

SHEET INDEX	
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WATER AND SEWER EXTENSION PLAN

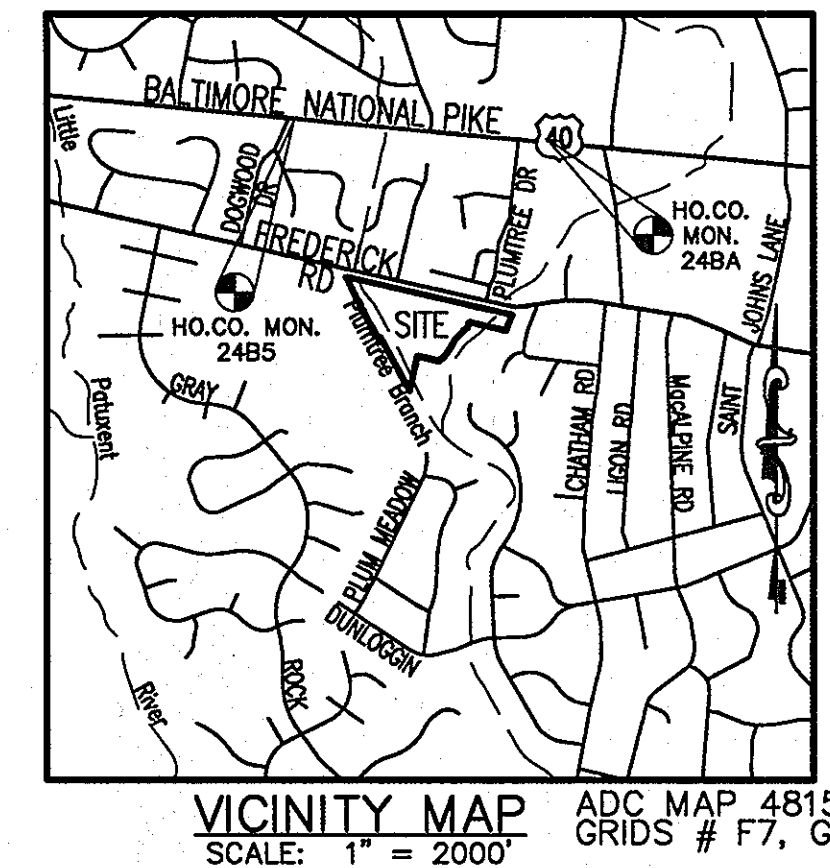
CHARLES E MILLER BRANCH AND HISTORICAL CENTER

PARCELS 1090 AND 1189

2ND ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

CONTRACT NO. 44-4629-D



GENERAL NOTES

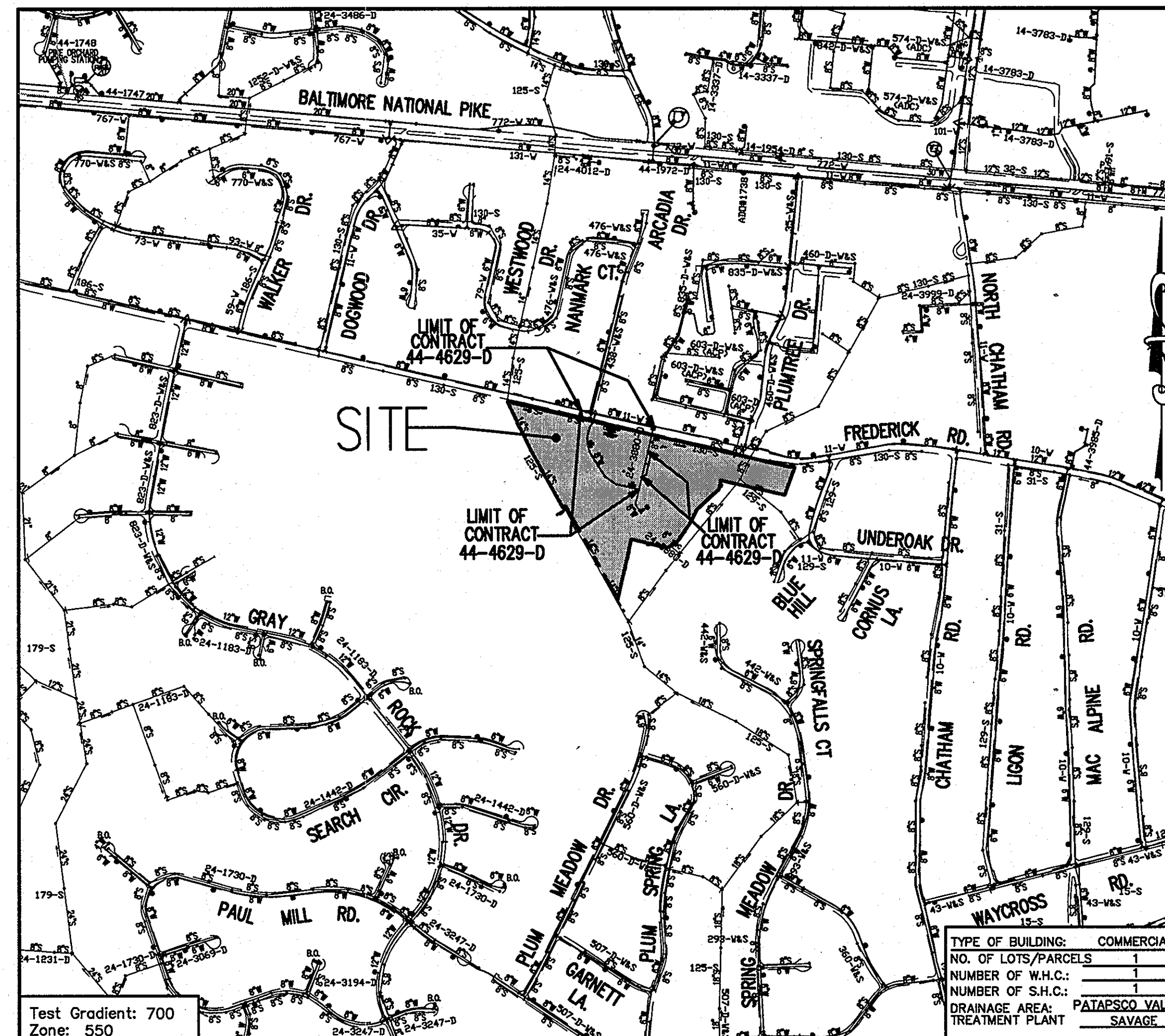
- Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
- Topographic field surveys were performed in September 2008 by Patton Harris Rust and Associates.
- Horizontal and Vertical Survey Controls:
The coordinates shown on the drawings are based on Maryland State Reference System NAD '83/91 as projected by Howard County Geodetic Control Stations No. 24B5, and No. 24B4.
All vertical controls are based on NAVD '88. Vertical controls on this drawing are PHR+A traverse points 602 (ELEV. 371.65) and 603 (ELEV. 361.06) as shown on plan view sheets.
- All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 12 inches. Clear all poles by 5'-0" minimum or tunnel as required unless otherwise noted. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for the bracing of additional poles or damages shall be deducted from monies owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
- Where test pits have been made on existing utilities, they are noted by the symbol at the locations of the test pits. A note or notes containing the results of the test pit or pits is included on the drawings. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the contractor two weeks in advance of construction operations at his own expense.
- The contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:

AT&T	1-800-252-1133
BGE (Construction Services)	410-850-4620
BGE (Underground Damage Control)	410-787-9068
Bureau of Utilities	410-313-4900
Colonial Pipeline Co.	410-795-1390
Miss Utility	1-800-257-7777
State Highway Administration	410-531-5533
Verizon	1-800-743-0033 / 410-224-9210
- Trees and shrubs are to be protected from damage to the maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the contractor.
- The contractor shall remove trees, stumps and roots along the line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.
- The contractor shall notify the Bureau of Highways, Howard County, at 410-313-7450 at least five working days before open cutting or boring/jacking of any County road for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPW requirements per Section 18.114(a) of the Howard County Code.

WATER NOTES

- All water mains shall be D.I.P Class 54 unless otherwise noted.
- Tops of all water mains shall have a minimum of 3'-6" of cover unless otherwise noted.
- Valves adjacent to tees shall be strapped to tees.
- All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be installed in accordance with Standard Details. The soil around the fire hydrant shall be compacted in accordance with Section 1000 and 1005 of the Standard Specifications.
- The contractor shall not operate any water main valves on the existing water system.

QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
8" W	1250 LF	1165 LF	DIP TYTON CLASS 54	GRIFFIN / BRS
6" W	32 LF	47 LF	DIP TYTON CLASS 54	GRIFFIN / BRS
8" 1/16 HB	6 EA	6 EA.	M.J.	SIGMA / BRS
8" 1/8 HB	4 EA	8 EA.	M.J.	SIGMA / BRS
8x6 TEE	4 EA	4 EA.	M.J.	SIGMA / BRS
8x8 TEE	2 EA	2 EA.	M.J.	SIGMA / BRS
8" VALVE	5 EA	3 EA.	M.J. RSGV GATE	MUELLER / BRS
5.5' FH	2 EA	2 EA.	H.C. ORANGE	MUELLER / BRS
5.0' FH	1 EA	1 EA.	H.C. ORANGE	MUELLER / BRS
6" VALVE	4 EA	4 EA.	M.J. RSGV GATE	MUELLER / BRS
8" S	33 LF	33 LF	SDR-35	JM EAGLE / BRS
8" S.S. TAPPING SLEEVE		1 EA.	M.J. S.S.	FORD METER BOX / BRS



LOCATION MAP
SCALE: 1"=600'

LEGEND:	
	EXISTING SEWER MAIN
	EXISTING WATER MAIN
	PROPOSED WATER MAIN
	PROPOSED SEWER MAIN

BENCH MARK

HOWARD COUNTY SURVEY CONTROL: STATION 24B5
ELEVATION 390.937
N 586,956.233 E 1,356,570.840

HOWARD COUNTY SURVEY CONTROL: STATION 24B4
ELEVATION 386.357
N 586,783.250 E 1,359,211.698

NAME OF UTILITY CONTRACTOR: PERCONTEE INCORPORATED	
Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications and as shown on SDP-09-058 Easements shall be as shown on Plat F-09-107	CHECKBOX
	AS-BUILT DATE
This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District. <i>John R. Roberts</i> HOWARD SOIL CONSERVATION DISTRICT	SURVEY AND DRAFTING DIVISION
	DEVELOPER HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS 3430 COURT HOUSE ROAD ELLCOTT CITY, MARYLAND 21043-4105 PHONE: 410 313 4600
DATE: 11/2/09	

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>John C. Green</i> CHIEF, BUREAU OF UTILITIES DATE: 11/2/09	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND <i>John D. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 11/4/09
------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------

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PHR

STATE OF MARYLAND
PROFESSIONAL ENGINEER
JOHN W. CLAPSADDLE # 169556

DES: JWC/RJ	
DRN: AW/RJ	
CHK: JWC	
DATE: 10/14/09	
BY: KCI	AS-BUILT REVISIONS
NO. 1	DATE: 7/12/10

PUBLIC WATER PLAN COVER SHEET

600' SCALE MAP NO. 24 BLOCK NO. 10

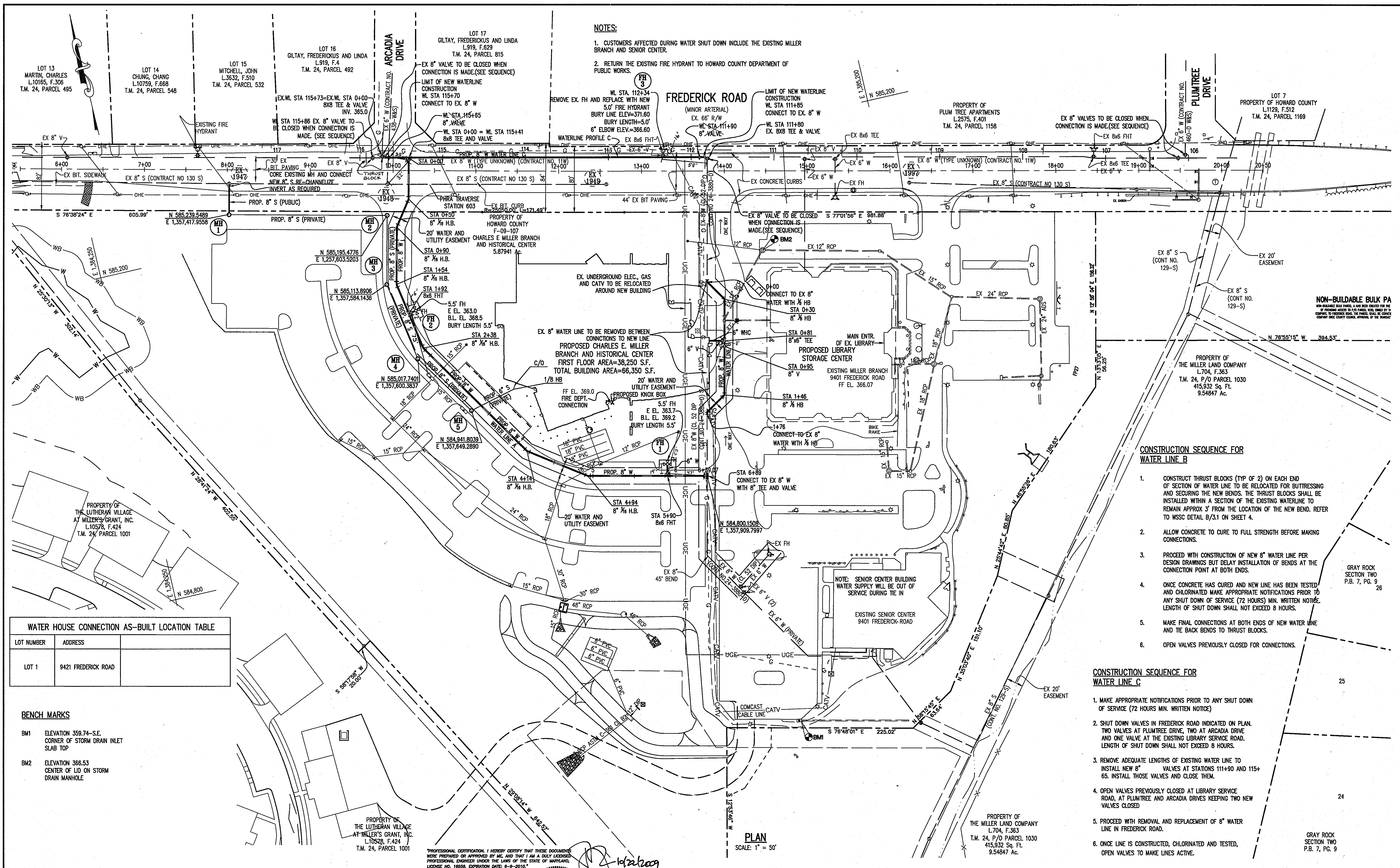
ATTN: JOHN CLAPSADDLE

CHARLES E MILLER BRANCH AND HISTORICAL CENTER

TAX MAP 24 PARCEL 1090,1189 ZONING: R-20
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT NO. 44-4629-D

SCALE AS SHOWN

SHEET 1 OF 4



NOTES:

- CUSTOMERS AFFECTED DURING WATER SHUT DOWN INCLUDE THE EXISTING MILLER BRANCH AND SENIOR CENTER.
- RETURN THE EXISTING FIRE HYDRANT TO HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

- CONSTRUCTION SEQUENCE FOR WATER LINE B**
- CONSTRUCT THRUST BLOCKS (TYP OF 2) ON EACH END OF SECTION OF WATER LINE TO BE RELOCATED FOR BUTTRESSING AND SECURING THE NEW BENDS. THE THRUST BLOCKS SHALL BE INSTALLED WITHIN A SECTION OF THE EXISTING WATERLINE TO REMAIN APPROX 3' FROM THE LOCATION OF THE NEW BEND. REFER TO WSSC DETAIL B/3.1 ON SHEET 4.
 - ALLOW CONCRETE TO CURE TO FULL STRENGTH BEFORE MAKING CONNECTIONS.
 - PROCEED WITH CONSTRUCTION OF NEW 8" WATER LINE PER DESIGN DRAWINGS BUT DELAY INSTALLATION OF BENDS AT THE CONNECTION POINT AT BOTH ENDS.
 - ONCE CONCRETE HAS CURED AND NEW LINE HAS BEEN TESTED AND CHLORINATED MAKE APPROPRIATE NOTIFICATIONS PRIOR TO ANY SHUT DOWN OF SERVICE (72 HOURS) MIN. WRITTEN NOTICE. LENGTH OF SHUT DOWN SHALL NOT EXCEED 8 HOURS.
 - MAKE FINAL CONNECTIONS AT BOTH ENDS OF NEW WATER LINE AND THE BACK BENDS TO THRUST BLOCKS.
 - OPEN VALVES PREVIOUSLY CLOSED FOR CONNECTIONS.

- CONSTRUCTION SEQUENCE FOR WATER LINE C**
- MAKE APPROPRIATE NOTIFICATIONS PRIOR TO ANY SHUT DOWN OF SERVICE (72 HOURS) MIN. WRITTEN NOTICE
 - SHUT DOWN VALVES IN FREDERICK ROAD INDICATED ON PLAN. TWO VALVES AT PLUMTREE DRIVE, TWO AT ARCADIA DRIVE AND ONE VALVE AT THE EXISTING LIBRARY SERVICE ROAD. LENGTH OF SHUT DOWN SHALL NOT EXCEED 8 HOURS.
 - REMOVE ADEQUATE LENGTHS OF EXISTING WATER LINE TO INSTALL NEW 8" VALVES AT STATIONS 111+90 AND 115+65. INSTALL THOSE VALVES AND CLOSE THEM.
 - OPEN VALVES PREVIOUSLY CLOSED AT LIBRARY SERVICE ROAD, AT PLUMTREE AND ARCADIA DRIVES KEEPING TWO NEW VALVES CLOSED
 - PROCEED WITH REMOVAL AND REPLACEMENT OF 8" WATER LINE IN FREDERICK ROAD.
 - ONCE LINE IS CONSTRUCTED, CHLORINATED AND TESTED, OPEN VALVES TO MAKE LINES ACTIVE.

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT NUMBER	ADDRESS
LOT 1	9421 FREDERICK ROAD

BENCH MARKS

BM1 ELEVATION 359.74-S.E. CORNER OF STORM DRAIN INLET SLAB TOP

BM2 ELEVATION 368.53 CENTER OF LID ON STORM DRAIN MANHOLE

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16956, EXPIRATION DATE: 6-5-2010.

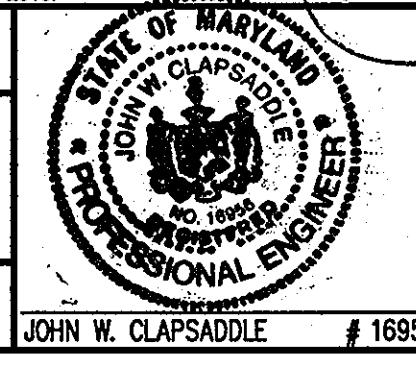
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John C. Gorman
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

John P. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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DES:	JWC/RJ
DRN:	AW/RJ
CHK:	JWC
DATE:	10/14/09
KCI BY NO.	1
AS-BUILT REVISIONS	7/12/11
REVISION	DATE

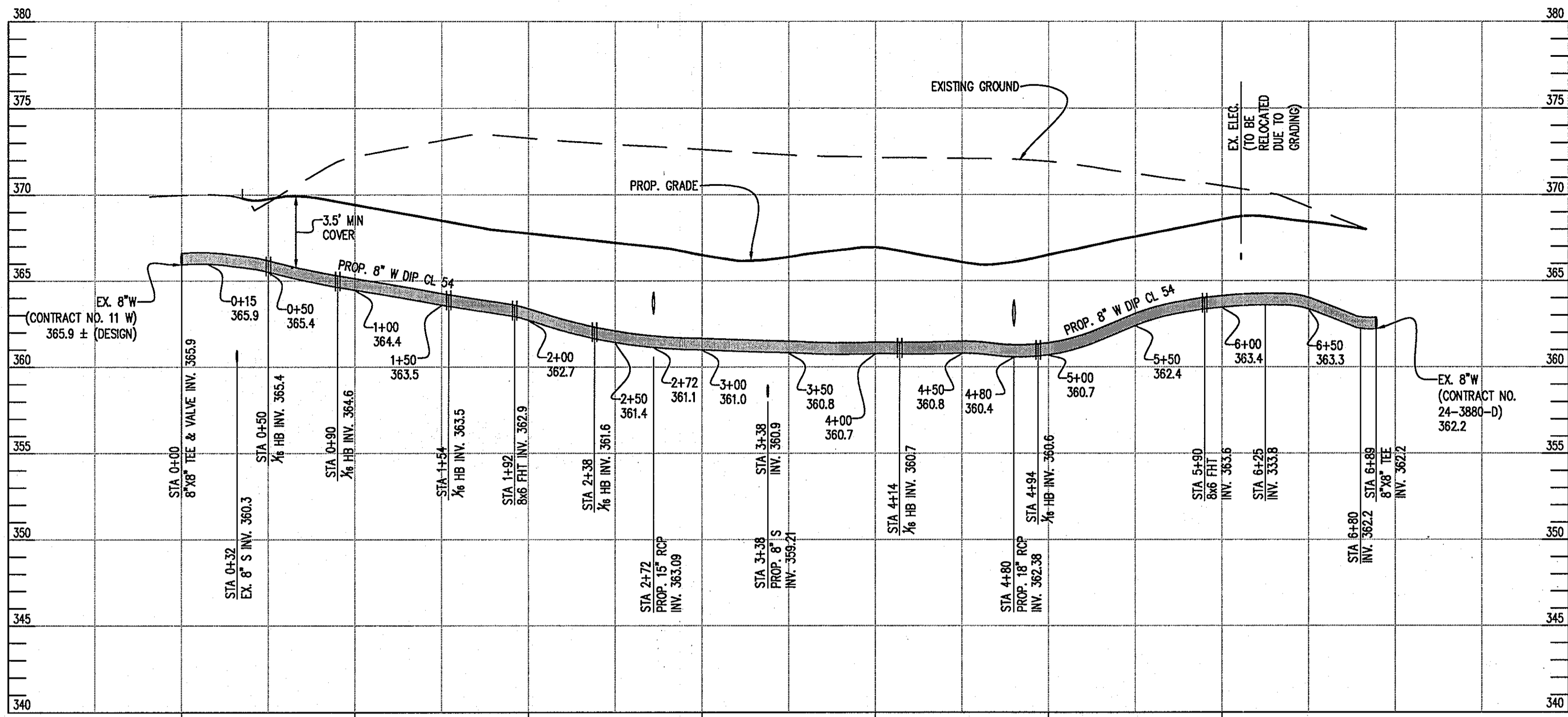
PLAN OF WATER MAINS

600' SCALE MAP NO. 24 BLOCK NO. 10

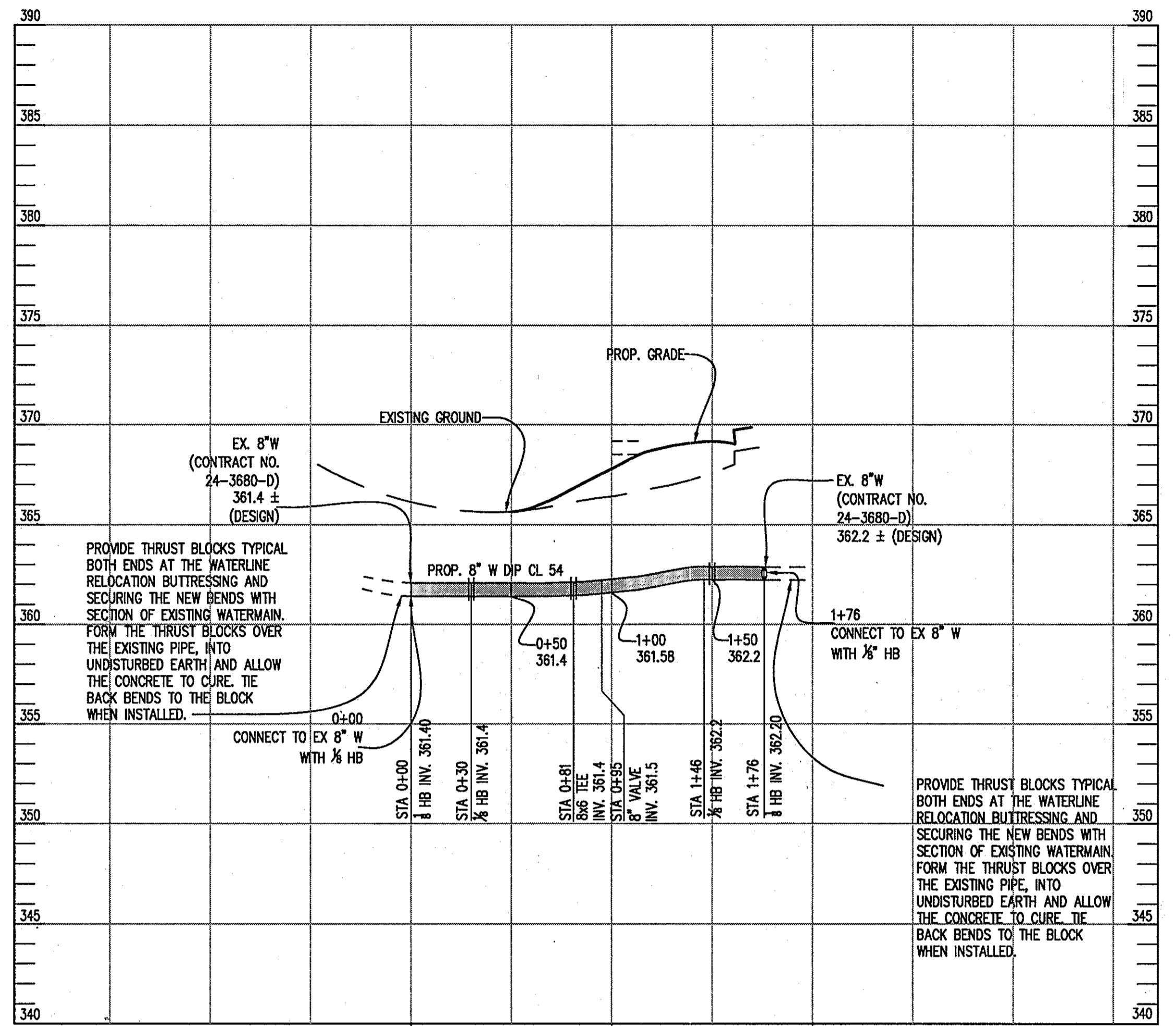
CHARLES E MILLER BRANCH AND HISTORICAL CENTER

TAX MAP 24 PARCEL 1090, 1189 ZONING: R-20
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT NO. 44-4629-D

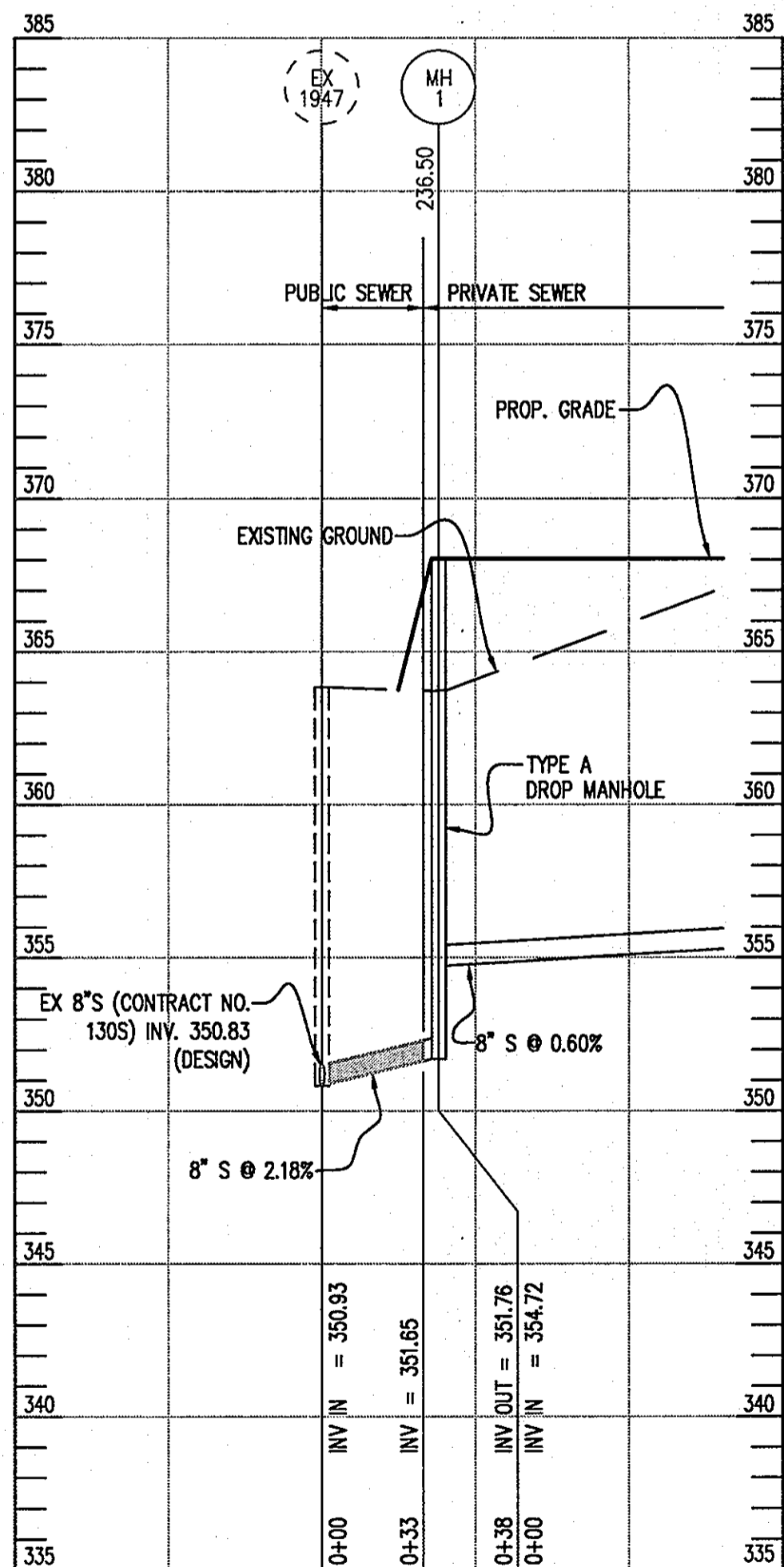
SCALE: 1" = 50'
SHEET 2 OF 4



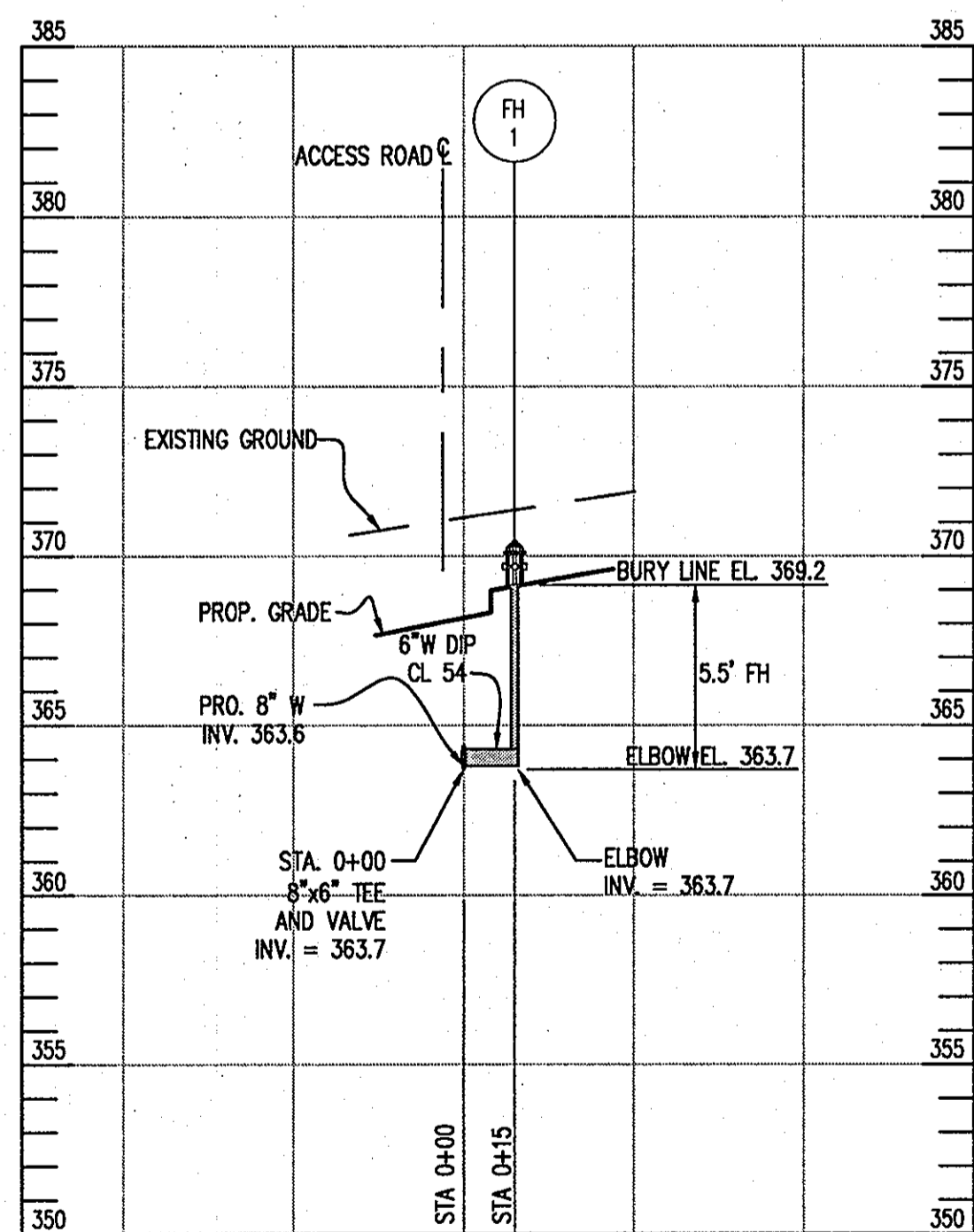
PUBLIC WATERMAIN 'A' PROFILE
SCALE: HOR: 1"=50' VERT: 1"=5'



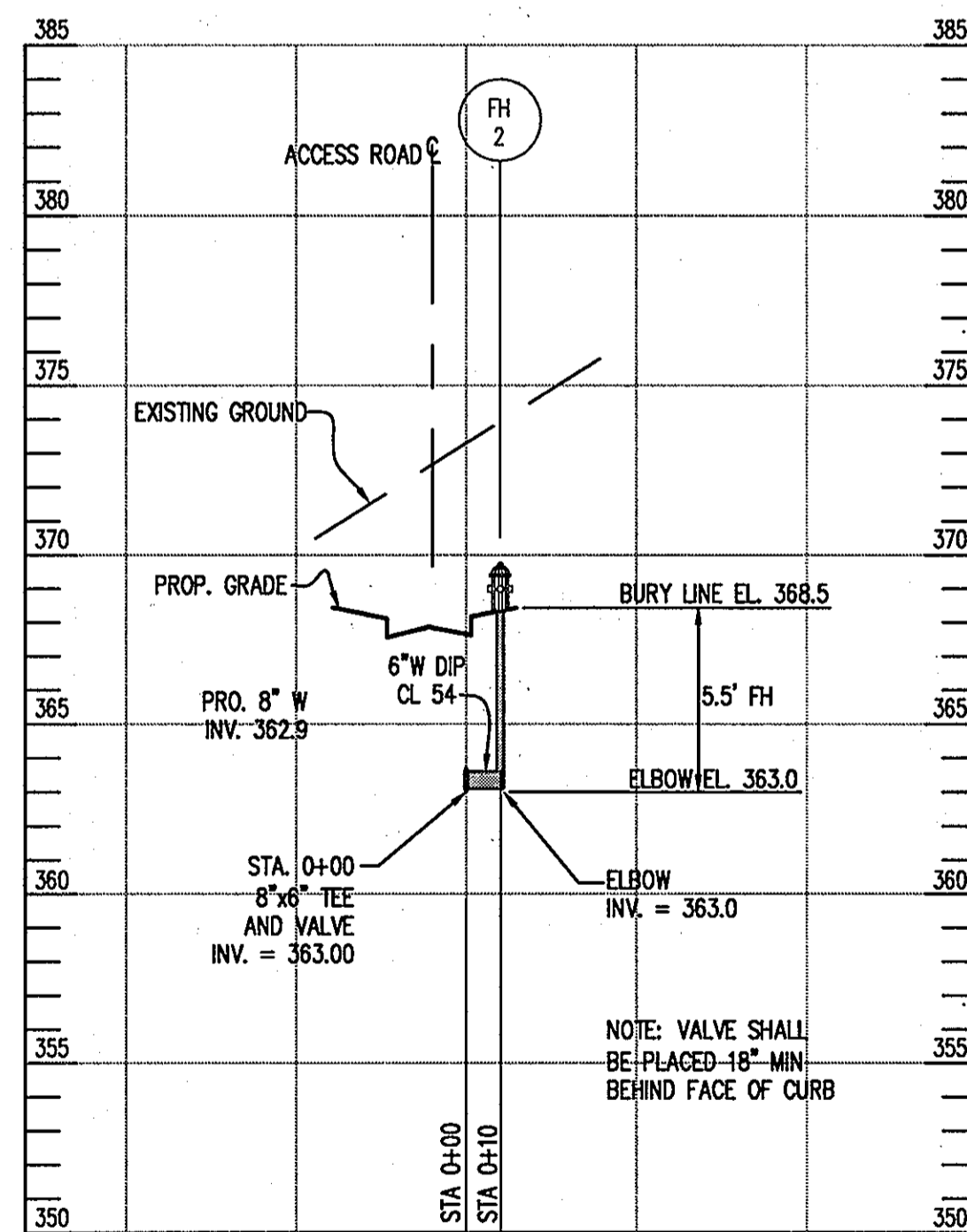
PUBLIC WATERMAIN 'B' PROFILE
SCALE: HOR: 1"=50' VERT: 1"=5'



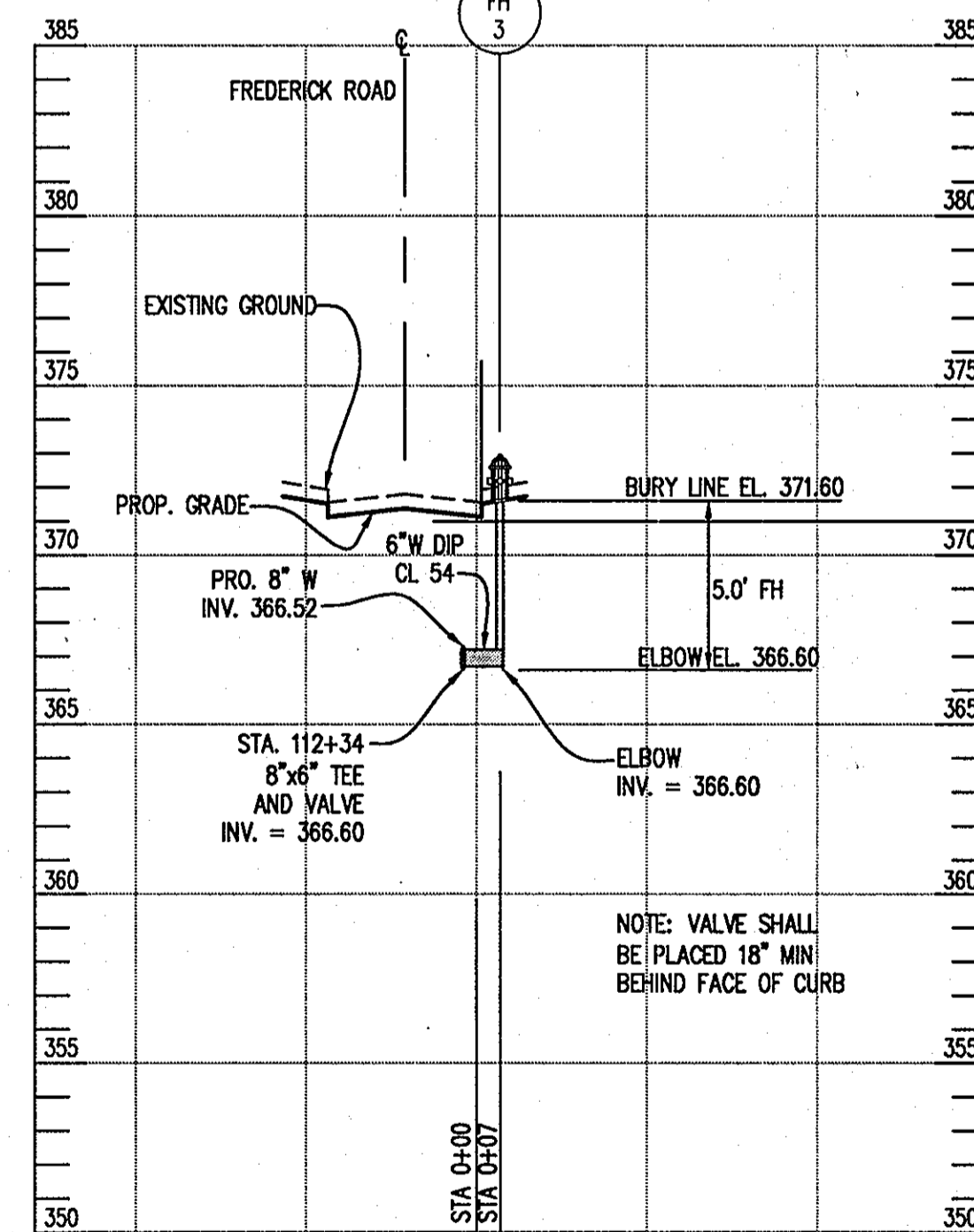
PUBLIC SEWER PROFILE
SCALE: HOR: 1"=50' - VERT: 1"=5'



PUBLIC FIRE HYDRANT NO. 1 PROFILE
SCALE: HOR: 1"=50' VERT: 1"=5'



PUBLIC FIRE HYDRANT NO. 2 PROFILE
SCALE: HOR: 1"=50' VERT: 1"=5'



PUBLIC FIRE HYDRANT NO. 3 PROFILE
SCALE: HOR: 1"=50' VERT: 1"=5'

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16596. EXPIRATION DATE: 6-3-2016.



DES: JWC/RJ

DRN: AW/RJ

CHK: JWC

DATE: 10/14/09

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

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JOHN W. CLAPSADDE # 16596

DATE: 10/14/09

BY NO. REVISION DATE

PROFILES OF WATER MAINS

CHARLES E MILLER BRANCH AND HISTORICAL CENTER
TAX MAP 24 PARCEL 1090, 1189 ZONING: R-20
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT NO. 44-4629-D

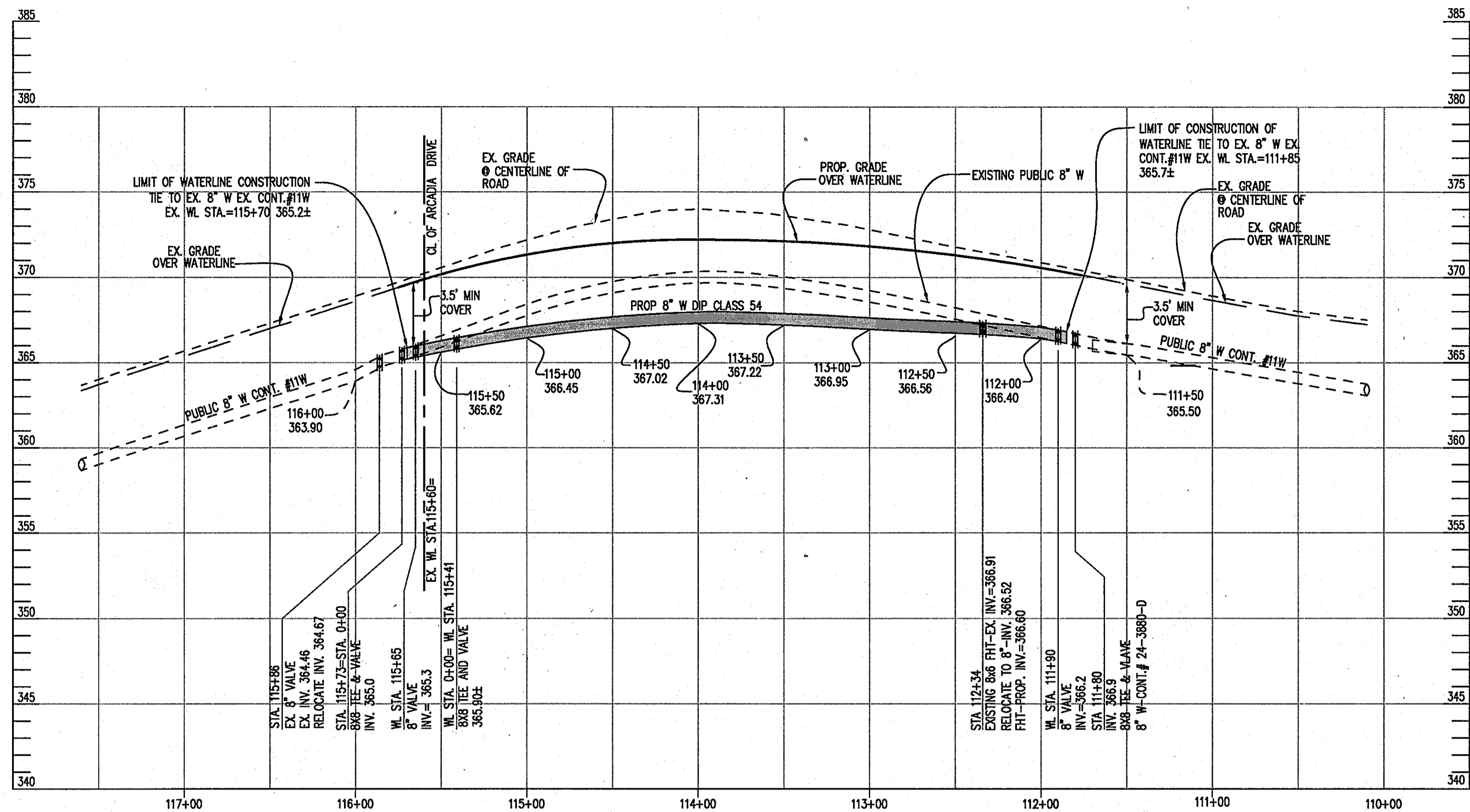
SCALE

AS SHOWN

SHEET

3 OF 4

600' SCALE MAP NO. 24 BLOCK NO. 10



PROFILE 'C'
RELOCATION OF PUBLIC WATERLINE
PROFILE - FREDERICK ROAD

HOR: 1"=50'
 VERT: 1"=5'

PIPE DIAMETER INCH	THRUST BLOCK DIMENSIONS			THRUST BLOCK REINF.
	T	H	L	
4 AND 6	1'-2"	2'-6"	3'-6"	#50 12" c/c E.W.+4#5 ADD'L REINF.
8	1'-2"	3'-0"	4'-0"	#50 12" c/c E.W.+4#5 ADD'L REINF.
10	1'-4"	4'-0"	4'-0"	#50 12" c/c E.W.+4#5 ADD'L REINF.
12	1'-4"	5'-0"	5'-0"	#50 12" c/c E.W.+4#5 ADD'L REINF.
14	1'-4"	6'-0"	6'-0"	#50 10" c/c E.W.+4#5 ADD'L REINF.
16	1'-6"	6'-0"	8'-0"	#50 8" c/c E.W.+4#5 ADD'L REINF.
18	1'-6"	6'-0"	11'-0"	#50 6" c/c E.W.+4#5 ADD'L REINF.

SECTION A-A

CONCRETE THRUST BLOCK & REINFORCING

CONCRETE THRUST BLOCK & REINFORCING

EXISTING CL OR BL WATER PIPE

2" x 2" x 1/8" STL. & W/ 13/16" HOLES AND DOUBLE HEAVY HEX NUTS (TYPE)

3" CL MIN. OF CL MAX.

3/4" # 4 TIE RODS, EQUALLY SPACED AROUND PIPE. SEE DETAIL B/2/3 FOR STRAPPING DETAIL AND NUMBER OF TIE RODS.

* NOTE: 4 TIE RODS SHOWN ON ELEVATION VIEW FOR CLARITY ONLY.

NEW DUCTILE IRON MECHANICAL FITTING OR PIPE ONLY. USE M.J. SOLID SLEEVE FOR STRAPPING WHEN PUSH-ON JOINT FITTINGS AND PIPE ARE USED. SEE DETAIL D/A16 FOR MORE INFORMATION.

ADDITIONAL REINF. SEE TABLE

1/2" THICK NEOPRENE (60 DUROMETER)

THREADED COUPLING IF REQUIRED.

NOTES:

- ALL CONCRETE SHALL BE $f_c=4000$ PSI @ 28 DAYS. PIPELINE SHALL NOT BE PRESSURIZED UNTIL CONCRETE STRENGTH REACHES 4000 PSI. AND TRENCH HAS BEEN BACKFILLED.
- ALL REBARS SHALL BE ASTM A615 GRADE 60.
- STEEL PLATES SHALL BE ASTM A36.
- MAINTAIN 2" CLEAR BETWEEN ALL REBARS AND PIPE.
- COAT ALL EXPOSED STEEL WITH FIELD APPLIED COATING.
- TIE RODS SHALL BE PARALLEL TO AXIS OF PIPE.
- THE COUPLING, IF NECESSARY, SHALL BE STAR NATIONAL PRODUCTS SUPER STAR TIE COUPLING NO. SSI0.
- IF WORKING PLUS SURGE PRESSURES ARE HIGHER THAN 250 PSI, SPECIAL DESIGN IS REQUIRED.
- SPECIAL DESIGN IS REQUIRED FOR MAINS LARGER THAN 18 INCH.
- DEPTH OF FINISHED GRADE TO TOP OF PIPE ASSUMED TO BE EQUAL 4'-0". IF SHALLOWER, SPECIAL BLOCK DESIGN IS REQUIRED.
- ELEVATION OF GROUNDWATER TABLE ASSUMED TO BE BELOW BOTTOM OF BLOCK. IF GROUNDWATER IS ABOVE BOTTOM OF BLOCK, SPECIAL BLOCK DESIGN IS REQUIRED.
- SOFT OR ORGANIC SOIL CONDITIONS REQUIRE SPECIAL BLOCK DESIGN.
- REPLACE ALL DISTURBED SOIL BETWEEN NEW FITTING AND CONCRETE COLLAR WITH CRUSHED STONE COMPACTED AS STRUCTURAL FILL.

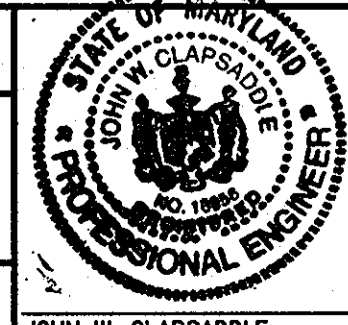
WASHINGTON SUBURBAN SANITARY COMMISSION

APPROVED: JULY 1, 2005

STANDARD DETAIL QUICK HARNESSSED CONNECTION TO THRUST BLOCKING FOR DUCTILE IRON OR CAST IRON PIPE

B/3.1

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 18956. EXPIRATION DATE: 6-3-2016.



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BY:	KCI
NO.:	1
REVISION:	AS-BUILT REVISIONS
DATE:	7/12/11

PROFILES OF WATER MAINS

60' SCALE MAP NO. 24 BLOCK NO. 10

CHARLES E MILLER BRANCH AND HISTORICAL CENTER

TAX MAP 24 PARCEL 1090, 1189 ZONING: R-20
 2ND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 CONTRACT NO. 44-4629-D

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

10/22/09

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

10/22/09

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SCALE
 AS SHOWN

SHEET
 4 OF 4