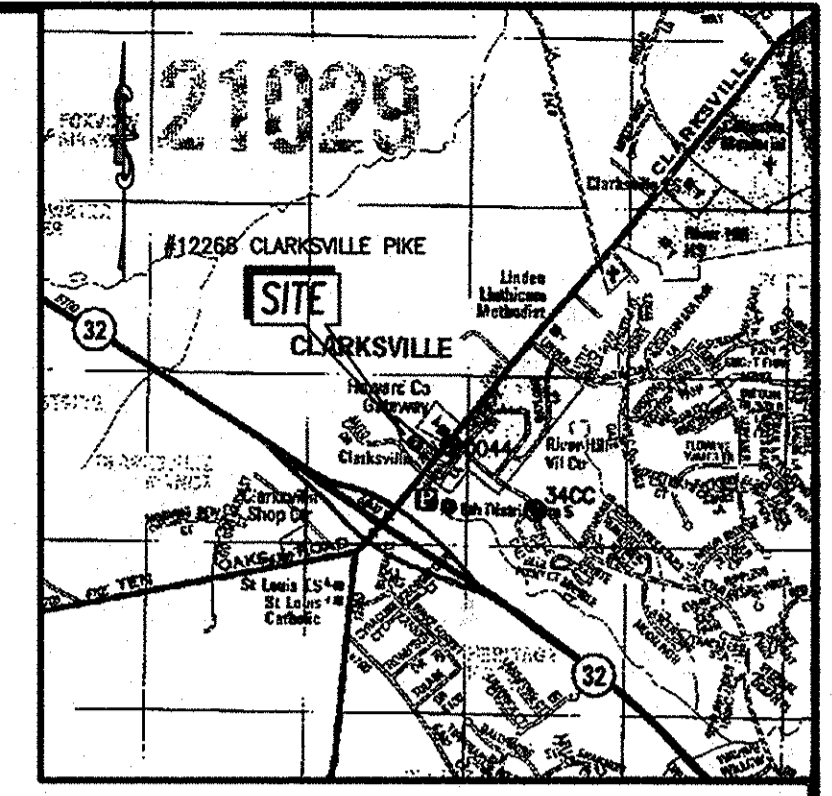


APPROXIMATE MATERIALS QUANTITIES					
ITEM	UNIT	ESTIMATE	AS-BUILT	DETAILS/MANUFACTURE	MANUFACTURE
8" DUCTILE IRON WATER MAIN	L.F.	428	428	GRIFFIN PIPE	
6" DUCTILE IRON WATER MAIN	L.F.	12	12	" "	
4" DUCTILE IRON WATER MAIN	L.F.	12	12	" "	
4" VALVE AND ADJUSTABLE ROADWAY BOX	EACH	1	1	HOWARD CO. STD. DETAIL G-8.01	AMERICAN FLOW CONTROL
6" VALVE AND ADJUSTABLE ROADWAY BOX	EACH	1	1	HOWARD CO. STD. DETAIL G-8.01	" "
8" VALVE AND ADJUSTABLE ROADWAY BOX	EACH	1	1	HOWARD CO. STD. DETAIL G-8.01	" "
8"x6" TEE CONNECTION	EACH	1		HOWARD CO. STD. DETAIL W-2.23	TYLER UNION
8"x4" TEE CONNECTION	EACH	1		HOWARD CO. STD. DETAIL W-2.23	TYLER UNION
FIRE HYDRANT ASSEMBLY	EACH	1	1	HOWARD CO. STD. DETAIL W-1.11	AMERICAN FLOW CONTROL
8"D.I.P. 1/8 HOR. BEND	EACH	2	2	TYLER UNION	
8"D.I.P. 1/16 HOR. BEND	EACH	2	2	" "	
6"D.I.P. 1/4 HOR. BEND	EACH	1	1	" "	
6" PVC 1/8 VERT. BEND	EACH	1	1	" "	
6" PVC (SCH. 26)	L.F.	28	28	J.M. EAGLE	
6" PVC (SCH. 26) CLEANOUT ASSEMBLY	EACH	1	1	HOWARD CO. STD. DETAIL S-3.21	PLASTIC TRENDS
6" PVC TYPE 'B' DROP CONNECTION	EACH	1	1	HOWARD CO. STD. DETAIL S-1.32	" "
UTILITY TRENCH ROADWAY REPAVING	SQ.FT.	605		HOWARD CO. STD. DETAIL G-4.01	
SEEDING AND VEGETATIVE STABILIZATION	SQ.FT.	760			

CLARKSVILLE PIZZA HUT RETAIL BUILDING WATER AND SEWER DRAWINGS HOWARD COUNTY, MARYLAND CONTRACT NO. 24-4714-D



LOCATION MAP
Scale 1" = 2000'

HOWARD COUNTY ADC MAP: 14 GRID: E-7
COPYRIGHT ADC THE MAP PEOPLE PERMITTED USE NUMBER 21096444

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.
 - A topographic field survey was performed on April 1, 2010 by Leon A. Podolak and Associates, LLC.
 - Horizontal and Vertical Control:** The coordinates shown on the drawings are based on Maryland State Reference System NAD 83-Adj 07 and NAD 91, as projected by Howard County Geodetic Control Stations No. 0044 and No. 340C. All vertical controls are based on NAVD 88. Vertical control points provided on the drawings are iron pins with red traverse caps, and coordinate information and elevation are depicted on the plan.
 - All pipe elevations are invert elevations unless otherwise noted on the plans.
 - Clear all utilities by a minimum of 12 inches. Clear all poles by 3'-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 drawing. 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 to the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of poles.
 - For details not shown on the drawing, and for materials and construction methods, use the latest copy of the Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction. 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 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.....	410-531-5533
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 cutting or boring/jacking of any County road for laying of 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 II Water

- All water mains shall be D.I.P. Class 54 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 test records received.
- 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.

Part III Sewer

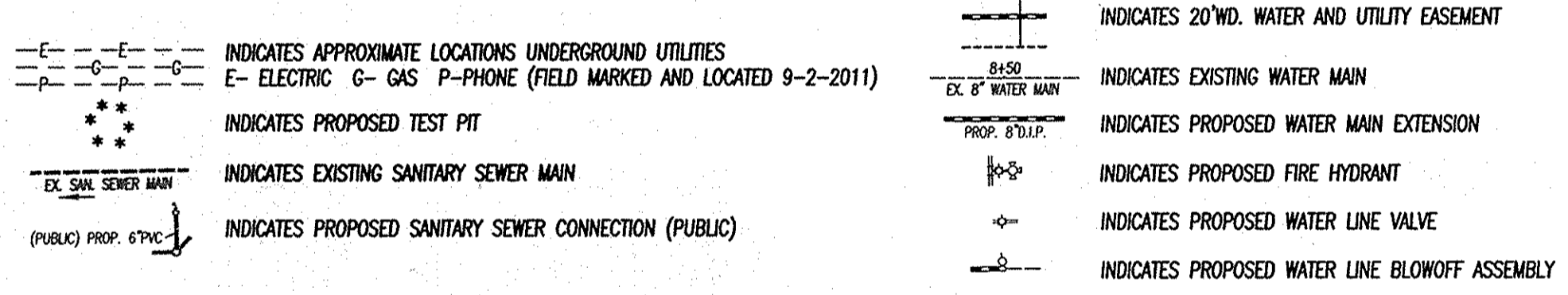
- All sewer mains shall be D.I.P. or P.V.C. unless otherwise noted.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be D.I.P. only.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- Manholes designated W.T. in plan and profile shall have watertight frame and cover, Standard Detail G5.52.
- House(s) with the symbol "C.N.S." indicates that the cellar cannot be served by gravity flow.

OWNER / DEVELOPER
S & W MANAGEMENT, INC., a Kansas Corporation
7070 OAKLAND MILLS ROAD
COLUMBIA, MARYLAND 21046
PHONE: (410) 720-6336

INDEX OF DRAWINGS

- SHEET 1 TITLE SHEET
SHEET 2 PLAN VIEW AND PROFILES

LEGEND



BENCHMARK INFORMATION

HOWARD COUNTY GEODETIC SURVEY CONTROL
Datum (NAD 1983 Adj 07 - NAVD88)
NOTE: SEE SHEET 2 FOR BENCHMARK PLAN VIEW LOCATIONS.

BM1 - REBAR & CAP ("PODOLAK TRAVERSE")
N 562139.7904 E 1329519.0764 ELEV. 484.68
REBAR & CAP set flush with the ground at the location shown on sheet 2.

BM2 - REBAR & CAP ("MT 17")
N 562329.1293 E 1329668.3457 ELEV. 483.39
REBAR & CAP set flush with the ground at the location shown on sheet 2.

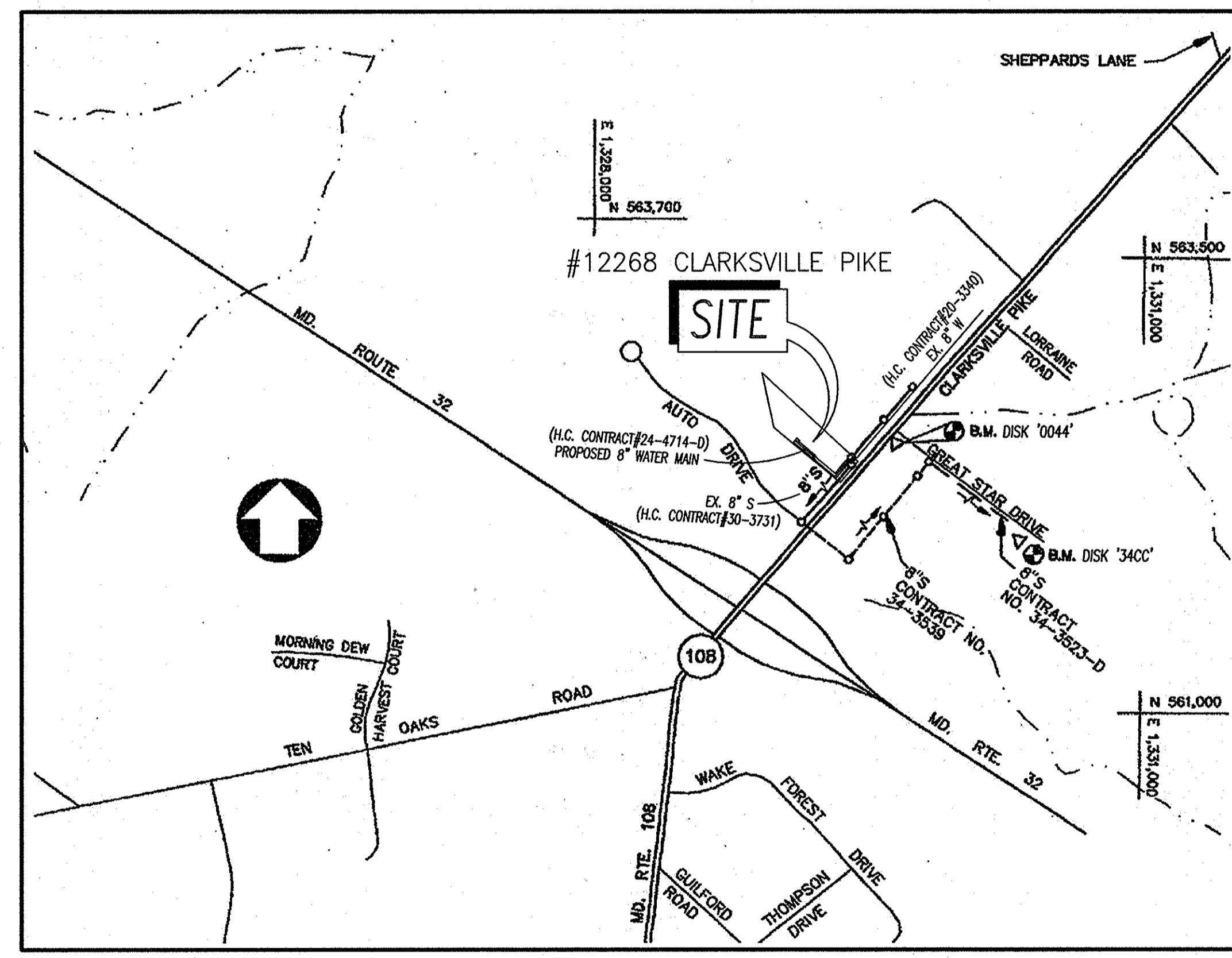
Topography shown on these plans was field run on April 1, 2010 by Leon A. Podolak & Associates, LLC. and is based on the 1988 NAVD as established by the Howard County Survey Control.

HOWARD COUNTY GEODETIC SURVEY CONTROL MONUMENTS USED TO ESTABLISH ON-SITE CONTROL SHOWN ON SHEET 2.

DISK '0044' N 562176.4869 E 1329641.8452 ELEV. 484.477
A Howard County control station, being a concrete monument set flush with the ground on the east most side of Md. Rte. 108 at its intersection with Great Star Drive. 112ft. north from utility pole BGE#531720.

DISK '340C' N 561680.0747 E 1330244.4382 ELEV. 468.416
A Howard County control station, being a concrete monument set flush with the ground on the south most side of Great Star Drive near the entrance to the 'Fieldstone Subdivision' 3.3ft. south of the existing face of curb and 27.5ft. west of an existing fire hydrant.

***NOTE: ALL COORDINATE VALUES SHOWN ON THESE PLANS ARE BASED ON THE STATE GRID NORTH AS ESTABLISHED BY THE HOWARD COUNTY GEODETIC SURVEY CONTROL. SEE ABOVE FOR BENCHMARK INFORMATION ESTABLISHED FOR THIS CONSTRUCTION SITE. COORDINATE VALUES ARE PROVIDED AS A CONVENIENCE TO THE CONTRACTOR FOR STAKEOUT. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF PLAN AND PROFILE DIMENSIONS PRIOR TO FINAL CONSTRUCTION OF EACH ITEM.



VICINITY MAP
SCALE: 1"=600'

HOWARD COUNTY ADC MAP: 14 GRID: E-7
COPYRIGHT ADC THE MAP PEOPLE PERMITTED USE NUMBER 21096444

TYPE OF BUILDING -	RETAIL
NO. OF LOTS/PARCELS -	1
NO. OF WATER HOUSE CONNECTIONS -	1
NO. OF SEWER HOUSE CONNECTIONS -	1
DRAINAGE AREA -	MIDDLE PATUXENT RIVER
WATER ZONE -	630W
TEST GRADIENT -	780

Peter L. Podolak 2-18-12
PETER L. PODOLAK, P.E. DATE

I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED OR APPROVED BY ME, AND I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19561, EXPIRATION DATE: 03-03-2014.

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.

Q. Schuler 2/18/12
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.

Peter L. Podolak 2-18-12
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 these plans.

SDP-11-037

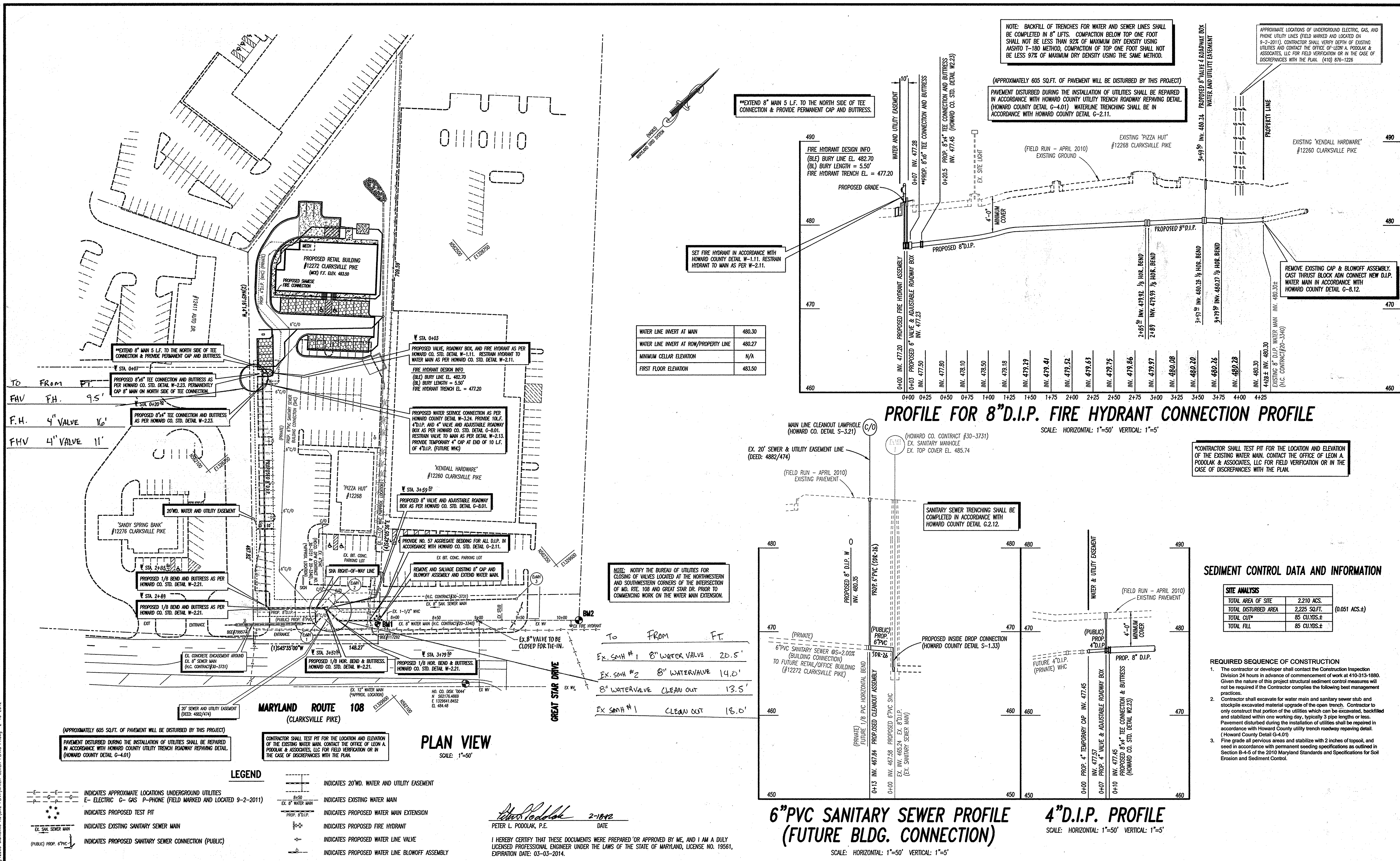
Q. Schuler 2/19/12
Signature of Developer Date

This development is approved for erosion and sediment control by Howard Soil Conservation District.

John R. Robertson 2/13/12
Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Silva C. Green</i> 2/16/12 CHIEF, BUREAU OF UTILITIES DATE	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND <i>Chad Edrington</i> 3-30-12 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	LEON A. PODOLAK and ASSOCIATES, L.L.C. SURVEYING and CIVIL ENGINEERING 147 East Main St. (P.O. Box 266) Westminster, Maryland 21157 (410) 848-2229 - (410) 876-1226 	DES: PLP DRN: WVA CHK: PLP DATE: 2-16-2012	WVA KCL 2 AS BUILT	REALIGN WATER MAIN TO AVOID SITE CONSTRAINTS REALIGN THE PUBLIC EASEMENT TO BE CENTERED ON THE WATER MAIN BY NO. REVISION DATE	TITLE SHEET 10-23-12 4-2-11 3-4 6	CLARKSVILLE PIZZA HUT RETAIL BUILDING WATER AND SEWER DRAWINGS CONTRACT NO. 24-4714-D ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 1 OF 2
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\\Server\cad\drawings\Pizza Hut - #12268 Clarksville Retail Building Water-Sewer Plans.rvt 2-16-2012



NOTE: BACKFILL OF TRENCHES FOR WATER AND SEWER LINES SHALL BE COMPLETED IN 8" LIFTS. COMPACTION BELOW TOP ONE FOOT SHALL NOT BE LESS THAN 92% OF MAXIMUM DRY DENSITY USING AASHTO T-180 METHOD, COMPACTION OF TOP ONE FOOT SHALL NOT BE LESS 97% OF MAXIMUM DRY DENSITY USING THE SAME METHOD.

(APPROXIMATELY 605 SQ.FT. OF PAVEMENT WILL BE DISTURBED BY THIS PROJECT)
PAVEMENT DISTURBED DURING THE INSTALLATION OF UTILITIES SHALL BE REPAIRED IN ACCORDANCE WITH HOWARD COUNTY UTILITY TRENCH ROADWAY REPAIRING DETAIL (HOWARD COUNTY DETAIL G-4.01) WATERLINE TRENCHING SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DETAIL G-2.11.

APPROXIMATE LOCATIONS OF UNDERGROUND ELECTRIC, GAS, AND PHONE UTILITY LINES (FIELD MARKED AND LOCATED ON 9-2-2011). CONTRACTOR SHALL VERIFY DEPTH OF EXISTING UTILITIES AND CONTACT THE OFFICE OF LEON A. PODOLAK & ASSOCIATES, LLC FOR FIELD VERIFICATION OR IN THE CASE OF DISCREPANCIES WITH THE PLAN. (410) 876-1226

WATER LINE INVERT AT MAIN	480.30
WATER LINE INVERT AT ROW/PROPERTY LINE	480.27
MINIMUM CELLAR ELEVATION	N/A
FIRST FLOOR ELEVATION	483.50

PROFILE FOR 8"D.I.P. FIRE HYDRANT CONNECTION PROFILE

SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'

*CONTRACTOR SHALL TEST PIT FOR THE LOCATION AND ELEVATION OF THE EXISTING WATER MAIN. CONTACT THE OFFICE OF LEON A. PODOLAK & ASSOCIATES, LLC FOR FIELD VERIFICATION OR IN THE CASE OF DISCREPANCIES WITH THE PLAN.

SEDIMENT CONTROL DATA AND INFORMATION

SITE ANALYSIS	
TOTAL AREA OF SITE	2.210 ACS.
TOTAL DISTURBED AREA	2,225 SQ.FT. (0.051 ACS.±)
TOTAL CUT	85 CU.YDS.±
TOTAL FILL	85 CU.YDS.±

REQUIRED SEQUENCE OF CONSTRUCTION

- The contractor or developer shall contact the Construction Inspection Division 24 hours in advance of commencement of work at 410-313-1880. Given the nature of this project structural sediment control measures will not be required if the Contractor complies the following best management practices.
- Contractor shall excavate for water main and sanitary sewer stub and stockpile excavated material upgrade of the open trench. Contractor to only construct that portion of the utilities which can be excavated, backfilled and stabilized within one working day, typically 3 pipe lengths or less. Pavement disturbed during the installation of utilities shall be repaired in accordance with Howard County utility trench roadway repairing detail. (Howard County Detail G-4.01)
- Fine grade all pervious areas and stabilize with 2 inches of topsoil, and seed in accordance with permanent seeding specifications as outlined in Section B-4.5 of the 2010 Maryland Standards and Specifications for Soil Erosion and Sediment Control.

6"PVC SANITARY SEWER PROFILE (FUTURE BLDG. CONNECTION)

4"D.I.P. PROFILE

SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'

To From FT.

EX. SMH #1	8" WATER VALVE	20.5'
EX. SMH #2	8" WATER VALVE	14.0'
	8" WATER VALVE CLEAN OUT	13.5'
EX. SMH #1	CLEAN OUT	18.0'

PLAN VIEW

SCALE: 1"=50'

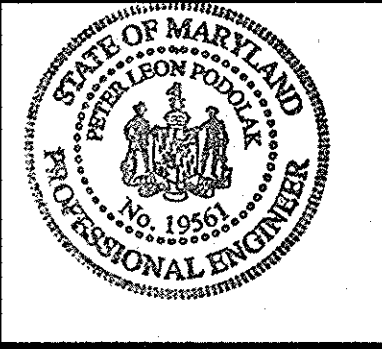
Peter L. Podolak 2-18-12
PETER L. PODOLAK, P.E. DATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19561, EXPIRATION DATE: 03-03-2014.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Silvia C. Baum
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Chad Edmondson
CHIEF, DEVELOPMENT ENGINEERING DIVISION

LEON A. PODOLAK and ASSOCIATES, L.L.C.
SURVEYING and CIVIL ENGINEERING
147 East Main St. (P.O. Box 286) Westminster, Maryland 21157
(410) 848-2229 - (410) 876-1226



DES:	PLP	WVA	△	REALIGN WATER MAIN TO AVOID SITE CONSTRAINTS	
DRN:	WVA	KCI	2	REALIGN THE PUBLIC EASEMENT TO BE CENTERED ON THE WATER MAIN	10-23-12
CHK:	PLP			AS BUILT	4-2-14
DATE:	2-16-2012	BY:	NO.	REVISION	DATE
				600' SCALE NO.	34
				BLOCK NO.	6

WATER & SEWER EXTENSION PLAN VIEW AND PROFILES

CLARKSVILLE PIZZA HUT RETAIL BUILDING
WATER AND SEWER DRAWINGS
CONTRACT NO. 24-4714-D
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 2

S:\Sewer\Drawings\RAISE FANWATER-SEWER PLANS.rvt - #12268 Clarksville Pizza Hut - 2-16-2012