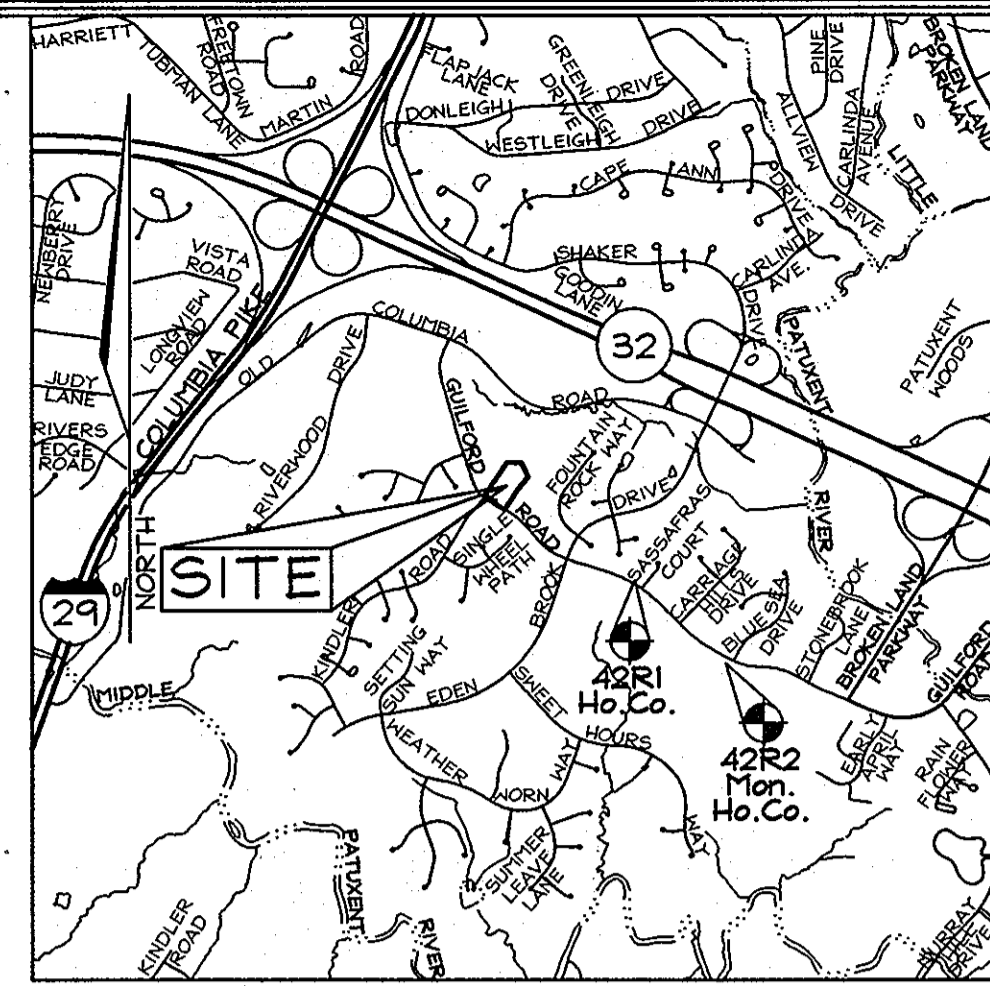


FINAL PUBLIC WATER AND SEWER PLANS

KINGS COVE

HOWARD COUNTY, MARYLAND

CONTRACT NO. 24-4634-D



VICINITY MAP
SCALE: 1"=2000'
HOWARD COUNTY ADC MAP 19 F-1

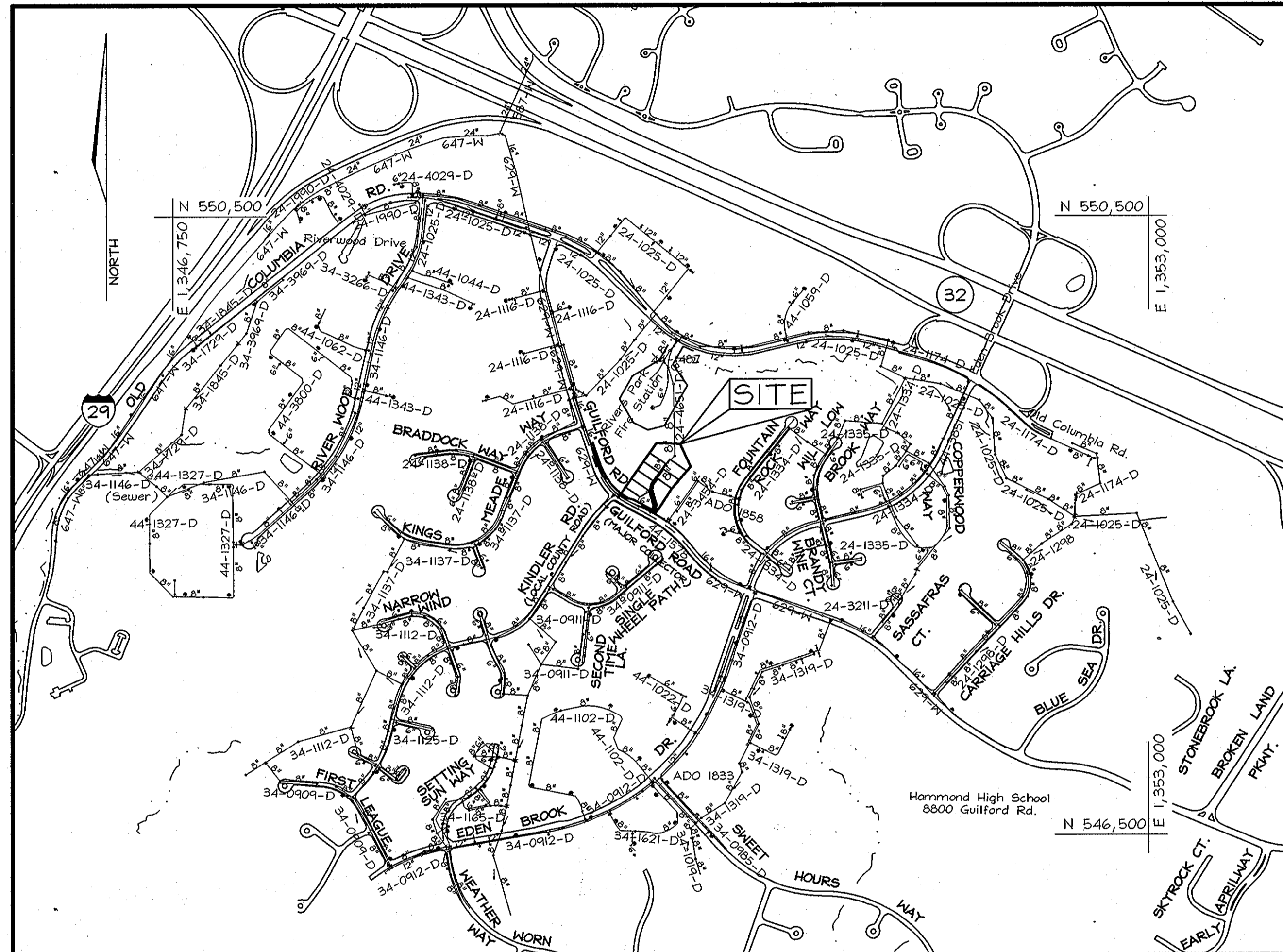
LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
2		H.C. to T-2 78'	H.C. to SMH#8 25' / T-2 to SMH#8 90'
3		H.C. to T-2 42'	H.C. to SMH#8 50' / T-2 to SMH#8 90'
4		H.C. to T-2 75'	H.C. to T-2 23' / T-2 to T-1 96'
5		H.C. to T-2 32'	H.C. to T-1 32' / F.H. to T-1 30'
7		H.C. to T-2 78'	H.C. to T-1 57' / T-2 to T-1 30'
8		H.C. to T-2 79'	H.C. to T-2 32' / T-2 to SMH#8 90'
9		H.C. to SMH#8	

LOT NUMBER	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
2		H.C. to SMH#8 22'	H.C. to T-2 87' / SMH#8 to T-2 90'
3		H.C. to SMH#8 70'	H.C. to T-2 22' / SMH#8 to T-2 90'
4		H.C. to T-2 46'	H.C. to T-2 25' / T-2 to T-2 96'
5		H.C. to F.H. 28'	H.C. to T-1 87' / T-1 to F.H. 30'
7		H.C. to SMH#7 21'	H.C. to F.H. 37' / SMH#7 to F.H. 18'
8		H.C. to T-2 14'	H.C. to F.H. 40' / T-2 to F.H. 27'
9		H.C. to T-2 83'	H.C. to T-2 33' / T-2 to T-2 96'

NAME OF UTILITY CONTRACTOR :		AS-BUILT			
SURVEY AND DRAFTING DIVISION AS-BUILT DATE :		QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
SANITARY MANHOLE		8	8	PRECAST CONC.	ADS
8" SEWER		1,196 L.F.	1,196 L.F.	PVC SDR 35	NORTH AMERICAN PIPE
4" SHC		116 L.F.	119 L.F.	PVC SDR 35	NORTH AMERICAN PIPE
8" SEWER CAP		1	1	PVC SDR 35	MULTI FITTINGS
4" SEWER CLEANOUTS		8	7	PVC/PRECAST	HORNE CONCRETE
1/32 HOR. BEND		1	1	DUCTILE	TYLER/UNION FOUNDRY
8" WATER		330 L.F.	330 L.F.	CL 54 DEP	ATLANTIC STATES
1" WMC		132 L.F.	111 L.F.	TYPE K COPPER	MUELLER INDUSTRIES
FIRE HYDRANT 1/2" 8"x6" Tee & 6"V		1	1	A423	MUELLER INDUSTRIES
8" CAP & BUTTRISS		1	1	C153	TYLER/UNION FOUNDRY
16"x8" TAPPING SLEEVE AND 8" VALVE		1	1	FLAM TAPPING SLEEVE & MUELLER VALVE	MUELLER INDUSTRIES (VALVE)
1/8" Hor. Bend		1	1	DUCTILE	TYLER/UNION FOUNDRY

NOTE: Existing dwellings on-site (#8507 & #8511 Guilford Road) are to be removed along with the associated water house connections that connect into the existing 16" water main (Contract #29-H). The contractor is to field verify locations of both existing water house connections, and disconnect the WMC's at the water main and plug.

EXISTING ADDRESS	EXISTING WATER HOUSE CONNECTION	EXISTING PRIVATE SEPTIC
8507 Guilford Road	Existing WMC to be removed and capped.	Existing private septic system to be abandoned.
8511 Guilford Road	Existing WMC to be removed and capped.	Existing private septic system to be abandoned.



TYPE OF BUILDING:	RESIDENTIAL
NO. OF LOTS/PARCELS/UNITS:	9
NO. OF WATER HOUSE CONNECTIONS:	7
NO. OF SEWER HOUSE CONNECTIONS:	7
AREA OF COMMERCIAL LOT/PARCEL:	N.A.
SEWER SHED:	LITTLE PATUXENT WRP
PUMPING STATION:	PATUXENT
WATER ZONE:	550
TEST GRADIENT:	700

R/W Line	---
Property Line	---
Easement Line	---
Ex. Sewer Line	---
Prop. Sewer Line	---
Ex. Water Line	---
Prop. Water Line	---
Ex. F.H.	---
Prop. F.H.	---
Stream	---
Limit of Disturbance	---
Silt Fence	--- SF --- SF ---
Super Silt Fence	--- SSF --- SSF ---
Proposed WMC	---
Proposed SHC	---

Sta.	(Feet)	N 547,820.238	E 1,351,171.586	Elev.: 375.871
42R1				
42R2		N 546,946.800	E 1,352,118.561	Elev.: 331.525

- GENERAL NOTES**
- PART I - GENERAL**
- Approximate location 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.
 - The on site existing topography was Field Run by FSH Associates on September 2007. Off Site Topography is based on aerial survey with two foot contour intervals prepared by Howard County, dated 2004.
 - Horizontal and Vertical 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. 42R1 and 42R2. All vertical controls are based on NAVD 83. Vertical controls provided on the drawings are Howard County Geodetic Control Stations No. 42R1 and 42R2.
 - All pipe elevations shown are invert elevations unless otherwise noted on the plans.
 - Clear all utilities by a minimum of 12". Clear all poles by 5'-0" minimum or tunnel as required. 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 drawing, and for materials and construction methods use Howard County 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 location of the test pit. 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	410-315-4900
Colonial Pipeline Company	410-745-1390
Miss Utility	1-800-257-7777
State Highway Administration	410-531-5533
Verizon	1-800-743-0033/410-224-4210
 - 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 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 any open cut of any county road or boring/jacking operation in county roads for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPM requirements per Section 18.114(a) of the Howard County Code.
 - Subject property Zoned "R-12" per 02/02/04 Comprehensive Zoning Plan and per the "Comp. Lite" Zoning Regulation Amendments effective 7/28/06.
 - There are no floodplains, historic structures or cemeteries on-site.
 - Public water and public sewer are proposed to tie into existing Contract #629-H, and #24-1025-D.
 - The contractor shall maintain the accessibility (ingress and egress of emergency vehicles) to the Firehouse at all times. The contractor shall maintain public sewer service to the Firehouse at all times.
- PART II - WATER**
- All water mains to be D.I.P. Class 54 unless otherwise noted.
 - Tops of all water mains to 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. Soil around 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.
 - All water house connections shall be for inside meter settings unless otherwise noted on the Plans or in the Specifications.
- PART III - SEWER**
- All sewer mains shall be P.V.C. unless otherwise noted.
 - All manholes shall be 4'-0" inside diameter unless otherwise noted.
 - Force mains shall be D.I.P. only.
 - Manholes shown with 12" and 16" walls are for brick manholes only.
 - Manholes designated H.T. in plan and profile shall have watertight frame & covers, Standard Detail G-5.52.
 - House(s) with the symbol "C.N.S." indicates that cellar cannot be served.

DESCRIPTION	SHEET NO.
WATER & SEWER COVER SHEET	1 of 4
WATER & SEWER PLAN SHEET	2 of 4
SEWER MAIN PROFILES	3 of 4
WATER MAIN PROFILE & PIPESTEM ENLARGEMENTS	4 of 4

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STANDARD SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-10-001

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

[Signature] 5/25/10
DATE

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. #22418, Expiration Date: 07/29/2011.

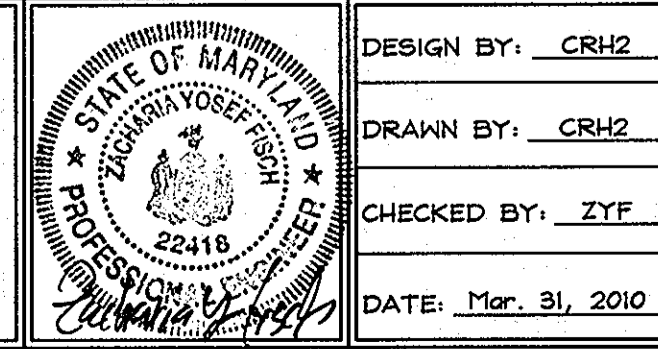
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 5/25/10
DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 6/10/10
DATE

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel: 410-587-5200 Fax: 410-796-1562
E-mail: info@fsh.com



DESIGN BY:	CRH2
DRAWN BY:	CRH2
CHECKED BY:	ZTF
DATE:	Mar. 31, 2010
BY NO.	10-4-12
REVISION	5.21.12
	10-4-12
	5.21.12
	10-4-12

FINAL PUBLIC WATER & SEWER PLANS

600' SCALE MAP NO.: 42 BLOCK NO.: 7

KINGS COVE
A RESUBDIVISION OF LOTS 4 AND 5-A,
PLAT NUMBERS PB 7/F 71 AND PB 026/F 039
CONTRACT NO. 24-4634-D

TAX MAP #42 GRID 7
6TH ELECTION DISTRICT

PARCELS 61, 250 & 251
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET NO. 1 OF 4

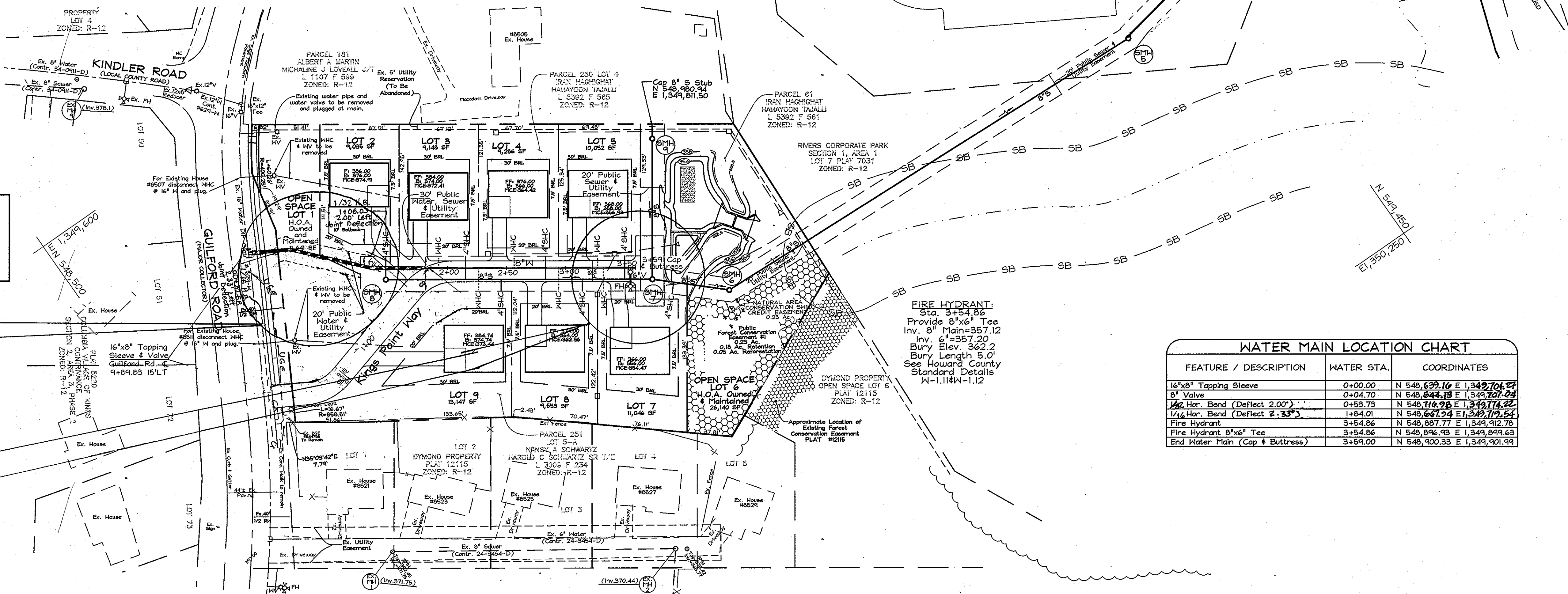
OWNER/DEVELOPER
CMC LAND, LLC
1710 Stonegate Lane
Columbia, Maryland 21044
Cindy Delzoppo, Cel. No.: 410-250-6395
Fax No.: 410-750-8823

SEWER HOUSE CONNECTION CHART							
Lot No.	DISTANCE FROM SMH-7 @ Easement	SHC Inv. @ Sewer Main	House Connection Type	SHC Inv. @ Sewer Main	Sewer Main Invert	MINIMUM CELLAR ELEVATION	DESIGNED CELLAR ELEVATION
Lot 2	@ SMH-8	370.50	Sewer Manhole	370.10	370.00	374.91	376.00
Lot 3	158.00'	368.00	Drop	367.60	364.99	372.41	374.00
Lot 4	90.47'	360.00	Drop	359.60	367.97	364.42	366.00
Lot 5	29.53'	352.57	Standard	352.17	352.00	356.98	358.00
Lot 7	-18.22'	350.00	Drop	349.80	343.53	354.47	356.00
Lot 8	54.43'	358.00	Drop	357.80	355.20	362.36	364.00
Lot 9	127.97'	369.36	Drop	369.16	361.31	375.44	374.74

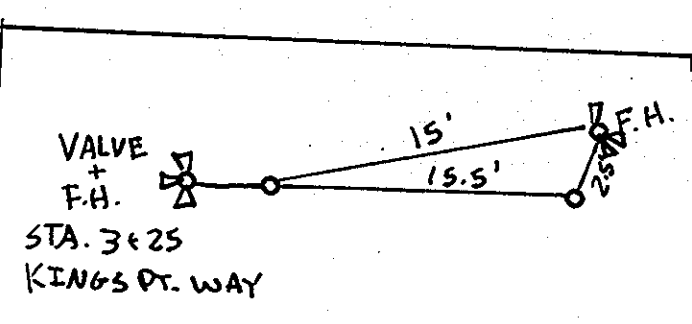
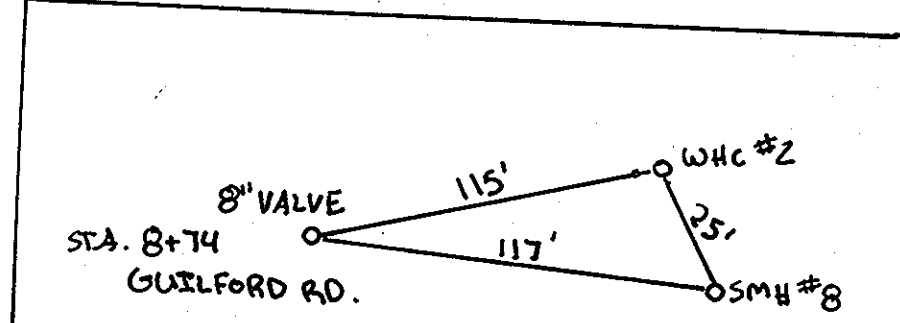
* Note: All S.H.C.'s are on a 2.0% slope, from sewer main to easement line. All S.H.C.'s are on a 2.0% slope from easement line to rear B.R.L. (minimum cellar elevation), unless specified.

SEWER MANHOLE TABLE				
SMH #	LOCATION	TOP SMH ELEVATION	REMARKS	TYPE OF M.H.
1	N 549,714.01 E 1,349,028.33	331.20		STD.PRECAST M.H. G-5-12
2	N 549,608.05 E 1,349,364.85	333.80		STD.PRECAST M.H. G-5-12
3	N 549,592.43 E 1,349,142.73	332.28		STD.PRECAST M.H. G-5-12
4				STD.PRECAST M.H. G-5-12
5	N 549,354.03 E 1,349,980.24	340.10		STD.PRECAST M.H. G-5-12
6	N 548,954.54 E 1,349,363.20	355.60		STD.PRECAST M.H. G-5-12
7	N 548,926.42 E 1,349,918.49	360.20	Ho.Co. Std. Det. S-1.32(B)	STD.PRECAST M.H. G-5-12
8	N 548,721.42 E 1,349,789.50	381.80		STD.PRECAST M.H. G-5-12
9	N 548,474.89 E 1,349,820.17	364.05		STD.PRECAST M.H. G-5-12

IMPORTANT NOTE:
Contractor shall maintain accessibility to the Firehouse at all times. Public Sewer service to Firehouse shall be uninterrupted at all times.



NOTE:
Existing WHC's to 8507 and 8511 Guilford Road are to be abandoned. The WHC's shall be disconnected at the main and the main plugged.



WATER MAIN LOCATION CHART		
FEATURE / DESCRIPTION	WATER STA.	COORDINATES
16"x8" Tapping Sleeve	0+00.00	N 548,639.16 E 1,349,704.24
8" Valve	0+04.70	N 548,644.18 E 1,349,707.04
1/2" Hor. Bend (Deflect 2.00")	0+53.75	N 548,710.98 E 1,349,714.24
1/4" Hor. Bend (Deflect 2.33")	1+84.01	N 548,661.24 E 1,349,717.54
Fire Hydrant	3+54.86	N 548,857.77 E 1,349,912.78
Fire Hydrant 8"x6" Tee	3+54.86	N 548,856.93 E 1,349,899.63
End Water Main (Cap & Buttress)	3+59.00	N 548,900.33 E 1,349,901.93

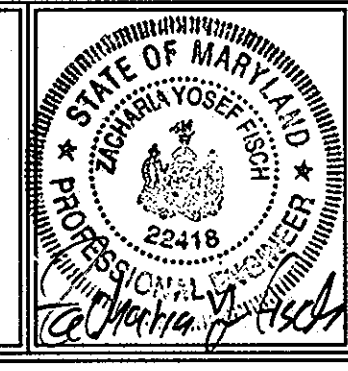
PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. #22418, Expiration Date: 07/29/2011.

OWNER/DEVELOPER
CMC LAND, LLC
11710 Stonegate Lane
Columbia, Maryland 21044
Cindy Delopporo, Cel. No.: 443-250-6395
Fax No.: 410-730-8823

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
5/2/10
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
6/8/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION

FSH Associates
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Tel: 410-567-5200 Fax: 410-796-1562
E-mail: info@fsher.com



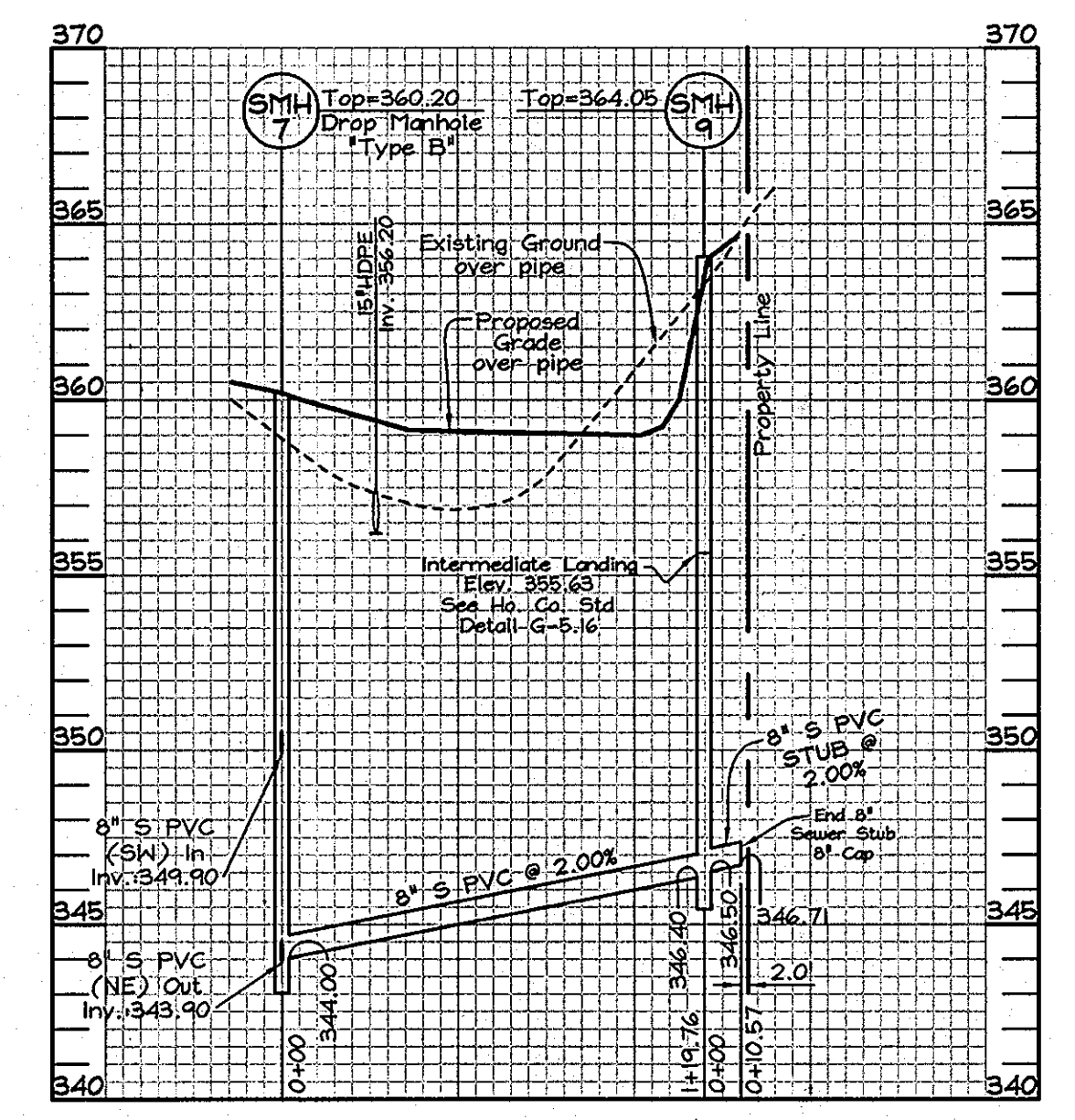
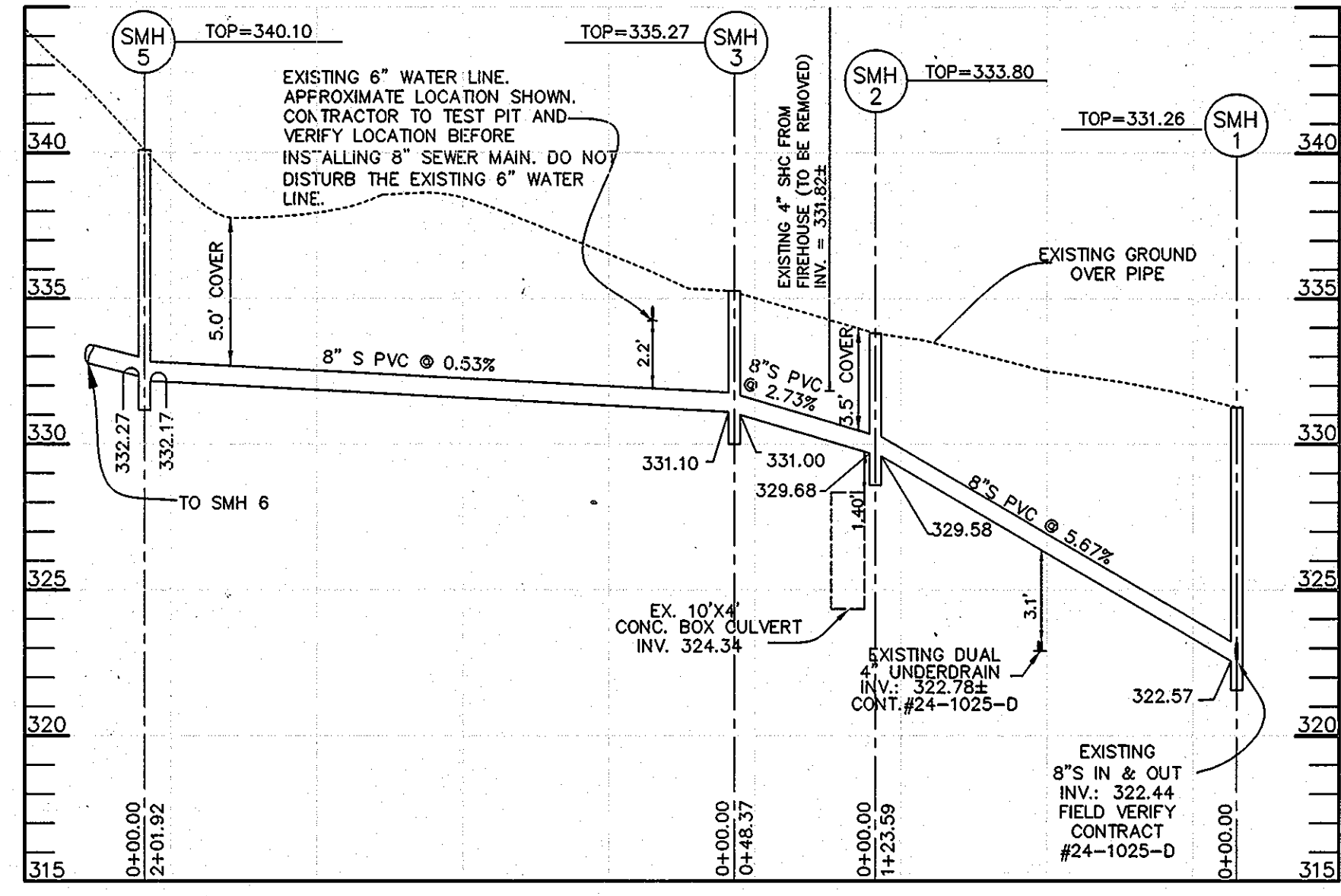
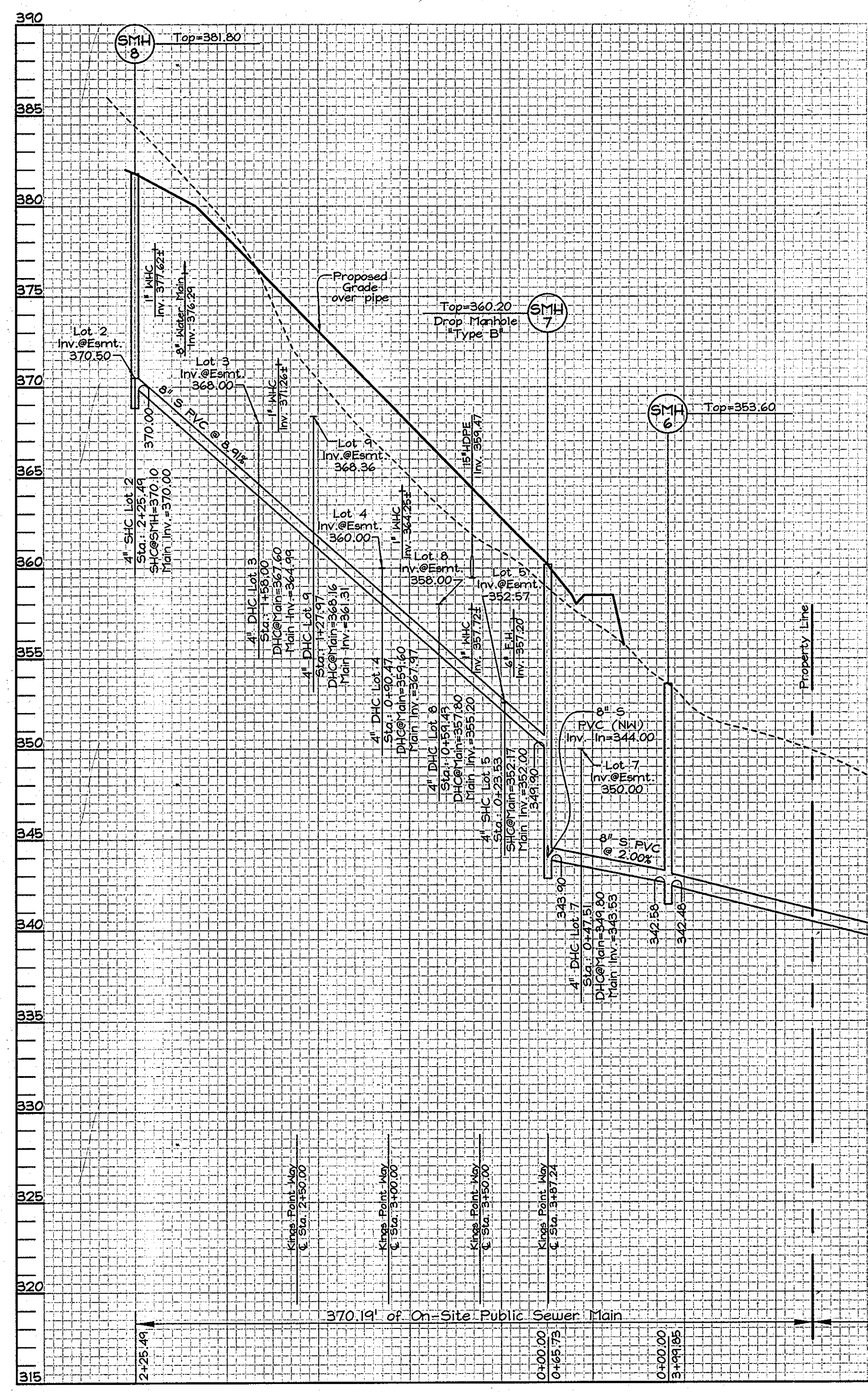
DESIGN BY: CRH2
DRAWN BY: CRH2
CHECKED BY: ZYF
DATE: Mar. 31, 2010

10-4-12
3-21-12
DATE DATE
BY NO. REVISION
KCI AS-BUILT
MBA 1 REVISED WATER MAIN ALIGNMENT
REVISION

FINAL PUBLIC WATER & SEWER PLANS
600' SCALE MAP NO.: 42 BLOCK NO.: 7

KINGS COVE
A RESUBDIVISION OF LOTS 4 AND 5-A,
PLAT NUMBERS PB 7/F 71 AND PB 026/F 039
CONTRACT NO. 24-4634-D
TAX MAP #42 GRID 7
6TH ELECTION DISTRICT
PARCELS 61, 250 & 251
HOWARD COUNTY, MARYLAND

SCALE IS 1"=50'
SHEET NO. 2 OF 4



SEWER MAIN PROFILE
SCALE- HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

SEWER MAIN PROFILE
SCALE- HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

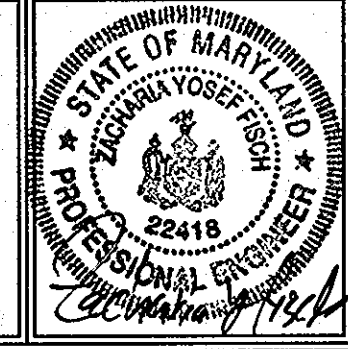
OWNER/DEVELOPER
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Columbia, Maryland 21044
Cindy Delzoppo: Cel. No.: 443-250-6395
Fax No.: 410-730-8823

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. #22418, Expiration Date: 07/24/2011.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Silva C. Carr
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
W. DeWitt
CHIEF, DEVELOPMENT ENGINEERING DIVISION

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel: 410-587-5200 Fax: 410-798-1562
E-mail: info@fsh.net



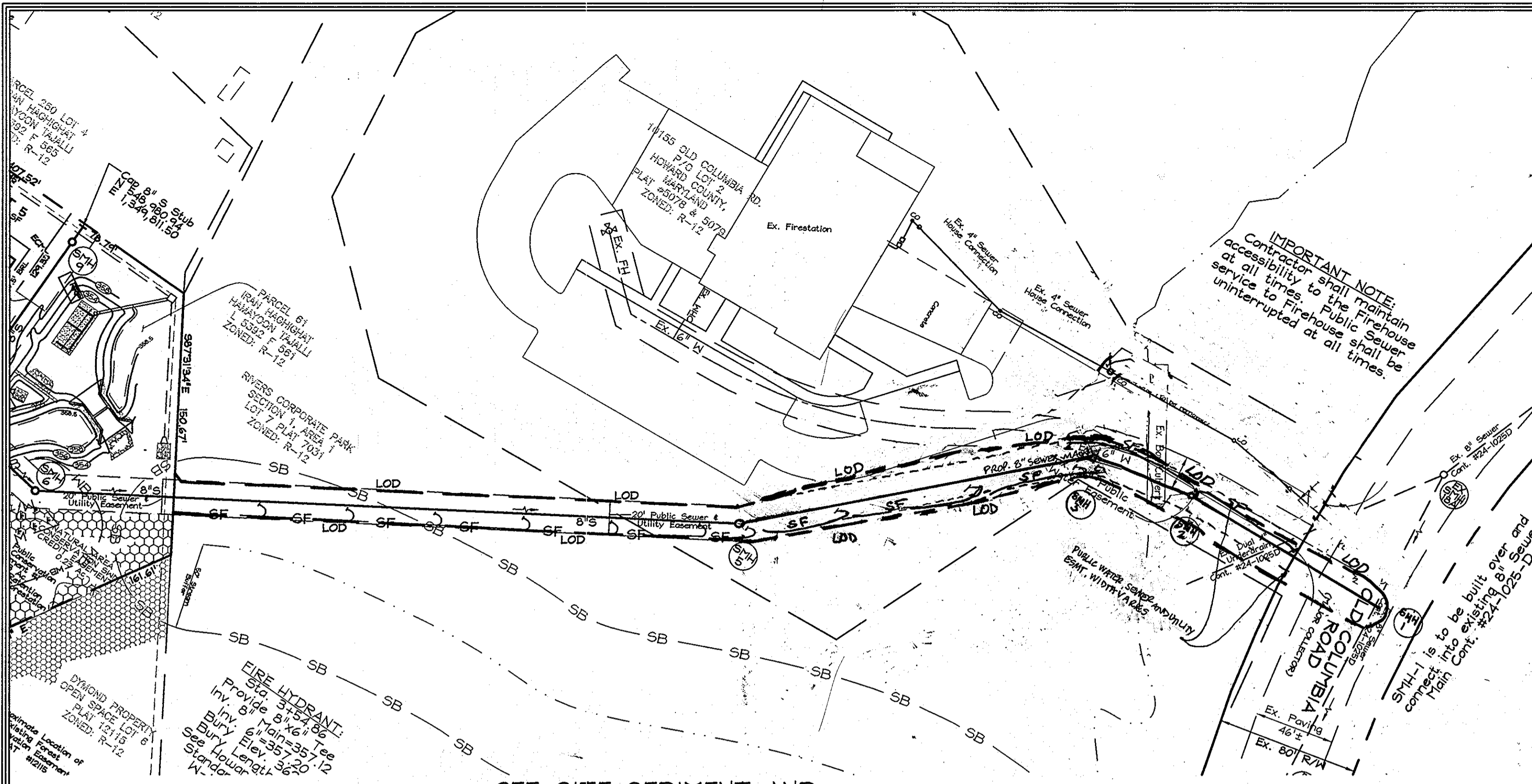
DESIGN BY: CRH2
DRAWN BY: CRH2
CHECKED BY: ZYF
DATE: Mar. 31, 2010

NO.	REVISION	DATE
MBA 1	REVISED SEWER MAIN PROFILE	5.21.12
BY NO.	REVISION	DATE

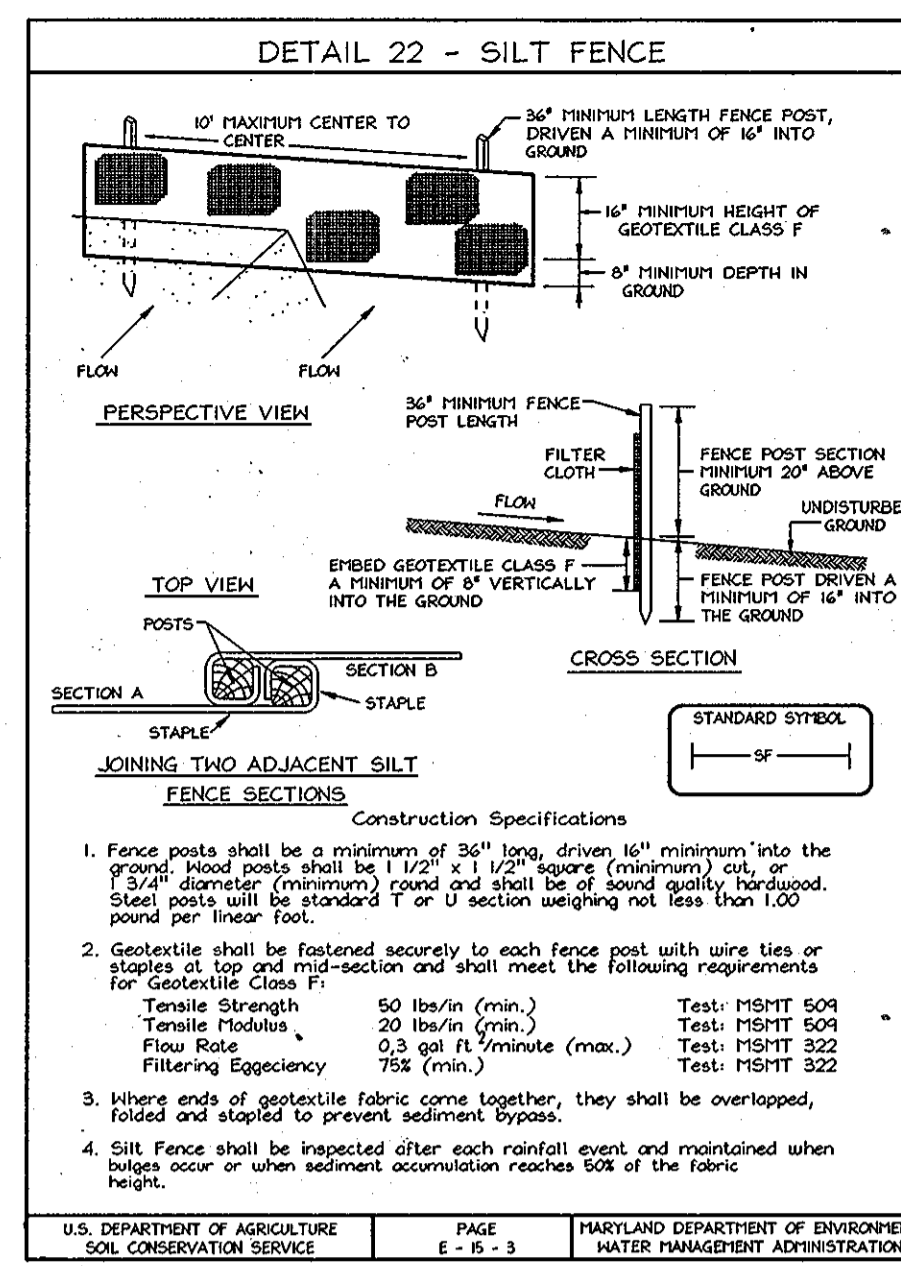
FINAL PUBLIC WATER & SEWER PLANS
600' SCALE MAP NO.: 42 BLOCK NO.: 7

KINGS COVE
A RESUBDIVISION OF LOTS 4 AND 5-A,
PLAT NUMBERS PB 7/F 71 AND PB 026/F 039
CONTRACT NO. 24-4634-D
TAX MAP #42 GRID 7 PARCELS 61, 250 & 251
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

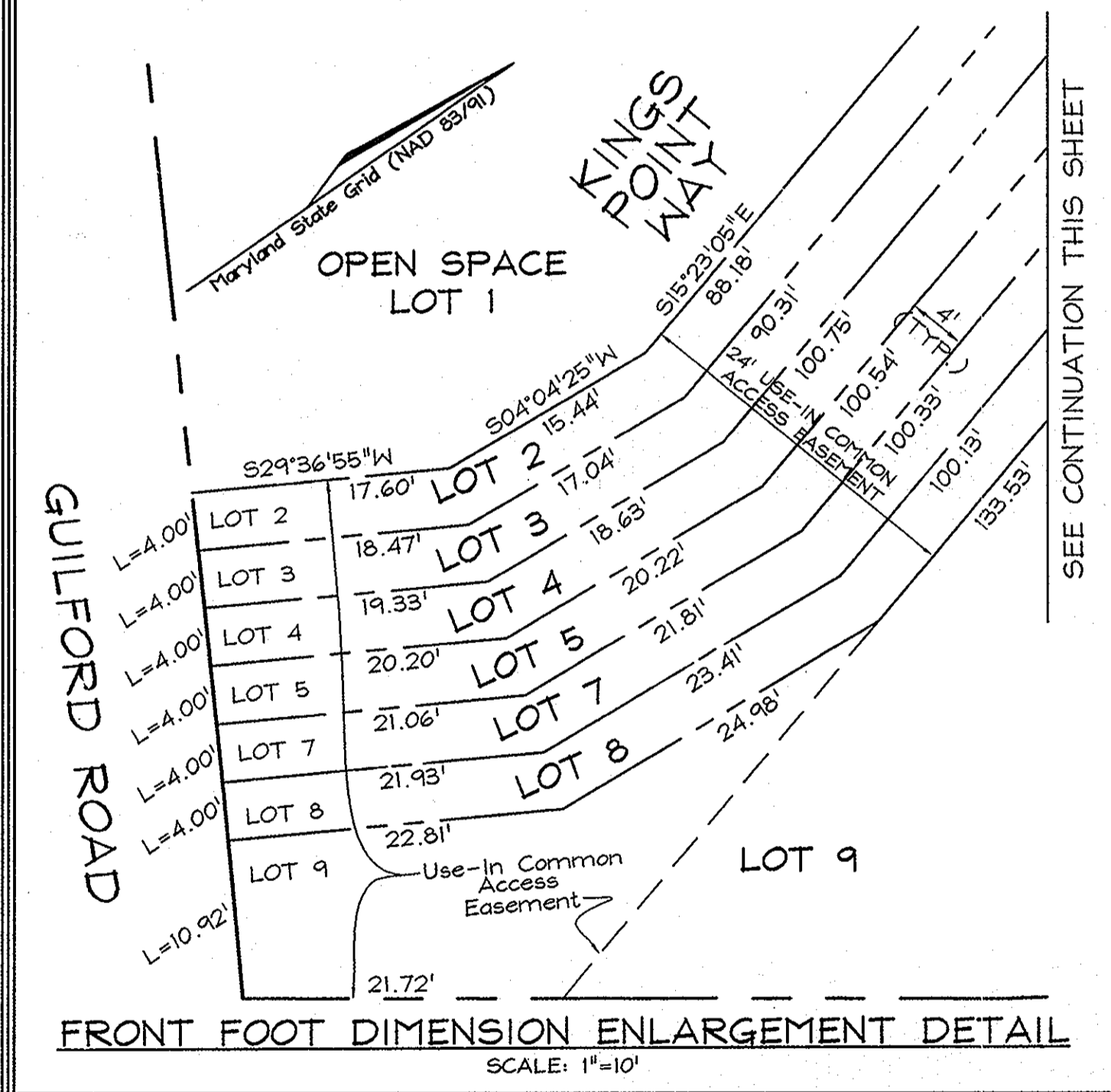
SCALE AS SHOWN
SHEET NO. 3 OF 4



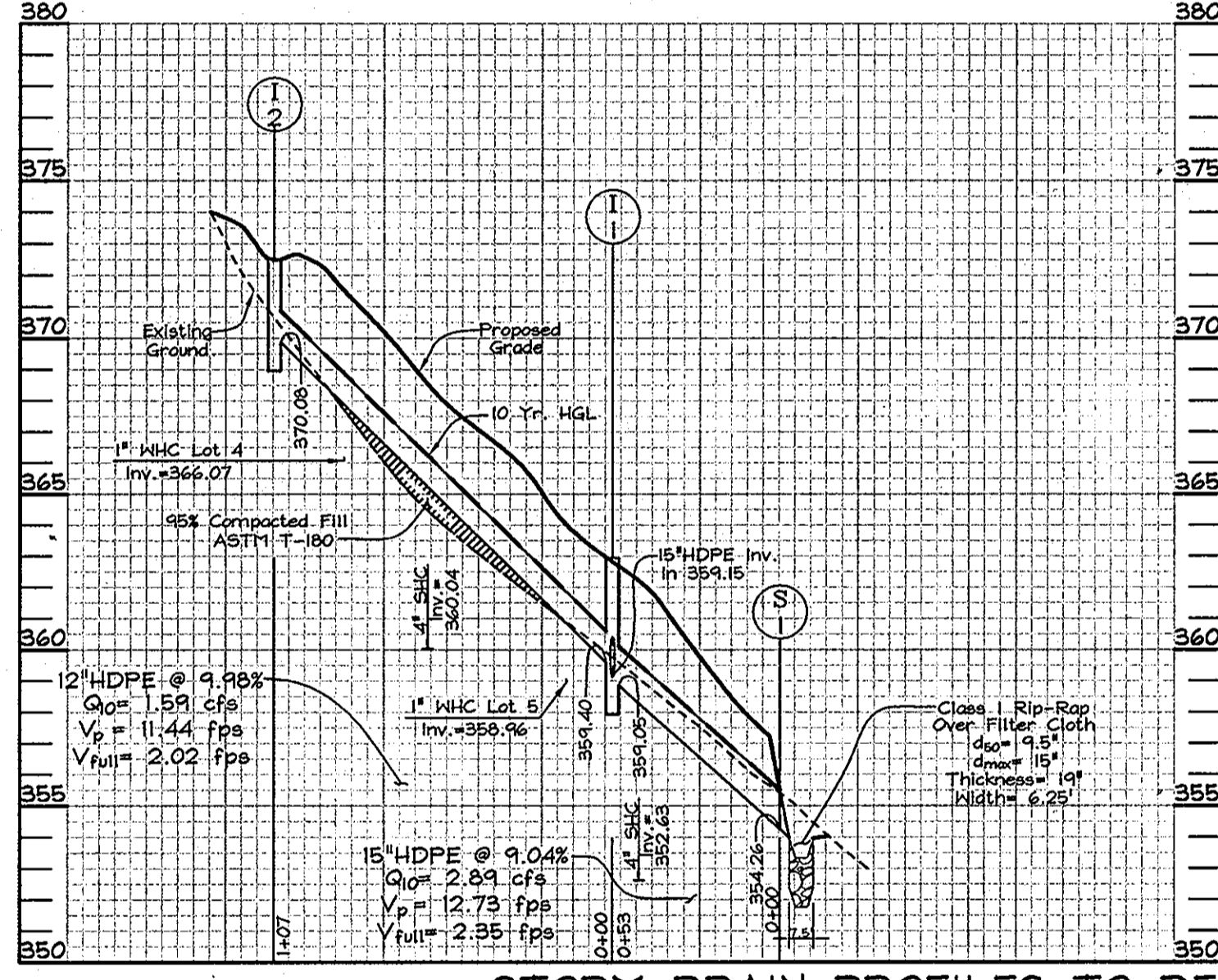
OFF-SITE SEDIMENT AND EROSION CONTROL PLAN
SCALE: 1"=50'



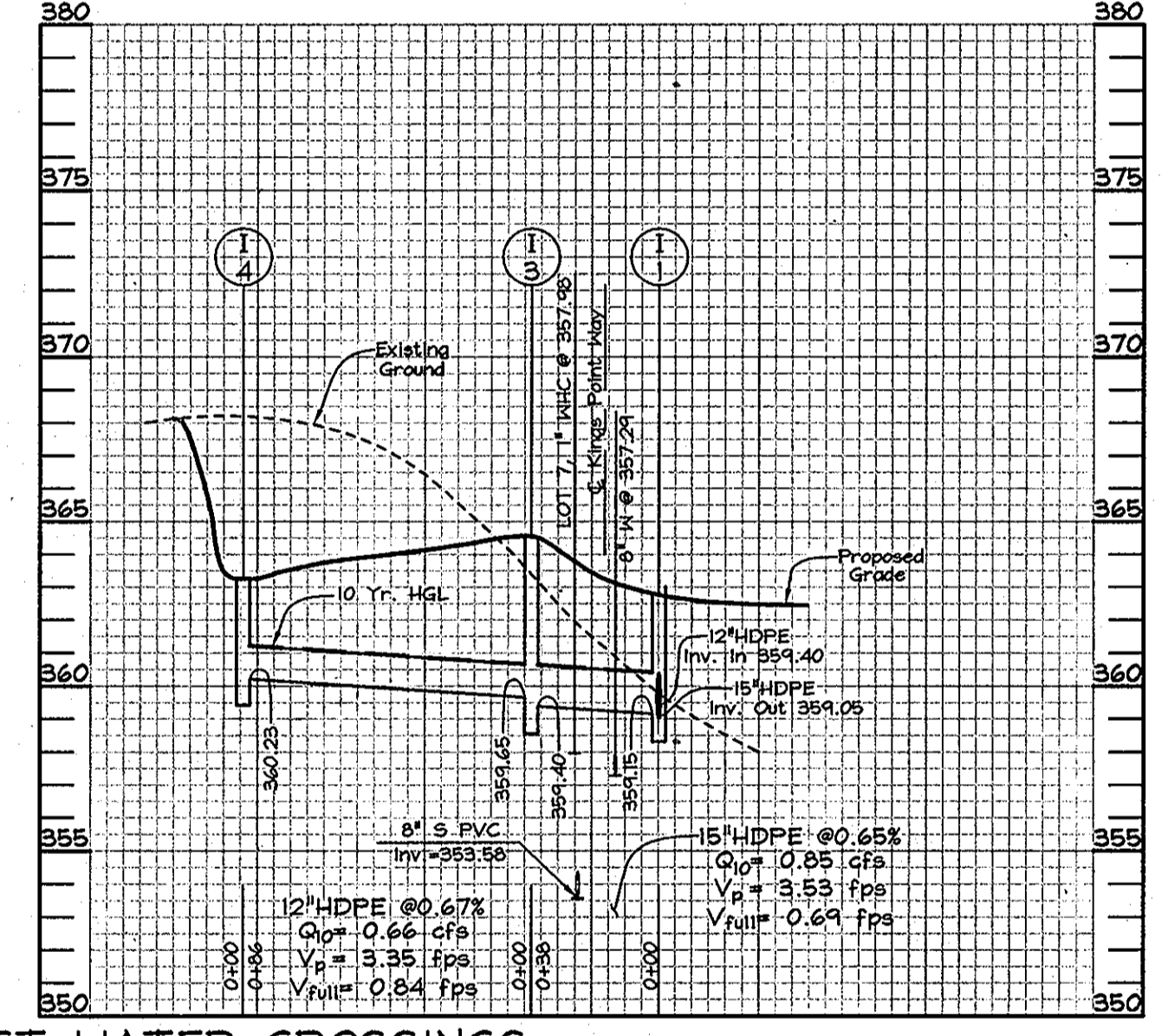
- ### SEQUENCE OF CONSTRUCTION FOR SEDIMENT AND EROSION CONTROL
1. Obtain grading permit.
 2. Notify Howard County Department of Inspections, License and Permits at (410) 313-1000 at least 24 hours before starting any work.
 3. Install sediment & erosion control measures including silt fences. All sediment & erosion control measures must be installed to the satisfaction of the sediment control inspector.
 4. After receiving permission from the sediment control inspector, proceed with installation of sewer from S114-6 to S114-1. Installation must be done in such a way as to maintain continuous vehicular access and sewer service to the Firehouse at all times.
 5. After sewer installation is complete, and upon stabilization of all disturbed areas and with the permission of the Sediment Control Inspector, remove all sediment control measures and stabilize any remaining disturbed area.
- NOTE: The remainder of the sewer and water mains will be installed per this plan and sediment and erosion controls are provided under F-10-001.



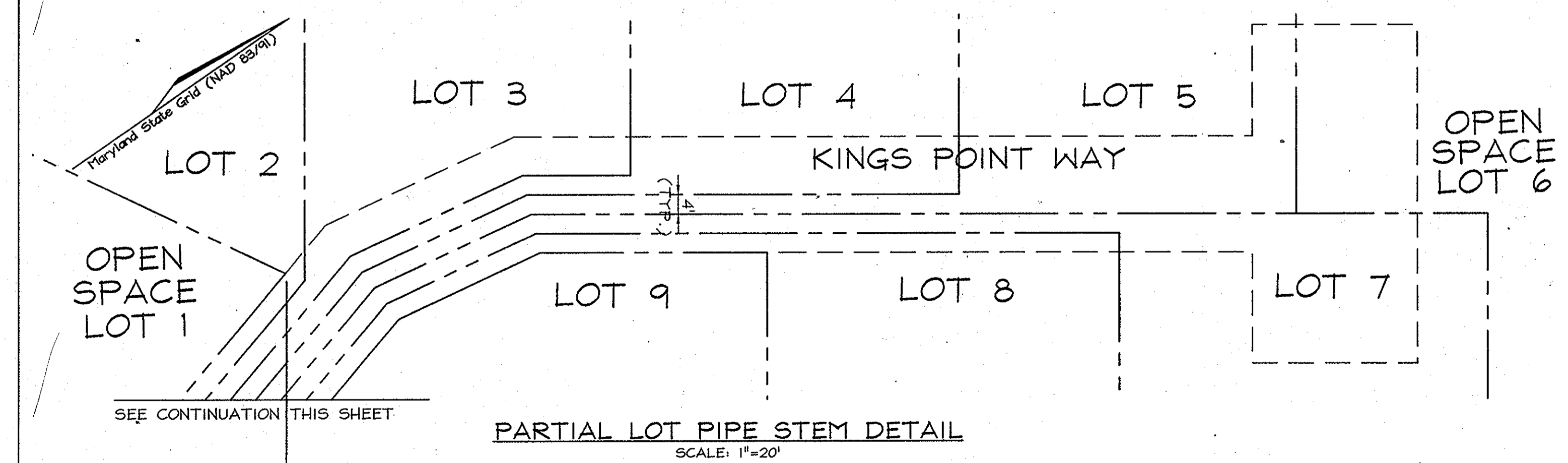
FRONT FOOT DIMENSION ENLARGEMENT DETAIL
SCALE: 1"=10'



STORM DRAIN PROFILES TO DEPICT WATER CROSSINGS
NOTE: SEE FINAL CONSTRUCTION PLANS (F-10-001) FOR COMPLETE STORM DRAIN DETAILS.
SCALE- HORIZONTAL: 1"=50', VERTICAL: 1"=5'



WATER MAIN PROFILE
SCALE- HORIZONTAL: 1"=50', VERTICAL: 1"=5'



PARTIAL LOT PIPE STEM DETAIL
SCALE: 1"=20'

DEVELOPER'S CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A 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.

Cindy Delozzo *Zacharia Y. Fisch*
SIGNATURE OF DEVELOPER DATE: 3/31/2010

I HEREBY CERTIFY THAT THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SCD DATE

ENGINEERS CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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.

Zacharia Y. Fisch 5/4/10
SIGNATURE OF ENGINEER DATE
ZACHARIA Y. FISCH

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. #22418, Expiration Date: 07/29/2011.

OWNER/DEVELOPER
CMC LAND, LLC
11710 Stonegate Lane
Columbia, Maryland 21044
Cindy Delozzo: Cell. No. 443-250-6395
Fax No.: 410-730-8823

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John C. ... 5/2/10
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

... 4/30/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Ellicott City, MD 21075
Tel: 410-587-5200 Fax: 410-798-1582
E-mail: info@fshen.com

DESIGN BY: CRH2
DRAWN BY: CRH2
CHECKED BY: ZYF
DATE: Mar. 31, 2010

MBA	1	REVISED WATER PROFILE & SEDIMENT CONTROL	5.21.12
BY NO.		REVISION	DATE

FINAL PUBLIC WATER & SEWER PLANS
600' SCALE MAP NO.: 42 BLOCK NO.: 7

KINGS COVE
A RESUBDIVISION OF LOTS 4 AND 5-A,
PLAT NUMBERS PB 7/F 71 AND PB 026/F 039
CONTRACT NO. 24-4634-D
TAX MAP #42 GRID 7 PARCELS 61, 250 & 251
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET NO. 4 OF 4