

Madison, Wisconsin

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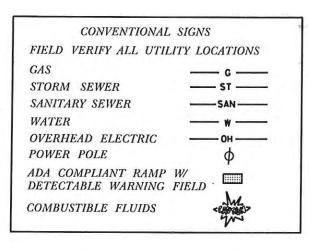
WATER MATERIALS ESTIMATE

CITY OF MADISON MADISON WATER UTILITY DEPARTMENT OF PUBLIC WORKS

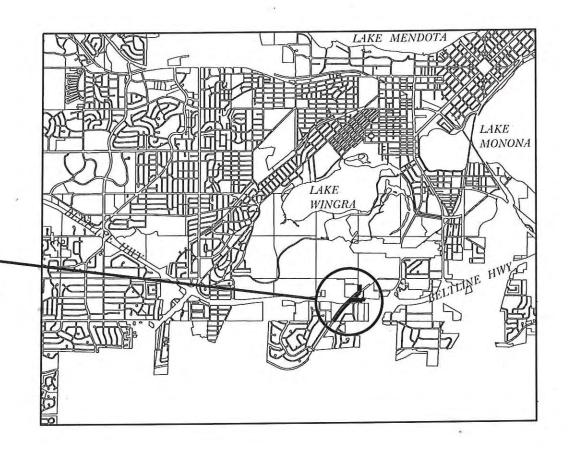
PLAN OF PROPOSED IMPROVEMENT

CANNONBALL PIPELINE PHASE 3 - 2012

CITY PROJECT NO. 53W1382 CITY CONTRACT NO. 6840



CONSTRUCTION -PROJECT LOCATION



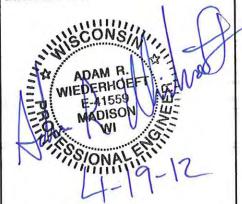
PUBLIC IMPROVEMENT PROJECT APPROVED

APRIL 17, 2012

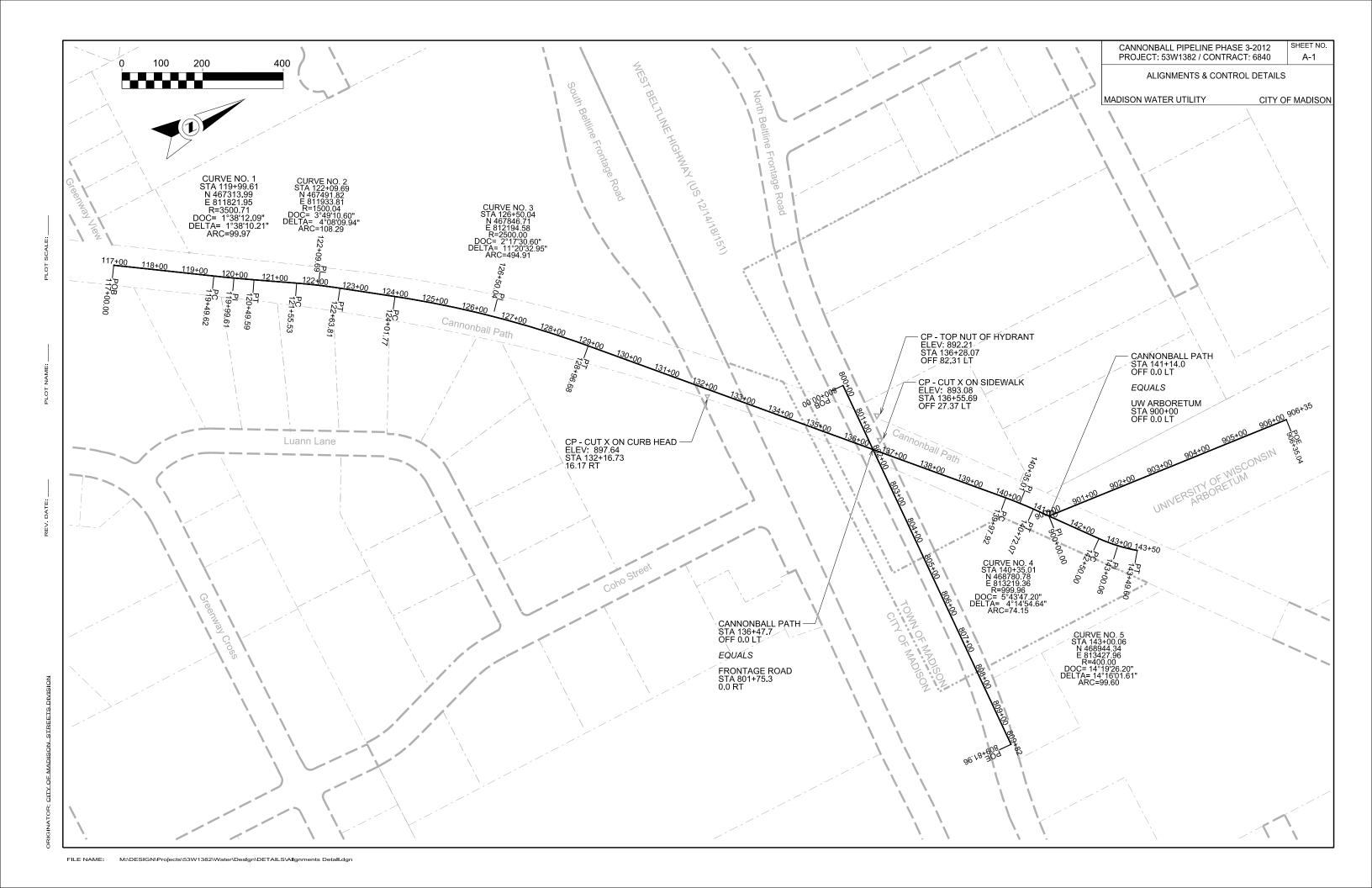
BY THE COMMON COUNCIL OF MADISON, WISCONSIN

WATER SYSTEM IMPROVEMENTS APPROVED BY:

WATER DESIGNED BY:



REVISED 07-27-12 SHEETS W5 THROUGH W8



NOTES:

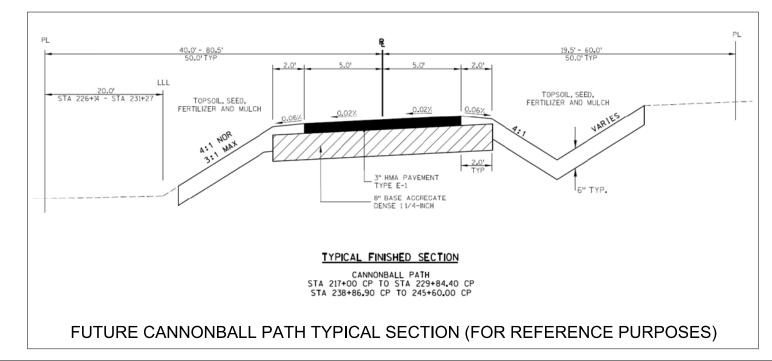
- 1) ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE WISCONSIN ADMINISTRATIVE CODE FOR "TRENCH EXCAVATION, AND TUNNEL CONSTRUCTION" AND ANY ADDITIONAL REQUIREMENTS INCLUDED IN THE CONTRACT DOCUMENTS.
- 2) BACKFILL OPERATIONS SHALL COMPLY WITH SECTION 703.8 AND SUBSECTION 202.2(B). THE PIPE ZONE SHALL CONSIST OF SELECT FILL SAND, LIMESTONE SCREENINGS, WASHED OR CLEAR STONE, GRAVEL OR CRUSHED STONE.
- 3) BACKFILL OPERATIONS FOR THE TRENCH ZONE SHALL COMPLY WITH SECTION 703.11.
- 4) COMPACTION REQUIREMENTS:
 PIPE ZONE: COMPACT BEDDING MATERIAL USING A HAND OPERATED MECHANICAL COMPACTOR.
 FROM 2' OVER PIPE TO 3' BELOW SUBGRADE: MINIMUM OF 90% OF MAX DENSITY.
 WITHIN 3' OF BOTTOM OF SUBGRADE: MINIMUM OF 95% OF MAX DENSITY

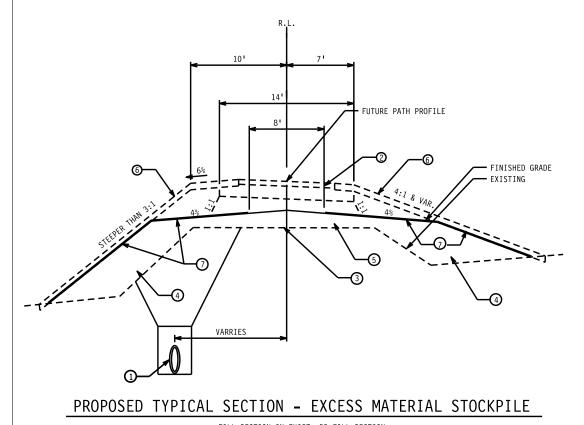
CITY OF MADISON
WATER UTILITY

TYPICAL WATER
PIPE TRENCH

CREATED: 6/2009

STANDARD DETAIL DRAWING 7.08



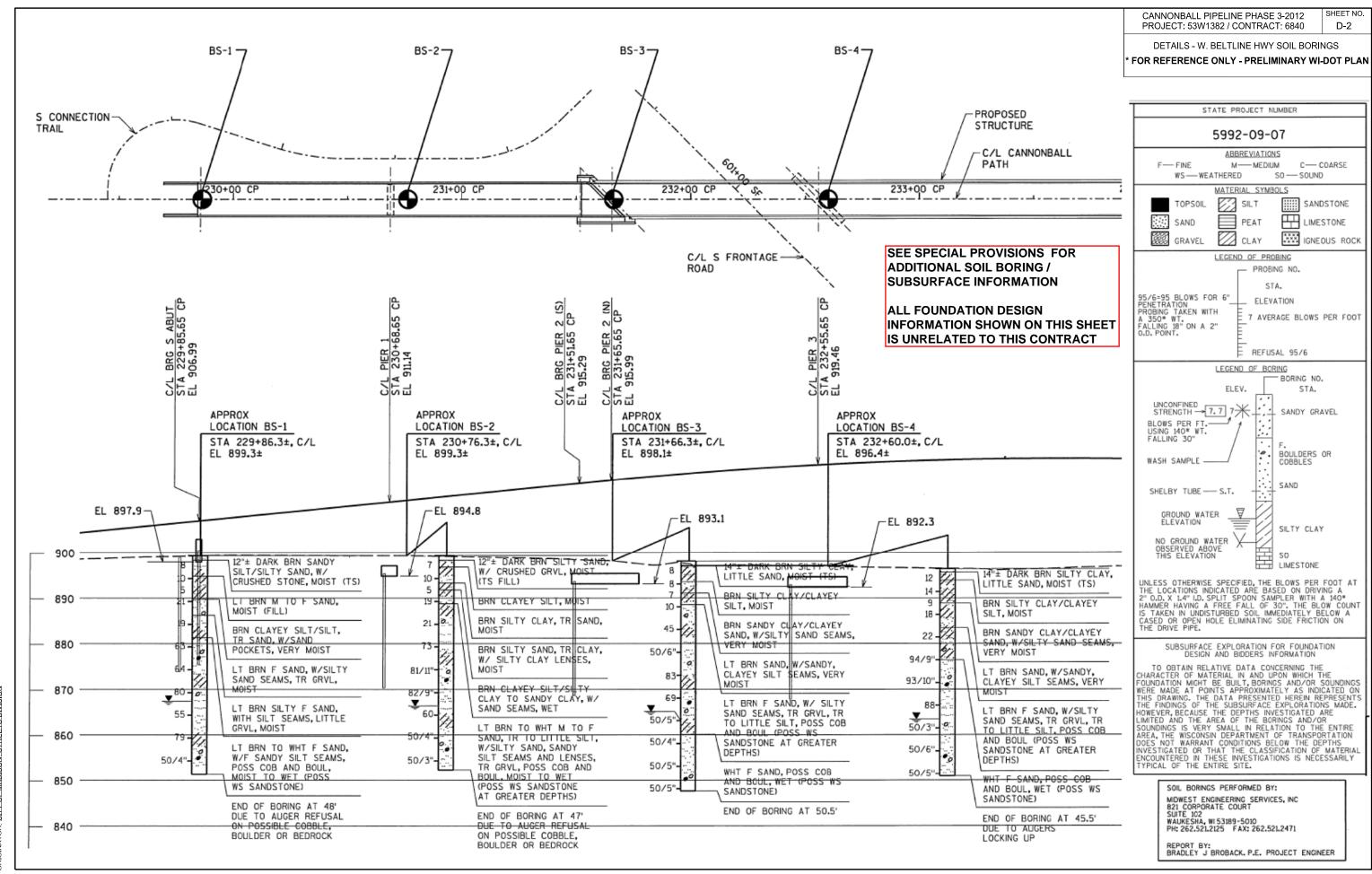


LEGEND

- (1) PROP. 12/16-INCH WATER MAIN (NOTE 2)
- 3 IN. HMA PAVEMENT, TYPE E-1 (FUTURE BY OTHERS)
- 3 EXISTING CRUSHED STONE PATH (VARRIES)
- 4 EXCESS MATERIAL FROM TRENCH EXCAVATION (SEE NOTES 3 AND 4)
 5 SUITABLE FILL MATERIAL PER 202.2(a) FROM TRENCH EXCAVATON
- 6 4 IN. TOPSOIL, PERMANENT SEEDING AND MULCH (FUTURE BY OTHERS)
- TERRACE RESTORATION AND EROSION MATT PER SPECS, OR POLYMER STABILIZATION WITH SILT FENCING PER SPECS (LOCATION DEPENDANT).

NOTES:

- 1. TYPICAL SECTIONS SHOWN ARE FOR INSTALLATION OF WATER MAIN BY SEPARATE CONTRACT IN ADVANCE OF PATH CONSTRUCTION
- 2. SEE DETAIL DRAWING 7.08 FOR WATER MAIN TRENCH REQUIREMENTS.
- 3. OUTSIDE 1:1 SLOPE LINES FILL MATERIAL MAY BE TOPSOIL, PEAT OR OTHER MATERIALS OBTAINED FROM EXCAVATION WITHIN PROJECT LIMITS WHICH ARE NOT ORDINARILY SUITABLE FOR EMBANKMENT CONSTRUCTION.
- 4. NO MATERIAL SHALL BE PLACED OUTSIDE LIMITS OF FUTURE PATH EMBANKMENT. VERIFY PLACEMENT LOCATIONS WITH ENGINEER PRIOR TO PROCEEDING WITH STOCKPILING.
- 5. INTERIM PATH ELEVATION SHALL NOT EXCEED FUTURE PATH PROFILE FINISHED GRADE SHALL BE CONSTRUCTED TO MATCH EXISTING GRADE UNLESS FUTURE PATH PROFILE IS LOWER THAN EXISTING GRADE. REQUIRED FINISHED GRADE ELEVATIONS ARE NOTED ON PROFILE SHEETS.

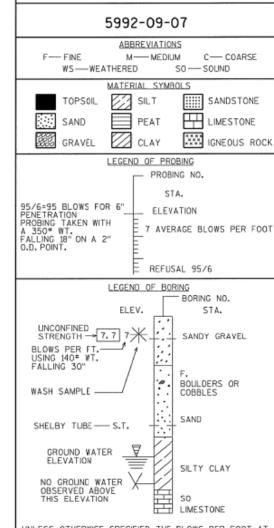


CANNONBALL PIPELINE PHASE 3-2012 PROJECT: 53W1382 / CONTRACT: 6840

2012 SHEET NO. 6840 D-3

DETAILS - W. BELTLINE HWY SOIL BORINGS
* FOR REFERENCE ONLY - PRELIMINARY WI-DOT PLAN

STATE PROJECT NUMBER



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140* HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

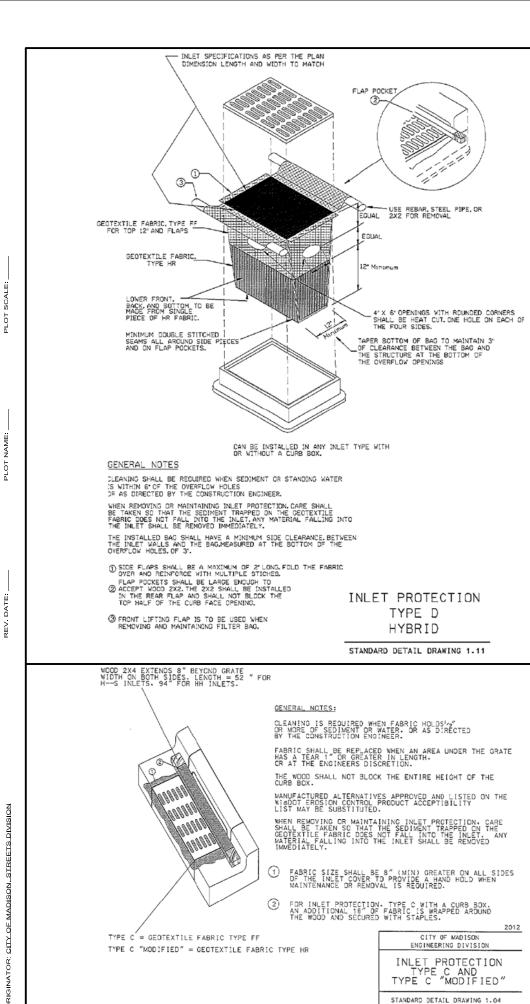
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

SOIL BORINGS PERFORMED BY:

MIDWEST ENGINEERING SERVICES, INC
821 CORPORATE COURT
SUITE 102
WAUKESHA, WI 53189-5010
PH: 262.521.2125 FAX: 262.521.2471

REPORT BY:
BRADLEY J BROBACK, P.E. PROJECT ENGINEER



2" X 2" X 36" WDOD STAKES

e 10' D.C. (M[N.)

FLOW

FLOW

8" OR 12" DIA. SOCK

BACK-GROUT W/ SOCK-FILLER MATERIAL

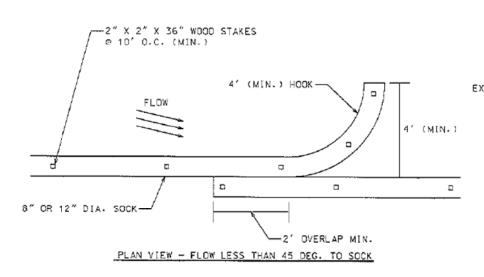
8" OR 12" DIA. SOCK

PLOW

DRIVE STAKE 12" MIN.

SECTION VIEW

PLAN VIEW - FLOW 45 TO 90 DEG. TO SOCK



NARROW TEAR LONGER THAN 12"

NEW FABRIC WRAPPED AROUND SOCK
AND TIED AT DOWNSTREAM SIDE.
EXTEND NEW FABRIC A MINIMUM OF
12 INCHES PAST EACH END OF THE TEAR

EXISTING SILT SOCK

PLASTIC TIES OR STICHING

REPAIR DETAIL - TEAR GREATER THAN 12 INCHES

GENERAL NOTES:

- 1. SOCK MATERIAL PER STANDARD SPECIFICATIONS, SILT SOCK FILLER SHALL BE COMPOST OR WOOD CHIPS (2" MAX.)
- 2. WHEN SILT SOCK IS USED ON A PAVED SURFACE CONCRETE BLOCKS SHALL BE USED TO SECURE SILT SOCK IN PLACE OF STAKING
- 3. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILY SOCK WHEN IT HAS REACHED A HEIGHT EQUAL TO HALF OF THE SOCK HEIGHT.
- 4. SMALL HOLES OR NARROW RIPS LESS THAN 12' LONG MAY BE STICHED CLOSED USING PLASTIC ZIP TIES. LARGER RIPS SHALL BE FIXED PER THE REPAIR DETAIL. HEAVILY DAMAGED SECTIONS SHALL BE REPLACED ENTIRELY. MAINTAIN 2' MINIMUM OVERLAP AT EACH END.
- 5. 8" OR 12" DIAMETER SOCK AS SPECIFIED IN THE EROSION CONTROL PLAN OR AS DIRECTED BY THE CONSTRUCTION ENGINEER.

CITY OF MADISON ENGINEERING DIVISION

SILT SOCK

2012

SHEET NO.

CITY OF MADISON

CANNONBALL PIPELINE PHASE 3-2012 PROJECT: 53W1382 / CONTRACT: 6840

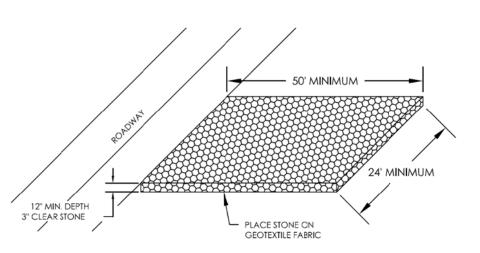
MADISON WATER UTILITY

DETAILS - EROSION CONTROL

STANDARD DETAIL DRAWING 1.09

FILE NAME: \$\$....deslgnflle....\$\$

DATE: \$\$...plottlngdate...\$\$



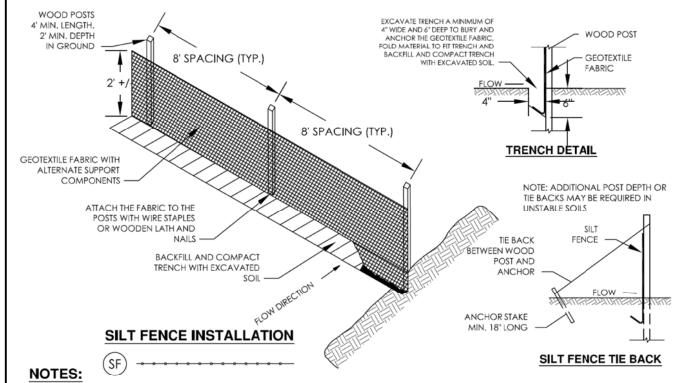
STONE CONSTRUCTION ENTRANCE





GENERAL NOTES:

- 1. CONSTRUCTION ENTRANCE TO BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE.
- 2. THE AGGREATE FOR THE CONSTRUCTION ENTRANCE SHALL BE 3 INCH CLEAR OR WASHED STONE.
- 3. AGGREGATE SHALL BE PLACED IN A LAYER AT LEAST 12 INCHES THICK.
- 4. THE CONSTRUCTION ENTRANCE SHALL BE UNDERLAIN WITH A WOOT TYPE HR OR FF GEOTEXTILE FABRIC TO PREVENT MIGRATION OF UNERLYING SOIL INTO THE STONE.
- 5. SURFACE WATERS MUST BE PREVENTED FROM PASSING THROUGH THE CONSTRUCTION ENTRANCE. FLOWS SHALL BE DIVERTED AWAY FROM THE CONSTRUCTION ENTRANCE OR CONVEYED UNDER AND AROUND THEM BY USE OF A CULVERT. DIVERSION BERM OR OTHER PRACTICES AS APPROVED BY THE CONSTRUCTION ENGINEER.
- 6. CLEANING BY SCRAPING OR ADDING NEW STONE SHALL BE REQUIRED IF ENTRANCE BECOMES MORE THAN 50% COVERED BY TRACKED MUD.



- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- WHEN POSSIBLE THE SILT FENCE SHOULD BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE WITH THE ENDS POINTING UP-SLOPE TO
 MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.
- EXCAVATE A TRENCH A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
- GEOTEXTILE FABRIC SHALL BE REINFORCED WITH AN INDUSTRIAL POLYPROPYLENE NETTING WITH A MAXIMUM MESH SPACING OF 3/4" OR EQUAL. A HEAVY DUTY NYLON TOP SUPPORT CORD OR EQUIVALENT IS REQUIRED.

CANNONBALL PIPELINE PHASE 3-2012 PROJECT: 53W1382 / CONTRACT: 6840

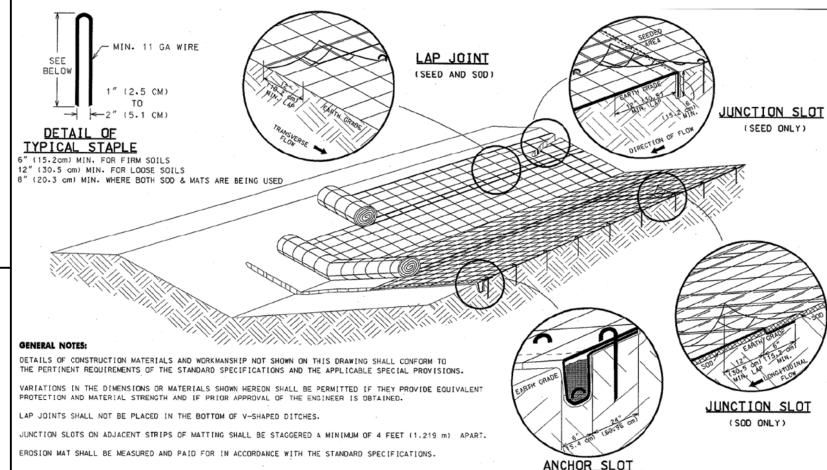
DETAILS - EROSION CONTROL

MADISON WATER UTILITY

CITY OF MADISON

SHEET NO

D-5



EROSION MAT OVER SEEDING:

EROSION MAT OVER SOD:

d. ONLY JUTE FABRIC WILL BE PERMITTED OVER SOD.

G. THE WIDTH OF EROSION MAT SHALL ALWAYS EXCEED THE SOD WIDTH.

JUNCTION OR ANCHOR SLOTS SHALL BE AT MINIMUM INTERVALS OF 100 FEET (30.48 m) ON GRADES UP TO AND INCLUDING 3 PERCENT. AND 50 FEET (15.24 m) ON GRADES EXCEEDING 3 PERCENT.

WOOD STAKES FOR SOD MAY BE OMITTED BY THE ENGINEER IF EXISTING SLOPE AND SOIL CONDITIONS SO WARRANT.

CITY OF MADISON

ENGINEERING DIVISION

EROSION MAT

DRAWING NOT TO SCALE | STANDARD DETAIL DRAWING 1.02

AT BEGINNING OF EROSION MAT

EXTRA STAPLE AT END ONLY

(SEED AND SOD)

FILE NAME: \$\$...destgnflle...\$\$

DATE: \$\$...plottlngdate...\$\$

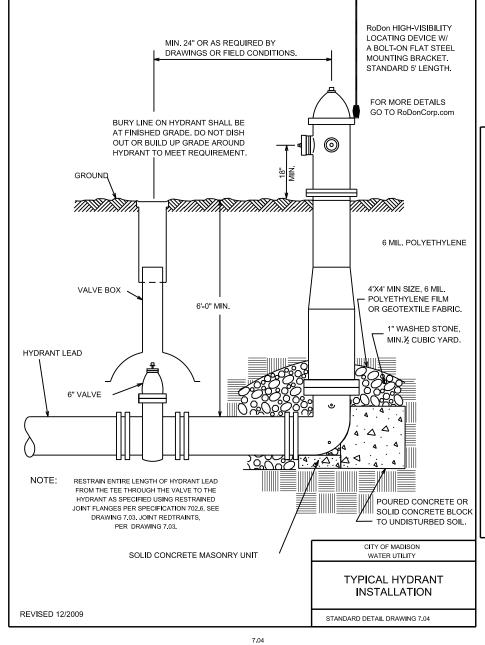
DETAILS - WATER UTILITY

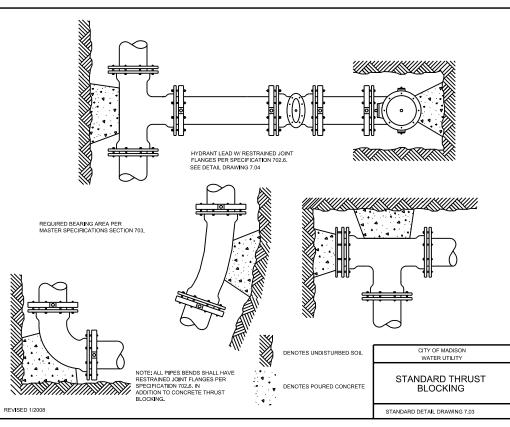
MADISON WATER UTILITY

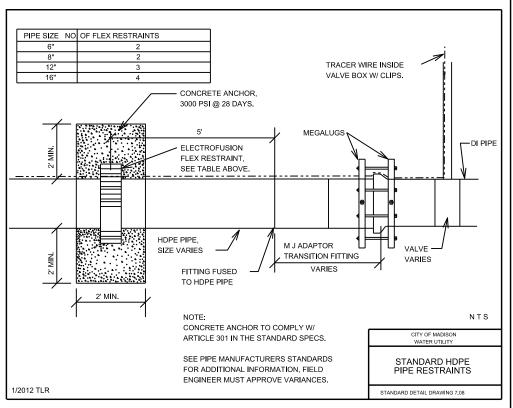
CITY OF MADISON

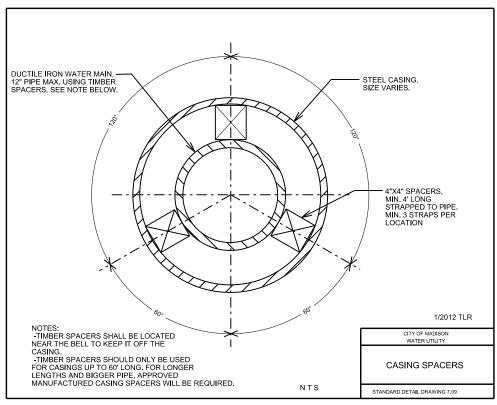
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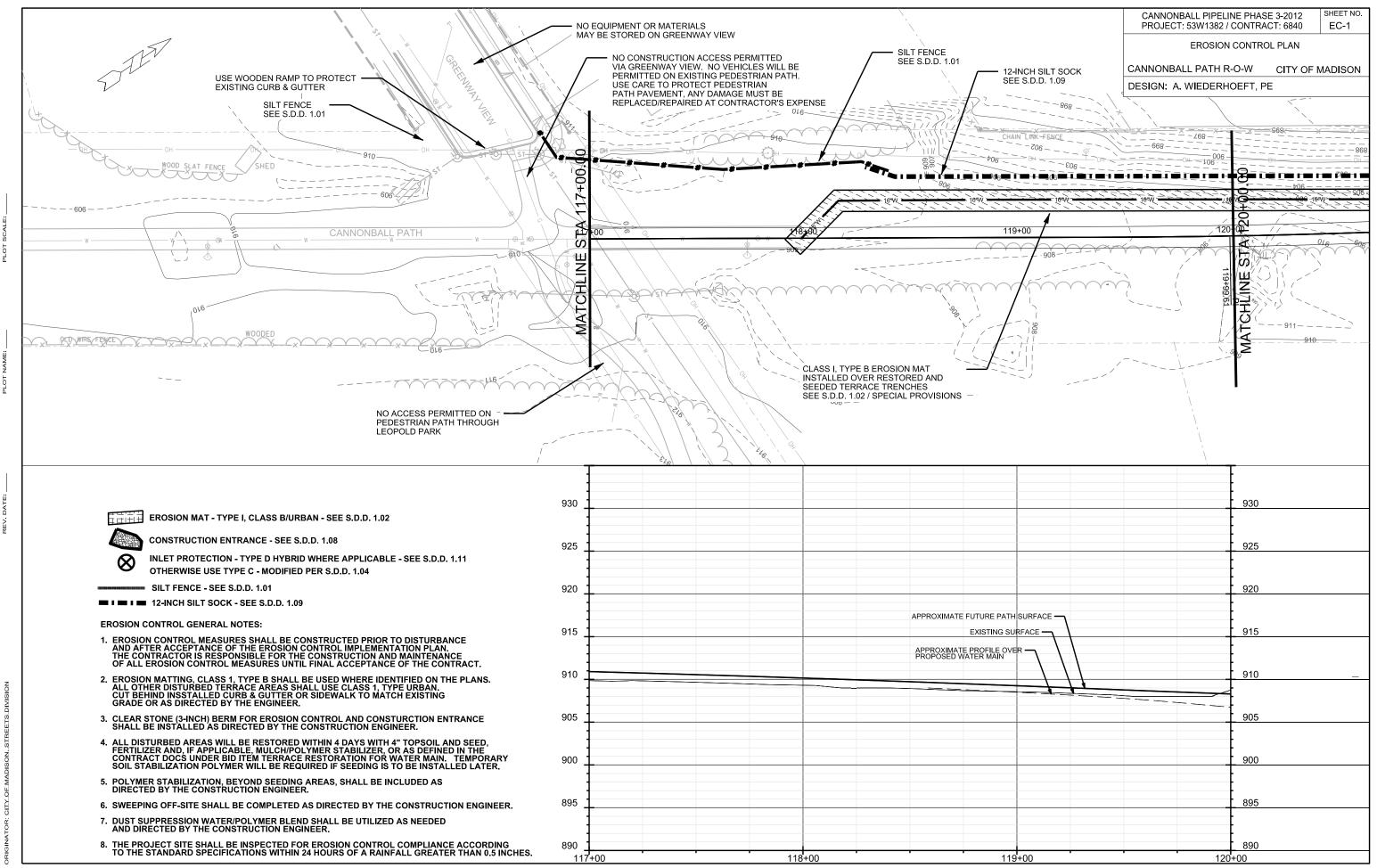
D-6

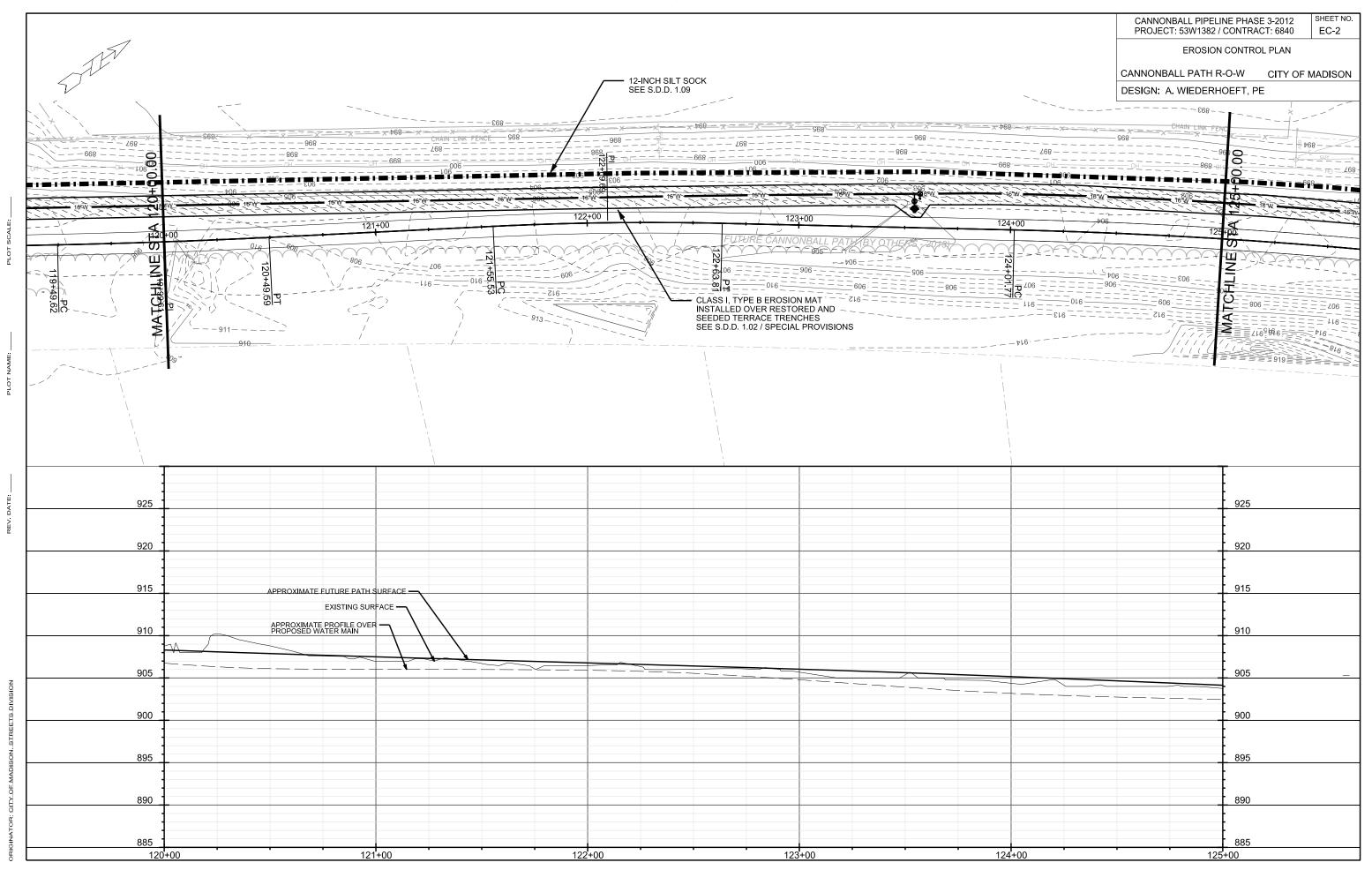


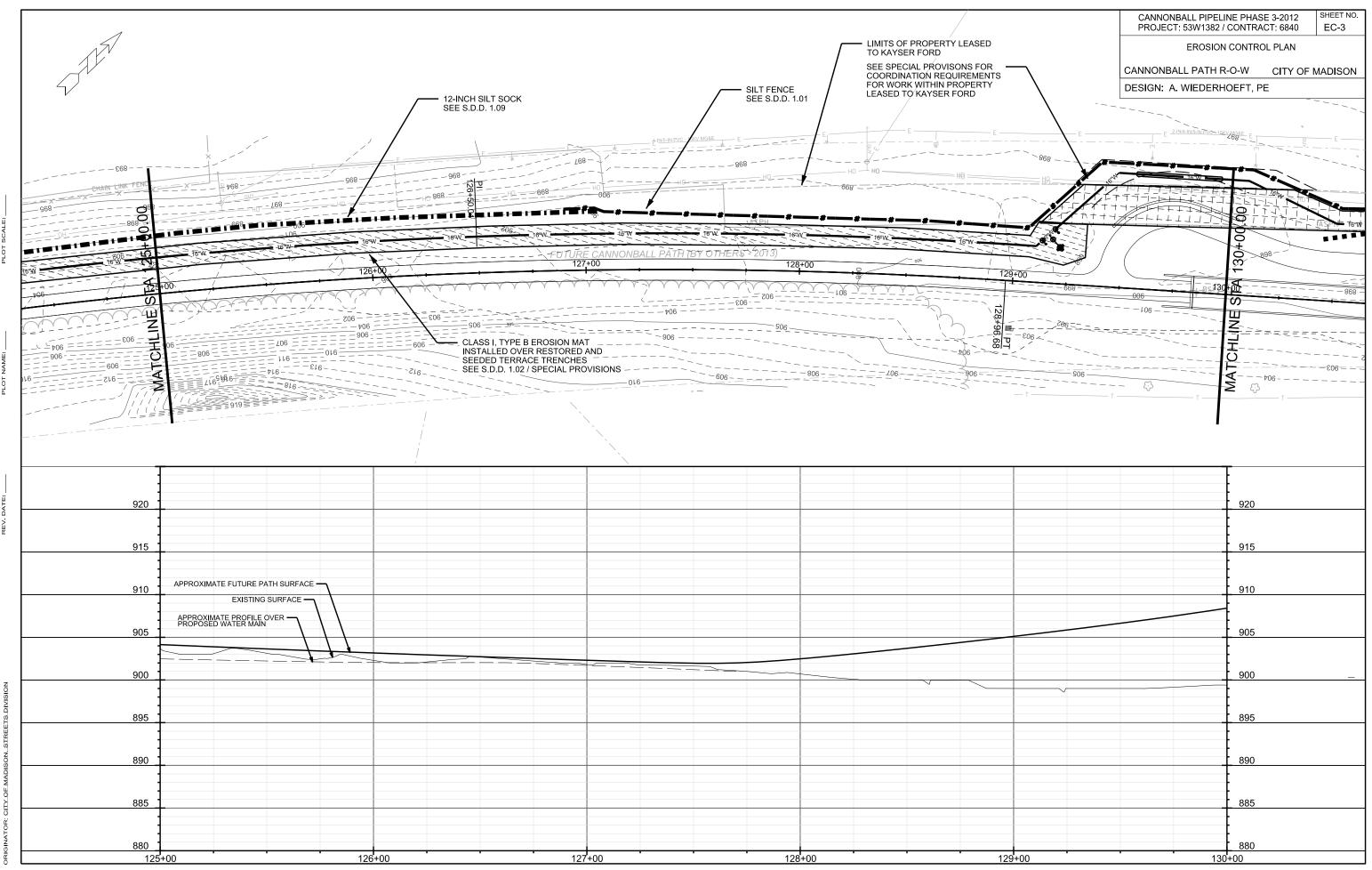


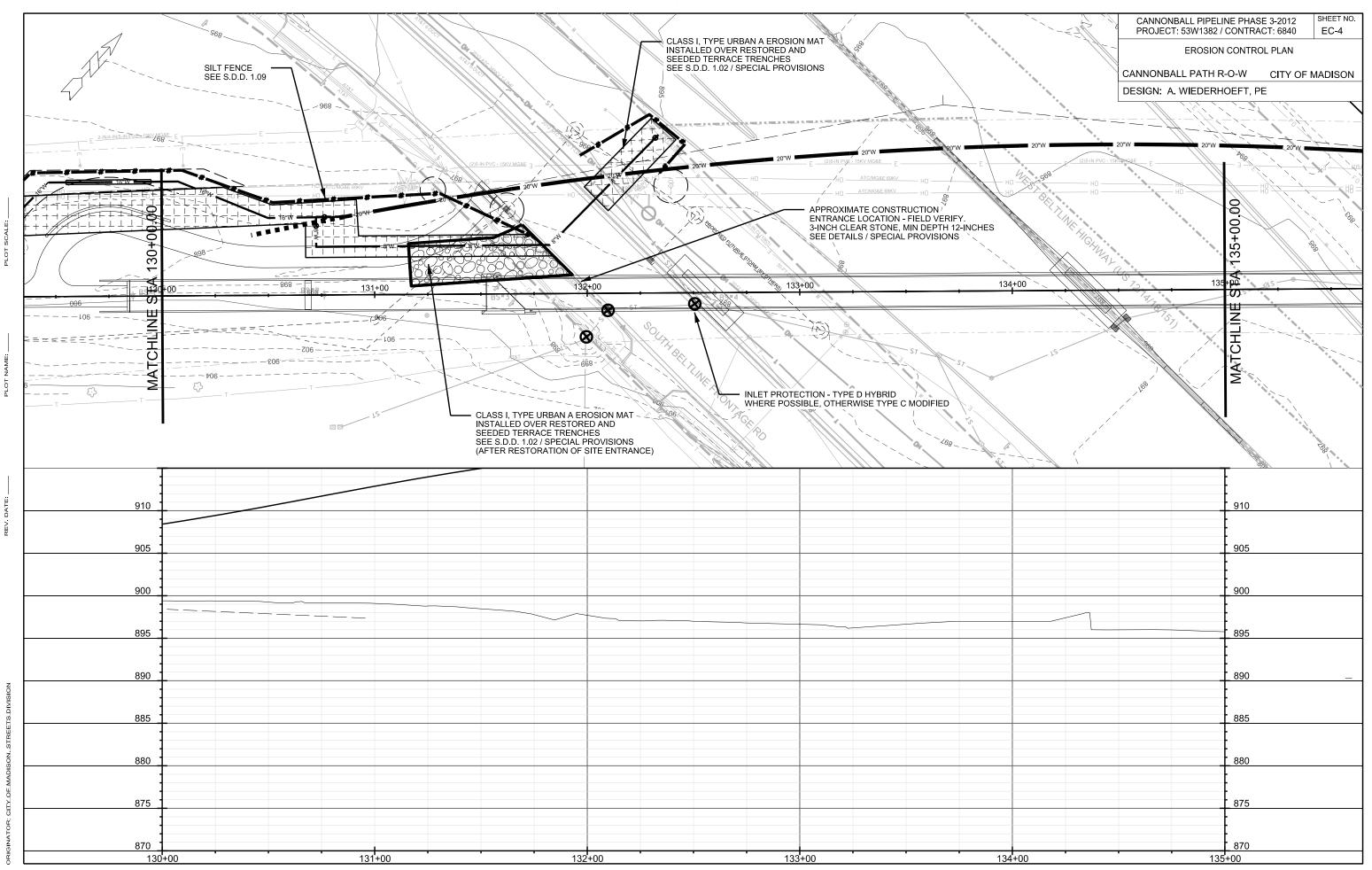


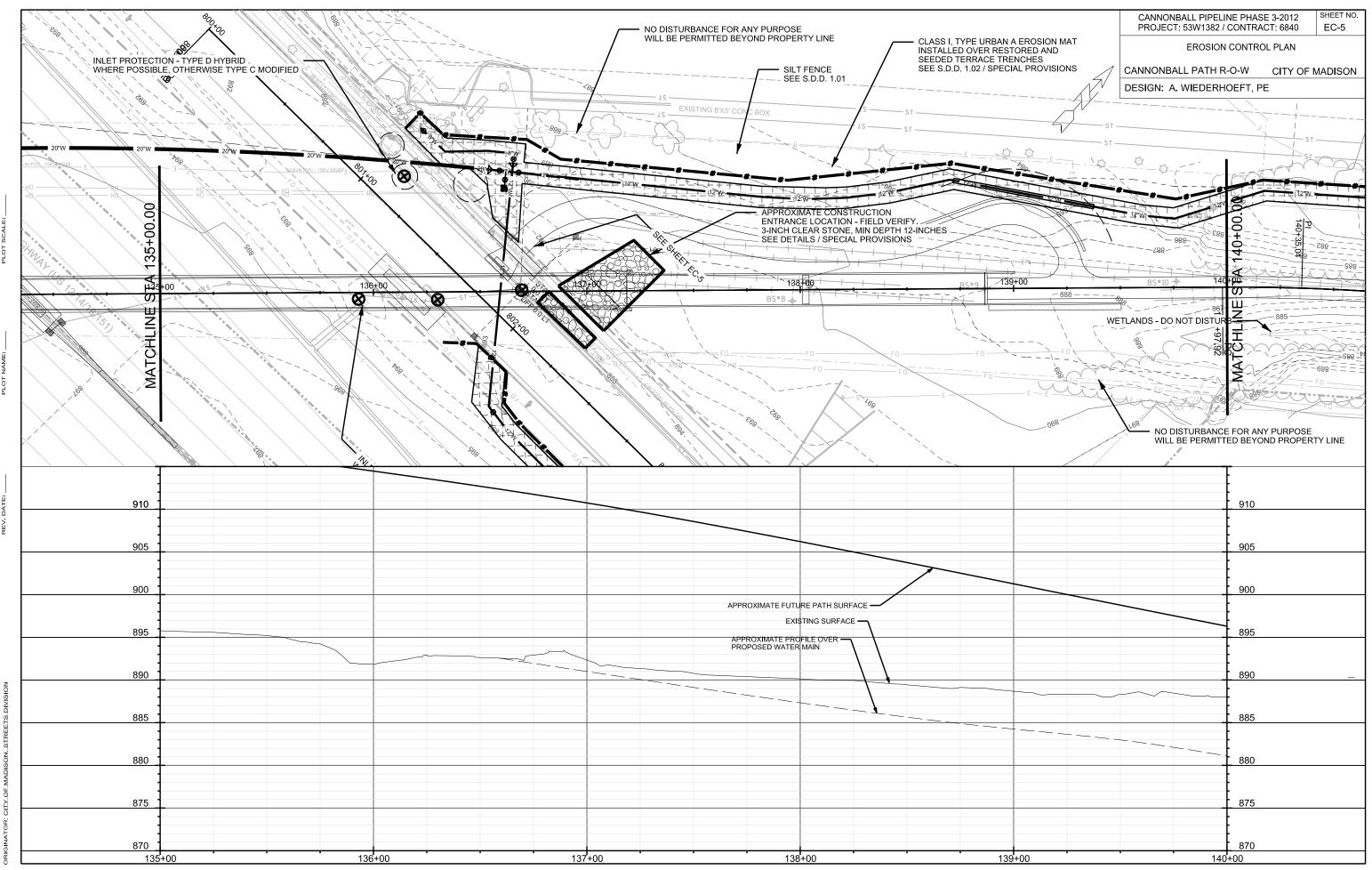


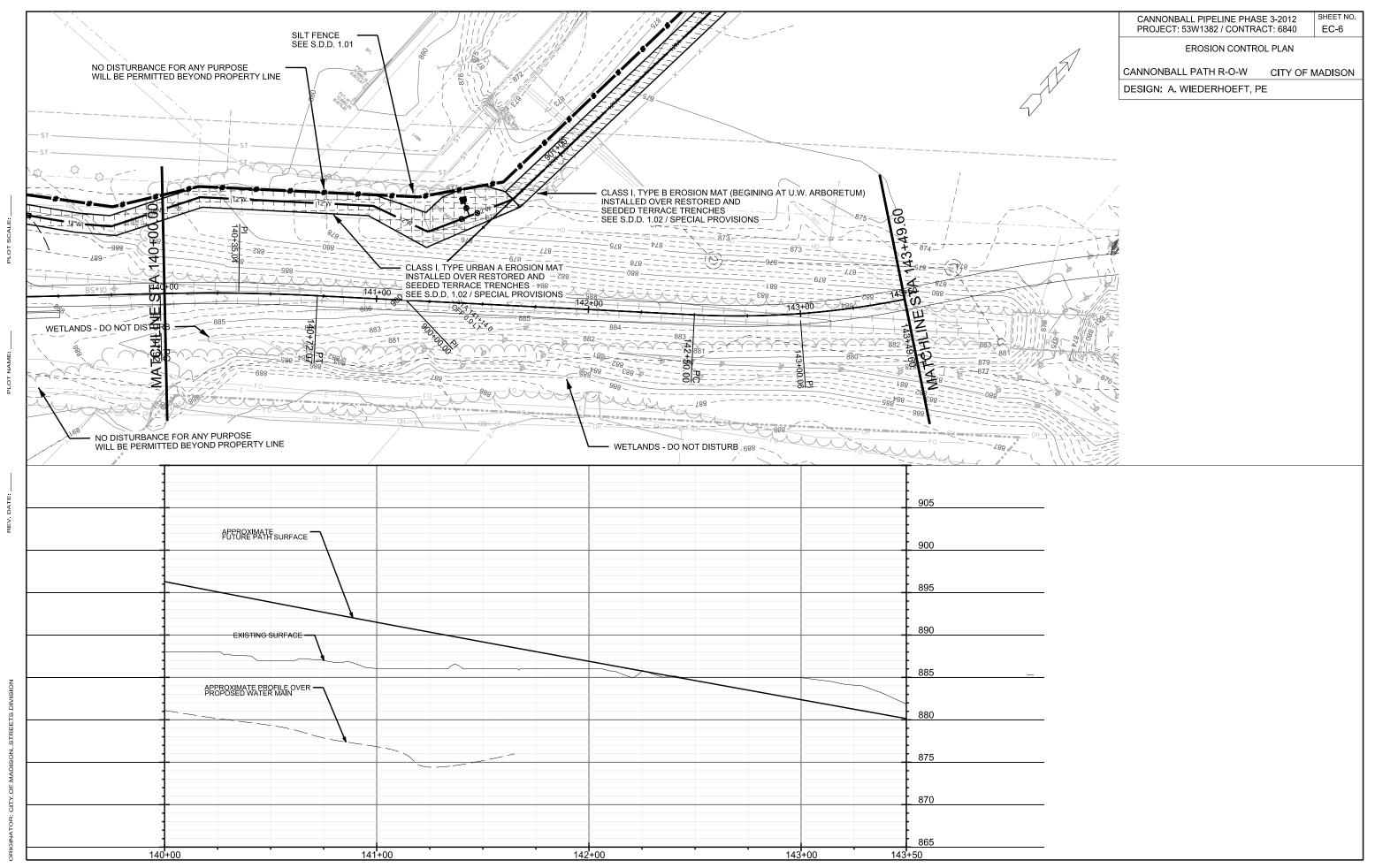


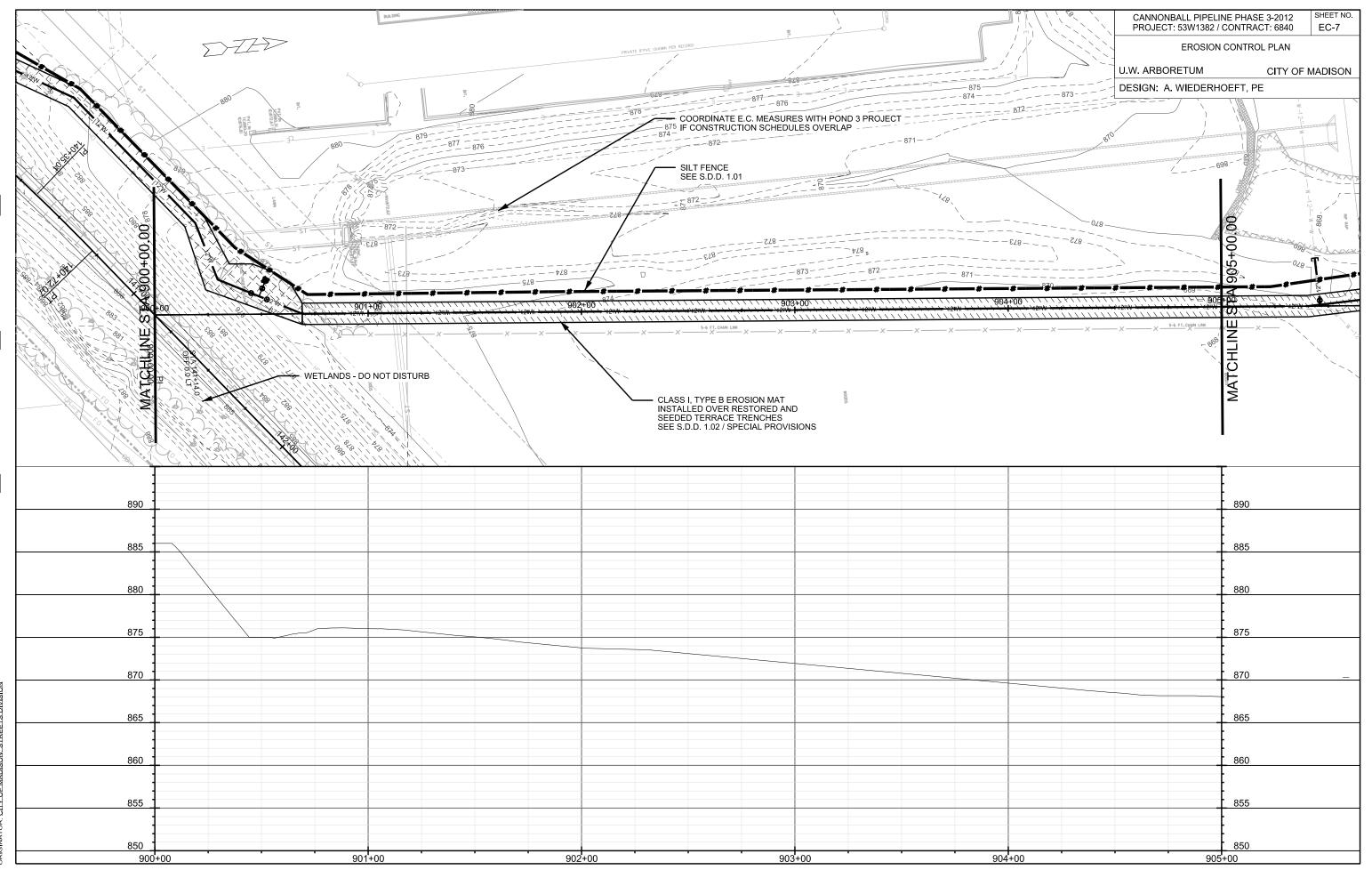


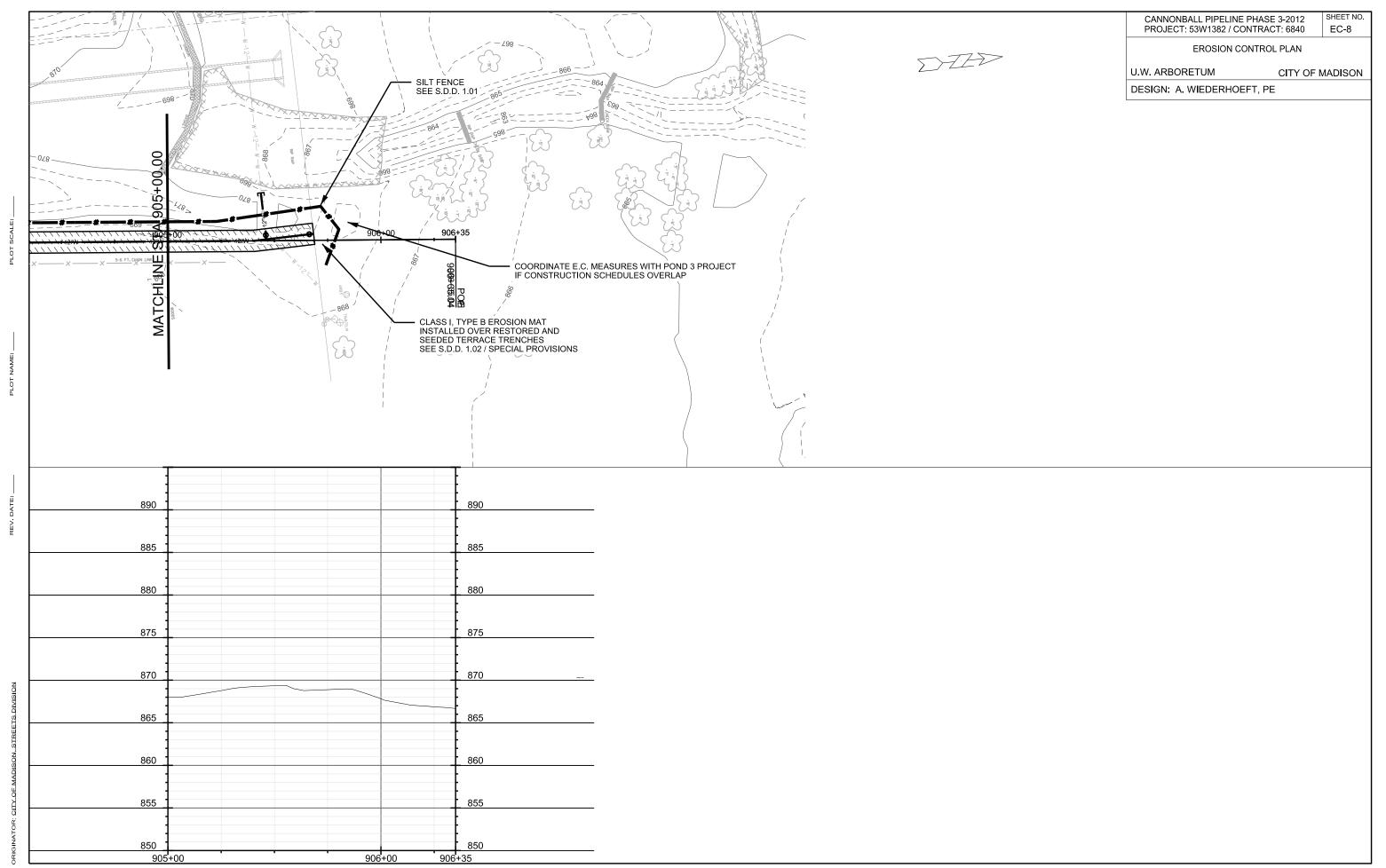


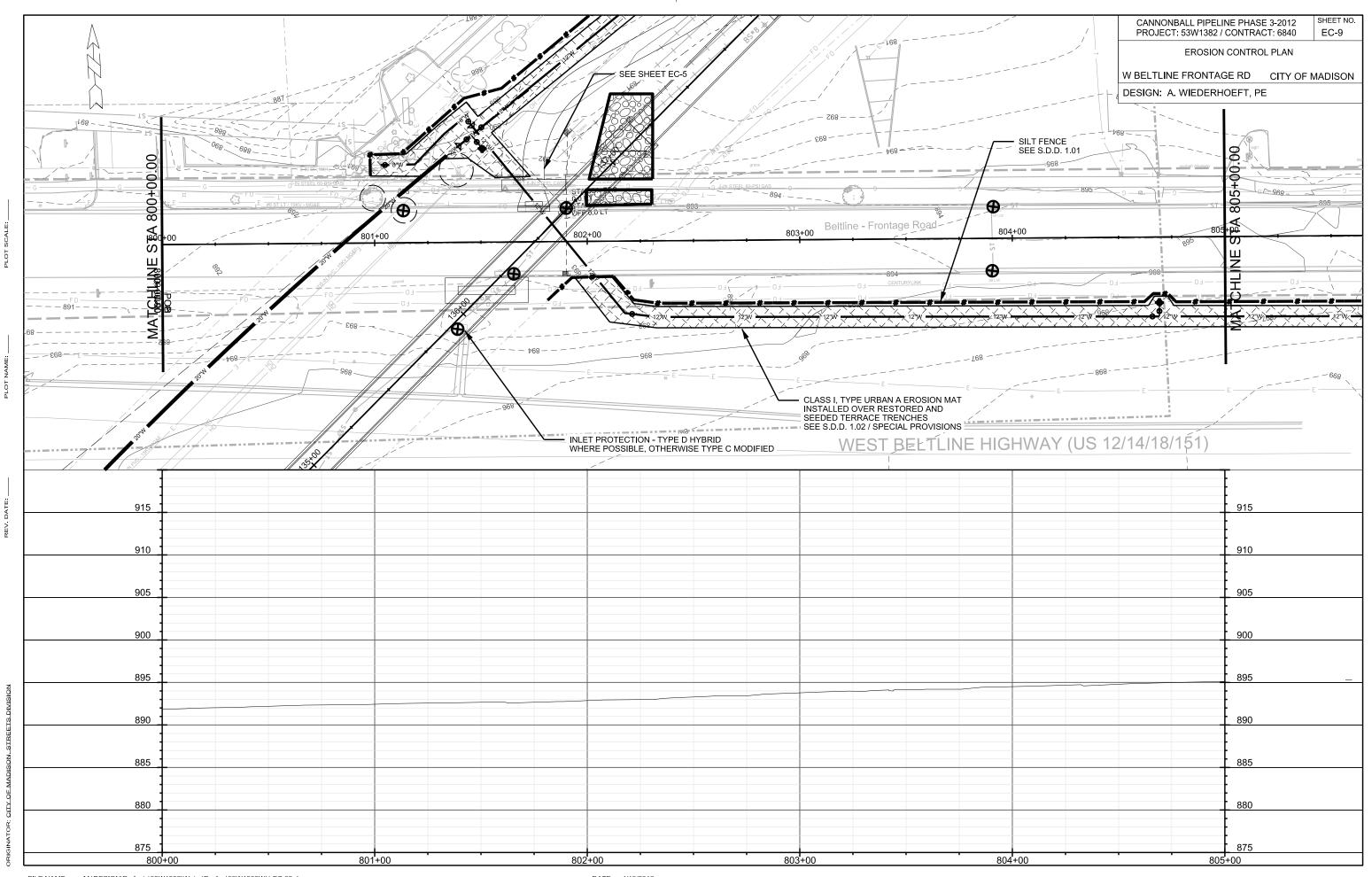


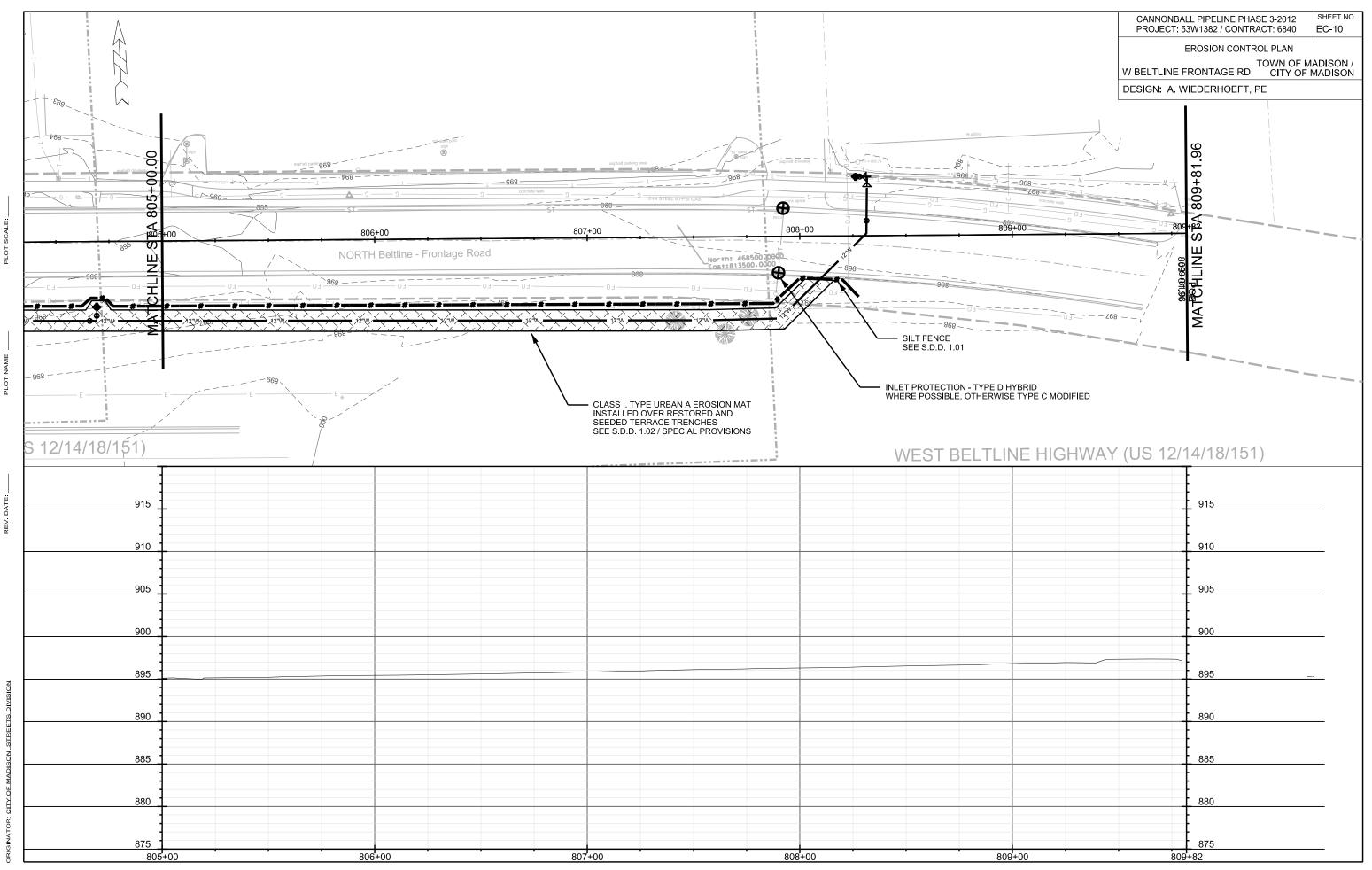


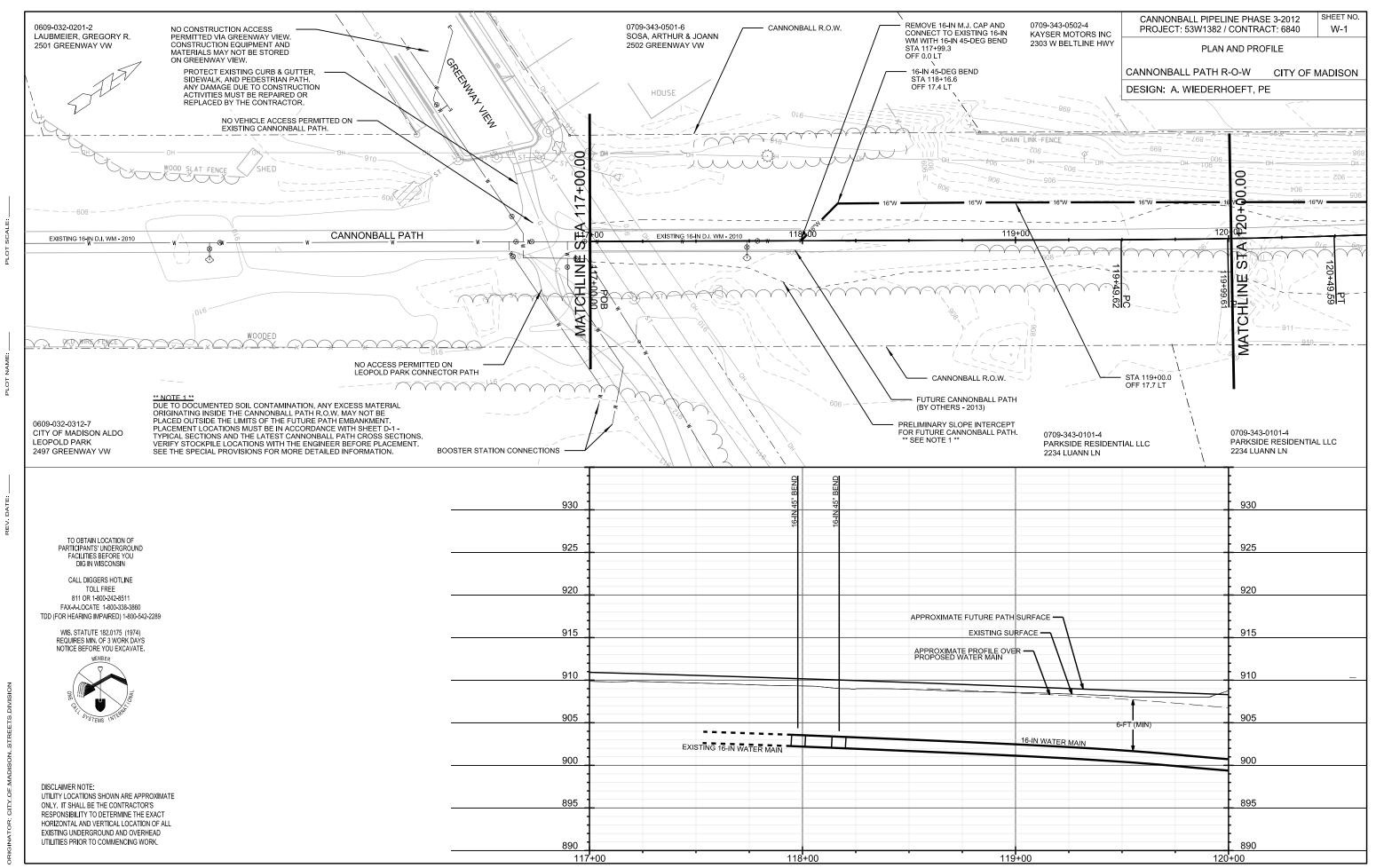


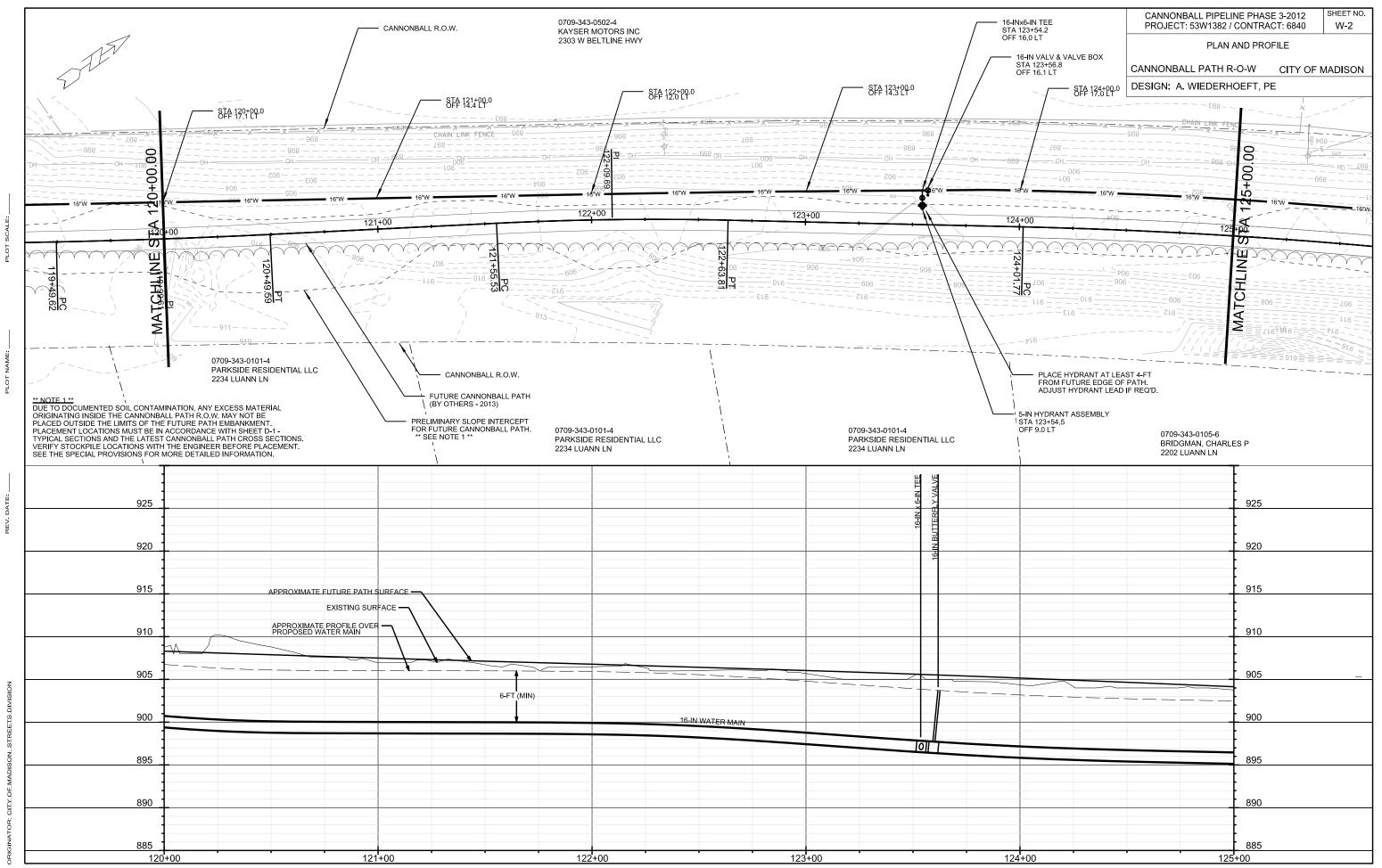


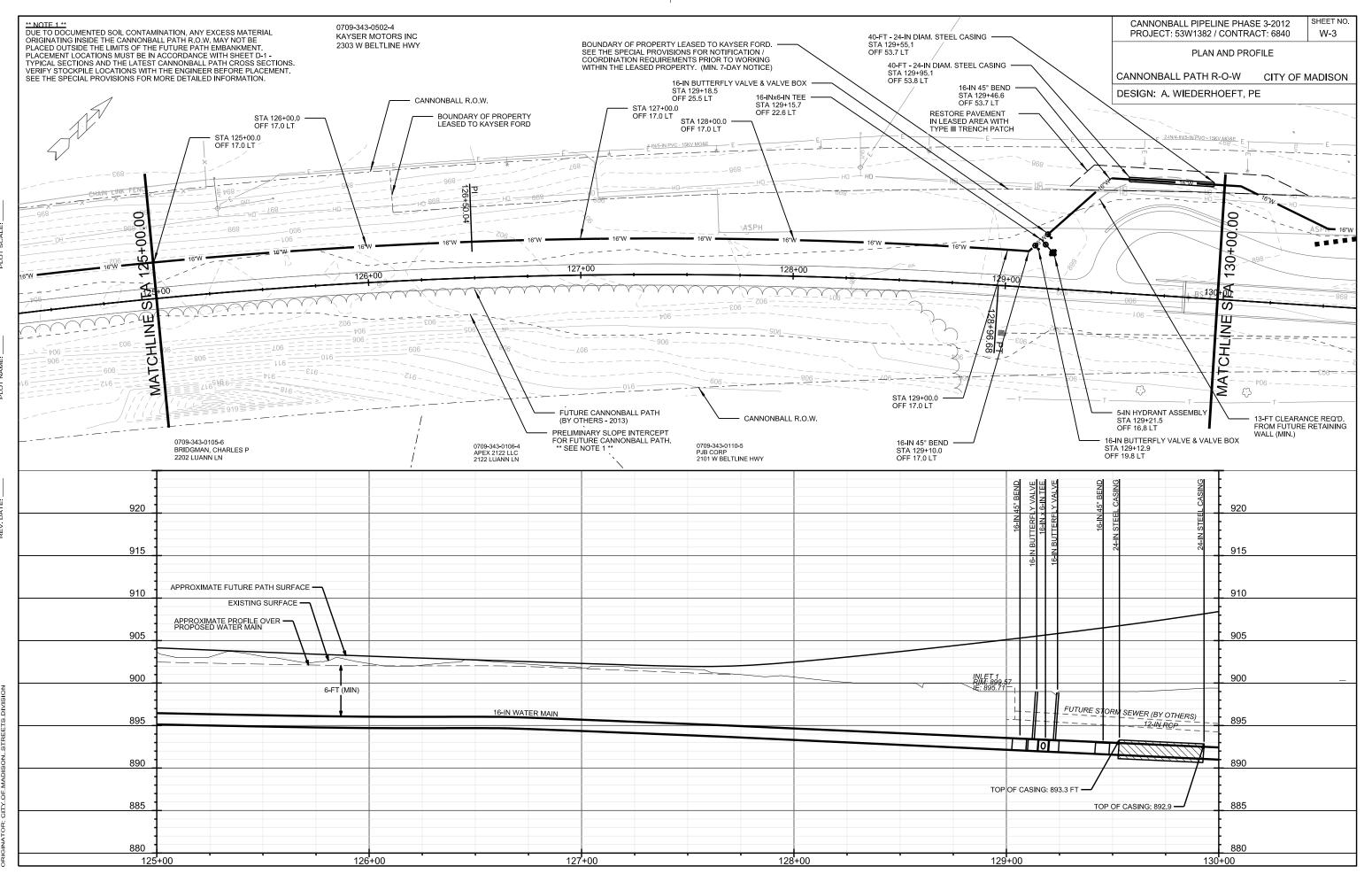


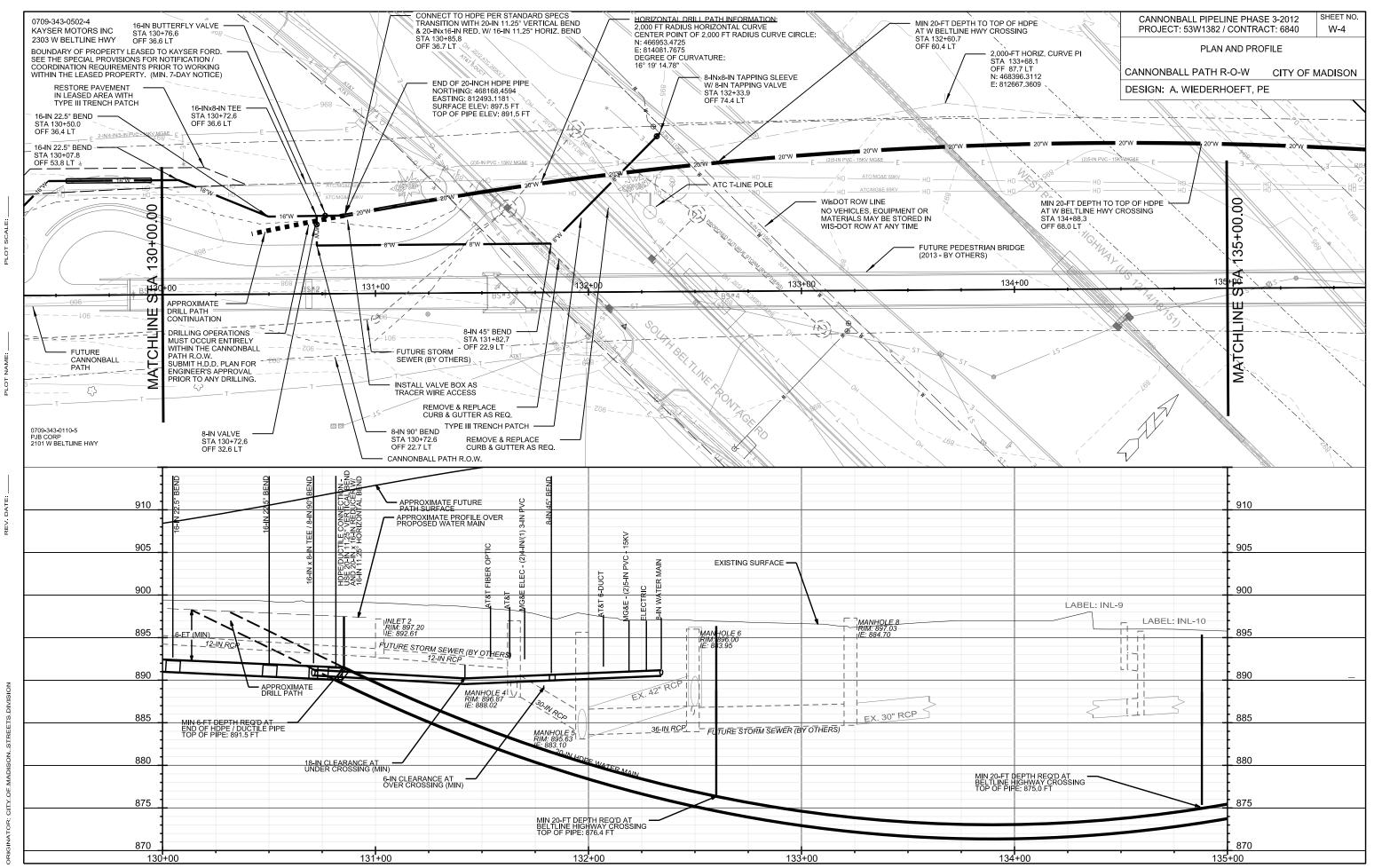


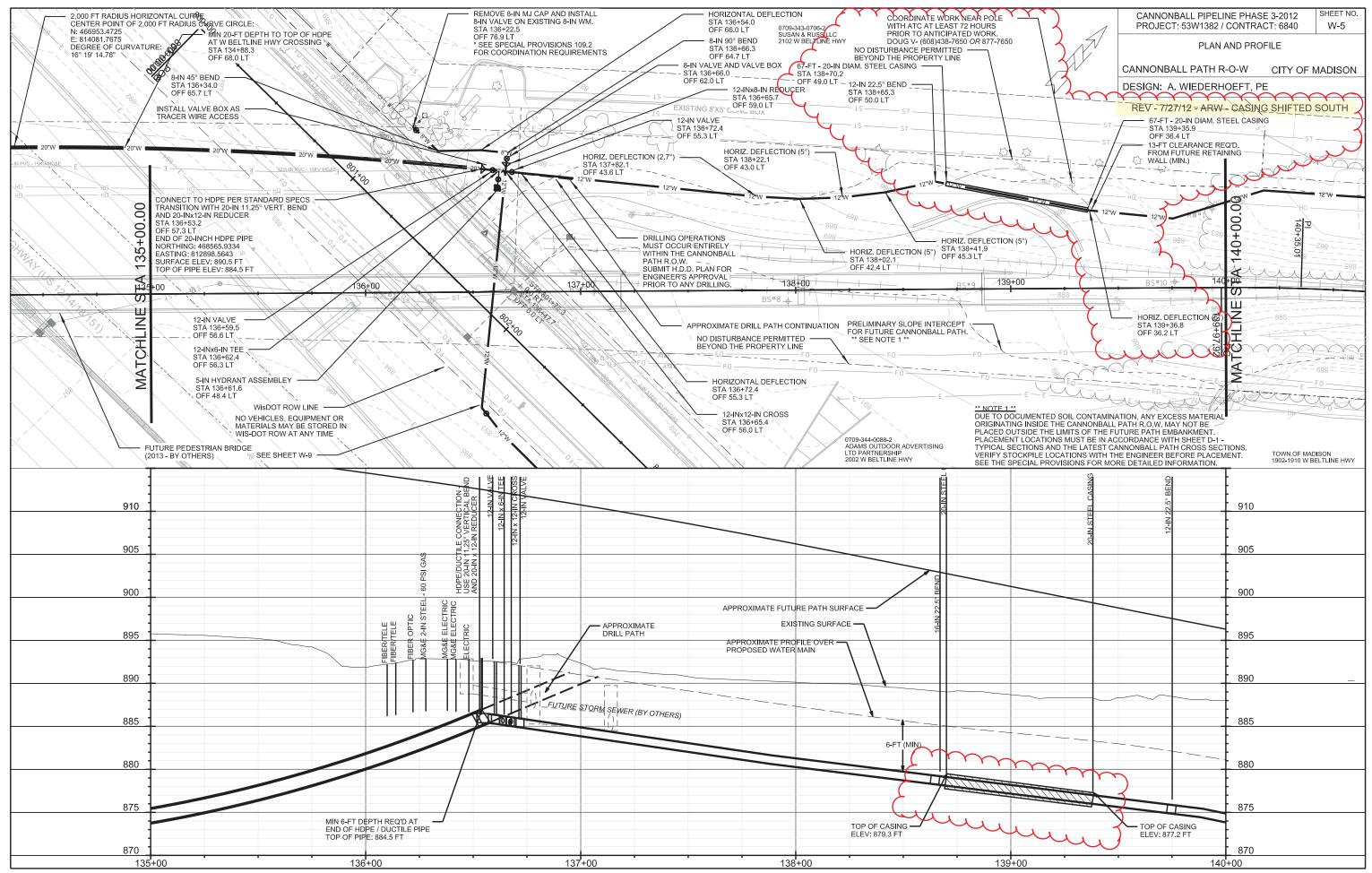


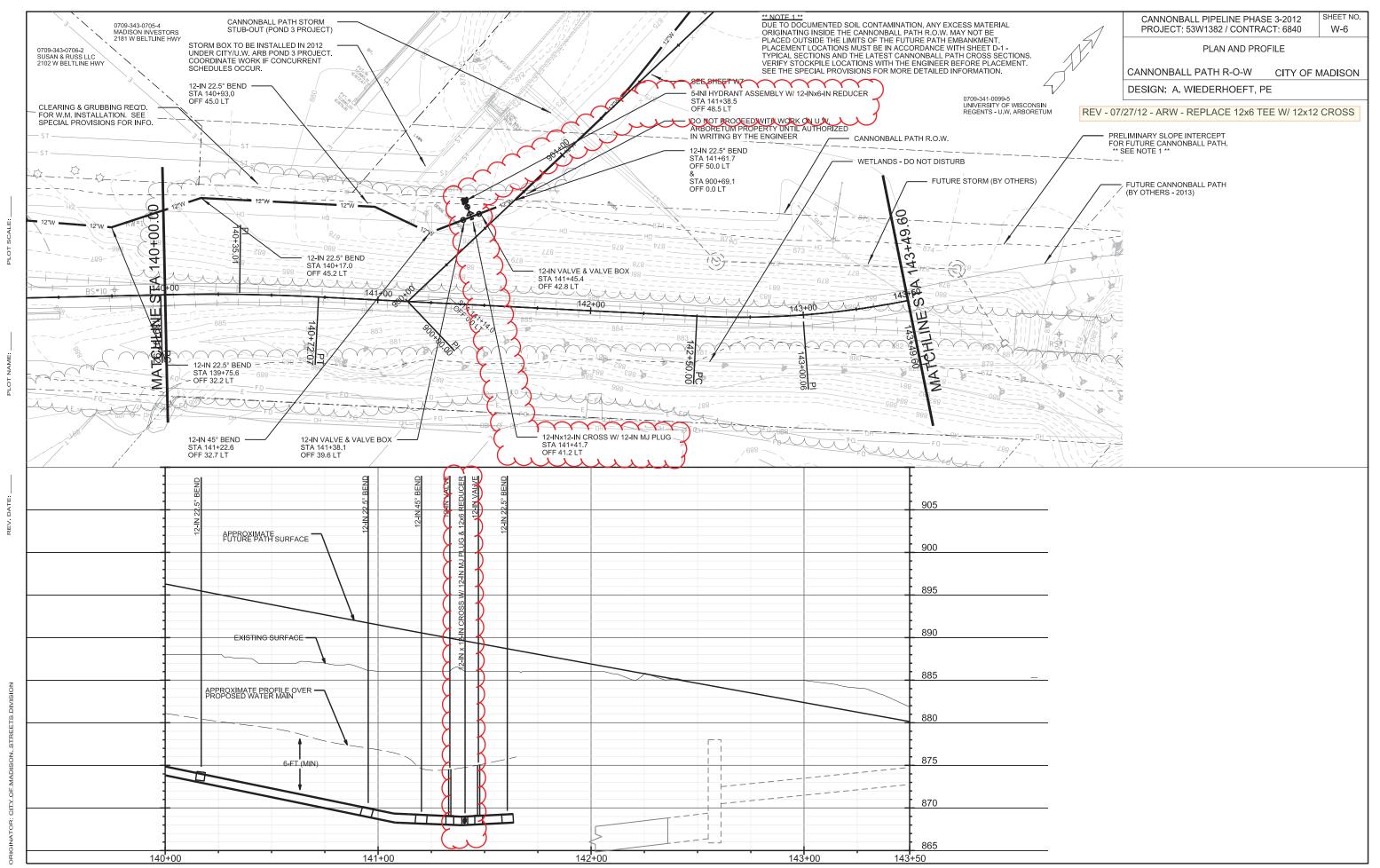


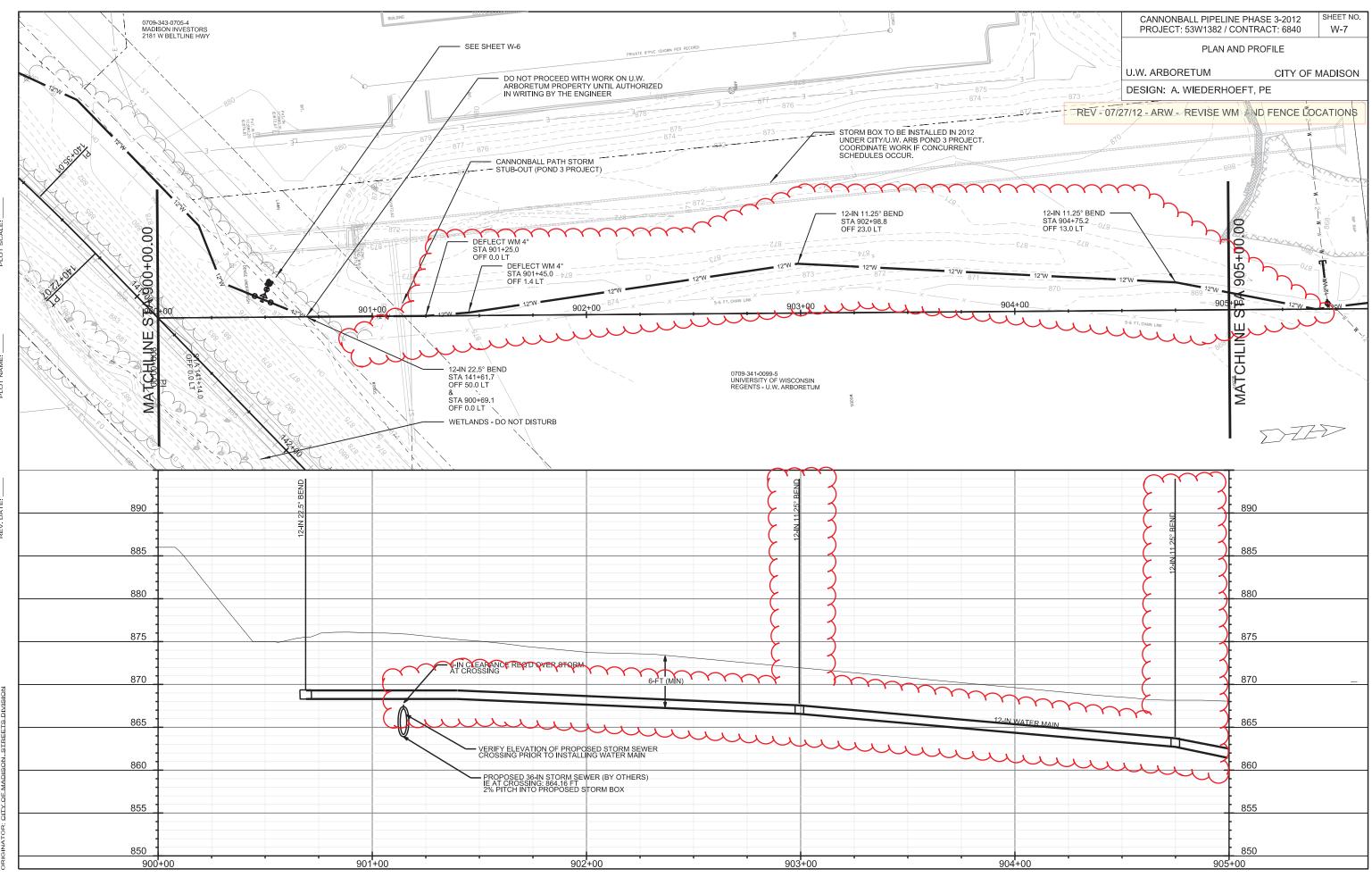


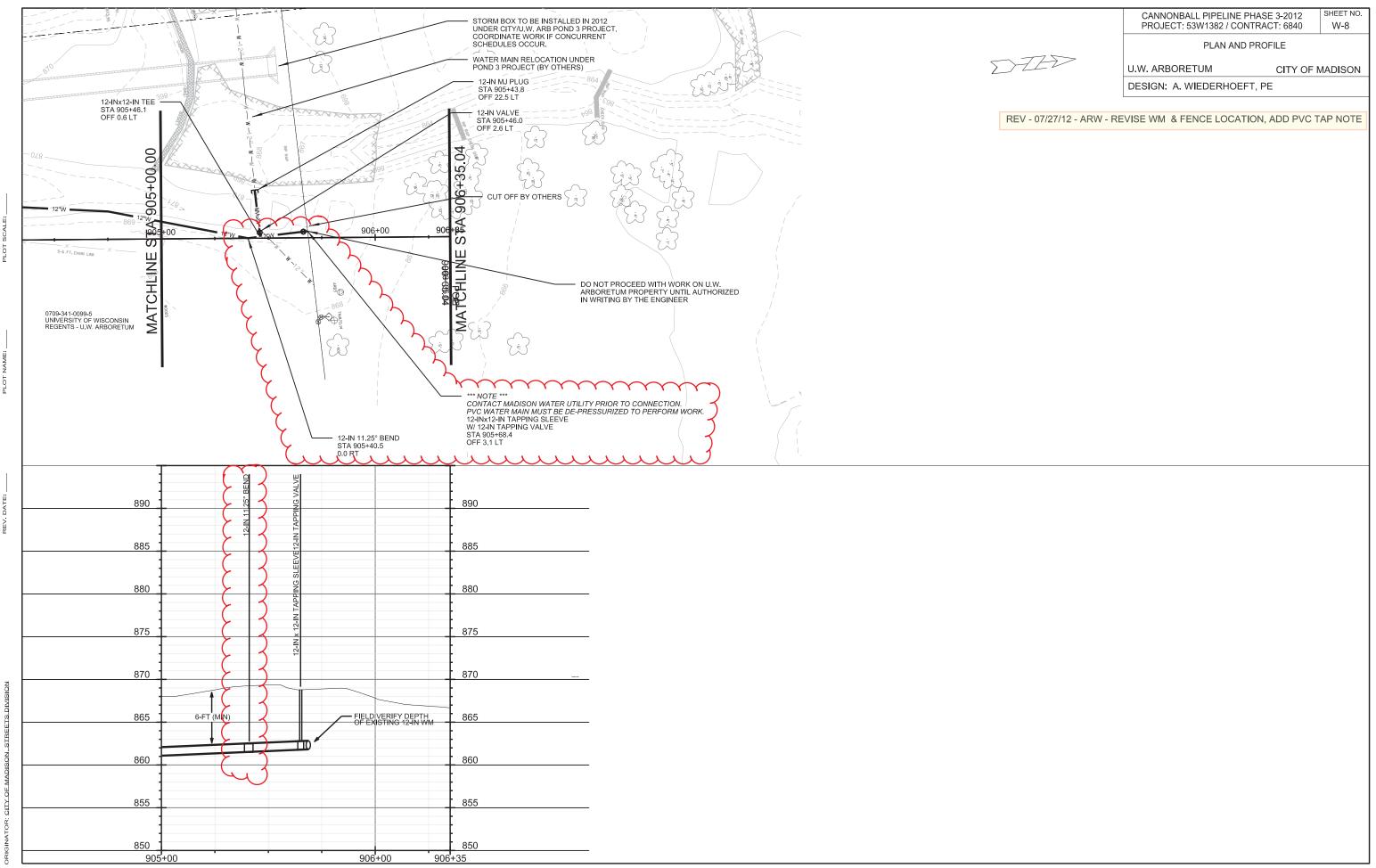


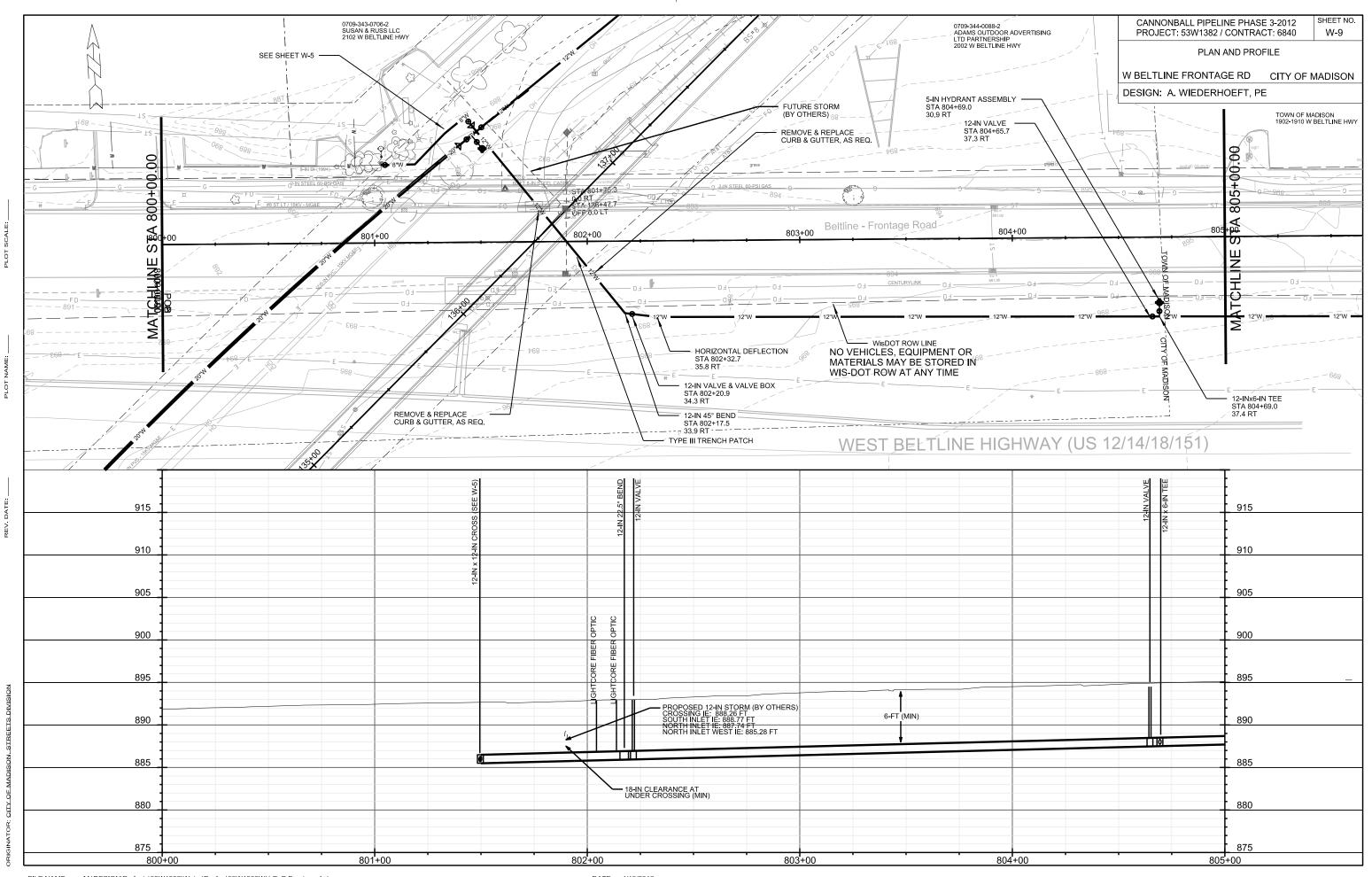


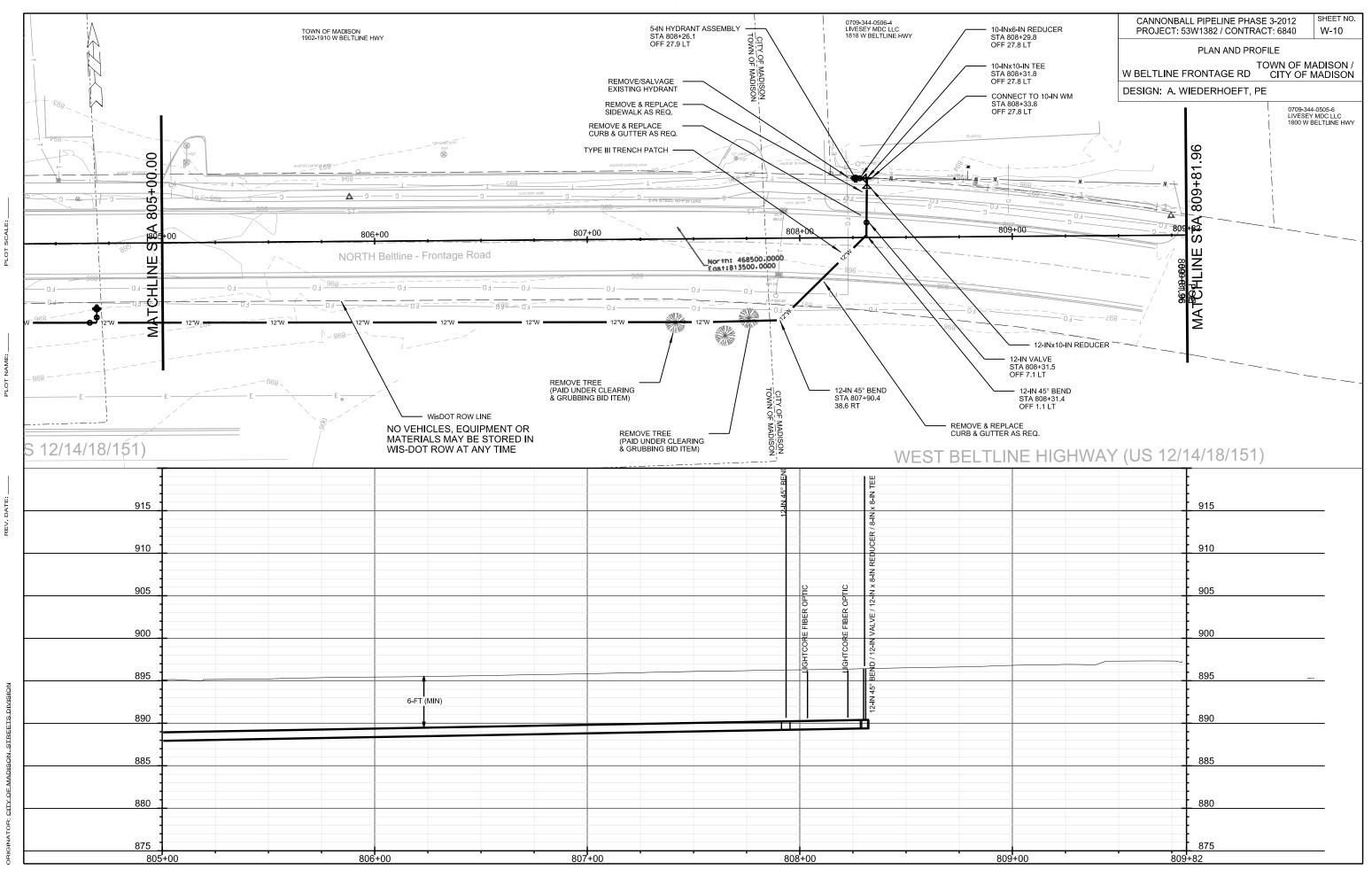












- 1. CONSTRUCT NEW WATER MAIN 6.0' BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED. INSULATE MAIN WITH POLYSTYRENE BOARD AT UTILITY CROSSINGS OR OTHER AREAS COVER.
- 2. VERIFY SIZE OF EXISTING
- 3. MINIMIZE DISTRUPTION OF SERVICE TO EXISTING CUSTOMERS. NOTIFY PER CONTRACT REQUIREMENTS
- BY MADISON WATER UTILITY AND ALL SERVICES ARE RECONNECTED.
- TO THE WATER UTILITY AT THE TIME OF PLAN PREPARATION. LOCATE EACH UTILITY PRIOR

SERVICE.

WN2 EXTEND AND RECONNECT THE EXISTING COPPER SERVICE

WN3 EXISTING SERVICE TO BE ABANDONED WHEN THE WATER MAIN IS CUT OFF.

WN4 DISCONNECT FROM THE OLD WATER MAIN AND RECONNECT THE EXISTING COPPER WATER SERVICE LATERAL TO THE NEW

WN5 RELOCATE THE EXISTING FIRE HYDRANT.

WN6 ABANDON WATER VALVE ACCESS STRUCTURE.

WN7 FURNISH AND INSTALL THE NEW TOP SECTION FOR THE WATER ACCESS STRUCTURE.

TO OBTAIN LOCATION OF

PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU

CALL DIGGERS HOTLINE

TOLL FREE

811 OR 1-800-242-8511

FAX-A-LOCATE 1-800-338-3860

TDD (FOR HEARING IMPAIRED) 1-800-542-2289

WIS. STATUTE 182.0175 (1974)

REQUIRES MIN OF 3 WORK DAYS

DISCLAIMER NOTE:

NOTICE BEFORE YOU EXCAVATE.

UTILITY LOCATIONS SHOWN ARE APPROXIMATE

ONLY. IT SHALL BE THE CONTRACTOR'S

RESPONSIBILITY TO DETERMINE THE EXACT

EXISTING UNDERGROUND AND OVERHEAD

UTILITIES PRIOR TO COMMENCING WORK.

HORIZONTAL AND VERTICAL LOCATION OF ALL

WN9 FURNISH THE DITCH, COMPACTION, AND ALL MATERIALS AND LABOR FOR THÉ INSTALLATION OF NEW SERVICE LATERAL.

WN11 REPLACE THE EXISTING COPPER SERVICE WITH A NEW COPPER SERVICE.

CONSTRUCTION NOTES:

IDENTIFIED BY ENGINEER AS HAVING INADEQUATE

WATER SERVICES AND RECONNECT SERVICES AS INDICATED.

OF ANY PLANNED WATER OUTAGE.

4. EXISTING WATER MAIN SHALL REMAIN IN SERVICE UNTIL NEW WATER MAIN IS TESTED AND ACCEPTED

5. THE EXISTING UTILITIES SHOWN ON THIS PLAN REPRESENT THE BEST INFORMATION AVAILABLE TO COMMENCING WORK.

WN1 REPLACE THE EXISTING LEAD SERVICE WITH A COPPER

TO THE NEW WATER MAIN.

WATER MAIN.

WN8 ABANDON THE VALVE BOX.

WN10 REMOVE/SALVAGE HYDRANT.

MATERIALS SUPPLIED BY CITY:

(SOUTH FRONTAGE RD LIVE TAP) 1 - 8-IN X 8-IN TAPPING SLEEVE 1 - 8-IN TAPPING VALVE AND BOX

(U.W. ARBORETUM LIVE TAP)

1 - 12-IN X 12-IN TAPPING SLÉEVE 1 - 12-IN TAPPING VALVE AND BOX

CANNONBALL PIPELINE PHASE 3-2012 PROJECT: 53W1382 / CONTRACT: 6840

SHEET NO. W-11

PLAN AND PROFILE

CANNONBALL PATH R-O-W

CITY OF MADISON

ESTIMATE OF MATERIALS SUPPLIED BY CONTRACTOR:

ESTIMATE OF MATERIALS IS FOR INFORMATION ONLY. ENGINEER DOES NOT GUARANTEE ACCURACY OF MATERIAL TAKE-OFF.

45-FT - 6-IN PIPE 255-FT - 8-IN PIPE 10-FT - 10-IN PIPE 1,800-FT - 12-IN PIPE 1,340-FT - 16-IN PIPE

575-FT - 20-IN HDPE PIPE (AND REQ'D APPURTENANCES)

67-FT 20-IN STEEL CASING 40-FT 24-IN STEEL CASING

3,770-FT - POLYWRAP 1,500-FT - SELECT FILL (OR AS REQ'D, SEE SPECS)

6 - 5-IN HYDRANTS

2 - VALVE BOXES (HDPE TRACER WIRE ACCESS)

6 - 6-IN GATE VALVES AND BOXES 2 - 8-IN GATE VALVES AND BOXES 7 - 12-IN GATE VALVES AND BOXES

4 - 16-IN BUTTERFLY VALVES AND BOXES

2 - 20-IN 11.25° BENDS (PAID UNDER HDPE BID ITEM) 1 - 20-IN x 16-IN REDUCER (PAID UNDER HDPE BID ITEM) 1 - 20-IN x 12-IN REDUCER (PAID UNDER HDPE BID ITEM)

4 - 16-IN 45° BENDS

2 - 16-IN 22.5° BENDS 1 - 16-IN 11.25° BEND 1 - 16-IN x 8-IN TEE

2 - 16-IN x 6-IN TEES 4 - 12-IN 45° BENDS

5 - 12-IN 22.5° BENDS

1 - 12-IN x 12-IN CROSS 1 - 12-IN x 12-IN TEE

1 - 12-IN M.J. PLUG 1 - 12-IN x 10-IN REDUCER

1 - 12-IN x 8-IN REDUCER 2 - 12-IN x 6-IN TEES

1 - 10-IN x 10-IN TEE 1 - 10-IN x 6-IN REDUCER

2 - 8-IN 90° BENDS 2 - 8-IN 45° BENDS

24-FT - 2-IN STYROFOAM INSULATION (OR AS REQ'D)