QUANTITIES

ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
8"S; PVC; SDR-35	497 L.F.	510 L.F.	PVC	North American Pipe
4"S; PVC; SDR-35	510 L.F.	520 L.F.	PVC	North American Pipe
CLEAN-OUTS	30 EACH	30 EA.	CONCRETE	Brown Precast
MANHOLE	4 EACH	4 EA.	Precast Concrete	Brown Precast
8"W; C900 PVC DR-18	521 L.F.	520 L.F.	PVC	North American Pipe
6"W; C900 PVC DR-18	92 L.F.	91 L.F.	PVC	North American Pipe
1-1/2" WHC	306 L.F.	480 L.F.	Type "K" Copper	Cambridge-Lee
12"X8" TAPPING SLEEVE	1 EACH	1 EA.	Stainless Steel	Ford Meter Box
12"X8" TAPPING SLEEVE	2 EACH	2 EA.	Stainless Steel	Ford Meter Box
8"X6" F.H. TEE	2 EACH	2 EA.	Epoxy Coated	Tyler Union
8" TAPPING VALVE	1 EACH	1 EA.	Series 4500	American Flow
6" TAPPING VALVE	2 EACH	2 EA.	Series 2500	American Flow
8" VALVE	1 EACH	1 EA.	Series 2500	American Flow
6" VALVE	2 EACH	2 EA.	Series 2500	American Flow
1/8 H.B.	2 EACH	2 EA.	Epoxy Coated	Tyler Union
8" PLUG & BUTTRESS	1 EACH	1 EA.	Stainless Steel	GPK
FIRE HYDRANT	4 EACH	4 EA.	—	American Darling
CONTINUITY TEST STATION	4 EACH	4 EA.	Water/Community	Vestal
SINGLE OUTSIDE METER SETTING	6 EACH	6 EA.	Single Meter	A.Y. McDonald
TWIN OUTSIDE METER SETTING	12 EACH	12 EA.	Twin Meter	A.Y. McDonald
NAME OF UTILITY CONTRACTOR: (UTILITIES UNLIMITED)				
SURVEY & DRAFTING DIVISION AS-BUILT DATE:				

BENCHMARK INFORMATION

B.M.#1 – HOWARD COUNTY CONTROL STATION #10A – HORIZONTAL – NAD '83)
(LOCATED ALONG THE SOUTH SIDE OF ROUTE 99, NEAR THE INTERSECTION OF WOODSTOCK ROAD. APPROX. 4.9' OFF THE EDGE OF PAVING, ROUGHLY 36.4' EAST OF C&P #142)
N 600,995.133
E 1,345,340.393
ELEVATION = 441.902 – VERTICAL – (NAVD '88)

B.M.#2 – HOWARD COUNTY CONTROL STATION #17AB – HORIZONTAL – (NAD '83)
(LOCATED NEAR THE INTERSECTION OF ROUTE 99 AND WETHERBURN ROAD. APPROX. 9.3' OFF THE EDGE OF PAVING ON THE SOUTH SIDE OF ROUTE 99 AND ALONG THE EAST SIDE OF WETHERBURN ROAD, APPROX. 14.8' WEST OF WOOD FENCE)
N 598,435.302
E 1,348,615.301
ELEVATION = 508.401 – VERTICAL – (NAVD '88)

PRIVATE WELL & PRIVATE SEPTIC SYSTEM CHART

PARCEL NO.	ADDRESS	OWNER	ABANDON WELL	ABANDON SEPTIC
0025	10501 MD ROUTE 99	KENNARD WARFIELD	YES	YES

NOTE: WATER METERS WILL NOT BE RELEASED BY HOWARD COUNTY TO ANY NEW BUILDING UNTIL THE EXISTING WELL AND SEPTIC SYSTEM HAVE BEEN ABANDONED IN ACCORDANCE WITH HOWARD COUNTY HEALTH DEPARTMENT REGULATIONS.

DEVELOPER'S CERTIFICATION

" I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

Paul W. Kriebel; FOR: WARFIELD'S WOODS LLC — 04/05/17
SIGNATURE OF DEVELOPER — DATE

ENGINEER'S CERTIFICATION

" I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Paul W. Kriebel — 04-05-17
SIGNATURE OF ENGINEER — DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE HOWARD COUNTY DESIGN MANUAL – VOLUME IV: STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND AS SHOWN ON THE FINAL PLANS, F-16-101.

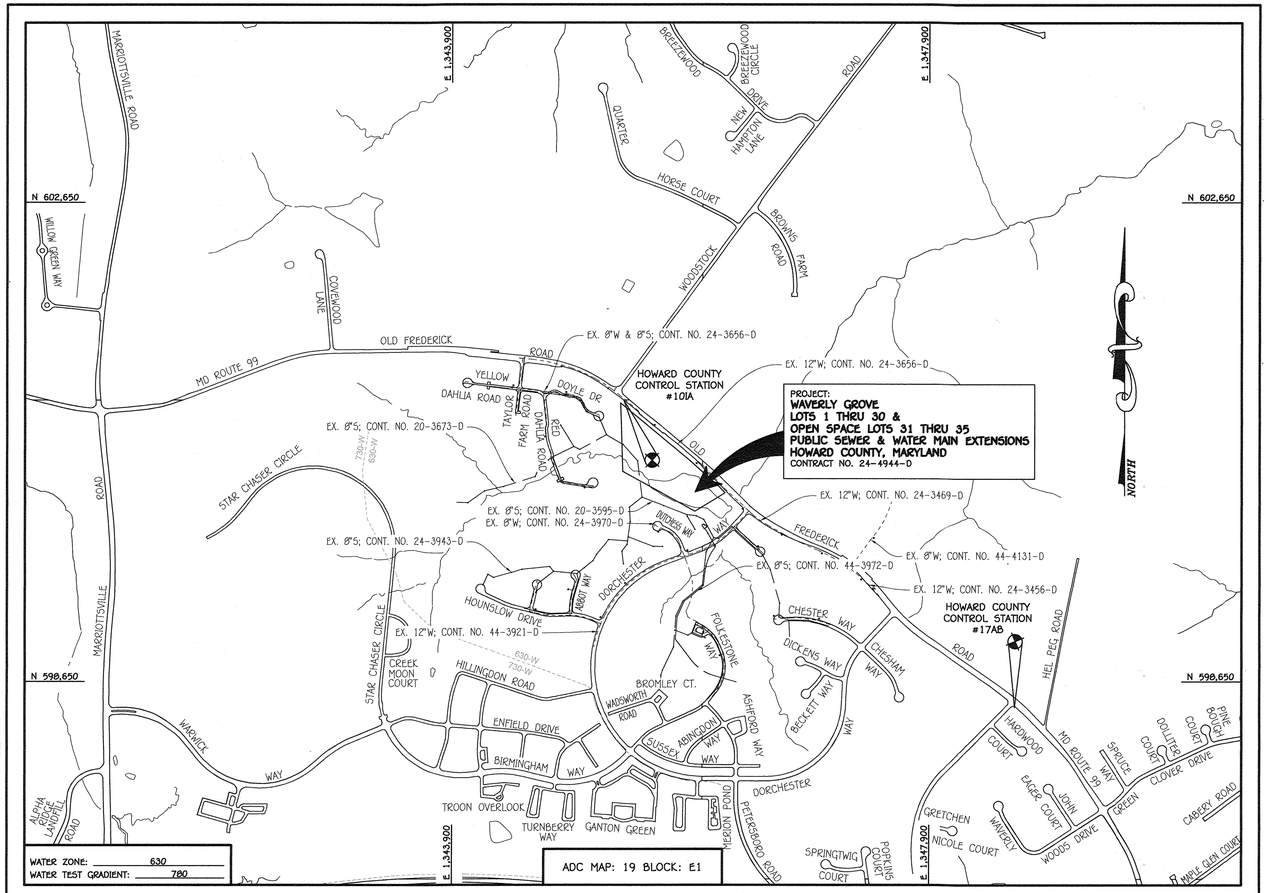
Paul W. Kriebel; FOR: WARFIELD'S WOODS LLC — _____
SIGNATURE OF DEVELOPER — DATE

F-16-101

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

APPROVED: _____ 5/8/17
HOWARD SOIL CONSERVATION DISTRICT — DATE

LEGEND	
SYMBOL	DESCRIPTION
- - - - - - -	EX. WATER MAIN
———	EX. SEWER MAIN
○	EX. SEWER MANHOLE
———	EX. SEWER, WATER & UTILITY EASEMENT
25	EX. FIRE HYDRANT
◇	EX. VALVE
———	PROP. WATER MAIN
———	PROP. SEWER MAIN
●	PROP. SEWER MANHOLE
———	PROP. SEWER, WATER & UTILITY EASEMENT
- - - - - - -	PROP. WHC
———	PROP. SHC
	PROP. FIRE HYDRANT
◇	PROP. VALVE



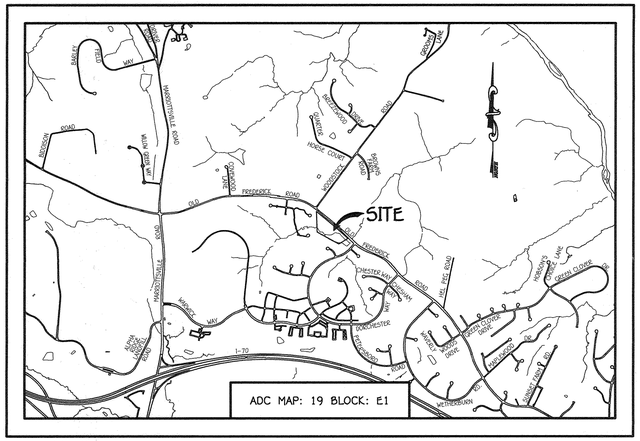
WATER ZONE: 630
WATER TEST GRADIENT: 780

LOCATION MAP

SCALE: 1" = 600'

TYPE OF BUILDING:	RESIDENTIAL: SINGLE FAMILY ATTACHED
NUMBER OF LOTS:	30
NO. OF WATER HOUSE CONNECTIONS:	30
NO. OF SEWER HOUSE CONNECTIONS:	30
SEWER SHED:	LITTLE PATUXENT
TREATMENT PLANT:	LITTLE PATUXENT WATER RECLAMATION PLANT SAVAGE, MARYLAND

PLAN REFERENCE NUMBERS:
F-16-101 (RECORD PLAT)
SDP-17-



VICINITY MAP

SCALE: 1" = 2000'

GENERAL NOTES

PART A
1. 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.
2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT MAY, 2015 BY FISHER, COLLINS & CARTER, INC.
3. 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. 10A & NO. 17AB.
ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS.
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
5. 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 BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF THE 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.
6. 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 SITE.
7. 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.
8. 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 SERVICES)	410-637-8713
BGE (EMERGENCY)	410-685-0123
BUREAU OF UTILITIES	410-313-1920
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

9 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.
10. 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.
11. 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.

PART B: WATER MAIN GENERAL NOTES
1. ALL WATER MAINS SHALL BE AWWA C900 PVC; DR-18.
2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
5. 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.
6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
7. TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL.
8. 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 TEST RECORDS RECEIVED.
9. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SEVENTEEN (17) POUND 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. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. 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.
10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF PVC PIPE.
11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION(HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20 FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.

PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL OF 3-DEGREES (1 ½-DEGREE ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL.

FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR-18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (PPEX) BLUE BRUTE DR-18 OR EQUAL.

12. WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C900 PVC PIPELINES, THE CONTRACTOR SHALL INSERT DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5-DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.
13. TO ACCOMMODATE A SPRINKLER SYSTEM, ALL RESIDENTIAL DWELLING UNITS SHALL HAVE A 1-1/2" WATER HOUSE CONNECTION WITH A 1" OUTSIDE METER SETTING; STD. DET. W-3.28.

PART C: SEWER MAIN GENERAL NOTES
1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
2. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
3. FORCE MAINS SHALL BE D.I.P. ONLY.
4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
6. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

CONTRACT NO. 24-4944-D
WAVERLY GROVE
LOTS 1 THRU 30 &
OPEN SPACE LOTS 31 THRU 35
PUBLIC SEWER & WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

OWNER / DEVELOPER
WARFIELD'S WOODS LLC
14451 TRIADELPHIA ROAD
PO BOX 30
GLENELG, MARYLAND 21737
410-442-2337
C/O KENNARD WARFIELD JR

0' 50' 100' 200'
SCALE: 1" = 50'

CONTRACT NO. 24-4944-D
WAVERLY GROVE
LOTS 1 THRU 30 &
OPEN SPACE LOTS 31 THRU 35
PUBLIC SEWER & WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — 4/19/17 — DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION MG. — 5.15.17 — DATE

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. 12043 EXPIRATION DATE IS 7/16/18.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

#12043 STATE OF MARYLAND PAUL WALTER KRIEBEL PROFESSIONAL ENGINEER
PAUL W. KRIEBEL

DESIGNED BY :	B.C.R.
DRAWN BY :	B.C.R.
CHECKED BY :	P.W.K.
DATE :	APRIL, 2017

BY	NO.	REVISION	DATE

SEWER & WATER MAIN EXTENSIONS
TITLE SHEET

600' SCALE MAP NO. 16 BLOCK NO. 6
F.C.C. WORK ORDER NO. 04017-6001
FILE NAME : SEWER & WATER MAIN EXTENSION PLAN

WAVERLY GROVE
LOTS 1 THRU 30 &
OPEN SPACE LOTS 31 THRU 35
PUBLIC SEWER & WATER MAIN EXTENSIONS
CONTRACT NO. 24-4944-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 3

I:\2004\04017\dwg\04017-6001\Sewer & Water Contract No. 24-4944-D\Finals\04017-6001 Sewer and Water Contract Plan.dwg

RETAINING WALL WAIVER REFERENCE NOTE

BY LETTER DATED FEBRUARY 27, 2017, MR. THOMAS BUTLER, DEPUTY DIRECTOR, DEPARTMENT OF PUBLIC WORKS, APPROVED A WAIVER ALLOWING THE CONSTRUCTION OF A RETAINING WALL, THE FOOTER OF WHICH PROTRUDES A MAXIMUM OF NINE (9) FEET INTO THE 10' STRUCTURE SETBACK FROM THE PUBLIC SEWER & UTILITY EASEMENT AT SEWER MAIN STATION 0+30±, MH 405-MH410

OLD FREDERICK ROAD; MD ROUTE 99
(ULTIMATE 100' PUBLIC ROAD RIGHT-OF-WAY)

WOODSTOCK ROAD
(EX. 30' PUBLIC ROAD RIGHT-OF-WAY)

TO LISBON

TO ELLICOTT CITY

OLD FREDERICK ROAD; MD ROUTE 99
(ULTIMATE 100' PUBLIC ROAD RIGHT-OF-WAY)

8" PVC WATER
6" VALVE
TEST STA. 0+00
25'
21'
2'

12" DIP WATER
12" x 6" TAPPING SLEEVE
6" VALVE
I-5
35'
36'
25'

FIRE HYDRANT
OLD FREDERICK ROAD
BURY ELEV. = 425.91
6.5 V.F.
SET FH 3' BEHIND
EDGE OF SIDEWALK

EX. FIRE HYDRANT SHALL BE REMOVED & RETURNED TO THE BUREAU OF UTILITIES & A BLIND FLANGE INSERTED ON THE VALVE

PARCEL 316
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
TAX MAP 10

12" DIP WATER
6" x 12" TAPPING SLEEVE
6" VALVE
I-10
44'
45'

FIRE HYDRANT
OLD FREDERICK ROAD
BURY ELEV. = 403.18
5.5 V.F.
SET FH 3' BEHIND
EDGE OF SIDEWALK

N 600,500
E 1,345,100

NORTH

FIRE HYDRANT & CONTINUITY TEST STATION

CONNECT TO EX. 12"W w/12"X8" TAPPING SLEEVE & 8" TAPPING VALVE

TEST PIT #1; TOP OF WATER MAIN ELEV. = 419.50

CONNECT TO EX. 12"W w/12"X8" TAPPING SLEEVE & 8" TAPPING VALVE

TEST PIT #2; TOP OF WATER MAIN ELEV. = 404.00

CONNECT TO EX. 12"W w/12"X8" TAPPING SLEEVE

8" TAPPING VALVE

20' PUBLIC WATER & UTILITY EASEMENT

PUBLIC WATER & UTILITY EASEMENT

EX. FIRE HYDRANT SHALL BE REMOVED & RETURNED TO THE BUREAU OF UTILITIES & A BLIND FLANGE INSERTED ON THE VALVE

EX. 12"W; CONT. NO. 24-3656-D

EX. FIRE HYDRANT

EX. GAS MAIN

EX. ELECTRIC

EX. PAVING

EX. 12"W; CONT. NO. 24-3469-D

OPEN SPACE LOT 32
MY GIRL PLACE
(PRIVATE ACCESS PLACE)

RETAINING WALL

MH 410

OPEN SPACE LOT 31

8" PLUG & BUTTRESS

8"W

34' PUBLIC SEWER, WATER & UTILITY EASEMENT

6" VALVE

FIRE HYDRANT & CONTINUITY TEST STATION

LOT 15 LOT 14 LOT 13 LOT 12 LOT 11 LOT 10 LOT 9 LOT 8 LOT 7 LOT 6 LOT 5 LOT 4 LOT 3 LOT 2 LOT 1

LOT 16 LOT 17 LOT 18 LOT 19 LOT 20 LOT 21 LOT 22 LOT 23 LOT 24 LOT 25 LOT 26 LOT 27 LOT 28 LOT 29 LOT 30

8"W C900 DR-18 PVC

8"S PVC SDR-35

OPEN SPACE LOT 33

OPEN SPACE LOT 34

OPEN SPACE LOT 35

LOT 25 TAYLOR FARM SECTION ONE

LOT 23 TAYLOR FARM SECTION ONE

LOT 22 TAYLOR FARM SECTION ONE

LOT 21 TAYLOR FARM SECTION ONE

LOT 20 TAYLOR FARM SECTION ONE

LOT 19 TAYLOR FARM SECTION ONE

EX. DWELLING

DOYLE DRIVE

EX. 8"W; CONT. NO 24-3656-D

EX. 8"S; CONT. NO 24-3656-D

EX. 8"S; CONT. NO. 20-3995-D

20' PUBLIC SEWER & UTILITY EASEMENT

EX. 20' PUBLIC SEWER & UTILITY EASEMENT

EX. MH 5

EX. MH 4

EX. MH 3

EX. MH 2

EX. MH 415

RETAINING WALL
SEE NOTE THIS SHEET (ABOVE)

RETAINING WALL

OPEN SPACE LOT 32

75' STREAM BUFFER

25' WETLAND BUFFER

EX. MH 1017

BUILD MH OVER & CONNECT TO EX. 8"S; STD. DET. G-5.14 MH 405

EX. 8"S; CONT. NO. 24-3693-D

EX. 20' PUBLIC SEWER & UTILITY EASEMENT

NON-BUILDABLE BULK PARCEL 'A' TAYLOR FARM SECTION ONE

FIRE HYDRANT
MY GIRL PLACE
WM STA. 5+10.18
BURY ELEV. = 420.62
5.0 V.F.
SET FH 3' BEHIND
BACK OF CURB

EX. 8"S; CONT. NO 24-3743-D

EX. 8"S; CONT. NO 24-3715-D

EX. 8"S; CONT. NO 24-4241-D

RED DAHLIA WAY

N 600,500
E 1,344,900

EX. MH 19
EX. MH 14
EX. MH 13
EX. MH 16
EX. MH 18
EX. MH 101
EX. MH 100

TEST STATION
3'
17'
16'
5" PVC WATER
6" VALVE

FIRE HYDRANT
MY GIRL PLACE
WM STA. 0+82.20
BURY ELEV. = 409.40
5.0 V.F.
SET FH 2' BEHIND
BACK OF SIDEWALK

34' PUBLIC SEWER, WATER & UTILITY EASEMENT

OPEN SPACE LOT 32

RETAINING WALL

75' STREAM BUFFER

EX. STORMWATER MANAGEMENT POND

MH 420

GTW'S WAVERLY WOODS
OPEN SPACE LOT 21
SECTION 4, AREA 2

DORCHESTER WAY
(EX. 60' PUBLIC ROAD RIGHT-OF-WAY)

EX. 8"S; CONT. NO. 24-3695-D

EX. MH 301

E 1,346,100
N 600,000

EX. 8"S; CONT. NO. 24-3493-D

EX. MH 151
EX. MH 150
EX. MH 100
EX. MH 101
EX. MH 300

GTW'S WAVERLY WOODS
OPEN SPACE LOT 20
SECTION 4, AREA 2

WAVERLY WASTEWATER PUMPING STATION

EX. 20' PUBLIC SEWER & UTILITY EASEMENT

EX. MH 1000
EX. MH 1001
EX. MH 1002
EX. MH 1003
EX. MH 1004
EX. MH 4000
EX. MH 4001
EX. MH 4002
EX. MH 4003

LOT 102 LOT 103 LOT 104 LOT 105 LOT 106

LOT 101 LOT 100 LOT 98 LOT 99

DUTCHESS WAY
(EX. 50' PUBLIC ROAD RIGHT-OF-WAY)

EX. FIRE HYDRANT

EX. 12"W; CONT. NO. 24-3469-D

EX. 8"W; CONT. NO. 24-3566-D

EX. MH 102

0' 50' 100' 200'
SCALE: 1" = 50'

NOTE: THIS ORIGINAL CONSTRUCTION PLAN, SHEET 2 OF 3 SUPERSEDES THE SEWER AND WATER MAIN CONSTRUCTION PLAN PREVIOUSLY APPROVED AND SIGNED BY THE DEPARTMENT OF PLANNING AND ZONING ON MAY 15, 2017.

PLAN
SCALE: 1" = 50'

CONTRACT NO. 24-4944-D
WAVERLY GROVE
LOTS 1 THRU 30 &
OPEN SPACE LOTS 31 THRU 35
PUBLIC SEWER & WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE 8-13-2020

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/26/20

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. 12043 EXPIRATION DATE IS 7/16/22.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

#12043
STATE OF MARYLAND
PAUL WALTER KRUSSEL
PROFESSIONAL ENGINEER
Paul W. Krussel
PAUL W. KRUSSEL

Checked

DESIGNED BY :	D.T.A.
DRAWN BY :	D.T.A
CHECKED BY :	P.W.K.
DATE :	AUGUST, 2020

BY	NO.	REVISION	DATE
	1	REPLACEMENT SHEET: REVISE SITE FRONTAGE ALONG MD ROUTE 99 & REVISE FIRE HYDRANT LOCATION	8/6/2020

SEWER & WATER MAIN EXTENSIONS PLAN

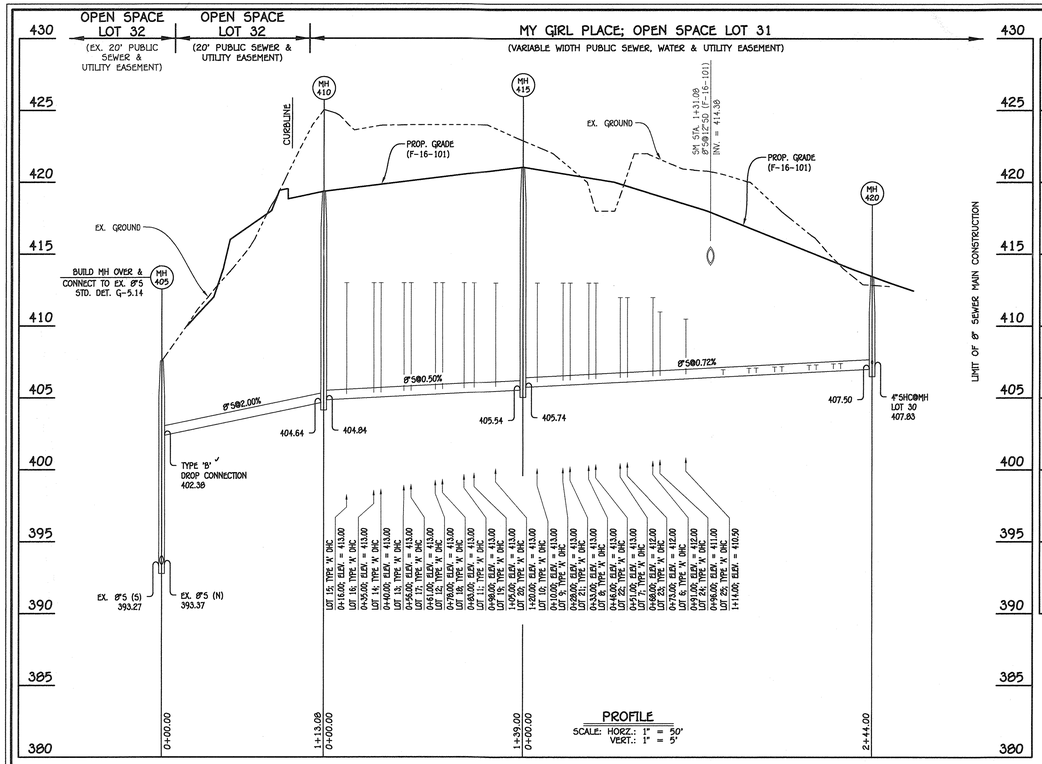
600' SCALE MAP NO. 16 BLOCK NO. 6
F.C.C. WORK ORDER NO. 04017-6001
FILE NAME : SEWER & WATER MAIN EXTENSION PLAN

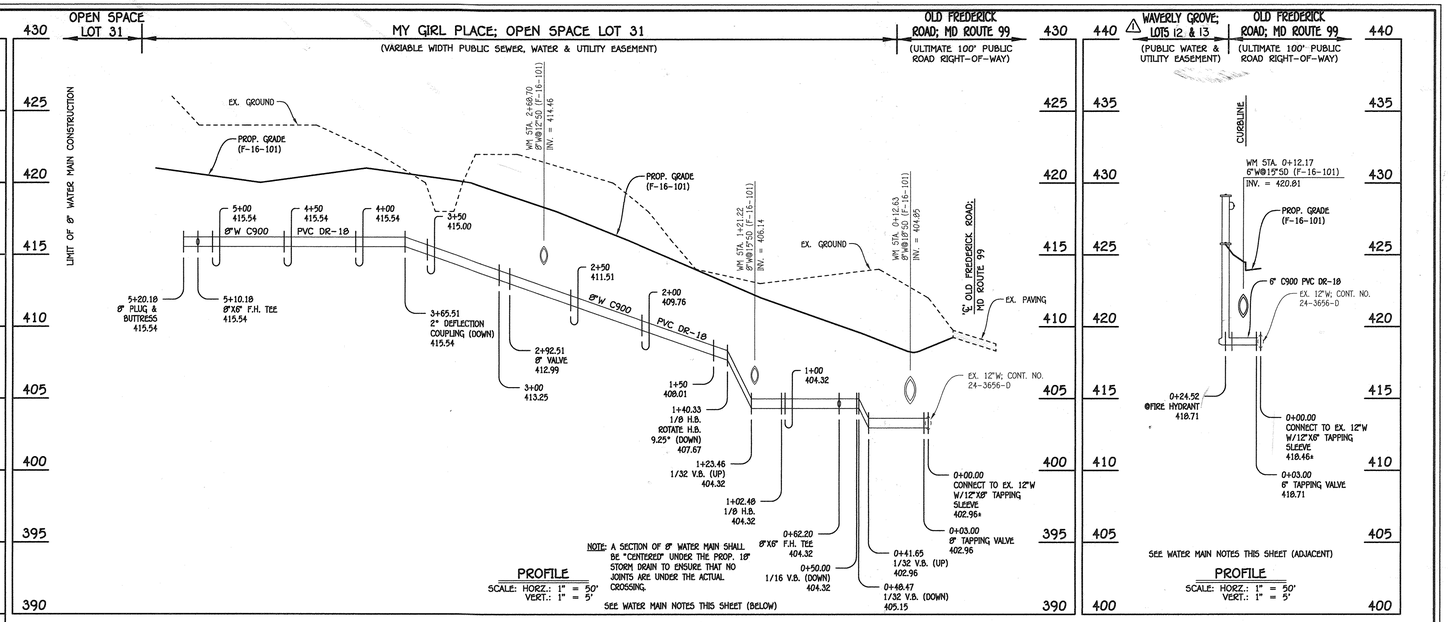
WAVERLY GROVE
LOTS 1 THRU 30 &
OPEN SPACE LOTS 31 THRU 35
PUBLIC SEWER & WATER MAIN EXTENSIONS
CONTRACT NO. 24-4944-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 3

I:\2004\04017 Davy\04017 6001\Sewer & Water Contract No. 24-4944 D\Final\REDLINE-REPLACEMENT (03-15-20)\04017-6001 Sewer and Water Contract Plan (Sheet 2 Replacement).dwg, Plan Sheet 2





WATER MAIN NOTES:
1. ALL WATER MAINS SHALL BE AWWA C900 PVC PIPE; DR-18.
2. ALL PIPE BEDDING, TRACER WIRE, LOCATING TAPE AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV - WATER AND SEWER STANDARDS FOR AWWA C900 PVC WATER PIPE INSTALLATION.
3. DEFLECTION COUPLINGS SHALL BE CERTAIN-TEED PVC HIGH DEFLECTION COUPLINGS.
4. ALL WATER HOUSE CONNECTIONS AND TAPS SHALL BE PERFORMED USING A SADDLE.

8" SEWER MAIN; MY GIRL PLACE; LOTS 1 THRU 30

MANHOLE TABULATION CHART

NO.	NORTHING	EASTING	RIM ELEVATION
405	600651.85	1345341.64	407.56
410	600739.01	1345413.68	419.35
415	600650.45	1345520.82	421.04
420	600487.35	1345718.14	413.05

NOTE: SET MH RIMS FLUSH W/EXISTING GROUND OR PROPOSED GRADE AS APPLICABLE.

SEWER HOUSE CONNECTION CHART

STATION	LOT	ELEVATION AT MAIN	ELEVATION AT R/W	M.C.E.	SLAB
MH 410 TO MH 415					
0+16 LT.	15 (DHC)	413.00	413.44	417.64	420.43
0+35 RT.	16 (DHC)	413.00	413.24	417.44	420.63
0+40 LT.	14 (DHC)	413.00	413.44	417.64	420.43
0+56 LT.	13 (DHC)	413.00	413.44	417.64	420.43
0+61 RT.	17 (DHC)	413.00	413.24	417.44	420.63
0+78 LT.	12 (DHC)	413.00	413.44	417.64	421.10
0+83 RT.	18 (DHC)	413.00	413.24	417.44	421.30
0+98 LT.	11 (DHC)	413.00	413.44	417.64	421.10
1+05 RT.	19 (DHC)	413.00	413.24	417.44	421.30
1+20 RT.	20 (DHC)	413.00	413.24	417.44	421.30

SEWER HOUSE CONNECTION CHART

STATION	LOT	ELEVATION AT MAIN	ELEVATION AT R/W	M.C.E.	SLAB
MH 415 TO MH 420					
0+10 LT.	10 (DHC)	413.00	413.44	417.64	421.75
0+28 LT.	9 (DHC)	413.00	413.44	417.64	421.75
0+33 RT.	21 (DHC)	413.00	413.24	417.44	421.22
0+46 LT.	8 (DHC)	413.00	413.44	417.64	421.75
0+51 RT.	22 (DHC)	413.00	413.24	417.44	421.22
0+68 LT.	7 (DHC)	412.00	412.44	416.64	421.08
0+73 RT.	23 (DHC)	412.00	412.24	416.44	421.22
0+91 LT.	6 (DHC)	412.00	412.44	416.64	420.41
0+96 RT.	24 (DHC)	411.00	411.24	415.44	420.55
1+14 RT.	25 (DHC)	410.50	410.74	414.94	419.88
1+40 LT.	5	406.92	407.36	411.56	418.58
1+58 LT.	4	407.05	407.49	411.69	417.91
1+63 RT.	26	407.08	407.32	411.52	417.86
1+76 RT.	27	407.18	407.42	411.62	417.19
1+81 LT.	3	407.21	407.65	411.85	417.24
2+00 RT.	28	407.35	407.59	411.79	416.52
2+05 LT.	2	407.39	407.83	412.03	416.57
2+17 RT.	29	407.47	407.71	411.91	415.19
2+22 LT.	1	407.51	407.95	412.15	415.24
@MH420 RT.	30	407.83	408.07	412.27	414.52

8" WATER MAIN; MY GIRL PLACE; LOTS 1 THRU 30

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
8" WATER MAIN: MY GIRL PLACE; LOTS 1 THRU 30			
0+00.00	12"X8" TAPPING SLEEVE	600561.14	1345823.58
0+03.00	8" TAPPING VALVE	600578.79	1345821.71
0+62.20	8"X6" F.H. TEE	600532.49	1345784.82
1+02.48	1/8 H.B.	600500.99	1345759.72
1+40.33	1/8 H.B.	600497.07	1345722.08
2+95.00	8" VALVE	600594.03	1345604.77
5+10.18	8"X6" F.H. TEE	600732.70	1345437.01
5+20.18	8" PLUG & BUTTRESS	600739.07	1345429.30

6" WATER MAIN: FIRE HYDRANT LEAD

WATER MAIN TABULATION CHART

W.M. STA.	APPURTENANCE	NORTHING	EASTING
6" WATER MAIN: FIRE HYDRANT LEAD			
0+00.00	@12"X6" F.H. TEE	600802.18 ⚠1	1345556.56 ⚠1
0+03.00	6" VALVE	600799.86 ⚠1	1345554.67 ⚠1
0+24.52	@FIRE HYDRANT	600783.19 ⚠1	1345541.05 ⚠1

F.D. @ RT. 99	6"W-VALVE STA. 0+62.70 TO F.H. @ STA. 0+83.23'	
F.H. ON SITE	F.H. @ STA. 0+62 TO W-6" VALVE 21'.3	6" W-VALVE TO MH 410 23'.4
F.H. @ SITE ENTR.	6" W-VALVE (SHUTOFF) TO F.H. @ STA. 0+62 18'.9	F.H. @ STA. 0+62 TO MH 420 79'.6
		MH 410 TO F.H. @ STA. 5+10 25'.8
		MH 420 TO 6" W-VALVE (SHUTOFF) 83.4'

SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT NUMBER	LOCATION DIMENSION ~~ADDRESS~~ 1	LOCATION DIMENSION # 2	LOCATION DIMENSION # 3
1	F.H. STA. 0+62 TO SC 62'.6	SC TO MH 420 23'.8	SC TO WC 6'.3
2	SC TO MH 420 46'.8	SC TO WC 10'.4	WC TO F.H. @ STA. 0+62 81'
3	WC TO SC 15'	SC TO MH 420 69'.4	
4	SC TO WC 8'.2	SC TO 8" W-VALVE 58'.6	
5	SC TO WC 10'.8	SC TO 8" W-VALVE 41'.3	
6	SC TO 8" W-VALVE 18'	WC TO SC 9'	
7	SC TO WC 13'.6	SC TO 8" W-VALVE 35'	
8	SC TO WC 7'.6	SC TO MH 415 51'.5	
9	SC TO WC 10'.3	SC TO MH 415 35'.4	
10	SC TO WC 8'.9	SC TO MH 415 29'.6	
11	SC TO WC 8'	SC TO MH 415 45'.7	
12	SC TO WC 8'.4	SC TO MH 415 60'	
13	SC TO WC 13'.6	SC TO F.H. @ STA. 5+10 49'.4	
14	SC TO WC 15'.7	SC TO F.H. @ STA. 5+10 46'.6	
*15	SC TO WC 10'.4	SC TO MH 410 29'	SC TO 6" VALVE STA 5+10 17'
16	SC TO WC 11'.6	SC TO MH 405 38'.8	SC TO F.H. @ STA. 5+10 13'.7
17	SC TO WC 14'.9	SC TO F.H. @ STA. 5+10 39'.8	
18	SC TO WC 7'.7	SC TO 6" W-VALVE 51'.7	
19	SC TO WC 14'.8	SC TO MH 415 37'	
20	SC TO WC 9'.16	SC TO MH 415 24'.3	
21	SC TO WC 10'.7	SC TO MH 415 26'.6	
22	SC TO WC 10'.7	SC TO 8" W-VALVE 54'.2	
23	SC TO WC 11'.5	SC TO 8" W-VALVE 35'.5	
24	SC TO WC 9'.2	SC TO 8" W-VALVE 22'.9	
25	SC TO WC 8'.6	SC TO 8" W-VALVE 26'	
26	SC TO WC 8'.4	SC TO MH 420 81'.9	
27	SC TO WC 13'.9	SC TO MH 420 70'.3	
28	SC TO WC 10'.6	SC TO MH 420 47'	
29	SC TO WC 17'	SC TO MH 420 30'	
30	SC TO WC 11'.3	SC TO MH 420 14'	

LOT NO.	LOCATION DIMENSION 4
* 15	SC TO F.H. @ STA. 5+10 37'.5

PLAN
SCALE: 1" = 50'

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT NUMBER	LOCATION DIMENSION ~~ADDRESS~~ 1	LOCATION DIMENSION # 2	LOCATION DIMENSION # 3
1	WC TO SC 6'.3	WC TO MH 420 26'.8	
2	WC TO SC 10'.4	WC TO MH 420 26'.8	
3	WC TO SC 15'	WC TO MH 420 54'.6	
4	WC TO SC 8'.2	WC TO 8" W-VALVE 56'	
5	WC TO SC 10'.8	WC TO 8" W-VALVE 56'	
6	WC TO SC 9'	WC TO 8" W-VALVE 22'.8	
7	WC TO SC 13'.6	WC TO 8" W-VALVE 22'.8	
8	WC TO SC 7'.6	WC TO MH 415 43'.5	
9	WC TO SC 10'.3	WC TO MH 415 43'.5	
10	WC TO SC 8'.9	WC TO MH 415 21'	
11	WC TO SC 8'	WC TO MH 415 37'.5	
12	WC TO SC 8'.4	WC TO MH 415 73'	
13	WC TO SC 13'.6	WC TO 6" VALVE 49'.4	
14	WC TO SC 15'.7	WC TO 6" VALVE 14'	
15	WC TO SC 10'.4	WC TO 6" VALVE 14'	
16	WC TO SC 11'.6	WC TO 6" VALVE 33'	
17	WC TO SC 14'.9	WC TO 6" VALVE 33'	
18	WC TO SC 7'.7	WC TO MH 415 50'.4	
19	WC TO SC 14'.8	WC TO MH 415 50'.4	
20	WC TO SC 9'.16	WC TO MH 415 16'.8	
21	WC TO SC 10'.7	WC TO MH 415 26'.6	
22	WC TO SC 10'.7	WC TO 8" W-VALVE 44'.6	
23	WC TO SC 11'.5	WC TO 8" W-VALVE 44'.6	
24	WC TO SC 9'.2	WC TO 8" W-VALVE 22'.8	
25	WC TO SC 8'.6	WC TO 8" W-VALVE 22'.8	
26	WC TO SC 8'.4	WC TO 8" W-VALVE 58'.10	
27	WC TO SC 13'.9	WC TO MH 420 57'.6	
28	WC TO SC 10'.6	WC TO MH 420 57'.6	
29	WC TO SC 17'	WC TO MH 420 56'.11	
30	WC TO SC 11'.3	WC TO MH 420 17'.10	

0' 50' 100' 200'
SCALE: 1" = 50'

CONTRACT NO. 24-4944-D
WAVERLY GROVE
LOTS 1 THRU 30 &
OPEN SPACE LOTS 31 THRU 35
PUBLIC SEWER & WATER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE 5/18/17

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
CHIEF, DEVELOPMENT ENGINEERING DIVISION M.G. — DATE 5.15.17

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. 12043 EXPIRATION DATE IS 7/16/18.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
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ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

#12043 STATE OF MARYLAND PAUL WALTER KRIEBEL PROFESSIONAL ENGINEER
PAUL W. KRIEBEL

DESIGNED BY :	B.C.R.
DRAWN BY :	B.C.R.
CHECKED BY :	P.W.K.
DATE :	APRIL 2017

BY	NO.	REVISION	DATE
FCC	⚠1	Revise water main tabulation chart & Revise lot numbers in profile	3-20-20

SEWER & WATER MAIN EXTENSIONS
PROFILES, CHARTS, TABLES & NOTES

600' SCALE MAP NO. 16 BLOCK NO. 6
F.C.C. WORK ORDER NO. 04017-6001
FILE NAME : SEWER & WATER MAIN EXTENSION PLAN

WAVERLY GROVE
LOTS 1 THRU 30 &
OPEN SPACE LOTS 31 THRU 35
PUBLIC SEWER & WATER MAIN EXTENSIONS
CONTRACT NO. 24-4944-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 3 OF 3

I:\2004\04017\dwg\04017-6001\Sewer & Water Contract No. 24-4944-D\Finals\04017-6001 Sewer and Water Contract Plan.dwg