN, & STATE LEGAL HOLIDAYS.
  - b. FOR NOTIFICATION OF CONSTRUCTION ACTIVITY NEAR ENERGIZED ELECTRIC FACILITIES, CALL 513-287-3426, OR THE ELECTRIC TECHNICIAN, IF KNOWN, THAT HAS BEEN ASSIGNED TO YOUR PROJECT AT LEAST 48 HOURS IN ADVANCE.
  - c. FOR ADDITIONAL UNDERGROUND ELECTRIC RECORD INFORMATION, CALL 513-287-2454.
- . CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO ELECTRIC FACILITIES DURING CONSTRUCTION.
- 3. ELECTRIC FACILITIES TO BE KEPT IN SERVICE AT ALL TIMES.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING EXISTING ELECTRIC FACILITIES AFFECTED BY THE PROPOSED CONSTRUCTION.
  - a. WHERE HIGH PRESSURE OIL FILLED PIPE TYPE CABLE INSTALLATION ARE EXPOSED OR OTHERWISE INTERFERED WITH BY THE CONTRACTOR, PROTECTION BY THE CONTRACTOR WILL BE REQUIRED AGAINST DAMAGE TO THE COATING OR SURROUNDING THERMAL SAND ENVELOPE.
  - b. WHERE CONCRETE ENCASED CONDUIT SYSTEMS OR DIRECT BURIED CABLE SYSTEMS ARE EXPOSED OR OTHERWISE INTERFERED WITH, THE CONTRACTOR SHALL PROTECT THE SYSTEM AS NECESSARY AGAINST DAMAGE. AS SOON AS FEASIBLE, THE CONTRACTOR SHALL TAKE ADDITIONAL APPROPRIATE STEPS TO PROVIDE PERMANENT MEASURES TO RESTORE SUPPORT. THE METHODS USED SHALL BE BASED ON CONDITIONS TO BE DETERMINED BY THE UTILITY.
  - C. WHERE POLES OR ANCHORS THAT SUPPORT OVERHEAD ELECTRIC FACILITIES ARE EXPOSED OR OTHERWISE INTERFERED WITH, THE CONTRACTOR PROTECT THEM FROM DAMAGE AND PROVIDE TEMPORARY SUPPORT TO INSURE THE INTEGRITY OF THE SYSTEM. AS SOON AS FEASIBLE, THE CONTRACTOR SHALL TAKE ADDITIONAL APPROPRIATE STEPS TO PROVIDE PERMANENT MEASURES TO RESTORE SUPPORT. THE METHODS USED SHALL BE BASED ON CONDITIONS TO BE DETERMINED BY THE UTILITY.
  - d. WHERE THE DEPTH OF EXCAVATION FOR THE PROPOSED WORK IS GREATER THAN FIVE (5) FEET, THE CONTRACTOR SHALL SHEET AND SHORE THE TRENCH TO CONTINUOUSLY MAINTAIN THE SUPPORT OF ELECTRIC FACILITIES AT LOCATION WHERE THE ELECTRIC FACILITIES ARE WITHIN THE ZONE OF INFLUENCE ADJACENT TO THE EXCAVATION AS DETERMINED BY THE NATURAL ANGLE OF REPOSE OF THE SOIL.
  - e. ALL DAMAGE TO ELECTRIC FACILITIES AND SERVICES REQUIRING ADJUSTMENTS, RELOCATION'S AND/OR REPAIRS WILL BE MADE AT THE CONTRACTOR'S COST.
  - f. CONTRACTOR SHALL NOT BACKFILL EXPOSED ELECTRIC FACILITIES UNTIL THE COMPANY HAS INSPECTED ITS FACILITY OR PERFORMED ANY ADJUSTMENTS AND/OR MAINTENANCE THAT MAY BE REQUIRED.
  - g. SHOULD CONTRACTOR DAMAGE ELECTRIC FACILITIES, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ELECTRIC TROUBLE AT 651-4182. CONTRACTOR SHALL KEEP EVERYONE CLEAR OF DAMAGED ELECTRIC FACILITIES UNTIL COMPANY PERSONNEL ARRIVE AT THE WORK SITE.

#### EXISTING GAS MAIN NOTES

1. EX. GAS MAIN CONTAINS 3 FT. OF COVER UNLESS OTHERWISE NOTED (BASED ON PLANS AND MAPS OF RECORD FROM DUKE ENERGY).

#### OSHA NOTES

1. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA): IT SHALL BE THE FULL AND COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO MEET AND COMPLY WITH SAFETY REQUIREMENTS AND REGULATIONS AS ESTABLISHED BY OSHA OR ANY OTHER REGULATORY BODY. THE OWNER AND ENGINEER WILL NOT PERFORM ANY SAFETY COMPLIANCE INSPECTIONS, AS THE CONTRACTOR HAS ACCEPTED FULL AND COMPLETE RESPONSIBILITY FOR PERFORMING SUCH INSPECTIONS FOR COMPLIANCE TO THE REGULATIONS. THE CONTRACTOR SHALL INDEMNIFY AND PROTECT AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY LOSS, EXPENSE, FINE, DAMAGE, OR SUIT, INCLUDING ATTORNEY'S FEES, ARISING OUT OF ANY SAFETY VIOLATION SUITS BROUGHT BY INJURED PERSONS AND/OR FINES LEVIED BY OSHA OR ANY OTHER REGULATORY BODY, AS A RESULT OF THE CONTRACTOR'S WORK.

#### WATER DISTRIBUTION (FIRE AND DOMESTIC) NOTES:

#### QUALITY ASSURANCE

- 1. REGULATORY REQUIREMENTS:
  - A. COMPLY WITH REQUIRMENTS OF KENTUCKY PLUMBING CODE AND NORTHERN KENTUCKY WATER DISTRICT (NKWD). INCLUDE TAPPING OF WATER MAINS AND BACKFLOW PREVENTION.
  - B. COMPLY WITH STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR POTABLE WATER—SERVICE PIPING, INCLUDING MATERIALS, INSTALLATION, TESTING, AND DISINFECTION.
  - C. <u>WATER SERVICES</u>: WATER SERVICE LINES SHALL BE INSTALLED WITHOUT EXCAVATING HIGHWAY OR PUBLIC STREET PAVEMENT. ANY DAMAGE TO SAID AREAS IS TO BE REPAIRED TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION. COSTS FOR PAVEMENT RESTORATION REQUIRED AS A RESULT OF SERVICE INSTALLATION SHALL BE INCLUDED IN ITEMS 10.01, 10.02, AND/OR 10.03.
- D. <u>ABANDONED VALVE BOXES</u>: REMOVE LID AND RETURN TO NKWD. FILL VOID WITH CONCRETE. WORK IS INCIDENTAL TO WATER MAIN CONSTRUCTION.
- E. THE WATER MAIN TRENCH EXCAVATIONS THROUGHOUT THE PROJECT MUST BE MADE IN A MANNER THAT PROVIDES FOR THE SAFETY OF WORKERS IN THE EXCAVATIONS AND PROTECTS EXISTING GROUND, PAVEMENT, STRUCTURES, AND INFRASTRUCTURE ADJACENT TO THE EXCAVATIONS FROM DAMAGE, INCLUDING BUT NOT LIMITED TO NEARBY UNDERGROUND ELECTRIC, TELEPHONE, GAS, STORM SEWERS SANITARY SEWERS AND OVERHEAD UTILITIES. THE EXCAVATIONS SHOULD BE BRACED, SHORED, SLOPED OR OTHERWISE STABILIZED IN A MANNER THAT SATISFIES ALL SAFETY CONCERNS AND ALL FEDERAL, STATE AND LOCAL REGULATIONS. THE RESPONSIBILITY OF MAINTAINING SAFE WORKING CONDITIONS IN THE EXCAVATIONS AND FOR PROTECTING GROUND, STRUCTURES AND INFRASTRUCTURE ADJACENT TO THE EXCAVATIONS IS THE CONTRACTOR'S. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE EXISTING INFRASTRUCTURE DURING THE PROPOSED WATER MAIN INSTALLATION PROCESS.

#### EARTHWORK AND GRADING NOTES

- I. CONTRACTOR IS RESPONSIBLE FOR PROVIDING BORROW MATERIAL & DISPOSING OF EXCESS EXCAVATED MATERIAL AS REQUIRED TO MEET INDICATED DESIGN FLEVATIONS
- 2. BACKFILL ALL EXCAVATIONS BENEATH PAVED AREAS SHALL BE CLSM (CONTROLLED LOW STRENGTH MORTAR) PER KYTC SPECIFICATION 601.03.03.
- 3. EMPLOY A POSITIVE METHOD TO PREVENT MUD & DEBRIS FROM BEING DEPOSITED ON PUBLIC STREETS & OWNER'S PROPERTY ADJACENT TO CONSTRUCTION AREA.
- 4. PERFORM WORK IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
- 5. LOCATE EXISTING UNDERGROUND UTILITIES. PROVIDE ADEQUATE SUPPORT AND PROTECTION DURING EARTHWORK OPERATIONS. REPAIR DAMAGED UTILITIES TO SATISFACTION OF UTILITY OWNER. NOTIFY UTILITY OWNER OF ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES IF ENCOUNTERED DURING EXCAVATION.
- 6. REMOVE TREES, GRASS, OTHER VEGETATION, EXISTING ABOVE AND BELOW GRADE IMPROVEMENTS AND OTHER OBSTRUCTIONS INTERFERING WITH PROPOSED CONSTRUCTION. PROTECT UTILITIES, PAVEMENTS, AND OTHER STRUCTURES TO REMAIN FROM DAMAGE CAUSED BY SETTLEMENT, UNDERMINING AND OTHER HAZARDS CREATED BY EARTHWORK OPERATIONS.
- 7. STRIP TOPSOIL TO DEPTHS ENCOUNTERED PREVENTING INTERMINGLING WITH UNDERLYING SUBSOIL. STOCKPILE SUFFICIENT TOPSOIL FOR SPREADING TO 6" DEPTH OVER NON-IMPROVED AREAS. REMOVE EXCESS AND UNACCEPTABLE TOPSOIL FROM SITE. SUPPLEMENT STOCKPILED TOPSOIL WITH ADDITIONAL MATERIAL AS REQUIRED.
- 8. EXCAVATION IS UNCLASSIFIED AND INCLUDES EXCAVATION TO INDICATED SUBGRADE ELEVATIONS, REGARDLESS OF CHARACTER OF MATERIALS AND OBSTRUCTIONS ENCOUNTERED.
- 9. BARRICADE OPEN EXCAVATIONS AND POST WITH WARNING LIGHTS. SLOPE SIDES OF EXCAVATIONS TO COMPLY WITH LOCAL CODES, ORDINANCES AND REQUIREMENTS OF AGENCIES HAVING JURISDICTION. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE DUE TO SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED.
- 10. DO NOT ALLOW WATER TO ACCUMULATE IN EXCAVATIONS OR ON PREPARED SUBGRADES.
- 11. PROOFROLL AREAS TO RECEIVE FILL. RECOMPACT OR UNDERCUT & REPLACE ANY SOFT OR YIELDING AREAS PRIOR TOPLACING FILL. DO NOT PLACE FILL ON SUBGRADES THAT ARE MUDDY, FROZEN OR REQUIRING ADDITIONAL COMPACTION.
- 12. CONTROL SOIL COMPACTION, PROVIDING 98 PERCENT MINIMUM DRY DENSITY PER ASTM D-698. PLACE FILL MATERIAL AT OPTIMUM MOISTURE CONTENT IN 8" LOOSE LIFTS WHERE COMPACTED BY HEAVY EQUIPMENT AND NOT MORE THAN 4" LOOSE LIFTS WHERE COMPACTED BY HAND OPERATED TAMPERS.
- 13. PLACE FILL AND BACKFILL MATERIALS EVENLY ADJACENT TO STRUCTURES, PIPING AND CONDUITS TO PREVENT WEDGING ACTION.
- 14. USE GRANULAR BACKFILL BENEATH ALL FLOOR SLABS, PAVEMENTS AND OTHER SLAB ON GRADE CONSTRUCTIONS.
- 15. GRADE AREAS ADJACENT TO BUILDINGS TO DRAIN AWAY FROM STRUCTURES AND TO PREVENT PONDING. FINISH SURFACES FREE FROM IRREGULAR SURFACE CHANGES MEETING INDICATED SUBGRADE AND FINISH GRADE ELEVATIONS.
- 16. PROVIDE AND MAINTAIN EROSION CONTROL METHODS IN ACCORDANCE WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
- 17. REMOVE WASTE MATERIALS AND EXCESS EXCAVATED MATERIAL, UNSATISFACTORY SOIL MATERIAL, TRASH AND DEBRIS AND DISPOSE OF IT OFF OWNER'S PROPERTY.
- 18. COMPACTION: ALL AREAS, 98% OF MAXIMUM DRY DENSITY AS DEFINED BY ASTM
- 19. SPREAD 4" OF TOP SOIL, FERTILIZE SEED AND MULCH ALL GRADED & DISTURBED AREAS AS SOON AS THEY WILL NOT BE AFFECTED BY SUBSEQUENT CONSTRUCTION. CONFORM TO THE APPLICABLE REQUIREMENTS OF ODOT ITEM 659, SEEDING & MULCHING.

#### SUBSURFACE NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EMPLOY TRENCHING, SHORING, BACKFILLING, AND GENERAL CONSTRUCTION METHODS AS NECESSARY TO PREVENT DAMAGE TO PROPERTY, PAVEMENT, STRUCTURES, AND INFRASTRUCTURE ADJACENT TO THE SITE. UNBACKFILLED TRENCH LENGTHS SHALL BE KEPT TO A MINIMUM AND/OR SHORING SHOULD BE EMPLOYED AS NEEDED TO PREVENT SOIL MOVEMENTS ADJACENT TO UNBACKFILLED TRENCHES.

#### TOPSOIL, SEEDING, MULCHING, AND FERTILIZING

- 1. ALL DISTURBED AREAS WITHIN THE LIMITS OF CONSTRUCTION THAT ARE NOT PAVED OR LANDSCAPED SHOULD BE SEEDED.
- 2. TACK ALL SLOPES STEEPER THAN 5:1 WITH STAPLES AND PLASTIC NET.
- 3. CONTRACTOR TO REDISTRIBUTE THE TOPSOIL AND/OR IMPORT FOR A DEPTH OF 4'-7" IN ALL AREAS THAT ARE NOT TO BE PAVED.

#### KENTUCKY TRANSPORTATION CABINET NOTES

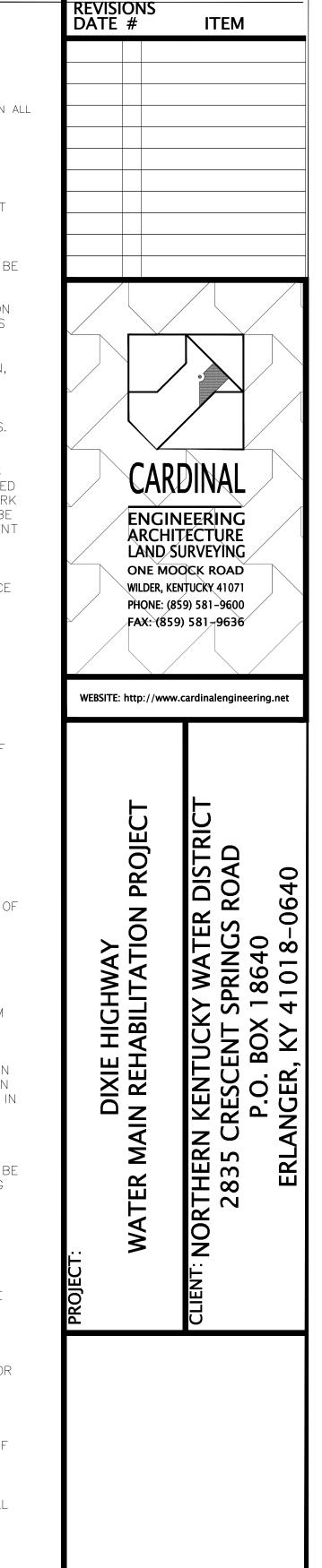
- 1. THE CONTRACTOR SHALL NOTIFY THE KENTUCKY TRANSPORTATION CABINET DISTRICT 6 THREE (3) DAYS PRIOR TO CONSTRUCTION.
- 2. ANY WATER MAIN REPLACEMENT THAT IS WITHIN THE PUBLIC STREET WILL REQUIRE FULL PANEL AND CURB CONCRETE REPLACEMENT. WORK SHALL BE COORDINATED WITH THE KENTUCKY TRANSPORTATION CABINET DISTRICT 6.
- 3. ALL PAVEMENT CUTS SHALL BE REPLACED TO THE NEAREST CONSTRUCTION JOINT. ALL COSTS FOR SUCH PAVEMENT CUTS, PATCHING, AND OVERLAYS AS REQUIRED SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
- 4. CONTRACTOR SHALL RESTORE DISTURBED PAVEMENT AFTER CONSTRUCTION, SHALL MINIMIZE INCONVENIENCE TO TRAFFIC DURING CONSTRUCTION, AND SHALL PROVIDE SMOOTH TRANSITIONS TO EXISTING PAVEMENT. PAVING MATERIALS AND CONSTRUCTION THEREOF SHALL BE IN ACCORDANCE WITH KENTUCKY TRANSPORTATION CABINET (KYTC) SPECIFICATIONS AND DETAILS.
- 5. CONSTRUCTION ACCESS ROADS, EXISTING PAVEMENT OR GRAVEL ROADS, AND DRIVEWAYS IF REMOVED, DISTURBED, OR DAMAGED BY CONTRACTOR'S WORK SHALL BE MAINTAINED BY CONTRACTOR AND RESTORED OR REPLACED TO EXISTING OR BETTER THAN PRE-CONSTRUCTION CONDITIONS AFTER WORK IS COMPLETE. THE COST OF THIS RESTORATION OR REPLACEMENT SHALL BE INCLUDED IN THE TOTAL COST FOR THE PROJECT. NO ADDITIONAL PAYMENT WILL BE MADE.
- 6. WATER MAIN IN STREET PAVEMENT OR PAVED SHOULDER SHALL BE BACKFILLED WITH LOW STRENGTH MORTAR (FLOWABLE FILL) IN ACCORDANCE WITH DETAIL ON SHEET C 2.0.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF TRAFFIC (IN ACCORDANCE WITH THE KYTC SPECIFICATIONS FOR TRAFFIC CONTROL AND THE MUTCD) DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH KYTC DISTRICT 6, THE CITIES OF FLORENCE, ERLANGER, AND ELSMERE, POLICE, AND GOVERNING FIRE DISTRICTS.
- 8. <u>DIXIE HIGHWAY:</u> BASED ON KYTC PLANS OF RECORD, IT IS ANTICIPATED THAT THE EXISTING PAVEMENT CONSISTS OF APPROXIMATELY 5—INCHES OF ASPHALT OVER 7—INCHES OF CONCRETE. RESTORATION OF TRENCHES SHALL BE PER DETAILS ON SHEET C—2.0 AND AS SPECIFIED BY KYTC DISTRICT 6.
- 9. IF TWO LANES OF TRAFFIC ARE AFFECTED DURING CONSTRUCTION, KYTC DISTRICT 6 WILL REQUIRE THE CONTRACTOR TO ADHERE TO THE KYTC SPECIFICATIONS FOR TRAFFIC CONTROL AND THE MUTCD WITH CLOSURES LIMITED TO TO THE DAYTIME HOUSE OF 9:00 TO 3:00 PM EST.
- 10. CONTRACTOR PREPARED TRAFFIC CONTROL PLANS WILL NEED TO BE SUBMITTED TO KYTC DISTRICT 6 FOR APPROVAL PRIOR TO THE ISSUANCE OF A PERMIT FROM THEIR OFFICE.

#### PROHIBITED CONSTRUCTION ACTIVITIES:

- 1. INDISCRIMINATE OR ARBITRARY OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY SURFACE WATER, OR OUTSIDE THE EASEMENT LIMITS IS PROHIBITED.
- 2. CLEAR CUTTING. CLEARING AND GRUBBING SHALL BE PHASED TO MAINTAIN COVER UNTIL ACTUAL CONSTRUCTION HAS PROGRESSED TO THE AREA. IN PARTICULAR, CLEARING TO ALLOW PIPE STRINGING MORE THAN 500 FEET IN ADVANCE OF INSTALLATION IS NOT PERMITTED.
- 3. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATION DIRECTLY INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, OR STORM SEWERS IS PROHIBITED; ALL SUCH WATER SHALL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO DISCHARGING INTO ANY DRAIN OR WATERCOURSE.

#### RESTORATION:

- 1. MEASUREMENT AND PAYMENT ITEM NO 11.17 RESTORATION ITEMS INCLUDE TEES, PAVEMENT (ASPHALT AND CONCRETE) REMOVAL AND RESTORATION (EXCLUDES ASPHALT MILLING AND SURFACING), SIDEWALK REMOVAL AND REPLACEMENT, AND ALL RE—CONNECTIONS AT PIT LOCATIONS.
- 2. WHERE OPEN PITS ARE NEEDED IN AREAS WHERE CONCRETE PAVEMENT OR SIDEWALKS EXIST, CONCRETE SHALL BE REPLACED JOINT TO JOINT.
- 3. IN AREAS WHERE STAMPED CONCRETE/ASPHALT OR PAVERS EXIST AND ARE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL RESTORE SAID AREAS TO THE SATISFACTION OF THE GOVERNING BODY (I.E. CITY OF ERLANGER, KYTC, ETC.).
- 4. IF SIDEWALKS RAMPS ARE DISTURBED DURING CONSTRUCTION AT INTERSECTIONS ALONG DIXIE HIGHWAY, THE CONTRACTOR SHALL REINSTALL RAMPS PER KYTC STANDARD DETAIL RPM-170-05 (REFER TO SHEET C-2.1).



DRAWN BY:

KGH

CHECKED BY:

DRW

PROJECT
MANAGER:
KGH

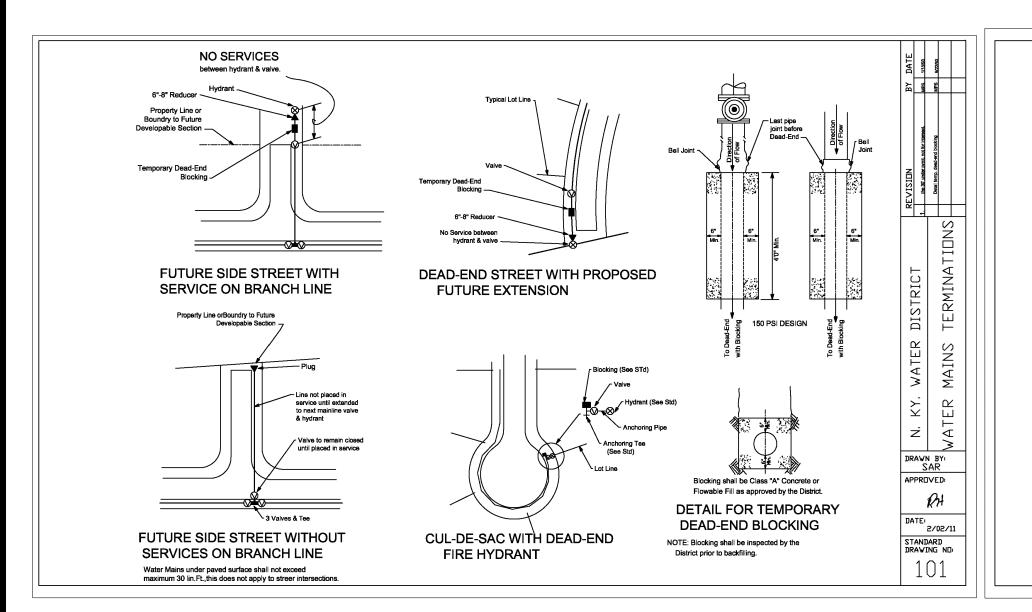
**SPECIFICATIONS** 

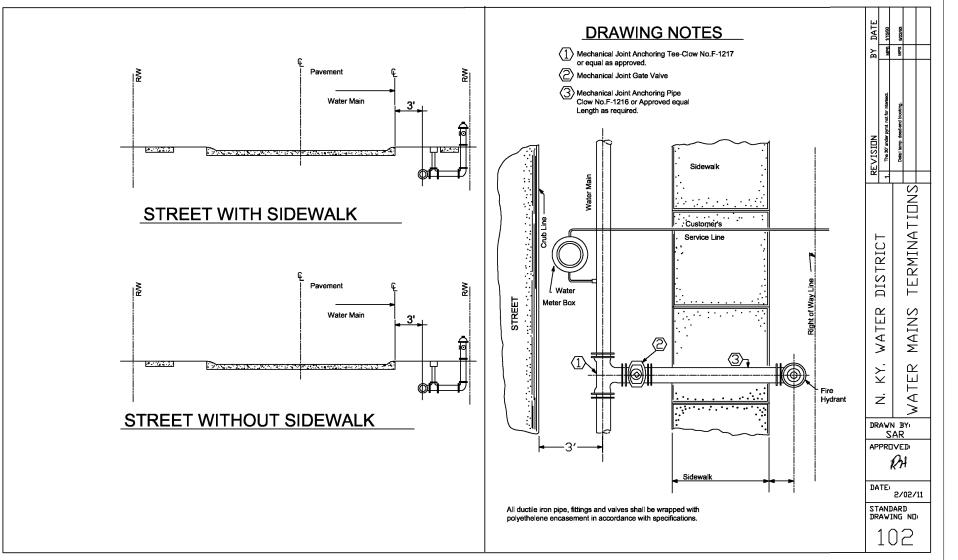
PROJECT NO. 13–146

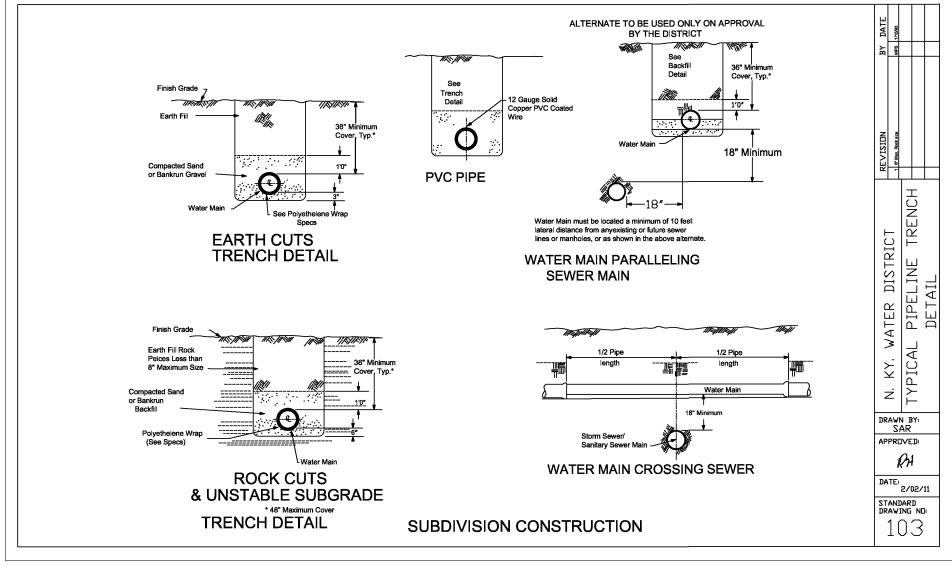
SCALE AS NOTED

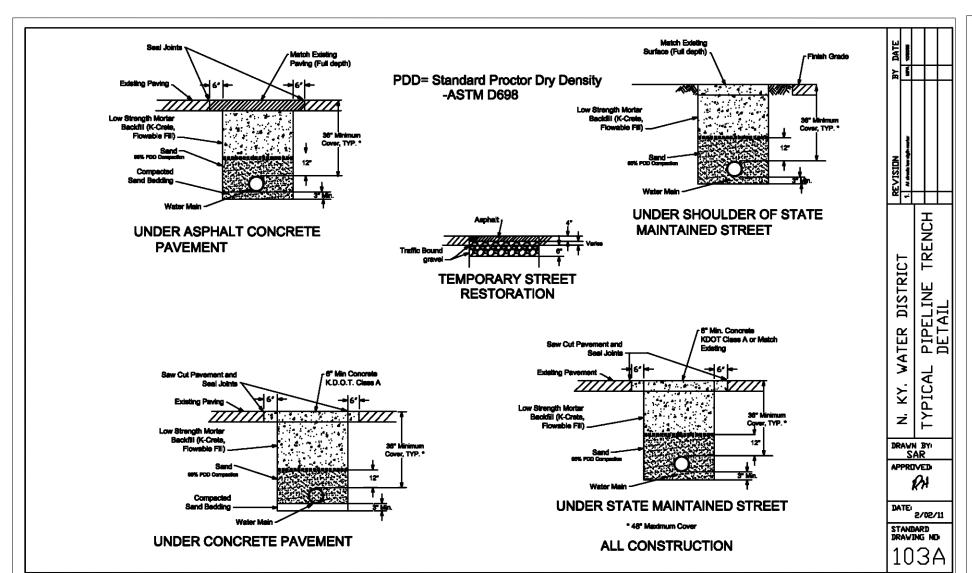
DATE 02–05–14

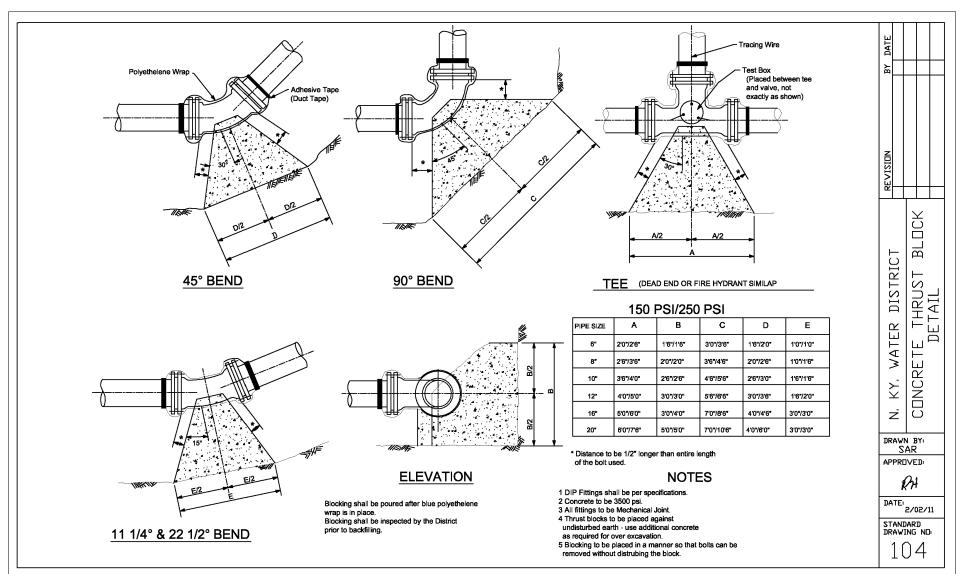
SHEET \_\_\_\_1

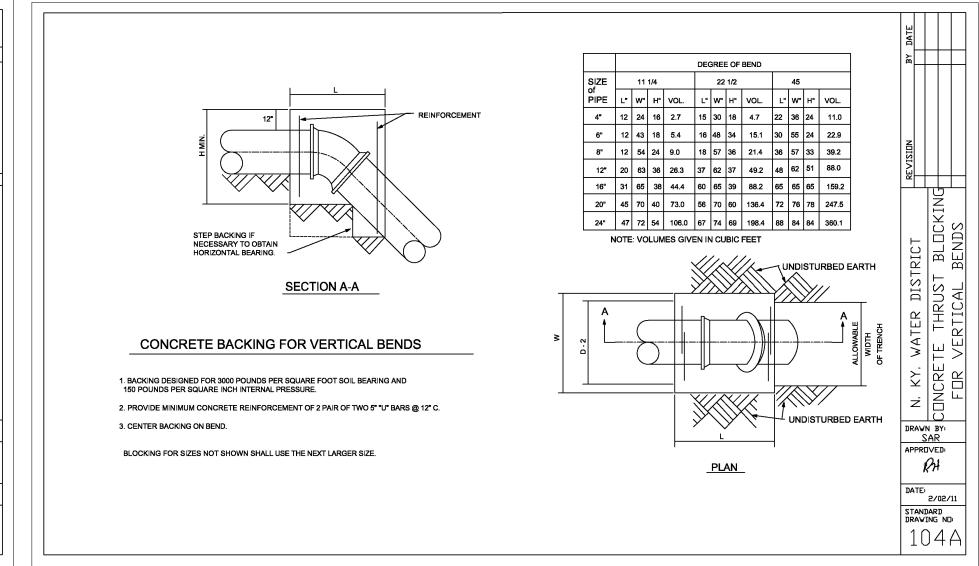


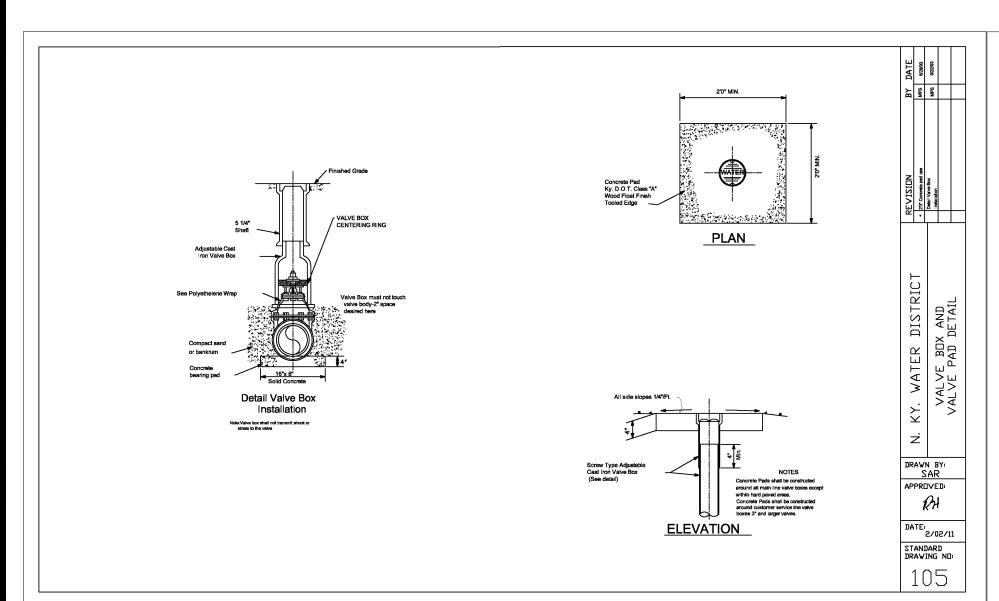


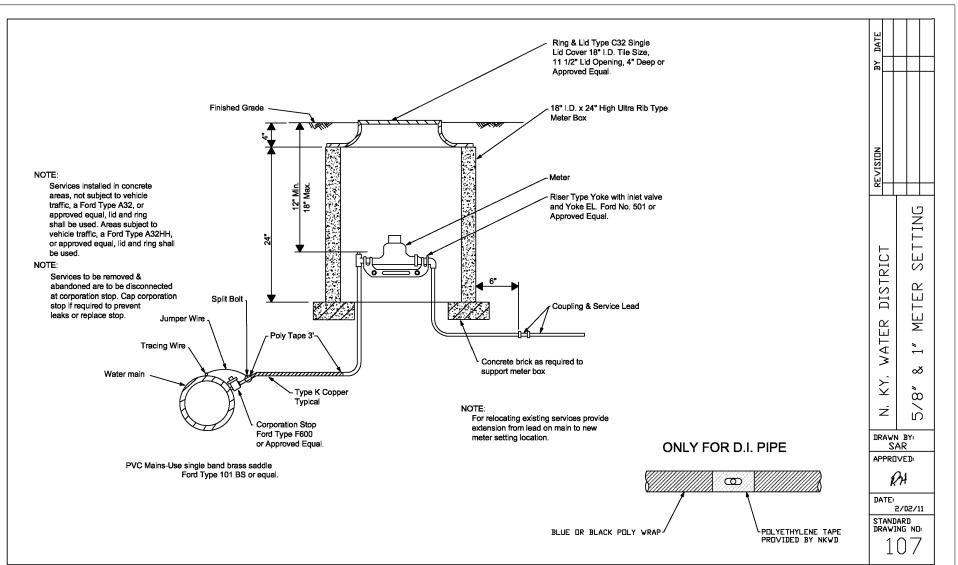


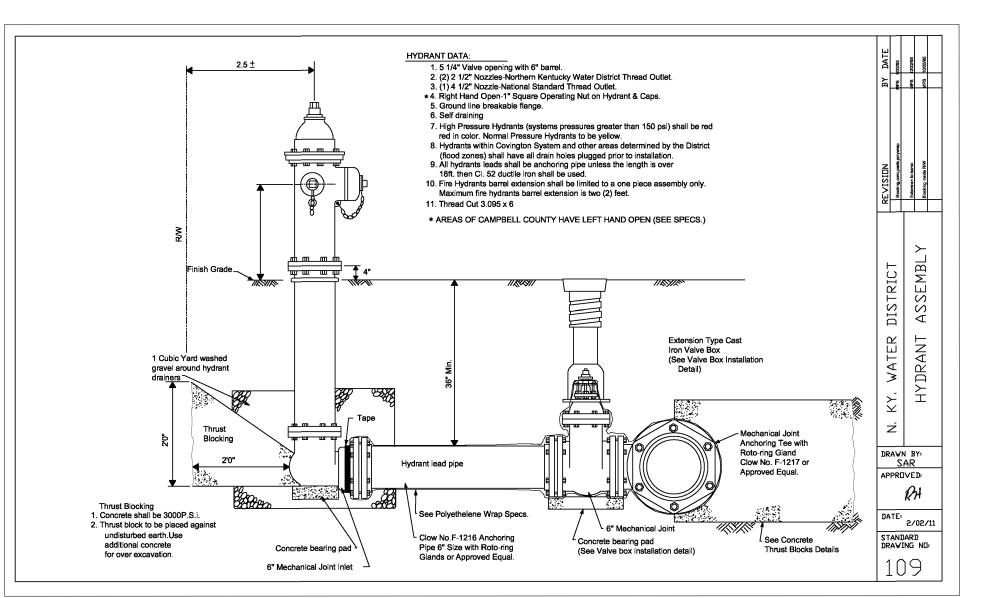












ENGINEERING ARCHITECTURE LAND SURVEYING ONE MOOCK ROAD WILDER, KENTUCKY 41071 PHQNE: (859) 581-9600 FAX: (859) 581<del>-19636</del> WEBSITE: http://www.cardinalengineering.net DIXIE HIG WATER MAIN REHABII

REVISIONS DATE #

| DRAWN BY:           | SEAL |  |  |  |
|---------------------|------|--|--|--|
| KGH                 |      |  |  |  |
| CHECKED BY:         |      |  |  |  |
| DRW                 |      |  |  |  |
| PROJECT<br>MANAGER: |      |  |  |  |
| KGH                 |      |  |  |  |
| PROJECT NO. 12 146  |      |  |  |  |

PROJECT NO. 13–146

SCALE AS NOTED

DATE 02–05–14

NKWD DETAILS

C-2.0

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

