

ROBINSON OVERLOOK

MULTIFAMILY APARTMENTS

7410 GRACE DRIVE COLUMBIA, MD. 21045

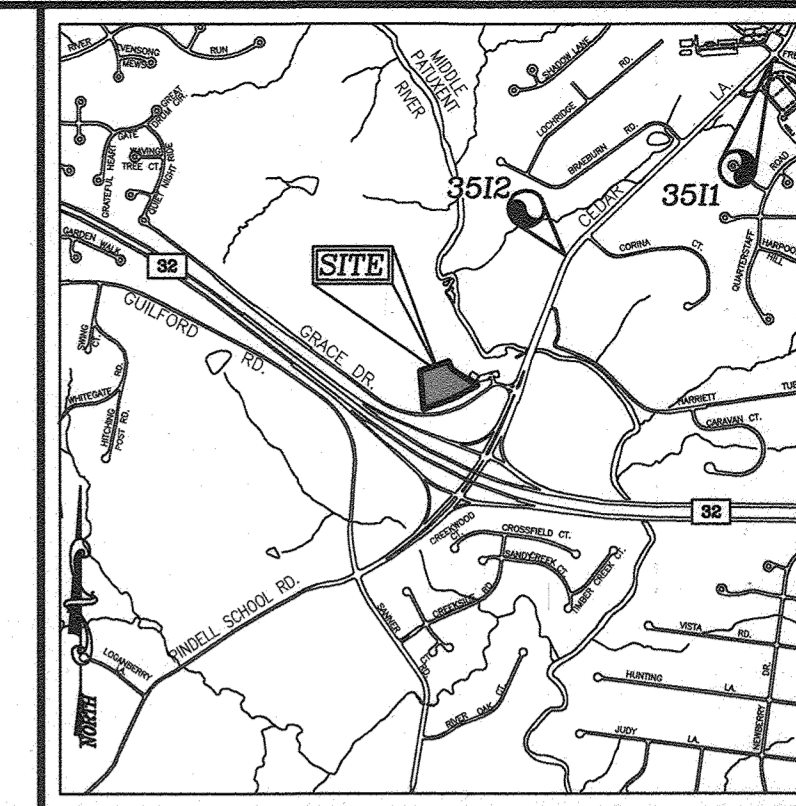
FINAL WATER PLAN

CONT.NO.-44-5087-D

BENCHMARKS

COORDINATES BASED ON NAD '83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 1361, 2422.

3511	N 557,110.367	E 1,344,893.647	ELEV. 400.088
3512	N 555,100.814	E 1,342,733.092	ELEV. 329.743



VICINITY MAP
SCALE: 1"=2000'

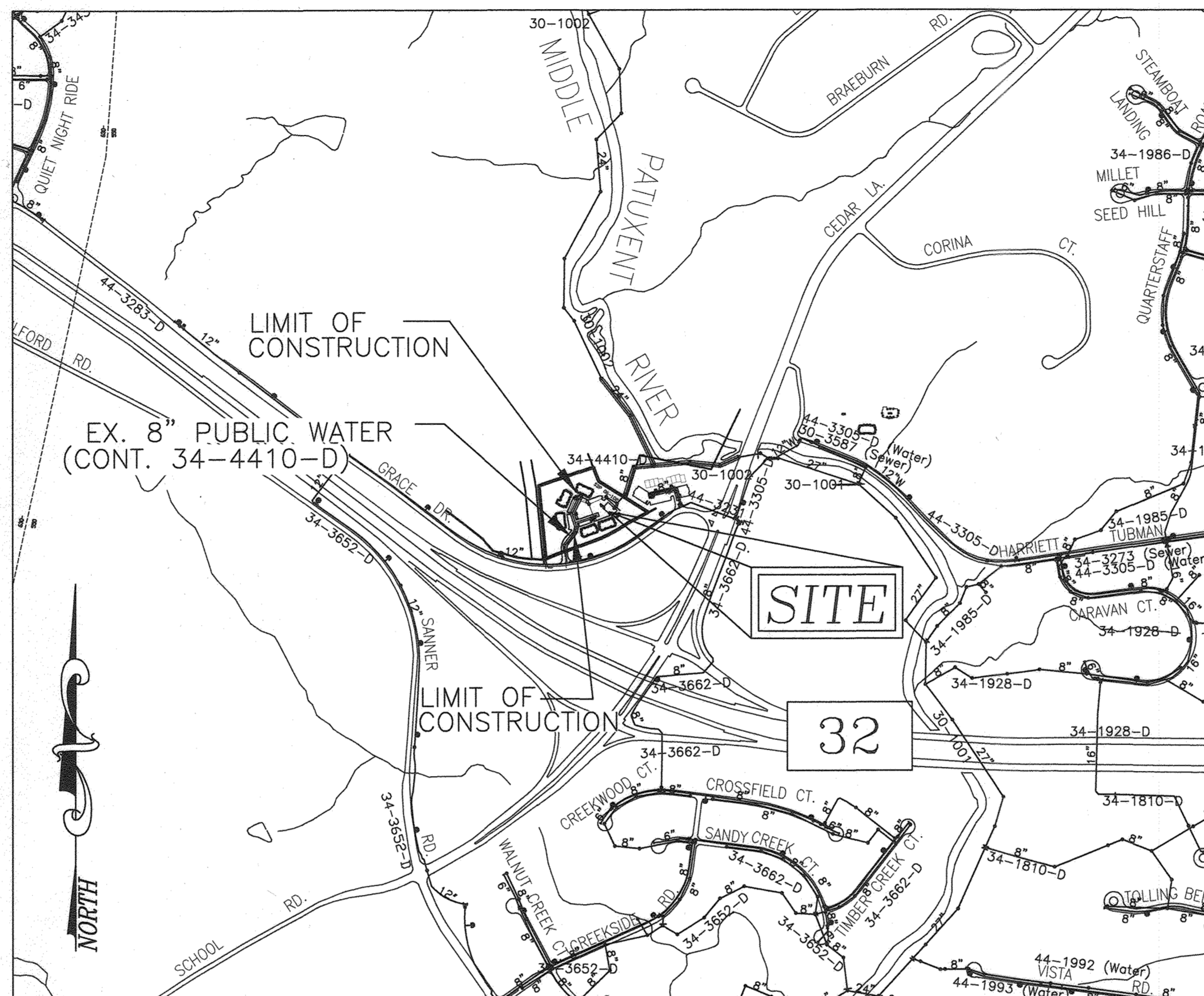
GENERAL NOTES

PART I

- 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.
- TOPOGRAPHY FIELD SURVEYS WERE PERFORMED ON MARCH 1998 BY POTOMAC AERIAL SURVEYS.
- 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 3511 AND 3512.
ALL VERTICAL CONTROLS ARE BASED ON NAVD' 88. VERTICAL CONTROLS PROVIDED ON DRAWINGS ARE:
GEODETIC SURVEY CONTROL 3511 (N 557110.405/E 1344893.679)
BRASS DISC SET ON TOP OF A CONCRETE MONUMENT, LOCATED AT BETWEEN FREETOWN RD AND GIANT PARKING LOT, E OF CEDAR LANE AND 41' SW OF CROSS BAT AND 4.3' N OF SIGN.
GEODETIC SURVEY CONTROL 3512 (N 555100.777/E 1342733.051)
BRASS DISC SET ON TOP OF A CONCRETE MONUMENT, LOCATED AT 10.6' W OF CEDAR LANE AND 31.6' N AND 21.8' S OF DRIVEWAYS WITHIN HOUSE 6618 AND 6636.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED.
- 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 DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR 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 OPERATION 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 (CONTRACTOR SERVICE) 410-637-8713
BGE (EMERGENCY) 410-685-0123
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
- 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 THE 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 SECTION CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(c) OF THE HOWARD COUNTY CODE.

PART II - WATER

- ALL WATER MAINS SHALL BE DR (DR-18) 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 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 SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE REST RECORDS RECEIVED.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.



LOCATION MAP
SCALE: 1"=600'

WATER CODE:	550
TEST PRESSURE:	215
TEST GRADIENT:	827

TYPE OF BUILDING :	RESIDENTIAL APARTMENT
NO. OF APARTMENT UNITS :	48
NO. OF LOTS/PARCELS :	1
NO. OF SINGLE WATER HOUSE CONNECTIONS :	5
NO. OF TWIN WATER HOUSE CONNECTIONS :	0
NO. OF SEWER HOUSE CONNECTIONS :	5
SEWER SHED :	N/A
TREATMENT PLANT :	N/A

LEGEND

EXISTING TREELINE	
PROPOSED TREELINE	
EXISTING WATER MAIN	
PROPOSED WATER MAIN	
FIRE HYDRANT	
PROPOSED VALVE	
PROPOSED TEE	
PROPOSED STORM DRAIN	
EXISTING STORM DRAIN	
EXISTING SEWER	
SEWER MANHOLE	
PRIVATE WATER HOUSE CONNECTION	
PRIVATE SEWER	
PROPOSED SIGN	
PROPOSED LIGHT	

QUANTITIES

NAME OF UTILITY CONTRACTOR : MAROCCO CONSTRUCTION			
SURVEY AND DRAFTING DIVISION AS-BUILT DATE :			
ITEMS	QUANTITIES ESTIMATED	AS-BUILT	
		QUANTITIES	TYPE MANUFACTURER/SUPPLIER
WATER (PVC C900, DR-18)			
8" WATER MAIN (PVC C900)	341 LF	328 LF	J.M. EAGLE
6" WATER MAIN (PVC C900)	34 LF	42 LF	J.M. EAGLE
4" WATER MAIN (PVC C900)	50 LF	46 LF	J.M. EAGLE
FIRE HYDRANT	2 EACH	3	KENNEDY
8" x 6" FIRE HYDRANT TEE AND VALVE	2 EACH	3	KENNEDY
8" 1/32" BEND	1 EACH	1	SIGMA CORPORATION
8" 1/16" BEND	2 EACH	1	SIGMA CORPORATION
8" 1/8" BEND	1 EACH	1	SIGMA CORPORATION
8" VALVE	2 EACH	2	KENNEDY
8"x8" TEE	1 EACH	1	SIGMA CORPORATION
8"x4" TEE	5 EACH	5	SIGMA CORPORATION
8" GATE VALVE	1 EACH	2	KENNEDY
4" GATE VALVE	5 EACH	5	KENNEDY
8" CAP AND BUTTRESS	2 EACH	2	SIGMA CORPORATION

APARTMENT UNIT DATA	
BUILDING #	UNITS
1	10
2	8
3	10
4	10
5	10

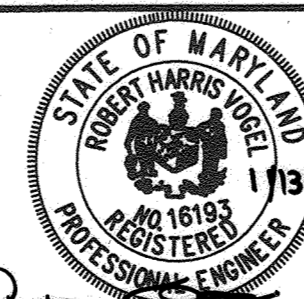
THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER SDP-19-055.

[Signature] 4/17/20
DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
TEL: 410.461.7665 FAX: 410.461.8951



PROFESSIONAL CERTIFICATE
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. 16193 EXPIRATION DATE: 09-27-2020

DRN: LRC DES: LRC
CHK: RHV
DATE: JULY 3, 2019

WRA	ADDED QUANTITIES	11/2020
BY	NO.	REVISION
DATE	DATE	DATE

FINAL WATER CONSTRUCTION PLAN
CONTRACT NO. 44-5087-D

600' SCALE MAP NO. 35

BLOCK NO. 22

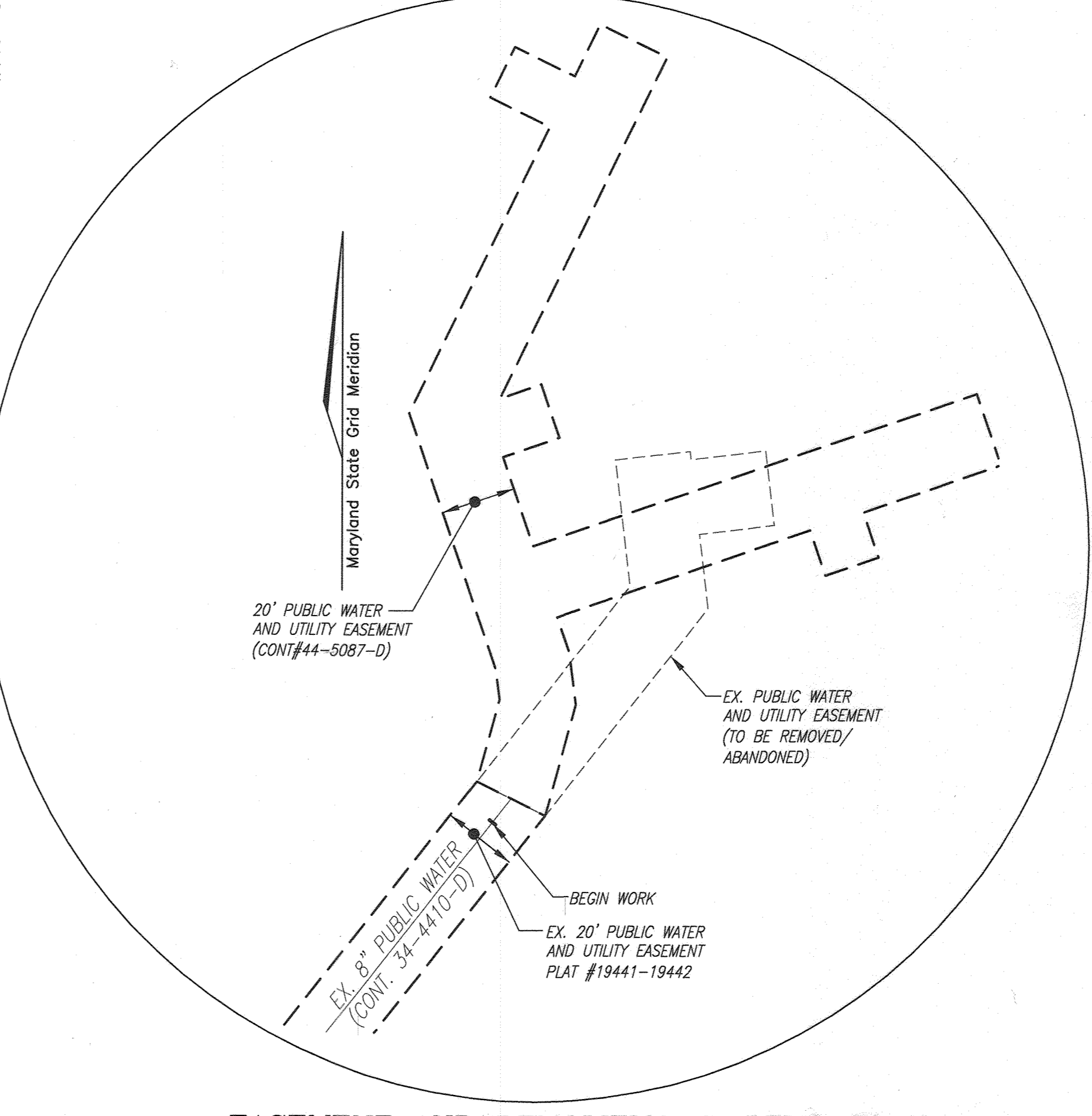
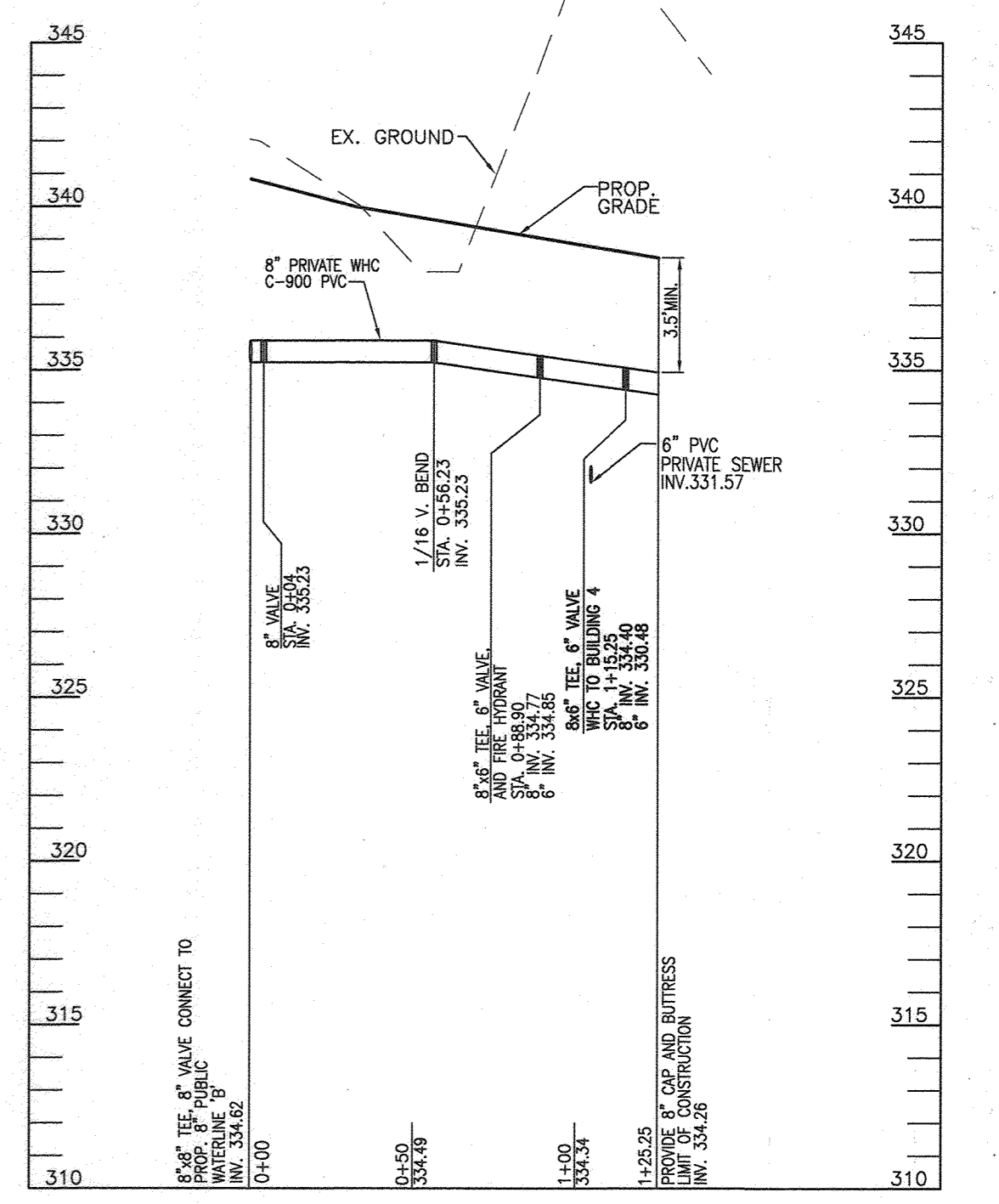
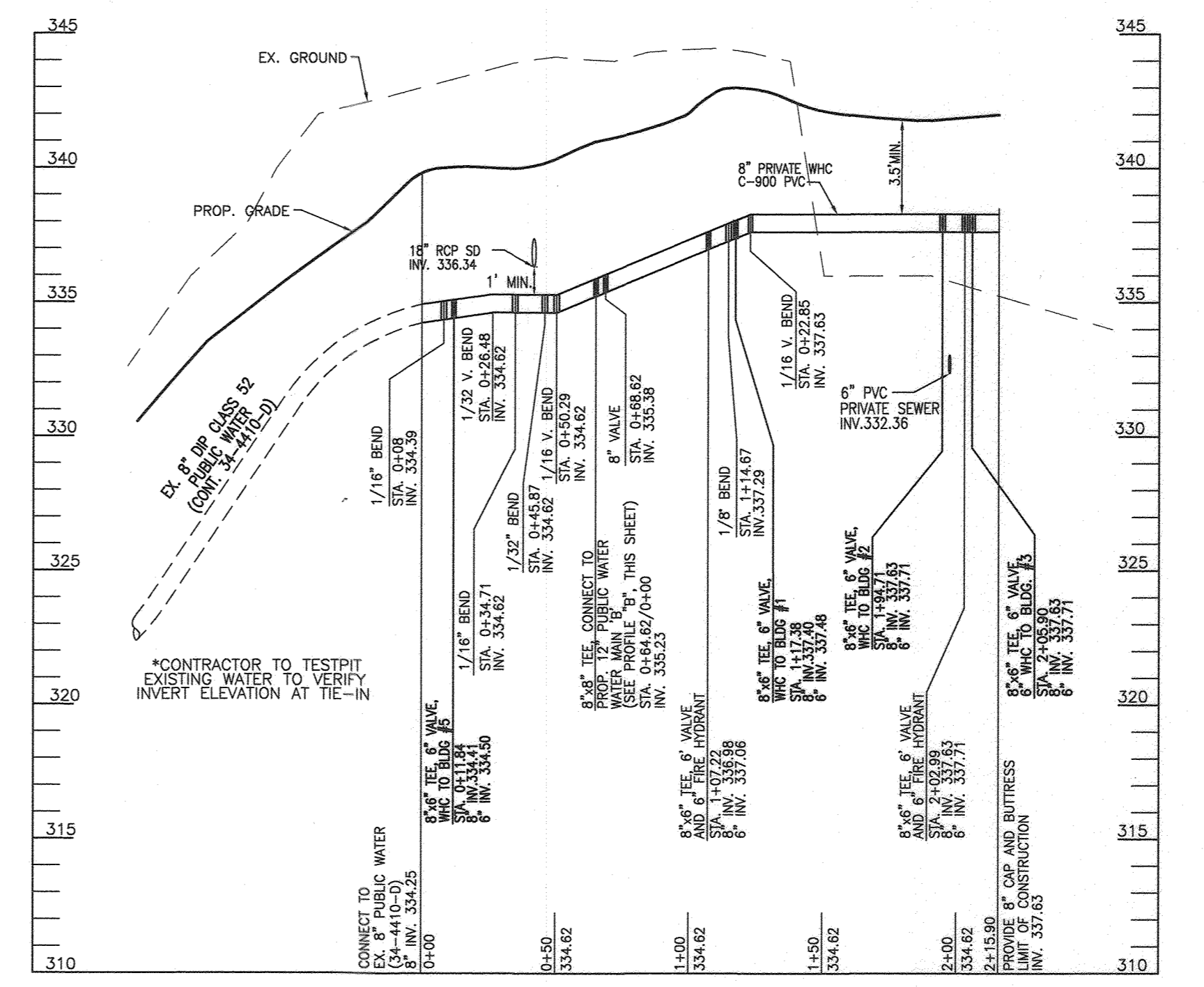
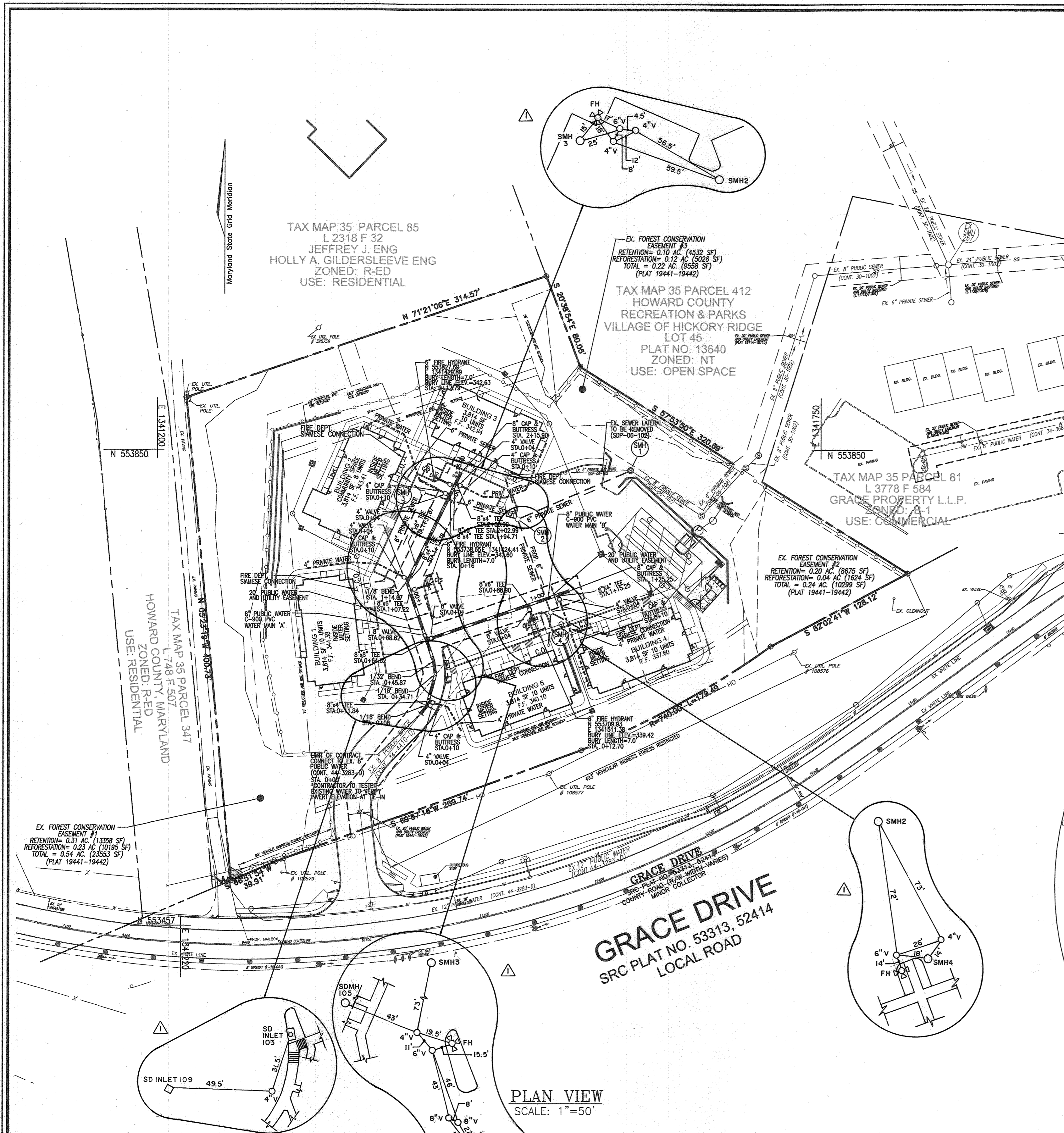
ROBINSON OVERLOOK
HOUSING COMMISSION HOUSING DEVELOPMENT
48 APARTMENTS
7410 GRACE DRIVE COLUMBIA, MD. 21045
ZONED: POR
L. 08684/F. 0005

TAX MAP 35 BLOCK 22
3RD ELECTION DISTRICT

PARCEL 86
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 2



WATER MAIN LOCATION CHART

WL STA.	APPURTENANCE	NORTHING	EASTING
PROFILE 'A'			
WL STA. 0+00	(CONNECT TO 8" WATER 34-4410-D)	553632.36	1341418.61
WL STA. 0+08	1/16" BEND	553638.65	1341423.56
WL STA. 0+11.84	8"X4" TEE, 4" VALVE	553642.35	1341424.58
WL STA. 0+34.71	1/16" BEND	553664.40	1341430.65
WL STA. 0+45.67	1/32" BEND	553675.46	1341429.21
WL STA. 0+64.62	8" TEE (WATER LINE B)	553693.21	1341423.14
WL STA. 0+68.62	8" VALVE	553696.99	1341421.85
WL STA. 1+07.22	8"X6" TEE, 6" VALVE, 6" FH	553733.51	1341409.37
WL STA. 1+14.67	1/8" BEND	553756.63	1341414.45
WL STA. 1+17.38	8"X4" TEE, 4" VALVE	553743.00	1341408.16
WL STA. 1+94.71	8"X4" TEE, 4" VALVE	553812.42	1341442.23
WL STA. 2+02.99	8"X6" TEE, 6" VALVE, 6" FH	553819.85	1341445.87
WL STA. 2+05.90	8"X4" TEE, 4" VALVE	553822.47	1341447.16
WL STA. 2+15.90	8" CAP AND BUTTRISS	553831.45	1341451.56
PROFILE 'B'			
WL STA. 0+00	8"X8" TAPPING SLEEVE	553693.21	1341423.14
WL STA. 0+04.00	8" VALVE	553694.50	1341426.93
WL STA. 0+88.90	8"X6" TEE, 6" VALVE, 6" FH	553721.95	1341507.27
WL STA. 1+15.25	8"X4" TEE, 4" VALVE	553730.47	1341532.21
WL STA. 1+25.25	8" CAP AND BUTTRISS	553733.70	1341541.67

THIS DEVELOPMENT IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 1/17/20
SOIL CONSERVATION DISTRICT DATE

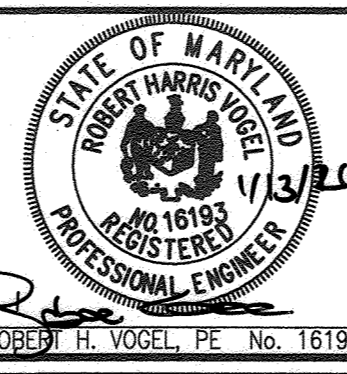
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 1-16-2020
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 1-21-20
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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WRA	BY	NO.	REVISION	DATE
▲			VALVE LOCATION DETAILS	11/2020

FINAL WATER CONSTRUCTION PLAN
CONTRACT NO. 44-5087-D

600' SCALE MAP NO. 35 BLOCK NO. 22

ROBINSON OVERLOOK
HOUSING COMMISSION HOUSING DEVELOPMENT
48 APARTMENTS
7410 GRACE DRIVE COLUMBIA, MD. 21045
ZONED: POR
L. 08684/F. 0005

TAX MAP 35 BLOCK 22 PARCEL 86
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 2