GENERAL NOTES

1. Approximate location of existing sewer mains are shown. The contractor shall take all necessary precautions to protect existing sewer 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. All horizontal controls are based on Maryland State Reference System NAD '83/'91.
3. All vertical controls are based on NAVD 88, and are iron bars and caps or PK nails.
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 any poles that may be compromised during construction. 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.
6. For details not shown on the drawings, and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Detail for Construction (Latest Edition). The contractor shall have a copy of Volume IV on the job.
7. 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 (Emergency)	410–685–1400
Howard County DPW 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

8. Trees and shrubs are to be protected from damage to the maximum extent. Trees and shrubs located within the temporary construction easement are not to be removed or damaged by the contractor.
9. The contractor shall remove trees, stumps and roots along the line of excavation. Payment for such removal shall be made per each as indicated in the schedule of prices.
10. The contractor shall notify the Howard County DPW Bureau of Highways at 410–313–7450 at least five working days before open cutting or boring/jacking of any County road for laying sewer mains. The approval of these drawings will constitute compliance with DPW requirements per Section 18.114(a) of the Howard County Code.
11. The existing utilities shown are from the best available records and shall be verified by the contractor prior to construction. All existing utilities shall be test pitted / located as necessary and in advance of the proposed construction to properly make all required utility crossings and/or connections. Any discrepancies or utility conflicts shall be immediately reported to the Engineer. Any damage done to the utilities due to this operation shall be repaired immediately at the contractors expense.
12. All construction shall be done in accordance with the latest Howard County Standard Details and Specifications, including all addenda, unless otherwise noted on the Drawings or in the Specifications.
13. The contractor shall be responsible for cleaning up all dust and mud on all roads due to vehicles arriving and leaving the job site on a daily basis and as directed by the Engineer.
14. All work shall comply with the approved Sediment and Erosion Control Plan shown on the Drawings and all applicable provisions of the "1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control" issued jointly by the Maryland Department of the Environment and the Natural Resources Conservation Services.
15. The Contractor shall be responsible for repairing and replacing any existing fences, concrete curb, driveways, paving, curb and gutter pan, walkways, etc. damaged or removed during construction. All disturbed areas shall be returned to their original or better condition.
16. It shall be distinctly understood that failure to mention specifically any work which would normally be required to complete the Project shall not relieve the Contractor of his responsibility to complete such work.
17. Topographic field survey was performed in September, 2006 By Patton Harris Rust & Assoc. Inc.
18. Contractor shall be responsible for securing staging and stockpile areas. A possible area that may be available is indicated on the plans.
19. For this project, the State Of Maryland Department of the Environment (MDE), permit tracking number is 07–NT–3268.
20. If rock blasting is used in the river, the contractor shall submit blasting plans to MDE for approval and use.
21. Bentonite clay dams shall be installed along pipe alignment every 500 L.F., see sheet 9 for detail.
22. Sewer flows shall not be introduced to the new sewer pipe unless directed by the County.

SEWER NOTES

1. All sewer mains shall be fiberglass reinforced pipe (FRP), unless otherwise noted.
2. All manholes shall be 6'–0" inside diameter unless otherwise noted.
3. Manhole frame and covers shall be 30" in diameter, watertight and flush with the tops of the manhole top. See sheet 9 for details.
4. Manholes shall be 18 inches above ground in unpaved areas, unless otherwise noted. See Howard County detail G–5.41, "Manhole special backfill" for details.
5. Manholes shall be as per "72" precast sanitary manhole" on sheet 9.
6. Bentonite clay shall be applied a minimum 9" around the pipe openings to ex. structures and existing manholes receiving new pipes.
7. Provide pipe joint 5–feet from the face of each side of all proposed manholes.

MANHOLE SCHEDULE

STRUCTURE	TYPE	STANDARD DETAIL	LOCATION	INV. OUT	INV. IN	TOP	REMARKS
MH–200	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534494.45 E 1364186.94	122.12	122.22	137.8	AS–BUILT 6/3/10 (MH–200 to MH–205)
MH–201	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534596.29 E 1363953.38	122.79	122.89	137.8	
MH–202	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534571.04 E 1363694.48	123.43	123.53	139.5	
MH–203	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534526.48 E 1363114.34	125.37	125.47	145.4	
MH–204	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534435.31 E 1362586.99	126.54	126.64	145.6	
MH–205	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534615.79 E 1362150.33	128.62	128.72	146.2	
MH–206	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534629.10 E 1361770.51	129.75	129.85	146.9	℄ INVERT 129.75
MH–207A	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534648.45 E 1361289.19	131.29	131.39	147.9	131.34
MH–207B	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534659.17 E 1361273.59	131.50	131.60	147.5	131.55
MH–208A	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534803.82 E 1361247.72	132.14	132.24	149.7	132.19
MH–208B	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534814.89 E 1361225.63	132.12	132.65	151.8	132.60
MH–209	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534784.27 E 1361034.58	143.13	143.23	158.2	143.18
MH–210	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534721.47 E 1360892.35	144.85	144.95	152.5	144.90
MH–211	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534714.13 E 1360465.77	153.09	153.19	162.3	153.14
MH–212	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534712.41 E 1360339.16	158.02	158.12	170.2	158.07
MH–213	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534711.13 E 1360207.96	159.72	159.83	170.9	159.77
MH–214	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534699.92 E 1360010.98	160.31	160.51	170.5	160.41
MH–215	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534713.04 E 1359989.50	160.67	161.87	169.9	160.77
MH–216	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534851.25 E 1359901.54	162.82	163.03	173.9	162.92
MH–217	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 534868.98 E 1359888.68	162.67	162.77	173.0	162.70
MH–218	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 535238.41 E 1359915.13	165.72	165.82	177.8	165.69
MH–219	6' PRECAST MANHOLE	SEE SEWER NOTE 5	N 535948.78 E 1360160.54	175.93	176.03	197.1	℄ INVERT 175.84

RESTORATION SCHEDULE

100 FT EAST OF MH200 TO 100 FT WEST OF MH205	SEED AND MULCH
150 FT EAST OF MH206 TO MH207B	SEED AND MULCH
MH 207B TO MH208A	RIVER CROSSING
MH208A TO DIVERSION STRUCTURE	SEED AND MULCH
DIVERSION STRUCTURE TO MH213	SEED AND MULCH
MH213 TO MH 214	SEED AND MULCH
MH214 TO JUNCTION CHAMBER	SEED AND MULCH
JUNCTION CHAMBER TO MH219	SEED AND MULCH

TABLE OF COORDINATES

TRAVERSE STATIONS

NAME	NORTHING	EASTING	ELEVATION
TRAV–307	531311.94	136442.05	130.65
TRAV–306	531602.71	1364458.00	130.98
TRAV–304	531942.53	1364710.57	129.18
TRAV–303	532490.36	1364788.36	131.97
TRAV–302	532902.23	1364803.01	131.92
TRAV–301	533179.72	1364655.40	132.02
TRAV–311	533.905.81	1364722.25	138.50
KCI–12	534492.73	1364353.50	–
KCI–13	534562.11	1364249.04	–
KCI–14	534643.67	1364072.96	–
KCI–15	534666.64	1363902.61	–
KCI–16	534652.28	1363802.29	–
KCI–17	534607.94	1363679.20	–
KCI–18	534512.21	1363579.17	–
KCI–19	534565.33	1363469.53	140.92
KCI–20	534531.22	1363322.41	–
KCI–21	534542.11	1363141.68	–
KCI–22	534511.90	1362951.00	–
KCI–23	534471.60	1362722.01	–

TABLE OF COORDINATES

TRAVERSE STATIONS

NAME	NORTHING	EASTING	ELEVATION
KCI–24	534461.67	1362538.54	–
KCI–25	534604.20	1362409.93	–
KCI–26	534651.73	1362171.96	–
KCI–27	534565.90	1362045.01	159.98
KCI–30	534522.51	1361807.72	–
KCI–31	534591.91	1361759.98	–
KCI–32	534619.22	1361607.15	154.10
KCI–33	534651.51	1361440.79	154.11
KCI–34	534654.06	1361177.25	145.37
LPS–102	534676.62	1360784.80	149.43
KCI–36	534600.00	1360529.42	150.10
KCI–37	534698.77	1360080.78	169.75
KCI–38	534743.80	1359964.03	–
KCI–39	534868.47	1359887.72	173.13
KCI–40	535102.75	1359907.73	175.72
DAM–11	535225.18	1359908.50	–
KCI–43	535560.64	1359908.23	–
KCI–44	535733.49	1360008.13	–

LEGEND

EXISTING

Symbol	Description
— — —	100 YR FLOODPLAIN
— —148— —	INTERIOR CONTOUR
—150—	INDEX CONTOUR
— C — C —	CABLE
═══	CURB AND GUTTER
— E — E —	ELECTRIC
—X—X—X—	FENCE
— – — –	GAS
	GUARDRAIL
— OHW —	OVERHEAD WIRE
— – – —	PROPERTY LINE
— — —	ROAD – CENTERLINE
– – – –	ROAD – EDGE OF DIRT, GRAVEL
— — —	ROAD – EDGE OF MACADAM
— – – – —	RIGHT OF WAY LINE (R/W)
= = =	SANITARY SEWER
— — —	STORM DRAIN
— · · · —	STREAM EDGE
— T — T —	TELEPHONE
	TREELINE
	FENCE, STONE, BRICK OR CONC. WALL
— W — W —	WATER MAIN
— WB — WB —	WETLAND BOUNDARY
	FIRE HYDRANT
Ⓔ	MANHOLE, ELECTRIC
Ⓖ	MANHOLE, GAS
Ⓣ	MANHOLE, TELEPHONE
Ⓢ	MANHOLE, SANITARY SEWER
Ⓓ	MANHOLE, STORM DRAIN
Ⓦ	MANHOLE, WATER
	VERIZON/BGE POLE
	SIGN
	TREE
	TREE TO BE REMOVED

PROPOSED

Symbol	Description
— LOD — LOD —	LIMIT OF DISTURBANCE
— SF — SF —	SILT FENCE
— SSF — SSF —	SUPER SILT FENCE
— TP — TP —	TREE PROTECTION FENCE
— SB — SB —	STREAM BUFFER
— – – – R/W —	RIGHT OF WAY (R/W)
▬▬▬	INTERCEPTOR SEWER
— – – —	PROPERTY LINE
	DRAINAGE & UTILITY R/W
	TEMPORARY CONSTRUCTION AREA
—△—	TRAVERSE STATION
B2–1	SOIL BORING
TP NO.	TEST PIT
Ⓢ	MANHOLE, SANITARY SEWER
//	ABANDON
///	REMOVE
FRP	FIBERGLASS REINFORCED PIPE

PHASING OF SEWER MANHOLES / PIPE INSTALLATION

The following sequence of construction is not a complete list of tasks or work required to complete the contract requirements. The sequence of construction may be modified or revised at the request of the Contractor with the approval of the County prior to start of construction.

1. Install 275 feet of 72–inch steel liner plate tunnel and 42–inch carrier pipe beneath US Route 1. Connect carrier pipe to existing 42–inch stub at MH–112 from Contract 20–4531.
2. Simultaneously continue installation of 42–inch sewer from MH 200 to MH–205.
3. Install 175 feet of 72–inch steel liner plate tunnel and 42–inch carrier pipe beneath Foundry Rd. Connect carrier pipe to existing 42–inch pipe at MH–205.
4. Continue installation of 42–inch sewer to MH–208B. (This includes the river crossing between MH–207B and MH–208A.) See sheet 15 for river crossing details.
5. Install 36–inch sewer interceptor to MH 212. Pressure test sewer prior to accepting flows.
6. Install temporary gravity bypass from temporary doghouse MH–3 to Ex MH–1261. This shall be done in accordance to the special provisions of the specifications paragraph 20 and Sheets 23 and 24.
7. Construct diversion structure and remove ex. 30–inch sewer and install proposed 42–inch sewer in same trench from the diversion structure to junction structure.
8. Construct junction chamber and after approval, Connect ex. 30–inch sewer.
9. Remove gravity bypass system.
10. Continue installation of 42–inch sewer from the junction structure to stub north of MH–219 (Limit of contract 20–4532.)
11. Pressure test sewer from Junction Structure to MH–219.
12. Restore all disturbed areas to existing conditions.

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.

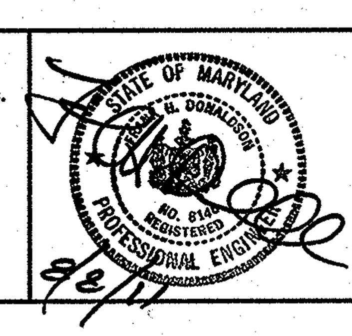
LICENSE NO. 8146 EXPIRATION DATE: 10/6/11

AS–BUILT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 12/16/08
CHIEF, BUREAU OF ENGINEERING — DATE 12/12/08
CHIEF, BUREAU OF UTILITIES — DATE 12/12/08
CHIEF, UTILITY DESIGN DIVISION — DATE 12/11/08

Patton Harris Rust & Associates, Inc.
Engineers. Surveyors. Planners. Landscape Architects.
PHR+A
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282



DES: C.H.			
DRN: K.L.B.			
CHK: G.C.L.	R.J.C.	AS–BUILT	12/10
DECEMBER, 2008	BY NO.	REVISION	DATE

GENERAL NOTES

600' SCALE MAP 47 | BLOCK 10, 16, 17 ,& 18

LITTLE PATUXENT
PARALLEL INTERCEPTOR SEWER
CAPITAL PROJECT S–6175
CONTRACT NO. 20–4532
1ST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 27

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