SEE SHEET C-1C FOR LOD WITHIN PARCEL "U" (10)

LEGEND

- F — FERMENTER
- FC — FINAL CLARIFIER
- FEB — FLOW EQUALIZATION BASIN
- PC — PRIMARY CLARIFIER
- PR — PROCESS REACTOR
- PS — PRIMARY SUBSTATION
- TB-3 — TEST BORING
- PROPOSED STRUCTURE
- PROPOSED BITUMINOUS PAVING
- CONCRETE PAVING/SIDEWALK OR MOW STRIP
- 128 — PROPOSED CONTOUR
- LOD — LIMIT OF DISTURBANCE
- 128 — EXISTING CONTOUR
- EXISTING PIPING 12" AND ABOVE
- NEW 15" RCP — PROPOSED PIPING 12" AND ABOVE
- EXISTING PIPING SMALLER THAN 12"
- PROPOSED PIPING SMALLER THAN 12"
- 143.3 X — EXISTING SPOT ELEVATION
- 143.3 X — PROPOSED SPOT ELEVATION
- N 532000 / E 1365000 — STAKEOUT COORDINATES
- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- AGIP — INLET PROTECTION
- MH 6 — NEW STORM MANHOLE AND DESIGNATOR
- I-1 — NEW STORM INLET AND DESIGNATOR
- SMH 6 — NEW SEWER MANHOLE AND DESIGNATOR

STATE OF MARYLAND — AURORA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER — 10/5/11 FOR REV. 11 ONLY

FOR REV. 10 ONLY — STATE OF MARYLAND — AURORA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER — 5/8/09

LEGEND:

- EX. SLOPES 25% OR GREATER
- NEW PAVEMENT (8)
- TEMPORARY ASPHALT BERM
- SFOS — SUPER SILT FENCE OUTLET STRUCTURE

FOREST CONSERVATION NOTE PER SECTION 16.1202(b)(1)(iii) HOWARD CO. CODE:

THE LITTLE PATUXENT WATER RECLAMATION PLANT HAS BEEN CONSTRUCTED OVER A PERIOD OF YEARS STARTING IN THE 1960'S AND CONTINUING INTO THE 1990'S. ALL OF THE CLEARING ... COMPLETED WITH THE 4TH ... 82. THERE WAS A 5TH ... CLUDE THE CLEARING OF ... ADDITION WAS LIMITED TO AREA ALREADY CLEARED AND GRADED UNDER PREVIOUS CONSTRUCTION CONTRACTS. THE PROPOSED 6TH ADDITION IS ALSO LIMITED TO AREAS PREVIOUSLY CLEARED AND GRADED DURING THE ORIGINAL PLANT CONSTRUCTION AND PLANT ADDITIONS 1-4. FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL SHALL BE FULFILLED BY THE FILING OF A DECLARATION OF INTENT FOR THE CLEARING OF LESS THAN 40,000 SF OF FORESTS.

THIS PROJECT IS EXEMPT FROM FOREST CONSERVATION OBLIGATION SINCE IT IS ENTIRELY LOCATED WITHIN THE FLOOD PLAIN AREA

(9) SEE SHEET C-10 FOR FOREST CONSERVATION ACCUMULATION NOTE RED LINE REVISIONS

BENCHMARK

SEE TRAVERSE DATA ON SHEET C-1C AND C-1D (10)

HORIZONTAL AND VERTICAL BASED UPON HOWARD COUNTY GPS CONTROL MONUMENTS (THIRD CLASS SURVEY CONTROL) NAD 83/91, NAVD 88.

NAME	NORTHING	EASTING	ELEVATION
471T1	530819.908	1366225.547	143.274
471T2	531440.211	1365496.525	147.001

PANEL POINT COOR. NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION
1001	ELECTRIC MH	531033.365	1364608.409	127.50
1003	CORNER OF PAVEMENT	531214.601	1365947.869	139.91

FOR REV. 8 ONLY — STATE OF MARYLAND — ROY L. WALDEN — No. 10802 — REGISTERED PROFESSIONAL ENGINEER — 8/28/06

FOR REV. 9 ONLY — STATE OF MARYLAND — ROY L. WALDEN — No. 10802 — REGISTERED PROFESSIONAL ENGINEER — 12-13-06

STORM WATER MANAGEMENT		
ITEM	MATERIAL	SQ. FT AREA
SHELTER	FIBERGLASS	410
FUEL TANK PADS	CONCRETE	300
TRANSFORMER PAD	CONCRETE	20
TOWER FOUNDATION	CONCRETE	50
TOTAL		780

SHEET INDEX

- C-1 OVERALL SITE PLAN SEE SHEET INDEX ON SHEET C-1A (10)
- C-2 SITE DEVELOPMENT & EROSION AND SEDIMENT CONTROL PLAN
- C-3 SITE DEVELOPMENT & EROSION AND SEDIMENT CONTROL PLAN
- C-4 SITE DEVELOPMENT & EROSION AND SEDIMENT CONTROL PLAN
- C-5 SITE DEVELOPMENT & EROSION AND SEDIMENT CONTROL PLAN
- C-6 SITE DEVELOPMENT & EROSION AND SEDIMENT CONTROL PLAN
- C-7 SITE DEVELOPMENT & EROSION AND SEDIMENT CONTROL PLAN
- C-8 SITE DEVELOPMENT & EROSION AND SEDIMENT CONTROL PLAN
- C-9 EROSION AND SEDIMENT CONTROL DETAILS
- C-10 EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
- C-11 STORM SEWER PROFILE AND SITE DETAILS
- C-12 STORM SEWER PROFILES
- C-13 STRUCTURE SECTIONS

SITE ANALYSIS

SEE SHEET C-1B (10)

- A. AREA OF PARCEL/LOT = 38.01 ACRES
- B. PRESENT ZONING = M-2 PER OCT. 18, 1993 ZONING PLAN
- C. EXISTING NUMBER OF PARKING SPACES ON SITE = 107
- D. EXISTING BUILDING COVERAGE 9.26 ACRES–24.36%
- E. PROPOSED BUILDING COVERAGE 0.21 ACRES–0.55%
- F. TOTAL BUILDING COVERAGE 9.47 ACRES–24.91%
- G. DISTURBED AREA = 1.34 ACRES
- H. PROPOSED USE = WATER RECLAMATION PLANT
- I. FLOOR SPACE USE = BLOWER AND PUMP ROOM
- J. EXISTING NUMBER OF EMPLOYEES = 55

ADDRESS CHART	
LOT/PARCEL #	STREET ADDRESS
PARCEL A	8900 GREENWOOD PLACE

PERMIT INFORMATION CHART					
SUBDIVISION NAME			SECTION/AREA		LOT/PARCEL NO. A
PLAT # OR L/F 432/516 618/537	GRIDE # 24	ZONING M-2	TAX MAP NO. 47	ELECT DISTR 6	CENSUS TRACT 6064
WATER CODE C04			SEWER CODE 4020000		

VEGETATION		
TYPE	SIZE	CONDITION
WOODED–MAPLE/OAK	10"–18"	GOOD
SPECIMEN–PINE/SPRUCE	10"–12"	GOOD
MAPLE/BRADFORD PEAR	3"–10"	GOOD
HEDGEROW	——	GOOD

VICINITY MAP
NOT TO SCALE

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATION IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313–1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1–800–257–7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
5. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY WITH MAXIMUM ONE FOOT CONTOUR INTERVALS PREPARED FOR AMT AND ASSOCIATES BY MERIDIAN SURVEYS, INC. DATED JUNE 1999. SEE NOTE 1, SHEET C-1A (10)
6. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 471T1 AND 471T2 WERE USED FOR THIS PROJECT. SEE NOTE 2, SHEET C-1A (10)
7. WATER IS PUBLIC (HO. CO. LITTLE PATUXENT WATER RECLAMATION PLANT).
8. SEWER IS PUBLIC (HO. CO. LITTLE PATUXENT WATER RECLAMATION PLANT).
9. EXISTING UTILITIES ARE BASED ON LITTLE PATUXENT WATER RECLAMATION PLANT.
10. THE FLOODPLAIN LIMITS FOR THIS PROJECT WAS TAKEN FROM HOWARD COUNTY STUDY.
11. THE ENTIRE LITTLE PATUXENT WASTEWATER TREATMENT PLANT SITE IS LOCATED IN THE 100 YEAR FLOODPLAIN, ELEV. 143.0. GRADING WITHIN THIS SITE IS CONSIDERED ESSENTIAL DISTURBANCE.
12. OFFSITE DISPOSAL OF EXCESS MATERIAL WILL BE TO AN APPROVED SITE.
13. DIMENSIONS TO NEW STRUCTURE ARE PERPENDICULAR TO PROPERTY LINE.
14. LANDSCAPING IN ACCORDANCE WITH SEC. 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPING MANUAL IS ADDRESSED THROUGH ALTERNATIVE COMPLIANCE AND CREDIT TAKEN WITH EXISTING VEGETATION. ALL NEW ADDITIONS OR STRUCTURES ARE INTERNAL TO THIS SITE.
15. THE PURPOSE OF THIS SITEPLAN IS TO CONSTRUCT NEW PROCESS REACTOR, BLOWER BUILDING, CLARIFIER, PAVING, PRIMARY SUBSTATION, AUXILIARY PUMP STATION AND CENTRIFUGE BUILDING, GRADING, VAULTS & CELLS. SEE NOTE 18, SHEET C-1A (10)
16. WP-02-67 REQUESTING A WAIVER OF SECTION 16.155 a (1) FOR AN EXISTING SOIL STOCKPILE WAS APPROVED ON JULY 17, 2002 SUBJECT TO THE FOLLOWING CONDITIONS: OBTAINING A GRADING PERMIT, COMPLY WITH MDE WETLANDS AND WATERWAYS PERMIT, RETURN ALL SOIL ORIGINAL SITE UPON COMPLETION OF CONSTRUCTION, RESTRICT STOCKPILE TO CURRENT AREA, AND COMPLY WITH HCSD COMMENTS. (7)
17. REV. NO. 10: WAIVER PETITION NO. WP-09-134. SEE SHEET C-1A FOR INFORMATION.
18. REV. NO. 10: MDE WETLANDS & WATERWAYS PERMIT FOR ACTIVITY WITHIN A FLOODPLAIN. PERMIT NUMBER 200960026/09-NT-3002 SEE SHEET C-1A FOR INFORMATION.

GRAPHIC SCALE — 100 0 50 100 200 400 — (IN FEET) 1 inch = 100 ft.

KEY LEGEND FOR REVISIONS THRU NO. 9; FOR REVISION NO. 10 SEE SDP SHEETS C-1C & C-1D — C-7, C-2, C-3, C-4, C-5, C-6, C-8, C-7

FOR REV. 14 ONLY — STATE OF MARYLAND — CHARLES G. DENNIS — No. 21305 — PROFESSIONAL LAND SURVEYOR — 10/07/14 EXP. 6/29/16

FOR REV 13 ONLY — STATE OF MARYLAND — JOSEPH C. SOWINSKI — PROFESSIONAL ENGINEER — 10/31/13 21257

FOR REV. 12 ONLY — STATE OF MARYLAND — AARON T. BRIGGS — No. 28770 — PROFESSIONAL ENGINEER — 4/16/2012

SDP REV. 10: ADD DENITRIFICATION, METHANOL, AND LIME STABILIZATION ODOR CONTROL FACILITIES; AUX. NORTH GALLERY, EAST/WEST BLOWER, METHANOL AND FIRE PROTECTION BLDGS; NEW PROCESS REACTOR AND FINAL CLARIFIER; REV. LOD AND SHOW PARK, UTILITY, DRAINAGE RESERVATION PARCEL / CORRIDOR INDUSTRIAL PARK. (10) — 4/10/09

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
12-13-06	ADDITION 7 - ADD MODULAR BIOFILTER, REVISE LOD, ADD GENERATOR CONNECTION BOX, ADD REACTORS	9			
5-26-06	ADD ADDITION 7 IMPROVEMENTS FOR DREYER'S WW	8			
7-26-02	ADD GENERAL NOTE CONCERNING WAIVER	7			
5-20-02	REALIGN STOCKPILE AREA	6			
1-7-02	ADD TRUCK ACCESS PERIMETER ROAD	5			
1-7-02	ADD TRUCK ACCESS NORTH ℄	4			
1-7-02	REVISED LIMIT OF DISTURBANCE	3			
12-5-01	NEW SHELTER AND ICE BRIDGE	2			
9-5-00	NEW COMMUNICATION TOWER	1			
10/5/11	SDP REVISION 11: ADD PROPOSED LIME STABILIZATION DUST CONTROL FACILITY. CHANGE STATUS OF ODOR CONTROL FACILITY TO FUTURE.	11			

9-19-14 ADD SOLAR CARPORT ARRAY (14)

3-16-12 ADD SEPTAGE ACCEPTANCE FACILITY, DIGESTER TANK, PROPANE TANK, Mg(OH)2 TANK AND APPURTENANCES. (12)

10-31-13 ADD STANDBY GENERATORS AND SUBSTATION (13)

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 6/7/00
CHIEF, DIVISION OF LAND DEVELOPMENT (CAH 9/15/06)	DATE: 6/20/00
DIRECTOR	DATE: 6/21/00

PARCEL A & PORTION OF THE PARK, UTILITY & DRAINAGE RESERVATION. (10)

OWNER/DEVELOPER
HOWARD COUNTY GOVERNMENT
DEPT. OF PUBLIC WORKS
3430 COURTHOUSE DRIVE
ELLICOTT CITY, MARYLAND 21043

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES DATE 5-26-00

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL (301) 881-2545 FAX (301) 881-0814
E-MAIL JBYRNE@AMTENGINEERING.COM
Howard County Submittal 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland

REG. PROF. ENGR. 5/23/00 DATE

5/23/00

DES: AR — DRN: REA — CHK: JB — DATE: 05/01/00

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148

OVERALL SITE PLAN

(10) REDLINE REV. NO. 10: PARCEL A/PLAT# 10148 AND PORTION OF THE PARK, UTILITY & DRAINAGE RESERVATION

LITTLE PATUXENT WATER RECLAMATION PLANT ADDITION NO. 6

(10) ~~PARCEL "A"~~

CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

(10) SHEET 1 OF 52

C-1

SDP00-94

D58472
FD58472A

SITE FEATURES

- PROPERTY LINE
- EX GRADE MAJOR CONTOUR
- EX GRADE MINOR CONTOUR
- NEW GRADE CONTOUR
- TEMPORARY GRADE CONTOUR
- × 129.50 EXISTING SPOT ELEVATION
- × 129.50 NEW SPOT ELEVATION
- TOP OF SLOPE
- BOTTOM OF SLOPE
- DRAINAGE AREA DIVIDE
- STEEP SLOPE (25% OR GREATER)
- Cp / Ha SOIL BOUNDARY, SOIL TYPES
- DIRECTION OF (SURFACE) FLOW
- EXISTING TREE LINE
- NEW TREE LINE
- EXISTING TREE OR SHRUB
- EXISTING FENCE
- NEW FENCE
- STAKEOUT CONTROL POINT
- 2004 COORDINATE IDENTIFICATION

SOIL STYLE LEGEND

Cp	CODORUS AND HATBORO SOILS, 0 TO 2 PERCENT SLOPES, FREQUENTLY FLOODED
Ha	HATBORO-CODORUS SILT LOAMS, 0 TO 3 PERCENT SLOPES
UtD	URBAN LAND-UDORTHENTS COMPLEX, 0 TO 15 PERCENT SLOPES
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES
SrE	SASSAFRAS AND CROOM SOILS, 15 TO 25 PERCENT SLOPES
DhB	DOWNER-HAMMONTON SANDY LOAMS, 2 TO 5 PERCENT SLOPES

STRUCTURES

I XX-X	STORM DRAIN INLET IDENTIFICATION
MH XX-X	STORM DRAIN MANHOLE IDENTIFICATION
O XX-X	STORM DRAIN OUTFALL IDENTIFICATION
EMH-XX	ELECTRICAL MANHOLE IDENTIFICATION
TMH-XX	TELECOMMUNICATIONS MANHOLE IDENTIFICATION

PIPING AND UTILITIES

- 12" SD EXISTING PIPE AND DESIGNATION (DOUBLE LINE)
- 4" SD EXISTING PIPE AND DESIGNATION (SINGLE LINE)
- 12" SD NEW PIPE AND DESIGNATION (DOUBLE LINE)
- 4" SD NEW PIPE AND DESIGNATION (SINGLE LINE)

EROSION & SEDIMENT CONTROL SYMBOLS

(SEE DETAILS ON "CE" SERIES)

- LOD — LIMIT OF DISTURBANCE/ LIMIT OF WORK
- SF — SUPER SILT FENCE (MDE STD. DETAIL #22)
- SSF — SUPER SILT FENCE (MDE STD. DETAIL #33)
- SCE STABILIZED CONSTRUCTION ENTRANCE (MDE STD. DETAIL #24)
- SP SUMP PIT (MDE STD. DETAIL #20B)
- PST PORTABLE SEDIMENT TANK (MDE STD. DETAIL #21)
- AGIP AT GRADE INLET PROTECTION (MDE STD. DETAIL #23B)
- CIP CURB INLET PROTECTION (MDE STD DETAIL #23C)
- SSIP SUPER SILT FENCE INLET PROTECTION (MODIFIED MDE STD DETAIL #23A)
- TST TEMPORARY SEDIMENT TRAP (SEE CE-15)
- SEDIMENT TRAP BAFFLE BOARD (DETAIL #101)
- SEDIMENT FILTER BAG (DETAIL #102)
- DF DIVERSION FENCE (DETAIL #103)
- TEMPORARY ASPHALT BERM (LOCATED ON EXIST PAVING ONLY)
- TP TREE PROTECTION FENCING (SEE CM-2)

SURFACES

- NEW BITUMINOUS PAVEMENT/ BITUMINOUS PAVEMENT REPLACEMENT
- BITUMINOUS PAVEMENT RESTORATION (MILL, PATCH AND OVERLAY)
- NEW CONCRETE SURFACE
- TEMPORARY GRAVEL ACCESS ROAD

SDP SHEET INDEX

SDP SHT NO	SDP DWG	CONTRACT DWG	DRAWING TITLE
1	C-1	–	OVERALL SITE PLAN
2	C-1A	CS-1	LEGEND, SYMBOLS AND GENERAL NOTES
3	C-1B	CS-2	OVERALL PROPERTY BOUNDARY PLAN
4	C-1C	CS-3	PLANT SITE AND KEY PLAN
5	C-1D	CS-4	PLANT SITE AND KEY PLAN
6	C-1E	CS-5	EROSION AND SEDIMENT CONTROL CONCEPT PLAN
7	C-1F	CS-6	EROSION AND SEDIMENT CONTROL CONCEPT PLAN
8	C-2		SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN
9	C-3	–	SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN
10	C-4	–	SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN
11	C-5	–	SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN
12	C-6	–	SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN
13	C-7	–	SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN
14	C-8	–	SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN
15	C-8A	CE-1	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN A
16	C-8B	CE-2	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN B
17	C-8C	CE-3	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN C
18	C-8D	CE-4	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN D
19	C-8E	CE-5	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN E
20	C-8F	CE-6	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN F
21	C-8G	CE-7	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN G
22	C-8H	CE-8	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN H
23	C-8I	CE-9	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN I
24	C-8J	CE-10	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN J
25	C-8K	CE-11	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN K
26	C-8L	CE-12	SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN L
27	C-8M	CG-1	STAKEOUT, GRADING AND RESTORATION PLAN A
28	C-8N	CG-2	STAKEOUT, GRADING AND RESTORATION PLAN B
29	C-8O	CG-3	STAKEOUT, GRADING AND RESTORATION PLAN C
30	C-8P	CG-4	STAKEOUT, GRADING AND RESTORATION PLAN D
31	C-8Q	CG-5	STAKEOUT, GRADING AND RESTORATION PLAN E
32	C-8R	CG-6	STAKEOUT, GRADING AND RESTORATION PLAN F
33	C-8S	CG-7	STAKEOUT, GRADING AND RESTORATION PLAN G
34	C-8T	CG-8	STAKEOUT, GRADING AND RESTORATION PLAN H
35	C-8U	CG-9	STAKEOUT, GRADING AND RESTORATION PLAN I
36	C-8V	CG-10	STAKEOUT, GRADING AND RESTORATION PLAN J
37	C-8W	CG-11	STAKEOUT, GRADING AND RESTORATION PLAN K
38	C-8X	CG-12	STAKEOUT, GRADING AND RESTORATION PLAN L
39	C-8Y	CG-13	ROAD PROFILE & LAYOUT
–	C-9	–	EROSION & SEDIMENT CONTROL DETAILS (REMOVED/SUPERCEDED BY SHEET C-9A)
40	C-9A	CE-13	EROSION AND SEDIMENT CONTROL DETAILS
41	C-9B	CE-15	TEMPORARY SEDIMENT TRAP DETAILS AND RESTORATION PLAN
–	C-10	–	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS (REMOVED/SUPERCEDED BY SHEETS C-1A, C-9B AND C-10A)
42	C-10A	CE-14	EROSION AND SEDIMENT CONTROL NOTES
43	C-11	–	STORM SEWER PROFILE & SITE DETAILS
44	C-11A	CM-1	STORM SEWER AND SITE DETAILS
45	C-11B	CM-2	TREE PROTECTION DETAILS
46	C-11C	CM-3	MISCELLANEOUS DETAILS
47	C-11D	CM-4	MISCELLANEOUS DETAILS
48	C-12	–	STORM SEWER PROFILES
49	C-12A	CY-14	STORM SEWER PROFILES
50	C-12B	CS-7	STRUCTURE AND COORDINATE SCHEDULE
51	C-13	–	STRUCTURE SECTIONS [EXISTING]
52	C-13A	–	STRUCTURE ELEVATIONS [PROPOSED]
52A	A1	–	SOLAR OVERALL SITE PLAN
52B	A3	–	SOLAR CARPORT ELEVATIONS

GENERAL NOTES

1. GROUND SURVEY INFORMATION FOR ADDITION NO. 7, SDP REV. NO. 10, WAS OBTAINED FROM THOTH PROFESSIONAL LAND SURVEYORS, INC., LAST UPDATED NOVEMBER 24, 2008
2. THE COORDINATES SHOWN HEREON ARE BASED ON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM, NAD 83/91.
   THE VERTICAL DATUM IS BASED UPON HOWARD COUNTY GPS CONTROL, NAVD 88. NOTE: COUNTY MONUMENTS 471T1 AND 471T2 WERE DESTROYED PRIOR TO THIS PROJECT. A NEW TRAVERSE AND BENCHMARKS WERE ESTABLISHED WITH ASSISTANCE FROM HOWARD COUNTY. PREVIOUS PROJECTS USED OTHER VERTICAL DATUMS. CONVERSIONS ARE GIVEN AT THE BOTTOM OF ALL SHEETS FOR THIS PROJECT.
3. EXISTING UTILITIES AND STRUCTURES SHOWN ARE FROM THE BEST AVAILABLE RECORDS, AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK. THE COMPLETENESS OR CORRECTNESS OF THE INFORMATION GIVEN IS NEITHER WARRANTED NOR GUARANTEED. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS. ANY DAMAGE TO THEM DUE TO HIS NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT HIS OWN EXPENSE AND NO INCREASE IN CONTRACT TIME ALLOWED.
4. CONTRACTOR SHALL USE DESIGNATED AREAS FOR STAGING, STORAGE AND EMPLOYEE PARKING, AND SHALL MAINTAIN CLEAR ACCESS FOR PLANT FACILITIES AT ALL TIMES.
5. SOIL BORINGS AND THE GEOTECHNICAL REPORT ARE INCLUDED IN THE CONTRACT SPECIFICATIONS.
6. TEST SOIL IN RESTORATION AREAS, USING STANDARD METHOD PRESCRIBED BY MD COOPERATIVE EXTENSION SERVICE. APPLY FERTILIZER AND LIME AS RECOMMENDED, ACCORDING TO TEST RESULTS.
7. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH SEDIMENT CONTROL NOTES AND SPECIFICATIONS.
8. MAINTAIN MINIMUM ONE-FOOT VERTICAL CLEARANCE BETWEEN ALL STORM DRAIN CROSSINGS AND OTHER UTILITIES.
9. ALL WORK SHALL BE PERFORMED WITH REGARD FOR THE SAFETY OF THE CONSTRUCTION CREW.
10. COMPACT TRENCH BACKFILL TO NOT LESS THAN 95% DENSITY IN ACCORDANCE WITH ASTM D698. UNDER PAVEMENT, COMPACT LAST ONE-FOOT TO 100% DENSITY IN ACCORDANCE WITH ASTM D698.
11. WHERE ANY PART OF THE STORM DRAIN SYSTEM IS LOCATED IN A FILL SECTION, PROVIDE SELECT FILL MATERIAL COMPACTED PER NOTE 10 WITH CORRECT MOISTURE CONTENT FROM EXISTING GROUND TO APPROVED PIPE SUBGRADE.
12. SHEETING AND SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
13. WHEN GROUNDWATER OR SURFACE RUNOFF IS PRESENT IN THE WORK AREA, DEWATER TO MAINTAIN WATER LEVEL BELOW PIPE FOUNDATION TO PROVIDE A STABLE TRENCH BOTTOM.
14. WHERE NEW UTILITIES ARE LOCATED IN FILL, CONTROLLED FILL SHALL FIRST BE PLACED AND COMPACTED TO A MINIMUM OF ONE FOOT ABOVE THE NEW PIPE TOP. THE TRENCH SHALL THEN BE EXCAVATED AND THE PIPE INSTALLED.
15. STORM DRAIN PIPE SHALL BE CONSTRUCTED FOR LOW-HEAD PRESSURE FLOW. A WATERTIGHT CONNECTION SHALL BE MADE AT ALL PIPES ENTERING DRAINAGE STRUCTURES. WATERTIGHT CONNECTIONS SHALL BE MADE BETWEEN SECTIONS OF PIPE. SEE NOTE 17.
16. REINFORCED CONCRETE PIPE SHALL BE A MINIMUM CLASS III, WALL THICKNESS B, UNLESS OTHERWISE SPECIFIED ON PLANS.
17. REINFORCED CONCRETE PIPE SHALL MEET REQUIREMENTS OF ASTM C76. STORM PIPES OPERATING UNDER PRESSURE (HYDRAULIC GRADE LINE ABOVE TOP OF PIPE) OR BELOW THE WATER LINE SHALL CONFORM WITH ASTM C361 AND SHALL BE RUBBER GASKETED.
18. PROPOSED SDP REVISION NO.10: THE PURPOSE OF THIS SITE DEVELOPMENT PLAN (SDP) REVISION IS TO CONSTRUCT THE LITTLE PATUXENT WRP ADDITION NO. 7: ENR AND EXPANSION IMPROVEMENTS. THE FACILITIES LISTED BELOW ARE TO BE CONSTRUCTED FOR THIS PROJECT.
   - EXPANSION OF THE NORTH PROCESS REACTORS
   - FINAL CLARIFIER NO. 13
   - AUXILIARY NORTH GALLERY
   - EAST/WEST BLOWER BUILDING
   - EAST ELECTRICAL SUBSTATION
   - DENITRIFICATION FILTER COMPLEX WITH UV DISINFECTION
   - MUDWELL (FOR DENITRIFICATION FILTER BACKWASH)
   - METHANOL FACILITY (SUPPLEMENTARY CARBON SOURCE FOR DENITRIFICATION FILTERS)
   - FIRE PROTECTION BUILDING (FOR METHANOL FACILITY)
   - LIME STABILIZATION ODOR CONTROL FACILITY
   - ASSOCIATED UTILITY CONSTRUCTION, VAULTS, AND PAVING

SDP REVISION NO. 10 – WAIVER PETITION NO. WP-09-134 REQUESTING WAIVERS FROM THE FOLLOWING HOWARD CO. SUBDIVISION & LAND DEVELOPMENT REGULATIONS:

SECTION 16.115(C)(1) PROHIBITING BUILDING MATERIALS AND OTHER DEBRIS TO BE STORED IN THE FLOOD PLAIN AREA: TO ALLOW TEMPORARY CONTRACTOR STORAGE AREAS, VEHICULAR PARKING, AND TEMPORARY STOCKPILES.

SECTION 16.116(A)(2)(I) AND (IV) PROHIBITING GRADING, REMOVAL OF VEGETATIVE COVER AND TREES, PAVING AND NEW STRUCTURES IN THE 50' INTERMITTENT AND 50' PERENNIAL STREAM BANK BUFFERS: TO ALLOW A TEMPORARY STOCKPILE, TEMPORARY CONTRACTOR STORAGE, AND NEW AUXILIARY NORTH GALLERY.

SECTION 116.116(A)(1) PROHIBITING GRADING AND REMOVAL OF VEGETATIVE COVER AND TREES, PAVING AND NEW STRUCTURES IN THE WETLANDS BUFFER: TO ALLOW A TEMPORARY CONTRACTOR'S STORAGE AREA.

SECTION 16.116(C)(1) PROHIBITING GRADING, REMOVAL OF VEGETATIVE COVER AND TREES AND PAVING IN AN INTERMITTENT STREAM UNLESS THE DPZ DETERMINES THE DISTURBANCE AS NECESSARY.

THE ABOVE WAIVERS WERE APPROVED MARCH 24, 2009 SUBJECT TO THE FOLLOWING CONDITIONS:

1. UPON COMPLETION OF CONSTRUCTION OF THE PROPOSED IMPROVEMENTS, RESTORE THE AREAS OF TEMPORARY CONTRACTOR STORAGE, PARKING AND GRAVEL DRIVEWAYS, AREAS OF TEMPORARY STOCKPILING AND TEMPORARY SEDIMENT CONTROL TRAPS TO A STABILIZED AND NATURAL VEGETATIVE CONDITION BY RESEEDING, SODDING AND/OR INSTALLING PLANT MATERIALS INDIGENOUS TO THE SITE.
2. APPROVED MDE PERMIT APPLICATIONS PRIOR TO SIGNATURE APPROVAL OF RED-LINE REVISION SDP DRAWINGS – SEE BELOW.
3. INSTALL SEDIMENT CONTROL DEVICES ALONG THE LIMIT OF DISTURBANCE WHICH IMPACT THE STREAM, STREAM BANK BUFFERS, AND STEEP SLOPES.
4. COMPLETE PROCESSING OF RED-LINE REVISION NO. 10, SDP-00-94.

SDP REVISION NO. 10 – MDE WETLANDS AND WATERWAYS PERMIT FOR CONSTRUCTION ACTIVITIES FOR FACILITY ADDITIONS AND TEMPORARY STOCKPILES WITHIN A FLOODPLAIN: TRACKING NO. 20960026/ PERMIT NO. 09-NT-3002, EFFECTIVE DATE MARCH 31, 2009.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DIRECTOR, DEPT. OF PLANNING AND ZONING — DATE: 5/27/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5/28/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5/28/09

ENGINEER'S 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."

Aurora M Schaefer — AURORA M SCHAEFER, SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/10/09

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."

Daniel Ward — DANIEL WARD, SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/19/09

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4158
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — AURORA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Aurora M Schaefer — REGISTERED PROFESSIONAL ENGINEER

4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT.
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE: 5/19/09

DES: AMS			
DRN: EJR			
CHK: LHH			
DATE: 3/09	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-1A
CIVIL

LEGEND, SYMBOLS AND GENERAL NOTES

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4672

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

CONTRACT SHEET 37 OF 611

CS-1

SDP SHEET 2 OF 52

SDP-00-94

M:\380709-Howard County\ENR\03 Civil\ CS-01 Legend Symbols Gen Notes.dwg 05/14/09_18:12

ENGINEER'S 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."

Aurora M. Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

AURORA M. SCHAEFER

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."

Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

DANIEL WARD

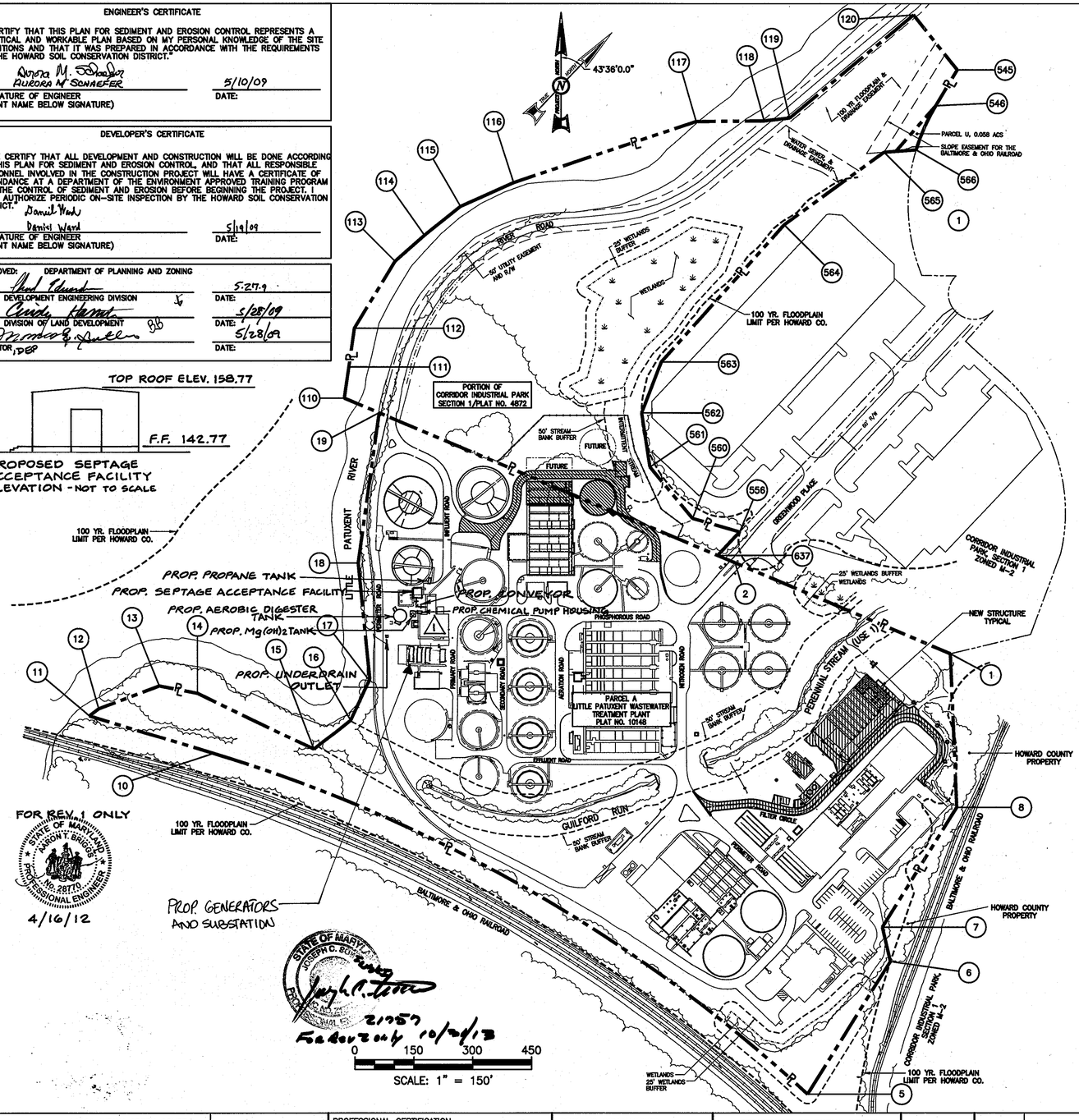
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5-27-09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP	DATE: 5/28/09

TOP ROOF ELEV. 158.77

F.F. 142.77

PROPOSED SEPTAGE ACCEPTANCE FACILITY ELEVATION - NOT TO SCALE



FOR REV. 1 ONLY

STATE OF MARYLAND AARON T. BRIGGS No. 28770 PROFESSIONAL ENGINEER

4/16/12

STATE OF MARYLAND JOSEPH C. BOTTINI No. 21357 PROFESSIONAL ENGINEER

21357 10/24/13

NOTE: COORDINATES SHOWN HEREON ARE BASED ON CORRIDOR INDUSTRIAL PARK SECTION ONE, PLAT BOOK 31, FOLIO 18

CORRIDOR INDUSTRIAL PARK - SECTION 1

PARCEL 'U' AND A PORTION OF THE HOWARD COUNTY PARK UTILITY AND DRAINAGE RESERVATION

PLAT NO. 4872 A RESUBDIVISION OF THE PARK, UTILITY AND DRAINAGE RESERVATION, 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

NO	NORTHING	EASTING	POINTS	BEARING	DISTANCE
545	471951.91	852583.70	545 TO 546	S12°30'00"	106.20'
546	471848.22	852606.68	546 TO 566	(SEE CURVE DATA)	
566	47731.67	852648.54	566 TO 565	N42°15'00"E	82.13'
565	471670.87	852593.32	565 TO 564	N10°20'00"E	315.00'
564	471360.98	852536.81	564 TO 563	N01°45'00"W	470.00'
563	470891.20	852551.17	563 TO 562	N22°30'00"W	140.00'
562	470761.86	852604.74	562 TO 561	N52°15'00"W	140.00'
561	470676.15	852715.44	561 TO 560	N83°15'00"W	170.00'
560	470656.16	852884.26	560 TO 556	S62°36'00"W	125.00'
556	470713.69	852995.24	556 TO 637	S00°30'00"E	82.42'
637	470631.28	852995.96	637 TO 110	S69°20'14"W	1032.85'
110	470266.81	852029.54	110 TO 111	N35°12'18"W	80.93'
111	470332.94	851982.88	111 TO 112	N35°27'18"W	100.00'
112	470414.40	851924.87	112 TO 113	N12°27'18"W	200.00'
113	470609.70	851881.74	113 TO 114	N04°52'42"	100.00'
114	470709.33	851890.24	114 TO 115	N07°52'42"E	118.00'
115	470826.22	851906.41	115 TO 116	N22°17'42"W	148.50'
116	470963.62	851962.75	116 TO 117	N27°42'40"E	491.14'
117	471397.96	852192.02	117 TO 118	N45°54'10"E	173.25'
118	471518.52	852316.44	118 TO 119	N42°02'10"	63.40'
119	471568.59	852358.51	119 TO 120	N06°36'47"E	411.23'
120	471977.09	852405.87	120 TO 545	S81°56'24"E	178.60'

CURVE DATA

POINTS	RAD	DELTA	ARC	TAN	CHD	BEARING
546 to 566	490.34'	14°30'56"	124.18'	62.42'	123.85'	S19°45'18"E

SOURCE: PLAT-C.M.P NO. 4872

LITTLE PATUXENT WASTEWATER TREATMENT PLANT - PARCEL A

PLAT NO. 10148, A RESUBDIVISION OF PARCEL NO. 200, LIBER 423 FOLIO 516 AD PARCEL NO. 198, LIBER 618 FOLIO 537 AS SHOWN ON TAX MAP NO. 47, SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

NO	NORTHING	EASTING	POINTS	BEARING	DISTANCE
1	470858.65	853598.86	1 TO 8	S45°51'41"E	393.08'
8	470584.91	853880.95	8 TO 7	S11°41'47"E	360.00'
7	470232.38	853953.94	7 TO 6	S56°41'47"E	90.00'
6	470182.97	854029.16	6 TO 5	S11°41'47"E	400.00'
5	468791.27	854110.25	5 TO 10	(SEE CURVE DATA)	
10	469379.92	852412.86	10 TO 11	S63°29'14"W	331.00'
11	469232.16	852116.67	11 TO 12	N09°25'14"E	29.81'
12	469261.57	852121.55	12 TO 13	N25°49'14"	65.00'
13	469410.10	852193.42	13 TO 14	N57°19'14"E	99.00'
14	469463.55	852276.74	14 TO 15	N72°19'14"E	330.00'
15	469563.77	852591.16	15 TO 16	N07°49'14"E	119.62'
16	469682.28	852607.44	16 TO 17	N18°40'46"W	115.50'
17	469791.69	852570.44	17 TO 18	N49°10'46"W	297.00'
18	469985.84	852345.69	18 TO 19	N35°40'46"W	367.75'
19	470300.80	852119.53	19 TO 2	N69°20'24"E	985.03'
2	470648.34	853041.21	2 TO 1	N69°20'14"E	595.99'
1	470858.65	853598.86			

CURVE DATA

POINTS	RAD	DELTA	ARC	TAN	CHD	BEARING
5 TO 10	3909.83'	25°48'42"	1761.38'	895.89'	1746.52'	S76°22'38"W

SOURCE: PLAT-M.D.R. NO. 10148

ZONING SITE ANALYSIS:
AREA OF PARCEL/LOT:
AREA OF PLAT NO. 10148 = 38.01± ACRES
AREA OF PLAT NO. 4872 = 18.19± ACRES (EXCLUDES PARCEL "U")
TOTAL SITE AREA = 56.20± ACRES
PRESENT ZONING = M-2 PER 02/02/04 COMPREHENSIVE REZONING PLAN
EXISTING/PROPOSED USE: WATER RECLAMATION PLANT
PROPOSED FLOOR SPACE USE: = BLOWER, PUMP, AND CONTROL ROOMS
NUMBER OF EMPLOYEES = 55 (NO CHANGE)

BUILDING/PROCESS TANK COVERAGE:	PLAT # 10148 ACRES	%	PLAT # 4872 ACRES	%	TOTAL SITE ACRES	%
EXISTING	9.47	25.91	---	---	9.47	16.85
PROPOSED	0.73	1.92	0.32	1.76	1.05	1.87
TOTAL	10.2	27.83	0.32	1.76	10.52	18.72
DISTURBED AREA	2.36	7.48	4.95	13.02	7.31	13.00
ONSITE PARKING						
EXISTING	107 SPACES		---		107 SPACES	
PROPOSED*	3 SPACES		1 SPACE		4 SPACES	
TOTAL	110 SPACES		1 SPACE		111 SPACES	

* SEE SDP SHEETS C-8N (CG-2) & C-8T (CG-8).

NOTE:
FOREST STANDS AND WETLANDS DELINEATED BY AG ENVIRONMENTAL. FIELD WORK COMPLETED JULY 2008. DOCUMENTED IN NARRATIVE DATED DECEMBER 13, 2008.

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND JOSEPH C. BOTTINI No. 21357 PROFESSIONAL ENGINEER

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.: 23359 EXPIRATION DATE: 8/13/10

REGISTERED PROFESSIONAL ENGINEER

4/20/09 PBS&J
DATE FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT.
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/14/09 DATE

DES: AMS
DRN: EJR
CHK: LHH
DATE: -

DATE	REVISIONS AND RECORD OF ISSUE
10-31-13	ADD STANDBY GENERATORS AND SUBSTATION
3-16-12	ADD SEPTAGE ACCEPTANCE FACILITY, DIGESTER TANK, PROPANE TANK, Mg(OH)2 TANK AND APPURTENANCES.

HOWARD COUNTY SDP SHEET C-1B
CIVIL

OVERALL PROPERTY BOUNDARY PLAN

REVISED SITE DEVELOPMENT PLAN - REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 - ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

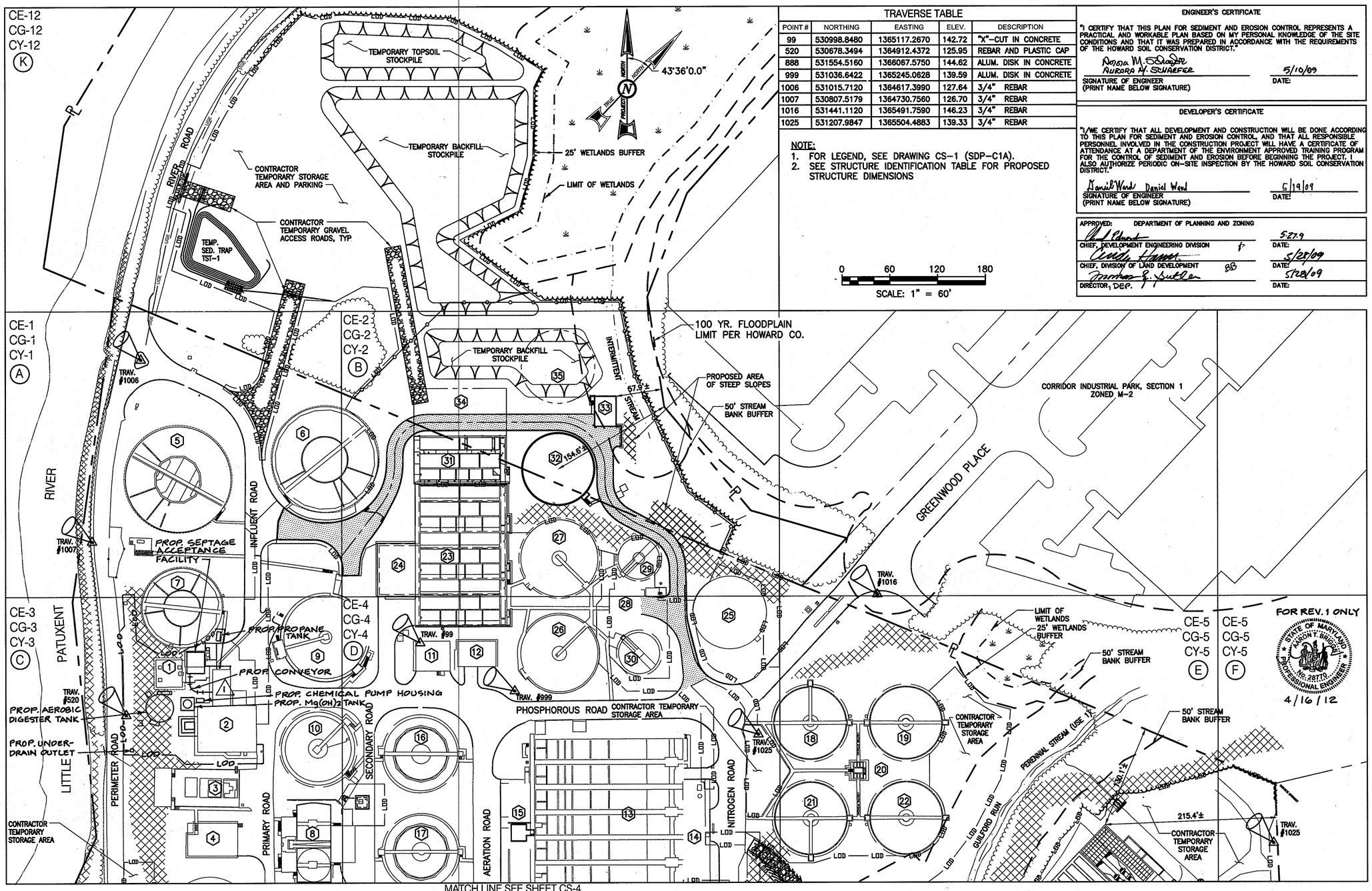
SCALE AS SHOWN
CONTRACT SHEET 38 OF 611
CS-2
SDP SHEET 3 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CS-02 Overall Site Plan.dwg 05/14/09_18:14

STRUCTURE IDENTIFICATION

TAG	FACILITY DESCRIPTION
1	SEPTAGE FACILITY
2	HEADWORKS BUILDING
3	HEADWORKS SUBSTATION
4	AUXILIARY PUMP STATION
5	FLOW EQUALIZATION BASIN 1 (FEB-1)
6	FLOW EQUALIZATION BASIN 2 (FEB-2)
7	FLOW EQUALIZATION BASIN 3 (FEB-3)
8	GRIT BUILDING
9	PRIMARY CLARIFIER (PC-1)
10	PRIMARY CLARIFIER (PC-2)
11	NORTH PUMP STATION
12	NORTH SUBSTATION
13	EAST / WEST PROCESS REACTORS
14	EAST PIPE GALLERY ALUM/HYPO STORAGE & FEED
15	WEST PIPE GALLERY NEW FLOW SPLITTER BOX
16	FINAL CLARIFIER (FC-2)
17	FINAL CLARIFIER (FC-3)
18	FINAL CLARIFIER (FC-6)
19	FINAL CLARIFIER (FC-7)
20	DISTRIBUTION FLOW CHAMBER
21	FINAL CLARIFIER (FC-8)
22	FINAL CLARIFIER (FC-9)
23	NORTH PROCESS REACTORS
24	NORTH BLOWER BUILDING
25	FINAL CLARIFIER (FC-10)
26	FINAL CLARIFIER (FC-11)
27	FINAL CLARIFIER (FC-12)
28	NORTH GALLERY
29	PRETREATMENT CLARIFIER/THICKENER
30	PRETREATMENT FERMENTER
31	NEW NORTH PROCESS REACTOR [116.3'X60.5']
32	NEW FINAL CLARIFIER (FC-13) [92.3' DIA.]
33	NEW AUXILIARY NORTH GALLERY [27.0'X38.0']
34	FUTURE PROCESS REACTOR
35	FUTURE FINAL CLARIFIER



TRAVERSE TABLE

POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
99	530998.8480	1365117.2670	142.72	"X"-CUT IN CONCRETE
520	530678.3494	1364912.4372	125.95	REBAR AND PLASTIC CAP
888	531554.5160	1366067.5750	144.62	ALUM. DISK IN CONCRETE
999	531036.6422	1365245.0628	139.59	ALUM. DISK IN CONCRETE
1006	531015.7120	1364617.3990	127.64	3/4" REBAR
1007	530807.5179	1364730.7560	126.70	3/4" REBAR
1016	531441.1120	1365491.7590	146.23	3/4" REBAR
1025	531207.9847	1365504.4883	139.33	3/4" REBAR

NOTE:
1. FOR LEGEND, SEE DRAWING CS-1 (SDP-C1A).
2. SEE STRUCTURE IDENTIFICATION TABLE FOR PROPOSED STRUCTURE DIMENSIONS

0 60 120 180
SCALE: 1" = 60'

ENGINEER'S 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."

Donna M. Schaefer AURORA M. SCHAEFER — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/10/09

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."

Daniel Ward — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/19/09

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE: 5.27.09
CHIEF, DIVISION OF LAND DEVELOPMENT	BB	DATE: 5/27/09
DIRECTOR, DEP.		DATE: 5/28/09

FOR REV. 1 ONLY
STATE OF MARYLAND AARON T. BRIGGS No. 28779 PROFESSIONAL ENGINEER
4/16/12

MATCH LINE SEE SHEET CS-4

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND DONNA M. SCHAEFER No. 23359 PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Donna M. Schaefer
REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT.
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/18/09 DATE

DES: AMS			
DRN: EJR			
CHK: LHH	3-16-12	ADD SEPTAGE ACCEPTANCE FACILITY, DIGESTER TANK, PROPANE TANK, Mg(OH)2 TANK AND APPURTENANCES.	
DATE: -	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-1C
CIVIL

⚠ PLANT SITE AND KEY PLAN

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

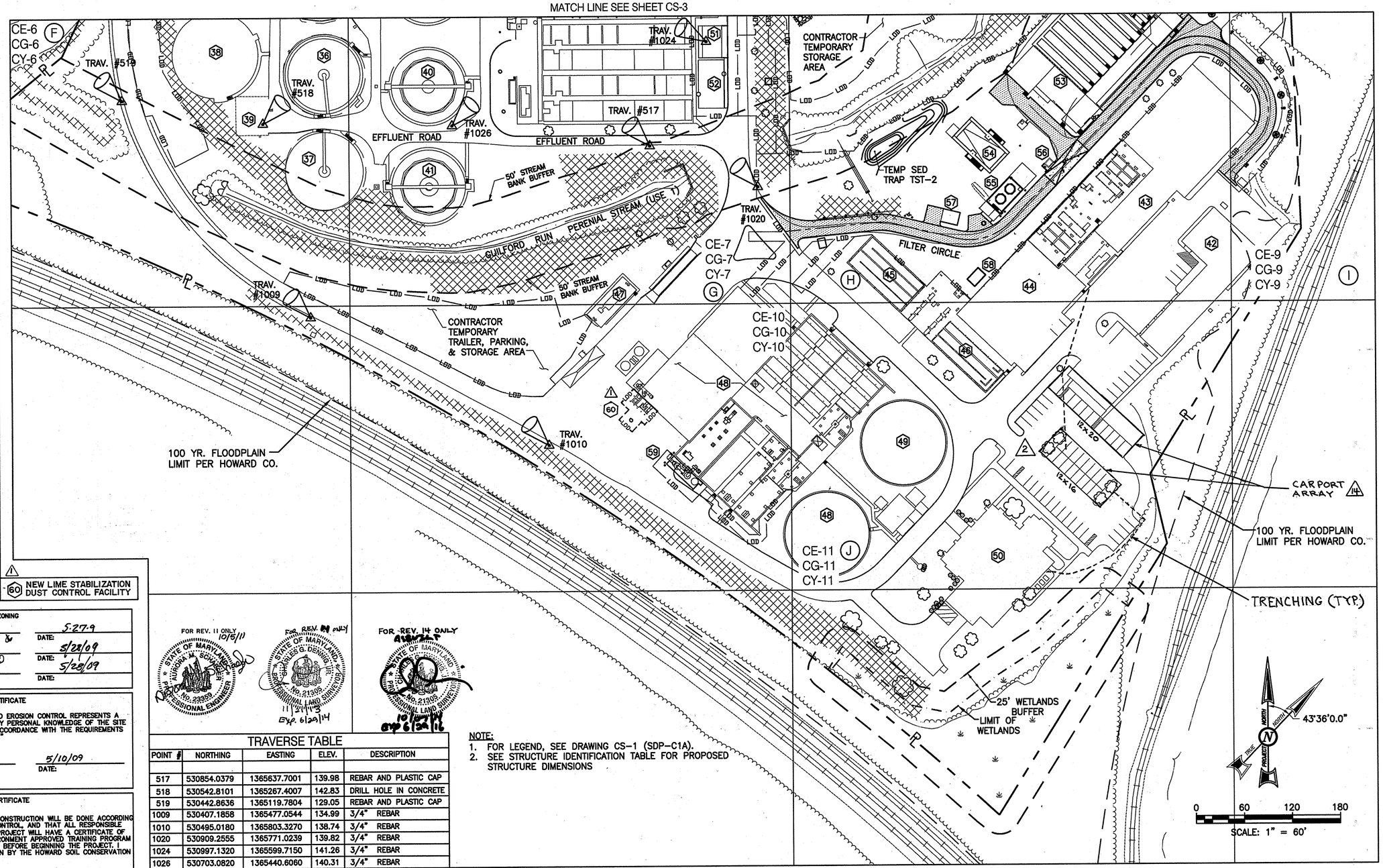
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 39 OF 611
CS-3
SDP SHEET 4 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CS-03-04 Plant Site Plan.dwg 05/15/09_12:23

MATCH LINE SEE SHEET CS-3



STRUCTURE IDENTIFICATION

TAG	FACILITY DESCRIPTION
36	PRIMARY CLARIFIER (PC-3)
37	PRIMARY CLARIFIER (PC-4)
38	PRIMARY CLARIFIER (PC-5)
39	SOUTH PUMP STATION
40	FINAL CLARIFIER (FC-4)
41	FINAL CLARIFIER (FC-5)
42	MAINTENANCE BUILDING
43	FILTER BUILDING
44	CHLORINE BUILDING
45	POST AERATION
46	EMERGENCY CHLORINE CONTACT BASINS
47	DEWATERING SUBSTATION
48	BIOSOLIDS FACILITIES
49	PRETREATMENT ANAEROBIC DIGESTERS
50	ADMINISTRATION BUILDING
51	NEW EAST/WEST BLOWER FACILITY [36.0'X40']
52	NEW EAST SUBSTATION [32.5'X60']
53	NEW DENITRIFICATION FILTER COMPLEX [116.0'X210.3']
54	NEW DENITRIFICATION FILTER MUDWELL [65.0'X36.0']
55	NEW METHANOL STORAGE AND FEED FACILITY [24.0'X55.0']
56	NEW METHANOL FILL STATION [9.7'X7.5']
57	NEW FIRE PROTECTION BUILDING [16.3'X21.3']
58	NEW EFFLUENT METER VAULT FUTURE
59	NEW LIME STABILIZATION ODOR CONTROL FACILITY
60	NEW LIME STABILIZATION DUST CONTROL FACILITY

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE: 5/29/09

ENGINEER'S 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."

Aurora M. Schaffer
AURORA M. SCHAFFER — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward
Daniel Ward — 5/14/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

FOR REV. II ONLY 10/5/11
STATE OF MARYLAND — AURORA M. SCHAFFER — No. 23359 — PROFESSIONAL ENGINEER

FOR REV. III ONLY
STATE OF MARYLAND — CHARLES G. DENNIS III — No. 21305 — PROFESSIONAL LAND SURVEYOR
11/21/13
Exp. 6/29/14

FOR REV. 14 ONLY 4/20/09
STATE OF MARYLAND — AURORA M. SCHAFFER — No. 23359 — PROFESSIONAL ENGINEER
Exp 6/30/14

TRAVERSE TABLE

POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
517	530854.0379	1365637.7001	139.98	REBAR AND PLASTIC CAP
518	530542.8101	1365267.4007	142.83	DRILL HOLE IN CONCRETE
519	530442.8636	1365119.7804	129.05	REBAR AND PLASTIC CAP
1009	530407.1858	1365477.0544	134.99	3/4" REBAR
1010	530495.0180	1365803.3270	138.74	3/4" REBAR
1020	530909.2555	1365771.0239	139.82	3/4" REBAR
1024	530997.1320	1365599.7150	141.26	3/4" REBAR
1026	530703.0820	1365440.6060	140.31	3/4" REBAR

NOTE:
1. FOR LEGEND, SEE DRAWING CS-1 (SDP-C1A).
2. SEE STRUCTURE IDENTIFICATION TABLE FOR PROPOSED STRUCTURE DIMENSIONS

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — AURORA M. SCHAFFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Aurora M. Schaffer
REGISTERED PROFESSIONAL ENGINEER

4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS
DRN: EJR
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE
11/21/13	⚠ SDP REV. 13: ADD CARPORT SOLAR ARRAYS REV. 14 AND TRENCHING
10/5/11	⚠ SDP REVISION III: ADD LIME STABILIZATION DUST CONTROL FACILITY

HOWARD COUNTY SDP SHEET C-1D
CIVIL

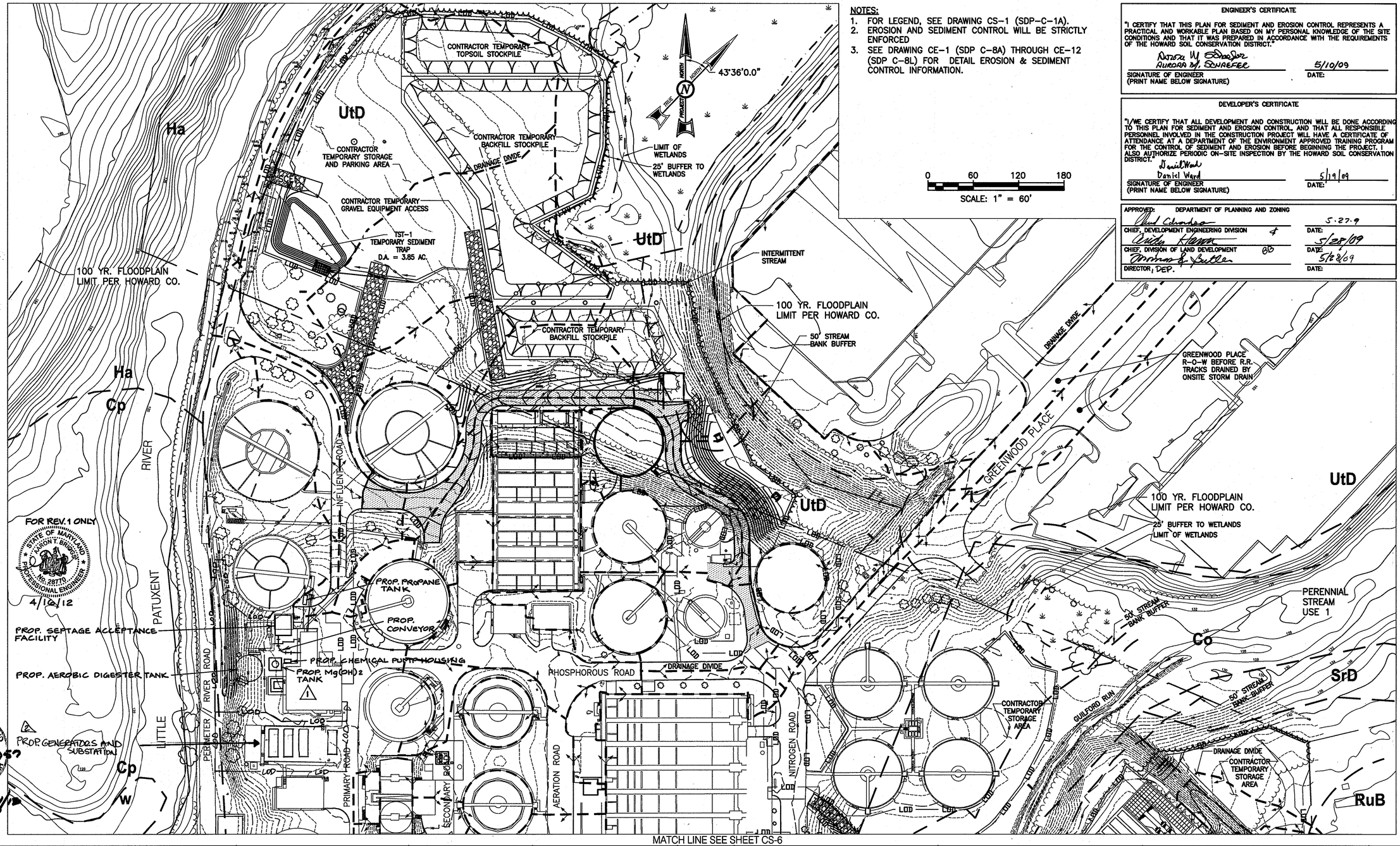
PLANT SITE AND KEY PLAN

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 40 OF 611
CS-4
SDP SHEET 5 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CS-03-04 Plant Site Plan.dwg 05/14/09_18:47



NOTES:
1. FOR LEGEND, SEE DRAWING CS-1 (SDP-C-1A).
2. EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED
3. SEE DRAWING CE-1 (SDP C-8A) THROUGH CE-12 (SDP C-8L) FOR DETAIL EROSION & SEDIMENT CONTROL INFORMATION.

0 60 120 180
SCALE: 1" = 60'

ENGINEER'S 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."

Donna M. Schaefer / DONNA M. SCHAEFER — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward — 5/9/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	4	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	60	DATE: 5/28/09
DIRECTOR, DEP.		DATE: 5/28/09

MATCH LINE SEE SHEET CS-6

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

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.: 23359, EXPIRATION DATE: 8/13/10

STATE OF MARYLAND DONNA M. SCHAEFER No. 23359 PROFESSIONAL ENGINEER

Donna M. Schaefer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Shelton
CHIEF, BUREAU OF UTILITIES — DATE

DES: AMS		
DRN: EJR	10-31-13	ADD STANDBY GENERATORS AND SUBSTATION 2
	3-16-12	ADD SEPTAGE ACCEPTANCE FACILITY,
CHK: LHH		DIGESTER TANK, PROPANE TANK,
DATE: –		Mg(OH)2 TANK AND APPURTENANCES 1
	DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-1E
CIVIL

EROSION AND SEDIMENT CONTROL CONCEPT PLAN

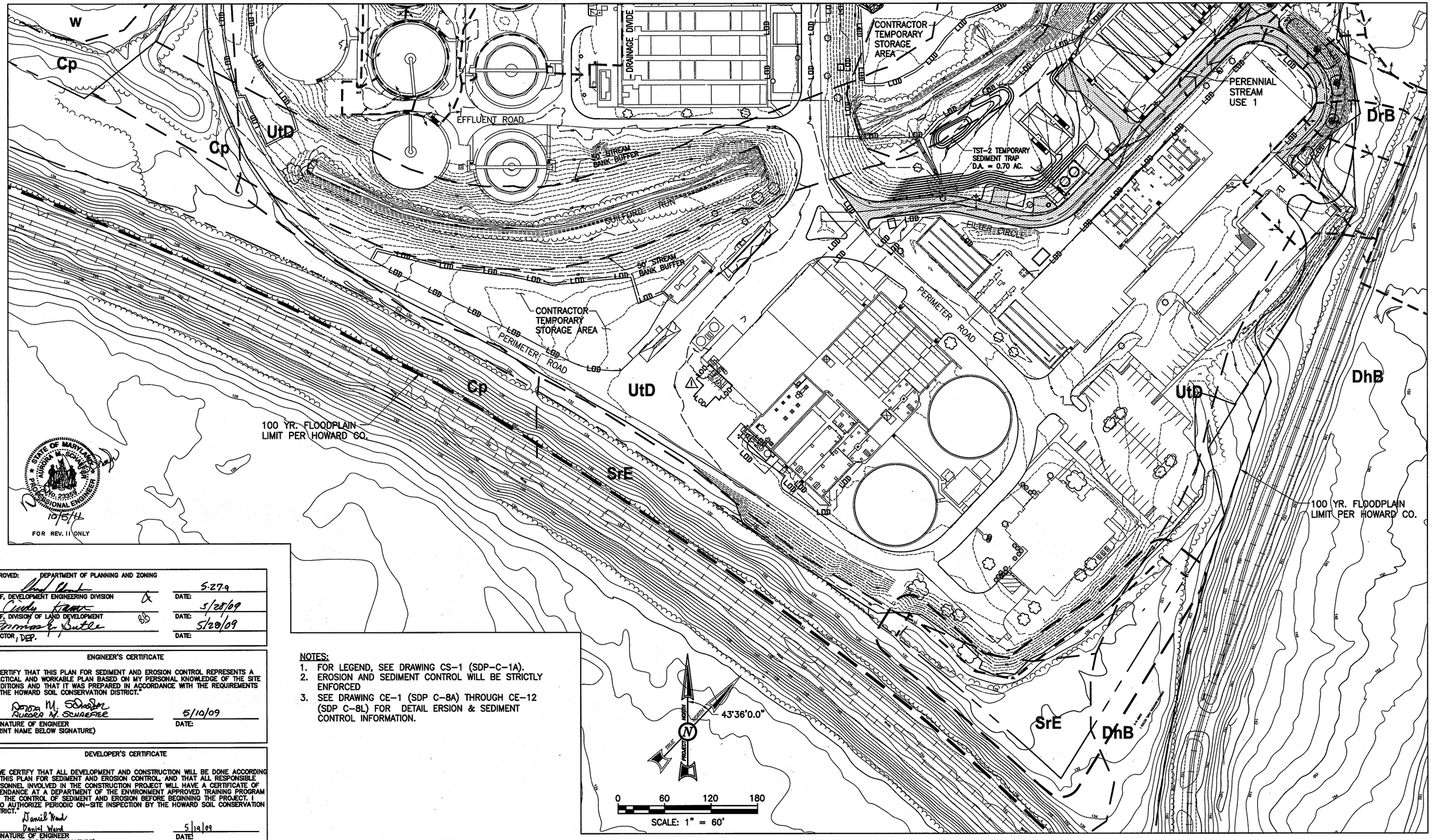
REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 41 OF 611
CS-5
SDP SHEET 6 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 CW\Sheets\ES Concept Plan.dwg 05/15/09_12:18

MATCH LINE SEE SHEET CS-5



STATE OF MARYLAND AURORA M. SCHAEFER No. 23359 PROFESSIONAL ENGINEER
10/5/11
FOR REV. 11 ONLY

APPROVED: DEPARTMENT OF PLANNING AND ZONING		
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DA	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	BS	DATE: 5/28/09
DIRECTOR, DEP.		DATE: 5/28/09

ENGINEER'S 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."

Aurora M. Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:
AURORA M. SCHAEFER

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."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE
DANIEL WARD

NOTES:
1. FOR LEGEND, SEE DRAWING CS-1 (SDP-C-1A).
2. EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED
3. SEE DRAWING CE-1 (SDP C-8A) THROUGH CE-12 (SDP C-8L) FOR DETAIL ERSION & SEDIMENT CONTROL INFORMATION.

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-8800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND AURORA M. SCHAEFER No. 23359 PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Aurora M. Schaefer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE 5/19/09

DES: AMS
DRN: EJR
CHK: LHH
DATE: -

DATE	REVISIONS AND RECORD OF ISSUE
10/5/11	⚠ SDP REVISION 11: ADD LIME STABILIZATION DUST CONTROL FACILITY

HOWARD COUNTY SDP SHEET C-1F
CIVIL

EROSION AND SEDIMENT CONTROL CONCEPT PLAN

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 42 OF 611
CS-6
SDP SHEET 7 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CS-05-06 ES Concept Plan.dwg 05/15/09_12:18

LEGEND

F FERMENTER
FC FINAL CLARIFIER
FEB FLOW EQUALIZATION BASIN
PC PRIMARY CLARIFIER
PR PROCESS REACTOR
PS PRIMARY SUBSTATION
TB-3 ◆ TEST BORING

PROPOSED STRUCTURE
PROPOSED BITUMINOUS PAVING
CONCRETE PAVING/SIDEWALK OR MOW STRIP
128 PROPOSED CONTOUR
LOD LIMIT OF DISTURBANCE
128 EXISTING CONTOUR
EXISTING PIPING 12" AND ABOVE
NEW 15" RCP PROPOSED PIPING 12" AND ABOVE
EXISTING PIPING SMALLER THAN 12"
PROPOSED PIPING SMALLER THAN 12"
163.3 X EXISTING SPOT ELEVATION
143.3 X PROPOSED SPOT ELEVATION
N 532000 / E 1365000 STAKEOUT COORDINATES
SF SILT FENCE
SSF SUPER SILT FENCE
AGIP INLET PROTECTION
MH 6 NEW STORM MANHOLE AND DESIGNATOR
I-1 NEW STORM INLET AND DESIGNATOR
SMH 6 NEW SEWER MANHOLE AND DESIGNATOR

CONSTRUCTION NOTES:

1. CONNECT NEW CURB TO EX CURB
2. INSTALL NEW PAVING (PAVING SECTION P-2)
3. INSTALL NEW CURB
4. INSTALL NEW CONCRETE SIDEWALK
5. INSTALL 2' CONCRETE MOWING STRIP
6. CONNECT NEW CONCRETE WALK TO EX WALK
7. NOT USED
8. CONNECT NEW PAVING TO EX PAVING
9. INSTALL CURB CUT W/RIP-RAP
10. INSTALL NEW STORM DRAIN SYSTEM

DEMOLITION NOTES:

D-1 REMOVE CURB
D-2 REMOVE PAVING
D-3 REMOVE STORM DRAIN PIPE AND APPURTENANCES
D-4 REMOVE CONCRETE SLUDGE STORAGE
D-5 REMOVE RETAINING WALL
D-6 REMOVE CONCRETE WALK
D-7 REMOVE TREE

NOTE:
FOR STABILIZED CONSTRUCTION ENTRANCE FOR ENTIRE SITE PROJECT SEE C-7

4 FOR PROPOSED WORK IN THIS AREA SEE SHEETS C-8A, C-8B AND C-8C

MATCH LINE C-7

MATCH LINE C-3

MATCH LINE C-4

MATCH LINE, SEE SHEET 29 OF 52

MATCH LINE, SEE SHEET 10 OF 52

PROPOSED: NORTH BLOWING BUILDING, NORTH PROCESS REACTORS, PRIMARY SUBSTATION #5 ADDITIONAL PAVING.

EXISTING FLOW EQUALIZATION BASIN # 2

EXISTING PRIMARY CLARIFIER # 1

EXISTING FINAL CLARIFIER # 11

EXISTING FINAL CLARIFIER # 10

PROP. NORTH BLOWER BUILDING FF ELEV=144.0

PROP. NORTH PROCESS REACTORS

EXISTING NORTH PUMP STATION FF ELEV=143.56

PROP. ELECTRICAL SUBSTATION PAD ELEV=144.0

PROP. PROPANE TANK

PROP. SEPTAGE ACCEPTANCE FACILITY

PROP. CONVEYOR

PROP. CHEMICAL PUMP HOUSING ELEV=120.69

EXISTING HEADWORKS BLDG

PURIFAX BUILDING PIPE ACCESS VAULT

EXTEND EX FLOOD VALVE OPERATOR TO MAINTAIN RELATIONSHIP WITH FINISHED GRADE

STAIRS, CONCRETE WALK AND LANDING SHALL BE REMOVED AND INSTALL NEW STAIRS, CONCRETE WALK AND LANDING AFTER GRADING IS COMPLETE.

TEMPORARY BITUMINOUS BERM

TEMPORARY TRUCK ACCESS ENTRANCE

TEMPORARY SUMP PIT (SEE SEQUENCE OF CONSTRUCTION)

GRADING CONTINUES UNDERNEATH CANTILEVERED WALKWAY (SEE STRUCTURAL DRAWINGS). AREA UNDER WALKWAY SHALL BE FINISHED WITH 6" #7 STONE OVER FILTER FABRIC.

LOD FOR UNDER GROUND UTILITY INSTALLATION SILT FENCE AS NEEESSARY

INLET PROTECTION

RIP-RAP d50=8" OVER FILTER CLOTH 985.00'

SEE C-1 FOR NEW LOD, SSF AND STOCKPILING AREA

FOR PROPOSED WORK IN THIS AREA, SEE SHEETS C-8A, C-8B AND C-8D

ELECTRIC MANHOLES

NEW PLANT DRAIN MANHOLE

PHOSPHOROUS ROAD

EX FIRE HYDRANT

INFLUENT ROAD

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft

FOR REV. 4 ONLY
AURORA M. SCHAFER
STATE OF MARYLAND
No. 23959
REGISTERED PROFESSIONAL ENGINEER
5/8/09

FOR REV. 5 ONLY
MARGOT BRIGGS
STATE OF MARYLAND
No. 28770
REGISTERED PROFESSIONAL ENGINEER
4/16/12

FOR REV. 3 ONLY
MARY "MAX" BEARD
STATE OF MARYLAND
No. 19855
REGISTERED PROFESSIONAL ENGINEER
12-13-06

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA – NATURAL RESOURCES CONSERVATION SERVICE — DATE: 6-5-00

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

HOWARD SCD — DATE: 6-5-00

ENGINEER'S 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."

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/23/00

JOSEPH H. BYRNE

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."

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/22/00

DANIEL WARD

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 6/7/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 6/20/00

DIRECTOR — DATE: 6/21/00

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Randy Bowman 5-26-00
CHIEF, BUREAU OF UTILITIES — DATE

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL.(301) 881-2545 FAX.(301) 881-6814
E-MAIL:JBYRNE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland

REG. PROF. ENGR. — 5/23/00 DATE

STATE OF MARYLAND JOSEPH H. BYRNE No. 17174 REGISTERED PROFESSIONAL ENGINEER 5/23/00

DES: AR
DRN: REA
CHK: JB
DATE: 05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
3-16-12	ADD SEPTAGE ACCEPTANCE FACILITY DIGESTER TANK, PROPANE TANK, Mg(OH)2 TANK AND APPURTENANCES.	5			
4-10-09	REVISED LOD PER RED LINE REVISION 10	4			
12-13-06	ADDITION 7 - REVISE LOD, ADD SILT FENCE	3			
1-7-02	ADD TRUCK ACCESS TO NORTH PL	2			
1-7-02	REVISED LIMIT OF DISTURBANCE	1			

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148

SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 6
PARCEL "A"
CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

4 SHEET 8 OF 52

C-2

KEY LEGEND
FOR REVISIONS THRU NO. 9 FOR REV. NO. 10, SEE SDP SHTS. C-1C AND C-1D.

C-1 C-2 C-3 C-4 C-5 C-6 C-7 C-8

SDP 00-97

DB8472
F8304172A

FOR REV. 3 ONLY
STATE OF MARYLAND
AURORA M. SCHULTZ
No. 23939
PROFESSIONAL ENGINEER
5/8/09

FOR REV. 2 ONLY
STATE OF MARYLAND
ROY L. WALDEN
No. 10888
REGISTERED
PROFESSIONAL ENGINEER
12-13-06

MATCH LINE C-8

MATCH LINE C-2

MATCH LINE C-5

FOR PROPOSED WORK IN THIS AREA, SEE SHEET C-8B

FOR PROPOSED WORK IN THIS AREA, SEE SHEET C-8E

CORRIDOR INDUSTRIAL PARK, SECTION 1
ZONED M-2

PROPOSED REACTOR NO. 2

SFB ES-03
SHEET C-10

MATCH EX PAVING AND CURB

BOLLARDS, TYP

PROPOSED LOW NOx FLARE

CLASS I-P STREAM

EXISTING FERMENTER #2

PROPOSED FERMENTER SPLITTER BOX

EXISTING NORTH GALLERY
FF ELEV=142.0

EXISTING FERMENTER #1

PROP. ODOR CONTROL BLOWERS

PROP SPOR VAULT

FINAL CLARIFIER #12 PROP.

RIP-RAP d50=8" OVER FILTER CLOTH 2'X2'

TEMP. SANDBAG (TYP.)

CURBING TO REMAIN

INLET PROTECTION

AGIP

SFOS

SF

LOD

BRUSH

GREENWOOD PLACE (PUBLIC)

50' R/W

EX 12"W

EX CURB

EX CL FENCE

EX POTABLE WATER BACKFLOW PREVENTER AND VAULT

LIMIT OF DISTURBANCE FOR YARD PROCESS PIPING INSTALL SILT FENCE AS NECESSARY

N531350
E1365550

N69°20'14"E

EX BIT. PAVING

GRAVEL

N 531254.58 E 1365286.89
N 531246.14 E 1365276.86
N 531282.03 E 1365306.18
N 531294.62 E 1365372.72
N 531253.38 E 1365334.53
N 531242.85 E 1365246.31
N 531224.23 E 1365376.01
N 531212.89 E 1365366.92
N 531194.89 E 1365356.26
N 531206.16 E 1365367.46
N 531177.48 E 1365366.26
N 531185.65 E 1365364.69

GRAPHIC SCALE
0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

CONSTRUCTION NOTES:

1. DEMOLISH EXISTING TRUCK SCALE, SCALE ACCESS ROAD AND FUEL STATION.
2. REMOVE TREES WITHIN DEMOLITION AND EXCAVATION AREA.
3. RELOCATE EXISTING DUCTBANK BETWEEN EMH-17 AND EMH-32. REROUTE THROUGH RELOCATED MH EMH-38.
4. PROVIDE NEW (RELOCATED) ACCESS ROAD AROUND NEW REACTORS.
5. INSTALL NEW ANAEROBIC REACTORS.
6. PROVIDE NEW GRASS WITHIN DISTURBED AREA ACCORDING TO SEEDING SCHEDULE.

NOTE: THIS SHEET SUPERCEDES PREVIOUS SHEET 3 OF 13.

SIGNED BY _____ ON _____
CHARLES F. DAMMERS, III, P.E. DATE
CHIEF, DED

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
USDA – NATURAL RESOURCES CONSERVATION SERVICE DATE: 9/7/06

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SCD DATE: 9/7/06

ENGINEER'S 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."

ROY L. WALDEN — 8/28/06
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Wood — 8/28/06
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

KEY LEGEND
FOR REVISIONS THRU NO. 9
FOR REV. NO. 10, SEE SDP SHTS. C-1C AND C-1D.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 9/12/06
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 9/15/06
DIRECTOR	DATE: 9/15/06

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 8-28-06 DATE

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL (301) 881-2545 FAX (301) 881-0814
E-MAIL:JRYONE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland
REG. PROF. ENGR. — DATE

STATE OF MARYLAND
ROY L. WALDEN
No. 10888
REGISTERED
PROFESSIONAL ENGINEER

DES: AR
DRN: REA
CHK: JB
DATE: 05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
4-10-09	REVISED LOD PER RED LINE REVISION 10	3			
12-13-06	ADDITION 7 - ADD FLARE STATION, SHOW FINAL GRADING, REVISE LOD, ADD SF, SHOW E&S MEASURES	2			
5-26-06	ADDITION 7 – ADD PARTIAL PLAN AND CONSTRUCTION NOTES	1			

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148
SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 6
PARCEL "A"
CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
3 SHEET 9 OF 52
C-3

D58472
FD58472A

SDP-00-94

MATCH LINE, SEE SHEET 29 OF 52

MATCH LINE, SEE SHEET 8 OF 52

MATCH LINE C-2

FF=142.31
BF=120.65

STATE OF MARYLAND — AURORA M. SIGNACO — No. 23959 — PROFESSIONAL ENGINEER

FOR REV. 4 ONLY
4/16/12

PROP. PULL-OFF

PROP AEROBIC DIGESTER TANK

PROP. UNDERDRAIN OUTLET

EX. 24" CONT. N.

PROP. GENERATORS AND SUBSTATIONS

EXISTING HEADWORKS SUBSTATION

INLET PROTECTION

EX. MH

SIDEWALK

PROP. AUXILIARY PUMP STATION
FF ELEV-144.0
64'-8"

INLET PROTECTION

PERIMETER ROAD

N 530550.55
E 1365067.47

15" RCP

OUTLET PROTECTION
10' x10' CL. I
RIPRAP OVER
FILTER CLOTH

TEMPORARY 15" CULVERT

STABILIZED CONSTRUCTION ENTRANCE

PROP. PRIMARY CLARIFIER #5

RIPRAP

N 530639.89
E 1365160.09

EXISTING PRIMARY CLARIFIER #2

FOR PROPOSED WORK IN THIS AREA, SEE SHEET C-8D

EX. EDGE OF PAVING

EX. CURB

FEI METER VAULT

EXISTING GRIT BASINS
FF=141.03

GRIT BLDG

EX. BIT PAVING

EXISTING PRIMARY CLARIFIER # 3

EXISTING PRIMARY CLARIFIER # 4

EXISTING SOUTH PUMP STATION
FF-143.54

LIMIT OF DISTURBANCE

PROPOSED: AUXILIARY PUMP STATION PRIMARY CLARIFIER #5 AND PAVING.

PRIMARY ROAD

EXISTING FINAL CLARIFIER #2

EXISTING FINAL CLARIFIER #3

LOD FOR UNDERGROUND UTILITY INSTALLATION SILT FENCE AS NECESSARY

STATE OF MARYLAND — AURORA M. SIGNACO — No. 23959 — PROFESSIONAL ENGINEER

FOR REV. 3 ONLY
5/8/09

EXISTING FINAL CLARIFIER #4

LIMIT OF DISTURBANCE FOR YARD PROCESS PIPING INSTALL SILT FENCE AS NECESSARY

LIMIT OF DISTURBANCE

INLET PROTECTION

EX. CURB

EX. EDGE OF PAVING

EX. BIT. PAVING

Process Reactor Influent

WEST GALLERY

TRANS

EFFLUENT ROAD

AERATION ROAD

MATCH LINE C-5

STATE OF MARYLAND — JOHN C. SCHMIDT — No. 21708 — PROFESSIONAL ENGINEER

Approved 10/21/13
For rev. 5 only

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
Cheryl Simmons — 6-5-00
USDA – NATURAL RESOURCES CONSERVATION SERVICE — DATE:

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John Robertson — 6-5-00
HOWARD SCD — DATE:

ENGINEER'S 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."

SIGNATURE OF ENGINEER — DATE: 5/23/00
(PRINT NAME BELOW SIGNATURE)
JOSEPH H. BYRNE

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."

SIGNATURE OF ENGINEER — DATE: 5/26/00
(PRINT NAME BELOW SIGNATURE)
DANIEL WARD

KEY LEGEND
FOR REVISIONS THRU NO. 9
FOR REV. NO. 10, SEE SDP SHTS. C-1C AND C-1D.

C-1 C-2 C-3 C-4 C-5 C-6 C-7 C-8

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 10/7/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 6/20/00
DIRECTOR	DATE: 6/21/00

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Berning 5-26-00
CHIEF, BUREAU OF UTILITIES DATE

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL (301) 881-2565 FAX (301) 881-0814
E-MAIL JBYRNE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland

REG. PROF. ENGR. — 5/23/00 DATE

STATE OF MARYLAND — JOSEPH H. BYRNE — No. 21708 — PROFESSIONAL ENGINEER
5/23/00

DES: AR
DRN: REA
CHK: JB
DATE: 05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
10-31-13	ADD STANDBY GENERATORS AND SUBSTATION	5			
3-16-12	ADD SEPTAGE ACCEPTANCE FACILITY, DIGESTER TANK, PROPANE TANK, Mg(OH)2 TANK AND APPURTENANCES.	4			
4-10-09	REVISED LOD PER RED LINE REV. 10	3			
1-7-02	CONTRUCTION ENTRANCE	2			
1-7-02	REVISED LIMIT OF DISTURBANCE	1			

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148

SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 6

PARCEL "A"

CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

(SCALE AS SHOWN)

3 SHEET 10 OF 52

C-4

SDP00-97

D58472
F0584724

MATCH LINE C-3

MATCH LINE C-4

MATCH LINE C-8

MATCH LINE C-6

EXISTING PROCESS REACTORS

EXISTING FINAL CLARIFIER #6

EXISTING FINAL CLARIFIER #7

EXISTING FINAL CLARIFIER #9

EXISTING FINAL CLARIFIER #8

EXISTING DISTRIBUTION FLOW CHAMBER

LIMIT OF DISTURBANCE FOR YARD PROCESS PIPING INSTALLATION

INLET PROTECTION

EX. CURB

EX. WALK

EX. BIT. PAVING

EX. 12"W

6"FW

LOD

GRAVEL

OSBORD PARKWAY

NITROGEN ROAD

3 FOR PROPOSED WORK IN THIS AREA, SEE SHEET C-8D AND C-2E

3 CONTRACTOR TEMPORARY STORAGE AREA

LIMIT OF DISTURBANCE FOR CHAMBER RENOVATION

5 CONTRACTOR TEMPORARY STORAGE AREA, SEE SHEET C-8E

LIMIT OF DISTURBANCE FOR YARD PROCESS PIPING INSTALLATION, INSTALL SILT FENCE AS NECESSARY

3 FOR PROPOSED WORK IN THIS AREA, SEE SHEET C-8D AND C-2E

EX. 30"S CONT. NO. 235-S

BRUSH

GUILFORD RUN

E1365600 N551100

INSTALL SANDBAG/STONE DIVERSION-WRA DET. WPD 2.3 (TYPICAL BOTH SIDES OF CROSSING)

INSTALL RIP-RAP SLOPE PROTECTION (SEE DETAIL WPD-3.1) AFTER YARD PROCESS PIPE INSTALLATION INSTALL FORD CROSSING IF NECESSARY SEE DETAIL WPD 5.2

3 FOR PROPOSED WORK IN THIS AREA, SEE SHEET C-2G AND SHEET C-2H

EXCAVATE 54" METER VAULT WALL PERIMETER FOR NEW PIPE CONNECTION

PANEL POINT 1001

EXISTING 54" METER VAULT

VENT PIPE

PROPOSED REACTOR NO. 1

SFOS ES-02 SHEET C-10

TEMP. SANDBAG (TYP.)

ES-01 SHEET C-10

ADMINISTRATION BUILDING 1

CONSTRUCTION NOTES: 1

1. SAW CUT EXISTING PAVEMENT.
2. PROVIDE NEW RELOCATED ASPHALT ROAD AROUND NEW REACTORS.
3. REMOVE EXISTING SIGN AND SHRUBBERY.
4. REMOVE EXISTING TREES AND SHRUBBERY WITHIN DEMOLITION, EXCAVATION AND NEW CONSTRUCTION AREAS.
5. REROUTE DUCT BANK BETWEEN EMH-17 AND EMH-32

NOTE: THIS SHEET SUPERCEDES PREVIOUS SHEET 5 OF 13.

SIGNED BY CHARLES F. DAMMERS, III, P.E. CHIEF, DED ON DATE

KEY LEGEND
FOR REVISIONS THRU NO. 9
FOR REV. NO 10 SEE SDP SHTS. C-1C AND C-1D.

C-7 C-3

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA – NATURAL RESOURCES CONSERVATION SERVICE — DATE: 9/7/06

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

HOWARD SCD — DATE: 9/7/06

ENGINEER'S 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."

ROY L. WALDEN — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 8/28/06

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."

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 8/28/06

FOR REV. 3 ONLY

STATE OF MARYLAND — AURORA M. SCHAEFER — No. 29359 — PROFESSIONAL ENGINEER — 5/8/09

FOR REV. 2 ONLY

STATE OF MARYLAND — ROY L. WALDEN — No. 19851 — REGISTERED PROFESSIONAL ENGINEER — 12-13-06

CONNECTION OF EXIST. 8" PFI TO EXIST. 10" SPOR

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 9/13/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 9/15/06

DIRECTOR — DATE: 9/18/06

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE: 8-28-06

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL:(301) 881-3565 FAX:(301) 881-6814
E-MAIL:JBYRNE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland

REG. PROF. ENGR. — DATE

STATE OF MARYLAND — ROY L. WALDEN — No. 19851 — REGISTERED PROFESSIONAL ENGINEER

DES: AR
DRN: REA
CHK: JB
DATE: 05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
4-10-09	REVISED LOD PER RED LINE REVISION 10	3			
12-13-06	ADDITION 7 - REVISED LOD	2			
5-26-06	ADDITION 7 - ADD PARTIAL PLAN AND CONSTRUCTION NOTES	1			

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148

SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 6

PARCEL "A"

CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

3 SHEET 11 OF 52

C-5

D58472
FD58472A

SDP00-94

MATCH LINE C-5

FOR PROPOSED WORK IN THIS AREA, SEE SHEETS C-8H AND C-8I

FILTER CIRCLE ROAD

EXISTING FLOCCULATION BASIN

EXISTING FILTERS BUILDING
FF ELEV= 142.00

EXISTING MAINTENANCE BUILDING
FF ELEV= 142.00

TO NITROGEN ROAD

LIMIT OF DISTURBANCE FOR YARD PROCESS PIPING INSTALLATION

36" FE METER VAULT

EXISTING FILTERS

PROPOSED: METER VAULT

CHLORINE CONTACT

EXISTING PARKING LOT

PARKING LOT

EXHIBIT PAVING

LOD FOR UNDERGROUND UTILITY INSTALLATION SILT FENCE AS NECESSARY

E1366150 N531250

E1366400 N531250

BALTIMORE AND OHIO RAILROAD

ANN ARUNDEL COUNTY

MATCH LINE C-8

MATCH LINE C-7

ENGINEER'S 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."

SIGNATURE OF ENGINEER — DATE: 5/23/00
(PRINT NAME BELOW SIGNATURE)
JOSEPH H. BIRKE

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."

SIGNATURE OF ENGINEER — DATE: 5/24/00
(PRINT NAME BELOW SIGNATURE)
DANIEL WARD

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA – NATURAL RESOURCES CONSERVATION SERVICE — DATE: 6-5-00

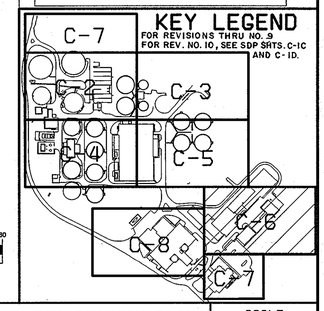
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SCD — DATE: 6/5/00

FOR REV. 2 ONLY
AURORA M. SCHAEFER No. 23959 PROFESSIONAL ENGINEER
5/8/09

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

KEY LEGEND
FOR REVISIONS THRU NO. 9
FOR REV. NO. 10, SEE SDP SHTS. C-1C AND C-1D.



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 6/2/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 6/20/00

DIRECTOR — DATE: 6/21/00

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE: 5-26-00

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL (301) 881-2545 FAX (301) 881-0814
E-MAIL JBYRNE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland

REG. PROF. ENGR. — DATE: 5/23/00

STATE OF MARYLAND — JOSEPH H. BIRKE — No. 21601 — PROFESSIONAL ENGINEER
5/23/00

DES: AR
DRN: REA
CHK: JB
DATE: 05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
4-10-09	REVISED LOD PER RED LINE REV. 10	2			
1-7-02	REVISED LIMIT OF DISTURBANCE	1			

CIVIL

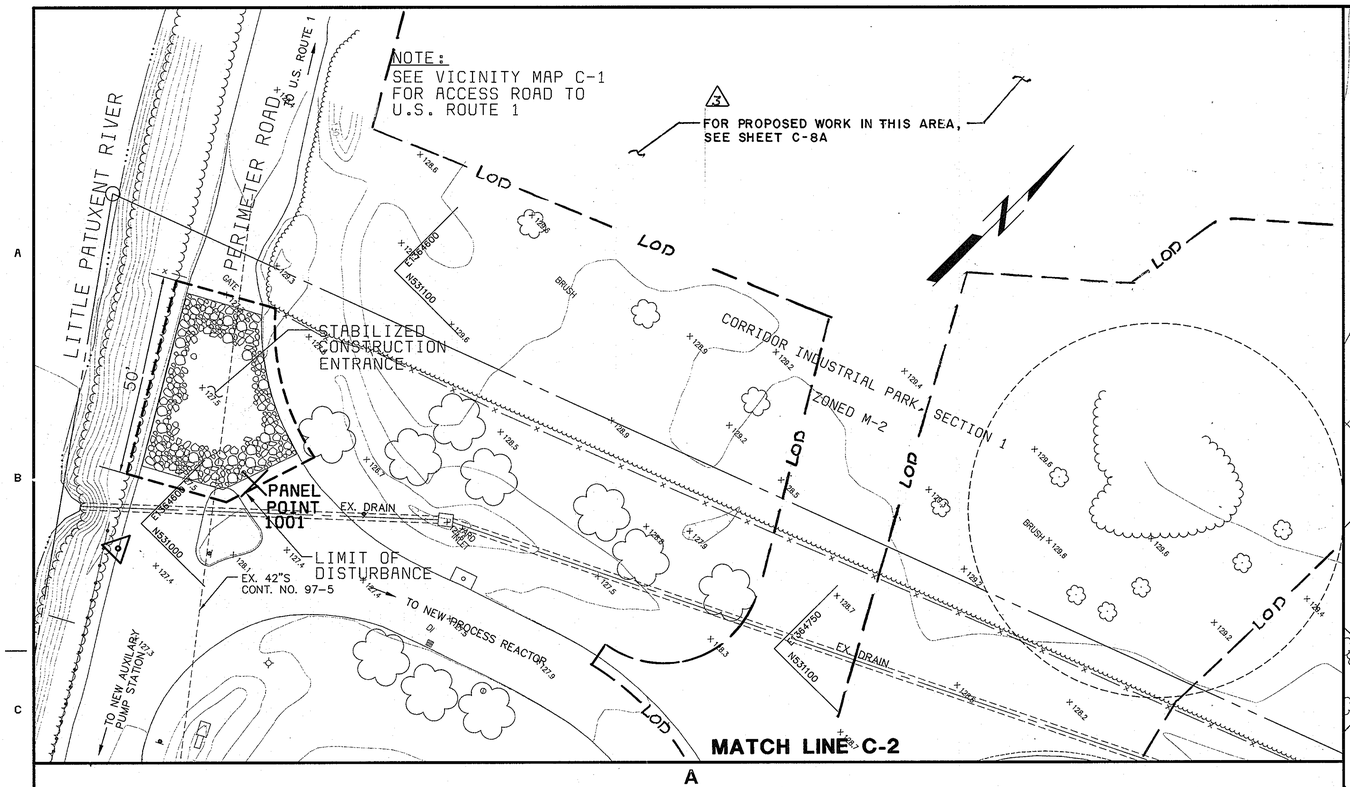
REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148
SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN

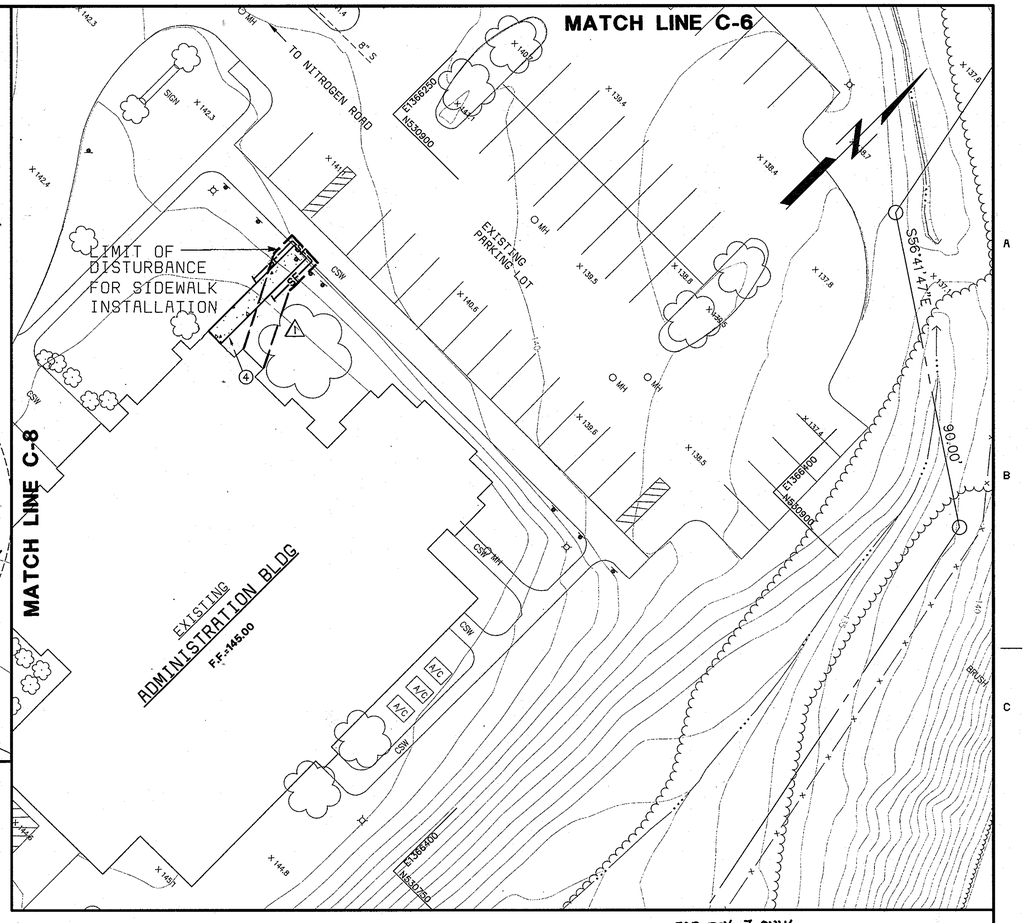
LITTLE PATUXENT WATER RECLAMATION PLANT ADDITION NO. 6
PARCEL "A"
CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

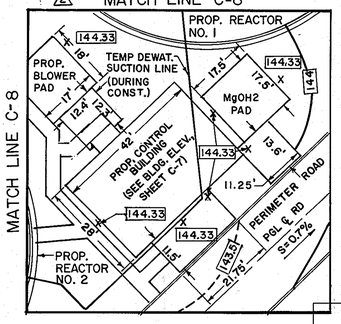
SCALE AS SHOWN
SHEET 12 OF 52
C-6

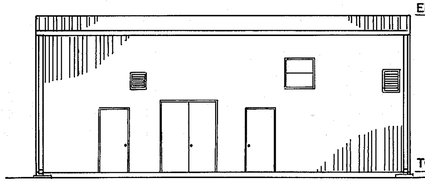
SDP00-94

DS8472
FDS8472R


NOTE:
SEE VICINITY MAP C-1
FOR ACCESS ROAD TO
U.S. ROUTE 1
FOR PROPOSED WORK IN THIS AREA, SEE SHEET C-8A
LITTLE PATUXENT RIVER
50' PERIMETER ROAD
TO U.S. ROUTE 1
STABILIZED CONSTRUCTION ENTRANCE
CORRIDOR INDUSTRIAL PARK - SECTION 1
ZONED M-2
LOD
PANEL POINT 1001
EX. DRAIN
LIMIT OF DISTURBANCE
EX. 42"S CONT. NO. 97-5
TO NEW PROCESS REACTOR
TO NEW AUXILIARY PUMP STATION
BRUSH
MATCH LINE C-2


MATCH LINE C-6
TO NITROGEN ROAD
LIMIT OF DISTURBANCE FOR SIDEWALK INSTALLATION
EXISTING PARKING LOT
EXISTING ADMINISTRATION BLDG
F.F.-145.00
MATCH LINE C-8
S56°41'47"E
90.00'
BRUSH


MATCH LINE C-8
PROP. REACTOR NO. 1
PROP. BLOWER PAD
TEMP DEWAT. SUCTION LINE (DURING CONST.)
MgOH2 PAD
PROP. CONTROL BUILDING (SEE BLDG. ELEV. SHEET C-7)
PERIMETER ROAD
PGL & RD S=0.7%
PROP. REACTOR NO. 2
MATCH LINE C-8



CONTROL BUILDING ELEVATION

SCALE: 1/8" = 1'-0"

ENGINEER'S 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."

SIGNATURE OF ENGINEER — DATE: 5/23/00

(PRINT NAME BELOW SIGNATURE)

JOSEPH H. BYRNE

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."

SIGNATURE OF ENGINEER — DATE: 5/24/00

(PRINT NAME BELOW SIGNATURE)

DANIEL WARD

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 6/7/00

CHIEF, DIVISON OF LAND DEVELOPMENT — DATE: 6/20/00

DIRECTOR — DATE: 6/21/00

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE: 6/16/00

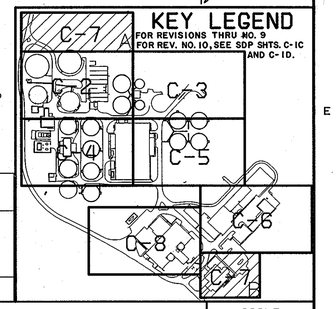
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SCD — DATE: 6/16/00

FOR REV. 3 ONLY
STATE OF MARYLAND
AURORA M. SCHAEFER
No. 28959
REGISTERED PROFESSIONAL ENGINEER
5/18/09

FOR REV. 2 ONLY
STATE OF MARYLAND
JOYCE L. HALDEN
No. 10880
REGISTERED PROFESSIONAL ENGINEER
12-13-06

KEY LEGEND
FOR REVISIONS THRU NO. 9
FOR REV. NO. 10, SEE SDP SHTS. C-1C AND C-1D.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Berning 5-26-00
CHIEF, BUREAU OF UTILITIES DATE

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL: (301) 881-3545 FAX (301) 881-0814
E-MAIL: JBYRNE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland

REG. PROF. ENGR. — 5/23/00 DATE

5/23/00

DES: AR
DRN: REA
CHK: JB
DATE: 05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
4-10-09	REVISED LOD PER RED LINE REV. 10	3			
12-13-06	ADDITION 7 - ADDED ANAEROBIC REACTORS AND ANCILLARY EQUIPMENT, ADDED CONTROL BUILDING	2			
1-7-02	REVISED LIMIT OF DISTURBANCE	1			

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148

SITE DEVELOPMENT, EROSION AND SEDIMENT CONTROL PLAN

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 6

PARCEL "A"

CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 13 OF 52

C-7

SDP 00-94

D58472
F9584728

CONSTRUCTION NOTES:

1. REMOVE CONCRETE WALK
2. REMOVE CONCRETE CURB – SAWCUT 1' OF EXISTING PAVEMENT PRIOR TO REMOVING CURB
3. INSTALL CONCRETE CURB
4. EXISTING GRATING TO REMAIN
5. REMOVE AND REUSE ALUMINUM STAIRS
6. REMOVE BITUMINOUS PAVING FOR SILO INSTALLATION
7. INSTALL NEW BITUMINOUS PAVING
8. INSTALL 6' WIDE CONCRETE PAD, 2" ABOVE EXISTING GRADE
9. RE-INSTALL ALUMINUM STAIRCASE
10. INSTALL NEW CONCRETE PAD AROUND SILOS, SEE STRUCTURAL DRAWINGS
11. REMOVE A 2' WIDE STRIP OF BITUMINOUS PAVING – SAWCUT PRIOR TO REMOVAL. MEET EXISTING PAVEMENT IN LINE AND GRADE
12. INSTALL CONCRETE TRUCK WASH AREA
13. INSTALL TRENCH DRAIN W/SAND TRAP AND 8" SANITARY SEWER
14. INSTALL 8" SANITARY SEWER AND CONNECT TO EXISTING SANITARY MANHOLE
15. RELOCATE LIME SILO PER DRAWINGS PREPARED BY RDP TECHNOLOGIES INC., AND PATCH AREA FLUSH WITH EX GRADE
16. INSTALL LIME SILO
17. INSTALL 1 1/2" WATER SUPPLY LINE, MIN 4' COVER
18. INSTALL 1 1/2" YARD HYDRANT, POST AND NON-FREEZE TYPE
19. SEE MECHANICAL/PLUMBING DRAWINGS FOR CONTINUATION
20. INSTALL BOLLARDS
21. CONNECT NEW PAVING TO EX. PAVING
22. GRASS AREA TO REMAIN
23. INSTALL 8" SEWER
24. INSTALL NEW CLEANOUT
25. INSTALL 1 1/2" CURB STOP AND BOX
26. RELOCATED LIME SILO (SEE NOTE 15)
27. CONTRACTOR TO TEST PIT PRIOR TO CONSTRUCTION

NOTE: THIS SHEET SUPERCEDES PREVIOUS SHEET 8 OF 13.

SIGNED BY _____ ON _____
CHARLES F. DAMMERS, III, P.E. CHIEF, DED — DATE

"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."

Roy L. Walden — 8/28/06
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward — 8/28/06
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Myers — 9/7/06
USDA – NATURAL RESOURCES CONSERVATION SERVICE — DATE:

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

John R Robertson — 9/7/06
HOWARD SCD — DATE:

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 9/13/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 9/15/06
DIRECTOR — DATE: 3/14/10

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Brine 8-28-06
CHIEF, BUREAU OF UTILITIES — DATE

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL (301) 881-2545 FAX (301) 881-0814
E-MAIL:JBYRNE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland

REG. PROF. ENGR. — DATE

STATE OF MARYLAND — ROY L. WALDEN — No. 19911 — REGISTERED PROFESSIONAL ENGINEER

DES: AR
DRN: REA
CHK: JB
DATE: 05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
10/5/11	SDP REVISION 11: ADD LIME STABILIZATION DUST CONTROL FACILITY	6			
4-10-09	REVISED LOD PER RED LINE REVISION 10	4			
12-13-06	ADDITION 7 – FINAL GRADING AT REACTORS, NEW DB, GENERATOR, CONN. BOX, BIOFILTER, REVISED LOD	3			
5-26-06	ADDITION 7 – ADD PARTIAL PLAN AND CONSTRUCTION NOTES	2			
1-7-02	REVISED LIMIT OF DISTURBANCE	1			

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148
SITE DEVELOPMENT PLAN, EROSION AND SEDIMENT CONTROL PLAN

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 6
PARCEL "A"
CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 14 OF 52
C-8

SDP00-94

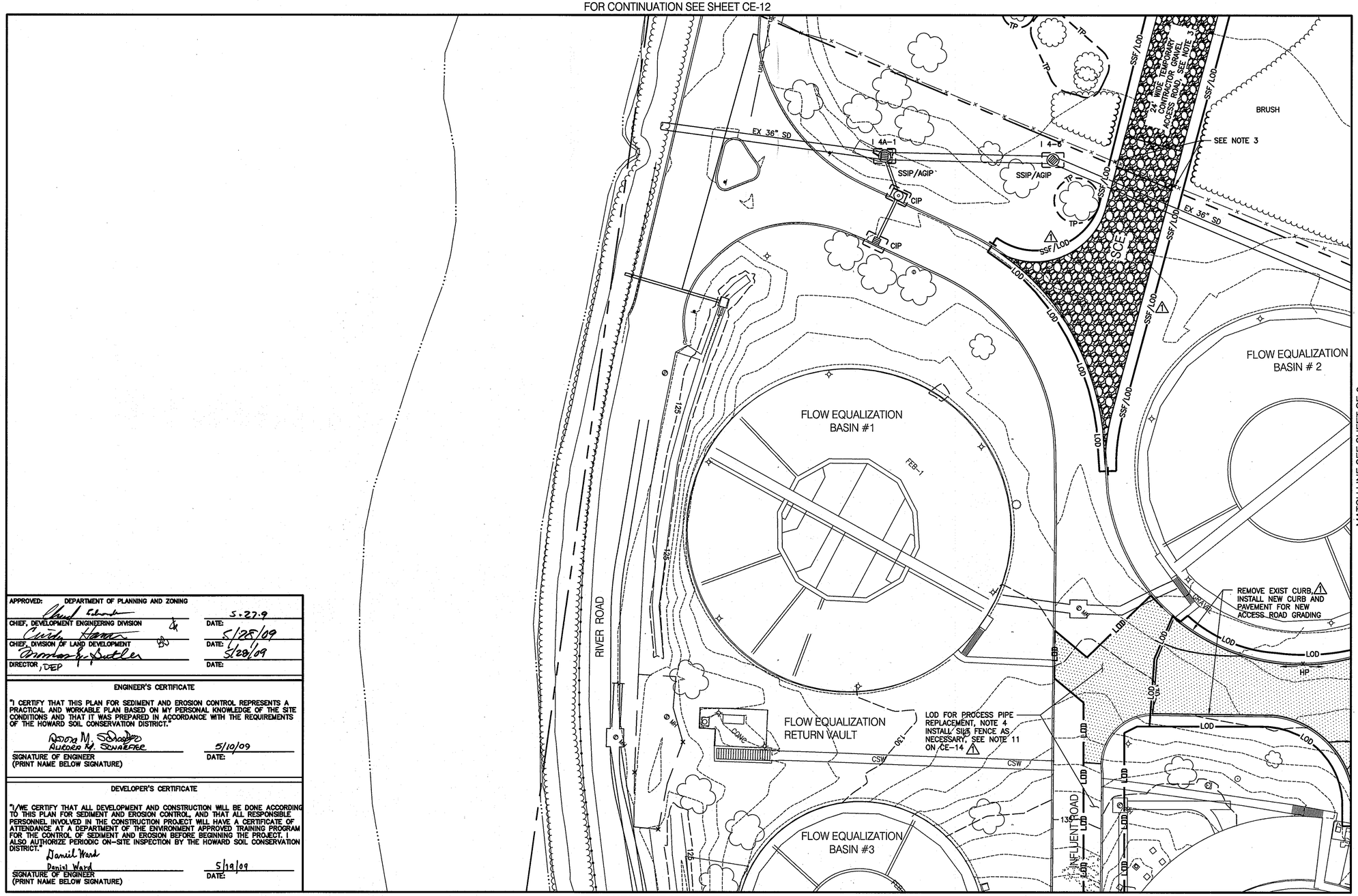
D58472
F0588472A

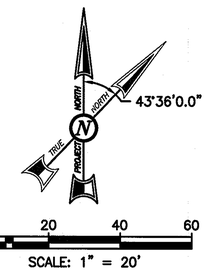
MATCH LINE C-12
MATCH LINE C-6
MATCH LINE C-5
MATCH LINE C-3
WATER REUSE PUMP STATION, SEE DETAIL SHEET C-10
PROPOSED ROUTE FOR REUSE WATER
PLACE SEDIMENT CONTROL DEVICES AS DESCRIBED IN STANDARD E&S CONTROL NOTE 22
PROPOSED PORTABLE GENERATOR CONNECTION BOX
CONTRACTOR TEMPORARY STORAGE AREA, SEE SHT C-8J
LOD FOR UNDERGROUND UTILITY INSTALLATION SILT FENCE AS NECESSARY
ES-01 SHEET C-10
NEW LIME STABILIZATION DUST CONTROL FACILITY, SEE DRAWING C8-1 FOR STRUCTURE ELEVATION
PROPOSED: TRUCKWASH, PAVING CENTRIFUGE BUILDING AND CELLS.
LIMIT OF DISTURBANCE
FUTURE FOR ~~PROPOSED~~ WORK IN THIS AREA, SEE SHT. C-8J
FOR PROPOSED WORK IN THIS AREA, SEE SHEET C-8H
PROP. MODULAR BIOFILTER
PROP. TRUCK WASH AREA
EDGE OF EXISTING OVERHEAD ROOF (TO BE REMOVED, SEE DEMOLITION DRAWING D4)
SEE ARCHITECTURAL/STRUCTURAL DRAWINGS FOR LOCATION AND ADDITIONAL DETAILS
EXISTING DEWATERING BLDG F.F.=ELEV. 141.87
EXISTING SOLIDS BLDG F.F.=ELEV. 141.87
EXISTING CHLORINE CONTACT BASIN
NITROGEN ROAD
EX. DEWATERING SUBSTATION
EX. BIT. PAVING
EX. C&G
EX. 12" WATER
EX. PROCESS WATER
EX. PARKING LOT
CONC EXISTING SIDEWALK
FLUDINE ROAD
EXISTING CHLORINE CONTACT BASIN
CENTRIFUGE BLDG (SEE ARCHITECTURAL/STRUCTURAL DRAWINGS FOR DETAILS)
TRUCK BAY ENTRANCE
THICKENED WASTE ACTIVATED SLUDGE HOLDING CELLS
THICKENED PRIMARY SLUDGE HOLDING CELLS
EMERGENCY STORAGE CELL
EXISTING GRAVITY THICKENER NO. 1 TO REMAIN
EXISTING GRAVITY THICKENER NO. 2 TO REMAIN
PROP. SIDEWALK & STAIRS
PROPOSED REACTOR NO. 1
PROPOSED REACTOR NO. 2
PERIMETER ROAD
SFOS
GRAPHIC SCALE
(IN FEET) 1 inch = 20 ft.
FOR REV. 3 ONLY — STATE OF MARYLAND — JOHN R. ROBERTSON — No. 10855 — REGISTERED PROFESSIONAL ENGINEER — 9/7/06
FOR REV. 11 ONLY — STATE OF MARYLAND — AURORA M. SCHEER — No. 23359 — PROFESSIONAL ENGINEER — 10/5/11
FOR REV. 11 ONLY — STATE OF MARYLAND — AURORA M. SCHEER — No. 23359 — PROFESSIONAL ENGINEER — 5/8/09

28. CONTRACTOR TO TEST PIT 15" D RELOCATE IF NECESSARY AT NO COST TO OWNER
29. DEMOLISH DIGESTER PIPE GALLERY.
30. DEMOLISH EXISTING DUCTBANK BETWEEN EMH-17 AND EMH-32. RE-ROUTE THROUGH RELOCATED MH EMH-32.
31. DEMOLISH EXISTING TRUCK SCALE, SCALE ACCESS ROAD AND FUEL STATION.
32. REMOVE TREES WITHIN DEMOLITION AND EXCAVATION AREA.
33. SAW CUT EXISTING PAVEMENT.
34. PROVIDE NEW RELOCATED ASPHALT ROAD AROUND NEW REACTORS AND TRUCK SCALE.
35. PROVIDE NEW GRASS WITHIN DISTURBED AREA ACCORDING TO SEEDING SCHEDULE.
36. INSTALL NEW ANAEROBIC REACTORS.

KEY LEGEND
FOR REVISIONS THRU NO. 9
FOR REV. NO. 10, SEE SDP SHTS. C-1C AND C-1D.

FOR CONTINUATION SEE SHEET CE-12





NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-1 FOR STRUCTURE, PAVING AND LOD LAYOUT AND LIMITS OF PAVING AND VEGETATIVE RESORATION.
3. REMOVE EX FENCE AS REQUIRED FOR TEMPORARY ACCESS ROAD. INSTALL TERMINAL POSTS AND SECURE EXISTING FENCE.
4. REPLACE PROCESS AIR PIPE WITH EARLY SITE PREPARATION. SEE DRAWING CY-1.

MATCH LINE SEE SHEET CE-2

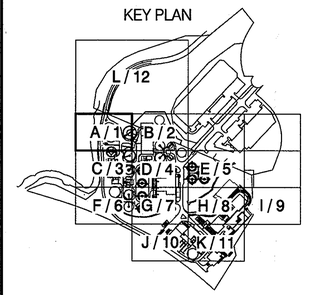
Approved
HSCD
5-26-09
John R. Robertson

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP	DATE: 5/28/09

ENGINEER'S 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."

Debora M. Schaefer / Debora M. Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

MATCH LINE SEE SHEET CE-3

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — DEBORA M. SCHAEFER — No. 23559 — PROFESSIONAL ENGINEER

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.: 23559 EXPIRATION DATE: 8/13/10

Debora M. Schaefer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	5/10/09	⚠1	REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009
	DATE		REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8A
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN A

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 45 OF 611
CE-1
SDP SHEET 15 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CE-01 E-S Plan A.dwg 05/15/09_10:53

FOR CONTINUATION SEE SHEET CE-12

MATCH LINE SEE SHEET CE-1

MATCH LINE SEE SHEET CE-4

TEMPORARY BACKFILL STOCKPILE - MAX. 8' HIGH SEE NOTE 7

FUTURE FINAL CLARIFIER

50' STREAM BANK BUFFER

FUTURE PROCESS REACTOR

NEW AUXILIARY NORTH GALLERY

NEW FINAL CLARIFIER #13

NEW PROCESS REACTOR #8-N

EXIST SD DEMOLISHED FOR FACILITY CONSTRUCTION, SEE DS-1

NORTH PROCESS REACTORS

NORTH BLOWER BUILDING

FINAL CLARIFIER #11 SEE NOTE 6

PRETREATMENT CLARIFIER / THICKENER

FINAL CLARIFIER #12

CORRIDOR INDUSTRIAL PARK, SECTION 1 ZONED M-2

100 YR. FLOODPLAIN LIMIT PER HOWARD CO.

INTERMITTENT STREAM

TEMPORARY CONTRACTOR GRAVEL ACCESS ROAD AND SCE

LOD FOR SD PIPE & UTILITY RELOCATION, SEE NOTE 11 ON CE-14

REMOVE EXIST CURB

UTILITY LOD, SEE NOTE 11 ON CE-14

LOD FOR YARD PROCESS PIPING, INSTALL SILT FENCE AS NECESSARY, SEE NOTE 11 ON CE-14

NEW CURB

BRUSH

MH 7N-9, MH 7N-10, MH 7N-6, MH 7N-1, MH 7N-2, MH 6-1, MH 6-2

SSIP/AGIP I 7N-11, SSIP/AGIP I 7N-5, SSIP/CIP I 7N-4, AGIP I 7N-5, AGIP I 7N-7, SSIP/AGIP I 7N-1, CIP I 6-2A, CIP I 7N-3

36" SD, 24" SD, 15" SD, EX 36" SD, EX 18" SD, 30" SD

SSF, SF/LOD, LOD, DF, HP, LP, OS-FES

ENGINEER'S 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."

Norma M Schaefer

NORMA M. SCHAEFER — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/10/09

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."

Daniel Ward

Daniel Ward — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/19/09

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	BB	DATE: 5/28/09
DIRECTOR, DEP.		DATE: 5/28/09

43.60°

0 20 40 60

SCALE: 1" = 20'

NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-4 FOR STRUCTURE, PAVING AND LOD LAYOUT DATA AND LIMITS OF PAVING AND VEGETATIVE RESTORATION.
3. SEE DRAWING CG-13 FOR ROAD PROFILE.
4. SEE DRAWING CY-4 FOR NEW YARD PROCESS PIPING.
5. SEE DRAWING CY-14 FOR SD PROFILE.
6. WORK WITHIN EXISTING STRUCTURE FOR THIS CONTRACT.
7. STOCKPILES TO CONTAIN ONLY MATERIALS TO BE REUSED ON SITE. WITH CONSTRUCTION COMPLETION, REMOVE ANY REMAINING SOILS, REGRADE TO ORIGINAL GRADES, AND STABILIZE WITH PERMANENT SEEDING.

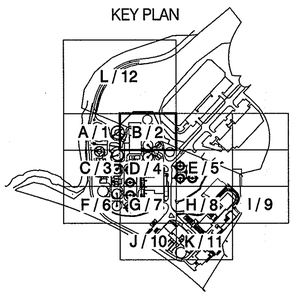
Approved HSCD 5-26-09 John R Robertson

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — NORMA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359 EXPIRATION DATE: 8/13/10

Norma M Schaefer

REGISTERED PROFESSIONAL ENGINEER — 4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE

DES: AMS			
DRN: EJR			
CHK: LHH			
DATE: –	5/10/09	⚠1 REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009	
	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-8B
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN B

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-8245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 46 OF 611
CE-2
SDP SHEET 16 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CE-02 E-S Plan B.dwg 05/15/09_10:56

ENGINEER'S 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."

Nora W. Schaefer / AURORA M. SCHAEFER — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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.

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

DEPARTMENT OF PLANNING AND ZONING

APPROVED:
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5/28/09
DIRECTOR, DEP. — DATE: 5/28/09

FOR R.E.V. 2 ONLY
STATE OF MARYLAND AARON T. BRIGGS No. 28779 PROFESSIONAL ENGINEER
4/16/12

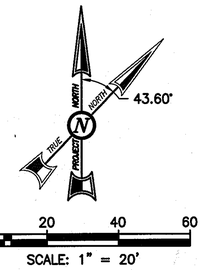
MATCH LINE SEE SHEET CE-1

FLOW EQUALIZATION BASIN #3
PROP. PROPANE TANK
PROP. SEPTAGE ACCEPTANCE FACILITY
SEPTAGE FACILITY
PROP. CONVEYOR
PROP. CHEMICAL PUMP HOUSING
PROP. AEROBIC DIGESTER TANK
TEMPORARY EQUIPMENT LAYDOWN AREA
PROP. $Mg(OH)_2$ TANK
HEADWORKS BUILDING
WORK WITHIN BUILDING FOR THIS CONTRACT
NEW CONC EQUIPMENT PAD & WALK
HEADWORKS SUBSTATION
GENERATOR PAD
GENERATOR PAD
GENERATOR PAD
AUXILIARY PUMPSTATION
GRIT BASINS
PRIMARY CLARIFIER #1
PRIMARY CLARIFIER #2
PRIMARY ROAD
PHOSPHORUS ROAD
TEMP RAMP UP
TEMP RAMP UP
EXIST. PAVING
LOD FOR POSSIBLE PROCESS PIPE REPLACEMENT. INSTALL SILT FENCE AS NECESSARY. SEE NOTE 11 ON CE-14 ⚠1
TEMPORARY PIPE TRENCH PROTECTION SEE NOTES 4 & 5
PROP. VALVE VAULT
PROP. PULL-OFF
PROP. UNDERDRAIN OUTLET
PROP. GRASS SWALE
LITTLE PATUXENT RIVER
PERIMETER RIVER ROAD
CONTRACTOR TEMPORARY STORAGE AREA LOD FOR VEHICULAR DISTURBANCE
LOD
SF/LOD
GRAVEL
CSW
MH
EL 146.00
EL 139.50
3'-3" TYP
3'-0"
(2" MIN) COMPACTED #57 STONE
SUBGRADE COMPACTED
SUBSTATION VAULT SECTION (A / CE-3)
NOT TO SCALE

STATE OF MARYLAND STEPHEN C. BOWSER No. 21761 PROFESSIONAL ENGINEER
10/31/13

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

MATCH LINE SEE SHEET CE-6



MATCH LINE SEE SHEET CE-4

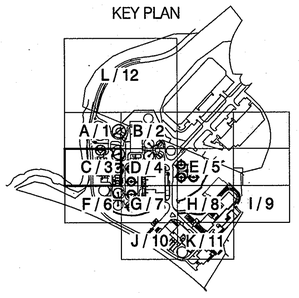
NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-3 FOR LOD LAYOUT, LIMITS OF PAVING AND VEGETATIVE RESTORATION.
3. SEE DRAWING CY-3 FOR PROCESS YARD PIPING WORK.
4. TOPS OF EXISTING PIPE TRENCH WALLS ARE FAILING. PROVIDE PROTECTION TO MINIMIZE FURTHER DETERIORATION FROM CONSTRUCTION TRAFFIC. SUGGESTED PROTECTION:
   A. CONSTRUCT BITUMINOUS PAVEMENT RAMPS ON BOTH SIDES OF TRENCH.
   B. SET STEEL TRAFFIC PLATES OVER TRENCH. PLATES SHALL BE SELECTED TO SUPPORT HEAVIEST FULLY LOADED CONSTRUCTION VEHICLE.
   C. POSITION STEEL PLATES SUCH THAT THEY ARE FULLY SUPPORTED BY THE BITUMINOUS RAMPS ON BOTH SIDES.
5. AFTER COMPLETION OF MAJOR FACILITY CONSTRUCTION:
   A. REMOVE TEMPORARY TRENCH PROTECTION.
   B. EXAMINE TRENCH WALLS WITH THE COUNTY'S PROJECT MANAGER OR DESIGNEE AND DETERMINE EXTENTS OF TRENCH WALL REPAIR.
   C. REPAIR TRENCH WALLS AS NECESSARY.
   D. PERFORM PAVEMENT RESTORATION.

Approved HSCD 5-26-09

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

KEY PLAN



M:\380709-Howard County\ENR\03 Civil\ CE-03 E-S Plan C.dwg 05/15/09_10:57

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND NORA W. SCHAEFER No. 23359 PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Nora W. Schaefer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE 5/14/09

DES: AMS
DRN: SLB
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE
10-31-13	⚠3 ADD STANLOBY GENERATORS AND SUBSTATIONS
3-16-12	ADD SEPTAGE ACCEPTANCE FACILITY, DIGESTER TANK, PROPANE TANK, ⚠2 $Mg(OH)_2$ TANK AND APPURTENANCES.
5/10/09	⚠1 REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009

HOWARD COUNTY SDP SHEET C-8C
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN C

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS: SHOWN
CONTRACT SHEET 47 OF 611
CE-3
SDP SHEET 17 OF 52

SDP-00-094

MATCH LINE SEE SHEET CE-2

MATCH LINE SEE SHEET CE-3

MATCH LINE SEE SHEET CE-5

MATCH LINE SEE SHEET CE-7

NORTH PROCESS REACTORS
SEE NOTE 4

NORTH GALLERY

PRIMARY CLARIFIER #1

NORTH PUMP STATION

ELECTRICAL SUBSTATION

FINAL CLARIFIER #10
SEE NOTE 4

FERMENTER #1

FINAL CLARIFIER #12
SEE NOTE 4

PHOSPHORUS ROAD

EAST-WEST PROCESS REACTORS
SEE NOTE 4

FINAL CLARIFIER #2
SEE NOTE 4

FINAL CLARIFIER #3
SEE NOTE 4

WEST GALLERY
SEE NOTE 4

EAST GALLERY

ALUM / HYPO BUILDING
SEE NOTE 4

NEW E/W PR SPLITTER BOX

NEW PRI VAVLE VAULT

TEMPORARY EQUIPMENT LAYDOWN AREA

TEMPORARY EQUIPMENT LAYDOWN AREA

CONTRACTOR TEMPORARY STORAGE AREA, SEE NOTE 5

GRAVEL ACCESS ROAD & SCE TO TEMPORARY CONTRACTOR STORAGE AREA

SECONDARY ROAD

AERATION ROAD

NITROGEN ROAD

GREENWOOD PLACE

EXIST. PAVING

GRAVEL

LOD

LOD FOR YARD PROCESS PIPING INSTALL SILT FENCE AS NECESSARY. SEE NOTE 11 ON CE-14

LOD FOR YARD PROCESS PIPING. INSTALL SILT FENCE AS NECESSARY.

DEMO EX. CURB AND INSTALL NEW CURB TO ALLOW FOR ROAD WIDENING

I 4A-2 SSIP/CIP

I 4A-3 SSIP/CIP

AGIP

CSW

CIP

SF/LOD

DF/LOD

MH

140

NORTH 43.60°

0 20 40 60

SCALE: 1" = 20'

NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-4 FOR STRUCTURE, PAVING AND LOD LAYOUT DATA AND LIMITS OF PAVING AND VEGETATIVE RESTORATION.
3. SEE DRAWING CY-4 FOR NEW YARD PROCESS PIPING.
4. WORK WITHIN EXISTING STRUCTURE FOR THIS CONTRACT.
5. LOD FOR VEHICULAR DISTURBANCE.

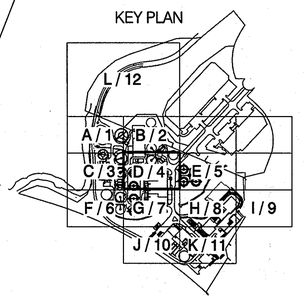
Approved by HSCD
5-26-09
John R Robertson

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5-27-9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE:

ENGINEER'S 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."

Donna M. Schaefer
Donna M. Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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.

Daniel Ward
Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — VIRGINIA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Donna M. Schaefer
REGISTERED PROFESSIONAL ENGINEER

4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS
DRN: SLB
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE
5/10/09	⚠ REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009

HOWARD COUNTY SDP SHEET C-8D
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN D

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 48 OF 611
CE-4
SDP SHEET 18 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CE-04 E-S Plan D.dwg 05/15/09_10:58

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP. I C	DATE: 5/28/09

ENGINEER'S 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."

Norma M. Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE

NORMA M. SCHAEFER

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." Daniel Ward

Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE

DANIEL WARD

MATCH LINE SEE SHEET CE-4

MATCH LINE SEE SHEET CE-8

MATCH LINE A - THIS SHEET

MATCH LINE SEE SHEET CE-9

MATCH LINE A - THIS SHEET

SEE NOTE 5 (4 places)

GRAVEL

CONTRACTOR TEMPORARY STORAGE AREA SEE NOTE 8

TEMPORARY EQUIPMENT LAYDOWN AREA

OVERHEAD WALKWAY

TEMPORARY GRAVEL ACCESS ROAD & SCE

CONTRACTOR TEMPORARY STORAGE AREA, SEE NOTE 8

SF/LOD

LOD

25' WETLAND BUFFER

50' STREAM BANK BUFFER

GUILFORD RUN PERENNIAL STREAM (USE 1)

SEE NOTE 7

NEW DENITRIFICATION FILTER COMPLEX

SEE NOTE 6

ENDWALL O 7E

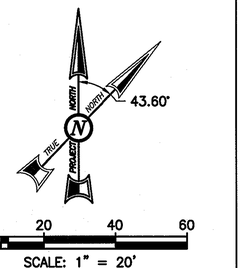
I 7E-5

CONTRACTOR TEMPORARY STORAGE AREA SEE NOTES 8 & 9

CONCRETE

30" SD

INDUSTRIAL P... ZONED M-2



SCALE: 1" = 20'

NOTES:

1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-5 FOR STRUCTURE AND LOD LAYOUT AND LIMITS OF VEGETATIVE RESTORATION.
3. SEE DRAWING CY-14 FOR SD PROFILE.
4. SEE DRAWING CY-5 FOR PROCESS PIPING.
5. WORK WITHIN EXISTING STRUCTURE FOR THIS CONTRACT.
6. PERFORM PAVEMENT RESTORATION AFTER COMPLETION OF MAJOR FACILITY CONSTRUCTION.
7. APPROXIMATE LOCATION OF EXCAVATION SUPPORT SYSTEM (TO BE DESIGNED BY THE CONTRACTOR).
8. LOD FOR VEHICULAR DISTURBANCE.
9. STABILIZE AREA WITH PERMANENT SEEDING AFTER CLEARING. DO NOT USE AREA FOR STORAGE UNTIL GRASS IS ESTABLISHED. ALTERNATE: STABILIZE AREA WITH GRAVEL (6" MIN DEPTH) AFTER CLEARING. WITH CONSTRUCTION COMPLETION, REMOVE GRAVEL AND PLACE PERMANENT SEEDING.

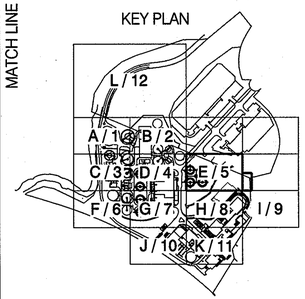
Approved by HSCD 5-26-09

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — NORMA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10

REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	5/10/09	⚠ REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009	
	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-8E
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN E

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-0245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

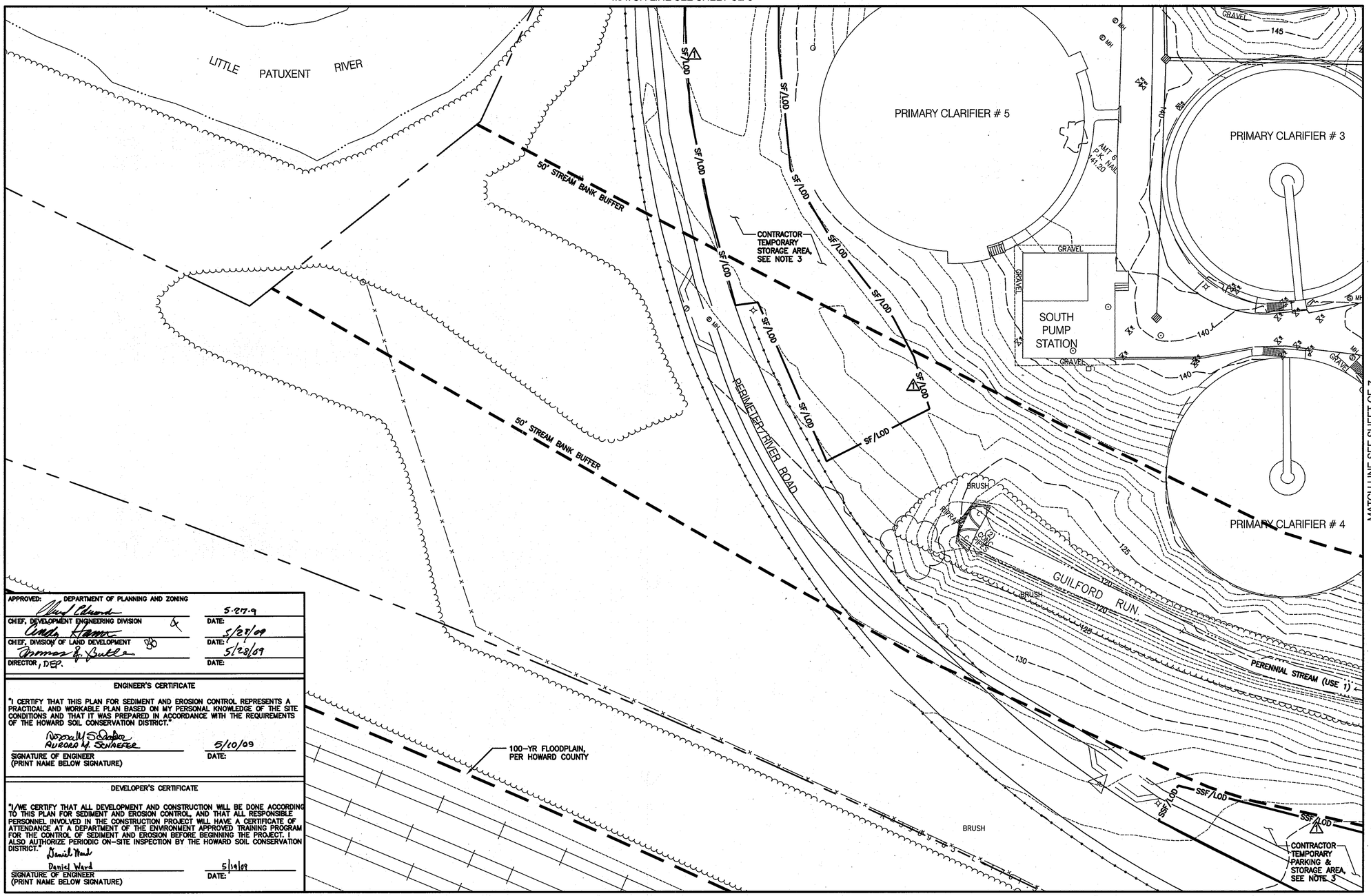
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN	
CONTRACT SHEET	49 OF 611
CE-5	
SDP SHEET	19 OF 52

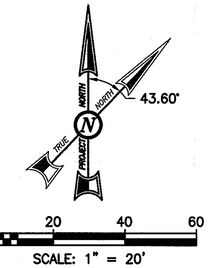
SDP-00-094

M:\360709-Howard County\ENR\03 Civil\CE-05 E-S Plan E.dwg 05/15/09_11:01

MATCH LINE SEE SHEET CE-3



MATCH LINE SEE SHEET CE-7



0 20 40 60

SCALE: 1" = 20'

NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-6 FOR STRUCTURE AND LOD LAYOUT AND LIMITS OF VEGETATIVE RESTORATION.
3. SEE DRAWING CY-6 FOR PROCESS PIPING.
4. LOD FOR VEHICULAR DISTURBANCE.

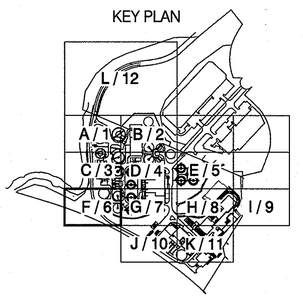
Approved by HSCD
5/26/09
John M. Robertson

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/27/09
DIRECTOR, DEP.	DATE: 5/28/09

ENGINEER'S 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."

Dzora M. Schaefer AURORA M. SCHAEFER — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/10/09

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."

Daniel Ward — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/19/09

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — AURORA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Dzora M. Schaefer

REGISTERED PROFESSIONAL ENGINEER

4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	5/10/09 DATE	⚠ REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8F
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN F

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

CONTRACT SHEET 50 OF 61

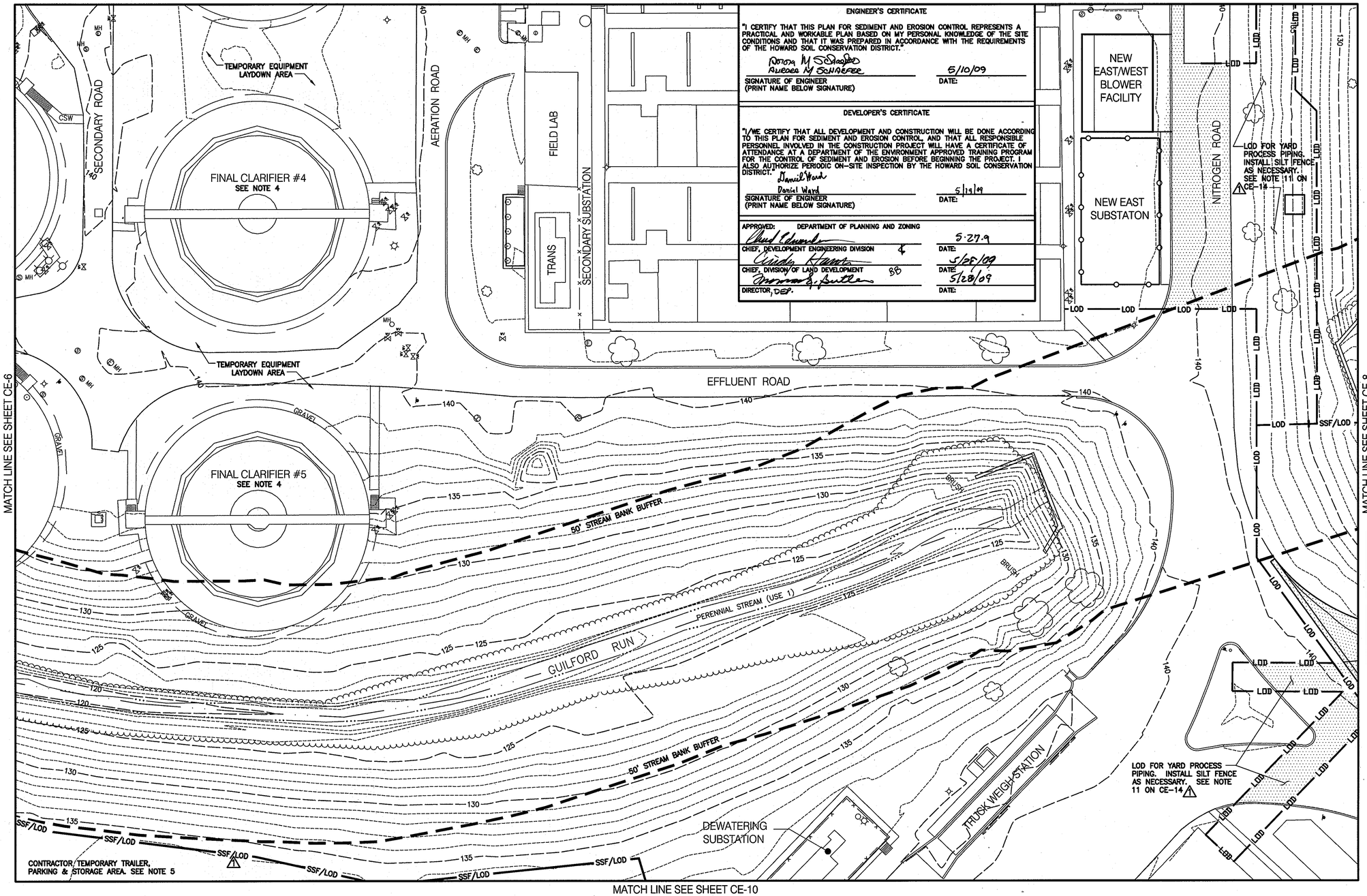
CE-6

SDP SHEET 20 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CE-06 E-S Plan F.dwg 05/15/09_11:03

MATCH LINE SEE SHEET CE-4



MATCH LINE SEE SHEET CE-10

ENGINEER'S 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."

Norma M Schaefer
Noreen M SCHAEFER — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/10/09

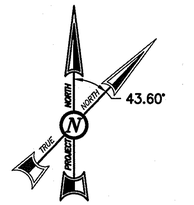
DEVELOPER'S CERTIFICATE

"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."

Daniel Ward
Daniel Ward — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/15/09

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE:



SCALE: 1" = 20'

NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-7 FOR STRUCTURE, PAVING AND LOD LAYOUT AND VEGETATIVE RESTORATION.
3. SEE DRAWING CY-7 FORPROCESS PIPING.
4. WORK WITHIN EXISTING STRUCTURE FOR THIS CONTRACT.
5. LOD FOR VEHICULAR DISTURBANCE.
6. PERFORM PAVEMENT RESTORATION AFTER COMPLETION OF MAJOR FACILITY CONSTRUCTION.

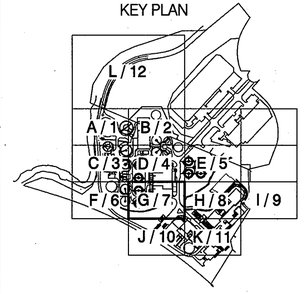
Approved by HSCD
5/26/09

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — NORMA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.
Norma M Schaefer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE: 5/19/09

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	5/10/09	⚠1	REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009
	DATE		REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8G
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN G

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 51 OF 611
CE-7
SDP SHEET 21 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CE-07 E-S Plan G.dwg 05/15/09_11:06

MATCH LINE SEE SHEET CE-5

MATCH LINE SEE SHEET CE-7

MATCH LINE SEE SHEET CE-9

MATCH LINE SEE SHEET CE-11

TEMPORARY GRAVEL ACCESS ROAD & SCE

CONTRACTOR TEMPORARY STORAGE AREA SEE NOTE 7

50' STREAM BANK BUFFER

GUILFORD RUN

BRUSH

SF/LOD

SSF/LOD

DF/LOD

LOD

SSF

TST OUTLET

TST-2 TEMPORARY SEDIMENT TRAP

NEW FIRE PROTECTION BUILDING

NEW METHANOL FACILITY

NEW MUDWELL

136.80

135.00±

NEW METHANOL FILL STATION

NEW RD ENDWALL

8" RD

NEW ENDWALL

NEW 15" SD

NEW GUARDRAIL (TYP)

FH

CONTAINMENT AREA

SEE NOTE 4

NEW DENITRIFICATION FILTER COMPLEX

SEE NOTE 6

NEW DENITRIFICATION FILTER INFLUENT PUMP STATION

REMOVE EXIST CONC CHANNEL

SSIP/AGIP I 7E-5

GRAVEL

NEW ROADWAY WIDENING AND PAVEMENT GRADE ADJUSTMENT SEE CG-8

FILTER CIRCLE

FILTER BUILDING

CONC

LOD FOR YARD PROCESS PIPING INSTALL SILT FENCE AS NECESSARY SEE NOTE 11 ON CE-14

EX. 15" SD SEE NOTE 5

AGIP

POST AERATION BASINS SEE NOTE 3

TEMPORARY EQUIPMENT LAYDOWN AREA

NITROGEN ROAD

NEW EFFLUENT METER VAULT

CHLORINE BUILDING SEE NOTE 3

LOD FOR YARD PROCESS PIPING. INSTALL SILT FENCE AS NECESSARY. SEE NOTE 11 ON CE-14

BRUSH

43.60°

0 20 40 60

SCALE: 1" = 20'

NOTES:

1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-8 FOR STRUCTURE, PAVING AND LOD LAYOUT AND VEGETATIVE RESTORATION.
3. WORK WITHIN EXISTING STRUCTURES FOR THIS CONTRACT.
4. RELOCATE EXISTING ROOF DRAIN PIPE BEFORE BEGINNING METHANOL FACILITY CONSTRUCTION. ENCASE NEW PIPE UNDER BUILDING.
5. REMOVE EXISTING 15" SD FOR YARD PIPING CONSTRUCTION. MAINTAIN POSITIVE DRAINAGE TO INLET. REPLACE 15" SD FOLLOWING PROCESS PIPE INSTALLATION.
6. APPROXIMATE LOCATION OF EXCAVATION SUPPORT SYSTEM (TO BE DESIGNED BY THE CONTRACTOR).
7. LOD FOR VEHICULAR DISTURBANCE.

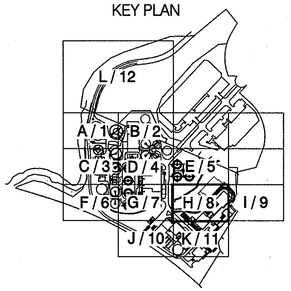
Approved by HSCD
5/26/09

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



ENGINEER'S 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."

Nerissa W. Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5/25/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5/28/09

DIRECTOR, DEP — DATE:

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — NORISSA W. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359 EXPIRATION DATE: 8/13/10

Norissa W. Schaefer

REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/8/09 DATE

DES: AMS		
DRN: SLB		
CHK: LHH		
DATE: –	5/10/09	⚠ REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009
	DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8H
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN H

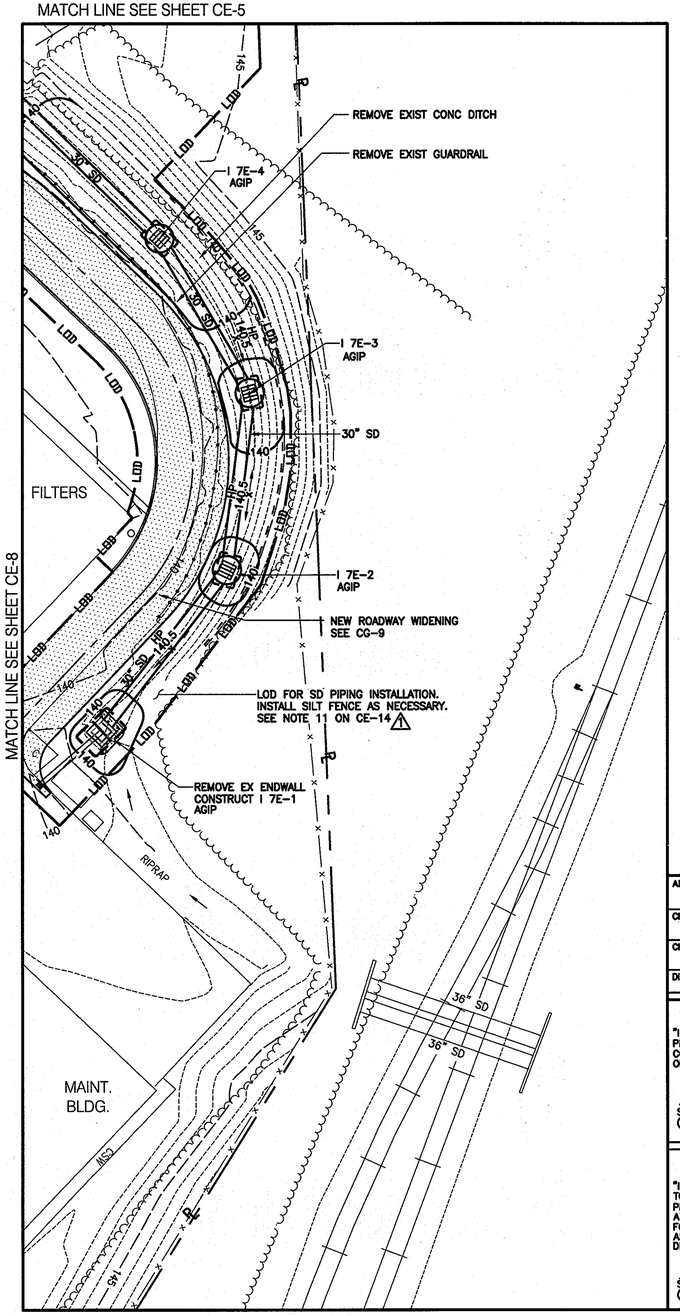
REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

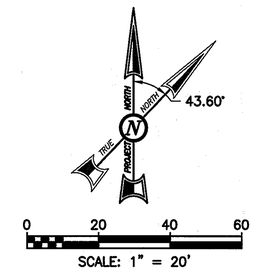
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 52 OF 611
CE-8
SDP SHEET 22 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CE-08 E-S Plan H.dwg 05/15/09_11:08





NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-9 FOR STRUCTURE, PAVING AND LOD LAYOUT AND VEGETATIVE RESTORATION.
3. SEE DRAWING CY-14 FOR SD PROFILE.

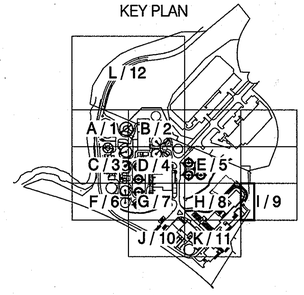
Approved by HSCD
5/26/09
John K Robertson

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE: 5/28/09

ENGINEER'S 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."

Aurora M Schaefer — DATE: 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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."

Daniel Ward — DATE: 5/9/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — AURORA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

REGISTERED PROFESSIONAL ENGINEER — 4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS		
DRN: SLB		
CHK: LHH		
DATE: –	5/10/09 DATE	⚠ REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009 — REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8I
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN I

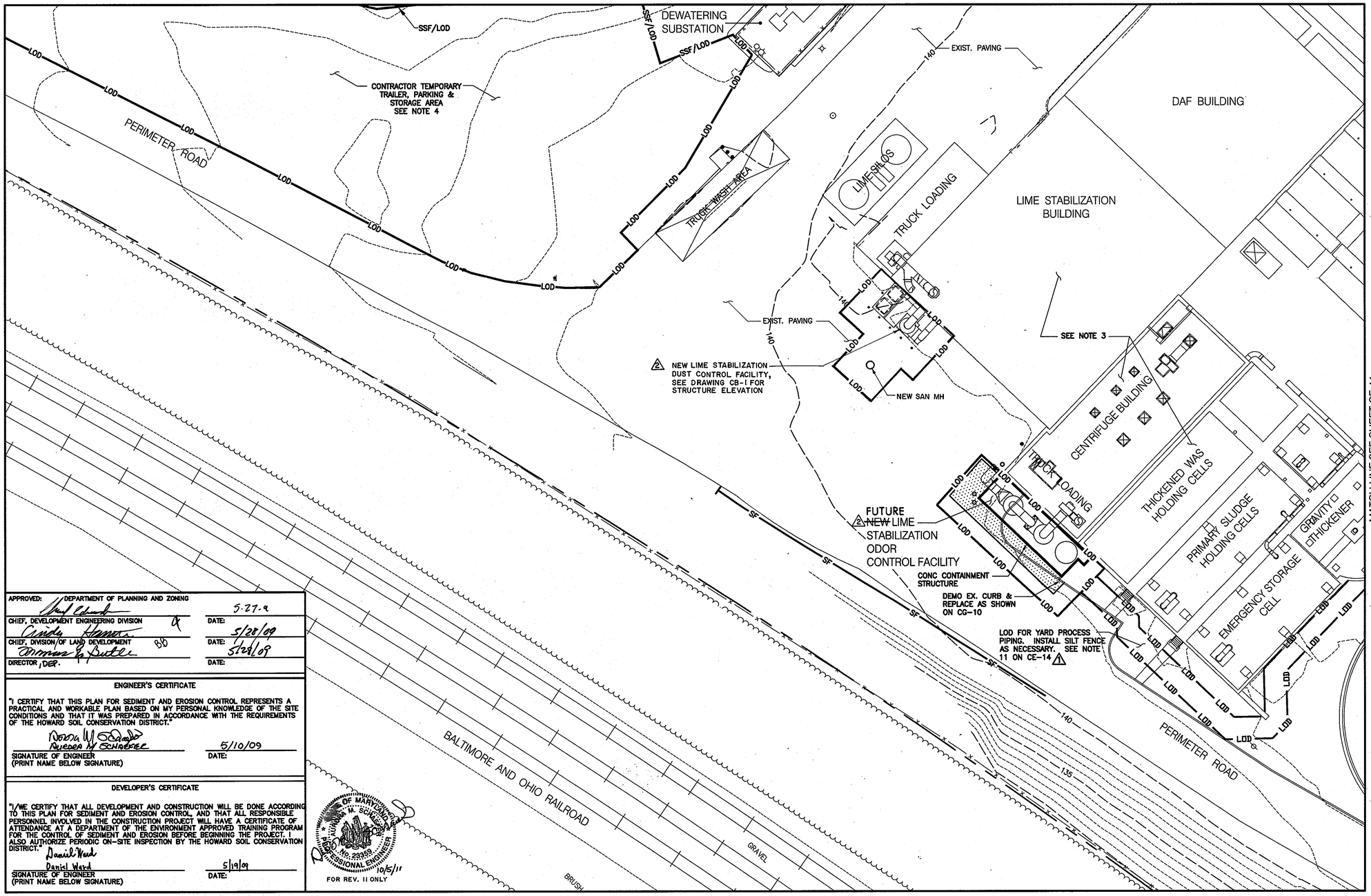
REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

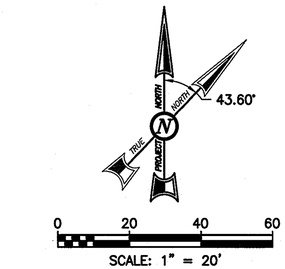
SCALE AS SHOWN
CONTRACT SHEET 53 OF 611
CE-9
SDP SHEET 23 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CE-09 E-S Plan 1.dwg 05/15/09_11:09

MATCH LINE SEE SHEET CE-7





NOTES:
1. SEE DRAWING C-1 FOR LEGEND.
2. SEE DRAWING CG-10 FOR STRUCTURE, PAVING AND LOD LAYOUT AND VEGETATIVE RESTORATION.
3. WORK WITHIN EXISTING STRUCTURE FOR THIS CONTRACT.
4. LOD FOR VEHICULAR DISTURBANCE.

MATCH LINE SEE SHEET CE-11

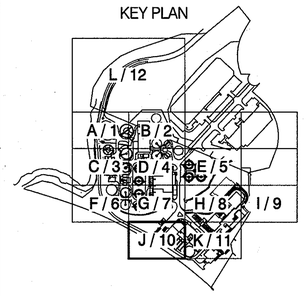
Approved by HSCD
5/26/09
John R Robertson

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



APPROVED: DEPARTMENT OF PLANNING AND ZONING		
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE:	5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE:	5/28/09
DIRECTOR, DEP.	DATE:	5/28/09

ENGINEER'S 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."

Rosida M Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

STATE OF MARYLAND — ROSIDA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER
10/5/11
FOR REV. II ONLY

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — VIRGINIA W. ROGERS — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359 EXPIRATION DATE: 8/13/10

REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS		
DRN: SLB		
CHK: LHH	10/5/11	⚠2 SDP REVISION II: ADD LIME STABILIZATION DUST CONTROL FACILITY
DATE: –	5/10/09	⚠1 REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009
	DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8J
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN J

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 54 OF 611
CE-10
SDP SHEET 24 OF 52

SDP-00-094

M:\380709--Howard County\ENR\03 Civil\ CE-10 E-S Plan J.dwg 05/15/09_11:11

MATCH LINE SEE SHEET CE-8

MATCH LINE SEE SHEET CE-10

CHLORINE BUILDING
SEE NOTE 3

TEMPORARY EQUIPMENT LAYDOWN AREA

EMERGENCY CHLORINE CONTACT BASINS

PRETREATMENT AEROBIC REACTOR

NITROGEN ROAD

DIGESTER NO. 1

DIGESTER NO. 2

ADMINISTRATION BUILDING

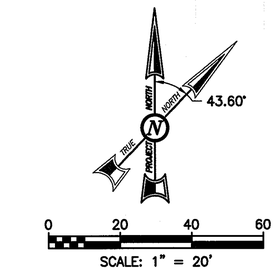
CSW

1" IRON PIPE

140

142.94

135



NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. NO SITE DISTURBANCE EXPECTED WITHIN AREA SHOWN ON THIS SHEET.
3. WORK WITHIN EXISTING STRUCTURE FOR THIS CONTRACT.

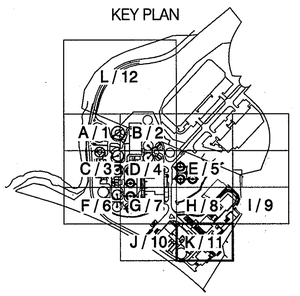
Approved by HSCD
5/26/09
John R. Robertson

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5.27.9

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5/27/09

DIRECTOR, DEP. — DATE: 5/28/09

ENGINEER'S 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."

Donna M. Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

DONNA M. SCHAEFER

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."

Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

Daniel Ward

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — DONNA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359 EXPIRATION DATE: 8/13/10

Donna M. Schaefer
REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-8K
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN K

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 55 OF 611
CE-11
SDP SHEET 25 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CE-11 E-S Plan K.dwg 05/14/09_19:22

ENGINEER'S 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."

Rueger M Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

DEVELOPER'S CERTIFICATE

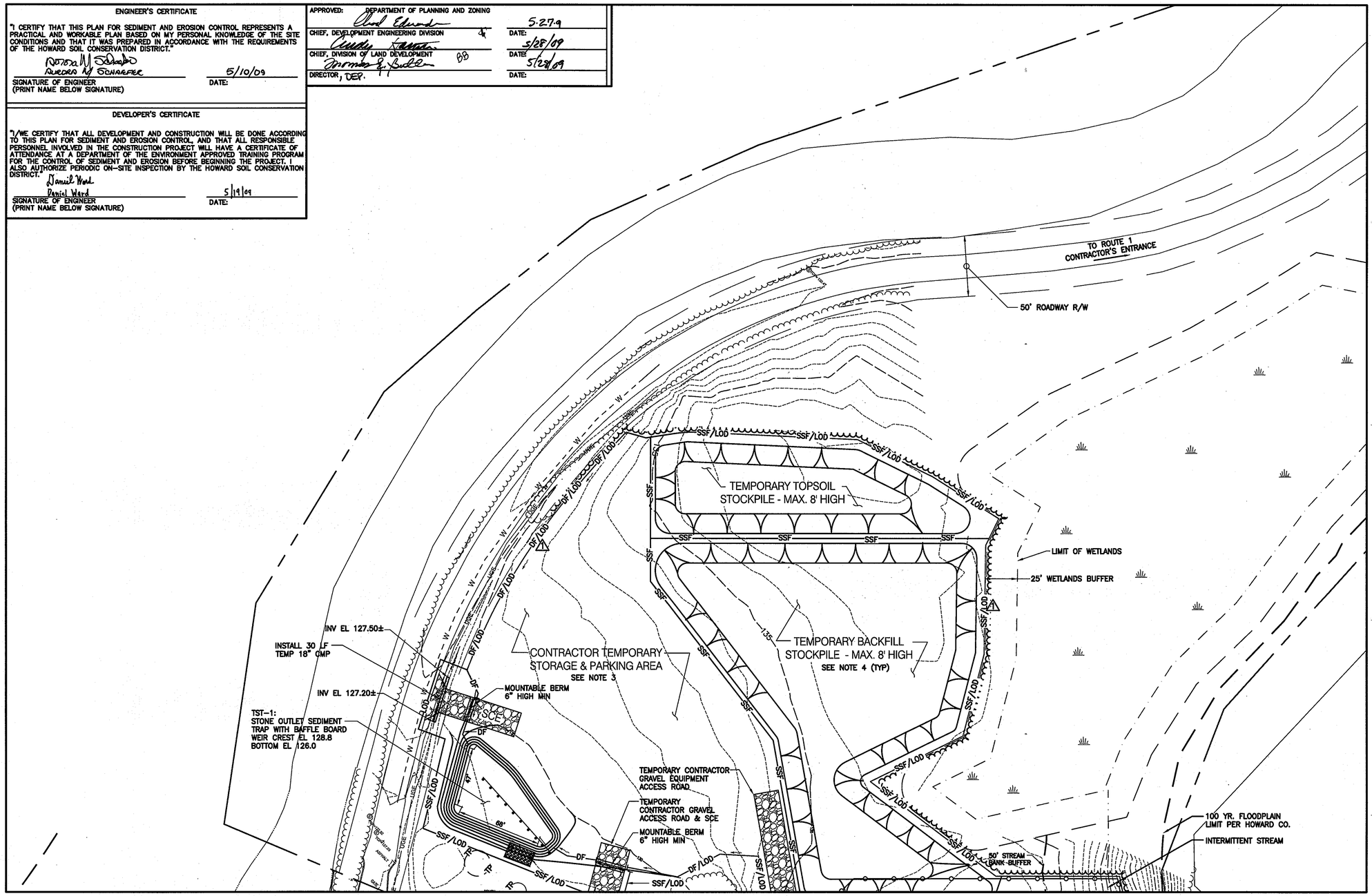
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Daniel Ward — 5/19/09

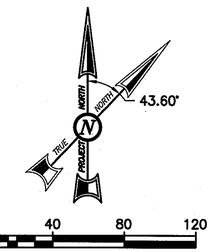
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE: 5/28/09



FOR CONTINUATION SEE SHEETS CE-1 & CE-2



NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CG-12 FOR LOD LAYOUT DATA AND VEGETATIVE RESTORATION.
3. LOD FOR VEHICULAR DISTURBANCE.
4. STOCKPILES TO CONTAIN ONLY MATERIALS TO BE REUSED ON SITE. WITH CONSTRUCTION COMPLETION, REMOVE ANY REMAINING SOILS, REGRADE TO ORIGINAL GRADES, AND STABILIZE WITH PERMANENT SEEDING.

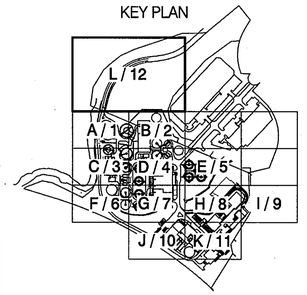
Approved by HSCD
5/26/09
John K Robertson

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED.

DOUBLE ROW OF SUPER SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — HOWARD M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10

REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE 5/19/09

DES: AMS
DRN: SLB
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE
5/10/09	⚠ REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009

HOWARD COUNTY SDP SHEET C-8L
CIVIL

SITE DEVELOPMENT AND EROSION AND SEDIMENT CONTROL PLAN L

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 56 OF 611
CE-12
SDP SHEET 26 OF 52

SDP-00-094

M:\360709--Howard County\ENR\03 Civil\ CE-12 E-S Plan L.dwg 05/15/09_11:13

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE: 5/29/09

ENGINEER'S 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."

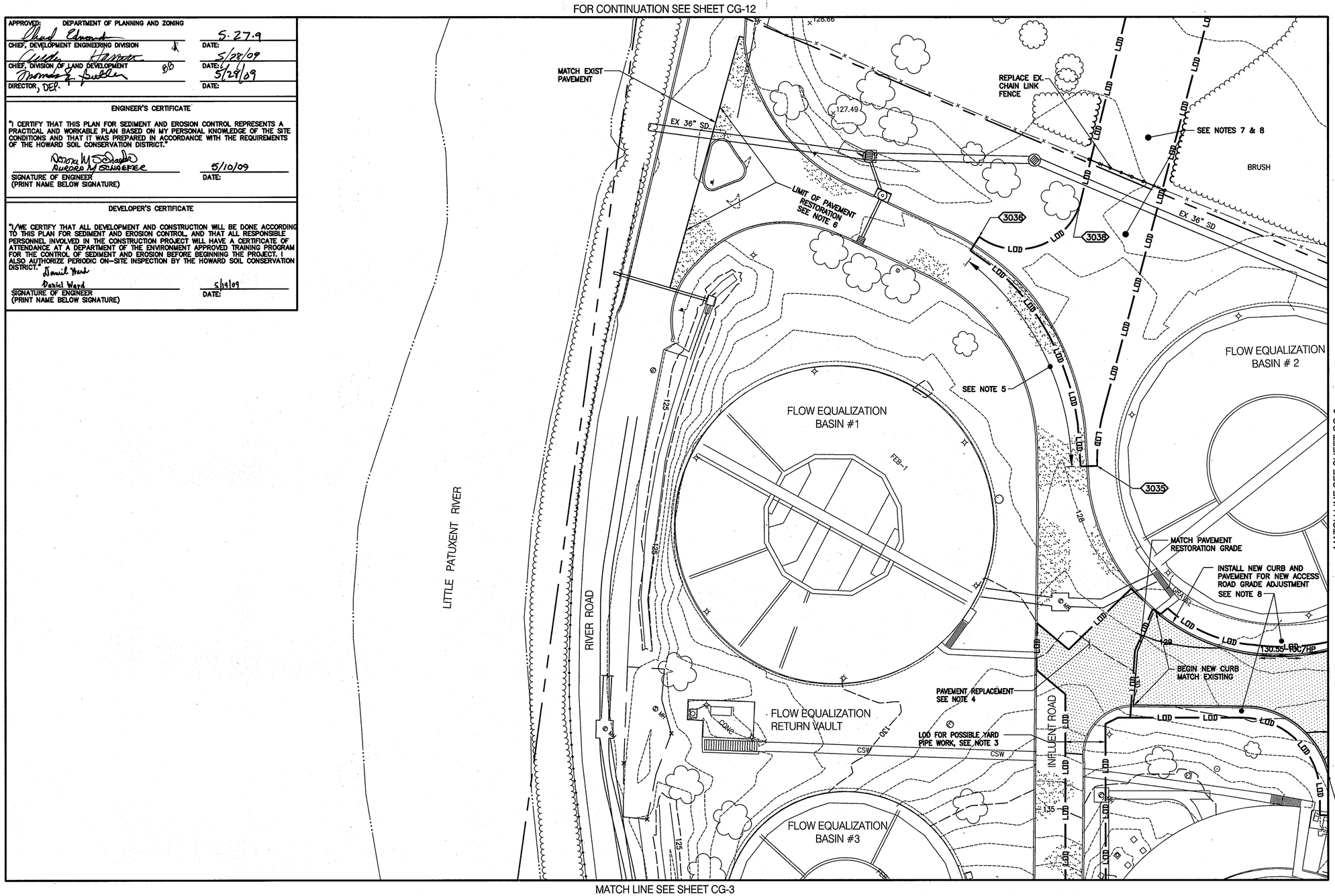
Debora M Schaeffer DEBORA M SCHAEFFER — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

DEVELOPER'S CERTIFICATE

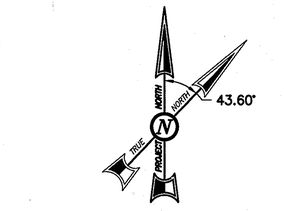
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

FOR CONTINUATION SEE SHEET CG-12



MATCH LINE SEE SHEET CG-3



NOTES:

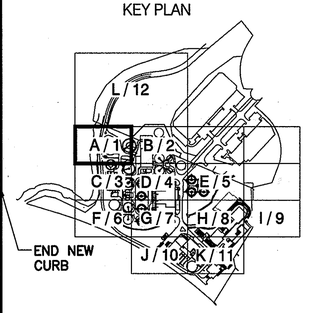
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-1 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FACILITIES.
3. SEE DRAWING CY-1 FOR PROCESS YARD PIPING WORK.
4. REPLACE PAVEMENT WHERE REQUIRED TO ENSURE POSITIVE DRAINAGE TO EXISTING PAVEMENT.
5. REPLACE CURB UPON REMOVAL OF CONTRACTOR ACCESS ROAD.
6. PERFORM PAVEMENT RESTORATION AFTER COMPLETION OF MAJOR FACILITIES CONSTRUCTION,
7. RESTORE TEMP CONTRACTOR ACCESS ROAD AND STORAGE AREA TO ORIGINAL GRADES.
8. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

MATCH LINE SEE SHEET CG-2

Approved by HSCD
5/26/09
John L Robertson

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — VIRGINIA W. SCHAEFFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Debora M Schaeffer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-8M
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN A

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4672

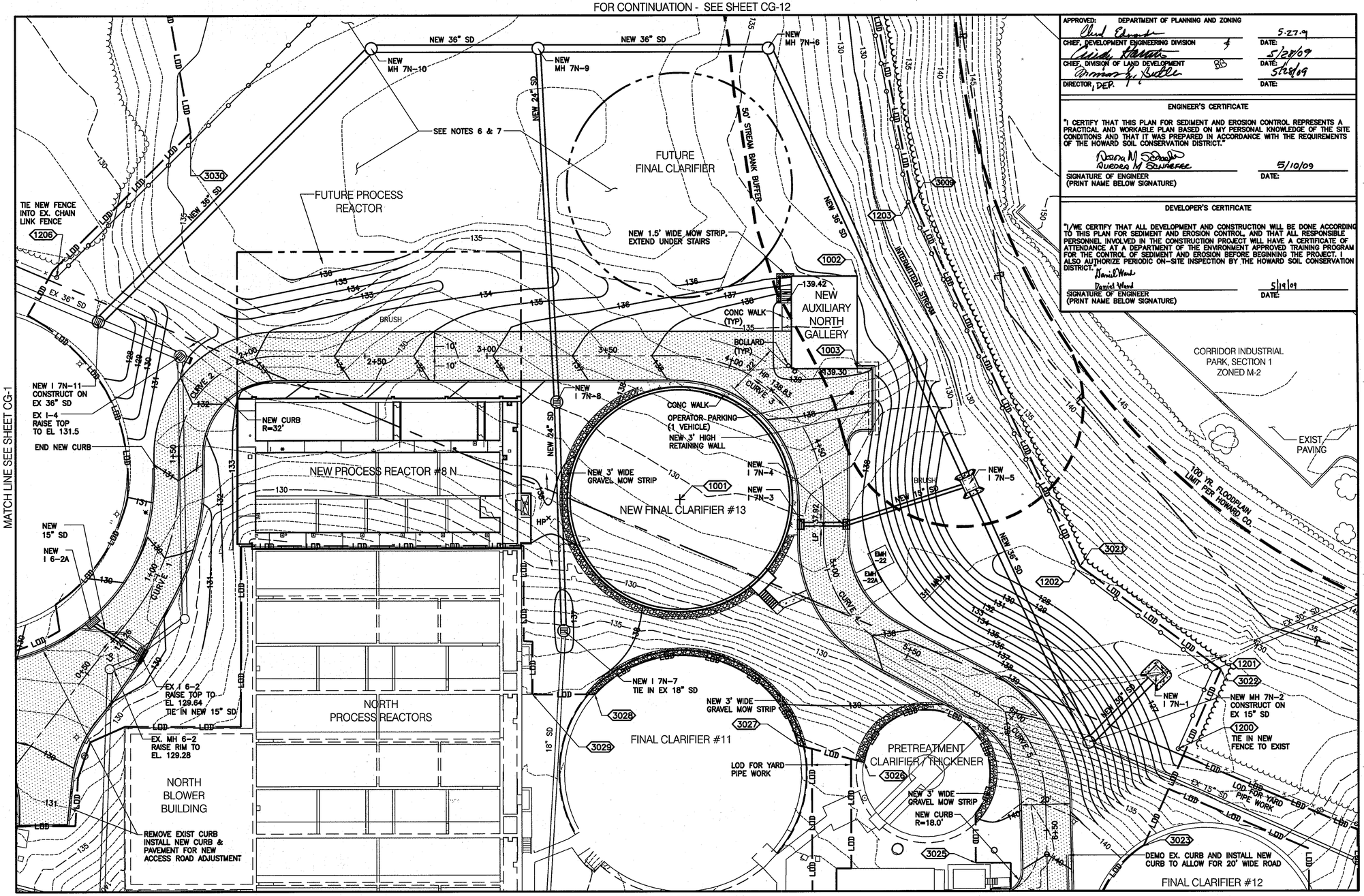
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 60 OF 611
CG-1
SDP SHEET 27 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CG-01 Grading Plan A.dwg 05/14/09_19:43

FOR CONTINUATION - SEE SHEET CG-12



MATCH LINE SEE SHEET CG-4

MATCH LINE SEE SHEET CG-1

M:\380709-Howard County\ENR\03 Civil\ CG-02 Grading Plan B.dwg 05/14/09_19:43

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE: 5/28/09

ENGINEER'S 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."

Rueben M Schaefer — DATE: 5/10/09

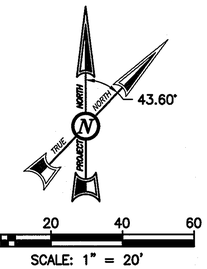
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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."

Daniel Ward — DATE: 5/19/09

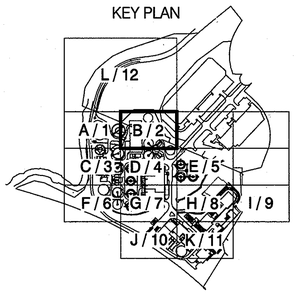
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)



NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-2 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FACILITIES.
3. SEE DRAWING CY-2 FOR PROCESS YARD PIPING.
4. SEE DRAWING CY-14 FOR STORM DRAIN PIPE PROFILE.
5. SEE DRAWING CG-13 FOR NORTH ACCESS ROAD PROFILE AND LAYOUT DATA.
6. RESTORE TEMP CONTRACTOR STORAGE AND STOCKPILE AREA TO ORIGINAL GRADES.
7. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

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.: 23359, EXPIRATION DATE: 8/13/10.

Rueben M Schaefer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE: 5/14/09

DES: AMS
DRN: SLB
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8N
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN B

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 61 OF 611
CG-2
SDP SHEET 28 OF 52

SDP-00-094

MATCH LINE SEE SHEET CG-1

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DPZ	DATE: 5/28/09

ENGINEER'S 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."

Donna M Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

FOR REV. 1 ONLY

STATE OF MARYLAND — KAREN T. BRIGHT — No. 29710 — PROFESSIONAL ENGINEER

4/16/12

LITTLE PATUXENT RIVER

PERIMETER ROAD

PRIMARY ROAD

PHOSPHORUS ROAD

FLOW EQUALIZATION BASIN #3

PRIMARY CLARIFIER #1

PRIMARY CLARIFIER #2

PROP. SEPTAGE ACCEPTANCE FACILITY

PROP. PROPANE TANK

SEPTAGE FACILITY

PROP. GRASS SWALE

PROP. PULL-OFF

PROP. VALVE VAULT

PROP. AEROBIC DIGESTER TANK

PROP. CONVEYOR

PROP. CHEMICAL PUMP HOUSING

PROP. Mg(OH)2 TANK

TEMPORARY EQUIPMENT LAYDOWN AREA

HEADWORKS BUILDING

NEW CONC EQUIPMENT PAD 6" THK W/WWF 6x6-W2.9xW2.9

NEW 4' WIDE CONC WALK

MATCH EXIST PAVEMENT

EXIST. PAVING

LOD FOR POSSIBLE YARD PIPE WORK, REPLACE PAVEMENT AS REQ'D

PAVEMENT RESTORATION SEE NOTES 4 & 5

PROP. UNDERDRAIN OUTLET

PROP. GENERATORS AND SUBSTATION

GENERATOR PADS (3)

SUBSTATION

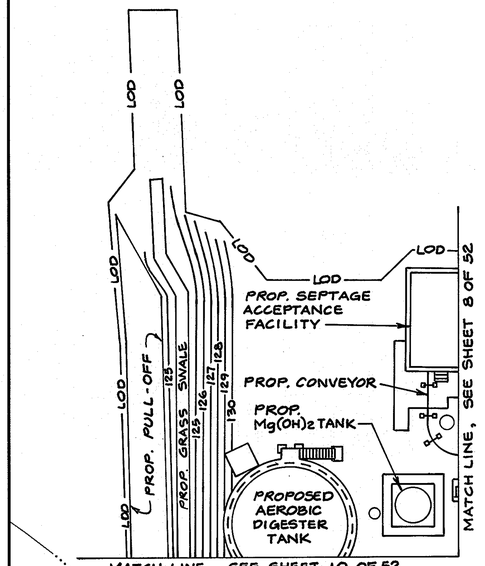
AUXILIARY PUMPSTATION

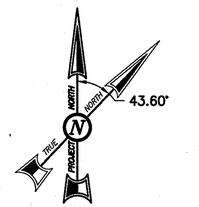
GRIT BASINS

CONTRACTOR TEMPORARY STORAGE AREA SEE NOTES 6 & 7

STATE OF MARYLAND — JOSEPH C. SCHNEIDER — No. 21761 — PROFESSIONAL ENGINEER

10/9/12 For Rev. 2 only





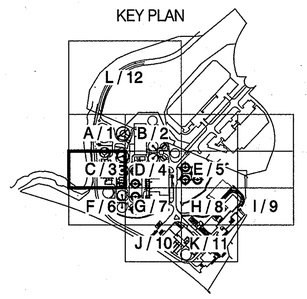
SCALE: 1" = 20'

NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-3 FOR E&S CONTROL MEASURES AND TEMP PIPE TRENCH PROTECTION.
3. SEE DRAWING CY-3 FOR PROCESS YARD PIPING WORK.
4. PERFORM PAVEMENT RESTORATION AFTER COMPLETION OF MAJOR FACILITY CONSTRUCTION.
5. REPLACE PAVEMENT WHERE REQUIRED TO ENSURE POSITIVE DRAINAGE TO EXISTING PAVEMENT.
6. RESTORE CONTRACTOR TEMP STORAGE AREA TO ORIGINAL GRADES.
7. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

MATCH LINE SEE SHEET CG-4

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 - ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



MATCH LINE SEE SHEET CG-6

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — DONNA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Donna M Schaefer
REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT.
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE

DES: AMS
DRN: SLB
CHK: LHH
DATE: -

DATE	REVISIONS AND RECORD OF ISSUE
10-31-13	ADD STA. TO PBV GENERATORS AND SUBSTATION ⚠2
3-16-12	ADD SEPTAGE ACCEPTANCE FACILITY, DIGESTER TANK, PROPANE TANK, Mg(OH)2 TANK AND APPURTENANCES. ⚠1

HOWARD COUNTY SDP SHEET C-80
CIVIL
STAKEOUT, GRADING AND RESTORATION PLAN C

REVISED SITE DEVELOPMENT PLAN - REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 - ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 62 OF 611
CG-3
SDP SHEET 29 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CG-03 Grading Plan C.dwg 05/14/09_19:41

MATCH LINE SEE SHEET CG-2

MATCH LINE SEE SHEET CG-3

MATCH LINE SEE SHEET CG-5

MATCH LINE SEE SHEET CG-7

NORTH PROCESS REACTORS

NORTH GALLERY

PRIMARY CLARIFIER #1

EXIST. PAVING

NORTH PUMP STATION

ELECTRICAL SUBSTATION

FINAL CLARIFIER #10

FERMENTER #1

FINAL CLARIFIER #12

REPLACE CONC WALKS AS REQ'D FOR PIPE INSTALLATION

END NEW CURB

3024

DEMO EX. CURB AND INSTALL NEW CURB TO ALLOW FOR ROAD WIDENING

REPLACE CURBING AS REQUIRED FOR UTILITIES INSTALLATION (TYP)

16'

TEMPORARY EQUIPMENT LAYDOWN AREA

MATCH EXISTING PAVEMENT

LOD FOR YARD PIPE WORK

LOD FOR YARD PIPE SEE NOTE 3

GREENWOOD PLACE

PHOSPHORUS ROAD

PAVEMENT RESTORATION SEE NOTE 4

FINAL CLARIFIER #2

MATCH EXISTING PAVEMENT

NITROGEN ROAD

CONTRACTOR TEMPORARY STORAGE AREA, SEE NOTES 6 & 7

LIME BUILDING

TEMPORARY EQUIPMENT LAYDOWN AREA

NEW PRI VALVE VAULT

AERATION ROAD

NEW E/W PR SPLITTER BOX

ALUM / HYPO BUILDING

PAVEMENT RESTORATION, SEE NOTE 4

SECONDARY ROAD

MATCH EXISTING PAVEMENT (TYP)

FINAL CLARIFIER #3

3063

3062

EAST GALLERY

SEE NOTES 6 & 7

43.60°

0 20 40 60

SCALE: 1" = 20'

NOTES:

1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-4 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FACILITIES.
3. SEE DRAWING CY-4 FOR NEW PROCESS YARD PIPING.
4. PERFORM PAVEMENT RESTORATION AFTER COMPLETION OF MAJOR FACILITY CONSTRUCTION.
5. REPLACE PAVEMENT WHERE REQUIRED TO ENSURE POSITIVE DRAINAGE TO EXISTING PAVEMENT.
6. RESTORE TEMP CONSTRACTOR STORAGE AREA TO ORIGINAL GRADES.
7. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5.27.9

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5/28/09

DIRECTOR, DEP. — DATE: 5/28/09

ENGINEER'S 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."

Debra M. Schaefer
AURORA M. SCHAEFER — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward
Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN

L/12
A/1 B/2
C/3 D/4 E/5
F/6 G/7 H/8 I/9
J/10 K/11

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — AURORA MARIE SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Debra M. Schaefer
REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM.
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-8P
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN D

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

CONTRACT SHEET 63 OF 611

CG-4

SDP SHEET 30 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CG-04 Grading Plan D.dwg 05/14/09 19:41

APPROVED: DEPARTMENT OF PLANNING AND ZONING		
CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE: 5/28/09
DIRECTOR, DEP.		DATE: 5/28/09

ENGINEER'S 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."

Donna M Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

Aurora M Schaefer

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."

Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

GREENWOOD PLACE

MATCH EXISTING PAVEMENT

PAVEMENT RESTORATION

FINAL CLARIFIER #6

FINAL CLARIFIER #7

FINAL CLARIFIER #9

FINAL CLARIFIER #8

OVERHEAD WALKWAY

GRAVEL

CONTRACTOR TEMPORARY STORAGE AREA SEE NOTES 5 & 6

WETLANDS

25' WETLAND BUFFER

50' STREAM BANK BUFFER

GUILFORD RUN PERENNIAL STREAM (USE I)

EAST PORC DITCH

REBUILD 10'± OF CONC DITCH TO TIE INTO NEW ENDWALL

NEW ENDWALL 0.7E

NEW 30" SD

NEW I 7E-5

EXIST. GRAVEL

SEE NOTE 6

NEW DENITRIFICATION FILTER COMPLEX

EXIST GRAVEL TO REMAIN

CONCRETE

INDUSTRIAL PARK ZONED M-2

LOD

MATCH LINE SEE SHEET CG-4

MATCH LINE SEE SHEET CG-8

MATCH LINE A - THIS SHEET

MATCH LINE SEE SHEET CG-9

MATCH LINE A - THIS SHEET

NORTH

TRUE NORTH

MAGNETIC NORTH

43.60°

0 20 40 60

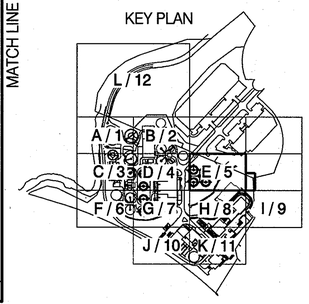
SCALE: 1" = 20'

NOTES:

1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-5 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FACILITIES.
3. SEE DRAWING CY-5 FOR NEW PROCESS YARD PIPING.
4. SEE DRAWING CY-14 FOR STORM DRAIN PIPE PROFILE INFORMATION.
5. RESTORE CONTRACTOR TEMP STORAGE AND ACCESS AREAS TO ORIGINAL GRADES.
6. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — DONNA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

REGISTERED PROFESSIONAL ENGINEER — 4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS
DRN: SLB
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8Q
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN E

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 64 OF 611
CG-5
SDP SHEET 31 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CG-05 Grading Plan E.dwg 05/14/09_19:25

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/27/09
DIRECTOR, DEP.	DATE: 5/28/09

ENGINEER'S 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."

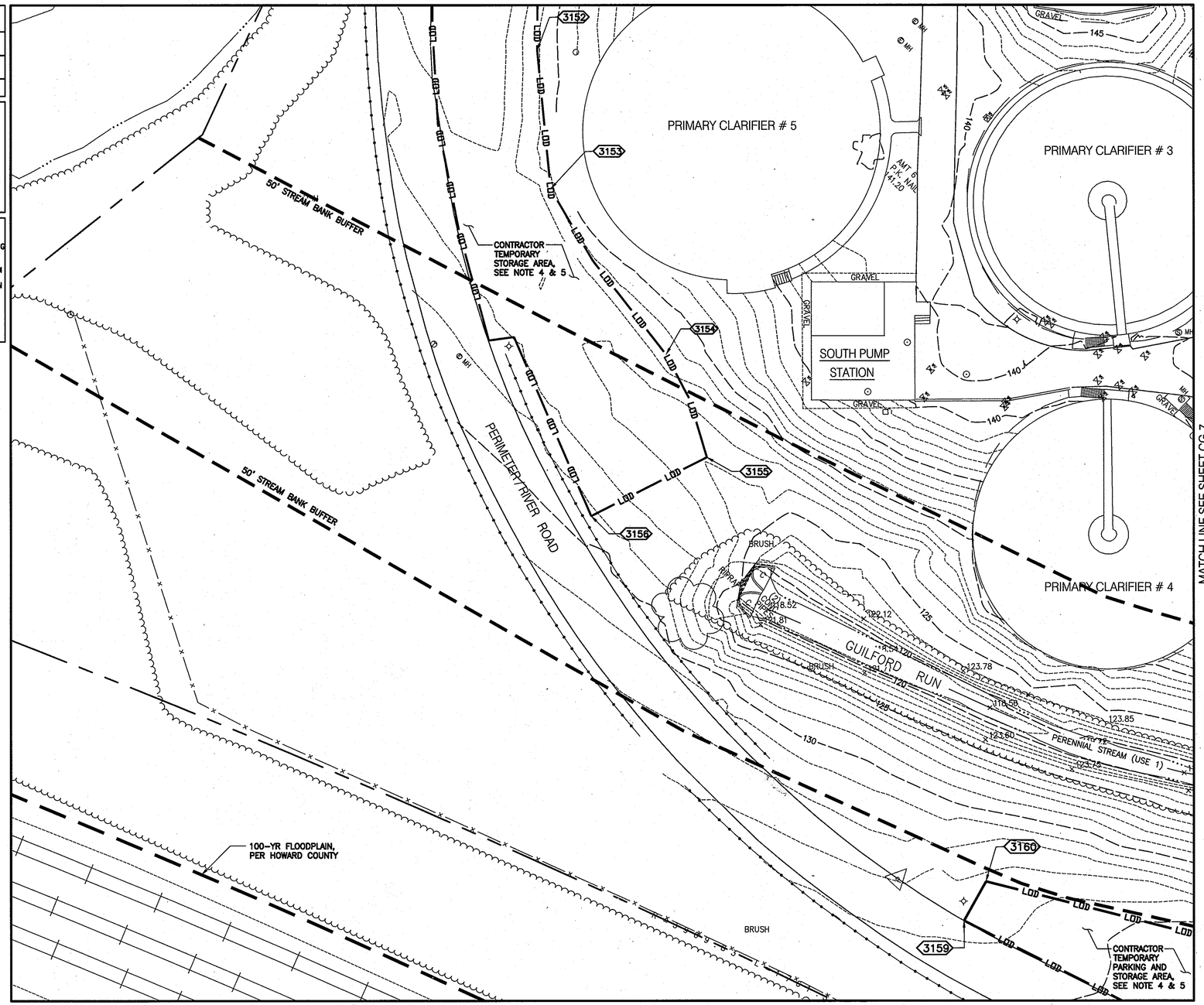
Dora M Schaefer
AURORA M SCHAEFER — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward
Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

MATCH LINE SEE SHEET CG-3

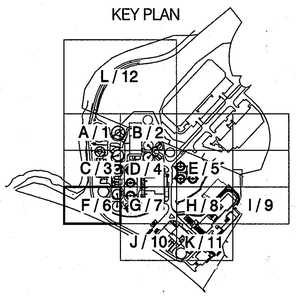


MATCH LINE SEE SHEET CG-7

NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-6 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FACILITIES.
3. SEE DRAWING CY-6 FOR PROCESS YARD PIPING.
4. RESTORE STORAGE AREA TO ORIGINAL GRADES.
5. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — AURORA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Dora M Schaefer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 — DATE

DES: AMS		
DRN: SLB		
CHK: LHH		
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8R
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN F

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 65 OF 611
CG-6
SDP SHEET 32 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CG-06 Grading Plan F.dwg 05/14/09_19:43

MATCH LINE SEE SHEET CG-4

MATCH LINE SEE SHEET CG-6

MATCH LINE SEE SHEET CG-8

MATCH LINE SEE SHEET CG-10

SECONDARY ROAD

AERATION ROAD

FIELD LAB

TRANS

SECONDARY SUBSTATION

FINAL CLARIFIER #4

FINAL CLARIFIER #5

CSW

EFFLUENT ROAD

NITROGEN ROAD

NEW EAST/WEST BLOWER FACILITY

1006

1007

EAST SUBSTATION

SEE ELECTRICAL PLANS FOR LAYOUT INFORMATION

1008

REPLACE EXIST CURB AS REQ'D

NEW DEPRESSED CURB

LOD FOR YARD PIPE WORK

140.38

MATCH EXIST PAVEMENT

PAVEMENT RESTORATION SEE NOTE 4

CONCRETE CULVERT

3100

50' STREAM BANK BUFFER

PERENNIAL STREAM (USE 1)

GUILFORD RUN

BRUSH

GRAVEL

MATCH EXIST PAVEMENT

LOD FOR YARD PIPE WORK (TYP)

REPLACE CURB AS REQ'D

0+00

TRUSK WEIGH STATION

DEWATERING SUBSTATION

3161

3162

3163

3164

CONTRACTOR TEMPORARY PARKING AND STORAGE AREA SEE NOTE 3

LOD

ENGINEER'S 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."

Norma M Schaefer

AURORA M SCHAEFER — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/10/09

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.

Daniel Ward

Daniel Ward — SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/19/09

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	4	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	BD	DATE: 5/28/09
DIRECTOR		DATE: 5/28/09

NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-7 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FICILITIES.
3. SEE DRAWING CY-7 FOR NEW PROCESS YARD PIPING.
4. RESTORE STORAGE AREA TO ORIGINAL GRADES. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

NORTH — TRUE — PROJECT — 43.60°

0 20 40 60

SCALE: 1" = 20'

KEY PLAN

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — NORMA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10

Norma M Schaefer

REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE 5/18/09

DES: AMS
DRN: SLB
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8S
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN G

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 66 OF 611
CG-7
SDP SHEET 33 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CG-07 Grading Plan G.dwg 05/14/09_19:59

MATCH LINE SEE SHEET CG-5

MATCH LINE SEE SHEET CG-7

MATCH LINE SEE SHEET CG-9

MATCH LINE SEE SHEET CG-11

CONTRACTOR TEMPORARY STORAGE AREA SEE NOTES 4 & 5

50' STREAM BANK BUFFER

PERENNIAL STREAM (USE I)

GUILFORD RUN

BRUSH

NEW 1.5' GRAVEL MOW STRIP, EXTEND UNDER STAIRS

NEW DENITRIFICATION FILTER COMPLEX

NEW DENITRIFICATION FILTER INFLUENT PUMP STATION

LOADING PLATFORM

FILTER CIRCLE

FILTERS

INVERTED CROWN, STA 4+22.2 TO 6+00.0

GRAVEL

NEW 30' ROAD

CURVE 3

SEE NOTE 7

NEW 8" RD

NEW RD ENDWALL O 7RD-2 INV 135.0

54" METER VAULT

NEW MUDWELL

136.80

135.00±

NEW METHANOL FILL STATION

INLET TIED TO SMH SEWER

NEW CONC TRUCK PAD

SEE NOTE 5

REPLACE CONC DITCH AS REQ'D FOR YARD PIPE AND UTILITY

REBUILD 10'± CONC DITCH TO TIE INTO NEW ENDWALL

NEW TYPE "E" ENDWALL O 7W-1, INV 128.3±

TIE INTO EX MH @ EX 15" SD INVERT

NEW 15" SD

NEW FIRE PROTECTION BUILDING

NEW METHANOL FACILITY

NEW RD ENDWALL O RD-1 INV 133.5

CONTAINMENT AREA

FUTURE

NEW BOLLARD (TYP)

NEW GUARDRAIL (TYP)

CURVE 1

NEW 8" W

METER VAULT (BY OTHERS)

R=6.88

BEGIN NEW CURB

20 LF DEPRESSED CURB

NEW EFFLUENT METER VAULT SEE CY-8 FOR LOCATION

POST AERATION BASINS

CHLORINE BUILDING

FILTER BUILDING

MATCH EXISTING PAVEMENT STA 8+47.6

PAVEMENT RESTORATION (TYP)

MATCH EXISTING PAVEMENT

43.60°

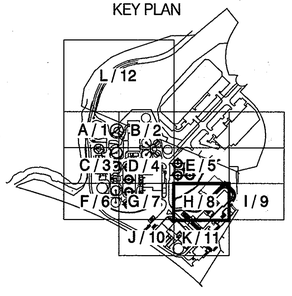
0 20 40 60

SCALE: 1" = 20'

NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-8 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FACILITIES.
3. SEE DRAWING CY-8 FOR NEW PROCESS AND DOMESTIC WATER YARD PIPING.
4. RESTORE TEMP. STORAGE AREA TO ORIGINAL GRADES.
5. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.
6. FIRE HYDRANTS TO CONFORM TO HOWARD COUNTY STD SPECIFICATIONS AND DETAILS W-1.11, W-1.14 AND W-2.11.
7. OPERATOR PARKING FOR ONE VEHICLE AT EACH LOCATION.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



ENGINEER'S 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."

Victoria M Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

VICTORIA M SCHAEFER

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."

Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

DANIEL WARD

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE: 5/28/09

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — VICTORIA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Victoria M Schaefer

REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS		
DRN: SLB		
CHK: LHH		
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8T
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN H

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4672

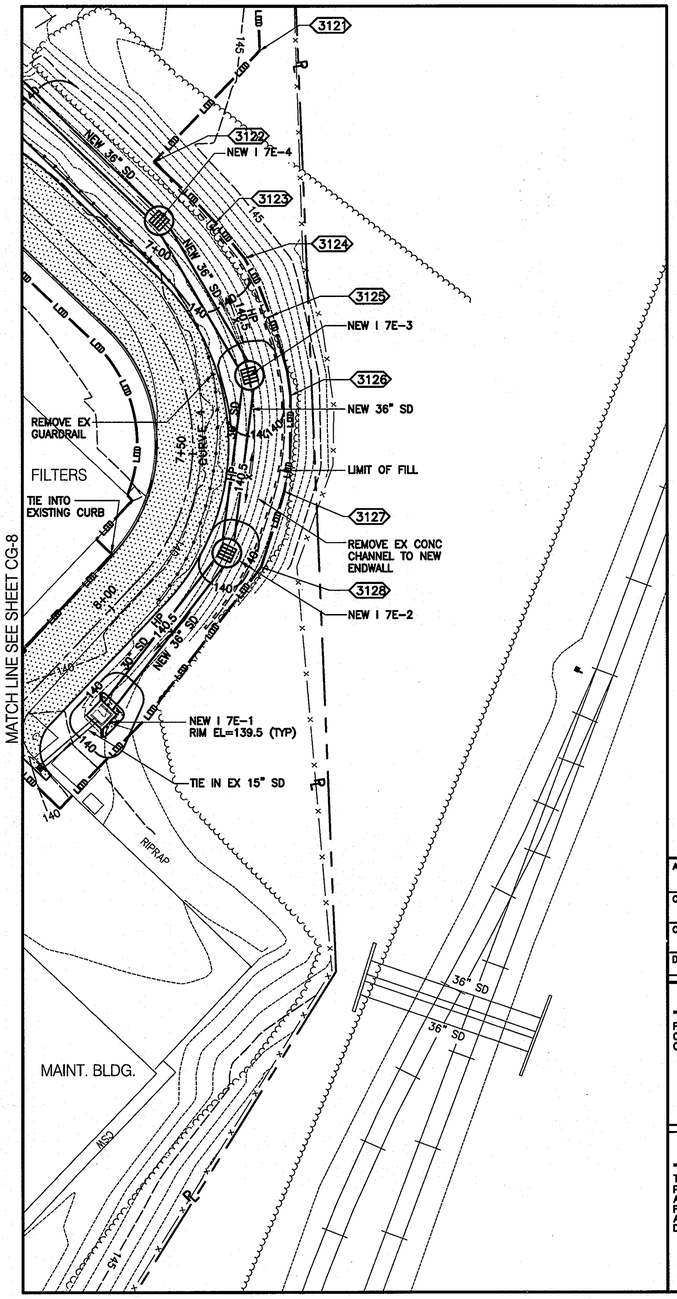
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 67 OF 611
CG-8
SDP SHEET 34 OF 52

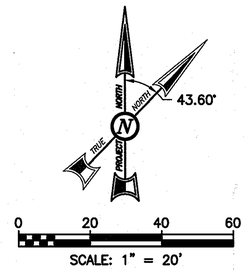
SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CG-08 Grading Plan H.dwg 05/14/09_19:59

MATCH LINE SEE SHEET CG-5



MATCH LINE SEE SHEET CG-8



NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-9 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FACILITIES.
3. SEE DRAWING CY-9 FOR NEW PROCESS YARD PIPING.
4. SEE DRAWING CY-14 FOR STORM DRAIN PIPE PROFILE INFORMATION.
5. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE: 5/28/09

ENGINEER'S 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."

Debra M Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE): DEBRA M SCHAEFER — DATE: 5/10/09

DEVELOPER'S CERTIFICATE

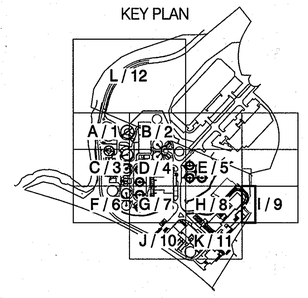
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE): DANIEL WARD — DATE: 5/19/09

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-8800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — DEBRA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Debra M Schaefer

REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE: 5/19/09

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-8U
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN I

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

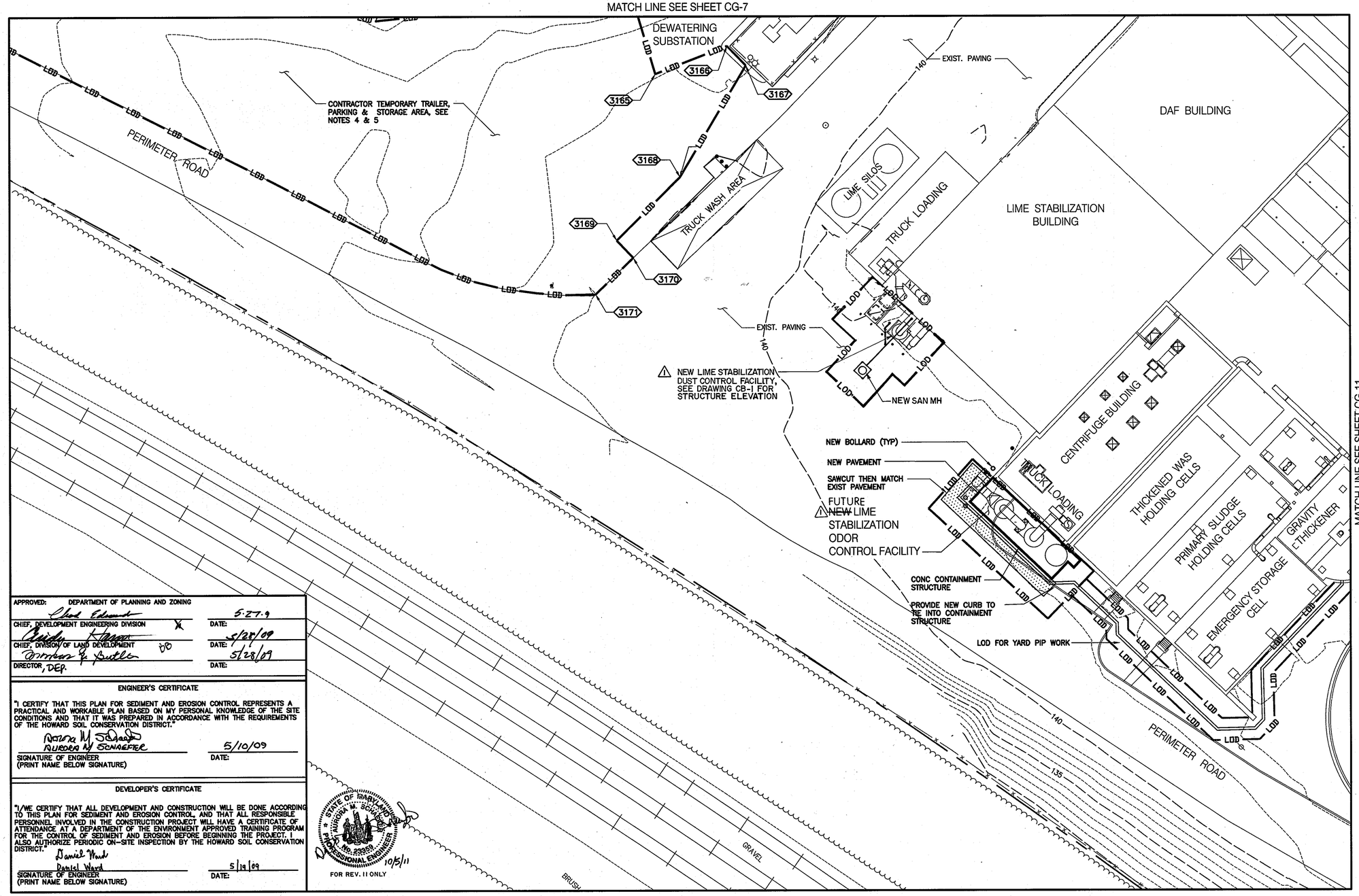
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 68 OF 611
CG-9
SDP SHEET 35 OF 52

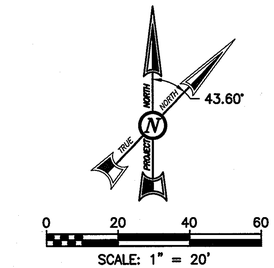
SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CG-09 Grading Plan 1.dwg 05/14/09_19:59

MATCH LINE SEE SHEET CG-7



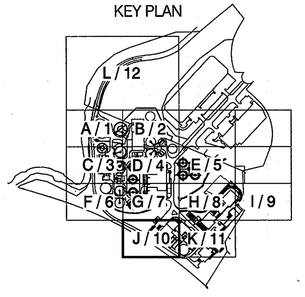
MATCH LINE SEE SHEET CG-11



NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-10 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FACILITIES.
3. SEE DRAWING CY-10 FOR NEW PROCESS YARD PIPING.
4. RESTORE STORAGE AREA TO ORIGINAL GRADES.
5. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	DD	DATE: 5/28/09
DIRECTOR, DEP.		DATE: 5/28/09

ENGINEER'S 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."

Nora M Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE): NUEDRA M SCHAEFER — DATE:

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."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE): Daniel Ward — DATE:

STATE OF MARYLAND · AURORA M. SCHAEFER · No. 23359 · PROFESSIONAL ENGINEER — 10/5/11
FOR REV. 11 ONLY

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND · AURORA M. SCHAEFER · No. 23359 · PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Nora M Schaefer
REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT.
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Sheila Clean — 5/19/09
CHIEF, BUREAU OF UTILITIES — DATE

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	10/5/11	⚠1	SDP REVISION 11: ADD LIME STABILIZATION DUST CONTROL FACILITY
	DATE		REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8U
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN J

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

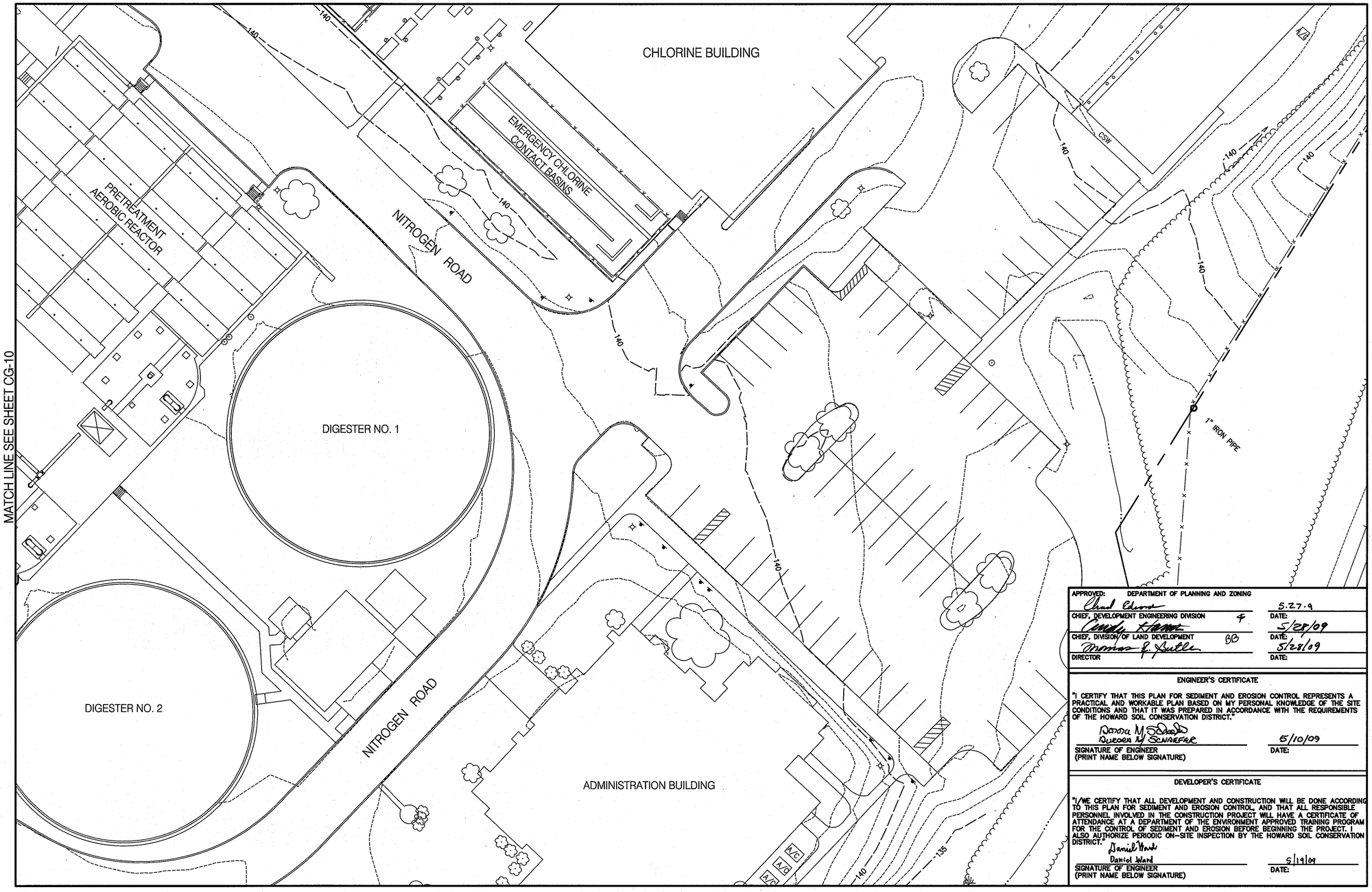
SCALE AS SHOWN
CONTRACT SHEET 69 OF 611
CG-10
SDP SHEET 36 OF 52

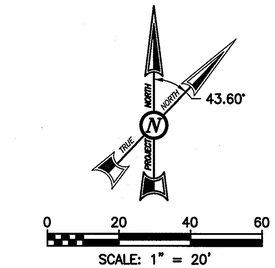
SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CG-10 Grading Plan J.dwg 05/14/09_19:58

MATCH LINE SEE SHEET CG-8

MATCH LINE SEE SHEET CG-10





NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CY-11 FOR NEW PROCESS YARD PIPING.
3. NO SITE DISTURBANCE IS EXPECTED WITHIN AREA SHOWN ON THIS SHEET.
4. PLACE PERMANENT SEED ON AREA DISTURBED BY CONSTRUCTION.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE: 5/28/09
DIRECTOR		DATE: 5/28/09

ENGINEER'S 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."

Donna M. Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

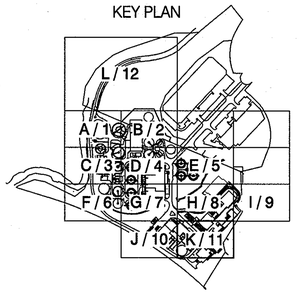
DEVELOPER'S CERTIFICATE

"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.

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — DONNA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Donna M. Schaefer
REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Stanley C. Sherman — 5/19/09
CHIEF, BUREAU OF UTILITIES — DATE

DES: AMS			
DRN: SLB			
CHK: LHH			
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-8W
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN K

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 70 OF 611
CG-11
SDP SHEET 37 OF 52

SDP-00-094

M:\380709--Howard County\ENR\03 Civil\ CG-11 Grading Plan K.dwg 05/14/09_19:58

ENGINEER'S 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."

Norma M Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

Norma M Schaefer

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."

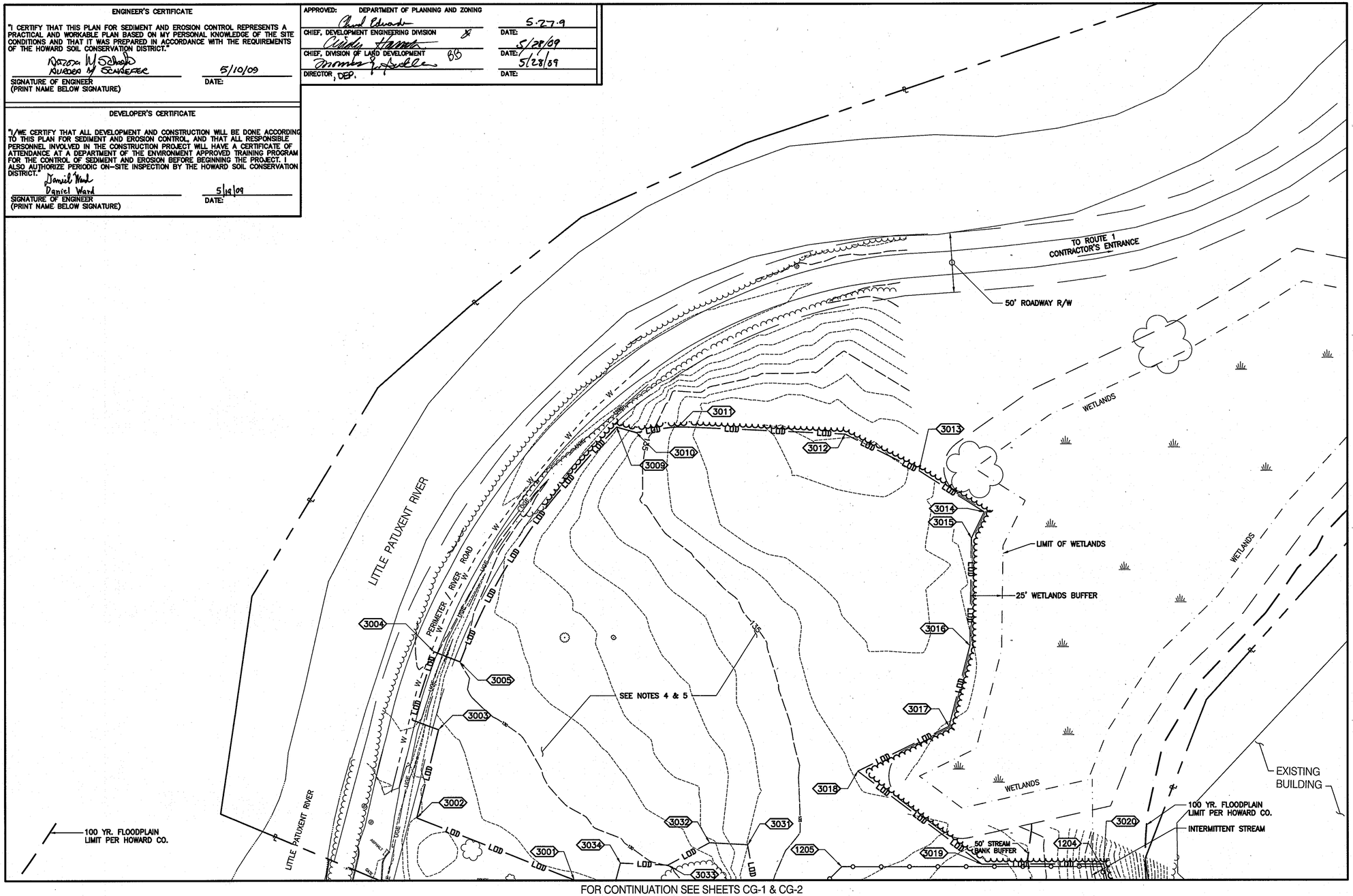
Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

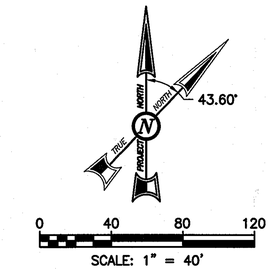
Daniel Ward

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	Chad Edmondson	DATE: 5.27.09
CHIEF, DIVISION OF LAND DEVELOPMENT	Amy Gowan BG	DATE: 5/28/09
DIRECTOR, DEP.	Dennis A. Lucke	DATE: 5/28/09



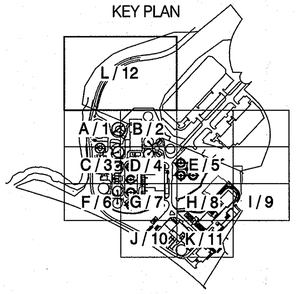
FOR CONTINUATION SEE SHEETS CG-1 & CG-2



NOTES:
1. SEE DRAWING CS-1 FOR LEGEND.
2. SEE DRAWING CE-12 FOR E&S CONTROL MEASURES AND TEMP CONTRACTOR FACILITIES.
3. RESTORE STORAGE AND STOCKPILE AREA TO ORIGINAL GRADES.
4. PLACE PERMANENT SEEDING ON ALL DISTURBED AREAS.

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

KEY PLAN



PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — NORMA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Norma M Schaefer

REGISTERED PROFESSIONAL ENGINEER — 4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Stanley C. Lawson — 5/19/09
CHIEF, BUREAU OF UTILITIES — DATE

DES: AMS
DRN: SLB
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-8X
CIVIL

STAKEOUT, GRADING AND RESTORATION PLAN L

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

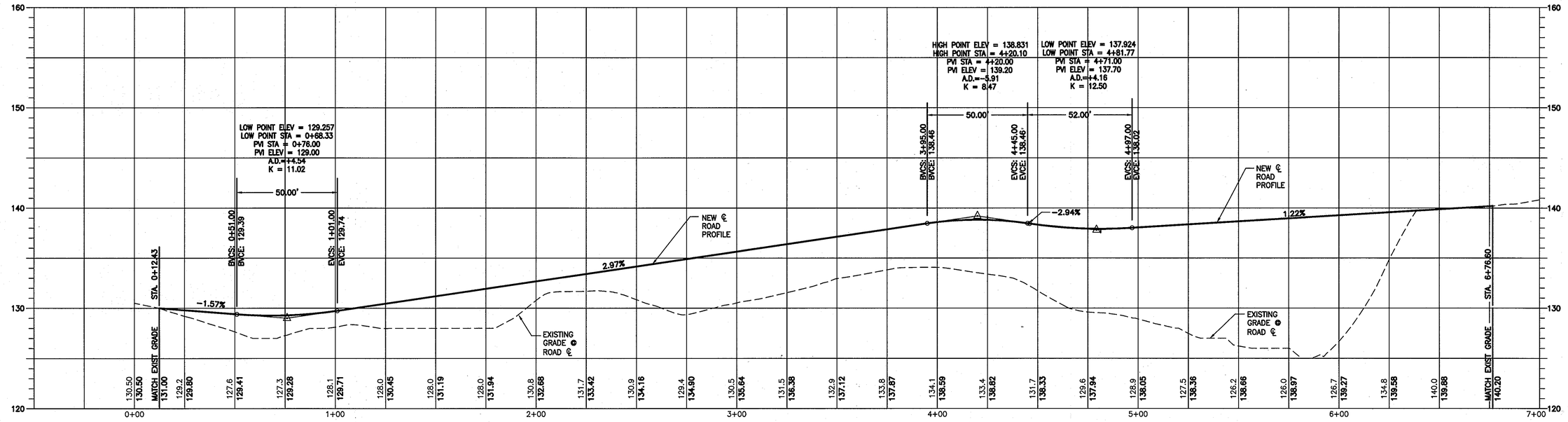
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 71 OF 611
CG-12
SDP SHEET 38 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CG-12 Grading Plan L.dwg 05/14/09_19:58



NORTH ACCESS ROAD PROFILE

SCALES

VERT: 1" = 5'
HORIZ: 1" = 50'

0 5 10 15

SCALE: 1" = 5'

0 50 100 150

SCALE: 1" = 50'

NORTH ACCESS ROAD LAYOUT TABLE

STATION	DESCRIPTION	NORTHING	EASTING
0+00	START PROFILE, MATCH EX GRADE	531008.71	1364970.01
0+80.77	℄ PC CURVE 1	531089.09	1364962.04
1+39.04	℄ PT CURVE 1	531141.09	1364938.19
1+50.75	℄ PC CURVE 2	531149.58	1364930.11
2+13.58	℄ PT CURVE 2	531206.13	1364931.49
3+77.84	℄ PC CURVE 3	531319.40	1365050.44
4+72.09	℄ PT CURVE 3	531317.33	1365135.27
4+87.88	℄ PC CURVE 4	531305.89	1365146.16
5+40.23	℄ PT CURVE 4	531292.59	1365194.20
5+84.27	℄ PC CURVE 5	531304.32	1365236.65
6+37.15	℄ PT CURVE 5	531291.39	1365285.41
6+59.82	END PROFILE, MATCH EX GRADE	531275.32	1365301.40

CURVE DATA

	CENTER COORDINATES			
	RADIUS	NORTHING	EASTING	DELTA
CURVE 1	88.00'	531080.40	1364874.46	37.94 (d)
CURVE 2	40.00'	531177.16	1364959.08	90.00 (d)
CURVE 3	60.00'	531275.95	1365091.82	90.00 (d)
CURVE 4	48.50'	531339.34	1365181.28	61.84 (d)
CURVE 5	50.00'	531256.13	1365249.97	60.60 (d)

FILTER CIRCLE LAYOUT TABLE

STATION	DESCRIPTION	NORTHING	EASTING
0+00	START PROFILE, MATCH EX GRADE	530891.92	1365834.40
1+13.36	℄ PC CURVE 1	530977.51	1365908.73
1+36.61	℄ PT CURVE 1	530992.24	1365926.59
2+16.45	℄ PC CURVE 2	531032.16	1365995.73
2+89.76	℄ PT CURVE 2	531092.78	1366030.73
5+69.44	℄ PC CURVE 3	531372.46	1366030.73
6+63.69	℄ PT CURVE 3	531432.46	1366090.73
7+02.66	℄ PC CURVE 4	531432.46	1366129.70
7+89.05	℄ PT CURVE 4	531377.46	1366184.70
8+47.64	END PROFILE, MATCH EX GRADE	531318.88	1366184.70

SOUTHEAST ROAD CURVE DATA

	CENTER COORDINATES			
	RADIUS	NORTHING	EASTING	DELTA
CURVE 1	70.00'	530931.61	1365961.59	19.03 (d)
CURVE 2	70.00'	531092.78	1365960.73	60.00 (d)
CURVE 3	60.00'	531372.46	1366090.73	90.00 (d)
CURVE 4	55.00'	531377.46	1366129.70	90.00 (d)

THIS DRAWING IS PART OF THE LITTLE PATUXENT WATER RECLAMATION PLANT, ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS CONSTRUCTION CONTRACT DOCUMENTS. IT MAY CONTAIN REFERENCES TO SHEETS THAT ARE NOT INCLUDED IN THE SITE DEVELOPMENT PLAN, BUT ARE PART OF THE CONSTRUCTION CONTRACT DRAWING PACKAGE.

ENGINEER'S 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."

Rebecca M. Schaefer — 5/10/09

REBECCA M. SCHAEFER — DATE:

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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."

Daniel Ward — 5/8/09

Daniel Ward — DATE:

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	ℱ	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT	BB	DATE: 5/28/09
DIRECTOR, DEP.		DATE: 5/28/09

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — REBECCA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Rebecca M. Schaefer

REGISTERED PROFESSIONAL ENGINEER

4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Stephen C Leon — 5/19/09

CHIEF, BUREAU OF UTILITIES — DATE

DES: AMS			
DRN: GHS			
CHK: LHH			
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-8Y
CIVIL

ROAD PROFILE & LAYOUT

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

CONTRACT SHEET 72 OF 611

CG-13

SDP SHEET 39 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CG-13 Road Profile.dwg 05/14/09 20:00

DETAIL 22 – SILT FENCE

CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2"x1 1/2" SQUARE (MINIMUM) CUT, OR 1 3/4" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD "T" OR "U" SECTION WEIGHING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.
2. GEOTEXTILE SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: MSMT 509
FLOW RATE	0.3 GAL FT/MINUTE (MAX.)	TEST: MSMT 322
FILTERING EFFICIENCY	75% (MIN.)	TEST: MSMT 322

3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHED 50% OF THE FABRIC HEIGHT.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E – 15 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 – SUPER SILT FENCE

Construction Specifications

FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.

1. THE POLES DO NOT NEED TO SET IN CONCRETE.
2. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. OR STAPLES.
3. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
4. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H – 26 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE

CONSTRUCTION SPECIFICATION

1. LENGTH – MINIMUM OF 50' (*30' FOR SINGLE RESIDENCE LOT).
2. WIDTH – 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. **THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRED SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
4. STONE – CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER – ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
6. LOCATION – A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F – 17 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20B – SUMP PIT

CONSTRUCTION SPECIFICATIONS

1. PIT DIMENSIONS ARE VARIABLE, WITH THE MINIMUM DIAMETER BEING 2 TIMES THE STANDPIPE DIAMETER.
2. THE STANDPIPE SHOULD BE CONSTRUCTED BY PERFORATING A 12" TO 24" DIAMETER CORRUGATED OR PVC PIPE. THEN WRAPPING WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE CLASS E. THE PERFORATIONS SHALL BE 1/2" X 6" SLITS OR 1" DIAMETER HOLES.
3. A BASE OF FILTER MATERIAL CONSISTING OF CLEAN GRAVEL OR #57 STONE SHOULD BE PLACED IN THE PIT TO A DEPTH OF 12". AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE SHOULD THEN BE BACKFILLED WITH THE SAME FILTER MATERIAL.
4. THE STANDPIPE SHOULD EXTEND 12" TO 18" ABOVE THE LIP OF THE PIT OR THE RISER CREST ELEVATION (BASIN DEWATERING ONLY) AND THE FILTER MATERIAL SHOULD EXTEND 3" MINIMUM ABOVE THE ANTICIPATED STANDING WATER ELEVATION.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D – 13 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 21 – PORTABLE SEDIMENT TANK

CONSTRUCTION SPECIFICATIONS

1. THE FOLLOWING FORMULA SHOULD BE USED IN DETERMINING THE STORAGE VOLUME OF THE SEDIMENT TANK: 1 CUBIC FOOT OF STORAGE FOR EACH GALLON PER MINUTE OF PUMP DISCHARGE CAPACITY.
2. AN EXAMPLE OF A TYPICAL SEDIMENT TANK IS SHOWN ABOVE. OTHER CONTAINER DESIGNS CAN BE USED IF THE STORAGE VOLUME IS ADEQUATE AND APPROVAL IS OBTAINED FROM THE LOCAL APPROVING AGENCY.
3. TANKS MAY BE CONNECTED IN SERIES.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D – 14 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23C – CURB INLET PROTECTION

MAX. DRAINAGE AREA = 1/4 ACRE

CONSTRUCTION SPECIFICATIONS

1. ATTACH A CONTINUOUS PIECE OF WIRE MESH (30" MINIMUM WIDTH BY THROAT LENGTH PLUS 4') TO THE 2" X 4" WEIR (MEASURING THROAT LENGTH PLUS 2') AS SHOWN ON THE STANDARD DRAWING.
2. PLACE A CONTINUOUS PIECE OF GEOTEXTILE CLASS E THE SAME DIMENSIONS AS THE WIRE MESH OVER THE WIRE MESH AND SECURELY ATTACH IT TO THE 2" X 4" WEIR.
3. SECURELY NAIL THE 2" X 4" WEIR TO A 9" LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAX. 4' APART).
4. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL (MINIMUM 2' LENGTHS OF 2" X 4" TO THE TOP OF THE WEIR AT SPACER LOCATIONS). THESE 2" X 4" ANCHORS SHALL EXTEND ACROSS THE INLET TOP AND BE HELD IN PLACE BY SANDBAGS OR ALTERNATE WEIGHT.
5. THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE A MINIMUM 1' BEYOND BOTH ENDS OF THE THROAT OPENING.
6. FORM THE 1/2 " X 1/2 " WIRE MESH AND THE GEOTEXTILE FABRIC TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 3/4 " X 1 1/2 " STONE OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER CLOTH AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
8. ASSURE THAT STORM FLOW DOES NOT BYPASS THE INLET BY INSTALLING A TEMPORARY EARTH OR ASPHALT DIKE TO DIRECT THE FLOW TO THE INLET.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E – 16 – 5B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B – AT GRADE INLET PROTECTION

MAX. DRAINAGE AREA = 1/4 ACRE

CONSTRUCTION SPECIFICATIONS

1. LIFT GRATE AND WRAP WITH GEOTEXTILE CLASS E TO COMPLETELY COVER ALL OPENINGS THEN SET GRATE BACK IN PLACE.
2. PLACE 3/4" TO 1 1/2" STONE, 4"-6" THICK ON THE GRATE TO SECURE THE FABRIC AND PROVIDE ADDITIONAL FILTRATION.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E – 16 – 5A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 102 – SEDIMENT FILTER BAG

CONSTRUCTION SPECIFICATIONS

1. DESCRIPTION: HEAVY DUTY GEOTEXTILE BAG FOR FILTERING SEDIMENT AND CONTROLLING RELEASE FROM DEWATERING PUMP DISCHARGE.

2. MATERIALS:
   a. MANUFACTURER: DIRTBAG BY ACF ENVIRONMENTAL, INC. (PHONE: 800-448-3636), OR EQUAL
   b. BAG CONSTRUCTED OF POLYPROPYLENE NONWOVEN GEOTEXTILE.
   c. GEOTEXTILE PROPERTIES AND TEST METHODS:

WEIGHT	ASTM D- 776	10 OZ/YD
GRAB TENSIL	ASTM D-4 32	250 LBS
PUNCTURE	ASTM D- 833	150 LBS
FLOW RAT	ASTM D- 491	85 GAL/MIN/FT2
PERMITTIVIT	ASTM D- 491	1.2 SEC-1
MULLEN BURS	ASTM D- 786	460 LBS IN2
UV RESISTANT	ASTM D- 355	70%
AOS % RETAIN	ASTM D-4 51	100% US SIEVE

   ALL PROPERTIES ARE MINIMUM AVERAGE ROLL VALUE (MARV EXCEPT THE WEIGHT OF THE FABRIC.
   d. BAG SEWN USING A HIGH STRENGTH THREAD WITH DOUBLE NEEDLE STITCHING.
   e. "J" TYPE SEAMS WITH AVERAGE WIDTH STRENGTH PER ASTM D-4884: 100 LBS/IN
   f. SEWN-IN FILL SPOUT TO ACCOMMODATE 4" PUMP DISCHARGE HOSE.
   g. ATTACHED STRAPS TO SECURE HOSE AND PREVENT UNCONTROLLED PUMPED WATER RELEASE.

2. CONSTRUCTION SEQUENCE:
   a. INSTALL BAG ON A SLOPE SO INCOMING WATER FLOWS DOWNHILL THROUGH BAG WITHOUT CAUSING EROSION. TO INCREASE EFFICIENCY OF FILTRATION, PLACE THE BAG ON AN AGGREGATE OR STRAW BED TO MAXIMIZE WATER FLOW THROUGH THE SURFACE AREA OF THE BAG.
   b. STRAP NECK OF BAG TIGHTLY TO PUMP DISCHARGE HOSE.
   c. UNDER MOST CIRCUMSTANCES BAG WILL ACCOMMODATE FLOW RATES OF 1100 GALLONS PER MINUTE. FLOW RATES WILL VARY DEPENDING ON THE SIZE OF BAG, THE TYPE AND AMOUNT OF SEDIMENT DISCHARGED INTO BAG, THE TYPE OF GROUND, ROCK OR OTHER SUBSTANCE UNDER THE BAG AND THE DEGREE OF THE SLOPE ON WHICH THE BAG LIES.
   d. BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR ALLOW WATER TO PASS AT A REASONABLE RATE.
   e. USE OF EXCESSIVE FLOW RATES OR OVERFILLING BAG WITH SEDIMENT WILL CAUSE BAG TO RUPTURE OR FAILURE OF HOSE
   f. DISPOSE OF BAG AND CONTENTS AS DIRECTED IN CONTRACT DOCUMENTS. IF ALLOWED BY ENGINEER, BAG MAY BE CUT OPEN AND THE CONTENTS USED AS BACKFILL AFTER REMOVING VISIBLE FABRIC.
   g. BAG SHALL BE STRONG ENOUGH TO BE LIFTED WITH OPTIONAL STRAPS WHEN FULL. OFF-SITE DISPOSAL MAY BE FACILITATED BY PLACING BAG IN A PORTABLE CONTAINER OR THE BACK OF A DUMP TRUCK OR FLATBED PRIOR TO USE AND ALLOW WATER TO DRAIN FROM BAG WHILE IN PLACE.

DETAIL 103 – DIVERSION FENCE

CONSTRUCTION SPECIFICATIONS

1. 5' MAXIMUM POST SPACING.
2. MAINTAIN AN UNINTERRUPTED POSITIVE GRADE TO A STABLE OUTLET.
3. TOTAL WIDTH OF POLYETHYLENE IS 10' MINIMUM PER LAYER (A FOLDED 20' WIDTH IS ACCEPTABLE).
4. LOGITUDINAL OVERLAPPING IS 1' MINIMUM. OVERLAP THE UPGRADE SHEET OVER THE DOWNGRADE SHEET.
5. MAXIMUM LOGITUDINAL SLOPE = 10%.
6. MAXIMUM DRAINAGE AREA TO OUTLET=2 AC.

DETAIL 104 – TEMPORARY ASPHALT BERM

NOT USED

Approved by HSCCD- 5/26/09- John R Robertson

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
Chief, Development Engineering Division (signed)	DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT (signed)	DATE: 5/28/09
DIRECTOR, DEP (signed)	DATE: 5/28/09

ENGINEER'S 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."

Aurora M Schaefer (signed) — AURORA M SCHAEFER — DATE: 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

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."

Daniel Ward (signed) — Daniel Ward — DATE: 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE)

PBSJ
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND · AURORA M. SCHAEFER · No. 23359 · PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.
REGISTERED PROFESSIONAL ENGINEER
4/20/09 PBS&J
DATE FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE 5/19/09

DES: AMS		
DRN: KEG		
CHK: LHH		
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-9A
CIVIL

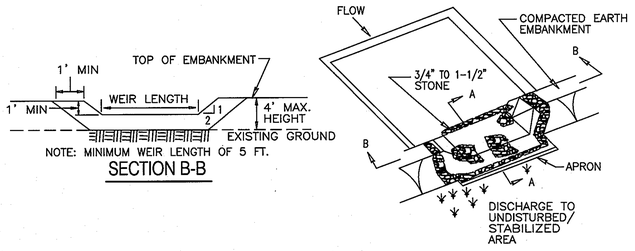
EROSION AND SEDIMENT CONTROL DETAILS

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 57 OF 611
CE-13
SDP SHEET 40 OF 52

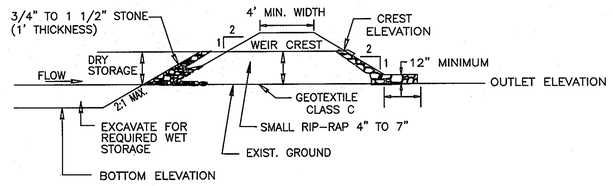
SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CE-13 E and S Details.dwg 05/14/09_19:22



SECTION B-B

PERSPECTIVE VIEW



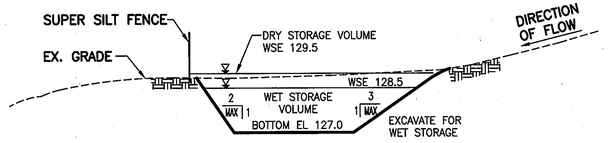
SECTION A-A

TST-1: STONE OUTLET SEDIMENT TRAP

NTS BASED ON MDE DETAIL #8

CONSTRUCTION SPECIFICATIONS [REF: 1994 MD STANDARDS & SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL]

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AND DRYING AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVERSIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
3. ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. THE STONE USED IN THE OUTLET SHALL BE SMALL RIP-RAP 4" TO 7" IN SIZE WITH A 1' THICK LAYER OF 3/4" TO 11/2" WASHED AGGREGATE PLACED ON THE UPSTREAM FACE OF THE OUTLET. STONE FACING SHALL BE AS NECESSARY TO PREVENT CLOGGING. GEOTEXTILE CLASS C MAY BE SUBSTITUTED FOR THE STONE FACING BY PLACING IT ON THE INSIDE FACE OF THE STONE OUTLET.
5. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF OF THE WET STORAGE DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
6. THE STRUCTURE SHALL BE INSPECTED PERIODICALLY AND AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
7. CONSTRUCTION OF TRAPS SHALL BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT POLLUTION IS ABATED. ONCE CONSTRUCTED, THE TOP AND OUTSIDE FACE OF THE EMBANKMENT SHALL BE STABILIZED WITH SEED AND MULCH. POINTS OF CONCENTRATION INFLOW SHALL BE PROTECTED IN ACCORDANCE WITH GRADE STABILIZATION STRUCTURE CRITERIA. THE REMAINDER OF THE INTERIOR SLOPES SHOULD BE STABILIZED (ONE TIME) WITH SEED AND MULCH UPON TRAP COMPLETION AND MONITORED AND MAINTAINED EROSION FREE DURING THE LIFE OF THE TRAP.
8. THE STRUCTURE SHALL BE DEWATERED BY APPROVED METHODS, REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
9. REFER TO SECTION D FOR SPECIFICATIONS CONCERNING TRAP DEWATERING.
10. MINIMUM TRAP DEPTH SHALL BE MEASURED FROM THE WEIR ELEVATION.
11. THE ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO THE TRAP MUST EQUAL OR EXCEED THE ELEVATION OF THE TRAP EMBANKMENT.
12. GEOTEXTILE CLASS C SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE OUTLET CHANNEL PRIOR TO THE PLACEMENT OF STONE. SECTIONS OF FILTER CLOTH MUST OVERLAP AT LEAST 1' WITH THE SECTION NEAREST THE ENTRANCE PLACED ON TOP. THE FILTER CLOTH SHALL BE EMBEDDED AT LEAST 6" INTO EXISTING GROUND AT THE ENTRANCE OF THE OUTLET CHANNEL.
13. OUTLET – AN OUTLET SHALL BE PROVIDED, INCLUDING A MEANS OF CONVEYING THE DISCHARGE IN AN EROSION FREE MANNER TO AN EXISTING STABLE CHANNEL.
14. THREE FOOT HIGH SAFETY FENCE SHALL BE PROVIDED AROUND SEDIMENT TRAPS.



1. CONSTRUCTION SPECIFICATIONS FOR STONE OUTLET SEDIMENT TRAP SHALL APPLY, EXCEPT FOR NOTES 10 & 12. ⚠1
2. USE SUPER SILT FENCE TO PROVIDE DRY STORAGE VOLUME AND ACT AS THE OUTLET CONTROL. PLACE SUPER SILT FENCE AT THE DOWNSTREAM END OF THE SEDIMENT TRAP. SUPER SILT FENCE THAT IS PLACED AT THE SEDIMENT TRAP MUST REMAIN CLEAR OF SEDIMENT. INSPECT SEDIMENT TRAP SILT FENCE OUTLET PERIODICALLY AND AFTER RAIN EVENTS.

TST-2: CONSTRAINED AREA SEDIMENT TRAP

NTS

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.

Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

ENGINEER'S 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."

ROBERT W SCHAEFFER — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5-27-09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5/28/09

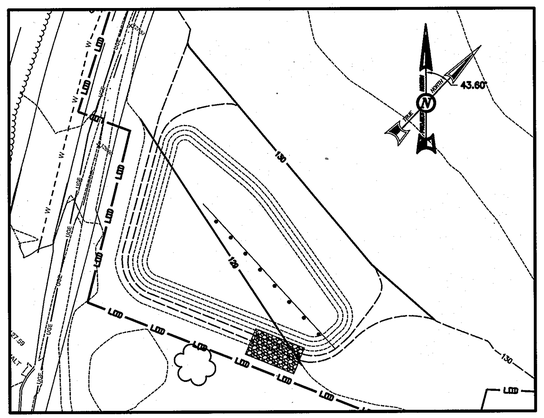
DIRECTOR, DEPT. — DATE:

SEDIMENT TRAP COMPUTATIONS

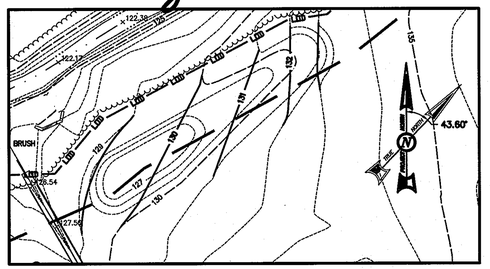
SEDIMENT TRAP NO.	DRAINAGE AREA ACRE	REQUIRED DRY STORAGE CUBIC FT	PROVIDED DRY STORAGE CUBIC FT	REQUIRED WET STORAGE CUBIC FT	PROVIDED WET STORAGE CUBIC FT	TRAP BOTTOM ELEVATION FT	LENGTH FT	WIDTH FT	DEPTH FT	WEIR LENGTH FT	OUTLET ELEVATION FT
TST-1	3.85	6,930	28,771	6,930	11,305	126	*	*	2.8	16	WEIR: 130.0 OUTLET:128.8
TST-2	0.70	1,260	1,260	1,260	1,260	127	46	14*	2.7	40±	OUTLET: 129.2

NOTE: LENGTH AND WIDTH ARE MEASURED AT THE BOTTOM OF TRAP.
* MINIMUM LENGTH AND/OR WIDTH NOT POSSIBLE WITHIN AVAILABLE AREA.
TST-1: INSTALL BAFFLE BOARD TO INCREASE LENGTH OF FLOW WITHIN TRAP.
EFFECTIVE LENGTH: 142 FT
EFFECTIVE WIDTH: APPROX 20 FT

Approved by HSCD 5-26-09 - John R. Robertson



TST-1 RESTORATION PLAN



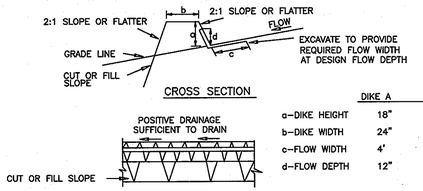
TST-2 RESTORATION PLAN

GRAPHIC SCALE ⚠1
0 30 60 90
SCALE: 1" = 30'

SEDIMENT TRAP RESTORATION NOTES:

1. DEWATER TRAP AND ALLOW TO DRY TO OPTIMUM WATER CONTENT FOR PLACING FILL MATERIAL.
2. REMOVE SEDIMENT, OUTLET MATERIALS, AND DEBRIS. DISPOSE IN ACCORDANCE WITH SPECIFICATION SECTION 01732.
3. PLACE SUITABLE FILL MATERIAL TO PROPOSED GRADE SHOWN IN ACCORDANCE WITH SECIFICATION SECTION 02200.
4. PLACE TOPSOIL, PERMANENT SEEDING, AND MULCH IN ACCORDANCE WITH HOWARD COUNTY STANDARDS ON DRAWING CE-14.

DETAIL 1 – EARTH DIKE



	DIKE A	DIKE B
a–DIKE HEIGHT	18"	30"
b–DIKE WIDTH	24"	36"
c–FLOW WIDTH	4'	6'
d–FLOW DEPTH	12"	24"

STANDARD SYMBOL A-2 B-3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

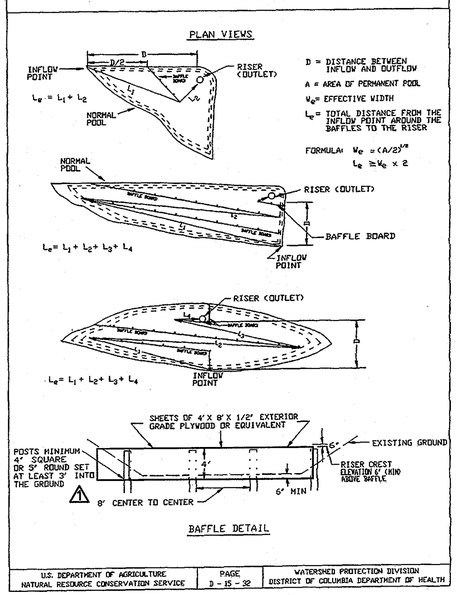
1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" – 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE A – 1 – 6 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEDIMENT TRAP BAFFLE BOARD



U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCE CONSERVATION SERVICE | PAGE D – 15 – 32 | WATERSHED PROTECTION DIVISION DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH

M:\360709-Howard County\ENR\03 Civil\ CE-15 Sediment Traps.dwg 05/14/09_19:23

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — VIRGINIA W. SCHAEFFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

ROBERT W SCHAEFFER

REGISTERED PROFESSIONAL ENGINEER

4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE 5/14/09

DES: AMS		
DRN: SLB		
CHK: LHH		
DATE: –	5/14/09 DATE	⚠1 REVISED PER HOWARD CO. SCD COMMENTS DATED APRIL 29, 2009 — REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-9B CIVIL

TEMPORARY SEDIMENT TRAP DETAILS AND RESTORATION PLAN

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 59 OF 611
CE-15
SDP SHEET 41 OF 52

SDP-00-094

HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG–LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

1. PREFERRED –– APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS/ACRE 10–10–10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS/ACRE 30–0–0 UREAFORM FERTILIZER (9 LBS/1000 SQ. FT.)

2. ACCEPTABLE –– APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS/ACRE 10–10–10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING –– FOR THE PERIODS MARCH 1 –– APRIL 30, AND AUGUST 1 –– OCTOBER 15, SEED WITH 60 LBS/ACRE (1.4 IBS/1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 –– JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS/ACRE (.05 LBS/1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 –– FEBRUARY 28, PROTECT SITE BY:

OPTION 1 –– TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING.
OPTION 2 –– USE SOD.
OPTION 3 –– SEED WITH 60 LBS/ACRE KENTUCKY 30 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING –– APPLY 1–1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING, ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/L000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (S GAL/1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE –– INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RE–DISTURBED WHERE A SHORT–TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: –– LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: –– APPLY 600 LBS/ACRE 10–10–10 FERTILIZER (14 LBS/1000 SQ. FT.).

SEEDING: –– FOR PERIODS MARCH 1 –– APRIL 30 AND FROM AUGUST 15 –– OCTOBER 15, SEED WITH 2–1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 IBS/1000 SQ. FT.). FOR THE PERIOD MAY 1 –– AUGUST 14, SEED WITH 3 LBS/ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 –– FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING –– APPLY 1–1/2 TO 2 TONS/ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED WEED–FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICA TIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

PERMANENT SEEDING SUMMARY

	SEEDING MIXTURE (FOR HARDINESS ZONE 6b) FROM MDE TABLE 25				FERTILIZER RATE (10–20–20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	
3	TALL FESCUE PERENNIAL RYE KENTUCKY BLUEGRASS	125 15 10	3/1 – 5/15 8/15 – 10/15	1/4 – 1/2	90 lb/ac (15 lb/ 1000 sf)	175 lb/ac (4 lb/ 1000 sf)	175 lb/ac (4 lb/ 1000 sf)	2 tons/ac (100 lb/ 1000 sf)
7	TALL FESCUE WEEPING LOVEGRASS SERECIA LESPEDEZA	110 3 20	3/1 – 10/15	1/4 – 1/2				

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313–1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE–DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1,
   B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

SEQUENCE OF CONSTRUCTION ACTIVITIES		APPROXIMATE TIME
PHASE I: SITE PREPARATION		**Total: 5 +/- Months**
1	Obtain Grading Permit	---
2	Stakeout the LOD for facility construction and manually install high-visibility orange fencing where the LOD borders wetland buffers and forested areas.	1 Week
3	Pre-Construction Meeting: Meet with Howard County DILP, Sediment Control Division prior to start of construction. See General Note 1.	---
4	Construct Stabilized Construction Entrances.	1 Week
5	Install tree protection.	Concurrent with 4
6	Install perimeter sediment control measures, including super silt fence, diversion fence, and sediment traps. County inspection required. See General Note 2.	2 Weeks
7	Install inlet protection for existing storm drain inlets.	Concurrent with 6
8	Clear and grub brush and small trees within limits of proposed work for new facilities.	2 Weeks
9	Strip and stockpile topsoil within limits of proposed work for new facilities.	Concurrent with 8
10	Rough grade new facility areas and construction roads.	4 Weeks
11	Install dewatering devices. A. All dewatering flow shall be run through a sediment filter bag or other dewatering device before discharging. B. Sediment filter bags shall be placed on undisturbed ground. C. Divert clear water from dewatering devices into the storm drainage system. No storm water or silt can be diverted to the wastewater treatment system.	Concurrent with 10
12	Demolish concrete swale at east side construction site (north of Filter Circle) to limits shown.	Concurrent with 10
13	Install new north (relocated) and east storm drain (SD) systems.	Concurrent with 10
14	Install inlet protection on new storm drain inlets immediately after installation.	Concurrent with 13
15	Demolish portion of existing north storm drainage system within area of new construction.	Following installation of north SD system
16	Stabilize disturbed areas outside of new structure construction areas with Permanent Seeding.	Concurrent with 13
17	Construct temporary construction access roads within areas of work.	Concurrent with 10
18	Install excavation support systems.	4 Weeks
19	Perform test pitting for utilities not found during nondestructive subsurface utility investigations.	Concurrent with 18
20	Begin structural excavations for new facilities.	8 Weeks / Concurrent with 18
21	Place suitable structural backfill within stockpile areas designated on the drawings. Excess and unsuitable shall be removed from site in accordance with specification Section 02200.	Concurrent with 20
22	Install dewatering devices in structural excavation areas. Notes 11A, 11B, and 11C apply.	Concurrent with 20
PHASE II: FACILITY CONSTRUCTION		**Total: 31+/- Months**
23	Finalize structural excavations.	1 Month
24	Construct new structure and building foundations.	6 Months
25	Continue construction of new structures and buildings.	24 Months
26	Place backfill around major structures.	Concurrent with 25
27	Install new yard piping and utilities.	Concurrent with 25
28	Complete final grading for new roads and paved areas. Stabilize with gravel.	1 Month
29	Install concrete pads, walkways, and curbing. Pave roadways.	Concurrent with 28
30	Complete final grading of entire site. Place topsoil and stabilize with Permanent Seeding.	1 Month
31	After the site is stabilized and with the approval of the County Sediment Control Inspector, remove all sediment control measures and install permanent vegetation on the disturbed areas.	1 Month

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES (CONTINUED)

7. SITE ANALYSIS FOR THIS PROJECT:

TOTAL AREA OF SITE	56.20 ACRES
TOTAL AREA DISTURBED	10.29 ACRES
TOTAL NEW AREA TO BE ROOFED OR PAVED	1.13 ACRES
TOTAL NEW AREA TO BE VEGETATIVELY STABILIZED	9.16 ACRES
TOTAL CUT	29,000± CU YDS
TOTAL FILL	15,000± CU YDS
OFFSITE WASTE/BORROW AREA LOCATION	14,000± CU YDS

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK–FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.

SEQUENCE OF CONSTRUCTION
GENERAL NOTES

1. PRECONSTRUCTION MEETING: NOTIFY THE DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS (DILP) [PHONE: 410-313-3800] AT LEAST 48 HOURS BEFORE COMMENSING WORK.
   A. STAKEOUT OF THE LIMIT OF DISTURBANCE (LOD) AND INSTALLATION OF HIGH-VISIBILITY ORANGE FENCE THE LOD BORDERING WETLAND BUFFERS AND FORESTED AREAS SHALL BE COMPLETED BY AND INSPECTED AT THE PRECONSTRUCTION MEETING.
   B. WORK SHALL NOT COMMENSE UNTIL ALL PERMITS HAVE BEEN ACQUIRED AND RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS.
2. CONSTRUCT ALL SEDIMENT AND EROSION CONTROL MEARSURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE. ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES. OBTAIN APPROVAL OF ANY CHANGES TO THE SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.
3. NOTIFY THE COUNTY SEDIMENT CONTROL INSPECTOR UPON COMPLETE INSTALLATION OF SEDIMENT AND EROSION CONTROL MEARSURES AND OBTAIN APPROVAL. ADJUST AND/OR ADD SEDIMENT CONTROL DEVICES AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR.
4. INSPECT ALL EROSION AND SEDIMENT CONTROL MEASURES DAILY AND AFTER RAINFALL EVENTS. MAKE ANY NEEDED REPAIRS IMMEDIATELY.
5. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION UNTIL SUCH TIME AS THEY CAN BE REMOVED WITH PRIOR PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
6. TAKE PRECAUTIONS TO PREVENT DISTUBANCE OF EXISTING VEGETATED AREAS OUTSIDE OF THE LOD. ANY EXISTING VEGETATED AREA DISTURBED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE STABILIZED BY THE END OF THE WORK DAY.
7. PLACE TOPSOIL AND SUITABLE EXCAVATED MATERIAL FOR BACKFILL IN STOCKPILE AREAS SHOWN ON THE DRAWINGS. IMMEDIATELY REMOVE ALL UNSUITABLE OR EXCESS MATERIALS FROM SITE. PROVIDE AND MAINTAIN SEDIMENT CONTROLS FOR ALL STOCKPILE AREAS.
8. PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. REMOVE ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS IMMEDIATELY.
9. CLEAN ALL DIRT AND MUD OFF THE PLANT ROADWAYS BY THE END OF EACH WORK DAY.
10. PLACE TEMPORARY SEEDING ON ANY DISTURBED AREA WHICH WILL NOT BE BROUGHT TO FINAL GRADE WITHIN 7 DAYS. IN PAVED AREAS, STABILIZE WITH CR-6 STONE; SAME DAY STABILIZATION REQUIRED.
11. EXCAVATION AND INSTALLATION OF BURIED PIPING AND UTILITIES:
   A. PLACE EXCAVATED MATERIAL ON THE UPHILL SIDE OF THE TRENCH.
   B. AS THE PIPE OR UTILITIY IS INSTALLED, BACKFILL THE TRENCH AND STABILIZE THE AREA DISTURBED. EXCAVATE ONLY FOR THAT AMOUNT OF WORK THAT CAN BE INSTALLED, BACKFILLED, AND STABILIZED IN ON DAY IN ACCORDANCE WITH THE COUNTY STANDARD SEDIMENT CONTROL NOTE 11.
   C. IF THE TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, PLACE SILT FENCE ON THE DOWNSTREAM SIDE OF TRENCH FOR FULL LENGTH OF UNSTABILIZED DISTURBED AREA.
12. INSTALL SUPER SILT FENCE INLET PROTECTION (SSIP) ON THE FOLLOWING INLETS:

STRUCTURE NO.	DRAINAGE AREA	AREA DISTURBED
I–7N–5	6.9± ACS	0.8± ACS
I–4A–1	2.4± ACS	1.8± ACS
I–7N–3	0.3± ACS	0.2± ACS
I–4–8	0.4± ACS	0.2± ACS
I–4A–2	0.4± ACS	0.1± ACS
I–4A–3	0.3± ACS	0.0± ACS
I–4–6	1.4± ACS	0.3± ACS
I–7N–11	0.4± ACS	0.2± ACS
I–4–5	0.4± ACS	0.4± ACS
I–7N–1	1.4± ACS	0.4± ACS
I–7E–5	0.3± ACS	0.3± ACS

Approved by HSCD 5/19/09 John M. Robertson

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DIRECTOR, DEP. — DATE: 5/22/09
CHIEF, DIVISION OF LAND DEVELOPMENT BB — DATE: 5/20/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5-27-9

ENGINEER'S 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."

Aurora M Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210–6800
FAX: (301) 210–4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348–2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — DANIEL W. WARD — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  – ADDITION NO. 6: SUBTRACT 0.66 FT
  – PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — 5/18/09 — DATE

DES: AMS
DRN: KEG
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-10A
CIVIL

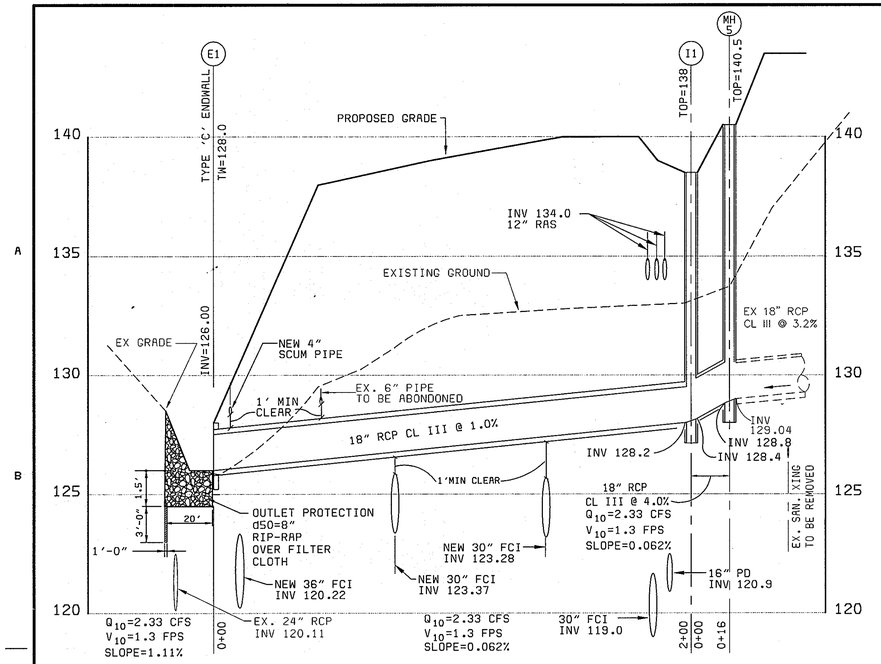
EROSION AND SEDIMENT CONTROL NOTES

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S–6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60–4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 58 OF 611
CE-14
SDP SHEET 42 OF 52

SDP-00-094

M:\380709–Howard County\ENR\03 Civil\ CE–14 Notes.dwg 05/18/09_11:47



STORM DRAIN PROFILE **EXISTING PIPE** ⚠

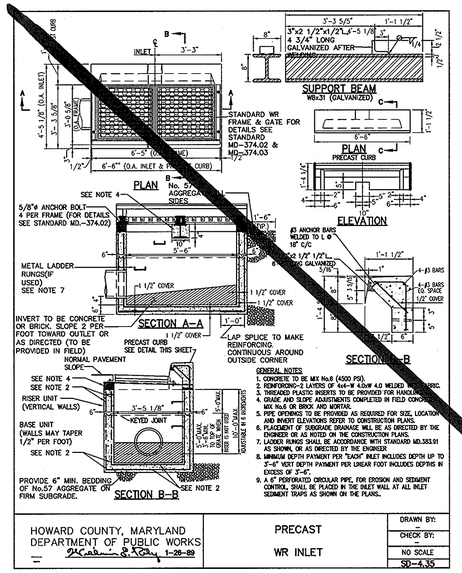
SCALE: 1"=30' HORIZONTAL
1"= 3' VERTICAL

STRUCTURE SCHEDULE

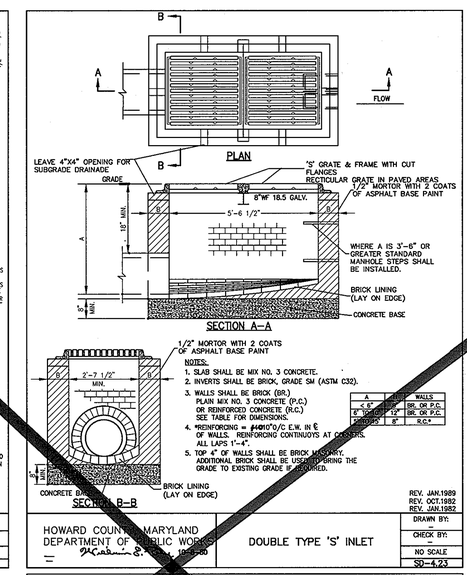
No.	STRUCTURE	INVERT IN	INVERT OUT	TOP ELEV.	REMARKS
I1	INLET (WR FRAME GRATE)	128.4	129.20	138.00	Ho. Co. SD-4.23
I2	INLET	120.97	120.87	127.00	Ho. Co. SD-4.35
MH1	MANHOLE	120.40	120.40	131.0	Ho. Co. G5.12
MH2	MANHOLE	121.32	121.22	129.0	Ho. Co. G5.12
MH3	MANHOLE	122.20	122.10	140.00	Ho. Co. G5.12
MH4	MANHOLE	122.76	122.76	142.40	Ho. Co. G5.12
MH5	MANHOLE		128.8	140.50	Ho. Co. G5.12
E-1	ENDWALL	-	126.0	-	Ho. Co. SD-5.21
MH7	MANHOLE	132.68±	132.68±	140.56±	Ho. Co. G5.12

PIPE SCHEDULE

MH5 TO I1	18" RCP CL III	35 LF
I1 TO E-1	18" RCP CL III	180 LF
MH7 TO E-2	15" RCP CL III	130 LF
MH4 TO MH3	24" RCP CL III	57 LF
MH3 TO MH2	24" RCP CL III	76 LF
MH2 TO I2	24" RCP CL III	27 LF
I2 TO MH1	24" RCP CL III	25 LF



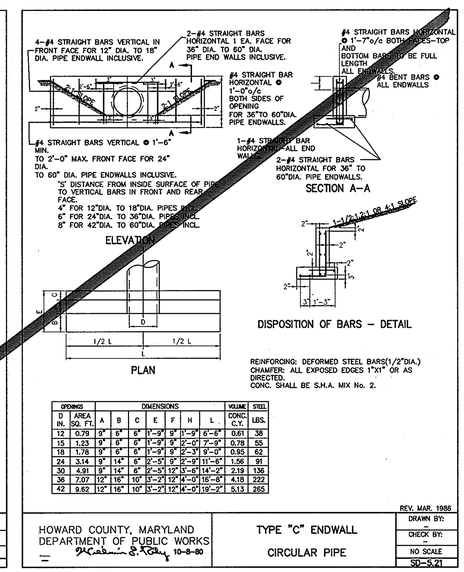
HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS	PRECAST WR INLET	DRAWN BY:
		CHECK BY:
		NO SCALE
		SD-4.35



A	WALLS
< 6'	BR. OR P.C.
6' THRU 12'	BR. OR P.C.
OVER 12'	R.C.*
FLOOR	8" R.C.*

REV. JAN.1989
REV. OCT.1982
REV. JAN.1982

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS	DOUBLE TYPE 'S' INLET	DRAWN BY:
		CHECK BY:
		NO SCALE
		SD-4.23



OPENINGS		DIMENSIONS							VOLUME	STEEL
D IN.	AREA SQ. FT.	A	B	C	E	F	H	L	CONC. C.Y.	LBS.
12	0.79	9"	6"	6"	1'-9"	9"	1'-9"	6'-8"	0.61	38
15	1.23	9"	6"	6"	1'-9"	9"	2'-0"	7'-0"	0.78	55
18	1.78	9"	6"	6"	1'-9"	9"	2'-3"	7'-3"	0.95	62
24	3.14	9"	14"	6"	2'-3"	9"	2'-9"	11'-8"	1.56	91
30	4.91	9"	14"	6"	2'-9"	9"	3'-3"	14'-2"	2.19	136
36	7.07	12"	16"	10"	3'-2"	12"	4'-0"	16'-8"	4.18	222
42	9.62	12"	16"	10"	3'-2"	12"	4'-0"	19'-2"	5.13	265

REV. MAR. 1986

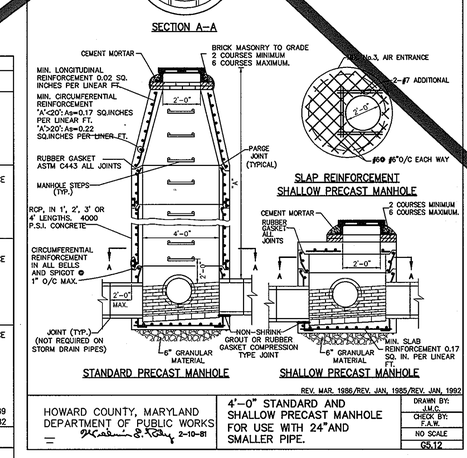
HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS	TYPE "C" ENDWALL CIRCULAR PIPE	DRAWN BY:
		CHECK BY:
		NO SCALE
		SD-5.21

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS: FULL DEPTH BIT. CONC. ALTERNATE	PAVEMENT MATERIALS: GRANULAR BASE ALTERNATES
P-1	PARKING BAYS APARTMENT AND COMMERICAL-INDUSTRIAL ZONES WITH NO HEAVY TRUCKS TRAVELWAYES FOR APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH NO HEAVY TRUCKS	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE	1" BIT. CONC. SURFACE 2" BIT. CONC. BASE 4" GRADED AGGREGATE BASE (GAB)
P-2	RESIDENTIAL ZONES LOCAL CUL-DE-SAC STS. ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS. TRAVELWAYES APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH MORE THAN 10 HEAVY TRUCKS PER DAY*	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 6" GRADED AGGREGATE BASE (GAB)
P-3	RESIDENTIAL ZONES MINOR AND MAJOR COLLECTORS COMMERCIAL-INDUSTRIAL ZONES LOCAL CUL-DE-SAC STREETS ALLEYS TRAVELWAYES APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH MORE THAN 10 HEAVY TRUCKS PER DAY*	1 1/2" BIT. CONC. SURFACE 1 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 4 1/2" BIT. CONC. BASE 5" GRADED AGGREGATE BASE (GAB)
P-4	COMMERCIAL-INDUSTRIAL ZONES MINOR COLLECTOR	1 1/2" BIT. CONC. SURFACE 3 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 1 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE 4" GRADED AGGREGATE BASE (GAB)

*TRAVELWAYS ARE DEFINED AS THE ROADWAYS LEADING TO THE PARKING BAYS.
*HEAVY TRUCKS ARE DEFINED AS THOSE WITH 6 WHEEL OR MORE INCLUDING GARBAGE TRUCKS.

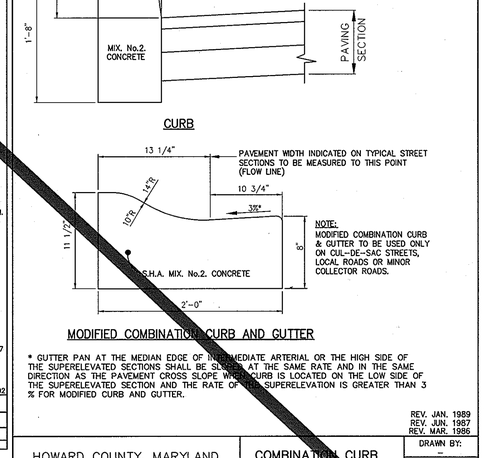
REV. JAN. 1989
REV. OCT. 1990 REV. JAN. 1992

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS	PAVING SECTIONS P-1 THROUGH P-4	DRAWN BY: -
		CHECK BY: -
		NO SCALE
		R-2.01



REV. MAR. 1986/REV. JAN. 1985/REV. JAN. 1992

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS	4'-0" STANDARD AND SHALLOW PRECAST MANHOLE FOR USE WITH 24"AND SMALLER PIPE.	DRAWN BY: J.M.C.
		CHECK BY: F.A.W.
		NO SCALE
		G5.12

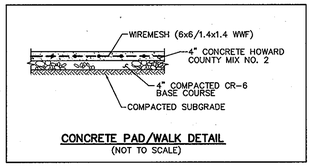


* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIAL OR THE HIGH SIDE OF THE SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT CROSS SLOPE WHERE CURB IS LOCATED ON THE LOW SIDE OF THE SUPERELEVATED SECTION AND THE RATE OF THE SUPERELEVATION IS GREATER THAN 3 % FOR MODIFIED CURB AND GUTTER.

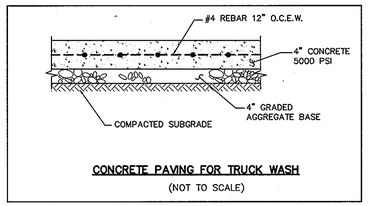
REV. JAN. 1989
REV. JUN. 1987
REV. MAR. 1986

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS	COMBINATION CURB AND GUTTER	DRAWN BY:
		CHECK BY: -
		NO SCALE
		R-301

FOR REV. 1 ONLY



CONCRETE PAD/WALK DETAIL
(NOT TO SCALE)



CONCRETE PAVING FOR TRUCK WASH
(NOT TO SCALE)

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 6/7/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 6/20/00
DIRECTOR	DATE: 6/21/00

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert J. Bauman 5-26-00
CHIEF, BUREAU OF UTILITIES DATE

A. MORTONTHOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL: (301) 881-2545 FAX (301) 881-0814
E-MAIL JBYRNE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland

REG. PROF. ENGR. 5/22/00 DATE

5/23/00

DES: AR
DRN: REA
CHK: JB
DATE: 05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
4-10-09	DELETED DETAILS AND REVISED SHEET NUMBER PER REDLINE REVISION 10.	1			

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148

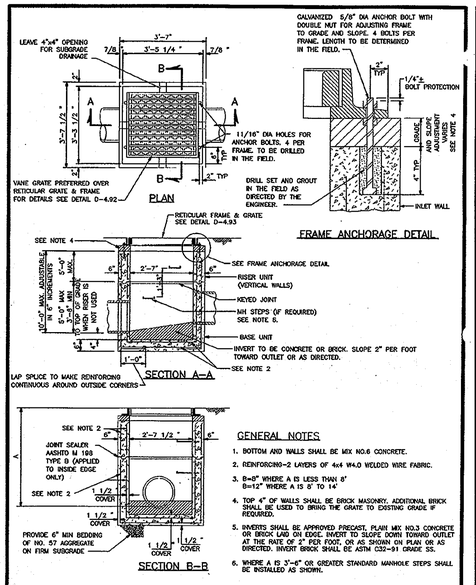
STORM SEWER PROFILE AND SITE DETAILS

LITTLE PATUXENT WATER RECLAMATION PLANT ADDITION NO. 6
PARCEL "A"
CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
⚠1 SHEET 43 OF 52
C-11

SDP 00-97

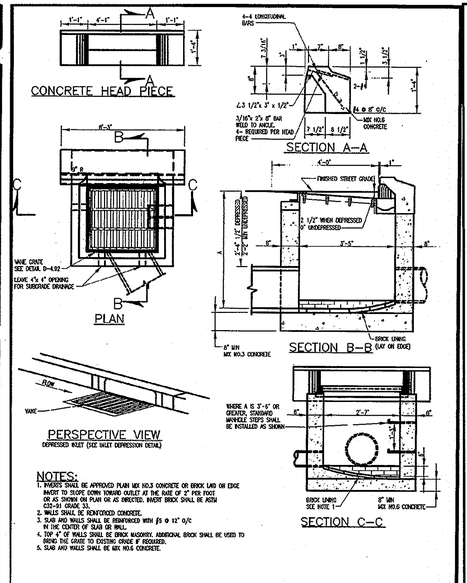
DS8472
PS8472A



GENERAL NOTES

1. BOTTOM AND WALLS SHALL BE MIX NO.6 CONCRETE.
2. REINFORCING-2 LAYERS OF 4x4 W4.0 WELDED WIRE FABRIC.
3. B=6" WHERE A IS LESS THAN 8' B=12" WHERE A IS 8' TO 14'
4. TOP 4" OF WALLS SHALL BE BRICK MASONRY, ADDITIONAL BRICK SHALL BE USED TO BRING THE GRATE TO EXISTING GRADE IF REQUIRED.
5. INVERTS SHALL BE APPROVED PRECAST, PLAIN MIX NO.3 CONCRETE OR BRICK LAID ON EDGE. INVERT TO SLOPE DOWN TOWARD OUTLET AT THE RATE OF 2" PER FOOT, OR AS SHOWN ON PLAN OR AS DIRECTED. INVERT BRICK SHALL BE ASTM C32-91 GRADE SS.
6. WHERE A IS 3'-6" OR GREATER STANDARD MANHOLE STEPS SHALL BE INSTALLED AS SHOWN.

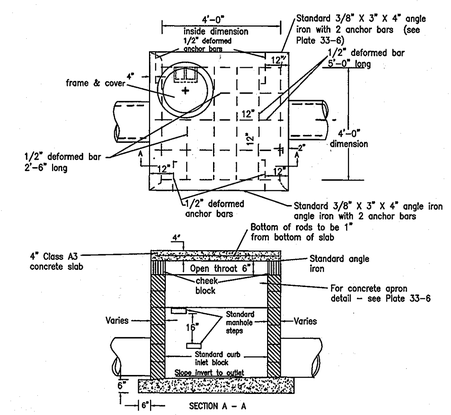
Revised	Howard County, Maryland Department of Public Works	Type 'S' Inlet	Detail D-4.22
Revised 5/7/2007 Approved	Approved: Chief, Bureau of Engineering		



NOTES:

1. INVERTS SHALL BE APPROVED PLAIN MIX NO.3 CONCRETE OR BRICK LAID ON EDGE INVERT TO SLOPE DOWN TOWARD OUTLET AT THE RATE OF 2" PER FOOT OR AS SHOWN ON PLAN OR AS DIRECTED. INVERT BRICK SHALL BE ASTM C32-91 GRADE SS.
2. WALLS SHALL BE REINFORCED CONCRETE.
3. SLAB AND WALLS SHALL BE REINFORCED WITH #5 @ 12" O/C IN THE CENTER OF SLAB OR WALL.
4. TOP 4" OF WALLS SHALL BE BRICK MASONRY, ADDITIONAL BRICK SHALL BE USED TO BRING THE GRATE TO EXISTING GRADE IF REQUIRED.
5. SLAB AND WALLS SHALL BE MIX NO.6 CONCRETE.

Revised	Howard County, Maryland Department of Public Works	Type 'S' Combination Inlet	Detail D-4.32
Revised 5/7/2007 Approved	Approved: Chief, Bureau of Engineering		



Yard inlets deeper than 4'-0" shall have steps placed as shown.

Dimensions of yard inlets shown are for pipe sizes up to and including 33" pipe, while providing a minimum of 6" clearance when possible from inside wall of structure to OD of pipe. Inlets for pipes greater than 36" shall require a special design.

Symmetrical channels shall be formed in the invert of the box from the inlet pipe to the outlet pipe. Increase the horizontal depth and pave invert of yard inlets for skewed pipe as directed by the inspector.

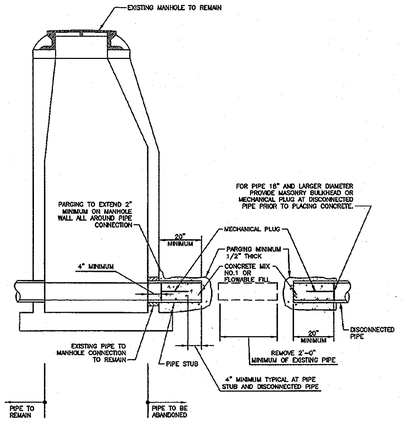
Provide 3/8" X 3" X 4" angle iron for full length of throat unless it is precast. The 4" flange of angle iron shall be vertical and showing on face of yard inlet. Angle iron shall be painted with black asphaltum paint.

The inside and outside walls, as they are laid, shall be plastered with mortar a minimum of 1/2" thick when construction of block.

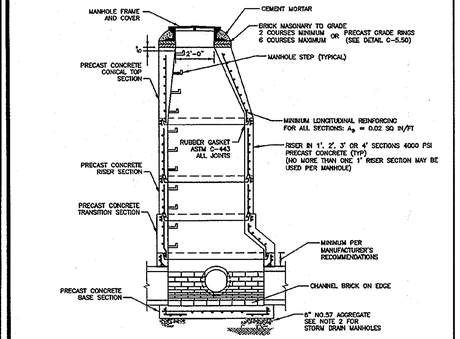
STANDARD YARD INLET

NOTES:

1. FOR SEWERS 15" AND SMALLER DIAMETER, DISCONNECT SEWER AS SHOWN. INSERT MECHANICAL PLUGS, PLACE CONCRETE, PARGING AND COAT WITH TWO COATS OF ASPHALT-BASED COATING.
2. FOR SEWER 18" AND LARGER DIAMETER SAME AS 15" AND SMALLER EXCEPT MASONRY BULKHEAD MAY BE SUBSTITUTED FOR MECHANICAL PLUG.
3. RESHAPE AND FILL EXISTING CHANNEL AS NECESSARY TO PROVIDE SMOOTH CONTOUR BETWEEN INCOMING AND OUTGOING PIPES.



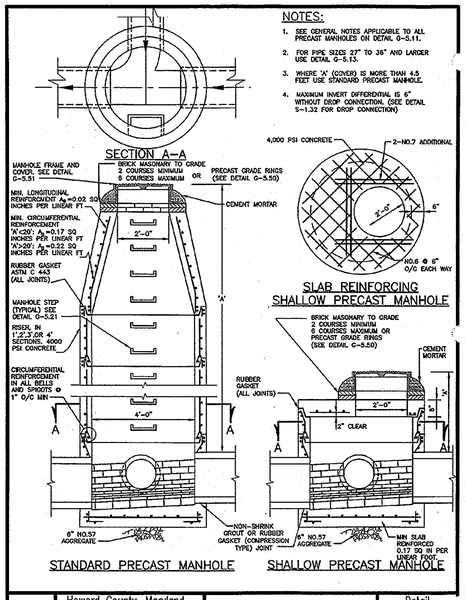
Revised	Howard County, Maryland Department of Public Works	Abandonment Pipe at Manhole	Detail E-3.02
Revised 5/7/2007 Approved	Approved: Chief, Bureau of Engineering		

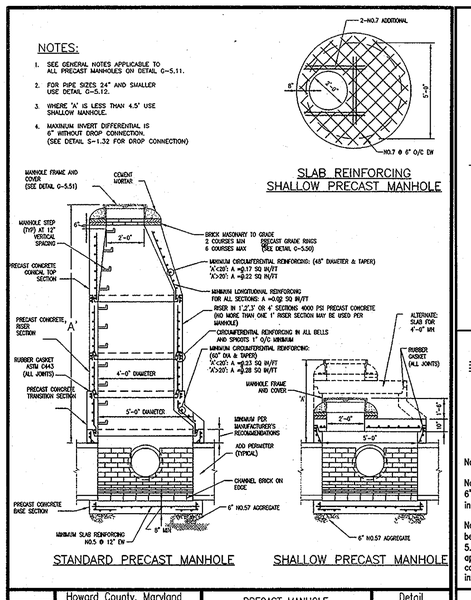


GENERAL NOTES APPLICABLE TO ALL PRECAST MANHOLES

1. MANHOLE BASE SECTION SHALL BE BEDDED ON 6-INCH NO.57 AGGREGATE ON FIRM SUBGRADE.
2. NO.57 AGGREGATE MATERIAL SHALL BE EXTENDED FROM 6-INCHES UNDERNEATH BOTTOM OF STRUCTURE TO SUBGRADE (STORM ONLY).
3. CONNECTION BETWEEN MANHOLE WALL AND SEWER SHALL BE NON-SHRINK GROUT (STORM) OR COMPRESSION TYPE RUBBER GASKET (SANITARY SEWER).
4. MANHOLE STEPS SHALL BE AS INDICATED ON DETAIL G-5.21.
5. MANHOLE COVER SHALL BE AS SPECIFIED ON DETAIL G-5.51, G-5.52, & G-5.53.
6. PROVIDE TWO APPLICATIONS OF BITUMINOUS MATERIAL (MINIMUM 16 MILS DFT) COATING ON EXTERIOR SURFACE OF MANHOLES (SANITARY SEWER ONLY).
7. MANHOLE CHANNELS SHALL BE FORMED TO PROVIDE A SMOOTH HYDRAULIC TRANSITION BETWEEN PIPES. BENCH SHALL BE TO TOP OF PIPE OR AS SHOWN ON CONTRACT DOCUMENTS. MANHOLE CHANNEL AND BENCH SHALL BE PRECAST OR FORMED FROM SEWER BRICK SET ON EDGE.
8. MANHOLE SHALL BE IN ACCORDANCE WITH ASTM C-478 EXCEPT AS INDICATED.
9. MAXIMUM INVERT DIFFERENTIAL IS 0 INCHES WITHOUT A DROP CONNECTION. SEE DETAIL S-1.32 FOR DROP CONNECTION DETAILS.
10. THE MINIMUM DISTANCE BETWEEN PIPE OPENINGS IN THE WALL OF THE MANHOLE SHALL BE 12 INCHES.
11. A MINIMUM OF 4" SHALL BE PROVIDED BETWEEN MANHOLE FLOOR AND LOWEST PIPE INVERT.
12. PRECAST RINGS MAY BE SUPPLIED IN PLACE OF BRICK MASONRY COURSES. SEE DETAIL C-5.60.
13. MANHOLE INTERMEDIATE LANDINGS SHALL BE AS INDICATED ON DETAIL G-5.18.

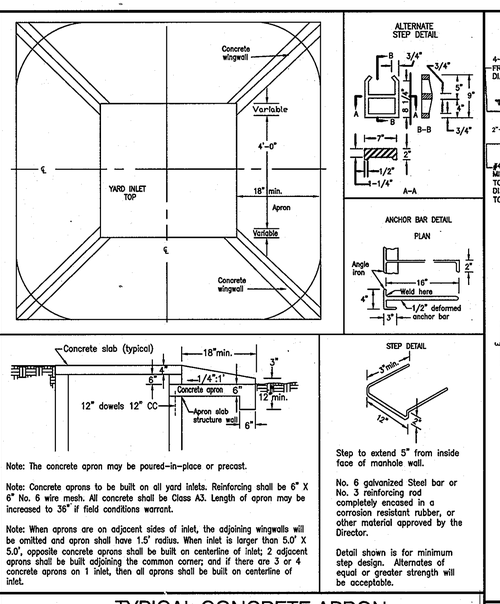
Revised	Howard County, Maryland Department of Public Works	PRECAST MANHOLE Notes	Detail G-5.11
Revised 5/7/2007 Approved	Approved: Chief, Bureau of Engineering		





Revised	Howard County, Maryland Department of Public Works	PRECAST MANHOLE Standard and Shallow 4'-0" for 24" Pipe and smaller	Detail G-5.12
Revised 5/7/2007 Approved	Approved: Chief, Bureau of Engineering		

Revised	Howard County, Maryland Department of Public Works	PRECAST MANHOLE Standard and Shallow 5'-0" for 27" to 36" Pipe	Detail G-5.13
Revised 5/7/2007 Approved	Approved: Chief, Bureau of Engineering		



Note: The concrete apron may be poured-in-place or precast.

Note: Concrete aprons to be built on all yard inlets. Reinforcing shall be 6" X 6" No. 6 wire mesh. All concrete shall be Class A3. Length of apron may be increased to 36" if field conditions warrant.

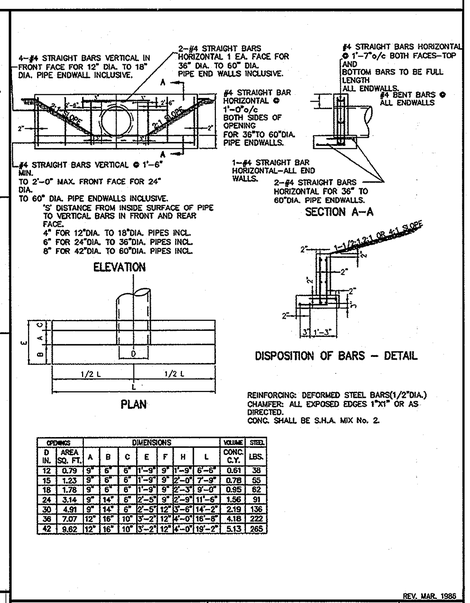
Note: When aprons are on adjacent sides of inlet, the adjoining wingwalls will be omitted and apron shall have 1.5' radius. When inlet is larger than 5.0' X 5.0', opposite concrete aprons shall be built on centerline of inlet; 2 adjacent aprons shall be built adjoining the common corner; and if there are 3 or 4 concrete aprons on 1 inlet, then all aprons shall be built on centerline of inlet.

Step to extend 5" from inside face of manhole wall.

No. 6 galvanized Steel bar or No. 3 reinforcing rod completely encased in a corrosion resistant rubber, or other material approved by the Director.

Detail shown is for minimum step design. Alternates of equal or greater strength will be acceptable.

TYPICAL CONCRETE APRON FOR YARD INLETS



OPENINGS D IN.	AREA SQ. FT.	DIMENSIONS A	B	C	E	F	H	L	VOLUME CONC. C.Y.	STEEL LBS.
12	0.79	9"	6"	6"	1'-9"	9"	1'-9"	6'-6"	0.61	38
15	1.23	9"	6"	6"	1'-9"	9"	2'-0"	7'-0"	0.78	60
18	1.76	9"	6"	6"	1'-9"	9"	2'-3"	8'-0"	0.95	82
24	3.14	9"	14"	6"	2'-3"	9"	2'-9"	11'-6"	1.56	91
30	4.91	9"	14"	6"	2'-3"	12"	3'-3"	14'-2"	2.19	136
36	7.07	12"	16"	10"	3'-2"	12"	4'-0"	16'-8"	4.18	222
42	9.62	12"	16"	10"	3'-2"	12"	4'-0"	19'-2"	5.13	265

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS	TYPE "C" ENDWALL CIRCULAR PIPE	REV. MAR. 1986 DRAWN BY: – CHECK BY: NO SCALE SD-5.21

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE: 5/28/09

ENGINEER'S 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."

Donna M Schaefer — 5/10/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

Donna M Schaefer

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."

Daniel Ward — 5/19/09

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

Daniel Ward

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — DONNA MARIE SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

Donna M Schaefer

REGISTERED PROFESSIONAL ENGINEER

4/20/09 — PBS&J

DATE — FIRM

NOTICE TO CONTRACTORS

- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/14/09 DATE

DES: AMS			
DRN: KEG			
CHK: LHH			
DATE: –	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-11A
CIVIL

STORM SEWER AND SITE DETAILS

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4672

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

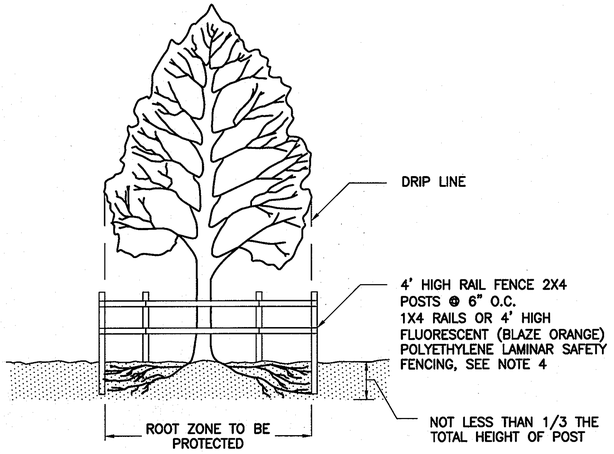
CAPITAL PROJECT NO. S-62451.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 94 OF 611
CM-1
SDP SHEET 44 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CM-01 Storm Sewer and Site Details.dwg 05/14/09_20:02



HEAVY MIL PLASTIC. DARK LETTERING ON A BRIGHT BACKGROUND

TREE PROTECTION AREA
CAUTION DO NOT ENTER

4" MIN.

(CONTINUOUS)

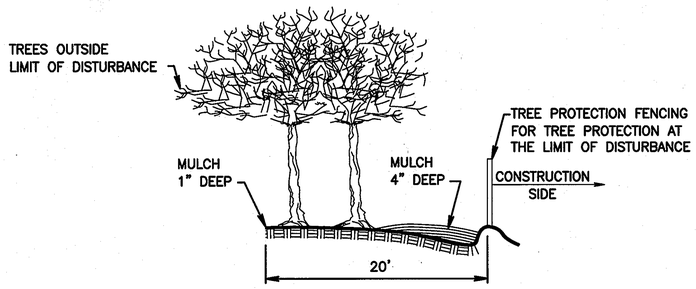
NOTES:

1. PROVIDE PROTECTION FENCE FOR ALL TREES GREATER THAN OR EQUAL TO 6" DIAMETER AND DESIGNATED TO REMAIN OR AS SHOWN ON THE DRAWINGS. RAIL FENCE SHALL BE LOCATED AT THE OUTER PERIMETER OF THE SPREAD OF THE BRANCHES, EXCEPT WHERE SHOWN ON THE DRAWINGS.
2. TREE PROTECTION FENCES SHALL BE PLACED PRIOR TO BEGINNING CONSTRUCTION. PROTECTION SIGNAGE IS REQUIRED.
3. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
4. USE 8" WIRE "U" TO SECURE POLYETHYLENE SAFETY FENCING AT EACH POST, TOP AND BOTTOM.

TREE PROTECTION DETAIL

NTS

C-001

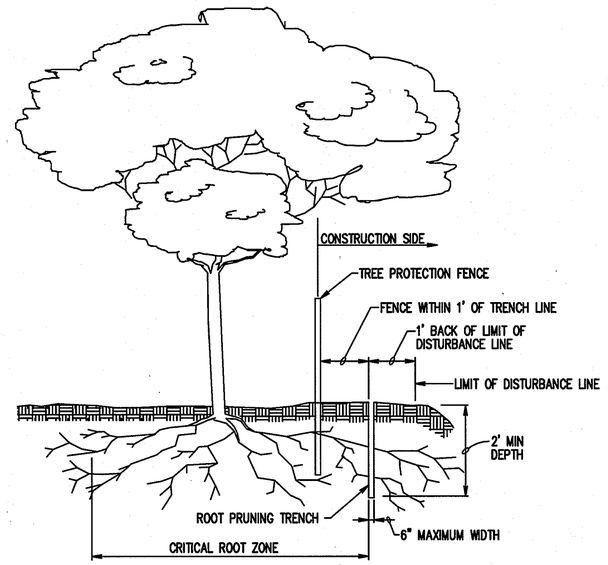


NOTE:
ONLY MULCH AREAS WITH EXISTING TREES OUTSIDE OF THE LIMIT OF DISTURBANCE AND WITHIN 20' OF THE BLAZE ORANGE FENCING. MULCH ONLY ON PROPERTY WHERE PERMISSION HAS BEEN OBTAINED PRIOR TO START OF WORK.

EXISTING TREE MULCHING DETAIL

NTS

C-002



NOTES:

1. EXACT LOCATION OF ROOT PRUNING TRENCH SHALL BE IDENTIFIED AND FLAGGED.
2. ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
3. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR OTHER HIGH ORGANIC SOIL.

ROOT PRUNING DETAIL

NTS

C-003

TREE CONSERVATION NOTES

PRE-CONSTRUCTION ACTIVITIES

A. LOCATE THE LIMITS OF DISTURBANCE (LOD) IN THE FIELD PRIOR TO ANY CONSTRUCTION ACTIVITIES, THEN INSTALL LOD TREE PROTECTION FENCING ALONG THE LOD AS DIRECTED AND / OR SHOWN ON THE DRAWINGS.
   1. PLACE LIMITS OF DISTURBANCE OUTSIDE OF CRITICAL ROOT ZONES OF TREES TO BE PRESERVED WHEREVER POSSIBLE.
   2. IF LESS THAN 30% OF THE CRITICAL ROOT ZONE FOR SPECIMEN TREES IS AFFECTED BY CONSTRUCTION ACTIVITIES, PRUNE THE TREE ROOTS FOR STRESS REDUCTION (SEE PRUNING DETAIL).
B. TREE PROTECTION FENCING:
   1. PLACE BLAZE ORANGE FENCING ON ALL LIMITS OF DISTURBANCE AND AS INDICATED ON THE DRAWINGS.
   2. ALL FENCING SHALL BE INSTALLED PRIOR TO CONSTRUCTION ACTIVITIES.
   3. FIRMLY ANCHOR FENCING AT SPACING NO GREATER THAN SIX FEET AND CONSTRUCTED IN A MANNER THAT PRECLUDES SAGGING.
   4. ALL FENCING SHALL BE MAINTAINED IN GOOD CONDITION AND PROMPTLY REPAIRED OR RESTORED AS CONDITIONS WARRANT FOR PROTECTION OF THE ADJACENT WOODLANDS.
   5. FOR SPECIMEN TREES AFFECTED BY CONSTRUCTION ACTIVITY, PLACE TREE PROTECTION FENCING PER THE ROOT PRUNING DETAIL.
C. SIMULTANEOUS WITH CLEARING, THE FOLLOWING STEPS SHALL BE UNDERTAKEN TO REDUCE STRESS TO EXISTING TREES TO REMAIN:
   1. FERTILIZE TREES WITHIN 20 FEET OF THE LIMIT OF DISTURBANCE. OBTAIN INFORMATION REGARDING APPROPRIATE FERTILIZING AND APPLICATION RATES FROM THE CLEMSON AGRICULTURAL EXTENSION OFFICE. APPLY FERTILIZER TO THE ENTIRE CRITICAL ROOT ZONE UP TO THE TREE PROTECTION FENCING.
   2. FERTILIZER SHOULD BE AT LEAST 50 PERCENT SLOW RELEASE NITROGEN AND CONTAIN OTHER ESSENTIAL ELEMENTS AND MICRO-NUTRIENTS.
   3. WATER CRITICAL ROOT ZONE IMMEDIATELY AFTER APPLYING FERTILIZER TO SATURATE THE TOP 6 INCHES OF SOIL.
   4. A MULCH, 1 TO 4 INCHES DEEP COMPRISED OF WOOD CHIPS OR SHREDDED BARK OR LEAVES, SHALL BE APPLIED IN THE CRITICAL ROOT ZONE ADJACENT TO THE TREE PROTECTION FENCING (SEE EXISTING TREE MULCHING DETAIL).

CONSTRUCTION PHASE

A. EXCAVATED AND BACKFILL MATERIAL SHALL NOT BE PLACED OR SIDE CAST WITHIN THE CRITICAL ROOT ZONES OF TREES TO BE PROTECTED.
B. CONSTRUCTION EQUIPMENT SHALL NOT BE DRIVEN INTO OR THROUGH PROTECTED TREES, NOR SHALL SWINGING CRANES OR BACKHOES BE ALLOWED IN THEIR CANOPIES.
C. THERE SHALL BE NO STACKING OR STORING SUPPLIES WITHIN THE CRITICAL ROOT ZONES OF TREES TO BE PROTECTED.
D. TREES TO BE REMOVED SHALL BE TAKEN OUT WITHOUT DAMAGING PROTECTED TREES.
E. ALL GRADING SHALL TAKE PLACE OUTSIDE OF THE CRITICAL ROOT ZONE OF THE TREES TO BE PROTECTED.
F. ALL EQUIPMENT SHALL BE KEPT INSIDE THE TREE PROTECTION FENCING AND WITHIN THE LIMITS OF DISTURBANCE.
G. N THE EVENT OF DROUGHT, THE PROTECTED TREES SHALL BE MONITORED FOR SIGNS OF STRESS AND WATERED AS NEEDED.

POST-CONSTRUCTION ACTIVITIES

A. IN THE EVENT OF TREE DAMAGE DUE TO CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL RETAIN A CERTIFIED TREE EXPERT, LANDSCAPE ARCHITECT, FORESTER OR ARBORIST TO DEVELOP A TREE REPAIR PLAN. THE TREE REPAIR PLAN MUST BE SUBMITTED TO THE COUNTY PROJECT MANAGER OR DESIGNEE.
B. REMEDIAL PROCEDURES SHALL BE IN ACCORDANCE WITH STANDARD PRACTICES TO BE APPROVED BY THE COUNTY PROJECT MANAGER OR DESIGNEE.
C. IRREPARABLE DAMAGE IN TREE PROTECTION ZONES WILL BE SUBJECT TO REPLACEMENT IN KIND AND SIMILAR SIZE, AND WILL BE DETERMINED BY THE COUNTY PROJECT MANAGER OR DESIGNEE.

ENGINEER'S 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."

RUSSELL M SCHAEFER — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5/27/09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/28/09
DIRECTOR, DEP.	DATE: 5/28/09

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — RUSSELL M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

RUSSELL M SCHAEFER
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS			
DRN: KEG			
CHK: LHH			
DATE: -	DATE	REVISIONS AND RECORD OF ISSUE	

HOWARD COUNTY SDP SHEET C-11B
CIVIL

TREE PROTECTION DETAILS

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

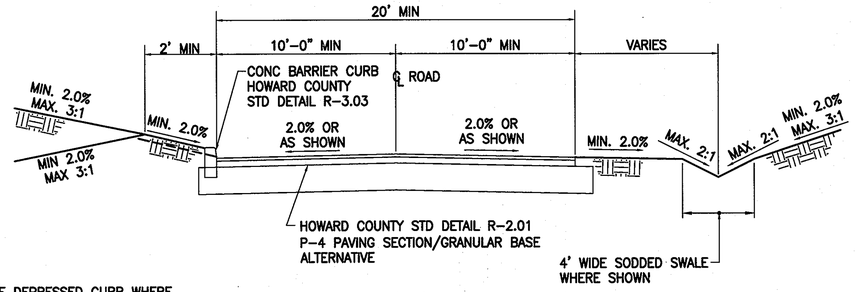
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 10000162
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 95 OF 611
CM-2
SDP SHEET 45 OF 52

SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CM-02 Tree Protection.dwg 05/14/09 20:01

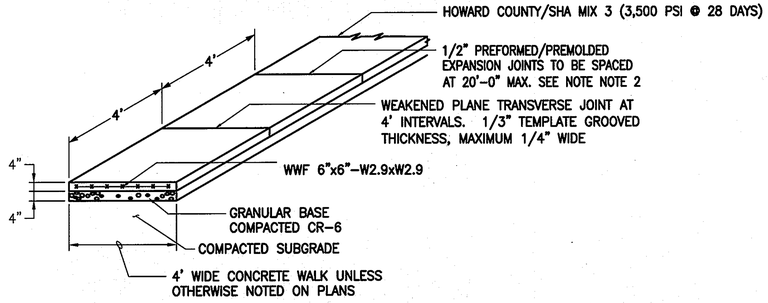


NOTES:
PROVIDE DEPRESSED CURB WHERE SHOWN ON THE DRAWINGS, MINIMUM LENGTH OF CURB TRANSITIONS SHALL BE 2 FEET.

ROAD SECTION

SCALE: 1/4" = 1'-0"

C-011



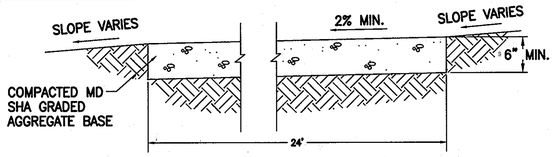
NOTES:

1. PROVIDE 1/2" PREFORMED/PREMOLDED EXPANSION JOINT MATERIAL IN LOCATIONS WHERE CONCRETE SIDEWALKS MEET STRUCTURAL SLABS, CURBS, WALLS, OR WHERE SIDEWALKS ARE NOT SLOPED FOR POSITIVE DRAINAGE.
2. SET PREFORMED/PREMOLDED EXPANSION JOINT MATERIAL ½" BELOW SURFACE. FILL GAP WITH JOINT SEALER COMPOUND.

SIDEWALK AND CONCRETE PAD DETAIL

NTS

C-013

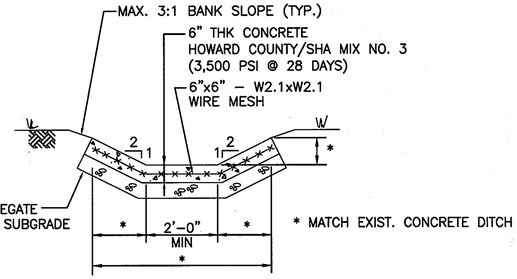


MAXIMUM LONGITUDINAL ROADWAY SLOPE SHALL BE 8%

CONSTRUCTION ACCESS ROAD SECTION

NTS

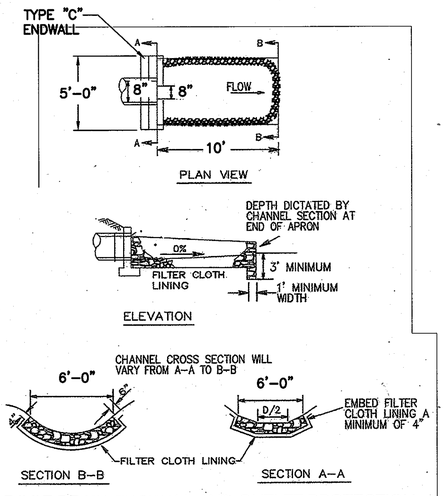
C-012



CONCRETE DITCH REPLACEMENT

NTS

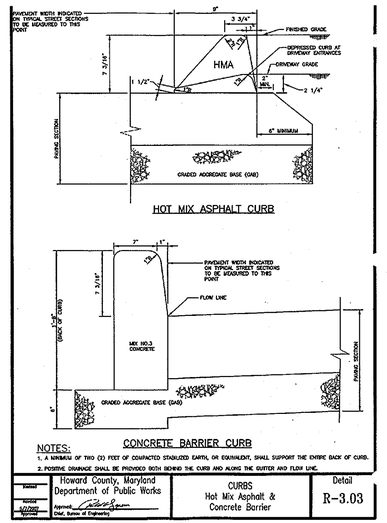
C-017



ROOF DRAIN ENDWALL AND OUTLET PROTECTION

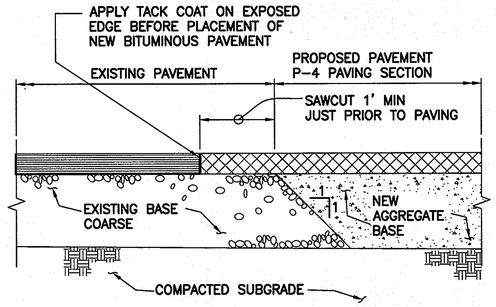
NTS

C-014



NOTES:
1. A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
2. POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.

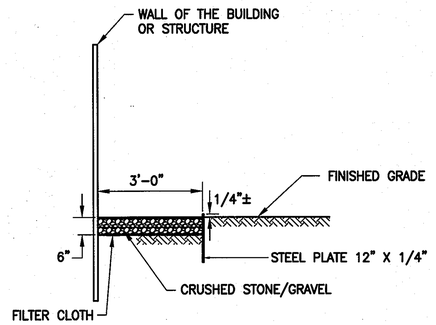
Revised	Howard County, Maryland Department of Public Works	CURBS Hot Mix Asphalt & Concrete Barrier	Detail R-3.03
Revised			
Approved	Chief, Bureau of Engineering		



PAVEMENT CONNECTION DETAIL

NTS

C-015



GRAVEL MOW STRIP

NTS

C-016

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS: FULL DEPTH BIT. CONC. ALTERNATE	PAVEMENT MATERIALS: GRANULAR BASE ALTERNATES
P-1	PARKING BAYS APARTMENT AND COMMERCIAL-INDUSTRIAL ZONES WITH NO HEAVY TRUCKS TRAVELWAYES FOR APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH NO HEAVY TRUCKS	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE	1" BIT. CONC. SURFACE 2" BIT. CONC. BASE 4" GRADED AGGREGATE BASE (GAB)
P-2	RESIDENTIAL ZONES LOCAL CUL-DE-SAC STS. ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS. TRAVELWAYES APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH MORE THAN 10 HEAVY TRUCKS PER DAY*	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 6" GRADED AGGREGATE BASE (GAB)
P-3	RESIDENTIAL ZONES MINOR AND MAJOR COLLECTORS COMMERCIAL-INDUSTRIAL ZONES LOCAL CUL-DE-SAC STREETS ALLEYS TRAVELWAYES APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH MORE THAN 10 HEAVY TRUCKS PER DAY*	1 1/2" BIT. CONC. SURFACE 1 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 4 1/2" BIT. CONC. BASE 5" GRADED AGGREGATE BASE (GAB)
P-4	COMMERCIAL-INDUSTRIAL ZONES MINOR COLLECTOR	1 1/2" BIT. CONC. SURFACE 3 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 1 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE 4" GRADED AGGREGATE BASE (GAB)

*TRAVELWAYS ARE DEFINED AS THE ROADWAYS LEADING TO THE PARKING BAYS.
*HEAVY TRUCKS ARE DEFINED AS THOSE WITH 6 WHEEL OR MORE INCLUDING GARBAGE TRUCKS.

REV. OCT. 1990 — REV. JAN. 1989 — REV. JAN. 1982

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
1-12-81

PAVING SECTIONS
P-1 THROUGH P-4

DRAWN BY: –
CHECK BY: –
NO SCALE
R-2.01

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	E	DATE: 5-27-9
CHIEF, DIVISION OF LAND DEVELOPMENT	GB	DATE: 5/28/09
DIRECTOR, DEP.		DATE: 5/28/09

ENGINEER'S 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."

Rozeda M Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

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."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — ROZEDA MARIE SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.
Rozeda M Schaefer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — 5/19/09 DATE

DES: AMS
DRN: GHS
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-11C
CIVIL

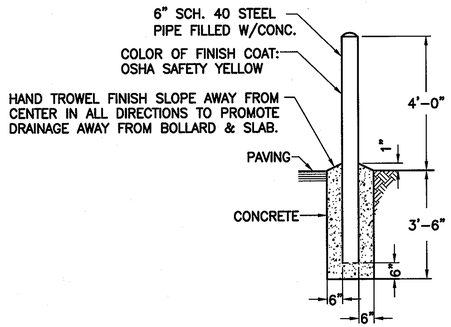
MISCELLANEOUS DETAILS

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E — PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 — HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 96 OF 611
CM-3
SDP SHEET 46 OF 52

SDP-00-094

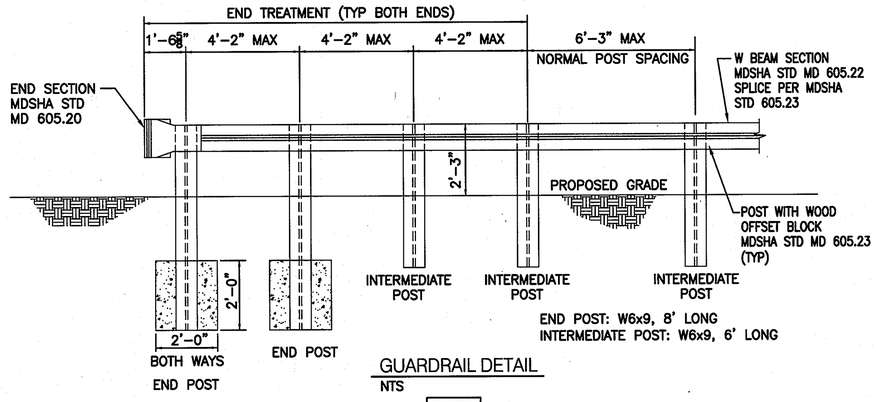
M:\360709-Howard County\ENR\03 Civil\ CM-03 Civil Site Details.dwg 05/14/09_20:01



BOLLARD DETAIL

NTS

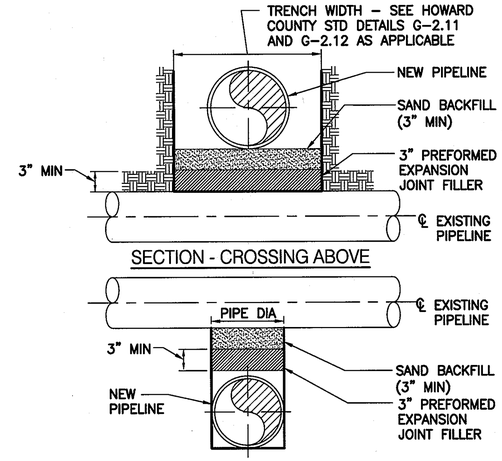
C-020



GUARDRAIL DETAIL

NTS

C-021



SECTION - CROSSING ABOVE

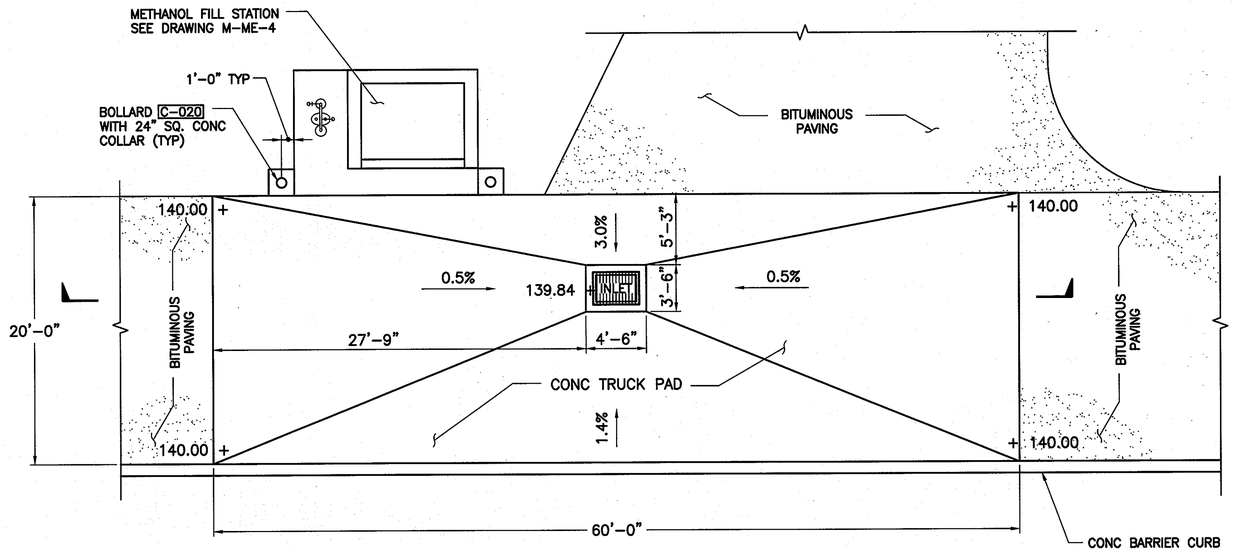
SECTION - CROSSING BELOW

NOTE:
1. PREFORMED EXPANSION JOINT FILLER TO COMPLY WITH ASTM DESIGNATION D-1751
2. WATER MAIN AND SEWER MAIN SEPARATION SHALL ADHERE TO THE HOWARD COUNTY STANDARDS.

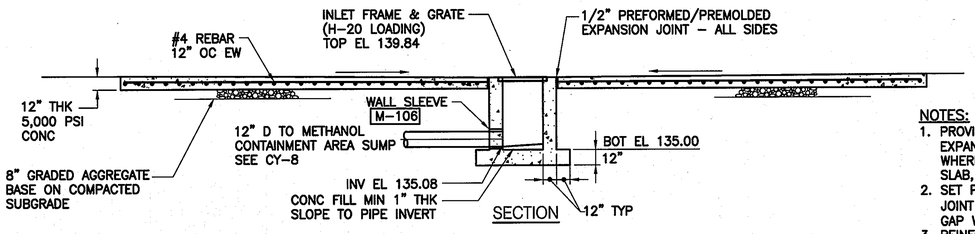
EXISTING PIPELINE PROTECTION WITH < 12" CLEARANCE

NOT TO SCALE

C-022



PLAN



SECTION

METHANOL FILL STATION TRUCK PAD

NOT TO SCALE

C-023

NOTES:
1. PROVIDE 1/2" PREFORMED/PREMOLDED EXPANSION JOINT MATERIAL IN LOCATIONS WHERE CONCRETE PAD MEETS STRUCTURAL SLAB, CURB, AND BITUMINOUS PAVING.
2. SET PREFORMED/PREMOLDED EXPANSION JOINT MATERIAL 1/2" BELOW SURFACE. FILL GAP WITH JOINT SEALER COMPOUND.
3. REINFORCING FOR INLET WALLS & BOTTOM: #4 REBAR, 6" OC, BOTH FACES, MIN 2" CLR FROM SURFACE.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5/27/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5/28/09

DIRECTOR, DEP. — DATE:

ENGINEER'S 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."

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/10/09

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."

Daniel Ward

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/10/09

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

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.: 23359, EXPIRATION DATE: 8/13/10.

REGISTERED PROFESSIONAL ENGINEER

4/20/09 — DATE — PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE: 5/26/09

DES: AMS
DRN: GHS
CHK: LHH
DATE: -

DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-11D
CIVIL

MISCELLANEOUS DETAILS

REVISED SITE DEVELOPMENT PLAN - REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 - ENR AND EXPANSION IMPROVEMENTS

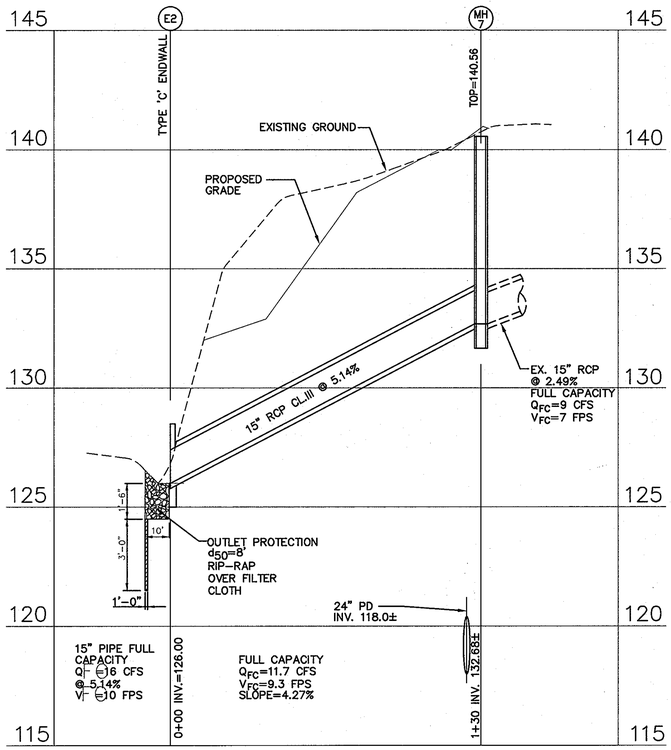
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 97 OF 611
CM-4
SDP SHEET 47 OF 52

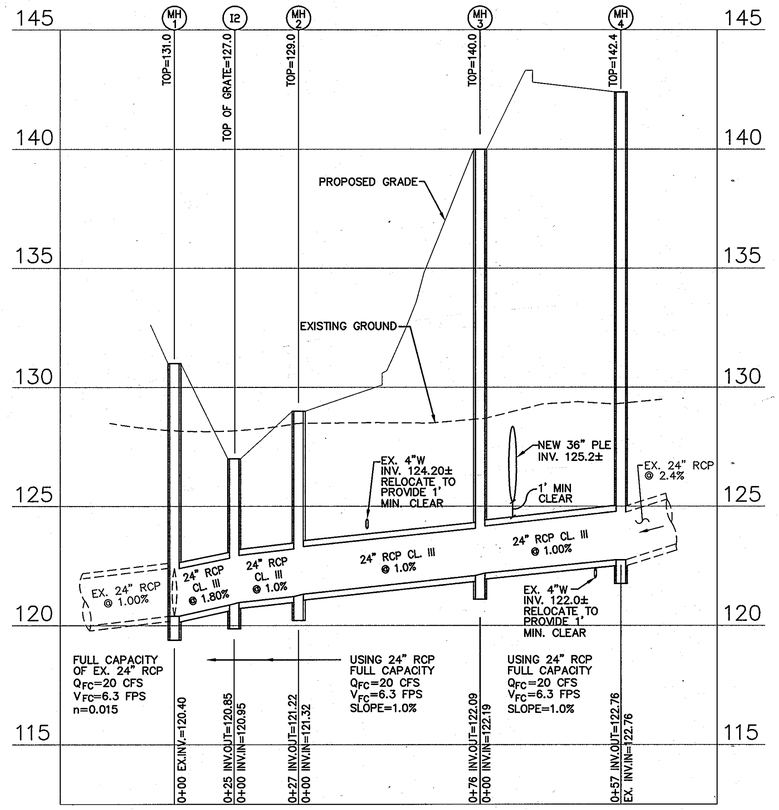
SDP-00-094

M:\380709-Howard County\ENR\03 Civil\ CM-04 Civil Site Details.dwg 05/14/09_20:01



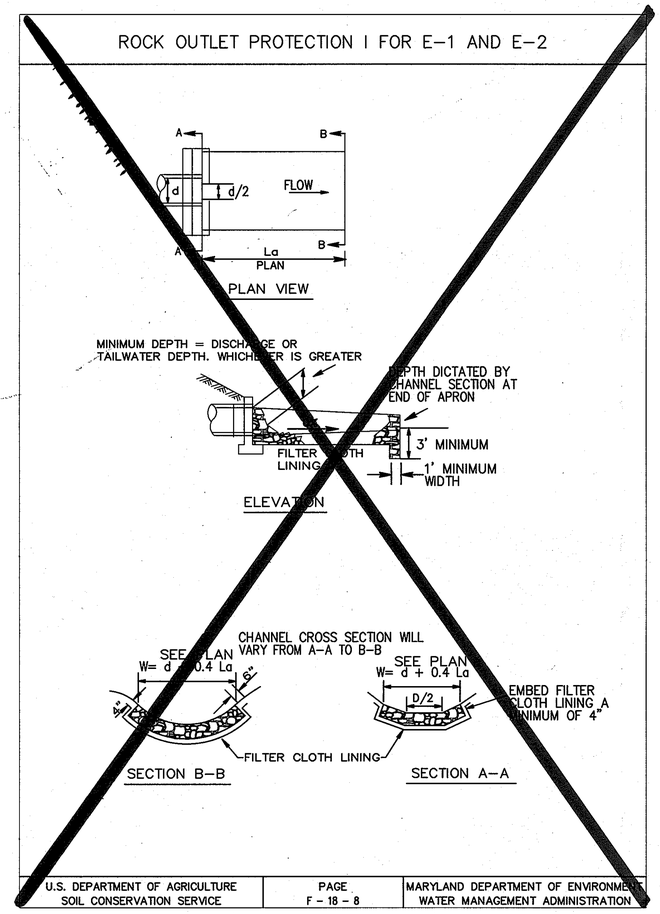
STORM PROFILE EXISTING PIPE (2)

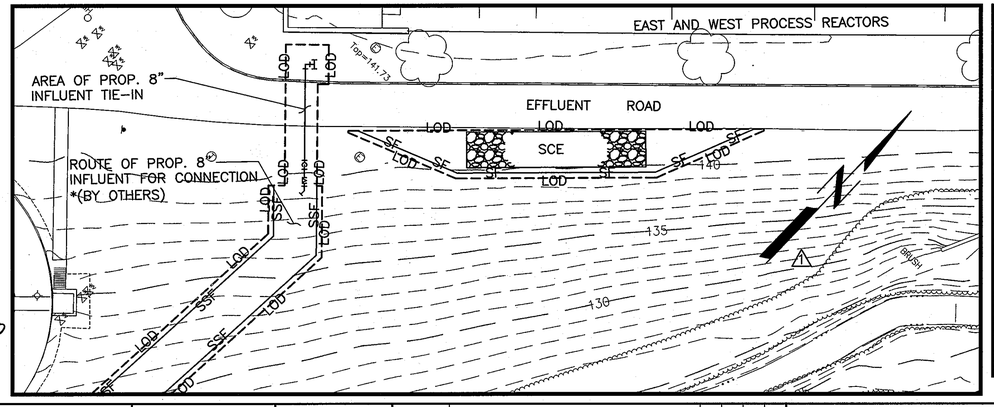
SCALE: 1"=30' HORIZONTAL
1"= 3' VERTICAL

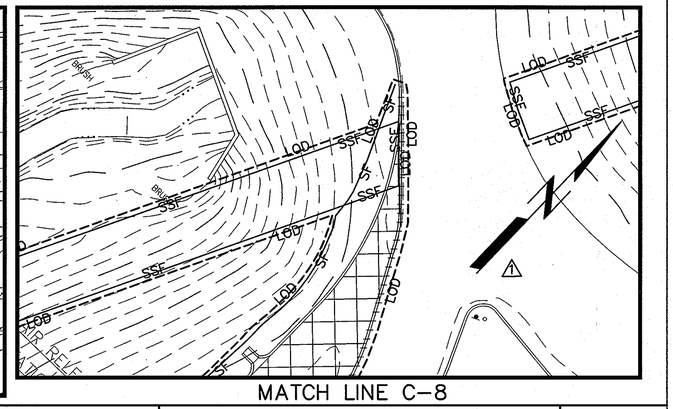


STORM PROFILE EXISTING PIPE (2)

SCALE: 1"=30' HORIZONTAL
1"= 3' VERTICAL







MATCH LINE C-8

NOTE: THIS SHEET SUPERCEDES PREVIOUS SHEET 12 OF 13.

SIGNED BY _____ ON _____
CHARLES F. DAMMERS, III, P.E. CHIEF, DED — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 9/13/06
CHIEF, DIVISON OF LAND DEVELOPMENT	DATE: 9/15/06
DIRECTOR	DATE: 9/18/06

FOR REVIEW ONLY
STATE OF MARYLAND AURORA M. SCHNEIDER No. 23359 PROFESSIONAL ENGINEER
5/8/09

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — DATE 9-28-06

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL (301) 881-2545 FAX (301) 881-0814
E-MAIL JBYRNE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland

REG. PROF. ENGR. — DATE

STATE OF MARYLAND ROBERT WALDEN No. 19855 REGISTERED PROFESSIONAL ENGINEER
9-28-06

DES:	AR
DRN:	REA
CHK:	JB
DATE:	05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
4-10-09	DELETED DETAIL AND REVISED SHEET NUMBER PER RED LINE REVISION 10	2			
5-26-06	ADD PARTIAL PLANS ADDITION 7	1			

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148

STORM SEWER PROFILES

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 6
PARCEL "A"
CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

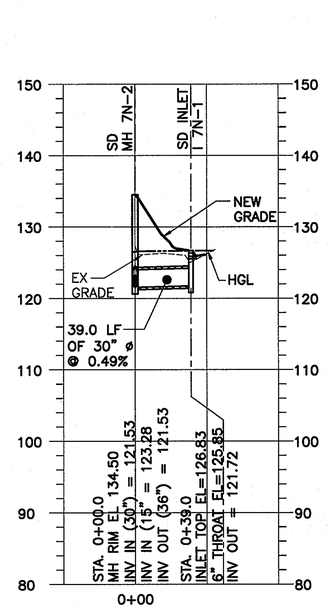
SCALE AS SHOWN

(2) SHEET 48 OF 52

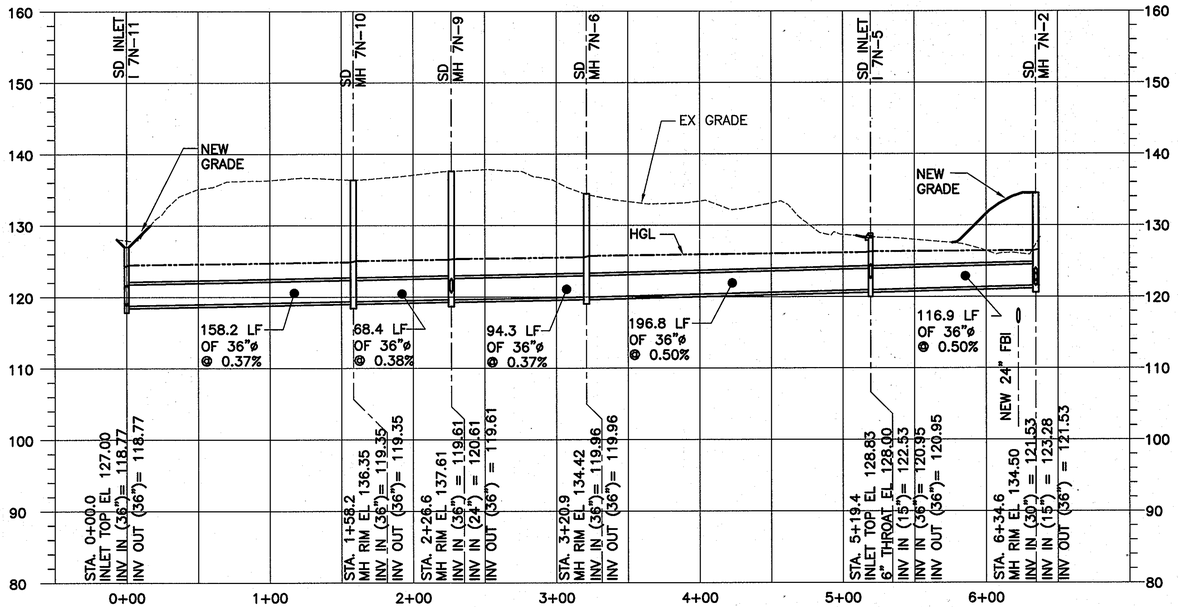
C-12

SDP00-94

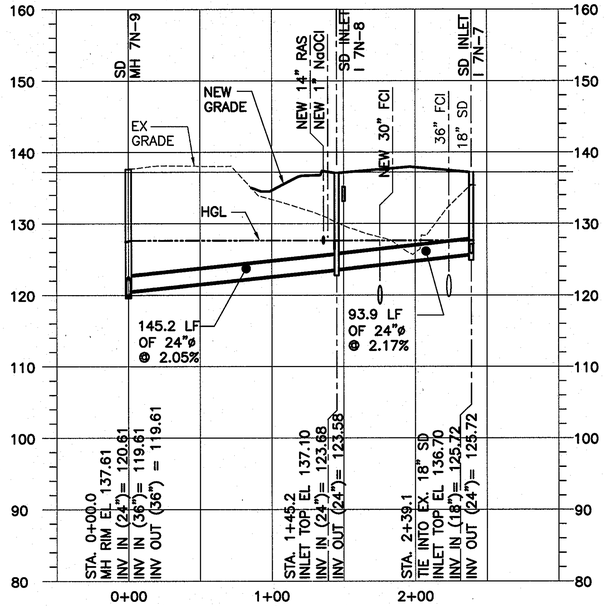
D58472
ERR84472A 1



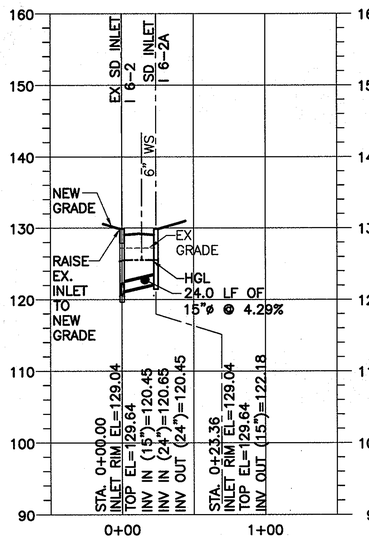
CE/CG/CY-2: 30" SD
MH 7N-2 TO INLET 7N-1



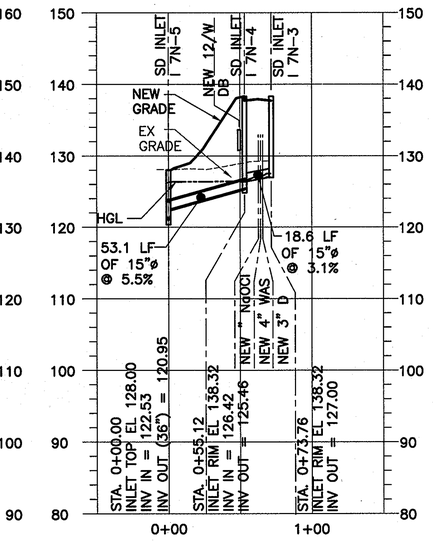
CE/CG/CY-2: 36" SD
INLET 7N-11 TO MH 7N-2



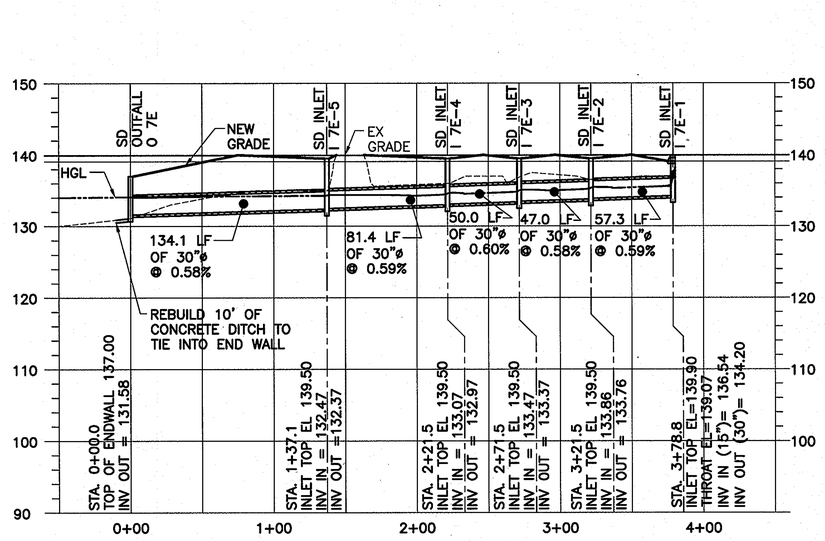
CE/CG/CY-2: 24" SD
MH 7N-9 TO INLET 7N-7



CE/CG/CY-2: 15" SD
INLET I 6-2A TO EX INLET I 6-2



CE/CG/CY-2: 15" SD
INLET I 7N-3 TO INLET I 7N-5



CE/CG/CY-5, 8 & 9: 30" SD
OUTFALL TO INLET 7E-1

SCALES

VERT: 1" = 10'
HORIZ: 1" = 50'

0 10 20 30

SCALE: 1" = 10'

0 50 100 150

SCALE: 1" = 50'

ALL STORM DRAIN PIPING SHALL BE RCP CLASS IV

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."

Daniel Ward — 5/19/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:
Daniel Ward

ENGINEER'S 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."

Aurora M Schaefer — 5/10/09
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE:
AURORA M SCHAEFER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5.27.9
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5/28/09
DIRECTOR, DEP. — DATE: 5/28/09

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — AURORA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.
Aurora M Schaefer
REGISTERED PROFESSIONAL ENGINEER
4/20/09 — DATE
PBS&J — FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
CHIEF, BUREAU OF UTILITIES — DATE 5/18/09

DES: AMS
DRN: GHS
CHK: LHH
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-12A
CIVIL

STORM SEWER PROFILES

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS

CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET 86 OF 611
CY-14
SDP SHEET 49 OF 52

SDP-00-094

M:\360709-Howard County\ENR\03 Civil\ CY-14 Storm Sewer Profiles.dwg 05/14/09_20:02

STRUCTURE SCHEDULE

SEE CG DRAWINGS FOR ID TAGS.

POINT	STRUCTURE	DESCRIPTION	NORTHING	EASTING
1001	FINAL CLARIFIER #13	CENTER POINT	N 531277.52	E 1365091.86
1002	AUXILIARY NORTH GALLERY	EXTERIOR NE CORNER AT GRADE	N 531393.99	E 1365081.45
1003	AUXILIARY NORTH GALLERY	EXTERIOR SE CORNER AT GRADE	N 531366.48	E 1365107.65
N/A	PROCESS REACTOR #8N	EXTERIOR SW CORNER AT GRADE	LOCATE PER EX. STRUCTURE	
N/A	PROCESS REACTOR #8N	EXTERIOR SE CORNER AT GRADE	LOCATE PER EX. STRUCTURE	
1006	EAST/WEST BLOWER BUILDING	EXTERIOR NE CORNER AT GRADE	N 531024.90	E 1365600.31
1007	EAST/WEST BLOWER BUILDING	EXTERIOR SE CORNER AT GRADE	N 530995.93	E 1365627.89
1007	EAST SUBSTATION	EXTERIOR NE CORNER AT GRADE	N 530998.02	E 1365631.60
1008	EAST SUBSTATION	EXTERIOR SE CORNER AT GRADE	N 530952.38	E 1365672.97
1009	PRI VALVE VAULT	APPROX. ℄ EX. PIPE @ NORTH WALL	N 530806.44	E 1365196.69
1010	PRI VALVE VAULT	APPROX. ℄ EX. PIPE @ SOUTH WALL	N 530797.38	E 1365205.31
1011	FIRE PROTECTION BUILDING	EXTERIOR SW CORNER AT GRADE	N 531033.97	E 1365966.88
1012	FIRE PROTECTION BUILDING	EXTERIOR SE CORNER AT GRADE	N 531044.64	E 1365985.36
1013	METHANOL FACILITY	EXTERIOR NW CORNER AT GRADE	N 531157.34	E 1365990.73
1014	METHANOL FACILITY	EXTERIOR SW CORNER AT GRADE	N 531079.34	E 1365990.73
1015	METHANOL FILL STATION	EXTERIOR NW CORNER AT GRADE	N 531185.02	E 1366011.40
1016	METHANOL FILL STATION	EXTERIOR SW CORNER AT GRADE	N 531171.35	E 1366011.40
1017	MUDWELL	EXTERIOR NW CORNER AT GRADE	N 531155.90	E 1365905.34
1018	MUDWELL	EXTERIOR SE CORNER AT GRADE	N 531155.65	E 1365970.09
1019	FILTER INFLUENT PUMP STATION	EXTERIOR NW CORNER AT GRADE	N 531273.30	E 1365900.54
1020	FILTER INFLUENT PUMP STATION	EXTERIOR SW CORNER AT GRADE	N 531225.22	E 1365900.54
1021	DENITRIFICATION FILTER COMPLEX	EXTERIOR NW CORNER AT GRADE	N 531425.13	E 1365898.54
1022	DENITRIFICATION FILTER COMPLEX	EXTERIOR NE CORNER AT GRADE	N 531273.38	E 1365898.52
1023	DENIT FILTER EFF METER VAULT	℄ NEW 54" DFE @ NORTH INT WALL	N 531024±	E 1366046±
1024	DENIT FILTER EFF METER VAULT	℄ NEW 54" DFE @ SOUTH INT WALL	N 531004±	E 1366046±

STRUCTURE SCHEDULE

SEE DRAWING CG-2 FOR ID TAGS.

POINT	STRUCTURE	DESCRIPTION	NORTHING	EASTING
1200	FENCE	TIE INTO EX. CHAIN LINK FENCE	N 531343.87	E 1365310.46
1201	FENCE	CORNER	N 531376.64	E 1365298.53
1202	FENCE	CORNER	N 531368.52	E 1365229.42
1203	FENCE	CORNER	N 531430.11	E 1365076.15
1204	FENCE	CORNER	N 531482.49	E 1365002.49
1205	FENCE	CORNER	N 531335.48	E 1364848.11
1206	FENCE	TIE INTO EX. CHAIN LINK FENCE	N 531167.84	E 1364844.01

STRUCTURE SCHEDULE

SEE DRAWINGS CY-8 AND CY-13 FOR ID TAGS. SEE PROFILES ON DRAWING CY-16 FOR INVERT ELEVATIONS

POINT	STRUCTURE	DESCRIPTION	NORTHING	EASTING
1065	SAN MH 7-6	SANITARY SEWER MANHOLE	N 531069.15	E 1365919.31
1066	SAN MH 7-7	SANITARY SEWER MANHOLE	N 531069.15	E 1366007.70
1068	TRUCK PAD INLET	℄ NEW 12" D @ SOUTH INT WALL	N 531193.58	E 1366027.66

STORM DRAIN STRUCTURE SCHEDULE

SEE PROFILES ON DRAWING CY-14 FOR INVERT ELEVATIONS, SEE DRAWING CM-1 FOR STORM DRAIN STRUCTURE DETAILS.

STRUCTURE	TOP	BOTTOM	REMARKS	DESCRIPTION	NORTHING	EASTING
I 7N-1	YARD INLET, WITH 3 OPENINGS	INLET BOTTOM	PROVIDE CONCRETE APRON ON 3 SIDES	CENTER OF INLET	N 531359.61	E 1365283.03
MH 7N-2	MANHOLE COVER	7' DIA MANHOLE	PROVIDE MINIMUM OF 1' OF PIPE SEPARATION	CENTER OF MANHOLE	N 531320.64	E 1365282.07
I 7N-3	S COMBINATION INLET	INLET BOTTOM	–	CENTER MID POINT ALONG CURB	N 531305.15	E 1365134.39
I 7N-4	S COMBINATION INLET	INLET BOTTOM	–	CENTER MID POINT ALONG CURB	N 531317.54	E 1365148.87
I 7N-5	YARD INLET, WITH 2 OPENINGS	INLET BOTTOM	PROVIDE CONCRETE APRON ON 2 SIDES	CENTER OF INLET	N 531363.88	E 1365173.51
MH 7N-6	MANHOLE COVER	5' DIA MANHOLE	–	CENTER OF MANHOLE	N 531436.70	E 1364990.66
I 7N-7	S INLET	INLET BOTTOM	REMOVE EX. ENDWALL & TIE INTO EX. PIPE	CENTER OF INLET	N 531205.75	E 1365094.51
I 7N-8	S INLET	INLET BOTTOM	–	CENTER OF INLET	N 531271.77	E 1365027.73
MH 7N-9	MANHOLE COVER	5' DIA BOTTOM	–	CENTER OF MANHOLE	N 531371.67	E 1364922.37
MH 7N-10	MANHOLE COVER	5' DIA BOTTOM	–	CENTER OF MANHOLE	N 531324.81	E 1364872.85
I 7N-11	S INLET	5' DIA BOTTOM	–	CENTER OF INLET	N 531166.33	E 1364868.99
I 6-2A	S COMBINATION INLET	4' DIA BOTTOM	–	CENTER MID POINT ALONG CURB	N 531075.63	E 1364950.97
I 6-2	S COMBINATION INLET	EX. 4' DIA BOTTOM	RAISE EX. INLET TOP PER STORM PROFILE	CENTER MID POINT ALONG CURB	–	–
I 7E-1	YARD INLET, WITH 2 OPENINGS	INLET BOTTOM	PROVIDE CONCRETE APRON ON 2 SIDES	CENTER OF INLET	N 531342.90	E 1366203.26
I 7E-2	S INLET	5' DIA BOTTOM	–	CENTER OF INLET	N 531399.85	E 1366197.43
I 7E-3	S INLET	5' DIA BOTTOM	–	CENTER OF INLET	N 531440.19	E 1366167.82
I 7E-4	S INLET	5' DIA BOTTOM	–	CENTER OF INLET	N 531454.09	E 1366119.78
I 7E-5	S INLET	5' DIA BOTTOM	–	CENTER OF INLET	N 531454.95	E 1366035.39
O 7E	ENDWALL, PER SD-5.21	–	SIZE FOR 36" DIA PIPE	CENTER OF ENDWALL	N 531455.22	E 1365897.85
O 7W-1	ENDWALL, PER SD-5.21	–	SIZE FOR 15" DIA PIPE	CENTER OF ENDWALL	N 530998.68	E 1365874.82
O 7RD-1	ENDWALL, PER SD-5.21	–	ROOF DRAIN ENDWALL	CENTER OF ENDWALL	N 531092.65	E 1365967.64
O 7RD-2	ENDWALL, PER SD-5.21	–	ROOF DRAIN ENDWALL	CENTER OF ENDWALL	N 531166.91	E 1365904.20

NOTES:
1. ALL STRUCTURES TO HAVE A 4" SUMP PER HOWARD COUNTY MANHOLE DETAILS
2. "S INLET" PER HOWARD COUNTY DETAIL D-4.22
3. "S COMBINATION INLET" PER HOWARD COUNTY DETAIL D-4.32
4. WHEN PIPE DIAMETERS ARE LARGER THAN THE GRATE INLET, A MANHOLE BASE WITH A GRATE INLET RISER IS REQUIRED
5. WITH 4' DIA MANHOLE, USE DETAIL G-5.12
6. WITH 5' DIA MANHOLE, USE DETAIL G-5.13
7. SEE YARD INLET AND CONCRETE DETAILS FOR MORE INFORMATION

LOD POINT TABLE

POINT	NORTHING	EASTING
3001	N 531176.28	E 1364696.56
3002	N 531124.45	E 1364567.81
3003	N 531189.11	E 1364531.00
3004	N 531233.25	E 1364483.81
3005	N 531241.73	E 1364505.26
3006	NOT USED	
3007	NOT USED	
3008	NOT USED	
3009	N 531431.88	E 1365077.12
3010	N 531478.15	E 1364479.98
3011	N 531505.18	E 1364500.99
3012	N 531595.20	E 1364604.92
3013	N 531615.34	E 1364669.54
3014	N 531627.56	E 1364731.72
3015	N 531604.60	E 1364739.00
3016	N 531539.65	E 1364799.06
3017	N 531479.61	E 1364832.59
3018	N 531401.42	E 1364803.65
3019	N 531416.13	E 1364929.90
3020	N 531485.08	E 1365002.31
3021	N 531370.57	E 1365229.69
3022	N 531379.57	E 1365300.66
3023	N 531305.17	E 1365327.73
3024	N 531275.05	E 1365330.34
3025	N 531252.73	E 1365282.67
3026	N 531251.23	E 1365221.07
3027	N 531237.72	E 1365196.65
3028	N 531195.53	E 1365121.74
3029	N 531177.89	E 1365103.33
3030	N 531248.60	E 1364842.99
3031	N 531295.32	E 1364779.63
3032	N 531275.02	E 1364755.90
3033	N 531238.09	E 1364743.75
3034	N 531212.59	E 1364714.39
3035	N 531032.29	E 1364817.02
3036	N 531067.68	E 1364715.62

LOD POINT TABLE

POINT	NORTHING	EASTING
3037	NOT USED	
3038	N 531105.79	E 1364736.98
3050	N 531394.58	E 1365622.56
3051	N 531416.66	E 1365623.10
3052	N 531432.05	E 1365627.62
3053	N 531435.75	E 1365636.91
3054	N 531435.82	E 1365693.98
3055	N 531445.08	E 1365709.13
3056	N 531445.68	E 1365715.19
3057	N 531420.41	E 1365739.26
3058	N 531375.99	E 1365764.21
3059	N 531306.81	E 1365784.24
3060	N 531251.88	E 1365790.38
3061	N 531217.80	E 1365786.64
3062	N 531173.29	E 1365765.68
3063	N 531135.30	E 1365764.47
3064	N 531111.75	E 1365767.47
3065	N 531076.07	E 1365764.64
3066	N 531034.75	E 1365746.46
3067	N 531016.68	E 1365726.43
3068	N 531068.57	E 1365672.12
3069	N 531083.53	E 1365672.49
3070	N 531090.63	E 1365621.71
3071	N 531088.93	E 1365594.03
3072	N 531107.19	E 1365577.63
3073	N 531116.82	E 1365617.45
3074	N 531117.02	E 1365674.79
3100	N 530937.92	E 1365741.55
3101	N 531023.99	E 1365827.62
3102	N 531051.81	E 1365825.73
3103	N 531137.59	E 1365853.73
3104	N 531151.10	E 1365864.24
3105	N 531208.18	E 1365865.64
3106	N 531250.38	E 1365885.09
3107	N 531300.56	E 1365886.68
3108	N 531328.18	E 1365882.54

LOD POINT TABLE

POINT	NORTHING	EASTING
3109	N 531373.81	E 1365870.55
3110	N 531401.11	E 1365870.55
3111	N 531422.29	E 1365861.87
3112	N 531424.93	E 1365890.52
3113	N 531433.13	E 1365890.52
3114	N 531447.22	E 1365882.18
3115	N 531463.18	E 1365882.18
3116	N 531485.95	E 1365904.61
3117	N 531589.38	E 1365964.96
3118	N 531609.39	E 1366017.86
3119	N 531583.26	E 1366044.00
3120	N 531560.60	E 1366053.49
3121	N 531508.00	E 1366107.32
3122	N 531465.03	E 1366107.32
3123	N 531464.53	E 1366131.60
3124	N 531462.93	E 1366144.25
3125	N 531456.27	E 1366160.72
3126	N 531443.97	E 1366180.00
3127	N 531423.30	E 1366197.30
3128	N 531403.62	E 1366207.07

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5/28/09

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5/28/09

DIRECTOR, DEP — DATE:

ENGINEER'S 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."

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/10/09

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."

Daniel Ward

SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) — DATE: 5/19/09

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec
Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — VIRGINIA M. SCHAEFER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

REGISTERED PROFESSIONAL ENGINEER — 4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - ADDITION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/14/09 DATE

DES: AMS
DRN: GHS
CHK: –
DATE: –

DATE	REVISIONS AND RECORD OF ISSUE

HOWARD COUNTY SDP SHEET C-12B
CIVIL

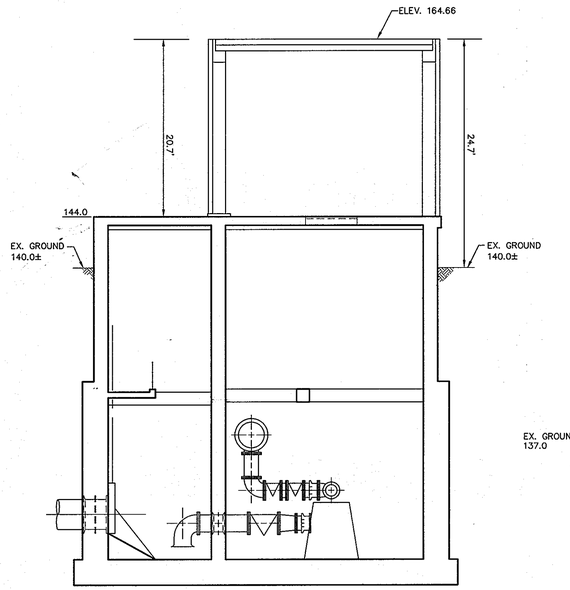
STRUCTURE AND COORDINATE SCHEDULE

REVISED SITE DEVELOPMENT PLAN – REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 – ENR AND EXPANSION IMPROVEMENTS
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001621
CONTRACT NO. 60-4598
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

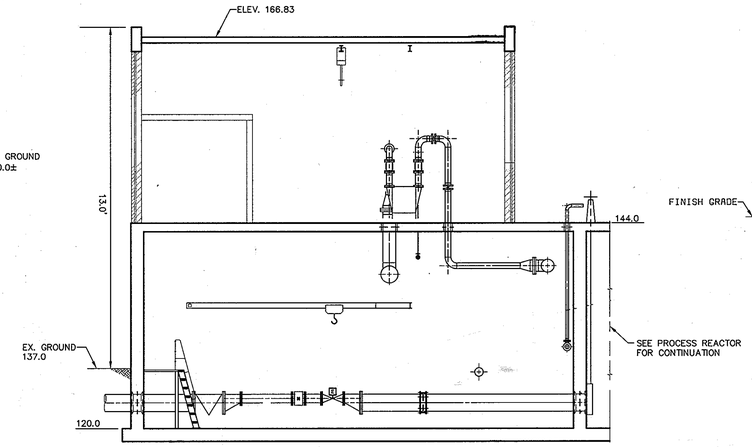
SCALE AS SHOWN
CONTRACT SHEET 43 OF 611
CS-7
SDP SHEET 50 OF 52

SDP-00-094

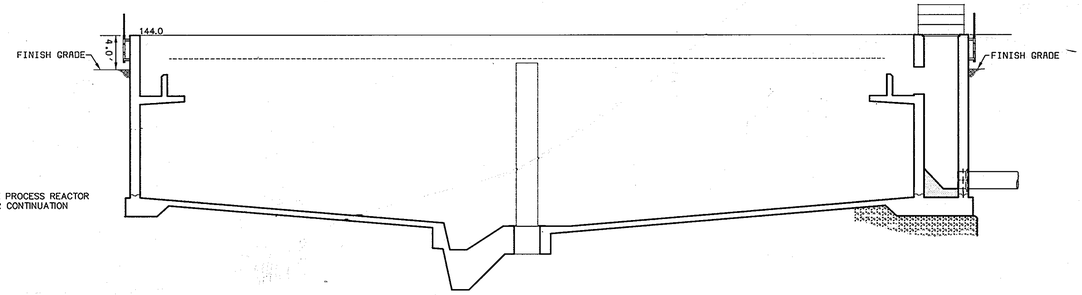
M:\360709-Howard County\ENR\03 Civil\ CS-07 Coordinate Schedule 1.dwg 05/14/09_18:50



AUXILLARY PUMP STATION
(NOT TO SCALE)

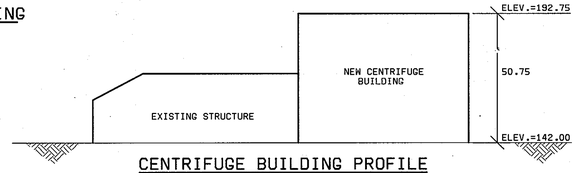


NORTH BLOWER BUILDING
(NOT TO SCALE)



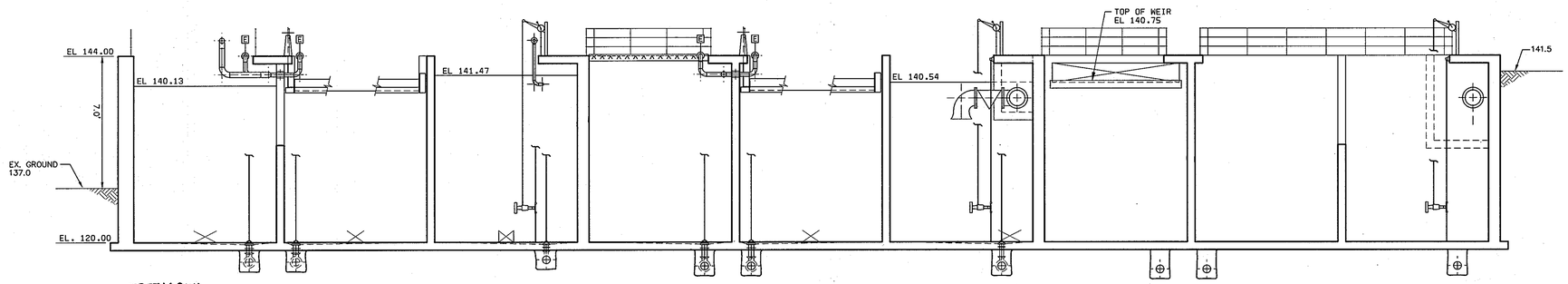
PRIMARY CLARIFER NO. 5 AND FINAL CLARIFIER NO. 12

TYPICAL CLARIFIER SECTION
(NOT TO SCALE)



CENTRIFUGE BUILDING PROFILE
(NOT TO SCALE)

PR NO. 7 PR NO. 6 PR NO. 5



NORTH PROCESS REACTOR SECTION
(NOT TO SCALE)

FOR REV. 1 ONLY
STATE OF MARYLAND
JOSHUA M. SCHER
No. 23959
PROFESSIONAL ENGINEER
5/8/09

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 6/7/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 6/6/00

DIRECTOR — DATE: 6/21/00

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert Berning 5-26-00
CHIEF, BUREAU OF UTILITIES DATE

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
12750 TWINBROOK PARKWAY, SUITE 200, ROCKVILLE MD 20852
TEL (301) 881-2545 FAX (301) 881-0814
E-MAIL JBYRNE@AMTENGINEERING.COM
HOWARD COUNTY SUBMISSION 05/01/00

BLACK & VEATCH LLP
Gaithersburg, Maryland
REG. PROF. ENGR. 5/22/00 DATE

STATE OF MARYLAND
JOSEPH BRIAN
No. 21708
PROFESSIONAL ENGINEER
5/22/00

DES:	AR
DRN:	REA
CHK:	JB
DATE:	05/01/00

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
4-10-09	REVISED SHEET NUMBER PER RED LINE REV.10	1			

CIVIL

REVISION TO SDP-78-55, 89-62, 92-33 AND F92-72, PLAT 10148

STRUCTURE SECTIONS

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 6

PARCEL "A"

CAPITAL PROJECT S-6205
CONTRACT NO
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

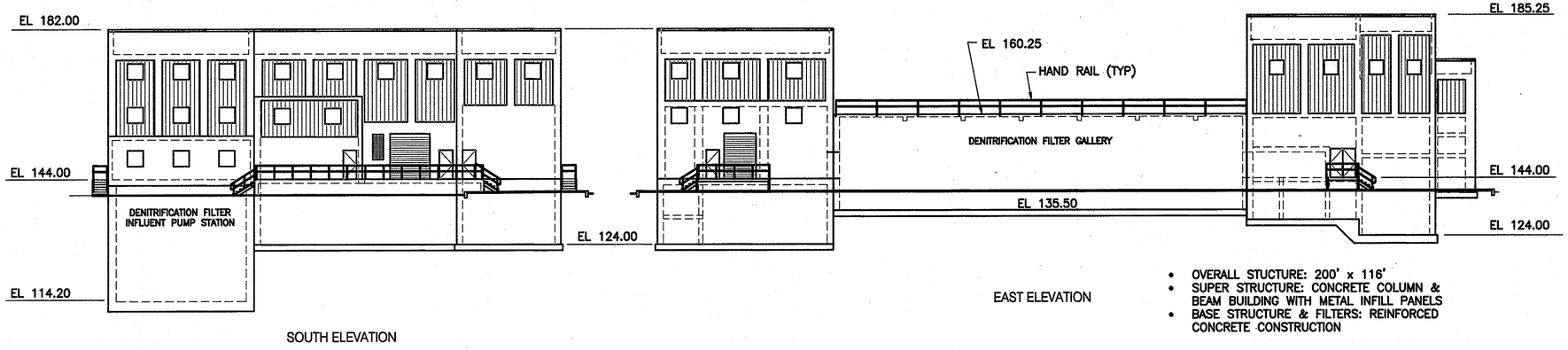
SCALE AS SHOWN

SHEET 51 OF 52

C-13

SDP 00-94

D5917Z
P5984172A

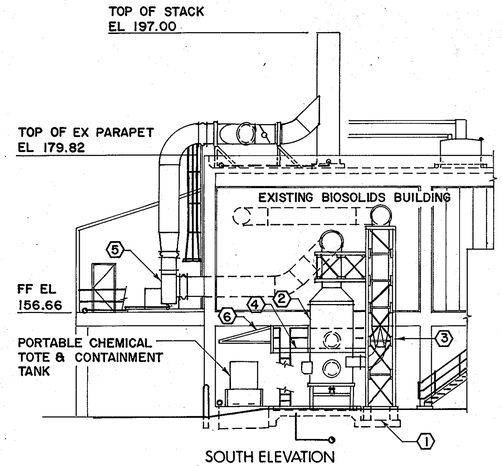


SOUTH ELEVATION

EAST ELEVATION

- OVERALL STUCTURE: 200' x 116'
- SUPER STRUCTURE: CONCRETE COLUMN & BEAM BUILDING WITH METAL INFILL PANELS
- BASE STRUCTURE & FILTERS: REINFORCED CONCRETE CONSTRUCTION

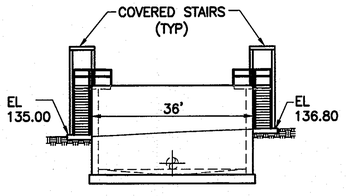
DENITRIFICATION FILTER COMPLEX
SCALE: 1/16" = 1'-0"



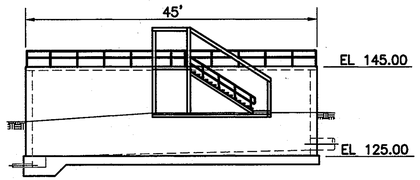
SOUTH ELEVATION

1. CONCRETE SCRUBBER PAD: 13'-0" X 14'-9"
2. PARTICULATE SCRUBBER
3. ALUMINUM DUCT SUPPORT STRUCTURE
4. FRP & ALUMINUM ACCESS PLATFORM
5. EXHAUST FAN
6. FRP AWNING

⚠ LIME STABILIZATION DUST CONTROL - PARTICULATE SCRUBBER
SCALE: 3/32" = 1'-0"

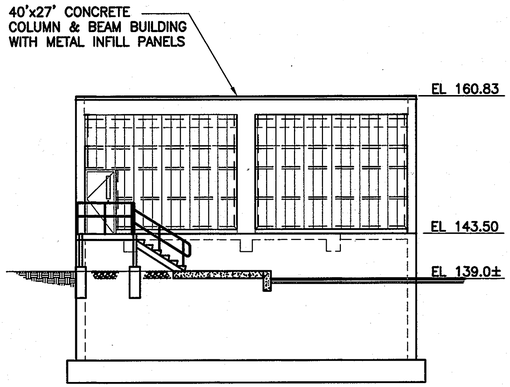


EAST ELEVATION



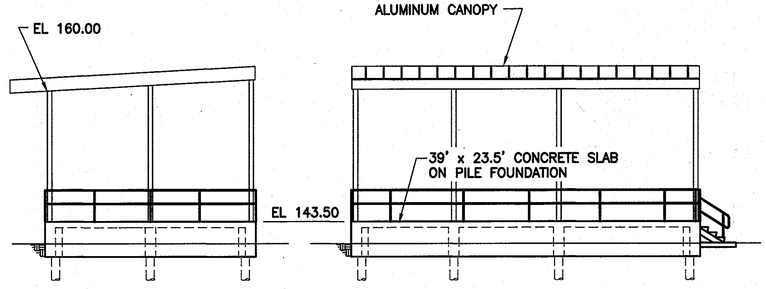
SOUTH ELEVATION

MUDWELL
SCALE: 1/16" = 1'-0"



SOUTHWEST ELEVATION

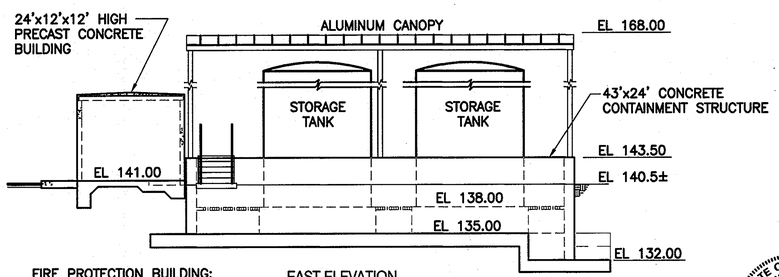
AUXILIARY NORTH GALLERY
SCALE: 1/8" = 1'-0"



SOUTHEAST ELEVATION

NORTHEAST ELEVATION

EAST / WEST BLOWER FACILITY
SCALE: 1/8" = 1'-0"



FIRE PROTECTION BUILDING: 21'x16'x10' HIGH PRECAST CONCRETE BUILDING

EAST ELEVATION

METHANOL FACILITY
SCALE: 1/8" = 1'-0"

STATE OF MARYLAND — AURORA M. SCHEER — No. 23359 — PROFESSIONAL ENGINEER
10/5/11
FOR REV. II ONLY

0 8 16 24
SCALE: 1/8" = 1'-0"

0 16 32 48
SCALE: 1/16" = 1'-0"

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5.27.09
CHIEF, DIVISION OF LAND DEVELOPMENT BB	DATE: 5/28/09
DIRECTOR, DEPT.	DATE:

PBS&J
12101 INDIAN CREEK COURT
BELTSVILLE, MARYLAND 20705
TELEPHONE: (301) 210-6800
FAX: (301) 210-4156
www.pbsj.com

Stantec Consulting Ltd.
425 McFarlan Road, Ste. 205
Kennett Square, PA 19348-2412
Tel. 610.444.6522
Fax. 610.444.1698
www.stantec.com

STATE OF MARYLAND — AURORA M. SCHEER — No. 23359 — PROFESSIONAL ENGINEER

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.: 23359, EXPIRATION DATE: 8/13/10.

REGISTERED PROFESSIONAL ENGINEER — 4/20/09 DATE — PBS&J FIRM

NOTICE TO CONTRACTORS
- PROJECT ELEVATIONS ARE BASED ON NAVD88 AND HOWARD COUNTY'S BENCHMARK SYSTEM
- PREVIOUS PROJECTS USED OTHER DATUMS
- APPLY THE FOLLOWING CONVERSIONS WHEN USING PREVIOUS CONTRACT DRAWINGS:
  - PRODUCTION NO. 6: SUBTRACT 0.66 FT
  - PRIOR ADDITIONS: SUBTRACT 0.90 FT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES — 5/16/09 DATE

DES: AMS
DRN: EJR
CHK: LHH
DATE: -

DATE	REVISIONS AND RECORD OF ISSUE
10/5/11	⚠ SDP REVISION II: ADD LIME STABILIZATION DUST CONTROL FACILITY

HOWARD COUNTY SDP SHEET C-13A
CIVIL

BUILDING ELEVATION
DENITRIFICATION FILTER COMPLEX

REVISED SITE DEVELOPMENT PLAN - REV. NO. 10
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872

LITTLE PATUXENT WATER RECLAMATION PLANT
ADDITION NO. 7 - ENR AND EXPANSION IMPROVEMENTS

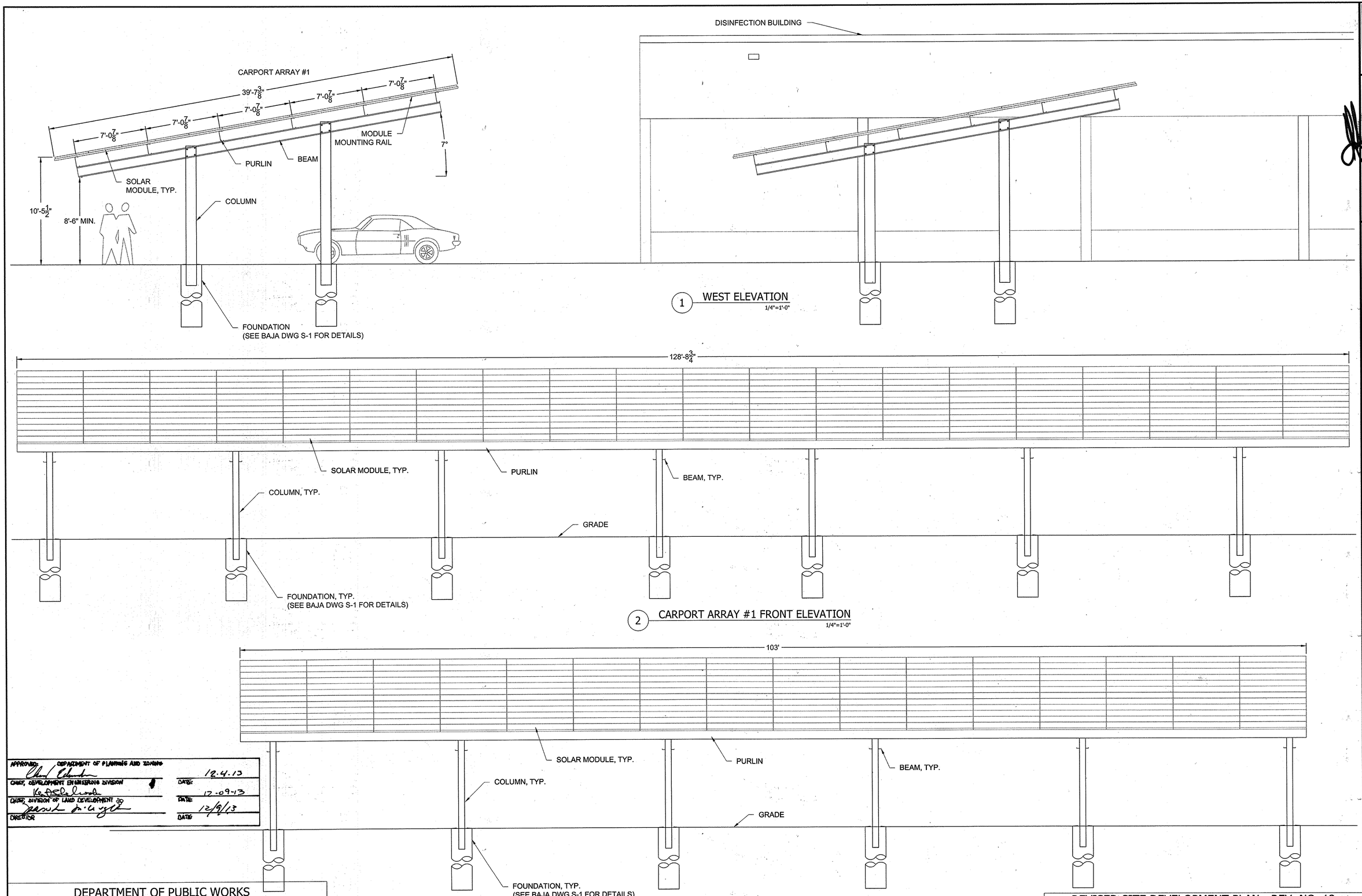
CAPITAL PROJECT NO. S-6245.E PBS&J PROJECT NO. 100001821
CONTRACT NO. 60-4598

ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
CONTRACT SHEET OF
CB-1
SDP SHEET 52 OF 52

SDP-00-094

M:\360708-Howard County\ENR\03 Civil\ CB-1 DFC ELEVATION.dwg 05/18/09 12:01



1 WEST ELEVATION
1/4"=1'-0"

2 CARPORT ARRAY #1 FRONT ELEVATION
1/4"=1'-0"

3 CARPORT ARRAY #2 FRONT ELEVATION
1/4"=1'-0"

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 12.4.13
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 12-09-13
DIRECTOR	DATE: 12/9/13

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS	11/26/13 DATE	CHIEF, BUREAU OF ENGINEERING	11/26/13 DATE
CHIEF, BUREAU OF UTILITIES	11/25/13 DATE	CHIEF, UTILITY DESIGN DIVISION	11/25/13 DATE

REVISED SITE DEVELOPMENT PLAN - REV. NO. ~~12~~ 14
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
SOLAR CARPORT STRUCTURE
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

STANDARD SOLAR
Clean Energy. Smart Business.
1355 Piccard Drive, Suite 300
Rockville, MD 20850
301-944-1200
www.StandardSolar.com

PROFESSIONAL STRUCTURAL CERTIFICATION

STATE OF MARYLAND · FADIL M. ABDELFATAH · NO. 28174 · PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE APPLICABLE CODES IN THE STATE OF MARYLAND, INCLUDING IBC 2012 EDITION, WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

PROFESSIONAL ELECTRICAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE APPLICABLE CODES IN THE STATE OF MARYLAND, INCLUDING NEC 2011 EDITION, WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

PROJECT TITLE
Howard County - Little Patuxent WRP
PROJECT ADDRESS
8900 Greenwood Pl.
Savage, MD 20763
SHEET TITLE
CARPORT ELEVATIONS

REVISIONS

DISCLAIMER
THIS DRAWING IS THE PROPERTY OF STANDARD SOLAR, INC. THIS INFORMATION IS CONFIDENTIAL AND IS TO BE USED ONLY IN CONNECTION WITH WORK DESCRIBED BY STANDARD SOLAR, INC. NO PART IS TO BE DISCLOSED TO OTHERS WITHOUT WRITTEN PERMISSION FROM STANDARD SOLAR, INC.

PROJECT NUMBER
13-C005

DRAWN BY
CAS

APPROVED BY
CJC

DATE
10.01.2013

ORIGINAL SHEET SIZE
36X24
SHOULD MEASURE 1":

SCALE
AS NOTED

DRAWING
A3

SDP SHEET
52B ~~5b~~ of 52

SDP-00-094

SYSTEM DESCRIPTION			
DESIGN WIND SPEED:	105 MPH	HIGH TEMP:	36° C
EXPOSURE CATEGORY:	B	LOW TEMP:	-15° C
MODULE TYPE:	SUNIVA 295 (295W DC STC)		
QUANTITY:	736 MODULES (56 STRINGS OF 10, 8 STRINGS OF 8, 7 STRINGS OF 9, AND 7 STRINGS OF 7)		
SYSTEM SIZE (DC):	DISINFECTION BUILDING: 42.5 kW ADMINISTRATION BUILDING: 47.2 kW CARPORT: 127.4 kW TOTAL: 217.1 kW		
BUILDING HEIGHT:	HIGHEST: 20ft, LOWEST: 15ft		
MOUNTING SYSTEM:	PANEL CLAW GRIZZLY BEAR AND BAJA CARPORT		
TILT ANGLE:	ROOF: 13°, CARPORT: 7°		
ARRAY AZIMUTH:	180°		
MONITORING SYSTEM:	LOCUS ENERGY LGATE310		
INVERTER(S):	SMA SUNNY TRIPOWER: [1] 12000TL-US (12kW), [2] 15000TL-US (15kW), AND [7] 20000TL-US (20kW) INVERTERS.		

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 12.4.13

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 12-09-13

DIRECTOR — DATE: 12/9/13

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 11/26/13

CHIEF, BUREAU OF ENGINEERING — DATE 11/26/13

CHIEF, BUREAU OF UTILITIES — DATE 11/25/13

CHIEF, UTILITY DESIGN DIVISION — DATE 11/25/13

INVERTERS 1 & 2
ACCUMULATION PANEL #1
DISINFECTION BLDG. ROOF ARRAY (144 MODULES)
ROOF ACCESS HATCH
DISINFECTION BUILDING
20'
12'
FILTER CIRCLE
JB3
5 A4
CARPORT ARRAY #1: 240 MODULES (12x20)
[3] SMA 20kW
EXISTING FENCE
CARPORT ARRAY #2: 192 MODULES (12X16)
[1] SMA 20kW, [1] SMA 15kW, [1] SMA 12kW
2 A3
SOIL BORING LOCATIONS, (TYP. x4)
CARPORT INVERTER (TYP. x6)
CARPORT LIGHT FIXTURE (TYP. x14)
JB4
4 E6
JB5
EV CHARGING STATION
NEW CAUTION SIGN: MINIMUM CLEARANCE 8'-6"
3 A3
1 A3
4 A4
NITROGEN ROAD
7 A4
PROPERTY LINE
ADMINISTRATION BUILDING
15'
INVERTERS 9 & 10
ACCUMULATION PANEL #2
6 A4
ADMIN. BLDG. ROOF ARRAY (160 MODULES)
ROOF ACCESS HATCH

REVISED SITE DEVELOPMENT PLAN - REV. NO. ~~12~~ 14
PARCEL A/PLAT 10148 AND PORTION OF THE PARK, UTILITY AND DRAINAGE RESERVATION AND PARCEL U/CORRIDOR INDUSTRIAL PARK/PLAT 4872
LITTLE PATUXENT WATER RECLAMATION PLANT
SOLAR CARPORT STRUCTURE
ELECTION DISTRICT NO. 6 — HOWARD COUNTY, MARYLAND

STANDARD SOLAR
Clean Energy. Smart Business.
1355 Piccard Drive, Suite 300
Rockville, MD 20850
301-944-1200
www.StandardSolar.com

PROFESSIONAL STRUCTURAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE APPLICABLE CODES IN THE STATE OF MARYLAND, INCLUDING IBC 2012 EDITION, WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

PROFESSIONAL ELECTRICAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE APPLICABLE CODES IN THE STATE OF MARYLAND, INCLUDING NEC 2011 EDITION, WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

PROJECT TITLE
Howard County - Little Patuxent WRP
PROJECT ADDRESS
8900 Greenwood Pl.
Savage, MD 20763

SHEET TITLE
OVERALL SITE PLAN

REVISIONS

DISCLAIMER
THIS DRAWING IS THE PROPERTY OF STANDARD SOLAR, INC. THIS INFORMATION IS CONFIDENTIAL AND IS TO BE USED ONLY IN CONNECTION WITH WORK DESCRIBED BY STANDARD SOLAR, INC. NO PART IS TO BE DISCLOSED TO OTHERS WITHOUT WRITTEN PERMISSION FROM STANDARD SOLAR, INC.

PROJECT NUMBER
13-C005

DRAWN BY
CAS

APPROVED BY
CJC

DATE
10.01.2013

ORIGINAL SHEET SIZE
36X24
SHOULD MEASURE 1":

SCALE
1" = 20'- 0"

DRAWING
A1

SDP SHEET
~~52~~ A ~~of 52~~

SDP-00-094