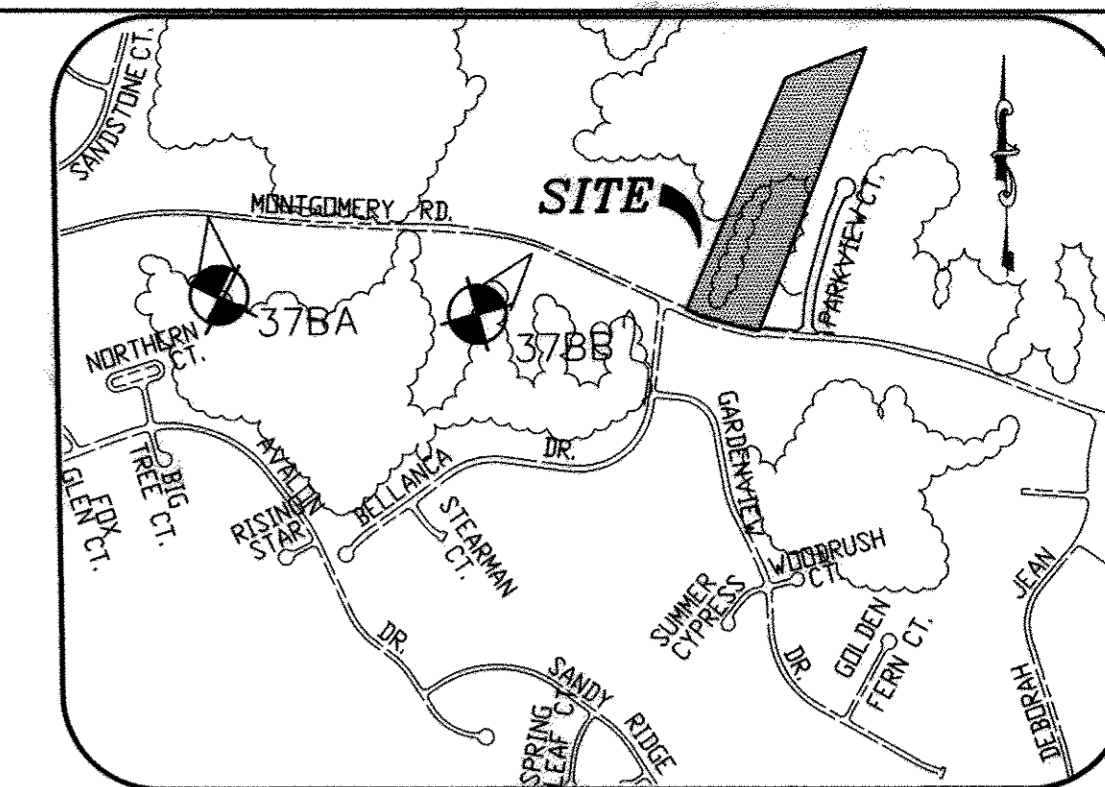


QUANTITY TABLE				
ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
STANDARD MH (HO. CO. STD.G-5.12)	10 EACH	10	Precast	Contractors Precast Corp
8" SEWER MAIN (PVC)	1,382 LF	1382	SDR 35	North American
4" SHC	603 LF	603	SDR 35	North American
8" WATER MAIN (PVC C-900, DR-18)	900 LF	900	C-900	J.M. Eagle
1 1/2" WATER HOUSE CONNECTION	620 LF	620	Type K	Cambridge Lee
# 1 1/2" WHC	21 EACH	21	Custom Setier	A.Y. McDonald
8"x12" T. S. & V	1 EACH	0		
1/32 H.B. (8")	3 EACH	3	Epoxy	Tyler Union
8"x6" F.H.T. & V.	2 EACH	2	Epoxy	Tyler Union / American Flow
FIRE HYDRANT	2 EACH	2		American Flow Control
8" CAP & BUTTRESS	1 EACH	1	Epoxy	Tyler Union
# 4" SHC	21 EACH	21	Precast	Prisim Precast
NAME OF UTILITY CONTRACTOR: UTILITIES UNLIMITED				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE 10/18/2017				

CONTRACT NO.: 14-4904-D
PINE ACRES
 LOTS 1-21 AND OPEN SPACE LOTS 22-28
 FINAL WATER AND SEWER
 CONSTRUCTION PLANS
 HOWARD COUNTY, MARYLAND
 DEPARTMENT OF PUBLIC WORKS

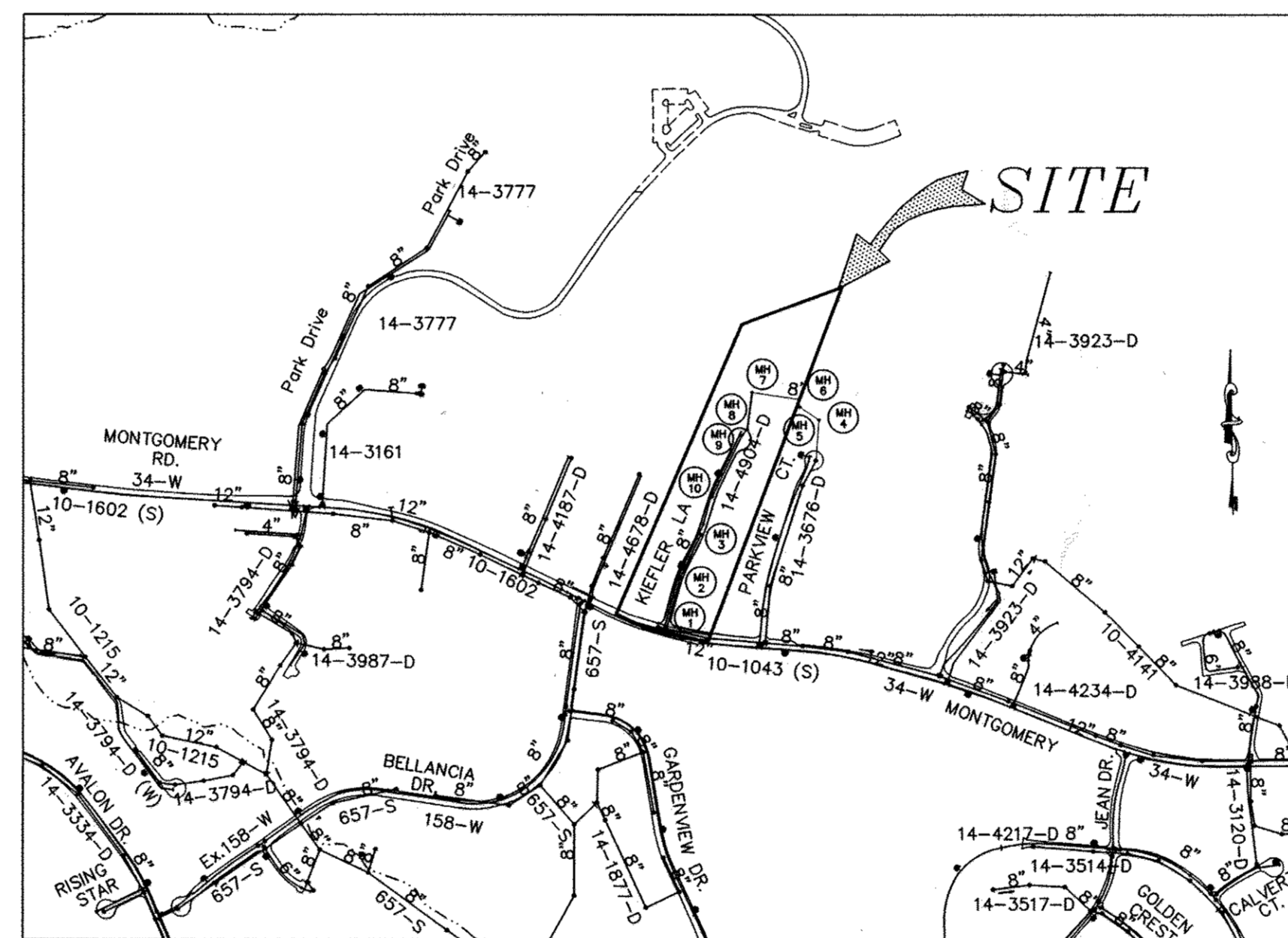


GENERAL NOTES

- 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.
 - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT MARCH, 2014 BY MILDENBERG, BOENDER & ASSOCIATES, INC.
 - HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM HAD '83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 37-BA AND NO. 37BB. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. MILDENBERG, BOENDER & ASSOCIATES, INC. SHALL PROVIDE DESCRIPTION OF VERTICAL CONTROL POINTS, I.E., IRON BARS, CROSS CUTS ON CONCRETE STRUCTURES, ETC).
 - 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 DRAWING, 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 MADE 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).....	410-637-8713
BGE (EMERGENCY).....	410-685-0123
BUREAU OF UTILITIES.....	410-313-6900
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 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.

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN
3	PRELIMINARY WATER AND SEWER PLAN
4	PRELIMINARY WATER AND SEWER PROFILES



VICINITY MAP
 SCALE: 1" = 600'
 WATER ZONE: 550
 TEST GRADIENT: 700

TYPE OF BUILDING	RESIDENTIAL
No. OF UNITS	21
No. OF WATER HOUSE CONNECTIONS	21
No. OF SEWER HOUSE CONNECTIONS	21
DRAINAGE AREA	PATAPSCO
TREATMENT PLANT	PATAPSCO

EROSION AND SEDIMENT CONTROL
FOR THIS CONTRACT IS PROVIDED
UNDER : F-16-024

PLAN REFERENCE NUMBERS:
 ECP-14-0, SP-15-001
 F-16-024

OWNER / DEVELOPER
 EARL W. STRAIN, JR.
 C/O DORSEY FAMILY HOMES, INC.
 10717-B BIRMINGHAM WAY
 WOODSTOCK, MARYLAND 21163
 (410)465-7200

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	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. 17942, EXP DATE 09/03/16
HOWARD SOIL CONSERVATION DISTRICT	R. JACOB HIKMAT P.E.
DATE: 8/26/16	DATE: 8/4/16

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES	CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 8/22/16	DATE: 9.13.16

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7350-B Grace Drive, Columbia, Maryland 21044
 (410) 997-0286 Tel. (410) 997-0288 Fax

engineering	MMM				
illustration	MMM				
approval	RJH				
project	14-013				
date	AUG. 2016	BY	NO.	REVISION	DATE

AS-BUILT
 By: Date: 10/19/17

TITLE SHEET

scale	
PINE ACRES LOTS 1-21 AND OPEN SPACE LOTS 22-28 CONTRACT NO.: 14-4904-D FIRST ELECTION DISTRICT HOWARD COUNTY	1 OF 3

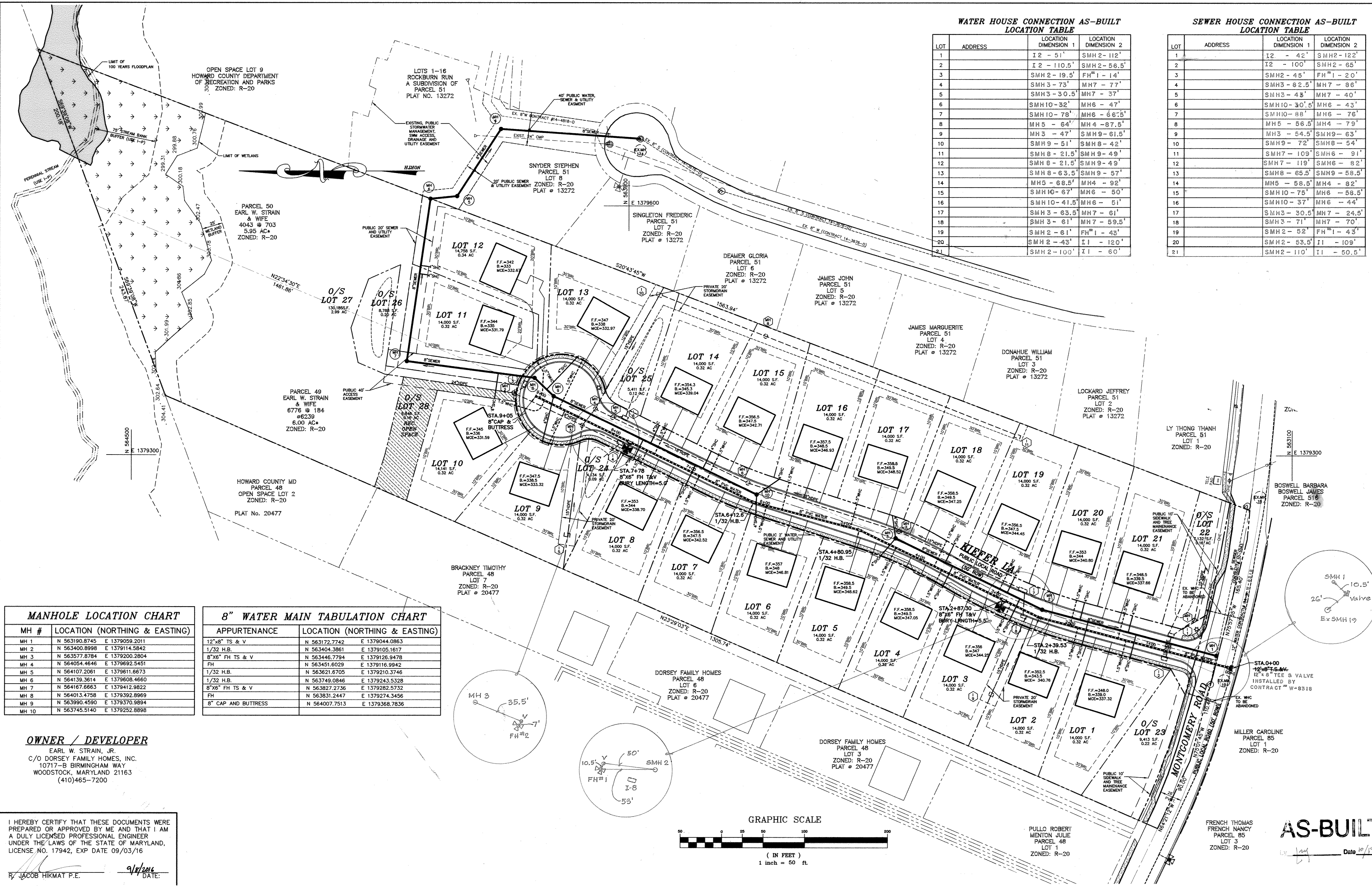
P: 12004-14-013.DWG (PRELIMINARY) W-5

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1		I 2 - 51'	SMH 2 - 112'
2		I 2 - 110.5'	SMH 2 - 56.5'
3		SMH 2 - 19.5'	FH [#] 1 - 14'
4		SMH 3 - 75'	MH 7 - 77'
5		SMH 3 - 30.5'	MH 7 - 37'
6		SMH 10 - 32'	MH 6 - 47'
7		SMH 10 - 78'	MH 6 - 66.5'
8		MH 5 - 64'	MH 4 - 87.5'
9		MH 3 - 47'	SMH 9 - 61.5'
10		SMH 9 - 51'	SMH 8 - 42'
11		SMH 8 - 21.5'	SMH 9 - 49'
12		SMH 8 - 21.5'	SMH 9 - 49'
13		SMH 8 - 63.5'	SMH 9 - 57'
14		MH 5 - 68.5'	MH 4 - 92'
15		SMH 10 - 67'	MH 6 - 50'
16		SMH 10 - 41.5'	MH 6 - 51'
17		SMH 3 - 63.5'	MH 7 - 61'
18		SMH 3 - 61'	MH 7 - 59.5'
19		SMH 2 - 61'	FH [#] 1 - 43'
20		SMH 2 - 43'	I 1 - 120'
21		SMH 2 - 100'	I 1 - 60'

SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE

LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1		I 2 - 42'	SMH 2 - 122'
2		I 2 - 100'	SMH 2 - 65'
3		SMH 2 - 45'	FH [#] 1 - 20'
4		SMH 3 - 82.5'	MH 7 - 86'
5		SMH 3 - 43'	MH 7 - 40'
6		SMH 10 - 30.5'	MH 6 - 43'
7		SMH 10 - 88'	MH 6 - 76'
8		MH 5 - 56.5'	MH 4 - 79'
9		MH 3 - 54.5'	SMH 9 - 63'
10		SMH 9 - 72'	SMH 8 - 54'
11		SMH 7 - 109'	SMH 6 - 91'
12		SMH 7 - 119'	SMH 6 - 82'
13		SMH 8 - 65.5'	SMH 9 - 58.5'
14		MH 5 - 58.5'	MH 4 - 82'
15		SMH 10 - 75'	MH 6 - 58.5'
16		SMH 10 - 37'	MH 6 - 44'
17		SMH 3 - 30.5'	MH 7 - 24.5'
18		SMH 3 - 71'	MH 7 - 70'
19		SMH 2 - 52'	FH [#] 1 - 43'
20		SMH 2 - 53.5'	I 1 - 109'
21		SMH 2 - 110'	I 1 - 50.5'



MANHOLE LOCATION CHART

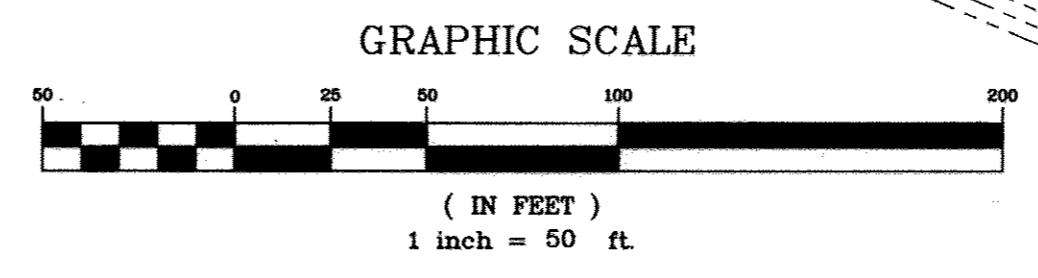
MH #	LOCATION (NORTHING & EASTING)
MH 1	N 563190.8745 E 1379059.2011
MH 2	N 563400.8998 E 1379114.5842
MH 3	N 563577.8784 E 1379200.2804
MH 4	N 564054.4646 E 1379692.5451
MH 5	N 564107.2061 E 1379611.6673
MH 6	N 564139.3614 E 1379608.4660
MH 7	N 564167.6663 E 1379412.9822
MH 8	N 564013.4758 E 1379392.8969
MH 9	N 563990.4590 E 1379370.9894
MH 10	N 563745.5140 E 1379252.8898

8" WATER MAIN TABULATION CHART

APPURTENANCE	LOCATION (NORTHING & EASTING)
12"x8" TS & V	N 563172.7742 E 1379044.0863
1/32 H.B.	N 563404.3861 E 1379105.1617
8"x6" FH TS & V	N 563446.7794 E 1379126.9478
FH	N 563451.6029 E 1379116.9942
1/32 H.B.	N 563621.6705 E 1379210.3748
1/32 H.B.	N 563749.0846 E 1379243.5328
8"x6" FH TS & V	N 563827.2736 E 1379282.5732
FH	N 563831.2447 E 1379274.3456
8" CAP AND BUTTRESS	N 564007.7513 E 1379368.7636

OWNER / DEVELOPER
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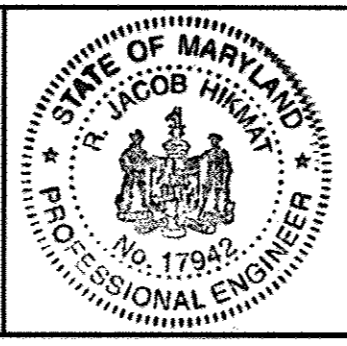
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 DATE: 9/18/17
 R. JACOB HIKMAT P.E.



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 CHIEF, BUREAU OF UTILITIES
 DATE: 9/18/17

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 9.13.16

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7850-B Orco Drive, Columbia, Maryland 21044
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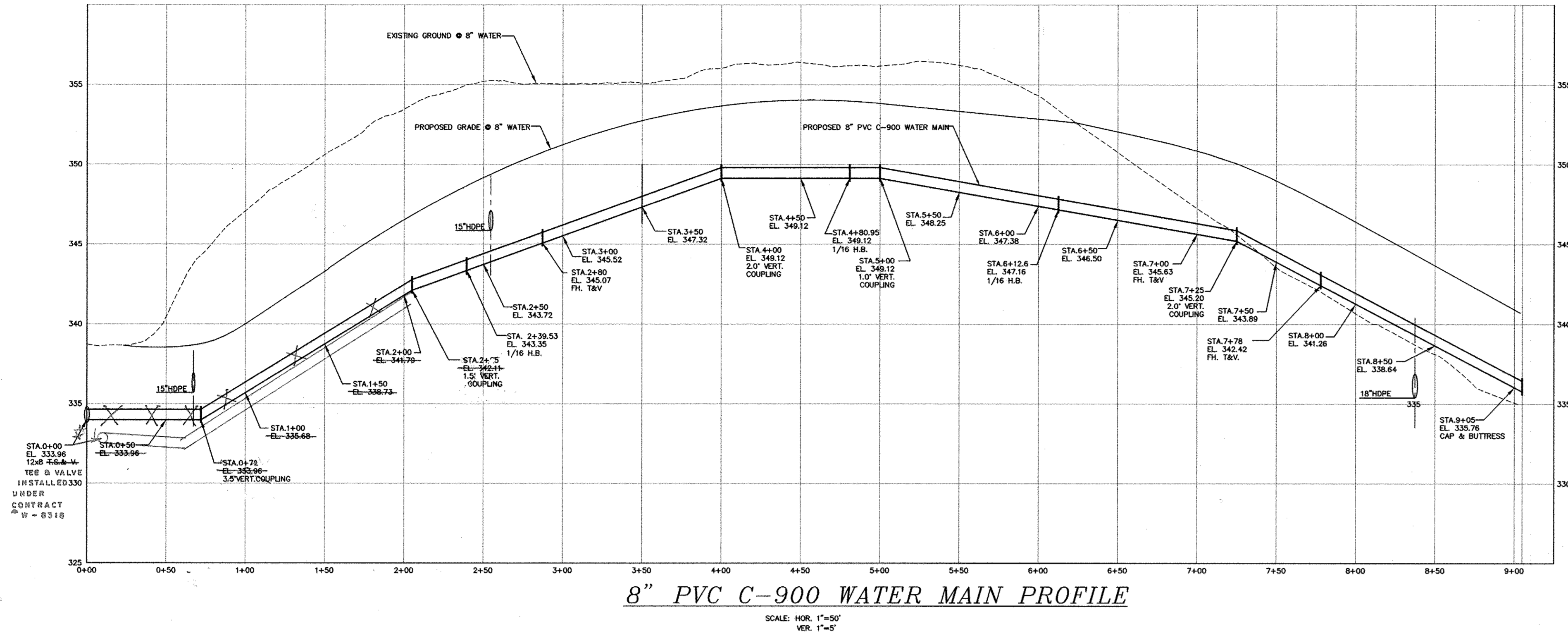
engineering	MM
illustration	MMM
approval	RJH
project	14-013
date	AUG. 2016
BY NO.	
REVISION	
DATE	

WATER AND SEWER PLAN
 600' SCALE MAP NO. 37 BLOCK NO. 5

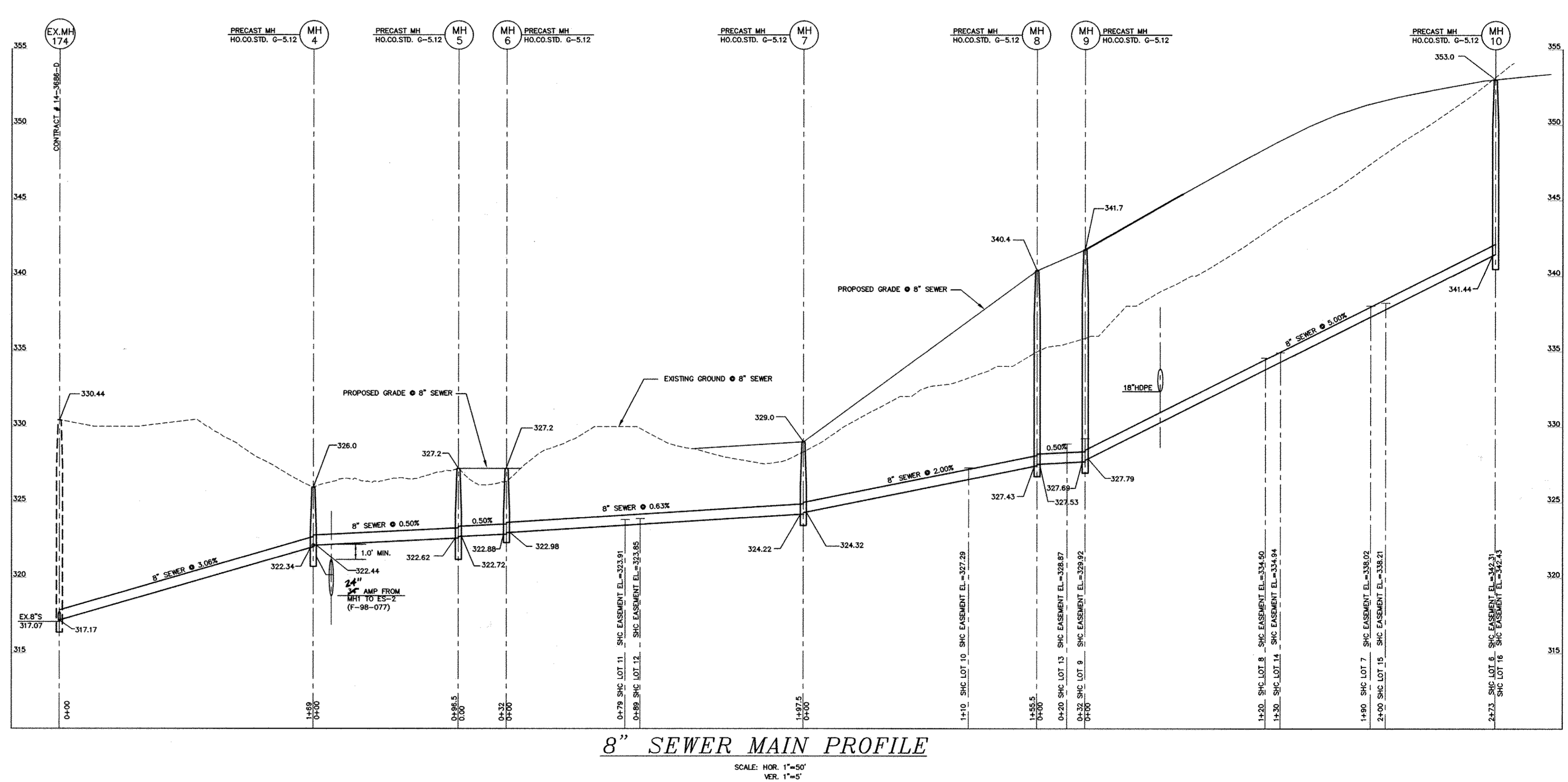
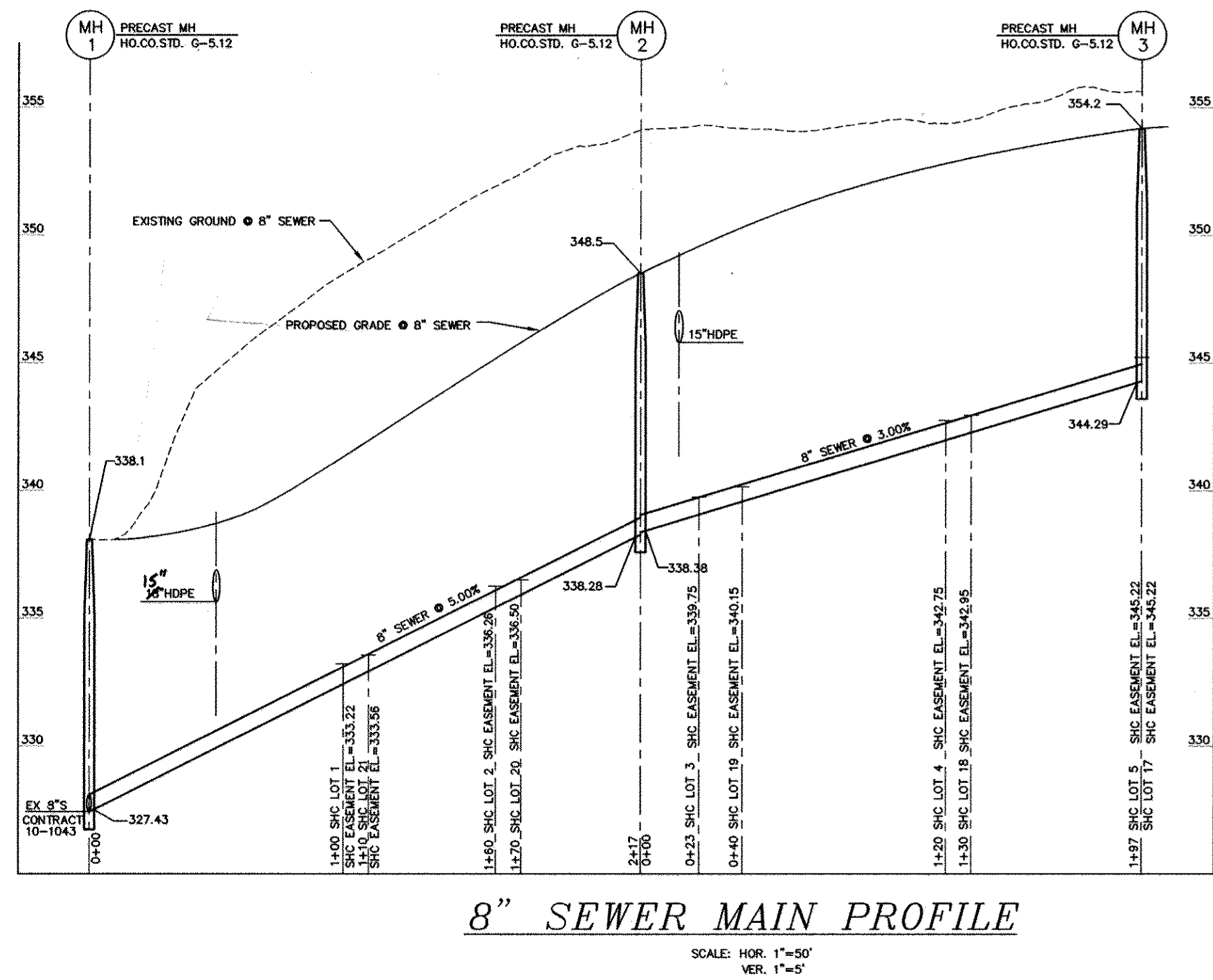
PINE ACRES
 LOTS 1-21 AND OPEN SPACE LOTS 22-28
 CONTRACT NO.: 14-4904-D
 FIRST ELECTION DISTRICT
 HOWARD COUNTY

scale 1"=50'
 2 OF 3

AS-BUILT
 Date 9/18/17



SEWER HOUSE CONNECTION TABLE				
LOT #	% SLOPE	INV. @ 8" S	INV. @ R.O.W.	MCE
1	2%	332.62	333.22	337.32
2	2%	335.60	336.26	340.76
3	2%	339.15	339.75	344.25
4	2%	342.15	342.75	347.05
5	1%	344.62	345.22	348.62
6	2%	341.77	342.31	346.81
7	2%	337.46	338.02	342.52
8	2%	333.96	334.50	338.70
9	2%	328.12	329.22	333.32
10	2%	326.69	327.29	331.59
11	2%	323.71	323.91	331.79
12	2%	323.65	323.85	332.67
13	2%	327.80	328.87	332.97
14	2%	334.46	334.94	339.04
15	2%	337.96	338.21	342.71
16	2%	341.77	342.43	346.93
17	1%	344.62	345.22	348.52
18	2%	342.45	342.95	347.25
19	2%	339.75	340.15	344.45
20	2%	336.10	336.50	340.80
21	2%	333.10	333.56	337.66



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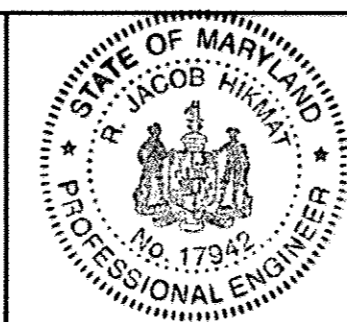
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R. JACOB HIKMAT P.E. 8/4/16 DATE:

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engineering	MMM				
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WATER AND SEWER PROFILE

PINE ACRES
 LOTS 1-21 AND OPEN SPACE LOTS 22-28
 CONTRACT NO.: 14-4904-D
 FIRST ELECTION DISTRICT
 HOWARD COUNTY

scale
 1"=50'
3 OF 3

AS-BUILT

By RJA Date 10/13/17

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