

AMBLER HIGHLANDS, IMPROVEMENTS PHASE 1

UPPER DUBLIN TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

PREPARED FOR

COMMISSIONERS OF UPPER DUBLIN TOWNSHIP



BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA! CALL 1-800-242-1776

PA LAWS REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL, BLAST OR DEMOLISH

#20093570242

#20093570254

UNDERGROUND UTILITIES ARE SHOWN SCHEMATICALLY ONLY FROM PLANS SUPPLIED TO THIS OFFICE, AS REFERENCED HEREON, AND FROM OBSERVABLE ABOVE-GROUND EVIDENCE. METZ ENGINEERS, INC. DOES NOT GUARANTEE THE ACCURACY OF LOCATIONS OF EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN HEREON, NOR THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. ANYONE USING THESE PLANS MUST VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES.



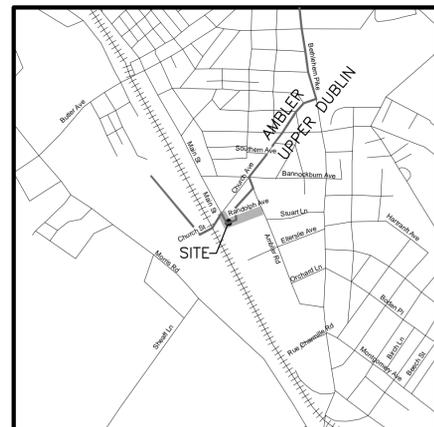
CIVIL ENGINEERS AND LAND SURVEYORS

410 DERSTINE AVENUE POST OFFICE BOX 647

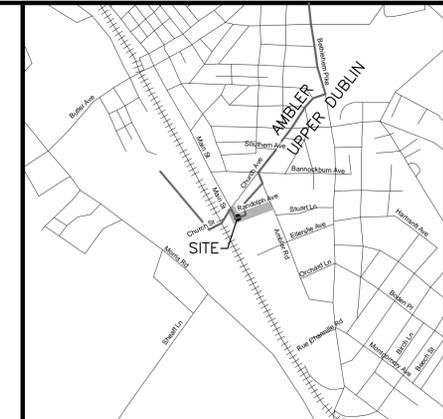
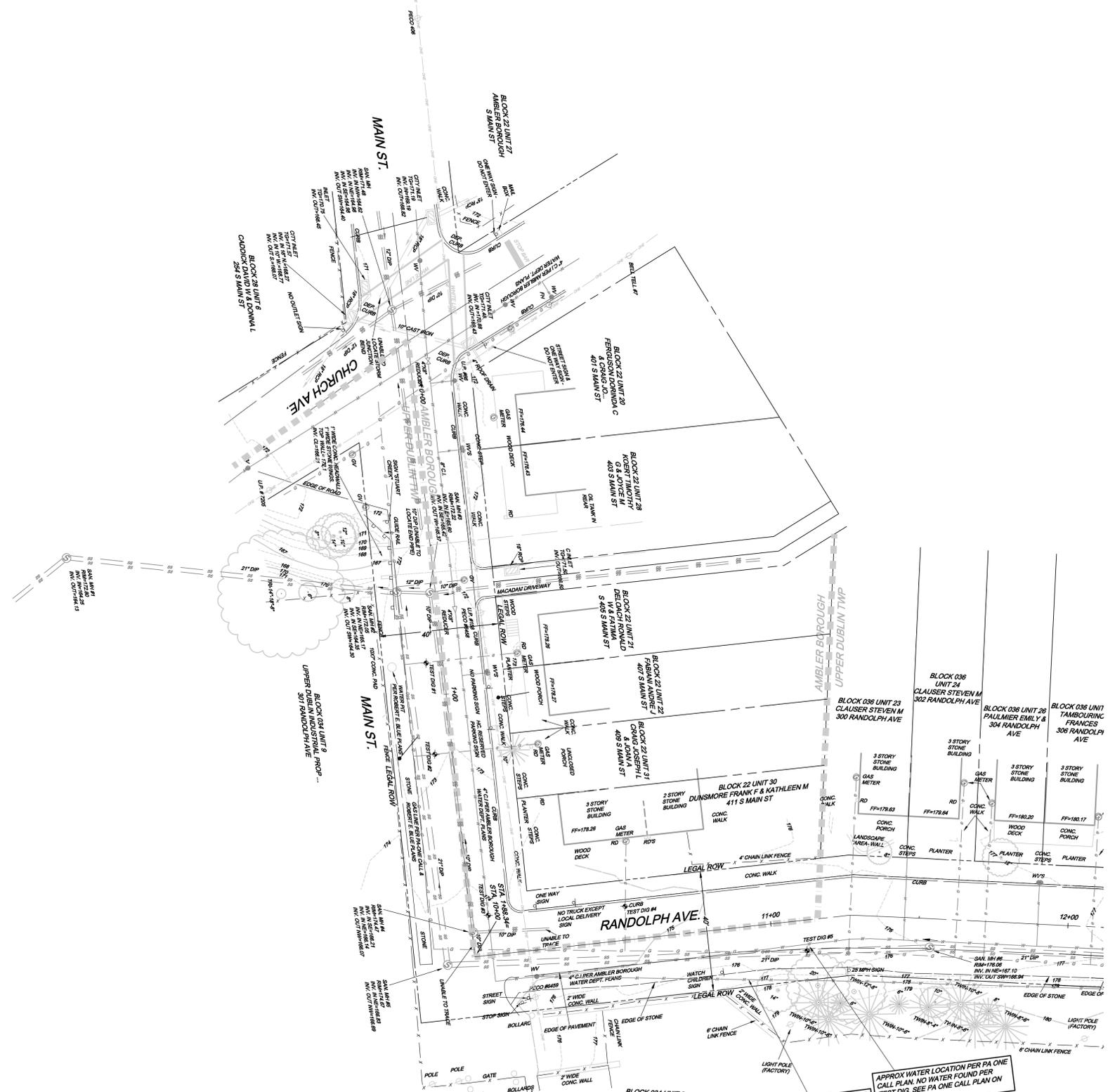
LANSDALE, PENNSYLVANIA 19446-0647

PHONE (215) 855-3111

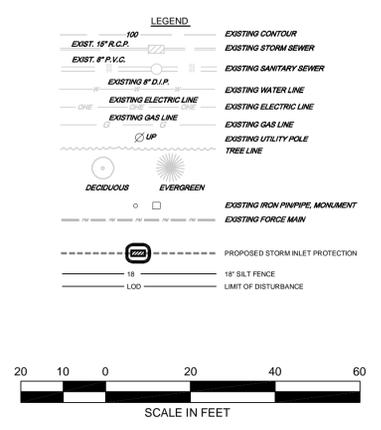
SHEET	DATE	REVISION
COVER	8/3/2010	--/--
1 EXISTING FEATURES PLAN - MAIN ST. & RANDOLF AVE. 10+00 TO 12+00	8/3/2010	--/--
2 EXISTING FEATURES PLAN - RANDOLF AVE. 12+00 TO 17+00	8/3/2010	--/--
3 CONSTRUCTION IMPROVEMENT PLAN	8/3/2010	--/--
4 PLAN AND PROFILES MAIN ST.	8/3/2010	--/--
5 PLAN AND PROFILES RANDOLPH AVE. 10+00 TO 13+50	8/3/2010	--/--
6 PLAN AND PROFILES RANDOLPH AVE. 13+50 TO 17+00	8/3/2010	--/--
7 CROSS SECTION 10+00 TO 13+50	8/3/2010	--/--
8 CROSS SECTION 13+75 TO 16+50	8/3/2010	--/--
9 CURB AND SIDEWALK REPLACEMENT PLAN	8/3/2010	--/--
10 EROSION AND SEDIMENT PLAN	8/3/2010	--/--
11 DETAIL - (NOTES)	8/3/2010	--/--
12 DETAIL - (ROAD)	8/3/2010	--/--
13 DETAIL - (E&S, TRAFFIC)	8/3/2010	--/--
14 DETAIL - (STORM)	8/3/2010	--/--



KEY MAP 1"=±1500'



KEY MAP 1"=±1500'



No.	REVISIONS	DATE

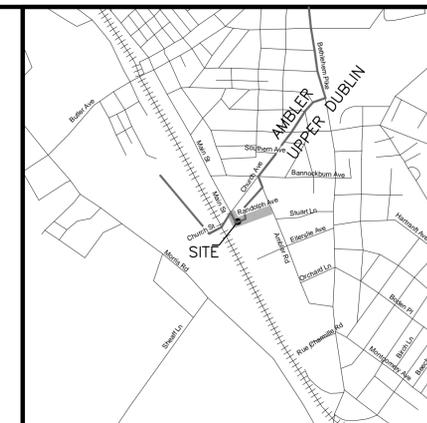
EXISTING FEATURES PLAN		PROJECT MANAGER
MAIN ST. STA. 0+00 TO 2+00 RANDOLPH AVE. STA. 9+80 TO 12+00 PREPARED FOR		JAW
UPPER-DUBLIN TOWNSHIP		PROJECT NUMBER
LAND SITUATE		UD10101
UPPER DUBLIN TWP., MONTGOMERY CO. PA.		REFERENCE NUMBER

Metz Engineers
410 Denshine Ave., PO Box 847, Lansdale PA 19448-0847
Civil Engineers & Land Surveyors
(215) 855-3111

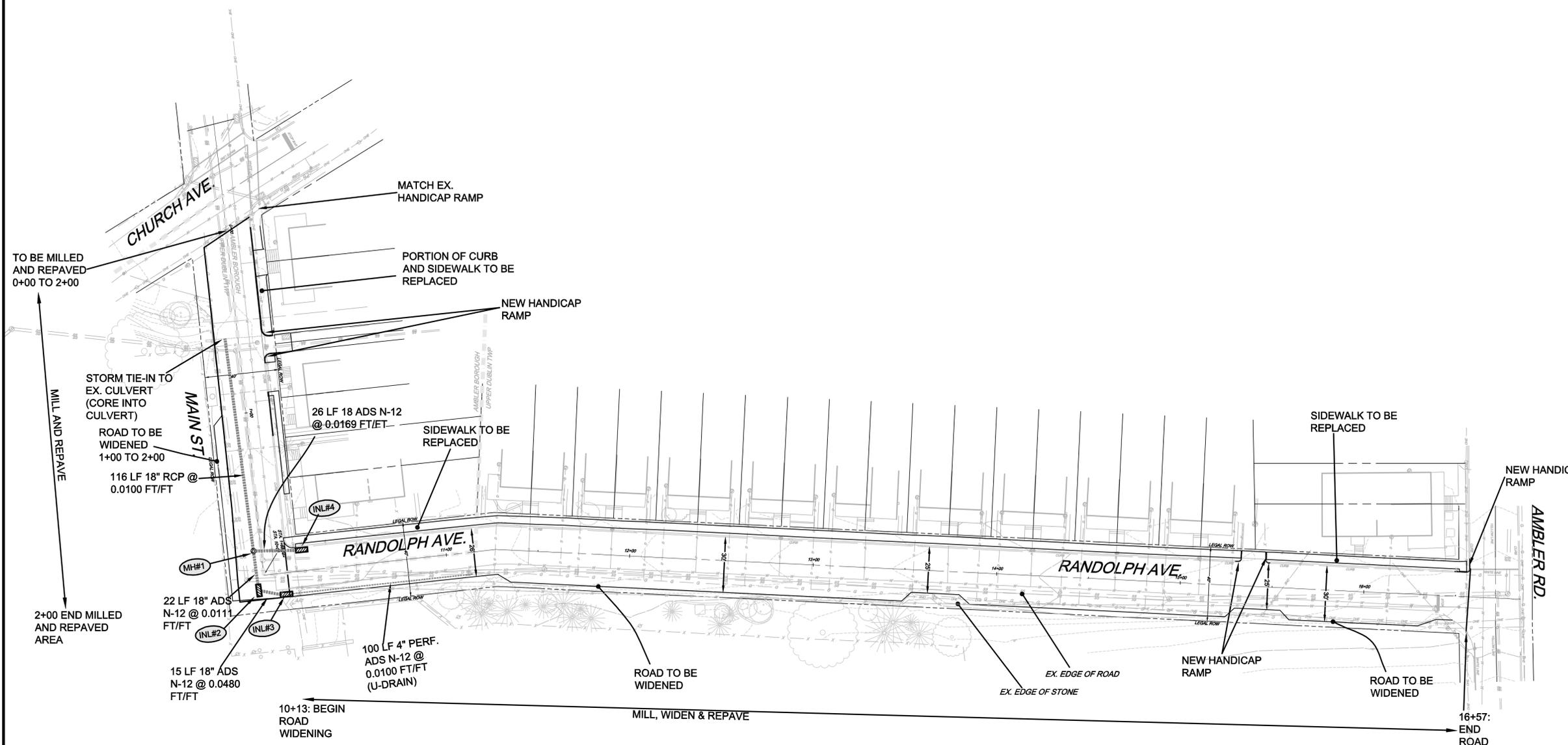
SCALE
H: 1"=20'
EX-10101.DWG
PLAN SHEET NUMBER
1 of 14

APPROX WATER LOCATION PER PA ONE CALL PLAN. NO WATER FOUND PER TEST DIG. SEE PA ONE CALL PLAN ON SHEET 11

APPROX WATER LOCATION PER AMBLER BOROUGH REPRESENTATIVE. VERBAL LOCATION-06-30-10



KEY MAP 1"=±1500'



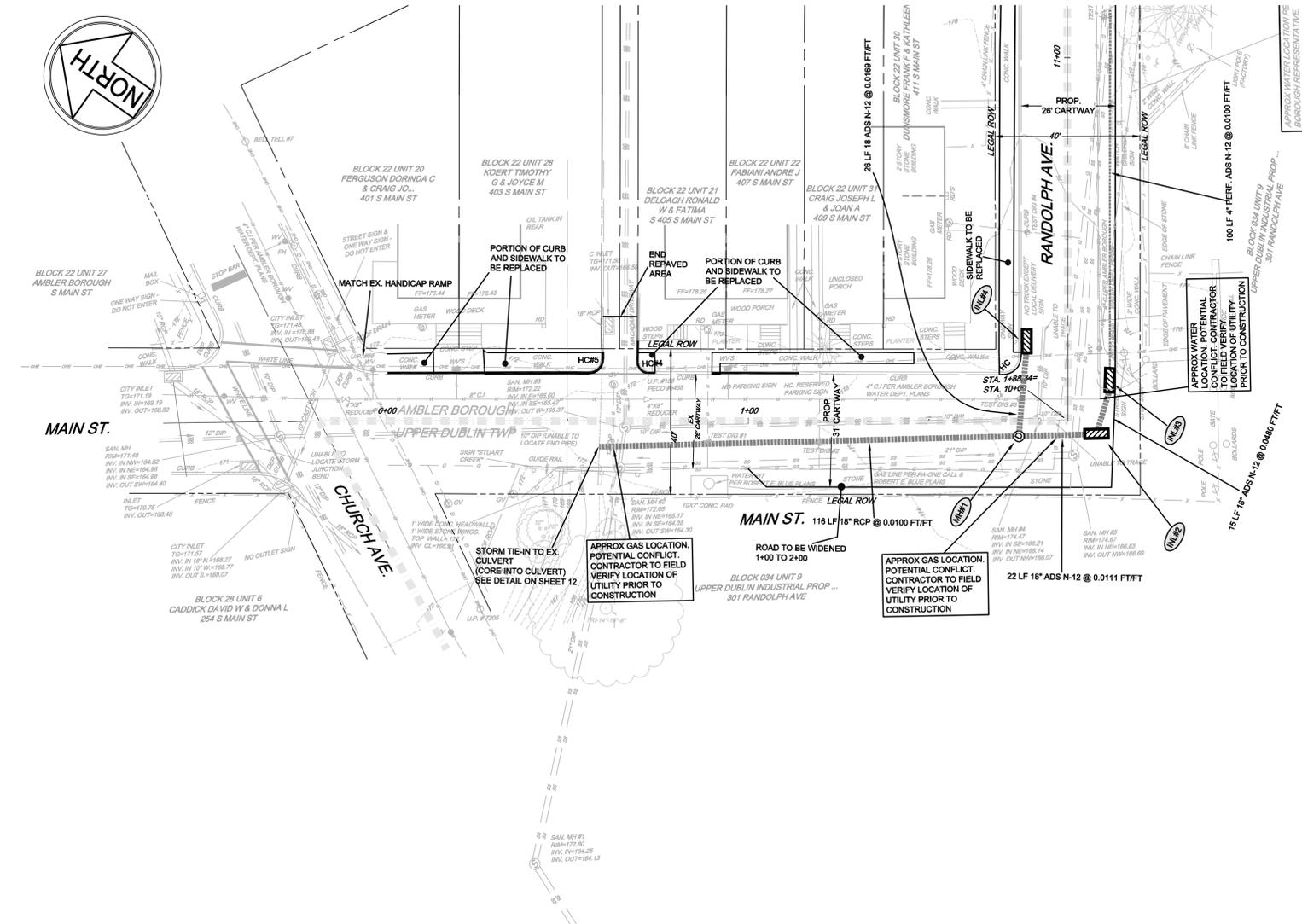
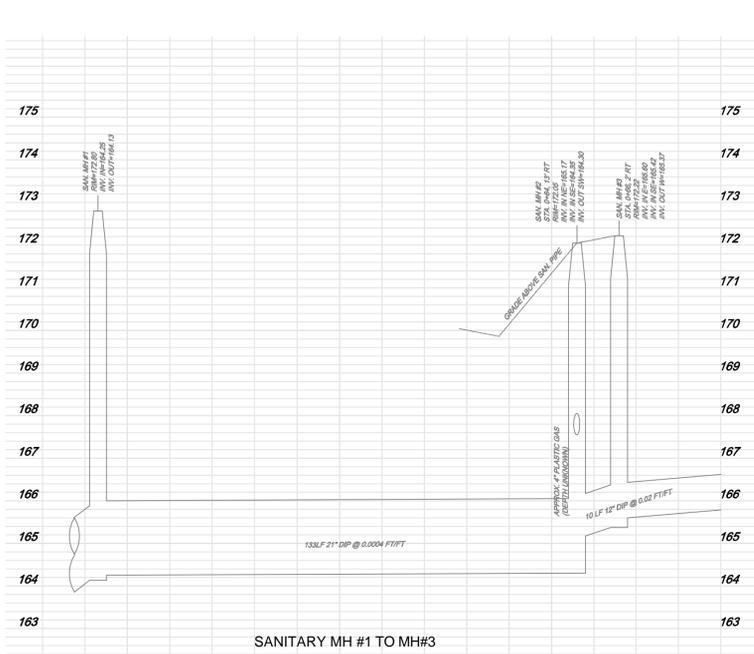
LEGEND

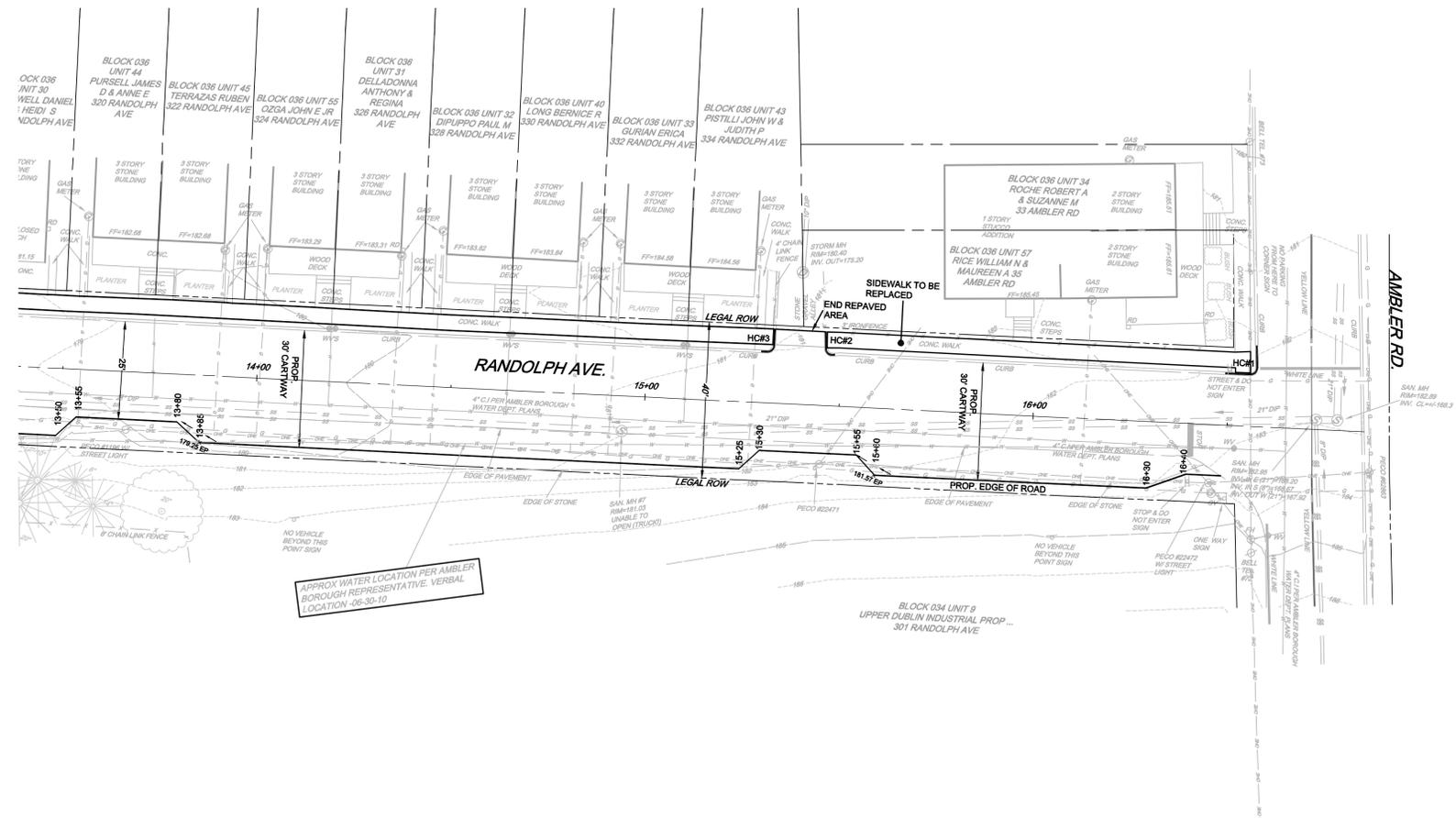
100	EXISTING CONTOUR
EXIST. 18" R.C.P.	EXISTING STORM SEWER
EXIST. 8" P.V.C.	EXISTING SANITARY SEWER
EXISTING 8" D.I.P.	EXISTING WATER LINE
EXISTING ELECTRIC LINE	EXISTING ELECTRIC LINE
EXISTING GAS LINE	EXISTING GAS LINE
EXISTING UTILITY POLE	EXISTING UTILITY POLE
EXISTING TREE LINE	EXISTING TREE LINE
DECIDUOUS	EVERGREEN
EXISTING IRON PIPE MONUMENT	EXISTING FORCE MAIN
PROPOSED STORM INLET PROTECTION	18" SILT FENCE
18"	LIMIT OF DISTURBANCE

30 15 0 30 60 90
SCALE IN FEET

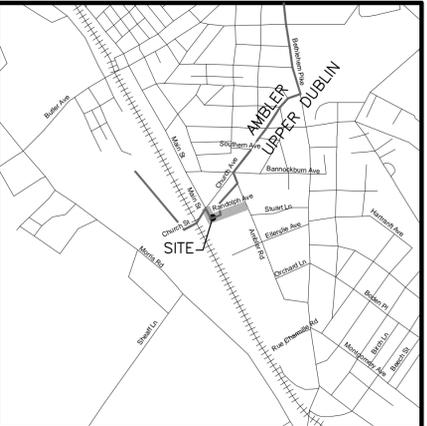
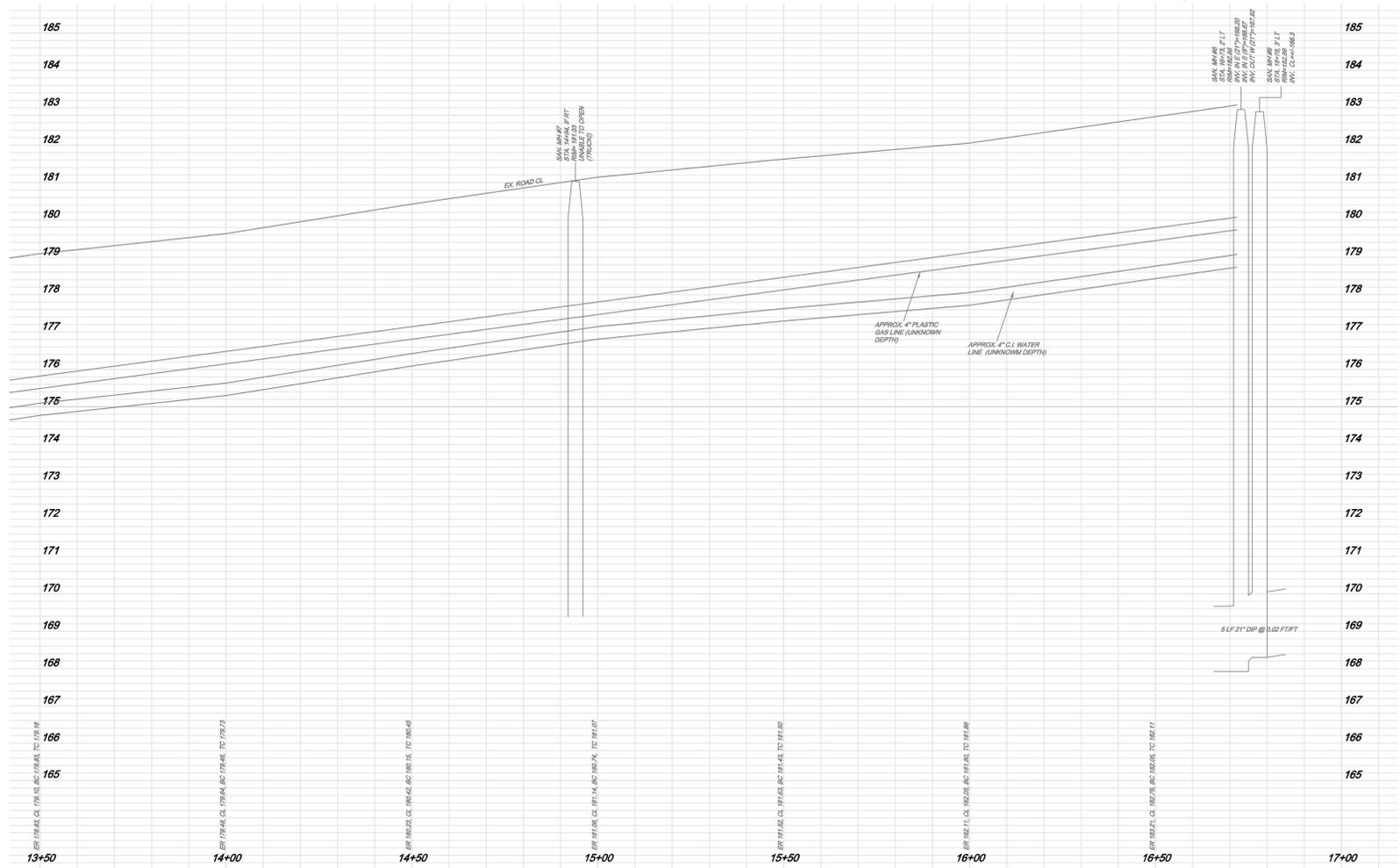
CONSTRUCTION IMPROVEMENTS PLAN		PROJECT MANAGER
SITE PLAN		JAW
PREPARED FOR		PROJECT NUMBER
UPPER-DUBLIN TOWNSHIP		UD10101
LAND SITUATE		REFERENCE NUMBER
UPPER DUBLIN TWP., MONTGOMERY CO. PA.		SCALE
<p>Metz Engineers 410 Dersine Ave., PO Box 647, Lansdale PA 19448-0647 Civil Engineers & Land Surveyors (215) 855-3111</p>		H: 1"=30'
		LD-SITE-10101.DWG
		PLAN SHEET NUMBER
		3 of 14

P:\UD10101\DWG\LD-SITE-10101.dwg, 8/22/2010 2:05:02 PM, E4





APPROX WATER LOCATION PER AMBLER BOROUGH REPRESENTATIVE. VERBAL LOCATION-06-30-10



KEY MAP 1"=±1500'

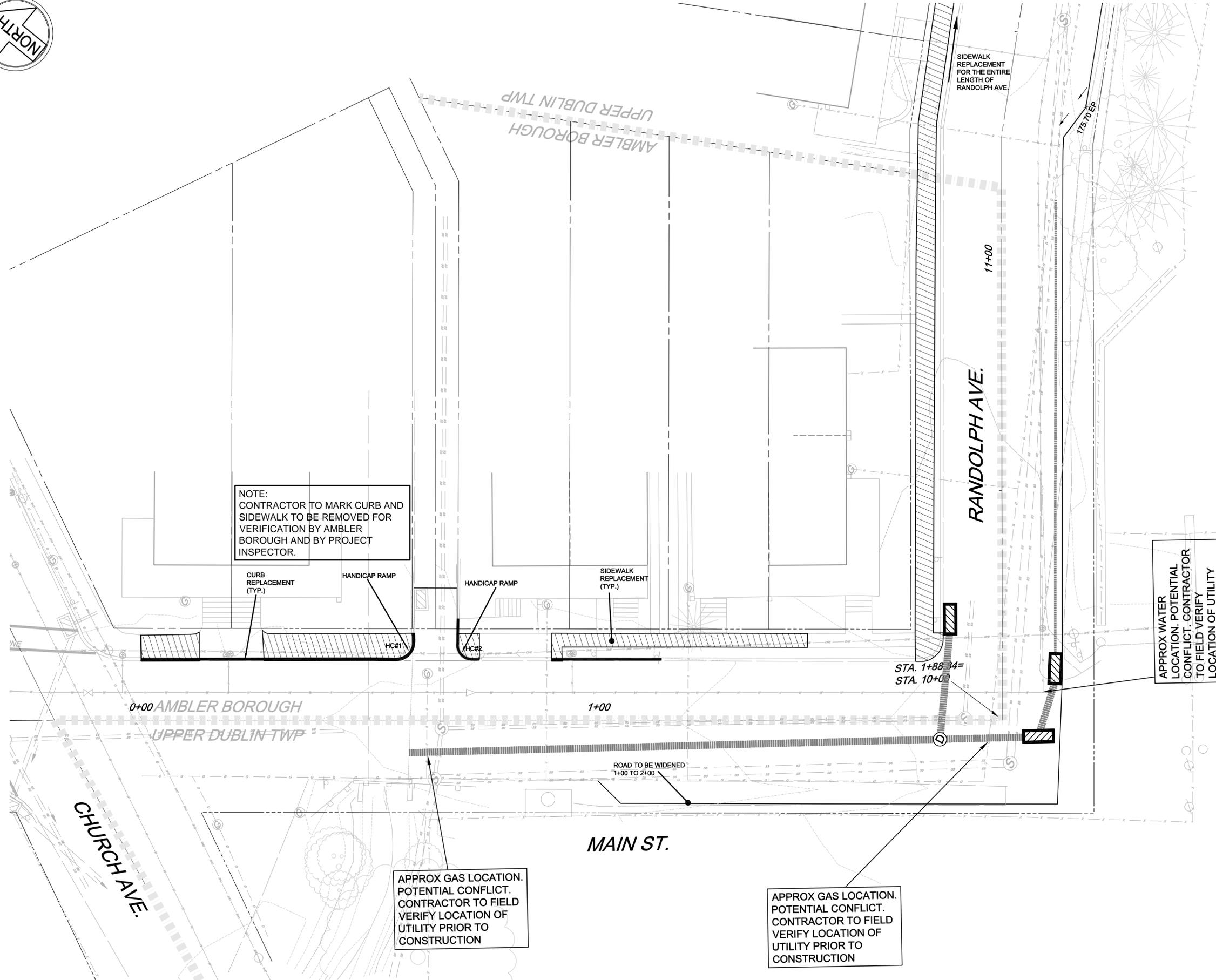
LEGEND	
EXIST. 15" R.C.P.	EXISTING CONTOUR
EXIST. 8" P.V.C.	EXISTING STORM SEWER
EXISTING 8" D.I.P.	EXISTING SANITARY SEWER
EXISTING ELECTRIC LINE	EXISTING WATER LINE
EXISTING GAS LINE	EXISTING ELECTRIC LINE
EXISTING UTILITY POLE	EXISTING GAS LINE
TREE LINE	EXISTING UTILITY POLE
DECIDUOUS	TREE LINE
EVERGREEN	
EXISTING IRON PIPE MONUMENT	
EXISTING FORCE MAIN	
PROPOSED STORM INLET PROTECTION	
18' SILT FENCE	
LIMIT OF DISTURBANCE	



No.	REVISIONS	DATE

PLAN & PROFILES RANDOLPH AVE. STA 13+50 TO 17+00 PREPARED FOR UPPER-DUBLIN TOWNSHIP LAND SITUATE UPPER DUBLIN TWP., MONTGOMERY CO. PA.		PROJECT MANAGER JAW PROJECT NUMBER UD10101 REFERENCE NUMBER
 410 Dersine Ave., PO Box 847, Lansdale PA 19448-0847 Civil Engineers & Land Surveyors (215) 855-3111		SCALE H: 1"=20' V: 1"=2' LD-10101.DWG PLAN SHEET NUMBER 6 of 14

P:\UD10101\DWG\UD10101.dwg 8/23/2010 2:05:21 PM KH



NOTE:
CONTRACTOR TO MARK CURB AND
SIDEWALK TO BE REMOVED FOR
VERIFICATION BY AMBLER
BOROUGH AND BY PROJECT
INSPECTOR.

CURB
REPLACEMENT
(TYP.)

HANDICAP RAMP

HANDICAP RAMP

SIDEWALK
REPLACEMENT
(TYP.)

SIDEWALK
REPLACEMENT
FOR THE ENTIRE
LENGTH OF
RANDOLPH AVE.

RANDOLPH AVE.

11+00

17&70 EP

STA. 1+88.34=
STA. 10+00

0+00 AMBLER BOROUGH

1+00

UPPER-DUBLIN TWP

ROAD TO BE WIDENED
1+00 TO 2+00

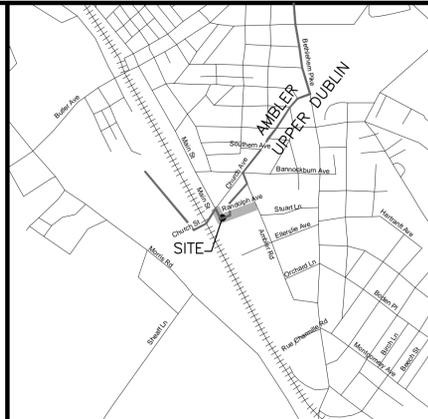
MAIN ST.

CHURCH AVE.

APPROX GAS LOCATION.
POTENTIAL CONFLICT.
CONTRACTOR TO FIELD
VERIFY LOCATION OF
UTILITY PRIOR TO
CONSTRUCTION

APPROX GAS LOCATION.
POTENTIAL CONFLICT.
CONTRACTOR TO FIELD
VERIFY LOCATION OF
UTILITY PRIOR TO
CONSTRUCTION

APPROX WATER
LOCATION. POTENTIAL
CONFLICT. CONTRACTOR
TO FIELD VERIFY
LOCATION OF UTILITY
PRIOR TO CONSTRUCTION



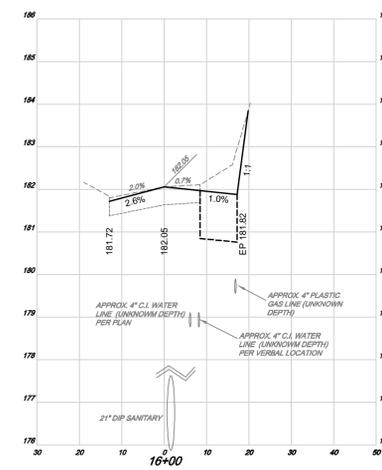
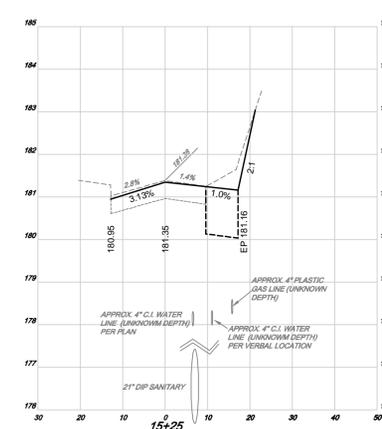
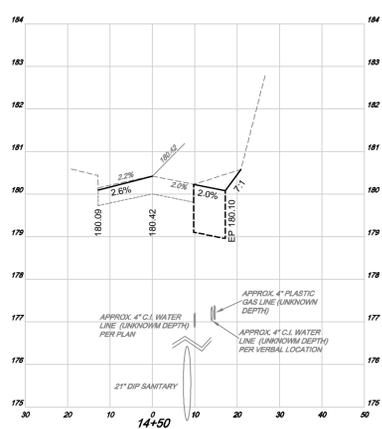
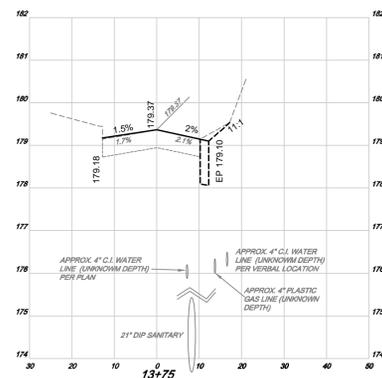
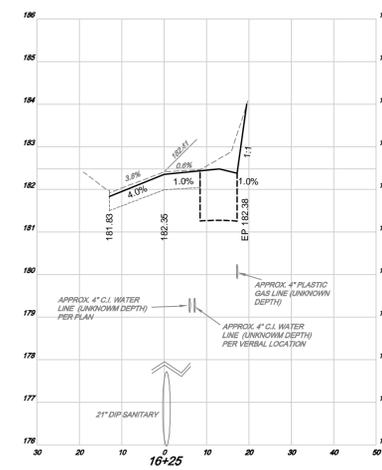
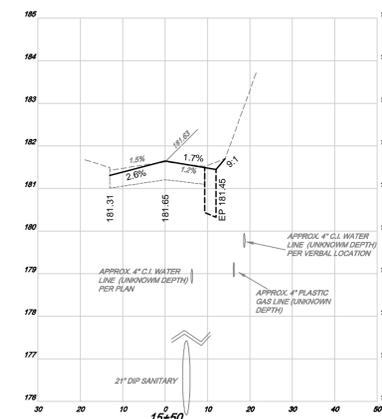
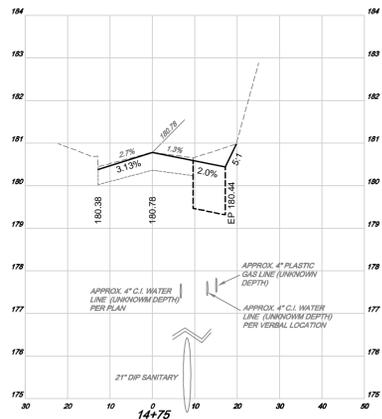
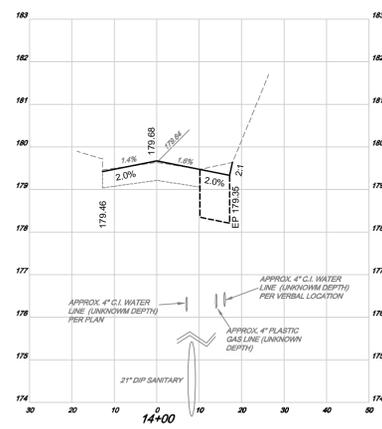
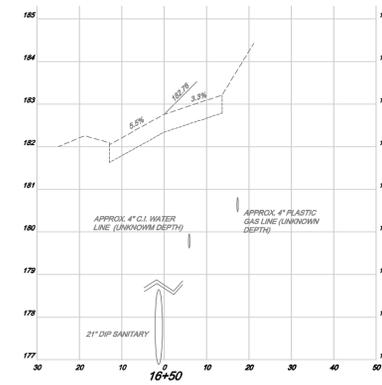
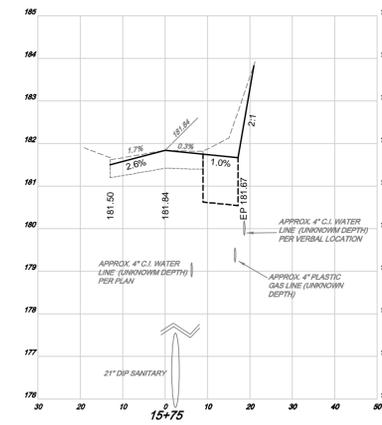
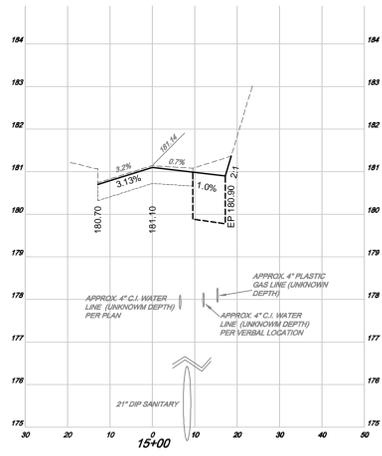
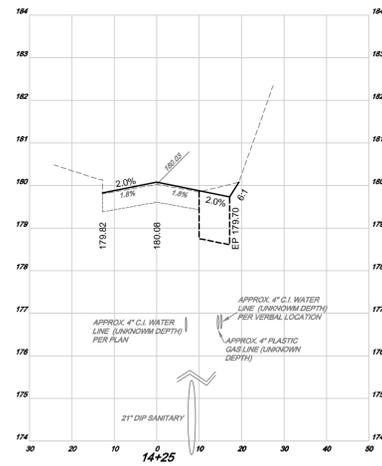
KEY MAP 1"=±1500'

LEGEND

100	EXISTING CONTOUR
EXIST. 15" R.C.P.	EXISTING STORM SEWER
EXIST. 8" P.V.C.	EXISTING SANITARY SEWER
EXISTING 8" D.I.P.	EXISTING WATER LINE
EXISTING ELECTRIC LINE	EXISTING GAS LINE
EXISTING GAS LINE	EXISTING UTILITY POLE
UP	TREE LINE
DECIDUOUS	EXISTING IRON PIPING MONUMENT
EVERGREEN	EXISTING FORCE MAIN
PROPOSED STORM INLET PROTECTION	
18'	18' SILT FENCE
LOD	LIMIT OF DISTURBANCE



CURB AND SIDEWALK REPLACEMENT PLAN MAIN STREET PREPARED FOR UPPER-DUBLIN TOWNSHIP LAND SITUATE UPPER DUBLIN TWP., MONTGOMERY CO. PA.		PROJECT MANAGER JAW PROJECT NUMBER UD10101 REFERENCE NUMBER
No. _____ DATE OF ISSUE _____ REVISIONS _____ DATE _____		SCALE H: 1"=10' LD-10101.DWG PLAN SHEET NUMBER 7 of 14
Metz Engineers 410 Derstine Ave., PO Box 647, Lansdale PA 19446-0647 Civil Engineers & Land Surveyors (215) 855-3111		X-REF: UD10101.RS.DWG

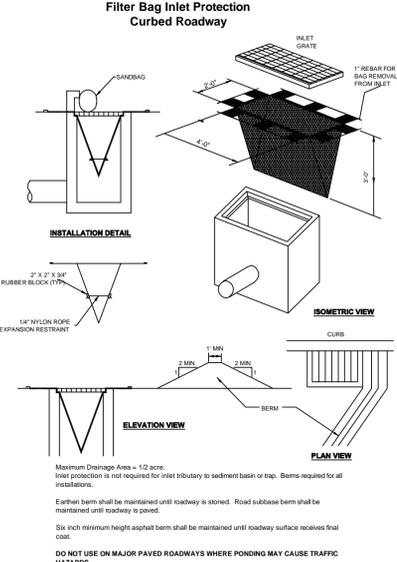


No.	REVISIONS	DATE
	DATE OF ISSUE	08-03-10
PROJECT MANAGER		JAW
PROJECT NUMBER		UD10101
REFERENCE NUMBER		
LAND SITUATE		
UPPER DUBLIN TWP., MONTGOMERY CO. PA.		
		SCALE
410 Derstine Ave., PO Box 647, Lansdale PA 19446-0647		H: 1"=20'
Civil Engineers & Land Surveyors		V: 1"=2'
(215) 855-3111		LD-10101.DWG
		PLAN SHEET NUMBER
		9 of 14

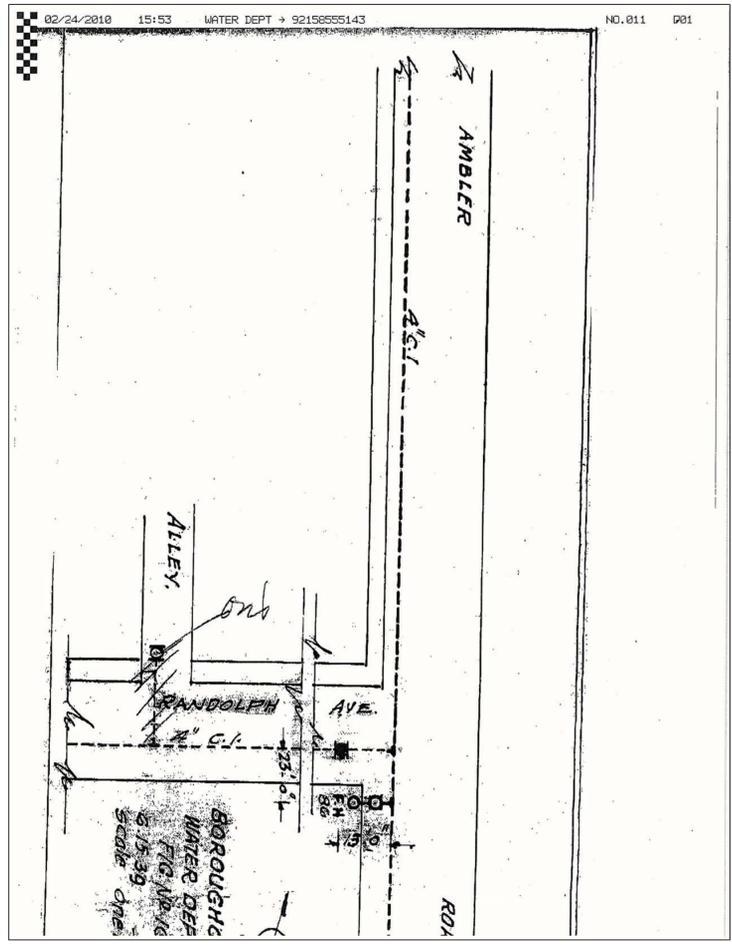
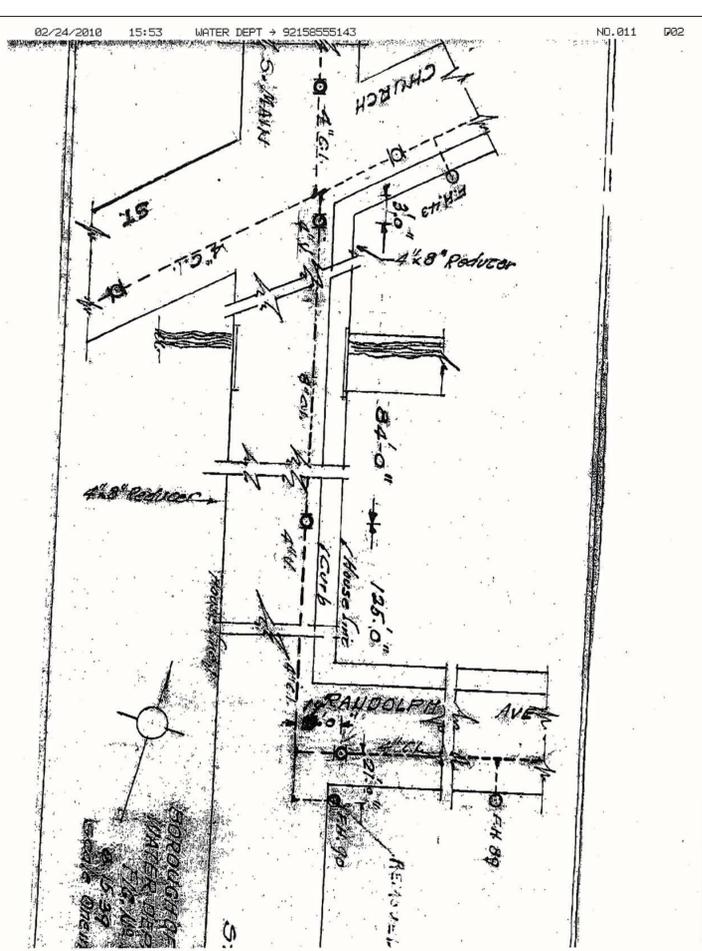
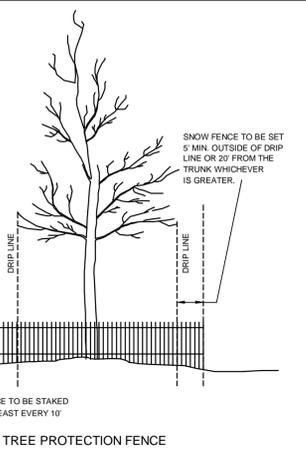
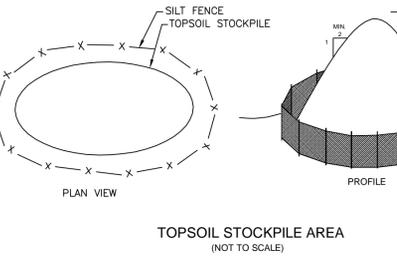
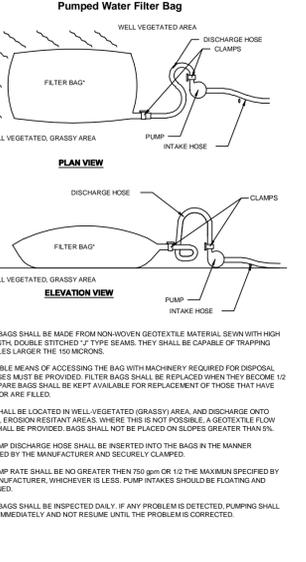
P:\UD10101\DWG\UD10101.dwg 8/3/2010 2:05:41 PM KJI

X-REF: UD10101A.DWG

STANDARD CONSTRUCTION DETAIL #28
Filter Bag Inlet Protection
Curbed Roadway

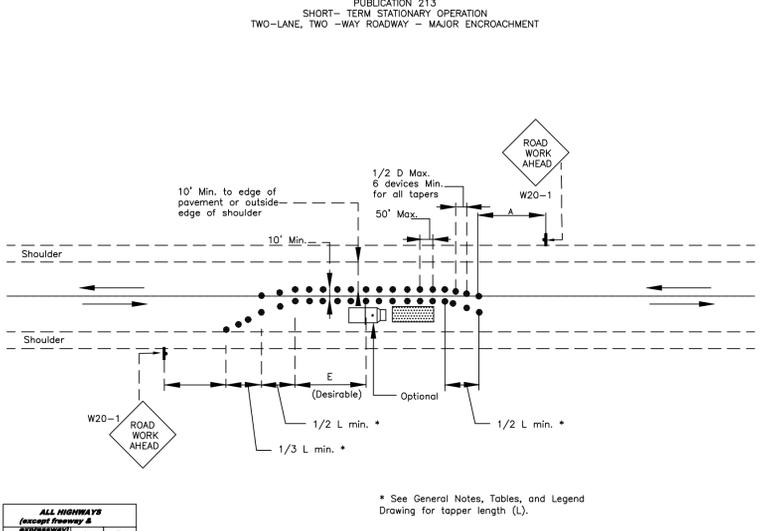
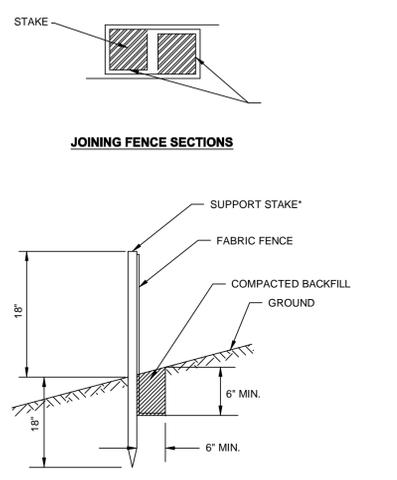


STANDARD CONSTRUCTION DETAIL #26
Pumped Water Filter Bag



WATER LOCATION PER PA ONE CALL PLAN AMBLER WATER AUTHORITY

STANDARD CONSTRUCTION DETAIL #19
Standard Filter Fabric Fence (18" High)



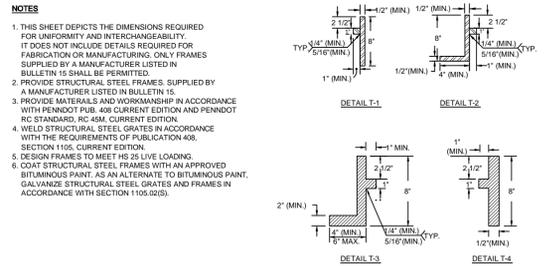
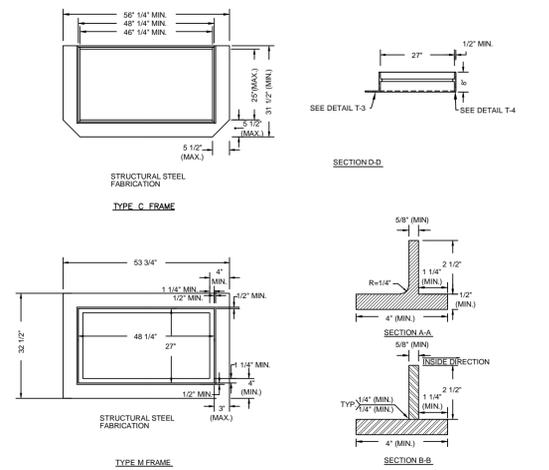
ALL HIGHWAYS (except Freeway & Expressway)				
MPH	D	E	D	E
25	250	50	155	
30	300	60	200	
35	350	70	250	
40	400	80	305	
45	450	90	360	
50	500	100	425	
55	550	110	495	
Alternate Spacing for High Density Urban				
25	100	50	155	
30	100	60	200	

* Stakes spaced @ 8' maximum. Use 2" x 2" wood or equivalent steel stakes.
Filter Fabric Fence must be placed at level existing grade. Both ends of the barrier must be extended at least 8 feet up slope at 45 degrees to the main barrier alignment.
Sediment must be removed when accumulations reach 1/2 the above ground height of the fence.
Any section of Filter Fabric Fence which has been undermined or topped must be immediately replaced with a Rock Filter Outlet. See Standard Construction Detail #18. (See Upper Dublin Township Standard Detail ES 403).

TRAFFIC CONTROL DEVICES DURING MILLING AND PAVING OPERATIONS

Randolph Avenue Work:
Install two (2) Road Closed Signs (R11-2 - 48" x 30") mounted on Type III Barricade with Type B Lights at Main Street and Randolph Avenue.
Install two (2) Road Closed Ahead Signs (W20-3 - 36" x 36") on Main Street. The location of the signs shall be approved by Upper Dublin Township prior to installation.
Main Street Work:
Install two (2) Road Closed Signs (R11-2 - 48" x 30") mounted on Type III Barricade with Type B Lights at Main Street and Church Street.
Install one (1) Road Closed Ahead Signs (W20-3 - 36" x 36") on Main Street. The location of the signs shall be approved by Upper Dublin Township prior to installation.
The road closures shall be kept to the shortest possible timeframe. The contractor shall notify each property owner a minimum of five (5) days prior to closing either road.

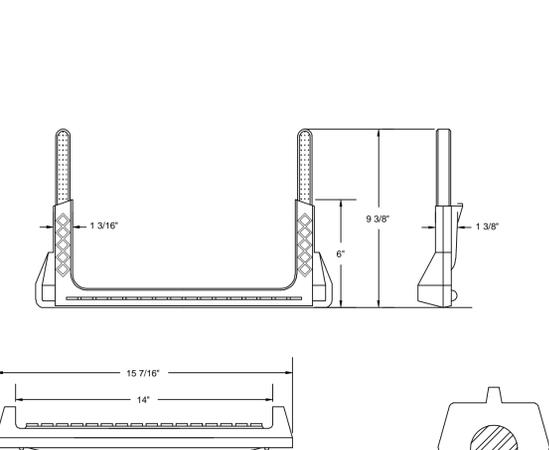
No.	REVISIONS	DATE
	DATE OF ISSUE	08-03-10
DETAILS E&S, TRAFFIC PREPARED FOR UPPER-DUBLIN TOWNSHIP LAND SITUATE UPPER DUBLIN TWP., MONTGOMERY CO. PA.		PROJECT MANAGER JAW PROJECT NUMBER UD10101 REFERENCE NUMBER
Metz Engineers 410 Derstine Ave., PO Box 847, Lansdale PA 19448-0847 Civil Engineers & Land Surveyors (215) 855-3111		SCALE AS NOTED 07-10101.DWG PLAN SHEET NUMBER 13 of 14



STRUCTURAL STEEL INLET FRAMES

NOTES

- THIS SHEET DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. ONLY FRAMES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15 SHALL BE PERMITTED.
- PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH PENNDOT PUB. 408 CURRENT EDITION AND PENNDOT RC STANDARDS RC 404 CURRENT EDITION.
- WELD STRUCTURAL STEEL GRATES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 1105, CURRENT EDITION.
- DESIGN FRAMES TO MEET HS 20 LIVE LOADING.
- COAT STRUCTURAL STEEL FRAMES WITH AN APPROVED BITUMINOUS PAINT, AS AN ALTERNATIVE TO BITUMINOUS PAINT. GALVANIZE STRUCTURAL STEEL GRATES AND FRAMES IN ACCORDANCE WITH SECTION 1105.02(5).



COPOLYMER POLYPROPYLENE MANHOLE STEP (ASTM C-478)

PLASTIC

MANHOLE STEPS ARE TO BE MADE OF COPOLYMER POLYPROPYLENE.

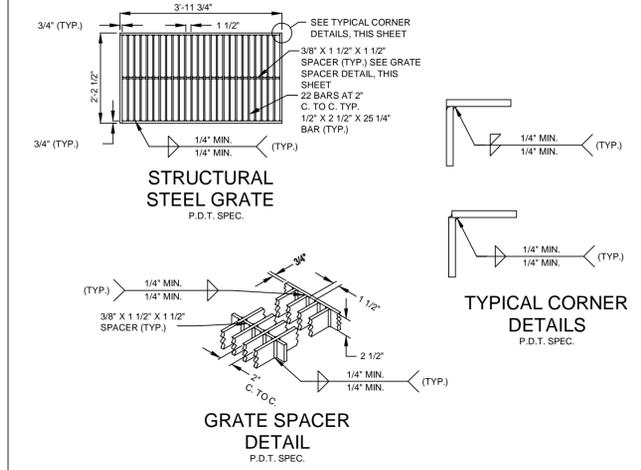
THE COPOLYMER POLYPROPYLENE TO CONFORM TO A S.T.M. D-4141-95B PPO344B3353A202 (THE PREVIOUS STANDARD OF A.S.T.M. D-4101-92B, WAS REPLACED BY D-4101-96B.

STEEL REINFORCING BAR

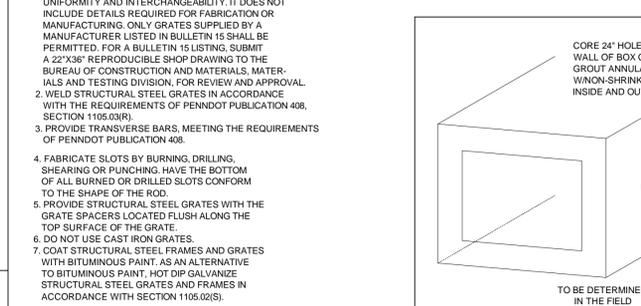
THE STEEL TO BE USED IN MANUFACTURING OF THIS PRODUCT TO BE A DEFORMED 1/2\"/>

COPOLYMER POLYPROPYLENE MANHOLE STEP

CAST IRON STORM SEWER MANHOLE FRAME AND COVER



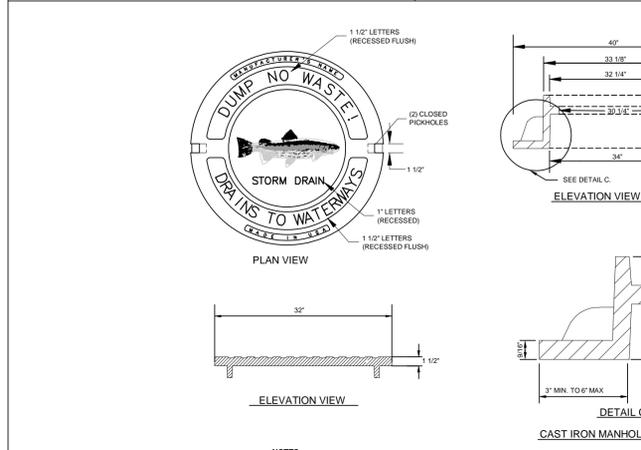
STRUCTURAL STEEL GRATE P.D.T. SPEC.



GRATE SPACER P.D.T. SPEC.

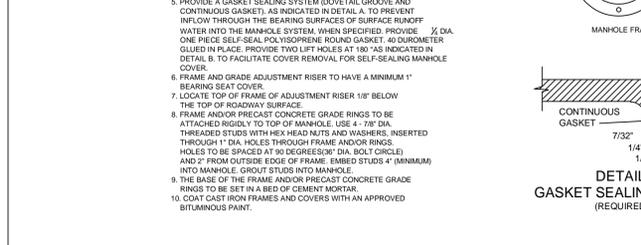
NOTES

- THIS SHEET DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. ONLY GRATES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15 SHALL BE PERMITTED. FOR A BULLETIN 15 LISTING, SUBMIT A 24\"/>
- WELD STRUCTURAL STEEL GRATES IN ACCORDANCE WITH THE REQUIREMENTS OF PENNDOT PUBLICATION 408, SECTION 1105.03(R).
- PROVIDE TRANSVERSE BARS, MEETING THE REQUIREMENTS OF PENNDOT PUBLICATION 408.
- FABRICATE SLOTS BY BURNING, DRILLING, SHEARING OR PUNCHING. HAVE THE BOTTOM OF ALL BURNED OR DRILLED SLOTS CONFORM TO THE SHAPE OF THE ROD.
- PROVIDE STRUCTURAL STEEL GRATES WITH THE GRATE SPACERS LOCATED FLUSH ALONG THE TOP SURFACE OF THE GRATE.
- COAT STRUCTURAL STEEL FRAMES AND GRATES WITH BITUMINOUS PAINT, AS AN ALTERNATIVE TO BITUMINOUS PAINT, HOT DIP GALVANIZED STRUCTURAL STEEL GRATES AND FRAMES IN ACCORDANCE WITH SECTION 1105.02(5).
- DO NOT USE CAST IRON GRATES.

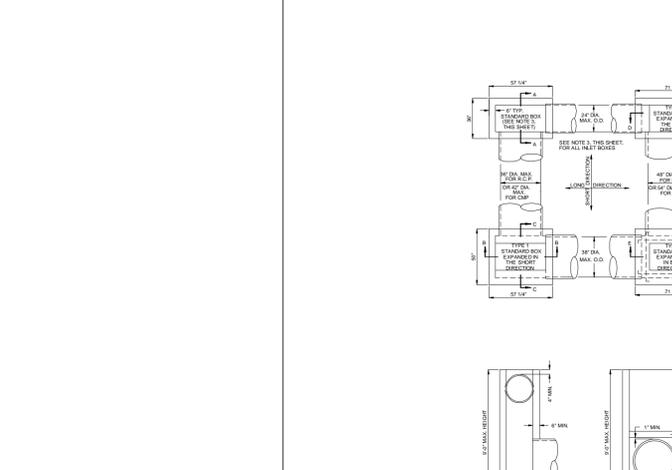


STORM TIE-IN DETAIL

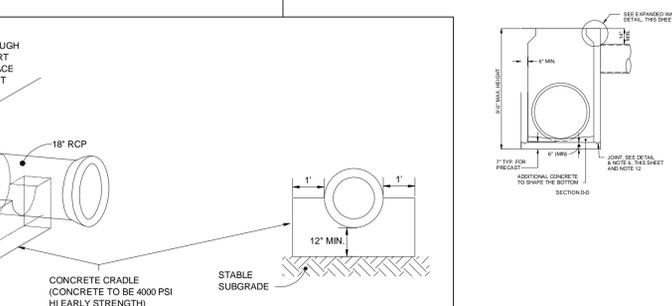
BICYCLE SAFE STEEL GRATE



BICYCLE SAFE STEEL GRATE



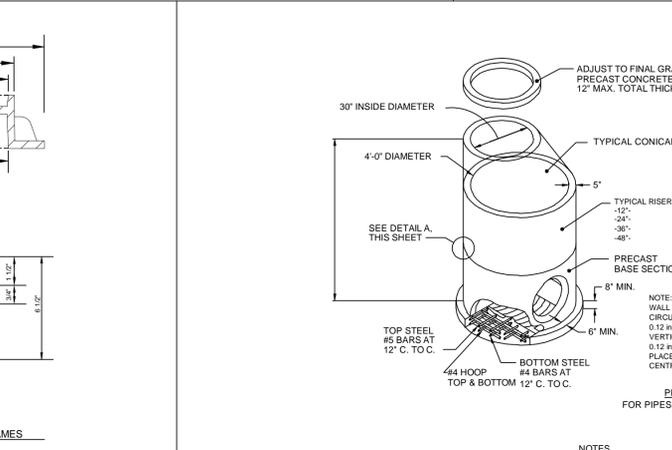
TYPICAL CORNER DETAILS P.D.T. SPEC.



STANDARD INLET BOXES (PRECAST)

NOTES

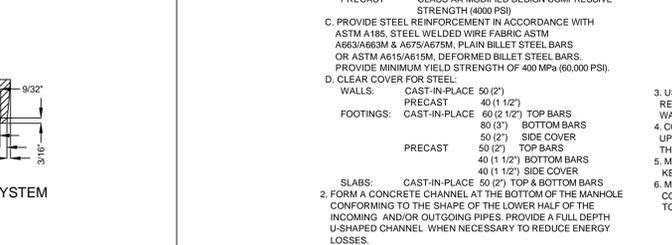
- MATERIALS AND CONSTRUCTION SHALL COMPLY WITH REQUIREMENTS OF SPECIFICATIONS FORM 608, CURRENT EDITION, SECTION 609 FOR CAST-IN-PLACE, AND SECTION 714 AND AS MODIFIED HEREIN.
- MINIMUM CONCRETE COMPRESSIVE STRENGTH: CAST-IN-PLACE CLASS AA (4700 PSI) PRECAST CLASS AA MODIFIED DESIGN COMPRESSIVE STRENGTH (4000 PSI)
- PRECAST CONCRETE INLET BODIES MAY BE USED IN LIEU OF CAST-IN-PLACE BODIES. SHOULD PRECAST INLET BODIES BE USED, THEY SHALL BE PERMITTED TO BE USED ONLY IF ALL LETTERS IN BULLETIN 15 SHALL BE PERMITTED TO OPEN TO THE FULL DEPTH OF THE INLET BODIES. ALL INLET BODIES SHALL HAVE THE 2\"/>
- TYPICAL INLET WALLS SHALL BE 8\"/>
- INLETS THAT EXCEED THE MAXIMUM DEPTH AS SHOWN SHALL REQUIRE A SPECIAL DESIGN.
- PIPE BLOCK-OUTS EXTENDING INTO THE BASE SHALL NOT BE PERMITTED WHEN THE BASE IS NOT REINFORCING WITH THE INLET WALLS.
- PIPE OR PIPE SHALL BE LOCATED AS REQUIRED, WITH THE INLET BOTTOM SHAPED TO CHANNEL THE FLOW TOWARD THE OUTLET PIPE.
- PRECAST INLET BODIES SHALL BE ADJUSTED TO THE REQUIRED GRADE AS SHOWN. ADDITIONAL CONCRETE SHALL BE PERMITTED TO BE USED TO ADJUST THE GRADE TO THE REQUIRED GRADE.
- ANY MANUFACTURER DESIRING TO BE LISTED IN BULLETIN 15 FOR THESE UNITS SHALL SUBMIT A 24\"/>
- TESTING AND RESEARCH FOR APPROVAL, THE SHOP DRAWING MUST SHOW ALL DETAILS INCLUDING DIMENSIONS, TOLERANCES, WELDING REINFORCEMENT, AND ANY MANUFACTURING DETAILS.
- INLETS THAT EXCEED 5\"/>
- PRECAST CONCRETE ADJUSTMENT RINGS REQUIRED FOR UP TO 4\"/>
- ALL INLETS SHALL BE CONSTRUCTED WITH THE INLET BODIES AND ABOVE A PRECAST CONCRETE RISER OR RISERS AS REQUIRED.
- ALL INLETS SHALL BE CONSTRUCTED WITH THE INLET BODIES AND ABOVE A PRECAST CONCRETE RISER SECTION AND PRECAST COVER ADJUSTMENT ELAB.
- MANHOLE COVER SHALL BE 18\"/>
- CONSTRUCTION JOINTS OF KEYS SHALL BE 18\"/>
- FOR PIPE COVER DETAIL SEE SHEET OF 40\"/>
- REFER TO PENNDOT RC 404 SHEET OF 10 CURRENT EDITION.
- AT THE INLET WALL, REINFORCEMENT SHALL BE LOCATED IN THE CORNER OF THE INLET BODIES.



CAST IRON MANHOLE FRAMES

NOTES

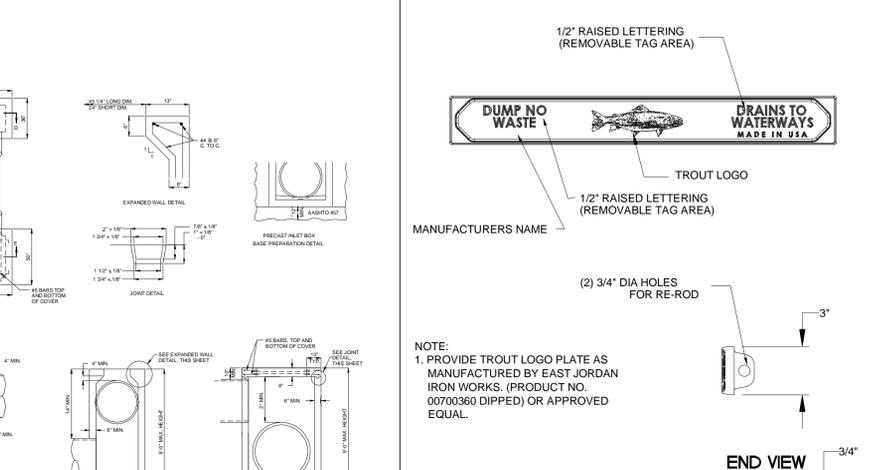
- PROVIDE MANHOLE FRAMES AND COVERS MEETING THE REQUIREMENTS OF PENNDOT PUBLICATION 408 SPECIFICATIONS SECTION 608.2(B) CURRENT EDITION AND AASHTO M308 CURRENT EDITION AND AS MODIFIED HEREIN.
- DESIGN MANHOLE FRAME, COVER AND GRADE ADJUSTMENT RINGS FOR (HS20) LIVE LOAD.
- PROVIDE MANHOLE FRAMES AND COVERS SUPPLIED BY MANUFACTURER AS LISTED IN BULLETIN 15.
- PROVIDE MANHOLE FRAMES AND COVERS AS MANUFACTURED BY EAST JORDAN IRON WORKS (FRAME 1322Z, PRODUCT NO. 00132212 DIPPED COVER 1480 AGS, PRODUCT NO. 00148150) OR APPROVED EQUAL.
- PROVIDE A GASKET SEALING SYSTEM (GOVETAL GROOVE AND CONTINUOUS GASKET) AS INDICATED IN DETAIL A, TO PREVENT INFLOW THROUGH THE BEARING SURFACES OF SURFACE RUNOFF WATER INTO THE MANHOLE SYSTEM, WHEN SPECIFIED. PROVIDE 1/2\"/>
- THE BASE OF THE FRAME AND/OR PRECAST CONCRETE GRADE RINGS TO BE SET IN A BED OF CEMENT MORTAR.
- COAT CAST IRON FRAMES AND COVERS WITH AN APPROVED BITUMINOUS PAINT.



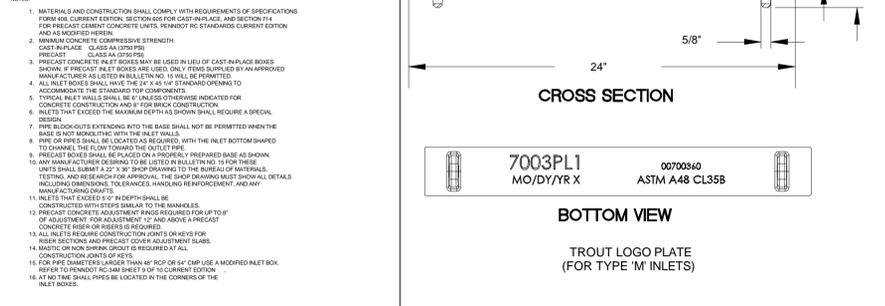
PRECAST CONCRETE STORM MANHOLE

NOTES

- CONSTRUCTION REQUIREMENTS: A. CONSTRUCT IN ACCORDANCE WITH PENNDOT PUBLICATION 408, CURRENT EDITION SECTIONS 605, 606 AND 714, AND ASTM C-478M-90, STANDARD SPECIFICATION FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS, AS MODIFIED HEREIN. B. MINIMUM CONCRETE CLASS: CAST-IN-PLACE CLASS AA MODIFIED DESIGN COMPRESSIVE STRENGTH (4000 PSI) PRECAST CLASS AA MODIFIED DESIGN COMPRESSIVE STRENGTH (4000 PSI) C. PROVIDE STEEL REINFORCEMENT IN ACCORDANCE WITH ASTM A186, STEEL WELDED WIRE FABRIC ASTM A663/A663M & A675/A675M, PLAIN BILLET STEEL BARS OR ASTM A815/A815M, DEFORMED BILLET STEEL BARS. PROVIDE MINIMUM YIELD STRENGTH OF 400 MPa (60,000 PSI). D. CLEAR COVER FOR STEEL: WALLS: CAST-IN-PLACE 50 (2) PRECAST 40 (1 1/2) FOOTINGS: CAST-IN-PLACE 60 (2 1/2) TOP BARS 80 (3) BOTTOM BARS 50 (2) SIDE COVER 50 (2) TOP BARS 40 (1 1/2) BOTTOM BARS 40 (1 1/2) SIDE COVER
- SLABS: CAST-IN-PLACE 50 (2) TOP & BOTTOM BARS 2. FORM A CONCRETE CHANNEL AT THE BOTTOM OF THE MANHOLE CONFORMING TO THE SHAPE OF THE LOWER HALF OF THE INCOMING AND/OR OUTGOING PIPES. PROVIDE A FULL DEPTH U-SHAPED CHANNEL WHEN NECESSARY TO REDUCE ENERGY LOSSES.
- USE 127 (5) THICK WALLS WITH ONE (1) ROW OF REINFORCING, OR USE 254 (10) THICK OR GREATER WALLS WITH TWO (2) ROWS OF REINFORCING.
- CONSTRUCTION JOINTS AND KEYS MAY BE CONSTRUCTED UPWARDS OR DOWNWARDS. CLEAN JOINTS AND KEYS THOROUGHLY BEFORE PLACING NEXT CONCRETE SEGMENT.
- MASTIC REQUIRED AT ALL CONSTRUCTION JOINTS AND KEYS.
- MANHOLES THAT EXCEED 5 FEET IN DEPTH SHALL BE CONSTRUCTED WITH STEPS. REFER TO UPPER DUBLIN TOWNSHIP DETAIL DR312 & DR313 FOR SPEC OF STEPS.



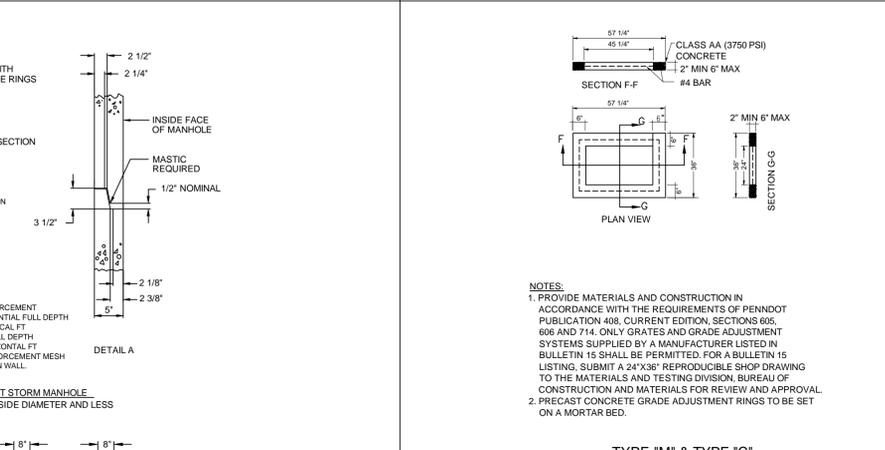
TROUT LOGO PLATE (FOR TYPE 'M' INLETS)



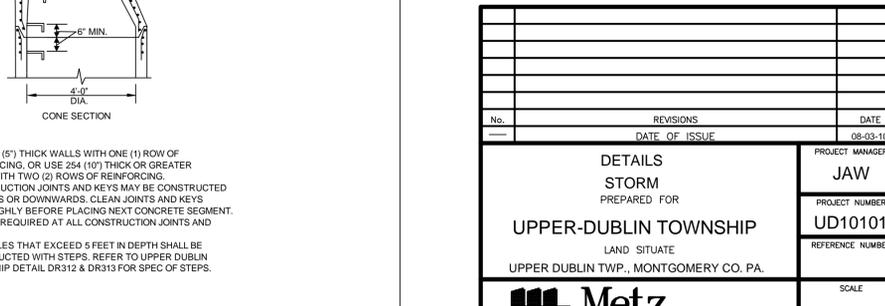
TYPE 'M' & TYPE 'C' GRADE ADJUSTMENT RINGS

NOTES

- PROVIDE MATERIALS AND CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF PENNDOT PUBLICATION 408, CURRENT EDITION, SECTIONS 605, 606 AND 714. ONLY GRATES AND GRADE ADJUSTMENT SYSTEMS SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15 SHALL BE PERMITTED. FOR A BULLETIN 15 LISTING, SUBMIT A 24\"/>
- PRECAST CONCRETE GRADE ADJUSTMENT RINGS TO BE SET ON A MORTAR BED.



CONCRETE CONE SECTION



DETAILS STORM PREPARED FOR UPPER-DUBLIN TOWNSHIP LAND SITATE UPPER DUBLIN TWP., MONTGOMERY CO. PA.

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