

Benchmark Description

COORD. ATES IN MARYLAND NAD83(91) (HORIZONTAL) AND NAVD29 (VERTICAL) DATUMS.

47DA NORTHING: 163191.9104
EASTING: 412265.7530
ELEVATION: 315.905 ft.

47E4 NORTHING: 163326.2295
EASTING: 413336.2590
ELEVATION: 338.909ft.

47G2 NORTHING: 162440.1212
EASTING: 410839.2779
ELEVATION: 364.2101.

GENERAL NOTES

PART I - GENERAL

- 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.
- All horizontal controls are based on Maryland State Coordinates, NAD 83(91).
- All vertical controls are based on NAVD 88.
- 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 contracted 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 (P) 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 works 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 (Contractor 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	410-531-8533
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.

12. A VARIANCE (RESOLUTION NO. 118-2011) PURSUANT TO SECTIONS 16.301 AND 16.200 (a) OF THE HOWARD COUNTY CODE WAS GRANTED ON JULY 28, 2011 FOR GOVERNMENT USES FROM THE STRUCTURE AND USE SETBACK FOR A FENCE.

PART II WATER

- All water mains shall be D.I.P. Class 52 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.

PART III SEWER

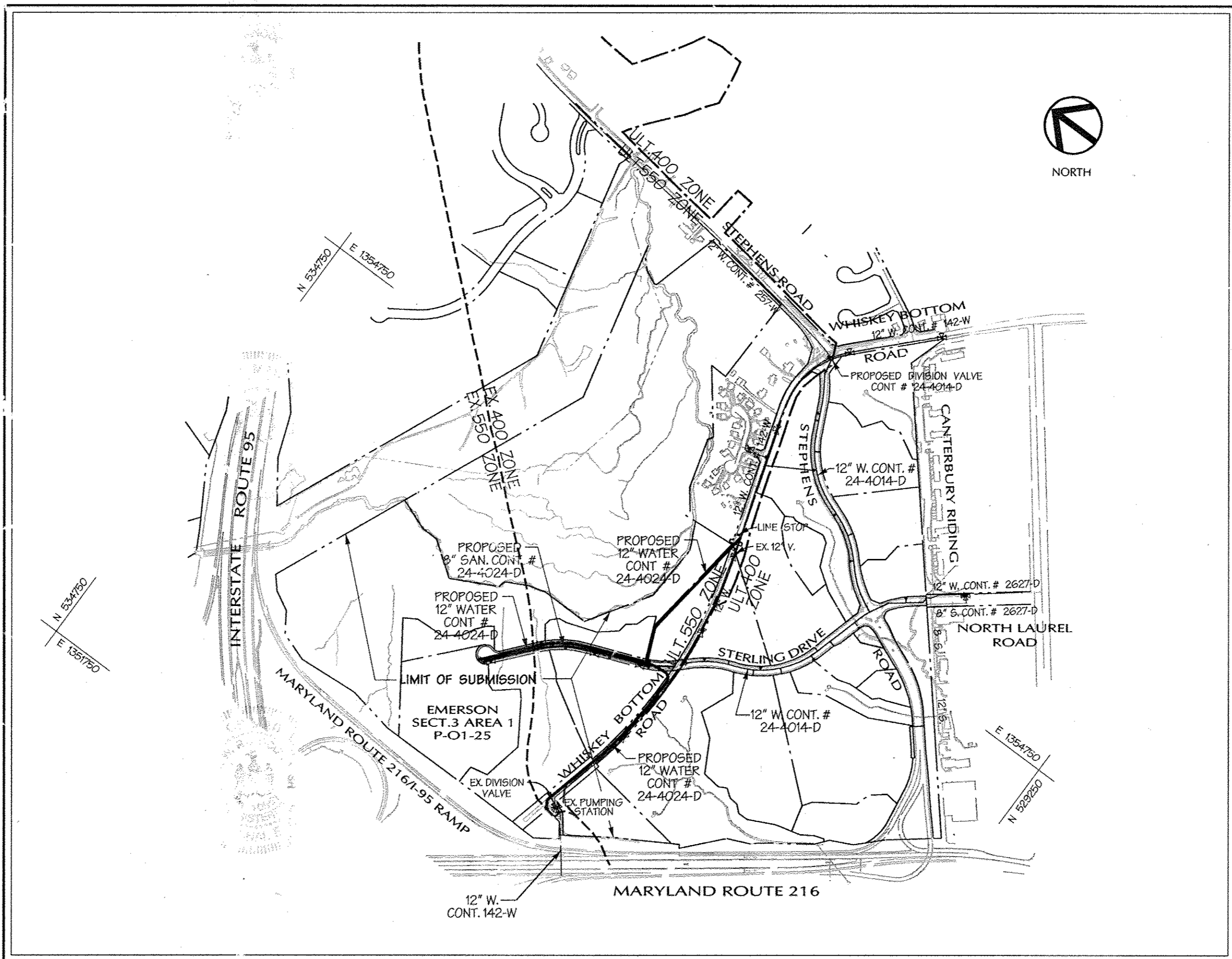
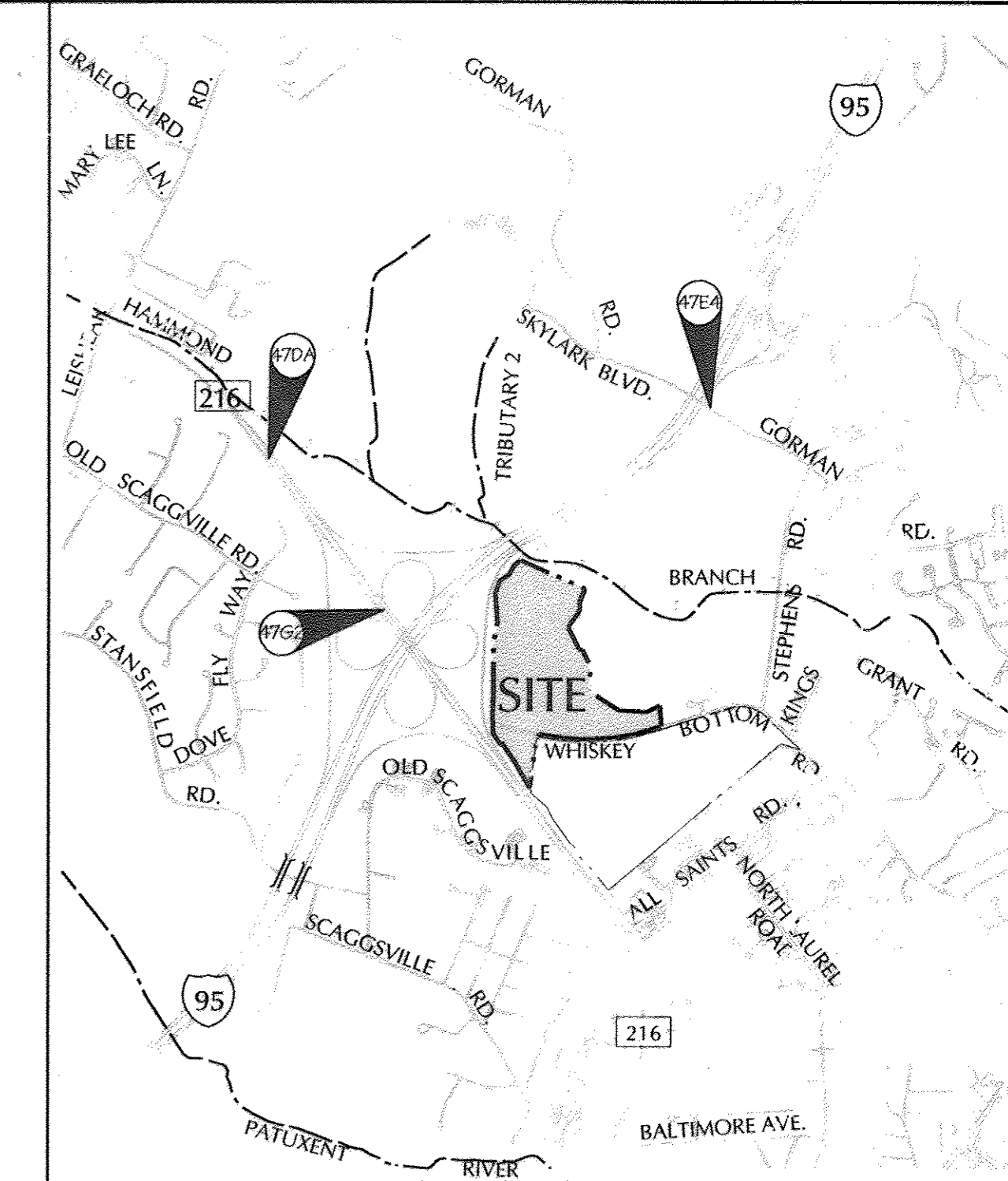
- All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be D.I.P. only.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- Manholes designated "J.T." in plan and profile shall have watertight frame and cover, Standard Detail G5.52. Where watertight manhole frames and cover are used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
- House(s) with the symbol "C.N.S." indicates that the cellar cannot be served.

8" & 12" Water and Sewer Main Extension for Emerson

(Formerly the Key Property)
Section 3, Area 1

Howard County, Maryland Department of Public Works

Contract No. 24-4024-D



LOCATION MAP
SCALE: 1"=600'

CONTRACT NO. 24-4024-D

TYPE OF BUILDING:	OFFICE / FLEX.
NO. OF PARCELS:	3
NO. OF WATER CONNECTIONS:	2
NO. OF SEWER CONNECTIONS:	4
DRAINAGE AREA:	LITTLE PATUXENT
TREATMENT PLANT:	LITTLE PATUXENT WATER QUALITY MANAGEMENT CENTER

WATER CODE: E-13/C-02
TEST GRADIENT: 700/550
SEWER CODE: 739C0000

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
12" D.I.P.	2473'		DIP, CL. 52	US PIPE & FOUNDRY/BELAIR RD. SUPPLY
8" D.I.P.	1292'		DIP, CL. 52	US PIPE & FOUNDRY/BELAIR RD. SUPPLY
6" D.I.P.	102'		DIP, CL. 52	US PIPE & FOUNDRY/BELAIR RD. SUPPLY
12" x 12" TEE	1		MJ	SIGMA/BELAIR RD. SUPPLY
8" x 8" TEE	1		MJ	SIGMA/BELAIR RD. SUPPLY
8" x 6" TEE	4		HYDRANT	SIGMA/BELAIR RD. SUPPLY
12" VALVE	3	3	RSORGATE	MUELLER CO./BELAIR RD. SUPPLY
8" VALVE	3	3	RSORGATE	MUELLER CO./BELAIR RD. SUPPLY
6" VALVE	4	4	RSORGATE	MUELLER CO./BELAIR RD. SUPPLY
1/2" BEND (12")	5		MJ	SIGMA/BELAIR RD. SUPPLY
8" CAP	2		MJ	SIGMA/BELAIR RD. SUPPLY
6" FIRE HYDRANT	4	4	MUELLER	MUELLER CO./BELAIR RD. SUPPLY
12" x 8" REDUCER	1		MJ	SIGMA/BELAIR RD. SUPPLY
1/2" BEND (8")	2	2	MJ	SIGMA/BELAIR RD. SUPPLY
8" PVC SEWER	1335'		PVC, SDP-35	JM MFG./BELAIR RD. SUPPLY
STD. MANHOLES	5	6	FRECAST CONC.	AMERICAST
TYPE 'A' DROP CONN.	1			
12" TAPPING SERVICE & VALVE	1	1	85 TAP	JCM INDUSTRIES/MUELLER/BELAIR RD. SUPPLY
MANHOLES- VERT. FT.	51'			

NAME OF UTILITY CONTRACTOR: W F WILSON
SURVEY AND DRAFTING DIVISION AS-BUILT DATE: FEBRUARY 2007

Sheet Index

SHEET	DESCRIPTION
1	TITLE SHEET
2	WATER & SEWER PLAN AND PROFILE
3	WATER PLAN
4	WATER PROFILE

4A5 FENCE LAYOUT PLAN

Legend

EX. CURB & GUTTER	---	PROP. SEWER	---
EX. MAJOR CONTOURS	---	PROP. WATER	---
EX. MINOR CONTOURS	---	PROP. PROPERTY LINE	---
EX. STORM DRAIN	---	ROADWAY RIGHT-OF-WAY	---
EX. SEWER	---	PROPOSED LOT LINE	---
EX. WATER	---	PROPOSED EASEMENT	---
EXISTING TREE LINE	---	PROPOSED CURB & GUTTER	---
EXISTING WETLAND LIMIT	---	PROPOSED SIDEWALK	---
EXISTING UTILITY POLE	---	PROPOSED GUARD RAIL	---
PROP. STORM DRAIN	---	PROPOSED RIP-RAP	---
WATER LINE STATIONING	---		

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

Jim Meyer 12/9/02
SIGNATURE DATE

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

APPROVED *John Robinson* 12/19/02
H. WARD DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND
DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-02-131.

THE PURPOSE OF REDLINE REVISION #3 IS TO:
1. SHOW THE PROPOSED EMERSON CAMPUS SECURITY FENCE.
2. ADD AN ADDITIONAL DRAWING SHEET ASSOCIATED WITH THE PROPOSED EMERSON CAMPUS SECURITY FENCE.

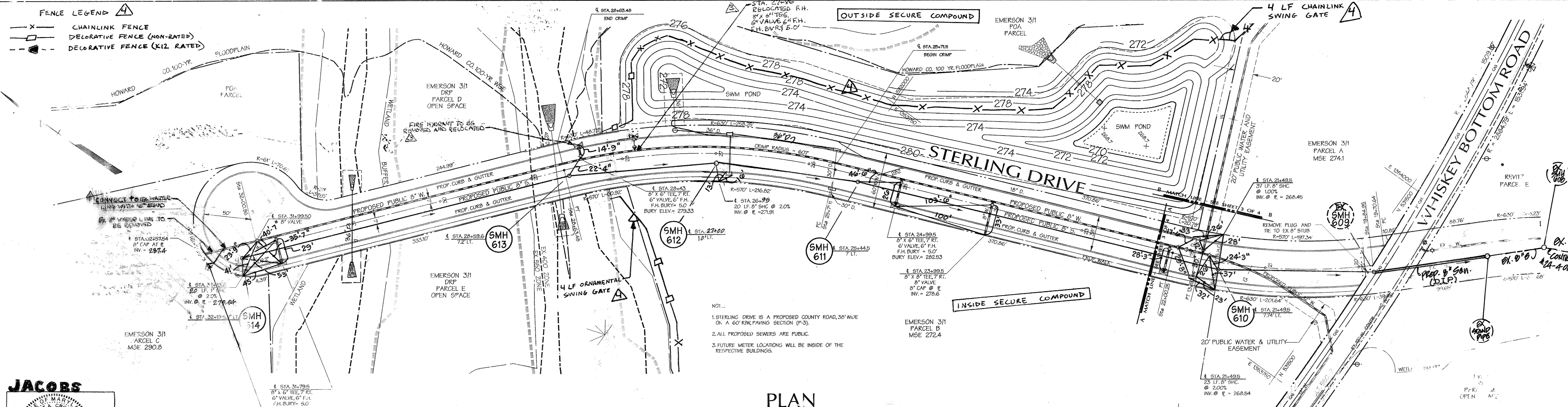
JACOBS
PROFESSIONAL CERTIFICATION

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. 45292 EXPIRATION DATE: 05/21/2016

ENGINEER'S SEAL BOX FOR REDLINE REVISION #3 ONLY

AS BUILT
DATE: FEBRUARY 2007.

DESIGN BY: DFM	CHECKED BY: JACOBS	DATE: 3-5-02	BY: NO.	NO.	DATE: 1/21/07	REV: 1/21/07	600 SCALE MAP NO. 47	BLOCK NO. 20	TITLE SHEET WATER AND SEWER 6th ELECTION DISTRICT	EMERSON (Formerly the Key Property) Section 3, Area 1 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 CONTRACT NO. 24-4024-D	SCALE 1"=600	SHEET 1 OF 5
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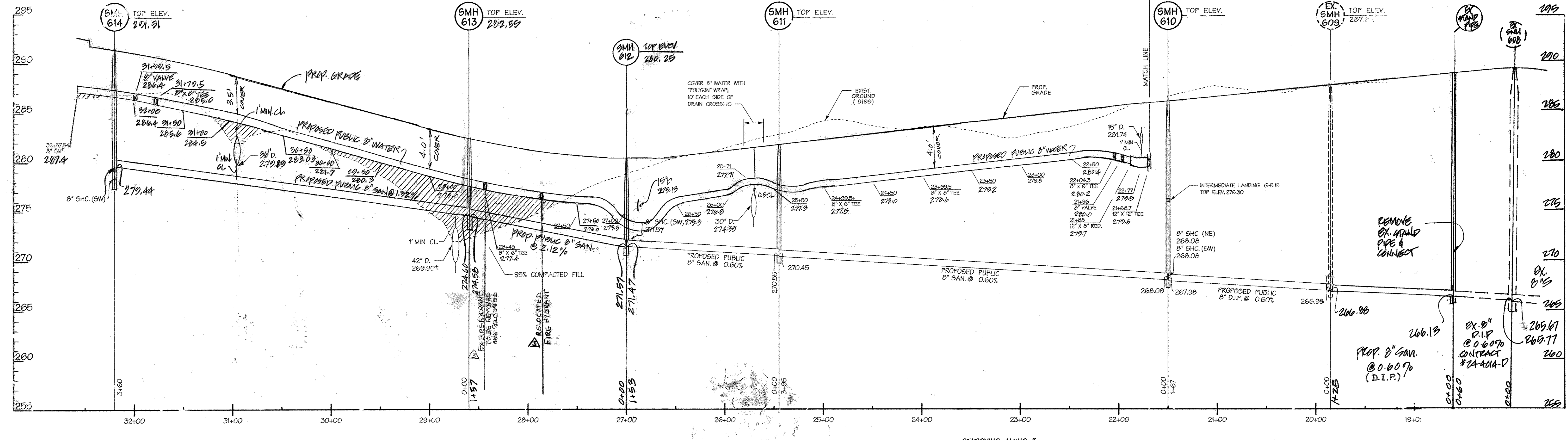


NOTES:
 1. STERLING DRIVE IS A PROPOSED COUNTY ROAD, 30' WIDE ON A 60' R/W. PAVING SECTION (P-3).
 2. ALL PROPOSED SEWERS ARE PUBLIC.
 3. FUTURE METER LOCATIONS WILL BE INSIDE OF THE RESPECTIVE BUILDINGS.

PLAN
 SCALE: 1" = 50'

JACOBS

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. 45292 EXPIRATION DATE: 05/21/2016



PROFILE
 SCALE: HORZ. 1" = 50'
 VERT. 1" = 5'

AS BUILT
 DATE: FEBRUARY 2007

DEPARTMENT HOWARD CO.	PUBLIC WORKS MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND
<i>R. Kelly</i> 12-2-07 CHIEF - BUREAU OF UTILITIES	<i>Robert J. Kelly</i> 12/3/07 CHIEF - DEVELOPMENT ENGINEERING DIVISION	

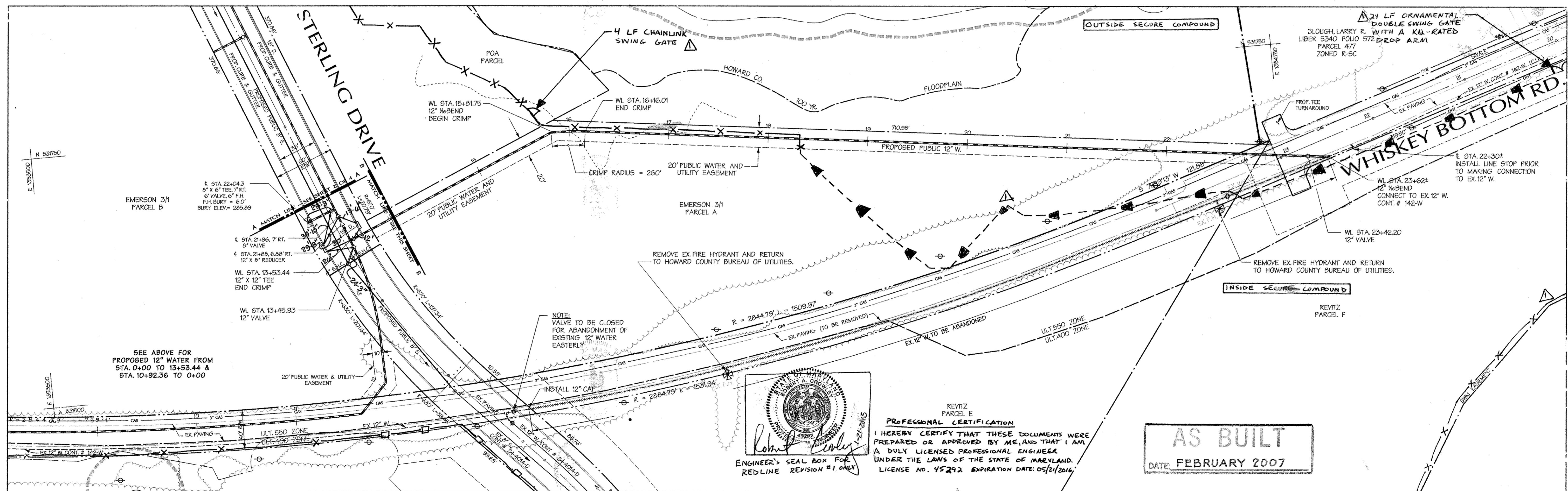
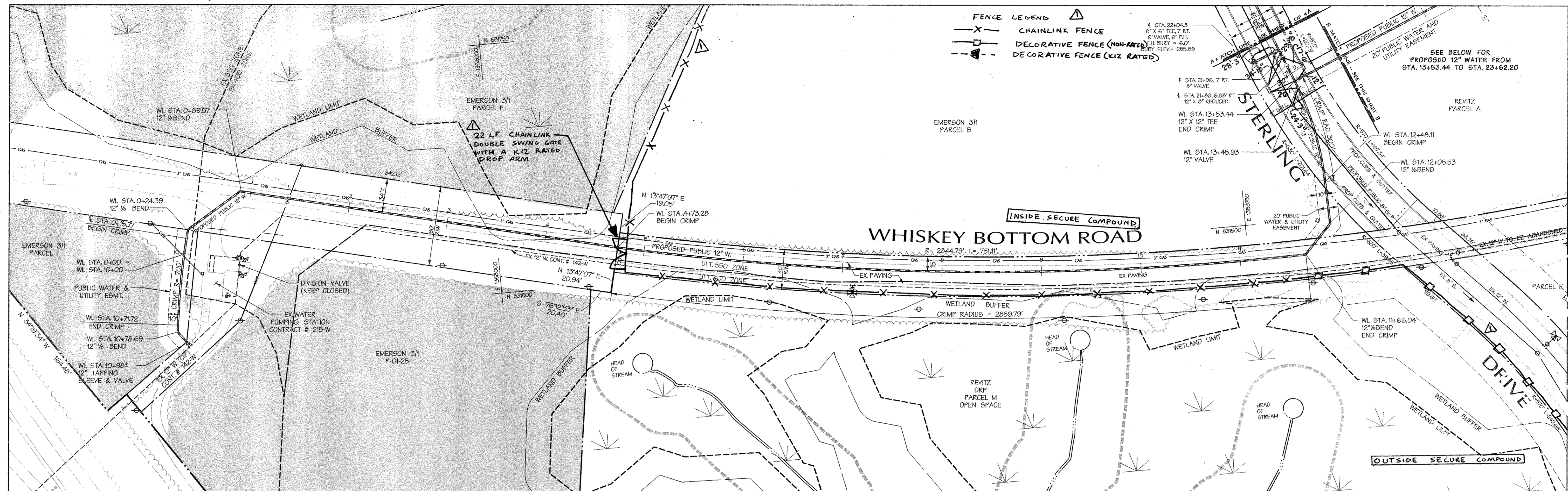
DMW
Daft · McCune · Walker, Inc.
 A Team of Land Planners, 200 East Pennsylvania Avenue, Towson, Maryland 21286
 Landscape Architects, Engineers, Surveyors & Environmental Professionals
 410 296 3333
 Fax 296 4707

DESIGN BY: DFM		
DRAWN BY: WDE	JACOBS	CAMPUS PERIMETER SECURITY FENCE 1/21/07
CHECKED BY: PMW	JACOBS	RELOCATED FIRE WATER LINE 2/1/07
DATE:	PMW	ADDITIONAL SEWER EX-000 TO EX-STAND PIPE 1/27/07
BY NO.	PMW	REALIGNMENT OF 8" W/D SAN. AT STERLING DR 1/14/07
REVISION		

WATER & SEWER PLAN & PROFILE
 6th ELECTION DISTRICT
 SCALE MAP NO. 47 BLOCK NO. 20

EMERSON
 (Formerly the Key Property)
 Section 3, Area 1
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 10273 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 CONTRAC' NO. 24-4024-D

SCALE: 1" = 50'
 SHEET: 2 OF 25



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

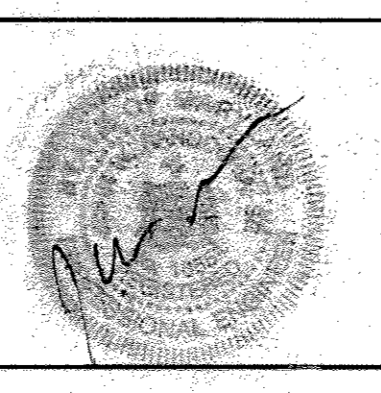
R. J. ... 12-2-02
CHIEF - BUREAU OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

... 12/12
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Daft · McCune · Walker, Inc.

A Team of Land Planners, 200 East Pennsylvania Avenue
Landscape Architects, Towson, Maryland 21286
Engineers, Surveyors & Environmental Professionals 410 296 3333
Fax 296 4705



DESIGN BY:	DFM
DRAWN BY:	WDE
CHECKED BY:	
DATE:	3/20/05
BY NO.	
REVISION	CAMPUS PERIMETER SECURITY FENCE
DATE	1/21/15

WATER PLAN
6th ELECTION DISTRICT

60% SCALE MAP NO. 47 BLOCK NO. 20

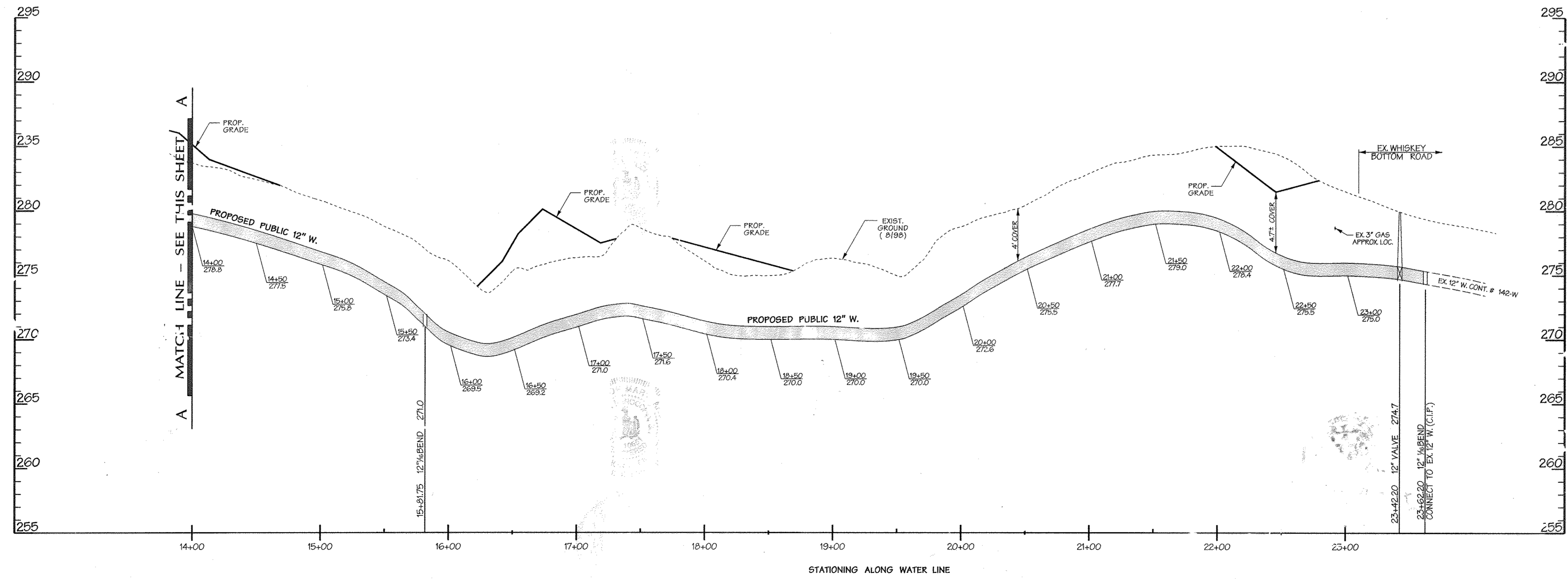
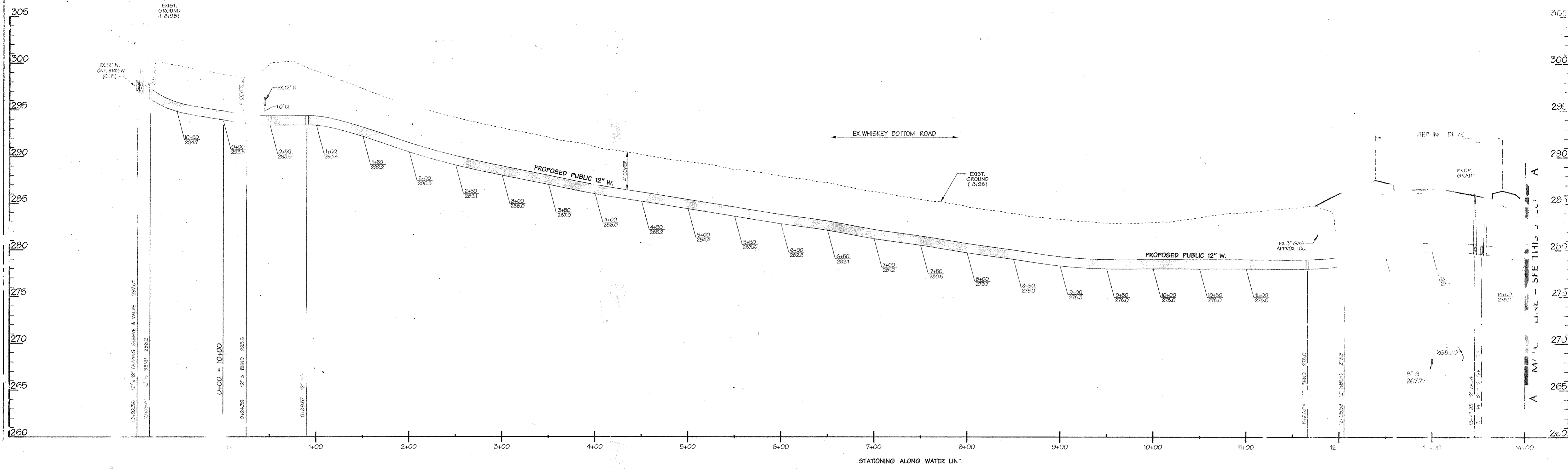
EMERSON
(Formerly the Key Property)
Section 3, Area 1

THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

CONTRACT NO. 24-0424-D

SCALE
1" = 50'

SHEET
3 OF 25



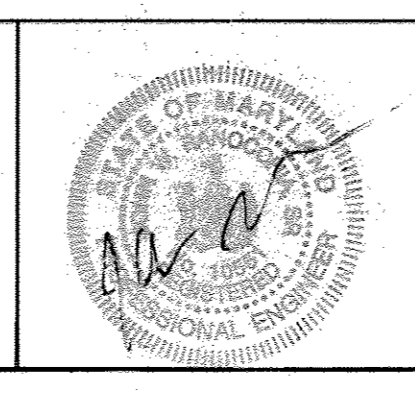
NOTE:
PROPOSED GRADE SHOWN IS
TAKEN FROM MASS GRADING PLAN.

AS BUILT
DATE: FEBRUARY 2007

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
[Signature] 12-2-02
CHIEF ENGINEER OF UTILITIES - DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
[Signature] 2/13/07
CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE

DMW
Dan McCune-Walker, Inc.
A Team of Land Planners, 200 E. Pennsylvania Avenue
Landscape Architects, Annapolis, Maryland 21403
Engineers, Surveyors & Environmental Professionals
410 296 3333
Fax 296 4705



DESIGN BY: DFM
DRAWN BY: WJE
CHECKED BY:
DATE: 12-2-02
DATE: 2-13-07

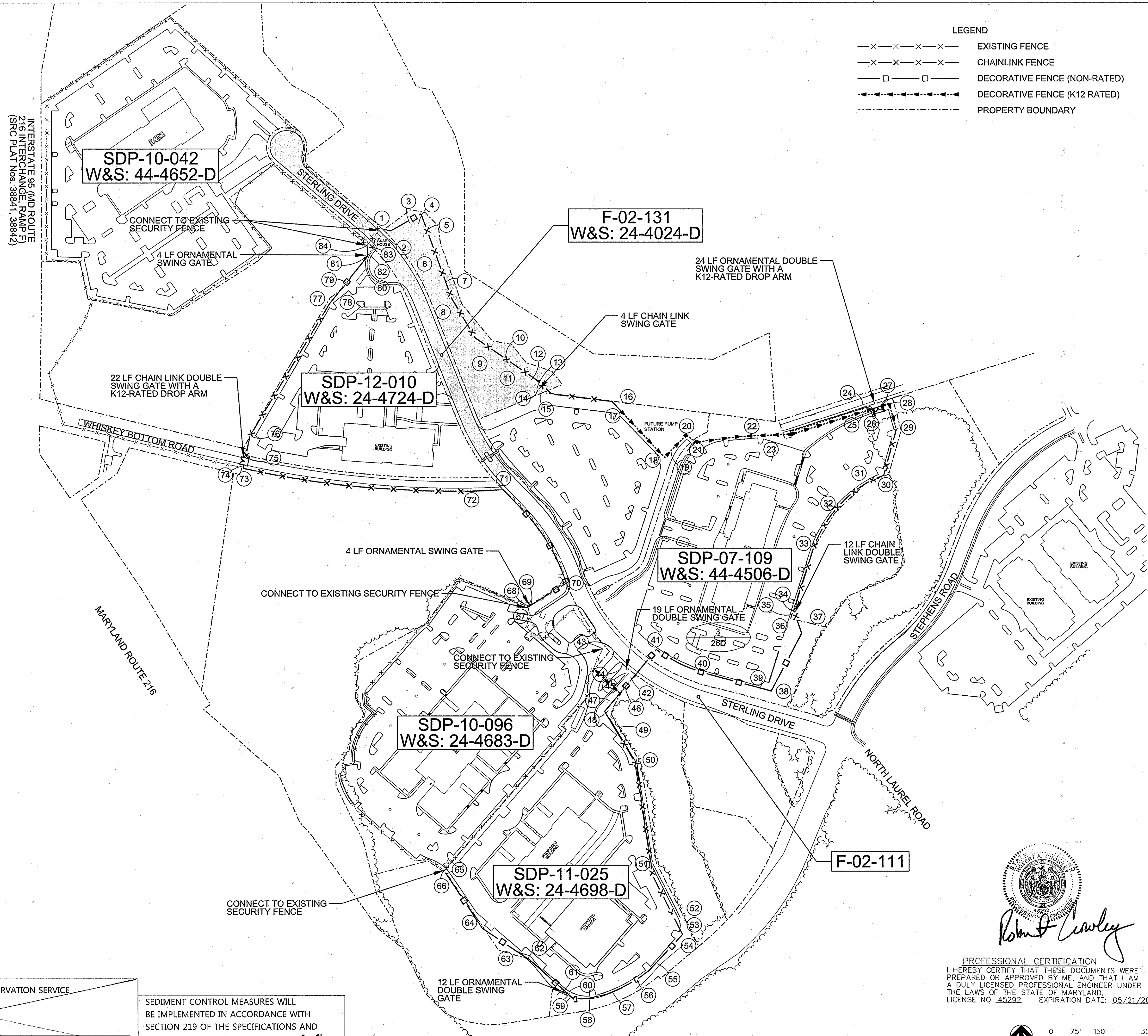
WATER PROFILE
6th ELECTION DISTRICT
SCALE MAP NO. 47 BLOCK NO. 20

EMERSON
(Formerly the Key Property)
Section 3, Area 1
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
CONTRACT NO. 24-4024-D

SCALE
HORZ. 1" = 50'
VERT. 1" = 10'
SHEET
4 OF 25

	COORDINATE ID	NORTHING	EASTING	FEET OFFSET FROM PROPERTY LINE
8' HIGH IMPASSE NON-RATED ORNAMENTAL FENCE	1	532233.7	1353530.0	9.3
	2	532207.6	1353557.9	7.5
	3	532254.3	1353623.0	32.3
	4	532253.0	1353648.8	37.7
8' HIGH CHAIN LINK FENCE WITH 1' DOUBLE OUTRIGGER	5	532232.6	1353672.5	35.5
	6	531250.6	1353690.4	37.6
	7	532074.1	1353729.9	25.6
	8	531998.0	1353749.7	30.5
	9	531857.1	1353847.0	43.8
	10	531845.2	1353912.5	39.6
	11	531802.7	1353938.5	45.9
	12	531778.8	1353989.5	44.9
	13	531751.5	1354006.8	68.9
	14	531747.9	1354009.1	69.3
	15	531733.7	1354018.0	6.9
	16	531703.5	1354263.8	6.2
	17	531681.1	1354261.0	28.8
	18	531559.4	1354378.6	134.9
8' HIGH IMPASSE K12 RATED ORNAMENTAL FENCE	19	531557.3	1354413.3	132.7
	20	531610.8	1354459.0	73.8
	21	531594.4	1354480.8	0.3
	22	531612.3	1354683.4	44.4
	23	531600.0	1354722.0	51.8
	24	531686.8	1354994.2	6.0
	25	531678.9	1354996.7	14.2
	26	531689.1	1355028.8	14.2
	27	531696.4	1355051.5	14.2
	28	531704.0	1355075.4	14.2
	29	531625.6	1355097.0	14.4
	30	531487.3	1355056.4	2.5
8' HIGH CHAIN LINK FENCE WITH 1' DOUBLE OUTRIGGER	31	531466.2	1355003.9	2.5
	32	531375.2	1354908.7	2.5
	33	531266.0	1354845.0	0.0
	34	531075.5	1354783.8	0.0
8' HIGH IMPASSE NON-RATED ORNAMENTAL FENCE	35	531063.8	1354780.1	0.0
	36	531045.8	1354774.3	6.0
	37	531033.3	1354827.1	6.0
	38	530846.1	1354723.0	50.0
8' HIGH IMPASSE K12 RATED ORNAMENTAL FENCE	39	530837.3	1354691.9	33.0
	40	530891.5	1354495.6	34.4
	41	530953.0	1354360.7	26.5
	42	530874.1	1354291.6	14.5
8' HIGH IMPASSE NON-RATED ORNAMENTAL FENCE	43	530959.6	1354206.6	13.4
	44	530900.0	1354263.2	12.8
	45	530886.4	1354277.9	10.0
	46	530854.5	1354274.0	7.5
8' HIGH IMPASSE NON-RATED ORNAMENTAL FENCE	47	530802.1	1354227.0	20.0
	48	530771.7	1354223.7	12.3
	49	530720.0	1354255.0	2.0
	50	530615.3	1354318.4	2.0
8' HIGH CHAIN LINK FENCE WITH 1' DOUBLE OUTRIGGER	51	530308.5	1354367.5	2.0
	52	530158.1	1354440.4	4.7
	53	530119.6	1354450.4	13.0
	54	530090.6	1354444.4	31.4
8' HIGH IMPASSE NON-RATED ORNAMENTAL FENCE	55	530001.4	1354372.7	40.2
	56	529952.2	1354311.7	29.6
	57	529912.6	1354238.4	28.6
	58	529892.6	1354166.4	31.3
	59	529903.4	1354111.0	51.6
	60	529912.9	1354100.1	46.3
	61	529920.8	1354091.1	36.4
	62	530016.4	1353981.6	0.0
	63	530042.7	1353942.5	14.2
	64	530141.4	1353828.3	2.2
	65	530275.8	1353737.0	1.9
	66	530286.0	1353726.9	4.4
	67	531084.8	1353977.6	3.7
	68	531089.6	1353984.8	0.0
69	531092.0	1353988.4	0.0	
8' HIGH CHAIN LINK FENCE WITH 1' DOUBLE OUTRIGGER	70	531164.5	1354095.9	0.9
	71	531443.9	1353905.8	0.9
	72	531440.2	1353802.7	0.0
	73	531508.5	1353124.3	0.0
	74	531518.5	1353126.4	10.2
	75	531540.6	1353131.8	7.0
	76	531605.3	1353145.4	6.4
	77	532012.6	1353378.9	5.7
8' HIGH IMPASSE NON-RATED ORNAMENTAL FENCE	78	532035.8	1353407.9	10.0
	79	532070.3	1353434.3	4.4
	80	532140.6	1353488.1	4.7
	81	532155.9	1353492.3	1.1
	82	532160.1	1353493.5	2.7
	83	532181.5	1353499.4	7.9
	84	532187.4	1353492.6	8.5

INTERSTATE 66 AND ROUTE 210 INTERCHANGE (RAMP 1E) (SIC PLAN NOS. 3804-1, 3804-2)



LEGEND

- x-x-x-x-x- EXISTING FENCE
- x-x-x-x- CHAINLINK FENCE
- DECORATIVE FENCE (NON-RATED)
- ▲-▲-▲- DECORATIVE FENCE (K12 RATED)
- - - - - PROPERTY BOUNDARY

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

REVIEWED FOR NATURAL RESOURCES CONSERVATION SERVICE AND MEETS TECHNICAL REQUIREMENT

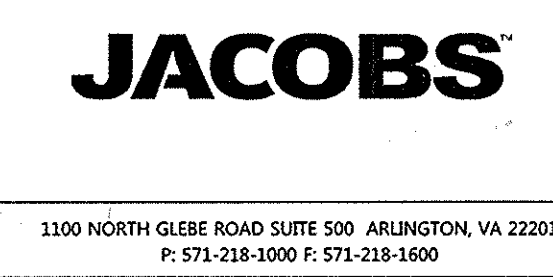
SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND WITH ROAD CONSTRUCTION PLANS F-1-19

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. 45292 EXPIRATION DATE: 05/21/2016

Robert Crowley

HOWARD S.C.D. DATE: 3-23-15
 DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND
 CHIEF - BUREAU OF UTILITIES - DATE

SIGNATURE: [Signature] DATE: 3-23-15
 DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND
 CHIEF - DEVELOPMENT ENGINEERING DIVISION - DATE



DESIGN BY:	M. WERDER
DRAWN BY:	M. WERDER
CHECKED BY:	R. CROWLEY
DATE:	JANUARY 5, 2015
BY NO.	
REVISION	

EMERSON - CAMPUS FENCE	DATE	600 SCALE MAP NO.	47	BLOCK NO.	20
FENCE LAYOUT PLAN					

EMERSON (FORMERLY THE KEY PROP.)
 SECTION 3, AREA 1
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 PARCEL P. 163 P/O PARCEL E37

JACOBS CONTRACT NO. 31435

SCALE: 1"=150'
 SHEET 5 of 5

24-4024-D