GENERAL NOTES

1. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications 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. Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
5. All plan dimensions are to face of curb unless otherwise noted.
6. The existing topography was obtained from a flown aerial survey taken with 2 foot contour intervals on March 30, 2005 performed by Harford Aerial Survey.
7. 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. 16DA and 16DC were used for this project.
8. Water is public. See Contract No. 44-4072. This project is in the Little Patuxent drainage area (108P.S.).
9. Plumbing code indicates an average flow rate of 15 gal. per day per person for day workers at schools and offices. At this rate, the 329 projected users would produce 4,935 gal. per day. The three existing storage tanks each have a capacity of 14,000 gal., totaling a 42,000 gal. maximum capacity. At maximum use, the system would reach maximum capacity after 8 days of use. Currently, projected plans are to empty the tanks once per week. Each tank includes an alarm alerting maintenance that the tank is approaching capacity.
10. Stormwater Management is provided by a combination of an on-site P-5 pocket pond (quality/CPv management), a stormceptor (quality pretreatment), infiltration structures (recharge), grass channel (quality & recharge), non-rooftop and rooftop disconnection (quality & recharge). These facilities are publicly maintained.
11. Existing utilities are based on the Site Development Plans for Phase I development of the Public Safety Training Center (SDP-03-36) prepared by Whitman Requardt & Associates L.L.P. dated 12/16/02, without the benefit of as-built surveys. No as-built information is available, so the contractor must determine the exact location of utilities by digging test pits, by hand, at all crossings prior to construction.
12. There are no floodplains on this site based on the FEMA National Flood Insurance Program, Flood Insurance Rate Map, Howard County, Maryland, Panel 16 of 45, Map Number 24004416 B, effective December 4, 1986. Floodplain shown on these plans are from an approved floodplain study by Bernard Johnson, Inc., dated 1986.
13. The wetland delineation study for this site was prepared by Whitman Requardt & Associates L.L.P., dated 7/22/02.
14. No traffic study is required for this project.
15. This site is exempt from the APFO test requirements as stated in Sections 16.1107-(2)-(1) and 16.1110-(h)-(2) of the Howard County Code.
16. A waiver (WP-02-102) from section 16.147 of the Howard County Subdivision and Land Development Regulations was approved on April 23, 2002 to allow recording of adjoiner deeds to reconfigure 3 county owned parcels of land to establish revised Parcel 253.
17. Use of a sewage holding tank was approved by the Howard County Health Department on March 25, 2002.
18. The property boundaries shown on these plans have been recorded in deed liber 6689, folio 619; in a Plat of Land Acquisition to an Adjoiner, reference number 15716; and in a Plat of Forest Conservation Easements, reference number 15834.
19. No grading, removal of vegetative cover or trees, or placement of new structures is permitted within the limits of wetlands, streams, or their required buffers and forest conservation easement areas except as approved by Waiver Petition WP-06-127, approved June 12, 2006.
20. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual.
21. This site has complied with the requirements of Section 16.1200 of the Howard County Code and the Forest Conservation Manual. The total forest conservation obligation of 7.37 acres was offset with 6.45 acres of forest retention and 0.92 acres of reforestation as shown on the Plat for Grant of Forest Conservation Easement, reference number 18518.
22. All exterior light fixtures shall be oriented to direct light downward on-site, away from adjoining residential properties and public roads in accordance with Section 134 of the Howard County Zoning Regulations. The light intensity at the property line will not exceed 0.1 foot candles.
23. There are no cemeteries or grave sites on the subject property.
24. This project is subject to the amended fifth edition of the Subdivision and Land Development Regulations and the Zoning Regulations as amended under council bill #45-2003. Development or construction must comply with setback and buffer regulations in effect at the time of submission of the Site Development Plan, waiver petition application or building/grading permit.
25. All utilities constructed within fill material must be installed in accordance with AASHTO-T180.
26. Buildings 'A' and 'E' shall have sprinkler systems installed in accordance with applicable code.
27. ABBREVIATIONS:

PROP	Proposed	DIP	Ductile iron pipe, class 54 unless otherwise noted
EX	Existing	PVC	Polyvinyl chloride pipe, schedule 40 unless otherwise noted
BIT	Bituminous	HDPE	High Density Polyethylene Pipe
CONC	Concrete	CMP	Corrugated Metal Pipe, aluminized unless otherwise noted
MH	Manhole	RCP	Reinforced concrete pipe, class III unless otherwise noted
SD	Storm Drain	C&G	Concrete curb & gutter, as detailed
I	Inlet	INV	Invert elevation
SAN	Sanitary Sewer	FFE	Finished floor elevation
TC	Top of curb	BC	Bottom of curb
TS	Top of step	BS	Bottom of step
PS	Parking space	HC	Handicapped parking space
PC	Point of Curvature	TYP	Typical
PT	Point of Tangency	L.O.D.	Limit of Disturbance
TW	Top of Wall	BW	Bottom of Wall
TPF	Tree Protection Fence	R.O.W.	Right-of-way

28. Perimeter landscaping requirements will be fulfilled under SDP-03-036.
29. The subject property is zoned RC-DEO per the 02/02/04 comprehensive zoning plan.
30. No wetlands, wetland buffers or streams are proposed to be disturbed as part of this project.
31. Trash will be picked-up from two on-site dumpsters. One west of the Admin./Classroom Bldg. and one west of the Storage/Maze Structure.
32. Spot elevations shown on these plans have been abreviated. All spots shown are to be + 500 feet. e.g.: 67.95 is actually 567.95.
33. Should adjacent Parcels 200 and 11 be developed, additional perimeter landscaping and stormwater management landscaping for SWM #2 may be required on Parcel 253.
34. Proposed water utility information on these plans is for informational purposes only and not for construction. Water utilities shall be constructed according to the approved Water Contract Drawings.
35. On Oct.17,2016 revisions were made to this approved SDP to add a new 12'x45' armory on a 31'x45' concrete pad with a 12'x44' asphalt driveway and a 12'x15' wooden sniper deck. Changes are within the original LOD and constitute approximately 2,100sf of disturbance which being less than 5,000sf requires no stormwater management or erosion & sediment control revisions. (3)

BUILDING/STRUCTURE INDEX

EXISTING STRUCTURES	IDENTIFIER
ADMINISTRATION/CLASSROOM BUILDING	(1)
POLICE RANGE TRAILER	(2)
VEHICLE STORAGE BUILDING	(3)
PROPOSED STRUCTURES	**IDENTIFIER**
FIRE GROUNDS BUILDING	BUILDING 'A'
STORAGE/MAZE STRUCTURE	STRUCTURE 'B'
PUMP BUILDING	BUILDING 'C'
FIRE FIGHTING PROP	STRUCTURE 'D'
POLICE SIMULATION PROP	STRUCTURE 'E'
HOGAN'S ALLEY TRAINING PROP	STRUCTURE 'F'
EXPOSURE TRAINING BUILDING	BUILDING 'G'
K-9 TRAINING BUILDING	BUILDING 'H'
ARMORY (12'x45'(31'x45'PAD))	STRUCTURE 'I'
SNIPER DECK (12'x15')	STRUCTURE 'J'

(3)

THIS SEAL IS FOR (3) REVISIONS MADE BY SITE RESOURCES, INC.

10.17.16

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. 23165 Expiration Date: 07.18.2017.

PURPOSE AND INTENT

This project will provide an institutional campus for the perparation and training of individuals specializing in public safety as it pertains to police, fire and ~~rescue~~. The campus will consist of a variety of training facilities, props and buildings that will provide both classroom and real-life training scenarios.

SITE ANALYSIS DATA CHART

a. Total Project Area = 38.23 Ac / 1,665,534 SF
b. Limit of Disturbed Area = 20.80 Ac / 906,299 SF
c. Present Zoning Designation = RC-DEO
d. Proposed Use for Site and Structures = Police/Fire/Rescue Training
e. Total Square Feet of Floor Area by Use:

	EXISTING	PROPOSED	TOTAL
Administration/Office =	30,950 sf	4,365 sf	35,315 sf
Classroom =	13,330 sf	19,565 sf	32,895 sf
Storage =	13,040 sf	~~10,871 sf~~	~~23,911 sf~~
K-9 Kennels=	0 sf	580 sf	580 sf

(2) 0.46 Ac / 19,918 SF; 0.15 Ac / 6,552 SF
(2) Proposed / Total: ~~100 sf~~ / ~~24,011 sf~~
PROPOSED / TOTAL: 11,511SF 24,511SF

f. Maximum Number of Users at full build-out = 329 (259 students, 50 faculty, 20 visitors)
g. Parking Spaces: Institutional Use, Colleges/ Universities (1 space per 3 students)=

REQUIRED	PROVIDED
110	255

h. Handicap Parking Spaces at 1 per 25= 5 18
i. Building Coverage on Site = 2.14 ~~2.13~~ Ac and 5.6% of gross area
j. Applicalbe DPZ file references= SDP-03-036 (see Project Timeline on sheet C0.02 for complete history) (3)

(2)

PROFESSIONAL CERTIFICATE: 12-16-14

I HEREBY CERTIFY THAT THE INFORMATION CLOUDED AND LISTED UNDER REVISION # 1 ON THIS DOCUMENT WAS PREPARED OR APPROVED BY ME.

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

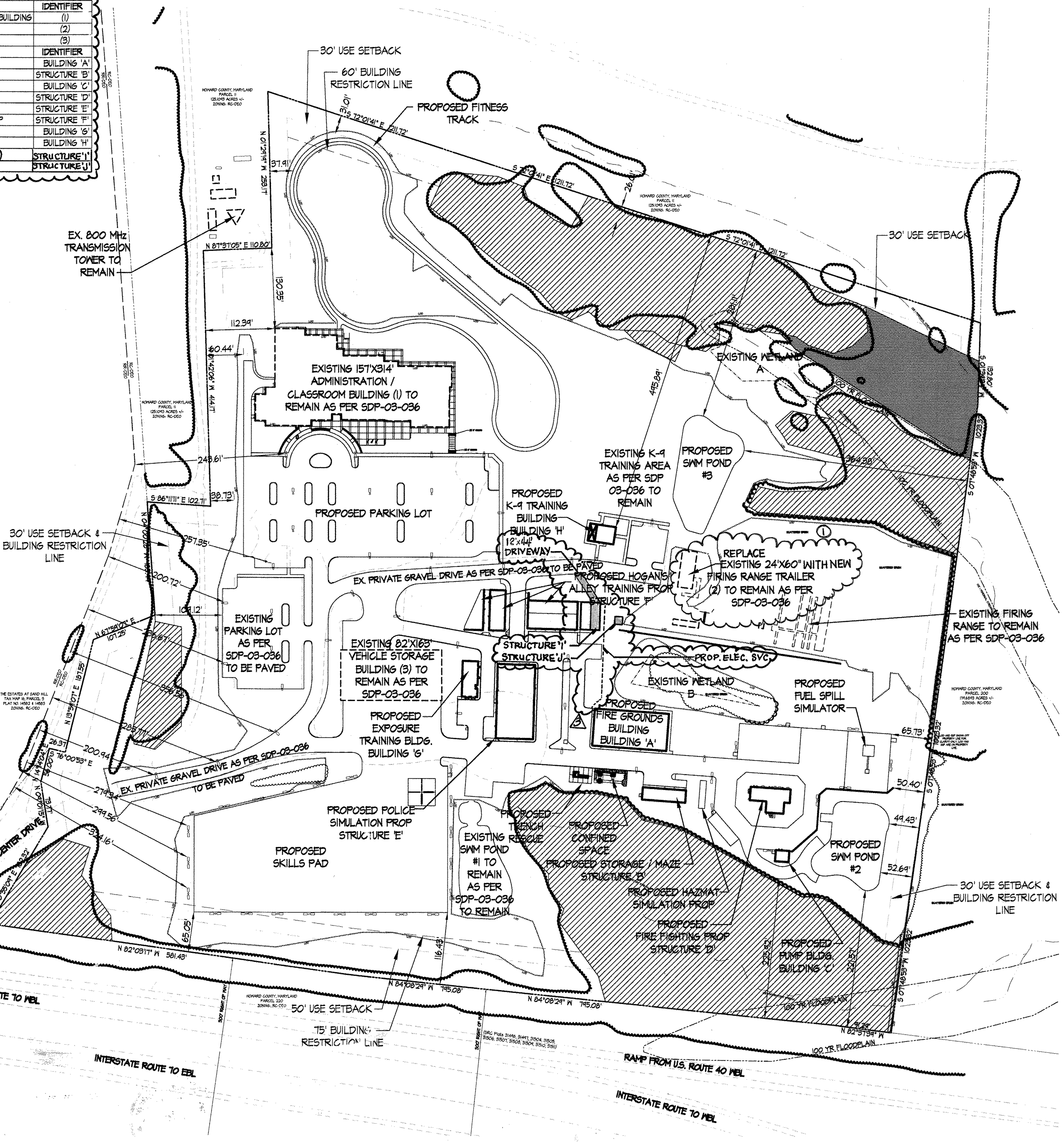
JAMES M. IRVIN, DIRECTOR 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

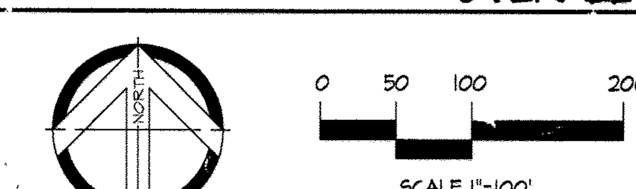
DIRECTOR 10/31/06 DATE

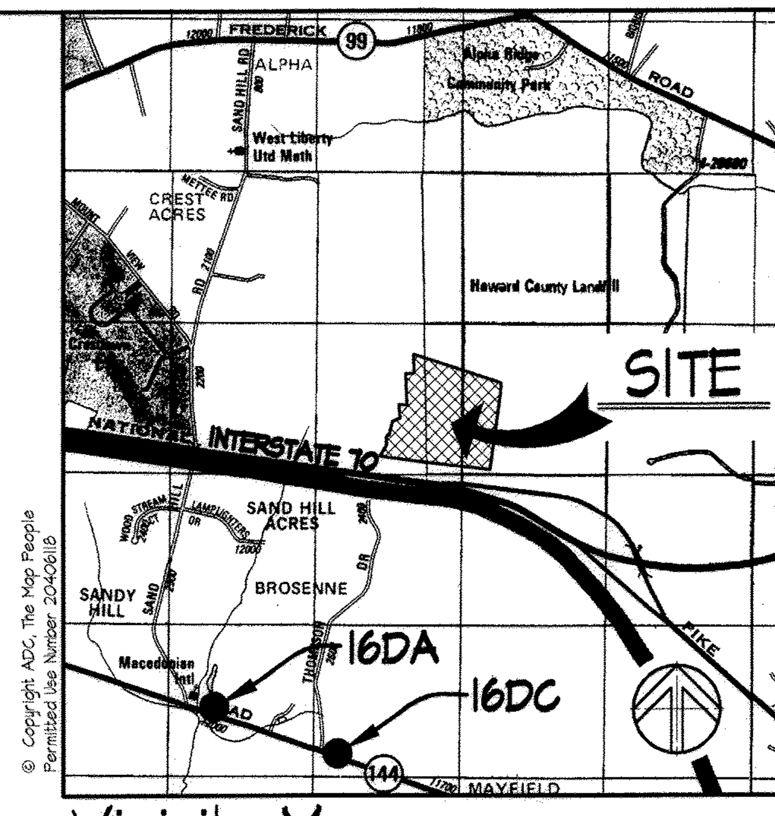
CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/24/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 10/30/06 DATE



OVERALL SITE PLAN





Vicinity Map Scale: 1" = 2000'

BENCHMARKS					
MONUMENT	NORTHING	EASTING	ELEVATION	HORIZ. DATUM	VERT. DATUM
16DA	593712.91	1332332.00	496.674	NAD83(91)	NAGVD29
16DC	593095.51	1333961.17	529.506	NAD83(91)	NAGVD29

DRAWING INDEX

SHEET #	DRAWING #	DRAWING TITLE
1 OF 70	C0.01	COVER SHEET & GENERAL NOTES
2 OF 70	C0.02	GENERAL NOTES
3 OF 70	C0.03	BUILDING ELEVATIONS
4 OF 70	C1.01	EXISTING CONDITIONS & DEMOLITION PLAN
5 OF 70	C1.02	EXISTING CONDITIONS & DEMOLITION PLAN
6 OF 70	C1.03	EXISTING CONDITIONS & DEMOLITION PLAN
7 OF 70	C1.04	EXISTING CONDITIONS & DEMOLITION PLAN
8 OF 70	C1.05	EXISTING CONDITIONS & DEMOLITION PLAN
9 OF 70	C1.06	EXISTING CONDITIONS & DEMOLITION PLAN
10 OF 70	C1.07	EXISTING CONDITIONS & DEMOLITION PLAN
11 OF 70	C1.08	EXISTING CONDITIONS & DEMOLITION PLAN
12 OF 70	C2.00	COMPOSITE LAYOUT & DETAIL REFERENCE PLAN
13 OF 70	C2.01	LAYOUT & DETAIL REFERENCE PLAN
14 OF 70	C2.02	LAYOUT & DETAIL REFERENCE PLAN
15 OF 70	C2.03	LAYOUT & DETAIL REFERENCE PLAN
16 OF 70	C2.04	LAYOUT & DETAIL REFERENCE PLAN
17 OF 70	C2.05	LAYOUT & DETAIL REFERENCE PLAN
18 OF 70	C2.06	LAYOUT & DETAIL REFERENCE PLAN
19 OF 70	C2.07	LAYOUT & DETAIL REFERENCE PLAN
20 OF 70	C2.08	LAYOUT & DETAIL REFERENCE PLAN
21 OF 70	C3.01	SITE DETAILS
22 OF 70	C3.02	SITE DETAILS
23 OF 70	C3.03	SITE DETAILS
24 OF 70	C3.04	SITE DETAILS
25 OF 70	C3.05	SITE SEPARATION WALL
26 OF 70	C3.06	RETAINING WALL PLAN, PROFILES AND SECTIONS
27 OF 70	C3.07	RETAINING WALL DETAILS AND NOTES
28 OF 70	C3.51	PLANTING PLAN
29 OF 70	C3.52	PLANTING PLAN
30 OF 70	C3.53	PLANTING PLAN DETAILS
31 OF 70	C4.01	PROPOSED STORM DRAIN DRAINAGE AREA
32 OF 70	C4.02	FUTURE STORM DRAIN DRAINAGE AREA
33 OF 70	C4.03	STORM DRAIN PROFILES
34 OF 70	C4.04	STORM DRAIN PROFILES
35 OF 70	C4.05	STORM DRAIN PROFILES
36 OF 70	C4.11	SANITARY PROFILES
37 OF 70	C4.21	TRAINING WATER PROFILES
38 OF 70	C4.22	DOMESTIC WATER PROFILES
39 OF 70	C5.00	COMPOSITE GRADING & EROSION & SEDIMENT CONTROL PLAN
40 OF 70	C5.01	GRADING & EROSION & SEDIMENT CONTROL PLAN
41 OF 70	C5.02	GRADING & EROSION & SEDIMENT CONTROL PLAN
42 OF 70	C5.03	GRADING & EROSION & SEDIMENT CONTROL PLAN
43 OF 70	C5.04	GRADING & EROSION & SEDIMENT CONTROL PLAN
44 OF 70	C5.05	GRADING & EROSION & SEDIMENT CONTROL PLAN
45 OF 70	C5.06	GRADING & EROSION & SEDIMENT CONTROL PLAN
46 OF 70	C5.07	GRADING & EROSION & SEDIMENT CONTROL PLAN
47 OF 70	C5.08	GRADING & EROSION & SEDIMENT CONTROL PLAN
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55 OF 70	C6.20	STORMWATER MANAGEMENT POND 2 PLAN
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65 OF 70	C6.42	SWM PLANTING DETAILS & NOTES
66 OF 70	C7.01	FOREST CONSERVATION PLAN
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69 OF 70	C7.04	FOREST CONSERVATION PLAN
70 OF 70	C7.05	FOREST CONSERVATION DETAILS & NOTES

C0.01

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPK
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE
SRI	3	REDLINE REVISION: ADD ARMORY AND SNIPER DECK	10/17/16
JEB	2	REDLINE REVISIONS - SEE NOTE 1 ON DRAWING C-2.05 (17 OF 70)	12/11/14
	1	NEW TRAILER WITH WATER AND SEWER CONNECTION	11/2013

Cover Sheet

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Deptartment of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Cencus Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

SCALE: 1"=100'

SHEET 1 OF 70

SDP - 06-110

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Z:\03\03153-HowardCo PublicSafetyCtr\dwg\C0.02_Site_Notes.dwg, 10/5/2006 11:08:26 AM, - Copyright, Site Resources, Inc.

PROJECT TIMELINE

REFERENCE	ACTION	DATE APPROVED	APPROVED BY
WRITTEN APPROVAL	APPROVED THE USE OF A SEWAGE HOLDING TANK	MARCH 25, 2002	HOWARD COUNTY HEALTH DEPARTMENT
WP-02-102	ALLOWS RECORDING OF ADJOINER DEEDS TO RECONFIGURE PARCELS 253, 220, AND 11.	APRIL 23, 2002	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
WRITTEN APPROVAL	DEFER PLACEMENT OF BITUMINOUS PAVING UNTIL A LATER PHASE OF WORK ON THIS SITE.	JULY 16, 2002	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
WRITTEN APPROVAL	ALLOWS THE USE OF A STORMCEPTOR	OCTOBER 7, 2002	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
WRITTEN APPROVAL	WAIVES THE REQUIREMENT FOR A 12' BENCH, 1' ABOVE THE NORMAL POOL ELEVATION, WITHIN THE SWM POND AS DESCRIBED UNDER SECTION 5.2.7.A.2 OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME I.	OCTOBER 15, 2002	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
WP-03-36	ALLOWS DISTURBANCE WITHIN THE STREAM BUFFER ON THE SOUTH EAST PORTION OF THE SITE IN THE VICINITY OF THE SWM POND AND FUTURE BURN BUILDING.	DECEMBER 9, 2002	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
44-4021	CAPITAL PROJECT WATER DRAWINGS	DECEMBER 12, 2002	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
44-4021	CAPITAL PROJECT WATER DRAWINGS	DECEMBER 12, 2002	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
SDP-03-036	HCPSTC PHASE I IMPROVEMENTS	MARCH 18, 2003	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
SDP-03-036	REDLINE REVISION: REMOVE "FUTURE", ADDED PARKING AND 10' X 5' CONCRETE PAD	JULY 23, 2004	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
SDP-03-036	REDLINE REVISION: REMOVED OFFICE TRAILER, ADDED 24' X 60' DOUBLE WIDE TRAILER	OCTOBER 26, 2004	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
SDP-03-036	REDLINE REVISION: REVISED ADMIN./CLASSROOM BUILDING WITH WALKWAY AND PARKING AREA WITH 3 HANDICAPPED SPACES.	JULY 13, 2005	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
WRITTEN APPROVAL	ALLOWS A BREAK IN 12' BENCH REQUIRED BY SECTION 5.2.7.A.2 IN SWM POND #2	FEBRUARY 7, 2006	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
WP-06-127	(1) ALLOWS DISTURBANCE OF STEEP SLOPES IN EXCESS OF 25% & IN A CONTIGUOUS AREA GREATER THAN 20,000 SF AND (2) EXTENDS APPROVAL OF WP-03-036 AND DEFERED PLACEMENT OF BITUMINOUS DESCRIBED ABOVE ALLOWING A MAXIMUM OF 1,200 SF OF DISTURBANCE AND A MAXIMUM OF 85 SF OF PAVING WITHIN THE 50' INTERMITTENT STREAMBANK BUFFER, PROVIDED THAT BEST MANAGEMENT PRACTICES ARE USED BY THE CONTRACTOR AND ALL NECESSARY PERMITS ARE OBTAINED FROM THE MARYLAND DEPARTMENT OF THE ENVRIONMENT (MDE).	JUNE 12, 2006	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
WRITTEN APPROVAL	ALLOWS STORMWATER MANAGEMENT OUTLET STRUCTURE FOR POND #2 TO BE LESS THAN 25' FROM PROPERTY LINE	MAY 30, 2006	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
SDP-06-110	SDP APPROVAL	OCTOBER 30, 2006	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
	SDP revision to add armory and sniper deck	OCTOBER 17, 2016	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

BUILDING INFORMATION TABLE

EXISTING STRUCTURE	TYPE	MEAN HEIGHT	STREET ADDRESS	AGE	
ADMINISTRATION/CLASSROOM BUILDING	PERMANENT BUILDING	34' +/-	2200	~~4 YR~~	11 YRS
POLICE RANGE TRAILER	TEMPORARY MODULAR BUILDING	12' +/-	2260	~~2 YRS~~	12 YRS
VEHICLE STORAGE BUILDING	PERMANENT BUILDING	24' +/-	2280	~~2 YRS~~	12 YRS
PROPOSED STRUCTURE	**TYPE**	**MEAN HEIGHT**	**STREET ADDRESS**	**AGE**	
K-9 TRAINING BUILDING	PERMANENT BUILDING	12' +/-	2204	-	10 YRS
HOGAN'S ALLEY TRAINING PROP 1	PERMANENT STRUCTURE	18' +/-	2208	-	10 YRS
HOGAN'S ALLEY TRAINING PROP 2	PERMANENT STRUCTURE	20' +/-	2208	-	10 YRS
HOGAN'S ALLEY TRAINING PROP 3	PERMANENT STRUCTURE	22' +/-	2208	-	10 YRS
EXPOSURE TRAINING BUILDING	PERMANENT BUILDING	13' +/-	2222	-	10 YRS
POLICE SIMULATION PROP	PERMANENT BUILDING	29' +/-	2230	-	10 YRS
FIRE GROUNDS BUILDING	PERMANENT BUILDING	29' +/-	2260	-	10 YRS
STORAGE/MAZE	PERMANENT BUILDING	12' +/-	2272	-	10 YRS
FIRE FIGHTING PROP	PERMANENT STRUCTURE	26' +/-	2268	-	10 YRS
PUMP BUILDING	PERMANENT BUILDING	15' +/-	2264	-	10 YRS
ARMORY	PERMANENT STRUCTURE	12'+/-			
SNIPER DECK	PERMANENT STRUCTURE	12'+/-			

3

EXISTING VEGETATIVE COMMUNITIES

Forest Stand 1

3.26 ac. FS1 is a Maple and Oak stand. The stand is the largest associated stand and the onsite portions are approximately 4.6 acres of a much larger stand. The onsite canopy species include Red Oak, Red Maple, Black Oak, and Tulip Poplar. This stand contains some large maple trees including a 36 inch dba Red Maple. The understory is shrubby and viney and dense. Species include Greenbrier, Multiflora Rose, Poison Ivy, Japanese Honeysuckle and grape. One of two separate stream branches run through each of the two onsite portions of FS1. The stream branch running through the southern, onsite portion of FS1 is dry. The stream branch running through the northern, onsite portion of FS1 is a perennial tributary of the Little Patuxent River. The canopy is approximately 70 to 90 percent closed.

The adjacent treeline running along Interstate Route 70 is a stand of Tree of Heaven.

Significant Trees:
Specimen Tree: 36" Red Maple
Large Trees: 28" Red Maple
28" Red Maple
28" Red Maple

Forest Stand 2

3.24 ac. FS2 is a Red Maple stand. The canopy species include Red Maple, Red Oak, Tulip Poplar and a few American Elm trees. In some areas of the stand, Red Maple is the only canopy species. The canopy is approximately 90 percent closed in the western portion of the stand and is as low as 65 percent closed in the eastern portion of the stand. The eastern portion of the stand is in closer proximity to Wetland A. The shrub layer consists of Multiflora Rose which is concentrated in the eastern portion of the stand. The dominant herbaceous species consist of Poison Ivy, Virginia Creeper, and Japanese Honeysuckle. Groundcover is at approximately 70 percent. This stand has moderately good forest structure, but has limited habitat due to it's small size and disconnection from FS1. A corridor linking FS1 and FS2 would improve the value.

Significant Trees:
Specimen Trees: 33" Tulip Poplar
35" White Oak

Forest Stand 3

0.91 ac. FS3 is a disturbed, low quality stand of Tree of Heaven. Some Tulip Poplar, Red Maple, Black Cherry, and Red Oak are also growing in this stand. This stand has been subject to much disturbance from Interstate Route 70, the unnamed access access road, and the clearing and grading of the site.

Hedgerows

A few hedgerows exist periodically throughout the site. They are small stands of trees and brush narrower than 35' and smaller than 10,000 sf in area. These stands are comprised of mostly Red Maple, Tree of Heaven and a mix of both Asian and Black Cherrys. Understory is dominated by Greenbrier, Multiflora Rose, Poison Ivy, Japanese Honeysuckle and grape.

Open Space

The majority of the site is mowed grass and open field. The open field areas contain a variety of grasses and herbaceous plants with scattered larger shrubs Greenbrier and Multiflora Rose. The edges of the open field areas are dense with the larger shrubs.

Wetlands

There are two wetlands on the site, neither is to be disturbed during this work. Wetland A to the north-east of the site is mostly grass but is surrounded by Red Maple and will most likely become wooded in the future. Wetland B is in the center of the site. Wetland B was created due to a poorly graded swale on the south side of the existing fireing range. It contains a few juvenile Willows, Cattails and other herbaceous plants.

LIGHTING FIXTURE SCHEDULE

NOTE: VERIFY CEILING AND WALL CONSTRUCTION AND FINISHES WITH THE ARCHITECT'S DRAWINGS AND FINISH SCHEDULES FURNISH PROPER MOUNTING FRAMES, BRACKETS AND HARDWARE AS REQUIRED TO BE COMPATIBLE WITH ARCHITECTURAL FINISHES. MOUNTING HEIGHTS INDICATED ARE TO BOTTOM OF FIXTURE

TYPE	DESCRIPTION	LAMPS			MAX W.	MOUNTING A.F.F.	MANU. / MODEL No. (OR APPROVED EQUAL)
		VOLTS	NO.	TYPE			
D	INDUSTRIAL INCANDESCENT FIXTURE WITH CAST ALUMINUM HOUSING, CAST ALUMINUM GUARD AND GLASS GLOBE.	120	1	200 WATT A-21	200	SURFACE WALL OR CEILING MTD.	STONCO "VCXL" SERIES
D1	SAME AS TYPE 'D' EXCEPT WALL MOUNTED.	120	1	60 WATT A-19 RED	60	WALL MOUNTED AT 7'-6" A.F.F.	STONCO "VWXL" SERIES
D2	SAME AS TYPE 'D' EXCEPT WALL MOUNTED.	120	1	60 WATT A-19 GREEN	60	WALL MOUNTED AT 7'-6" A.F.F.	STONCO "VWXL" SERIES
H	ROUGH SERVICE GRADE COMPACT FLOURESCENT WALL SCONCE WITH INTEGRAL PHOTOCELL.	120/277	1	32 TRT	35	WALL MTD. AT 7'-0" A.F.F.	LITHONIA "VRIBV" SERIES
J	REMOTE WEATHERPROOF EMERGENCY LIGHT HEAD WITH FIBERGLASS HOUSING AND SEALED & GASKETED LAMP.	6 VOLT D.C.	1	HALOGEN	-	WALL MTD. AT 7'-0" A.F.F.	LITHONIA "ELANX" SERIES
M	H.I.D. WALL PACK WITH DIE CAST ALUMINUM HOUSING, IMPACT RESISTANT BOROSILICATE GLASS LENS AND INTEGRAL PHOTOCELL.	120	1	150 WATT M.H.	175	WALL MTD. AT 10'-0" A.F.F.	LUMARK "P" SERIES
M1	SAME AS TYPE 'M'.	120	1	70 WATT M.H.	100	WALL MTD. AT 10'-0" A.F.F.	LUMARK "P" SERIES
P	2X4 FLUORESCENT TROFFER WITH 3" DEEP, 18 CELL LOW IRIDESCENT PARABOLIC LOUVER AND 2 ELECTRONIC BALLAST.	120	3	F32T8	105	RECESSED MOUNTED.	LITHONIA "PM3" SERIES
Q	2X2 FLUORESCENT TROFFER WITH 3" DEEP, 9 CELL LOW IRIDESCENT PARABOLIC LOUVER AND SINGLE ELECTRONIC BALLAST.	120	3	F17T8	70	RECESSED MOUNTED.	LITHONIA "2PM3N" SERIES
R	POLE MOUNTED H.I.D. FIXTURE WITH FLAT GLASS LENS AND COLD WEATHER H.P.F. BALLAST. U.L. LISTED FOR WET LOCATIONS. SHALL HAVE TYPE 3 LIGHT DISTRIBUTION OPTICS. POLE SHALL BE 20' SQUARE ALUMINUM WITH EPA WITH STANDRATING OF 100 MPH WINDS FOR ATTACHED FIXTURES. COLOR OF POLE AND FIXTURE TO BE SELECTED BY ARCHITECT. FIXTURE TO BE EQUIPPED WITH INTEGRAL PHOTOCELL.	208V, 1 PH.	1	400 WATT M.H.	450	POLE	LITHONIA "KSF2" SERIES
R1	SAME AS TYPE 'R' EXCEPT WITH TYPE V LIGHT DISTRIBUTION OPTICS.	208V, 1 PH.	1	400 WATT M.H.	450	POLE	LITHONIA "KSF2" SERIES
S1	35' CLASS 3 WOODEN POLE WITH 4' CROSS ARM AND 2 QUARTZ FLOOD LIGHTS. POLE TO BE SET IN GROUND 6'-0". FLOOD LIGHTS TO BE MOUNTED TO CROSS ARMS. CROSS ARMS TO BE BOLTED TO BRACE AT 6" BELOW POLE TOP. CROSS ARM TO BE WOOD. BRACING TO BE ZINC-COATED STRUCTURAL STEEL. PROVIDE FUSING AT BASE FOR FIXTURES.	120	2	1500 WATT QUARTZ	3000	POLE	BAY-BRITE "NQF" SERIES
S2	SAME AS TYPE 'S1' EXCEPT WITH 55' CLASS 3 WOODEN POLE AND POLE SET IN GROUND 7'-6".	120	2	1500 WATT QUARTZ	3000	POLE	BAY-BRITE "NQF" SERIES

THIS SEAL IS FOR 3 REVISIONS MADE BY SITE RESOURCES, INC.

10.17.16

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. 23165 Expiration Date: 07.18.2017

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR 10/30/06 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/24/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 10/20/06 DATE

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE
SR1	3	REDLINE REVISION: ADD ARMORY AND SNIPER DECK	10/17/16

Site Notes

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

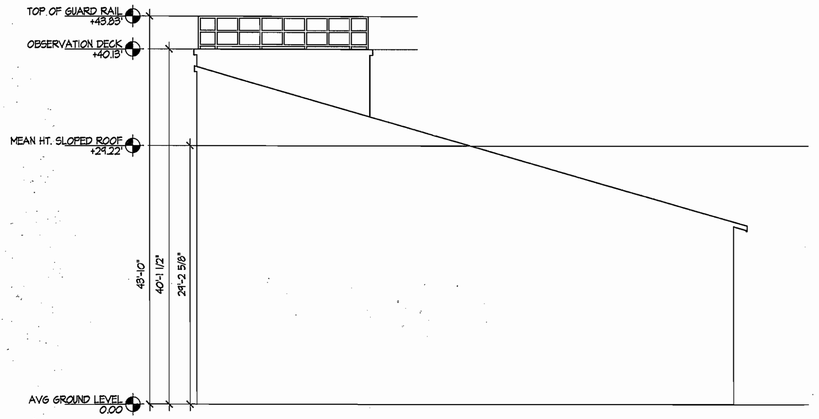
OWNER:
Howard County
Deptartment of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Cencus Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

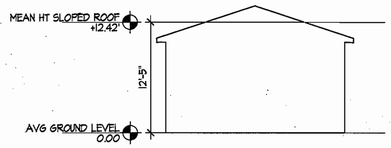
C0.02

SCALE: AS SHOWN

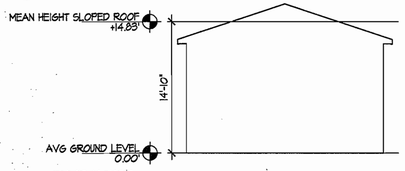
SDP - 06-110



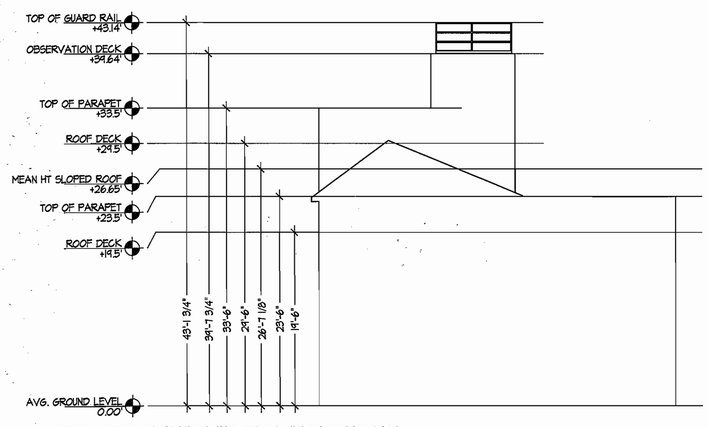
A FIRE GROUNDS BUILDING HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"



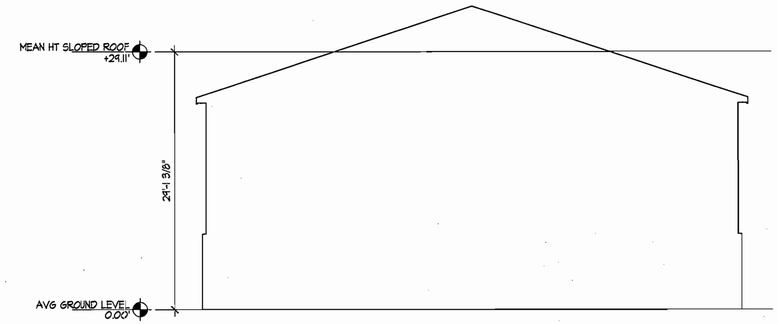
B STORAGE/MAZE STRUCTURE BUILDING HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"



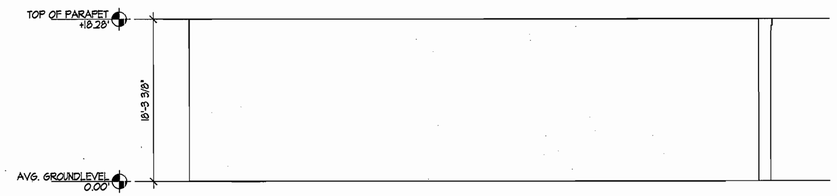
C PUMP HOUSE BUILDING HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"



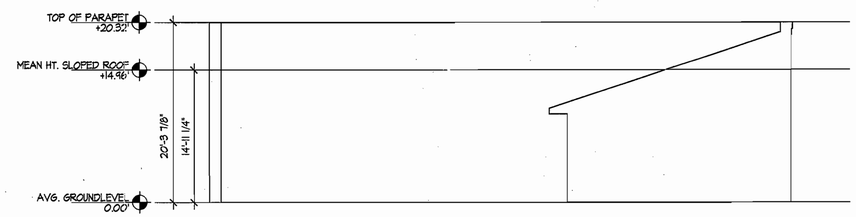
D STRUCTURAL FIRE FIGHTING PROP HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"



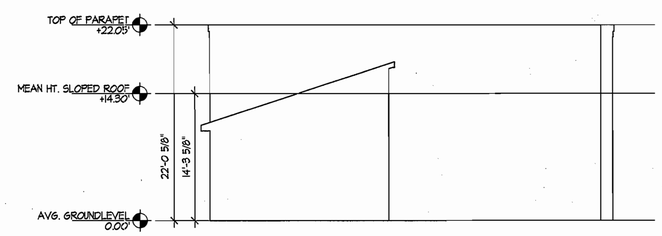
E POLICE SIMULATION BUILDING HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"



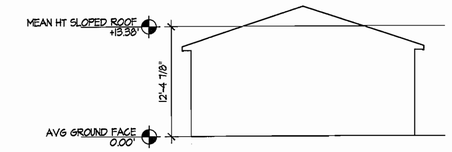
F HOGANS ALLEY STRUCTURE 1 HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"



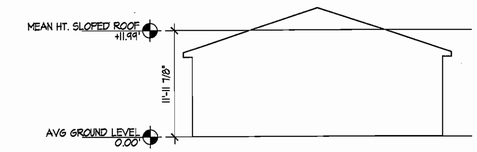
F HOGANS ALLEY STRUCTURE 2 HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"



F HOGANS ALLEY STRUCTURE 3 HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"



G EXPOSURE TRAINING BUILDING HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"



H K-9 BUILDING HEIGHT DIAGRAM
SCALE 1/8" = 1'-0"

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IEVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Building Elevations

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No.-15116, L.6684 / P.314
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

CO.03

SCALE: AS SHOWN

SHEET 3 OF 70

SDP - 06-110

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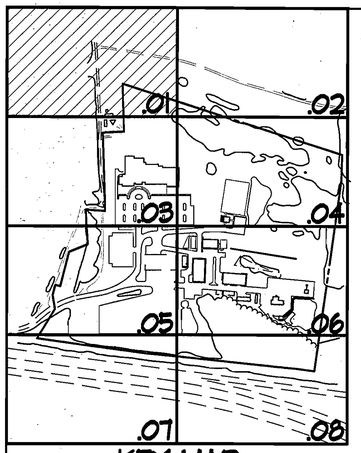
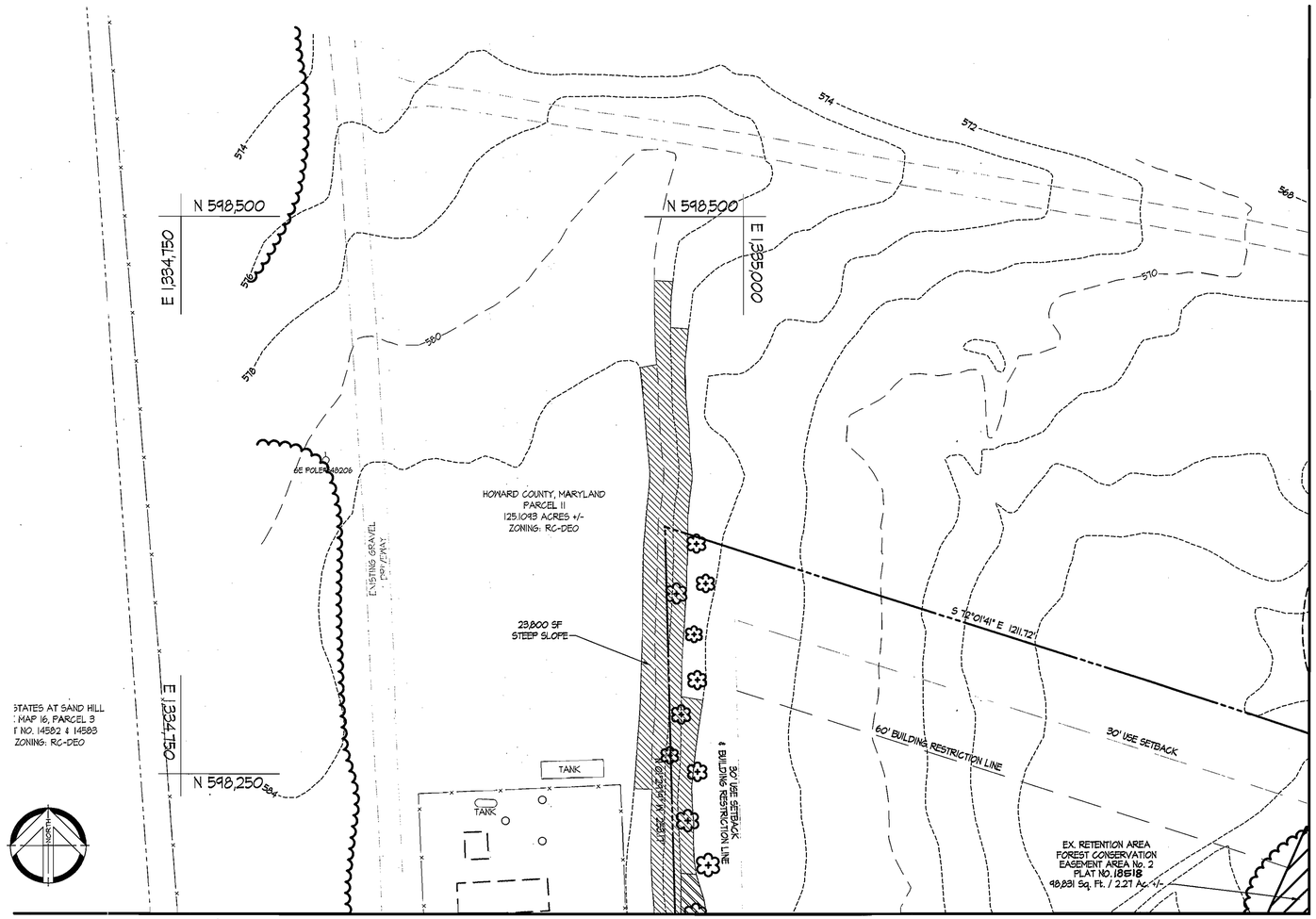


KEY MAP

LEGEND - EXISTING CONDITIONS & & DEMOLITION PLAN

- PROPERTY LINE
- 348 350 — EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING TREES
- EXISTING ROAD TO REMAIN
- EXISTING ROAD TO BE REMOVED
- EXISTING FEATURES TO BE REMOVED
- 8" SAN — EXISTING SANITARY LINE TO REMAIN
- 8" SAN — EXISTING SANITARY LINE TO BE REMOVED
- 15" RCCP — EXISTING STORM DRAIN TO REMAIN
- 15" RCCP — EXISTING STORM DRAIN TO BE REMOVED
- 8" W — EXISTING WATER LINE TO REMAIN
- 8" W — EXISTING WATER LINE TO BE REMOVED
- E — EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO REMAIN
- E — EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO BE REMOVED
- G — EXISTING GAS LINE TO REMAIN
- G — EXISTING GAS LINE TO BE REMOVED
- EXISTING BUILDINGS
- EXISTING FENCE
- EXISTING FENCE TO BE REMOVED
- GE POLE#548205 — LIGHT POLE — EXISTING UTILITY POLE
- EXISTING STEEP SLOPES 15% - 25%
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA LESS THAN 20,000 SF
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF



MATCHLINE, SEE SHEET C1.02

MATCHLINE, SEE SHEET C1.03

0 10 20 30 60
SCALE 1"=30'

NORTH

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

for DIRECTOR — 10/30/06 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION CE — 10/26/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/30/06 DATE

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14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — BRIAN W. WOLFE — No. 36876 — REGISTERED PROFESSIONAL ENGINEER

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Existing Conditions & Demolition Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #269, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6694 / F.619
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C 1.01

SCALE: 1"=30'

SHEET 4 OF 70

SDP - 06-110

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LEGEND - EXISTING CONDITIONS & & DEMOLITION PLAN

- PROPERTY LINE
- 350 / 340 — EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING TREES
- EXISTING ROAD TO REMAIN
- EXISTING ROAD TO BE REMOVED
- EXISTING FEATURES TO BE REMOVED
- 8" SAN — EXISTING SANITARY LINE TO REMAIN
- 8" SAN — EXISTING SANITARY LINE TO BE REMOVED
- 15" RCCP — EXISTING STORM DRAIN TO REMAIN
- 15" RCCP — EXISTING STORM DRAIN TO BE REMOVED
- 8" W — EXISTING WATER LINE TO REMAIN
- 8" W — EXISTING WATER LINE TO BE REMOVED
- EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE
- TO REMAIN
- EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO BE REMOVED
- EXISTING GAS LINE TO REMAIN
- EXISTING GAS LINE TO BE REMOVED
- EXISTING BUILDINGS
- EXISTING FENCE
- EXISTING FENCE TO BE REMOVED
- GE POLE#548205 / LIGHT POLE — EXISTING UTILITY POLE
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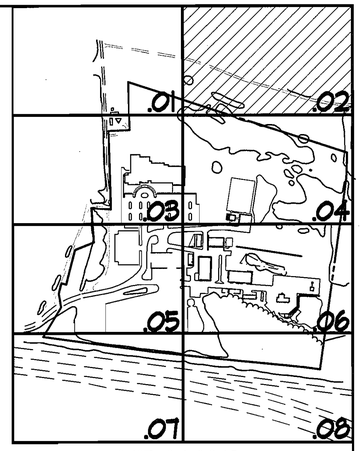
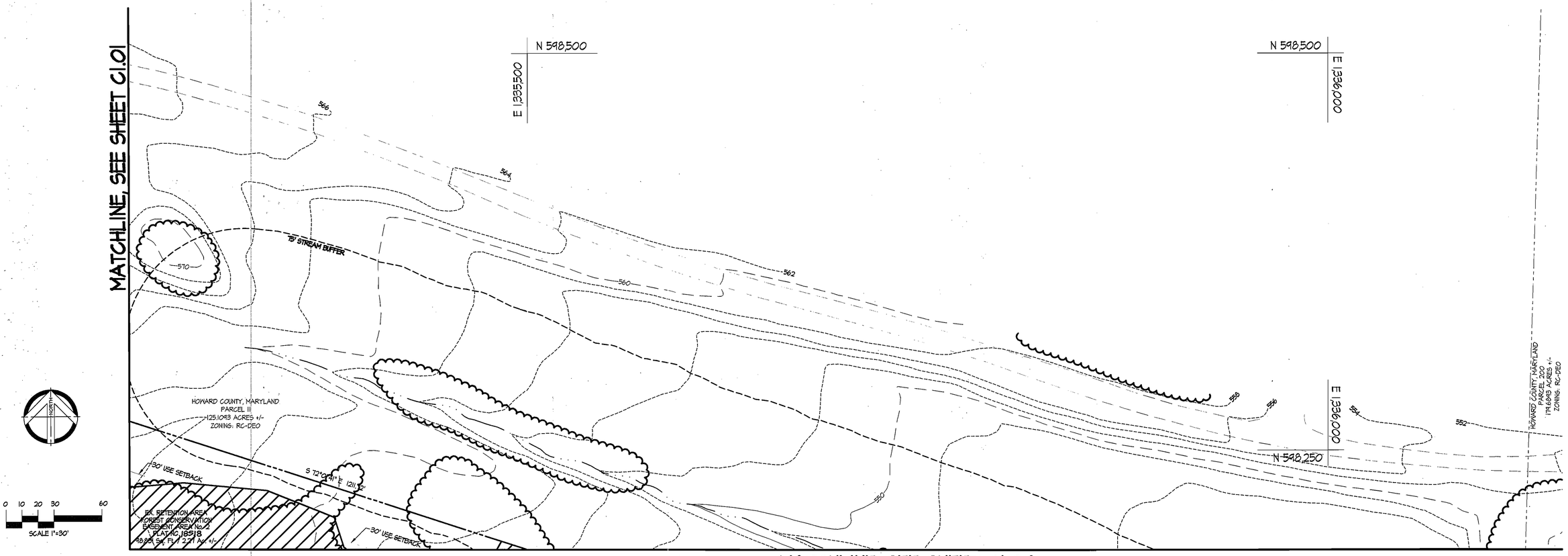


KEY MAP



MATCHLINE, SEE SHEET C1.04

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER — DATE 10/20/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/20/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/26/06

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — ANTHONY M. MARCHESINI — No. 19851 — REGISTERED PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Existing Conditions & Demolition Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C1.02

SCALE: 1"=30'

SHEET 5 OF 70

SDP - 06-110

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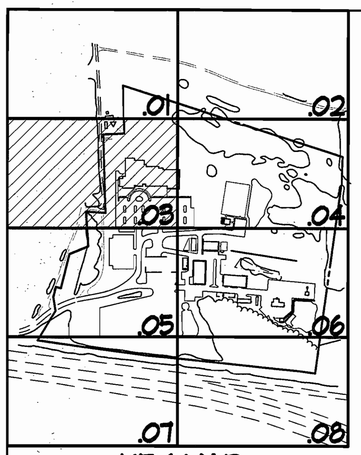

KEY MAP

LEGEND - EXISTING CONDITIONS & & DEMOLITION PLAN

- PROPERTY LINE
- 348 — EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING TREES
- EXISTING ROAD TO REMAIN
- EXISTING ROAD TO BE REMOVED
- EXISTING FEATURES TO BE REMOVED
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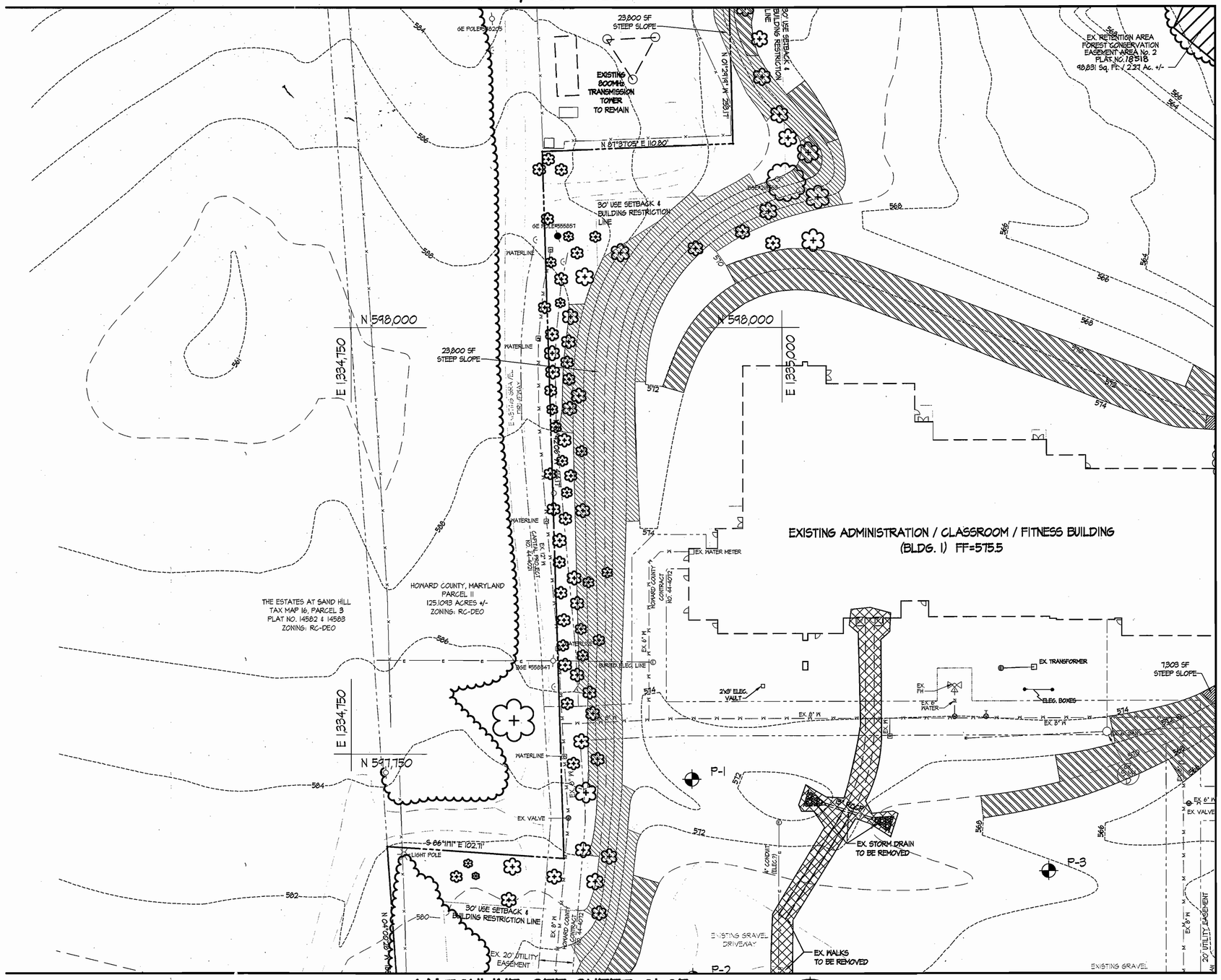
MATCHLINE, SEE SHEET C1.01



MATCHLINE, SEE SHEET C1.04

MATCHLINE, SEE SHEET C1.05

NORTH

0 10 20 30 60
SCALE 1"=30'

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

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CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/26/06

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DES: KPR
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Existing Conditions & Demolition Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

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WATER CODE: 730, SEWER CODE: Private - Holding Tank

C1.03

SCALE: 1"=30'

SHEET 6 OF 70

SDP - 06-110

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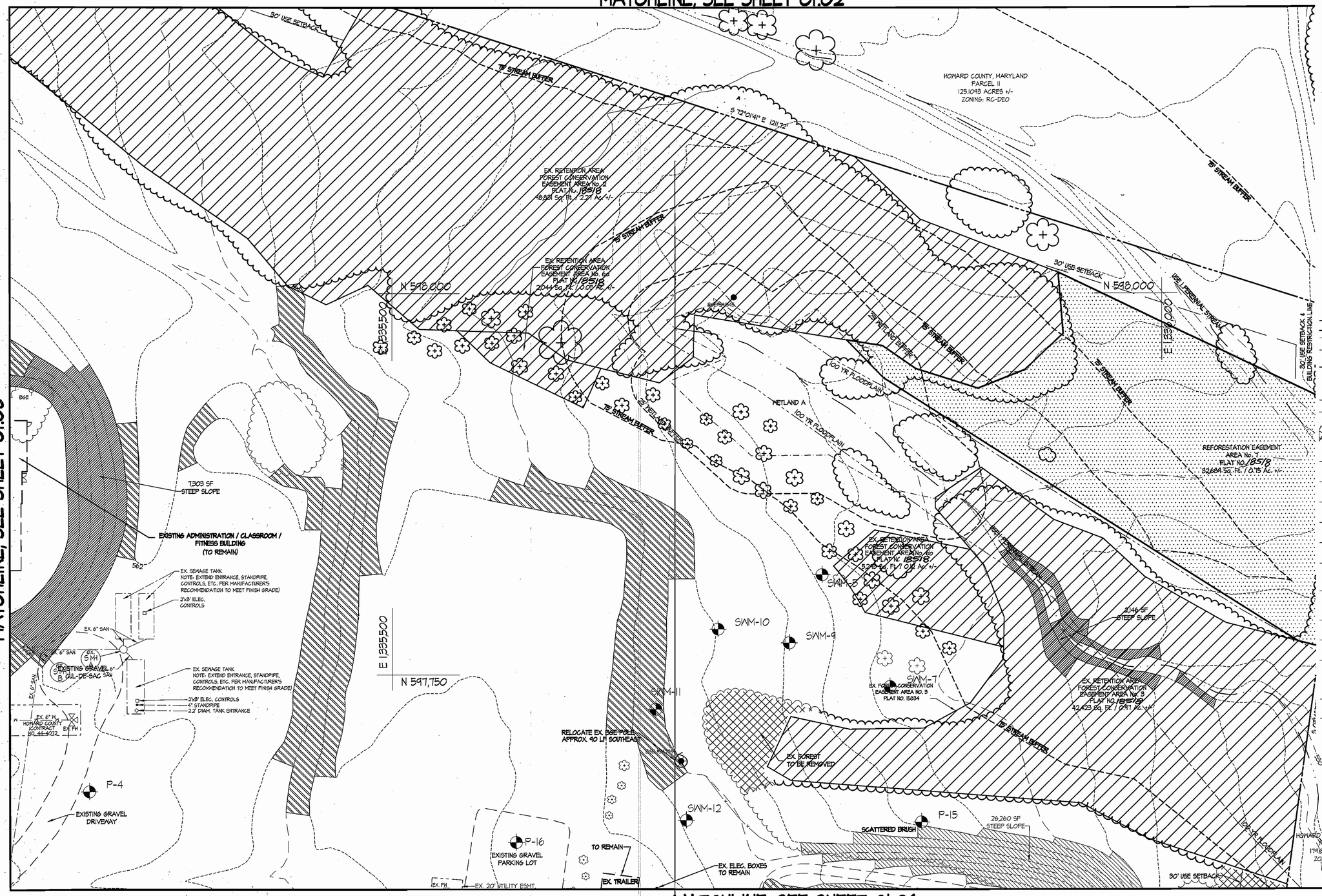
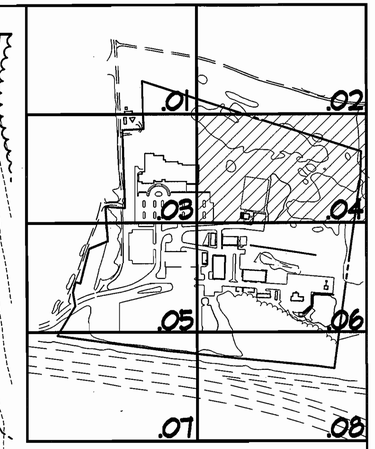
MATCHLINE, SEE SHEET C1.02

MATCHLINE, SEE SHEET C1.03



MATCHLINE, SEE SHEET C1.06



KEY MAP

LEGEND - EXISTING CONDITIONS & & DEMOLITION PLAN

- PROPERTY LINE
- EXISTING CONTOURS (350, 348)
- EXISTING TREELINE
- EXISTING TREES
- EXISTING ROAD TO REMAIN
- EXISTING ROAD TO BE REMOVED
- EXISTING FEATURES TO BE REMOVED
- 8" SAN — EXISTING SANITARY LINE TO REMAIN
- 8" SAN — EXISTING SANITARY LINE TO BE REMOVED
- 15" RCCP — EXISTING STORM DRAIN TO REMAIN
- 15" RCCP — EXISTING STORM DRAIN TO BE REMOVED
- 8" W — EXISTING WATER LINE TO REMAIN
- 8" W — EXISTING WATER LINE TO BE REMOVED
- EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO REMAIN
- EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO BE REMOVED
- EXISTING GAS LINE TO REMAIN
- EXISTING GAS LINE TO BE REMOVED
- EXISTING BUILDINGS
- EXISTING FENCE
- EXISTING FENCE TO BE REMOVED
- GE POLE#548205 — LIGHT POLE — EXISTING UTILITY POLE
- EXISTING STEEP SLOPES 15% - 25%
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA LESS THAN 20,000 SF
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/30/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Existing Conditions & Demolition Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #293, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

0 10 20 30 60
SCALE 1"=30'

NORTH

SCALE: 1"=30'

SHEET 7 OF 70

C1.04

SDP - 06-110

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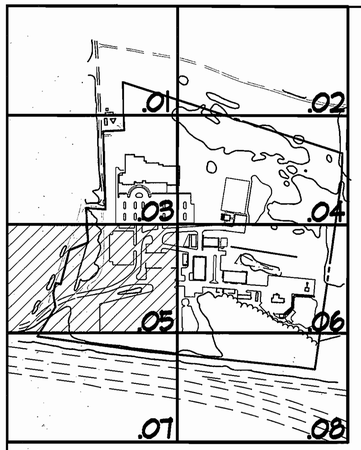

KEY MAP

LEGEND - EXISTING CONDITIONS & & DEMOLITION PLAN

- PROPERTY LINE
- 348 — EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING TREES
- EXISTING ROAD TO REMAIN
- EXISTING ROAD TO BE REMOVED
- EXISTING FEATURES TO BE REMOVED
- 8" SAN — EXISTING SANITARY LINE TO REMAIN
- 8" SAN — EXISTING SANITARY LINE TO BE REMOVED
- 15" RCCP — EXISTING STORM DRAIN TO REMAIN
- 15" RCCP — EXISTING STORM DRAIN TO BE REMOVED
- 8" W — EXISTING WATER LINE TO REMAIN
- 8" W — EXISTING WATER LINE TO BE REMOVED
- EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO REMAIN
- EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO BE REMOVED
- EXISTING GAS LINE TO REMAIN
- EXISTING GAS LINE TO BE REMOVED
- EXISTING BUILDINGS
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- EXISTING FENCE TO BE REMOVED
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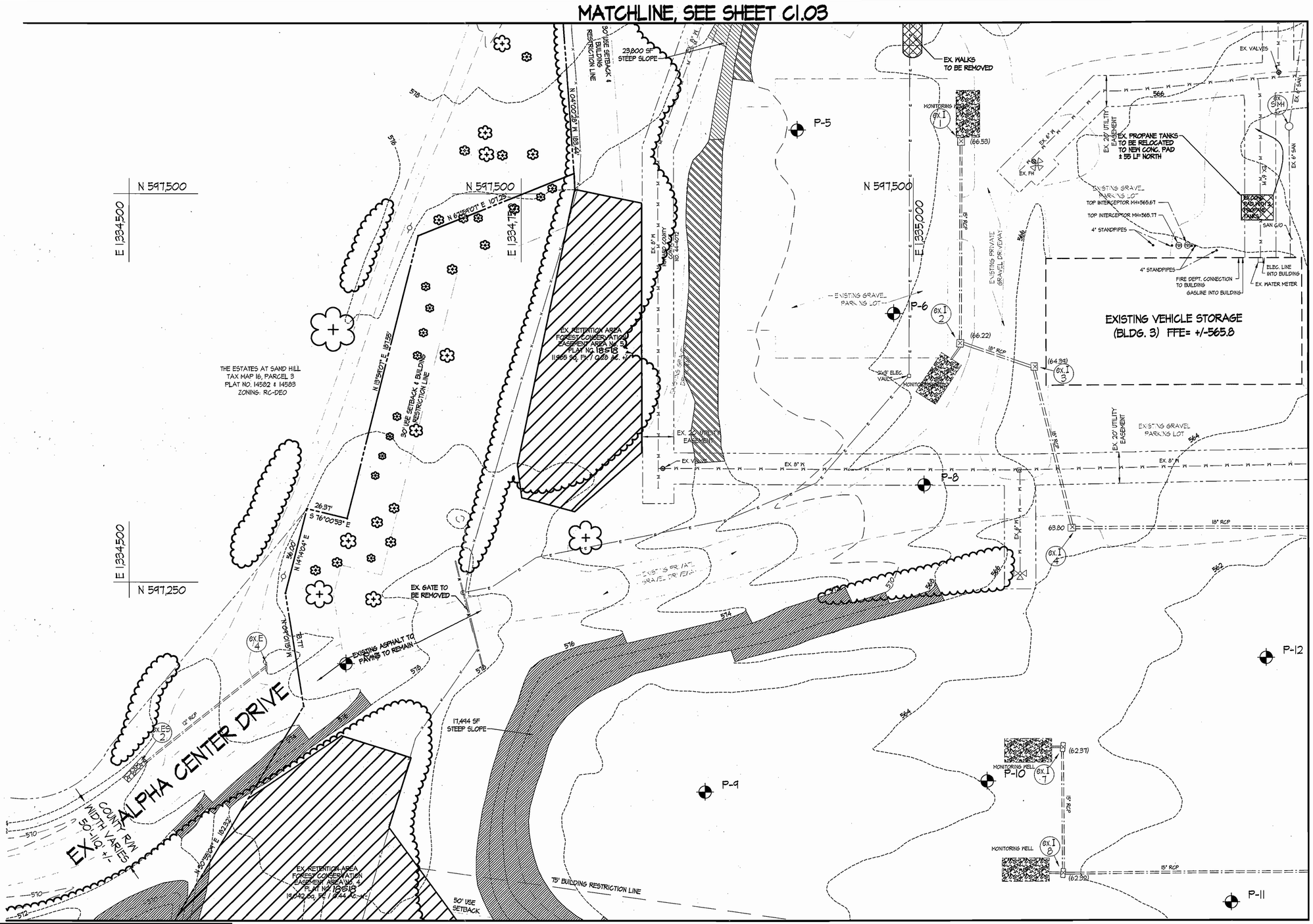
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA LESS THAN 20,000 SF
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF

NORTH

0 10 20 30 60

SCALE 1"=30'



APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Walsh — 10/30/06
COUNTY HEALTH OFFICER — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. Irvin — 10/26/06
JAMES M. IRVIN, DIRECTOR — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE

10/24/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

10/30/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

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14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — BRIAN W. EDMEADES — REGISTERED PROFESSIONAL ENGINEER — No. 15649

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Existing Conditions & Demolition Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City Maryland 21043
Phone (410) 313-2300

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C1.05

SCALE: 1"=30'

SHEET 8 OF 70

SDP - 06-110

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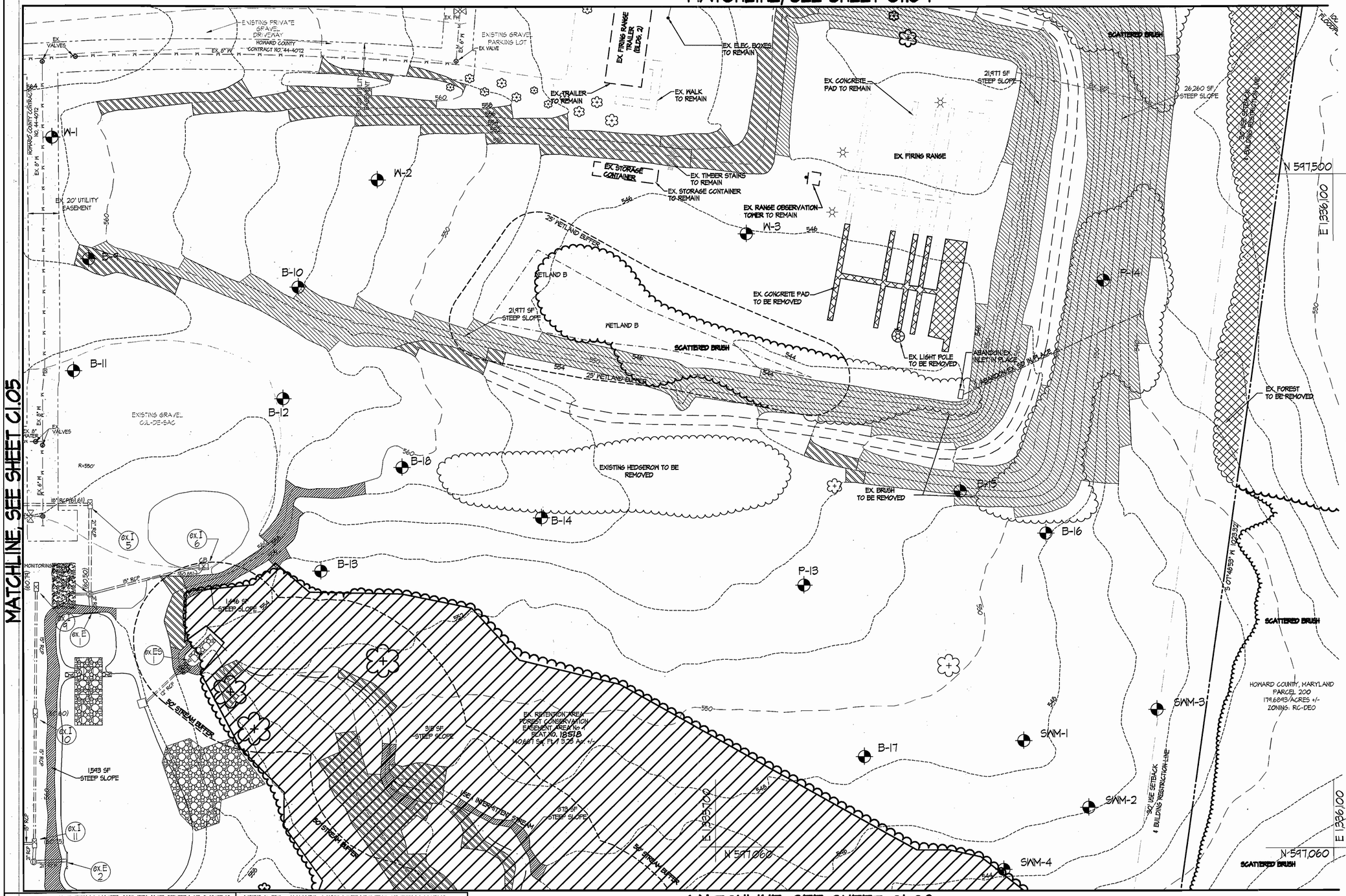
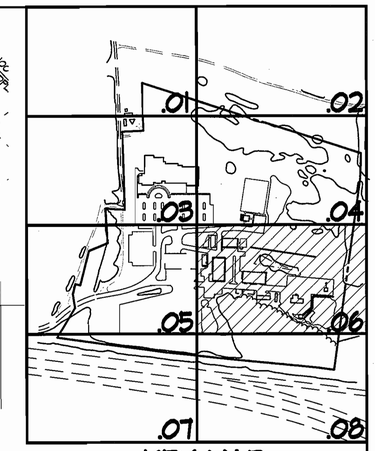
MATCHLINE, SEE SHEET C1.04



MATCHLINE, SEE SHEET C1.05

MATCHLINE, SEE SHEET C1.08



KEY MAP

LEGEND - EXISTING CONDITIONS & & DEMOLITION PLAN

- PROPERTY LINE
- 350 — EXISTING CONTOURS
- 348 — EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING TREES
- EXISTING ROAD TO REMAIN
- EXISTING ROAD TO BE REMOVED
- EXISTING FEATURES TO BE REMOVED
- 8" SAN — EXISTING SANITARY LINE TO REMAIN
- 8" SAN — EXISTING SANITARY LINE TO BE REMOVED
- 15" RCCP — EXISTING STORM DRAIN TO REMAIN
- 15" RCCP — EXISTING STORM DRAIN TO BE REMOVED
- 8" W — EXISTING WATER LINE TO REMAIN
- 8" W — EXISTING WATER LINE TO BE REMOVED
- E — EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO REMAIN
- E — EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO BE REMOVED
- G — EXISTING GAS LINE TO REMAIN
- G — EXISTING GAS LINE TO BE REMOVED
- EXISTING BUILDINGS
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- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF

NORTH

0 10 20 30 60
SCALE 1"=30'

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/31/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Existing Conditions & Demolition Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #250, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

SCALE: 1"=30'

SHEET 9 OF 70

C1.06

SDP - 06-110

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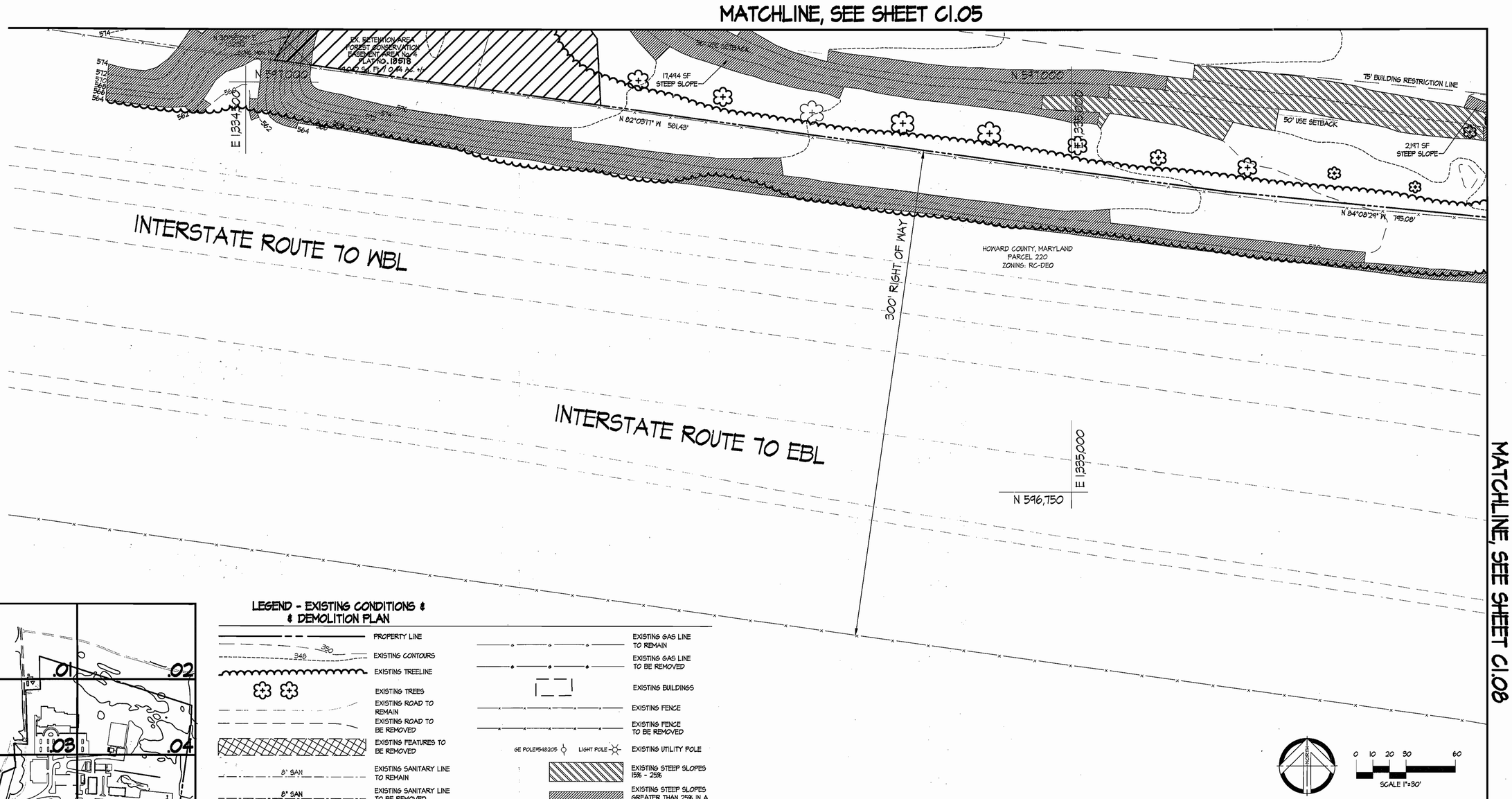

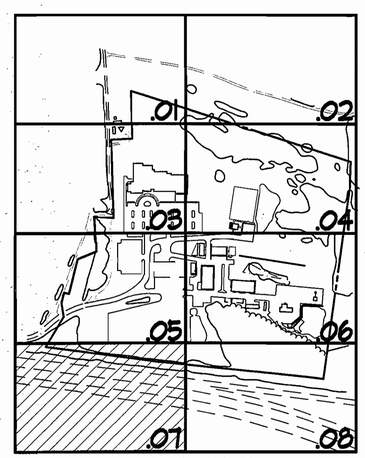

KEY MAP

LEGEND - EXISTING CONDITIONS & & DEMOLITION PLAN

- PROPERTY LINE
- EXISTING CONTOURS (350, 348)
- EXISTING TREELINE
- EXISTING TREES
- EXISTING ROAD TO REMAIN
- EXISTING ROAD TO BE REMOVED
- EXISTING FEATURES TO BE REMOVED
- EXISTING SANITARY LINE TO REMAIN (8" SAN)
- EXISTING SANITARY LINE TO BE REMOVED (8" SAN)
- EXISTING STORM DRAIN TO REMAIN (15" RCCP)
- EXISTING STORM DRAIN TO BE REMOVED (15" RCCP)
- EXISTING WATER LINE TO REMAIN (8" W)
- EXISTING WATER LINE TO BE REMOVED (8" W)
- EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO REMAIN
- EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO BE REMOVED
- EXISTING GAS LINE TO REMAIN
- EXISTING GAS LINE TO BE REMOVED
- EXISTING BUILDINGS
- EXISTING FENCE
- EXISTING FENCE TO BE REMOVED
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- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA LESS THAN 20,000 SF
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — MBD — 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — 10/30/06 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/30/06 DATE

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Existing Conditions & Demolition Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C1.07

SCALE: 1"=30'

SHEET 10 OF 70

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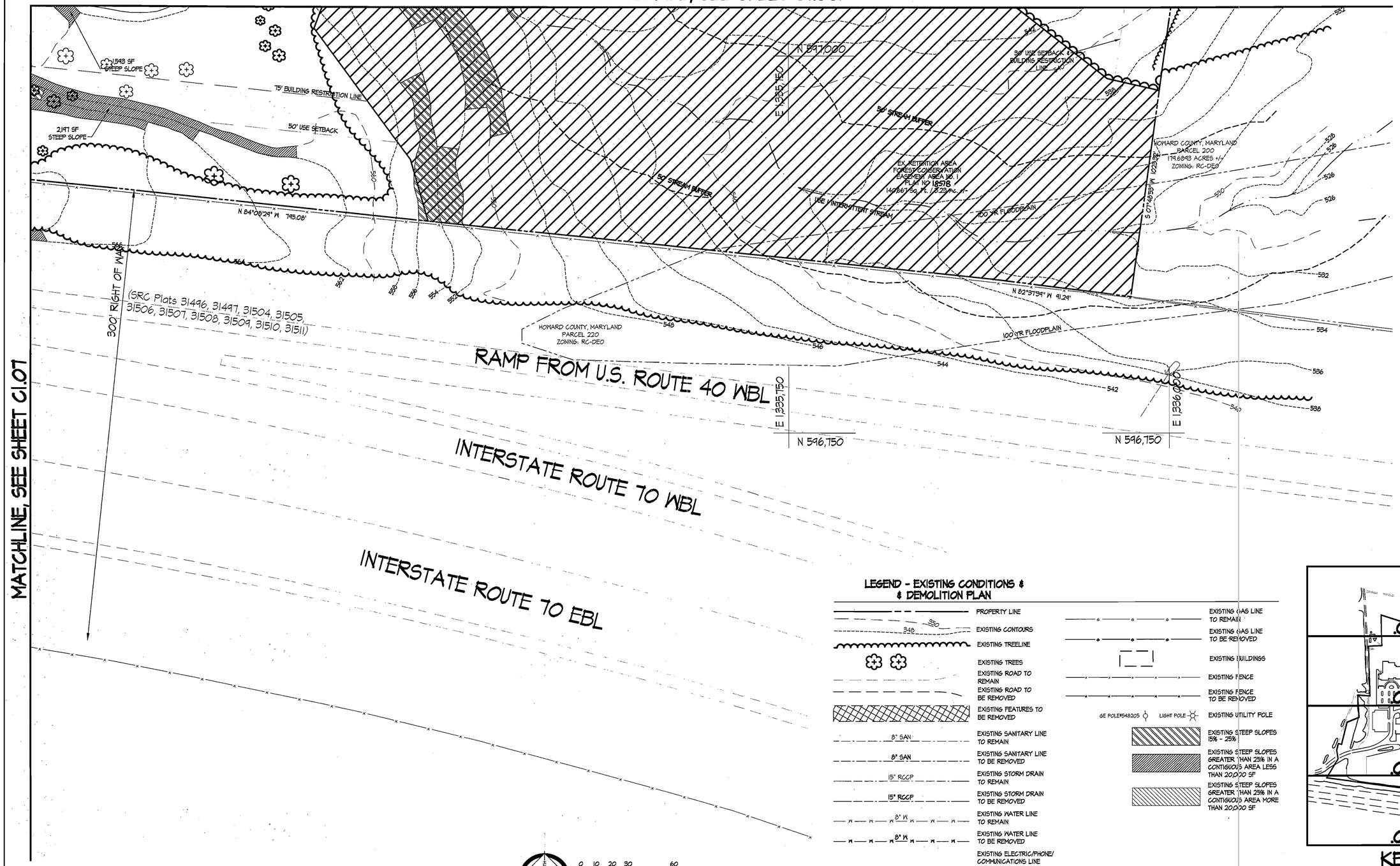
MATCHLINE, SEE SHEET C1.06



MATCHLINE, SEE SHEET C1.07

LEGEND - EXISTING CONDITIONS & & DEMOLITION PLAN

- PROPERTY LINE
- 350 / 348 — EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING TREES
- EXISTING ROAD TO REMAIN
- EXISTING ROAD TO BE REMOVED
- EXISTING FEATURES TO BE REMOVED
- 8" SAN — EXISTING SANITARY LINE TO REMAIN
- 8" SAN — EXISTING SANITARY LINE TO BE REMOVED
- 15" RCCP — EXISTING STORM DRAIN TO REMAIN
- 15" RCCP — EXISTING STORM DRAIN TO BE REMOVED
- 8" W — EXISTING WATER LINE TO REMAIN
- 8" W — EXISTING WATER LINE TO BE REMOVED
- E — EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO REMAIN
- E — EXISTING ELECTRIC/PHONE/ COMMUNICATIONS LINE TO BE REMOVED
- EXISTING GAS LINE TO REMAIN
- EXISTING GAS LINE TO BE REMOVED
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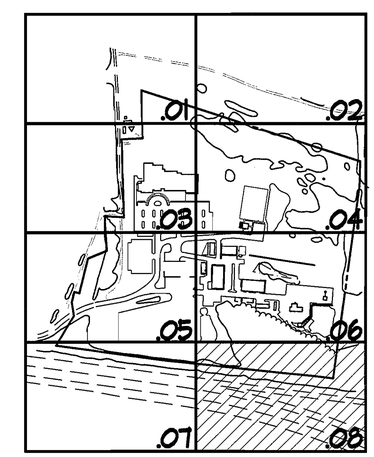
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF



KEY MAP

NORTH

0 10 20 30 60

SCALE 1"=30'

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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E-mail: bw@edmeades-stromdahl.com

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — BRIAN WILLIAM EDMEADES — No. 13576 — PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Existing Conditions & Demolition Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C1.08

SCALE: 1"=30'

SHEET 11 OF 70

SDP - 06-110

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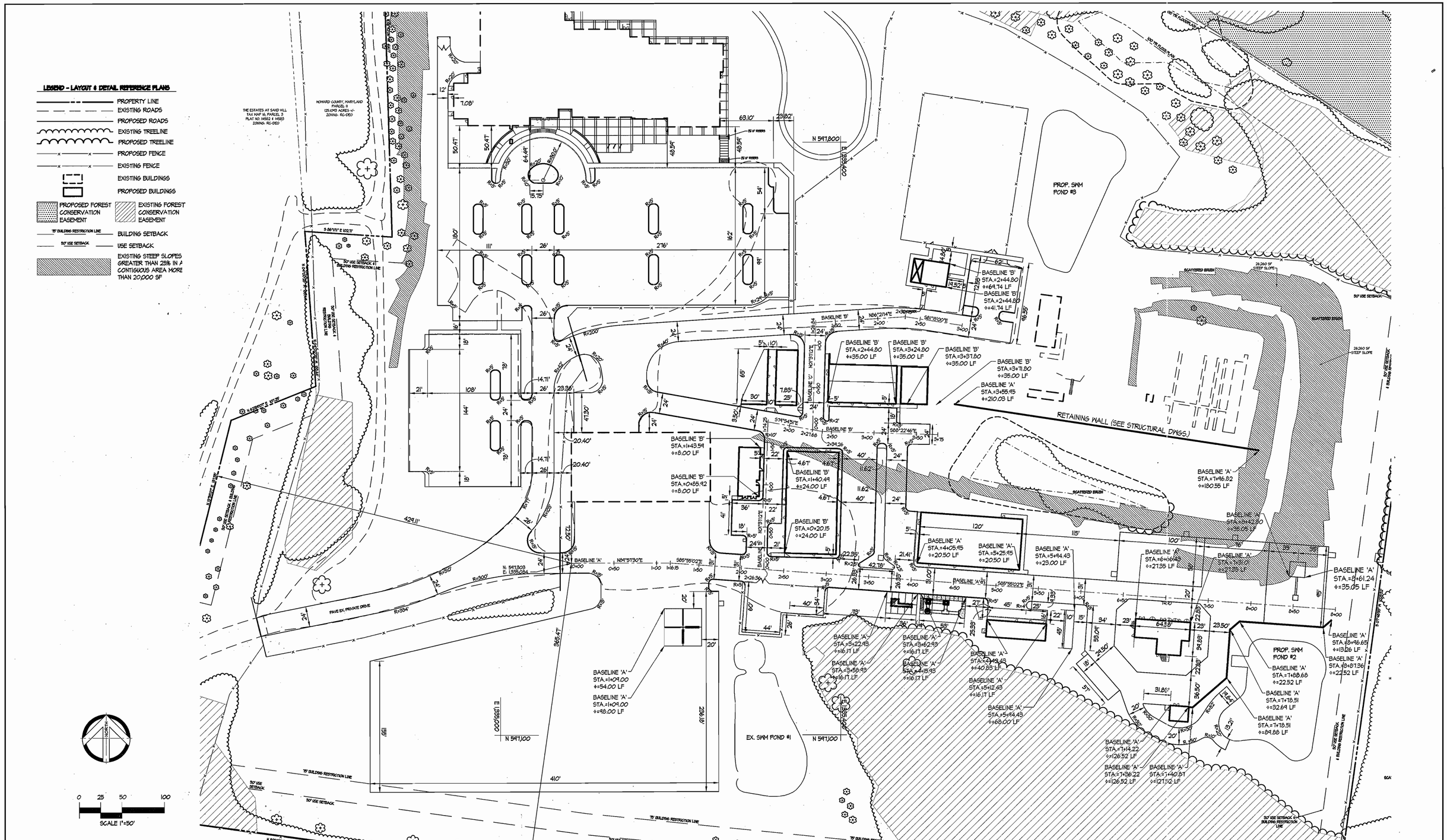

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Weber — 10/30/06
COUNTY HEALTH OFFICER — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. Irvin — 10/26/06
JAMES M. IRVIN, DIRECTOR — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

10/25/06
DIRECTOR — DATE

10/24/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

10/30/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

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Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Layout Composite Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #258, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6698 / F.619
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C2.00

SCALE: 1"=50

SHEET 12 OF 70

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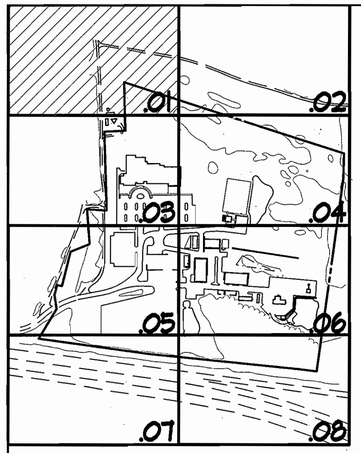
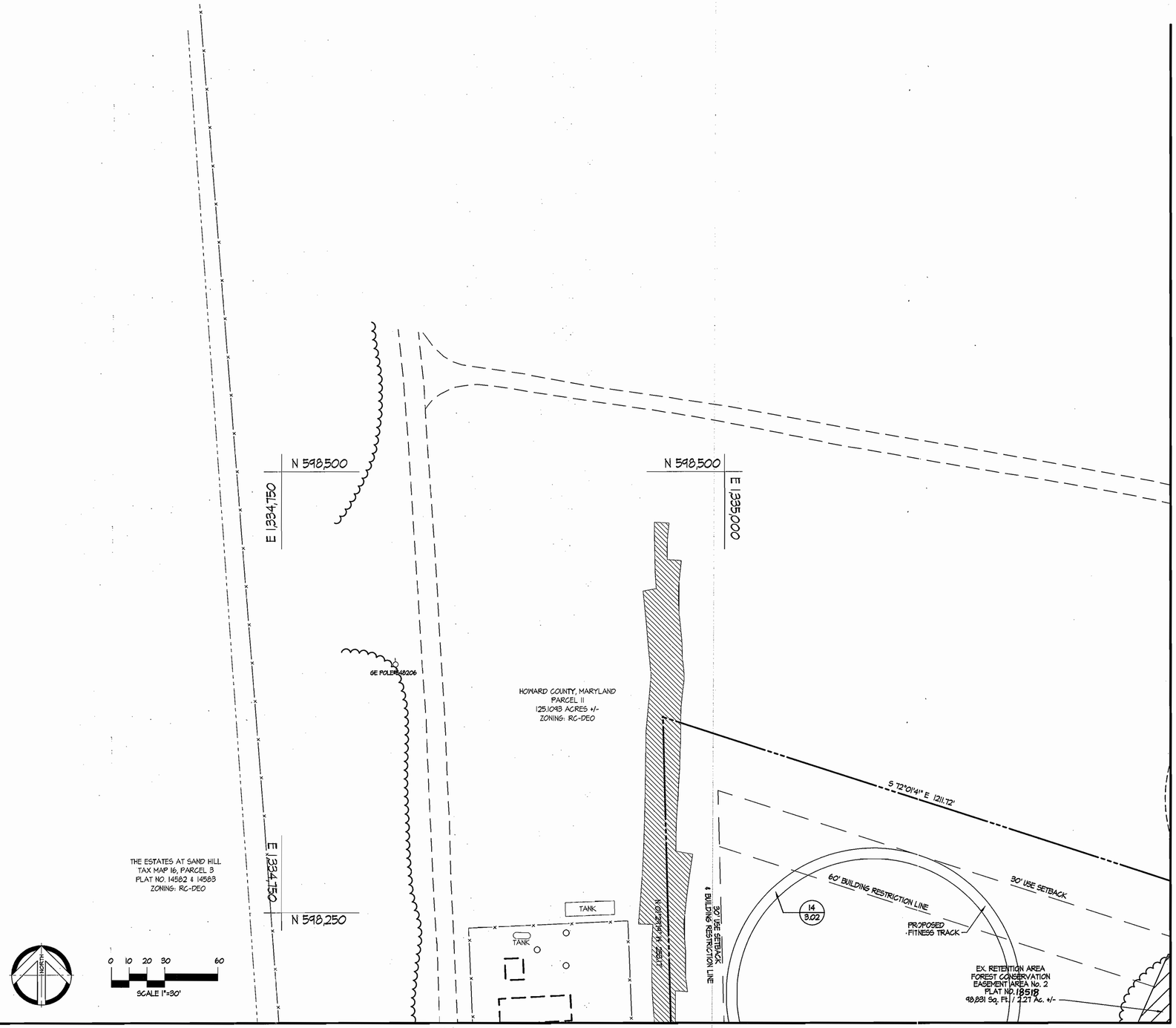


KEY MAP

LEGEND - LAYOUT & DETAIL REFERENCE PLANS

- PROPERTY LINE
- EXISTING ROADS
- PROPOSED ROADS
- EX. S.D. — EXISTING STORMDRAINS
- 24" RCCP — PROPOSED STORMDRAINS
- EX. SAN — EXISTING SANITARY SEWER
- PROP. 8" SAN — PROPOSED SANITARY SEWER
- EX. 4" W — EXISTING WATER
- PROP. 4" WATER — PROPOSED WATER
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING ELECTRIC
- EXISTING GAS
- EXISTING STREAM
- EXISTING BUILDINGS
- PROPOSED BUILDINGS
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- HEAVY DUTY ASPHALT
- HEAVY DUTY CONCRETE
- CONCRETE SIDEWALK
- PROPOSED FOREST CONSERVATION EASEMENT
- EXISTING FOREST CONSERVATION EASEMENT
- EXISTING WOODSLINE
- PROPOSED WOODSLINE
- DETAIL NO. 4 / DRAWING NO. C-201 — DETAIL REFERENCE
- PROPOSED LIGHTING (SEE MECHANICAL DRAWINGS)
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF



APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for Robert J. Weber — 10/30/06
COUNTY HEALTH OFFICER — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. Irvin — 10/26/06
JAMES M. IRVIN, DIRECTOR — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

Marsha M. Cayll — 10/30/06
DIRECTOR — DATE

[signature] — 10/24/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Hanson — 10/30/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Layout & Detail Reference Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C2.01

SCALE: 1"=30'

SHEET 13 OF 70

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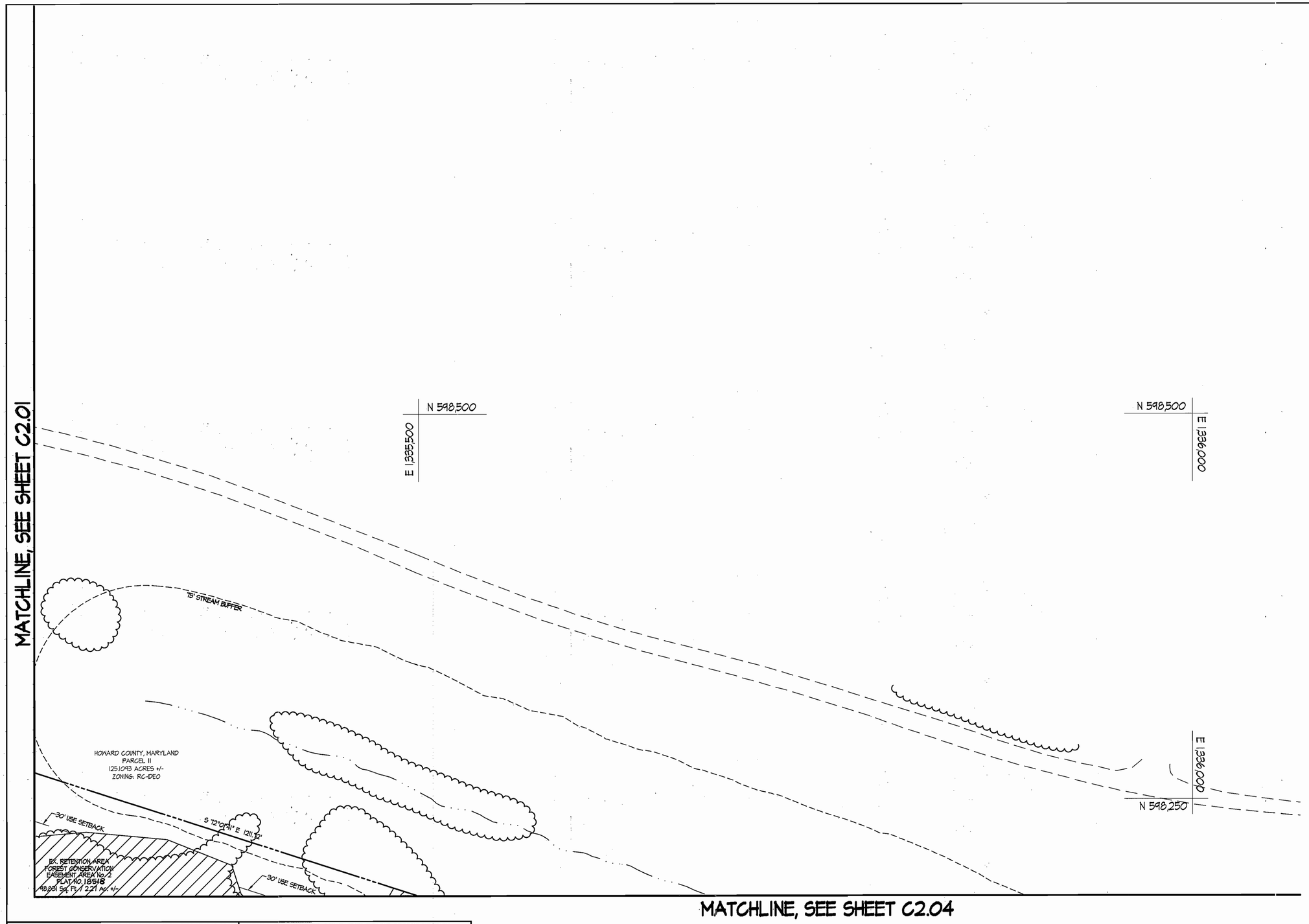

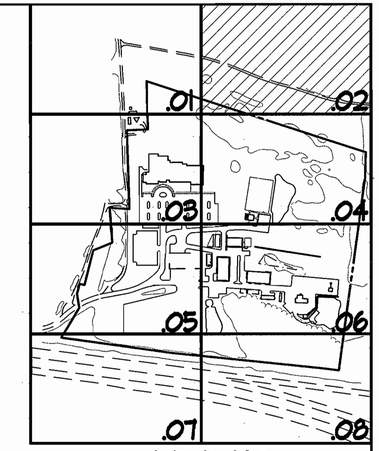

KEY MAP

LEGEND - LAYOUT & DETAIL REFERENCE PLANS

- PROPERTY LINE
- EXISTING ROADS
- PROPOSED ROADS
- EX. S.D. — EXISTING STORMDRAINS
- 24" RCCP — PROPOSED STORMDRAINS
- EX. SAN — EXISTING SANITARY SEWER
- PROP. 8" SAN — PROPOSED SANITARY SEWER
- EX. 4" W — EXISTING WATER
- PROP. 4" WATER — PROPOSED WATER
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING ELECTRIC
- EXISTING GAS
- EXISTING STREAM
- EXISTING BUILDINGS
- PROPOSED BUILDINGS
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- HEAVY DUTY ASPHALT
- HEAVY DUTY CONCRETE
- CONCRETE SIDEWALK
- PROPOSED FOREST CONSERVATION EASEMENT
- EXISTING FOREST CONSERVATION EASEMENT
- EXISTING WOODSLINE
- PROPOSED WOODSLINE
- DETAIL NO. 4 / DRAWING NO. C-201 — DETAIL REFERENCE
- PROPOSED LIGHTING (SEE MECHANICAL DRAWINGS)
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF

NORTH

0 10 20 30 60
SCALE 1"=30'

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
for Robert J. Weber — 10/30/06
COUNTY HEALTH OFFICER — MDD — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James M. Irvin — 10/26/06
JAMES M. IRVIN, DIRECTOR — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
Mark Lewis — 10/30/06
DIRECTOR — DATE
10/24/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE
Cindy Hamm — 10/30/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

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3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C2.02

SCALE: 1"=30'

SHEET 14 OF 70

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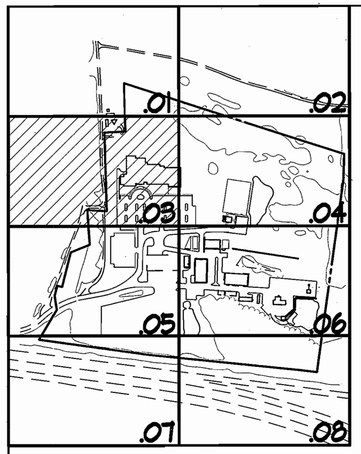

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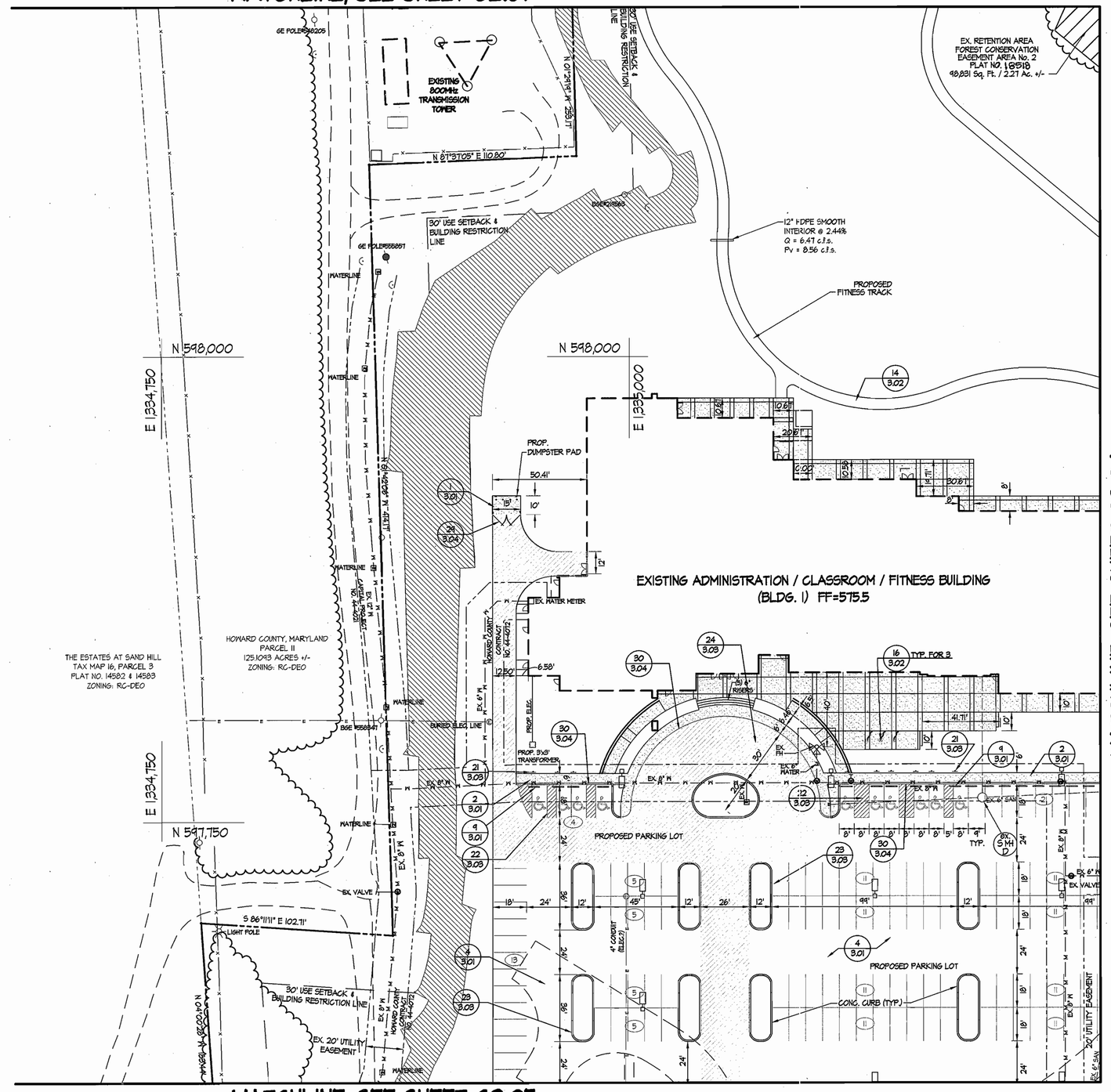
NORTH

0 10 20 30 60
SCALE 1"=30'

MATCHLINE, SEE SHEET C2.01



MATCHLINE, SEE SHEET C2.04

MATCHLINE, SEE SHEET C2.05

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER	DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR	DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR	DATE 10/30/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/30/06

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STATE OF MARYLAND — JOSEPH R. KUNES — No. 13976 — PROFESSIONAL ENGINEER

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Layout & Detail Reference Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

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OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #293, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6694 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C2.03

SCALE: 1"=30'

SHEET 15 OF 70

Z:\06303153-Howard\Cis Public\dsharp\Dwg\C2.03_LayoutPlan.dwg, 10/26/2006 11:09:11 AM, - Copyright, Site Resources, Inc.

MATCHLINE, SEE SHEET C2.02

MATCHLINE, SEE SHEET C2.03

MATCHLINE, SEE SHEET C2.06

30' USE SETBACK
75' STREAM BUFFER
S 72°01'41" E 1211.72'
HOWARD COUNTY, MARYLAND
PARCEL 11
125.1093 ACRES +/-
ZONING: RC-DEO
EX. RETENTION AREA
FOREST CONSERVATION
EASEMENT AREA No. 2
PLAT NO. 18518
48,851 SQ. FT. / 2.27 AC. +/-
EX. RETENTION AREA
FOREST CONSERVATION
EASEMENT AREA No. 6d
PLAT NO. 18518
2044 SQ. FT. / 0.05 AC. +/-
N 598,000
E 1,335,500
E 1,336,000
BASE
BENCHMARK
75' WETLAND BUFFER
25' WETLAND BUFFER
WETLAND A
USE I PERENNIAL STREAM
30' USE SETBACK & BUILDING RESTRICTION LINE
REFORESTATION EASEMENT
AREA No. 7
PLAT NO. 18518
82,604 SQ. FT. / 0.75 AC. +/-
EX. RETENTION AREA
FOREST CONSERVATION
EASEMENT AREA No. 6b
PLAT NO. 18518
32,193 SQ. FT. / 0.74 AC. +/-
EX. RETENTION AREA
FOREST CONSERVATION
EASEMENT AREA No. 3
PLAT NO. 18518
42,423 SQ. FT. / 0.97 AC. +/-
EX. FOREST CONSERVATION
EASEMENT AREA No. 3
PLAT NO. 18518
CLASS I
RIP-RAP OUTLET PROTECTION
W=10'
H=15'
T=9'
Rad.=5.0'
S 07°46'55" W
1023.32'
SCATTERED BRUSH
26,260 SF
STEEP SLOPE
HOWARD COUNTY, MARYLAND
PARCEL 200
179.6843 ACRES
ZONING: RC-DE
30' USE SETBACK
12" HDPE SMOOTH
INTERIOR @ 4.00%
Q = 7.66 c.f.s.
Pv = 11.20 c.f.s.
PROPOSED
FITNESS TRACK
EXISTING ADMINISTRATION / CLASSROOM / FITNESS BUILDING
(5) 6" RISERS
EX. SEWAGE TANK
NOTE: EXTEND ENTRANCE, STANDPIPE, CONTROLS, ETC. PER MANUFACTURER'S RECOMMENDATION TO MEET FINISH GRADE
2'x3' ELEC. CONTROLS
EX. SEWAGE TANK
NOTE: EXTEND ENTRANCE, STANDPIPE, CONTROLS, ETC. PER MANUFACTURER'S RECOMMENDATION TO MEET FINISH GRADE)
2'x3' ELEC. CONTROLS
4" STANDPIPE
2.2' DIAM. TANK ENTRANCE
EX. 6" SAN
EX. 6" W
HOWARD COUNTY CONTRACT NO. 44-4012
EX. FH
8" HDPE SMOOTH
INTERIOR @ 2.50%
PROP. K-4 TRAINING AREA
N 597,750
PROP. 36" RCCP
PROP. SWM POND #3
RELOCATED BGE ELECTRIC POLE
PROP. K-4 TRAINING (BLDG. "H")
FFE=557.25
42.00'
114.80'
EX. 20' UTILITY ESMT.
EX. TRAILER
EX. FOREST CONSERVATION EASEMENT AREA No. 3 PLAT NO. 18518

KEY MAP

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- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF

SCALE 1"=30'

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 10/30/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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ARCHITECTS / PLANNERS
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E-mail: bw@edmeades-stromdahl.com

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KENNETH R. KOHL — No. 13965 — PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Layout & Detail Reference Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
9480 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C2.04

SCALE: 1"=30

SHEET 16 OF 70

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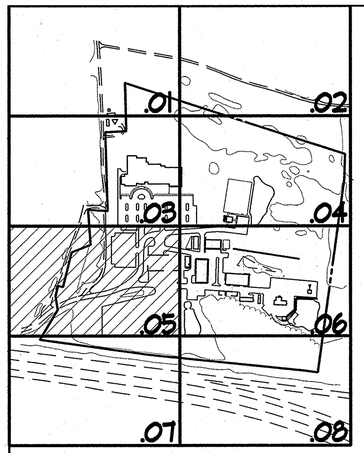
MATCHLINE, SEE SHEET C2.03



KEY MAP

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- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF

NORTH

0 10 20 30 60

SCALE 1"=30'

STATE OF MARYLAND
STEPHEN RICHARD MOSE
No. 15661
REGISTERED
PROFESSIONAL ENGINEER

12-16-14

PROFESSIONAL CERTIFICATE:

I HEREBY CERTIFY THAT THE INFORMATION CLOUDED AND LISTED UNDER REVISION #1 ON THIS DOCUMENT WAS PREPARED OR APPROVED BY ME.

N 597,500
E 1,334,500
N 597,500
E 1,334,750
N 597,500
E 1,335,000
E 1,334,500
N 597,250

N 67°59'07" E 107.29'
N 13°59'07" E 107.59'
N 76°00'53" W 183.44'
S 76°00'53" E 26.37'
N 14°14'04" E 56.00'
N 04°01'15" W 73.11'
N 80°55'04" E 182.32'

30' USE SETBACK & BUILDING RESTRICTION LINE

THE ESTATES AT SAND HILL
TAX MAP 16, PARCEL 3
PLAT NO. 14582 & 14583
ZONING: RC-DEO

EX. RETENTION AREA
FOREST CONSERVATION
EASEMENT AREA No. 5
PLAT NO. 18518
11,805 SQ. FT. / 0.28 AC. +/-

EX. RETENTION AREA
FOREST CONSERVATION
EASEMENT AREA No. 4
PLAT NO. 18518
19,042 SQ. FT. / 0.44 AC. +/-

EX. 8" W
HOWARD COUNTY CONTRACT NO. 44-4072

EX. 20' UTILITY EASEMENT

EX. VALVE

EX. 8" W

PAVE EXISTING PARKING LOT

PROP. ELECTRIC

MONITORING WELL

2'x8' ELEC. VAULT

PAVE EX. PRIVATE DRIVE

EX. VALVES

PROPOSED CONC. PAD W/ RELOCATED PROPANE TANKS

ELEV.= 565.00

PROP. 3'x3' TRANSFORMER

PROP. PROPANE

EX. 20' UTILITY EASEMENT

EX. FH

EX. 6" SAN

EX. 4" W

TOP INTERCEPTOR MH=565.87

TOP INTERCEPTOR MH=565.77

4" STANDPIPES

16.00'

SAN C/O

4" STANDPIPES

FIRE DEPT. CONNECTION TO BUILDING

GASLINE INTO BUILDING

ELEC. LINE INTO BUILDING

EX. WATER METER

EXISTING VEHICLE STORAGE
(BLDG. 3) FFE= +/-565.8

18" RCP

15" RCP

12" RCP

AREA OF WORK

PROPOSED EXTRACTION PROF.

PROPOSED SKILLS PAD

75' BUILDING RESTRICTION LINE

50' USE SETBACK

EX. COUNTY R/W WIDTH VARIES 50'-70' +/-

ALPHA CENTER DRIVE

MATCHLINE, SEE SHEET C2.06

MATCHLINE, SEE SHEET C2.07

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for Robert J. Weber — 10/30/06
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10/26/06
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DIRECTOR — DATE

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DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE
JEB	1	REDLINE REVISIONS - SEE NOTE ABOVE	12/5/14

1 THIS SHEET WAS MODIFIED TO INCLUDE THE RAINWATER HARVESTING FACILITIES DESIGN INFORMATION. REFER TO THE NORTH COUNTY RAINWATER HARVESTING AND WASH PAD. DESIGN PACKAGE, CAPITAL PROJECT C-0313, ORIGINALLY DATED NOVEMBER 2013 (LATEST REVISION).

Layout & Detail Reference Plan

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3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C2.05

SCALE: 1"=30'

SHEET 17 OF 70

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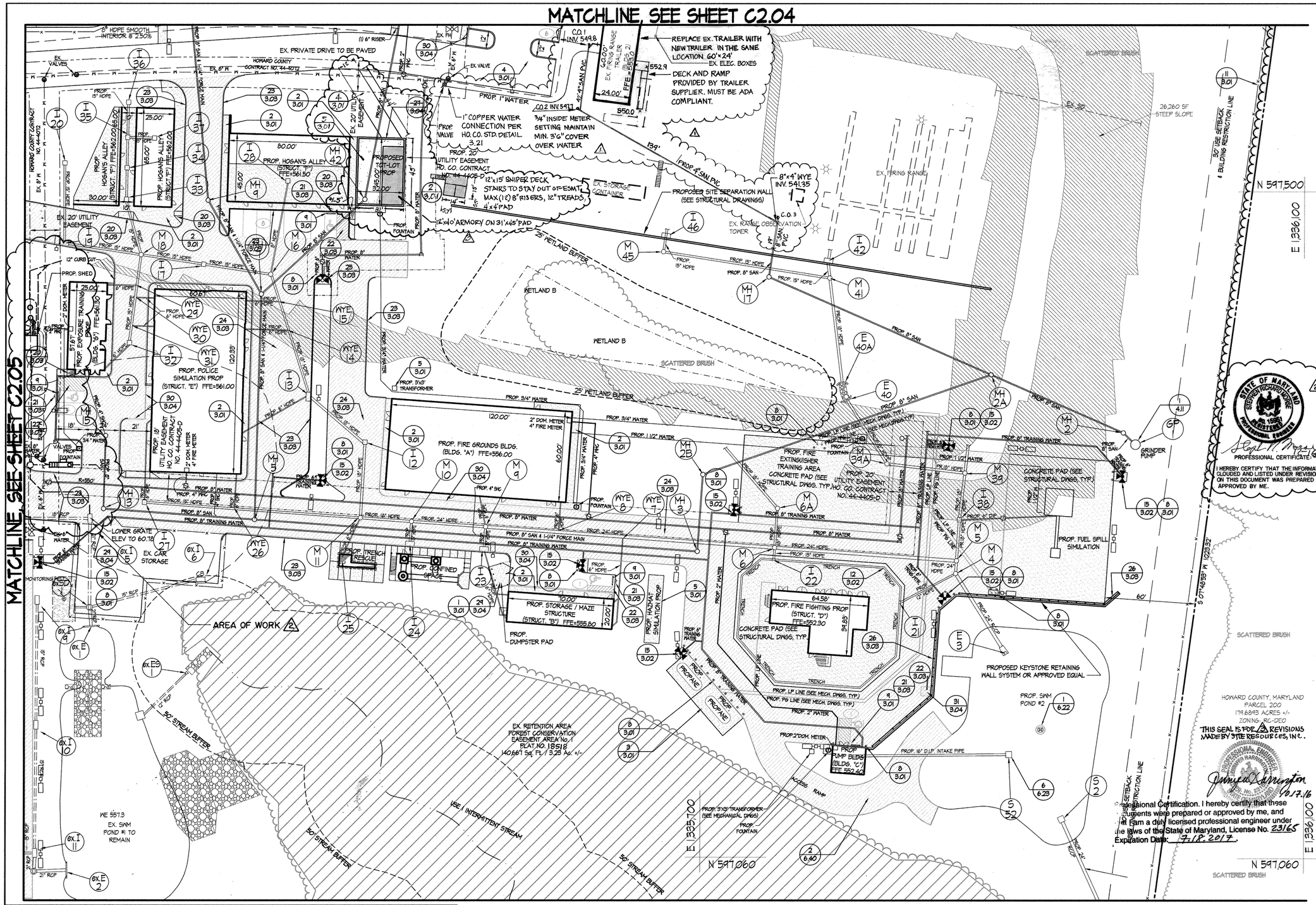
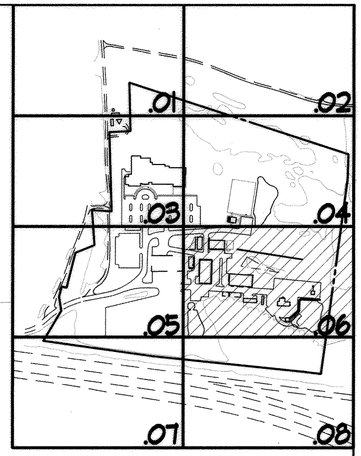


KEY MAP



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STATE OF MARYLAND — STEVEN RICHARD MORSE — No. 15597 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THE INFORMATION CLOUDED AND LISTED UNDER REVISION #2 ON THIS DOCUMENT WAS PREPARED OR APPROVED BY ME.

THIS SEAL IS FOR 2 REVISIONS MADE BY SITE RESOURCES, INC.

PROFESSIONAL ENGINEER — JAMES R. HARRINGTON — No. 23165

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. 23165 Expiration Date: 7.18.2017.

10.17.16

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for Robert J. Weber — COUNTY HEALTH OFFICER — 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. Irvin, Director — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — 10/30/06 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/30/06 DATE

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE
SR	3	REDLINE REVISION: ADD ARMORY AND SNIPER DECK	10/17/16
JEB	2	REDLINE REVISIONS - SEE NOTE 1 ON DRAWING C2.05 (17 OF 70)	12/11/14
AFE	1	NEW TRAILER WITH WATER AND SEWER CONNECTION	11/1/2013

Layout & Detail Reference Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #200, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6868 / F.818
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

SCALE: 1"=30

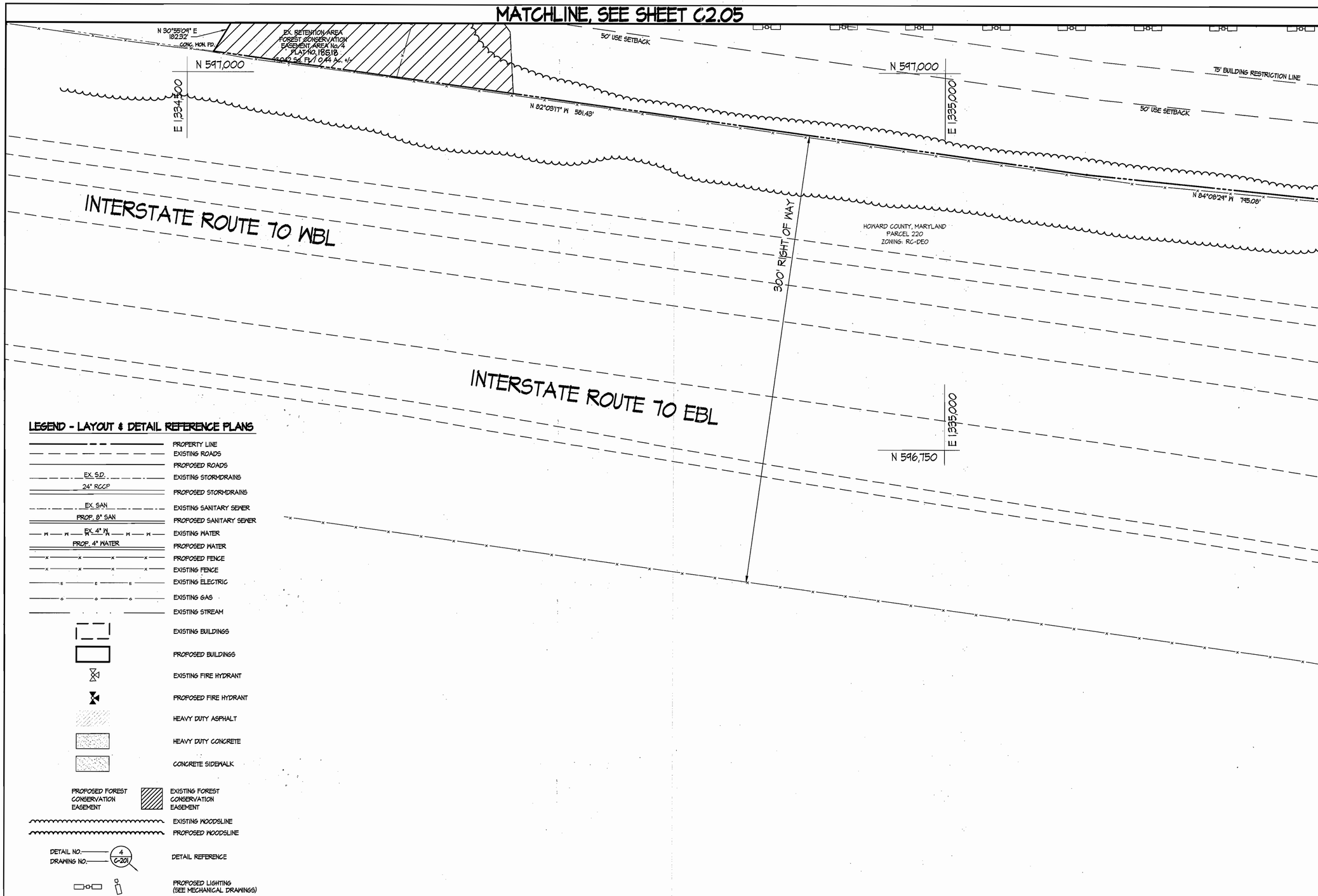
SHEET 18 OF 70

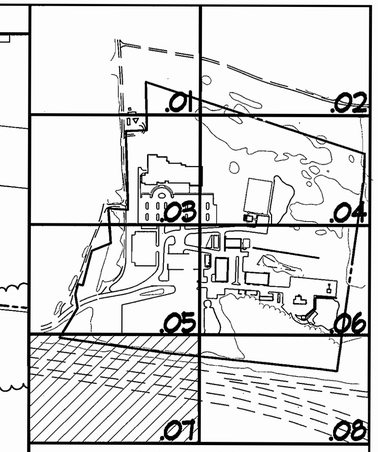
C2.06

0 10 20 30 60
SCALE 1"=30'

NORTH

Z:\6060153-HowardCo PublicSafetyCtr\dwg\C2.06_LayoutPlan.dwg, 10/9/2006 10:24:50 AM, - Copyright, Site Resources, Inc.





KEY MAP

LEGEND - LAYOUT & DETAIL REFERENCE PLANS

- PROPERTY LINE
- EXISTING ROADS
- PROPOSED ROADS
- EX. S.D. — EXISTING STORMDRAINS
- 24" RCCP — PROPOSED STORMDRAINS
- EX. SAN — EXISTING SANITARY SEWER
- PROP. 8" SAN — PROPOSED SANITARY SEWER
- EX. 4" W — EXISTING WATER
- PROP. 4" WATER — PROPOSED WATER
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING ELECTRIC
- EXISTING GAS
- EXISTING STREAM
- EXISTING BUILDINGS
- PROPOSED BUILDINGS
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- HEAVY DUTY ASPHALT
- HEAVY DUTY CONCRETE
- CONCRETE SIDEWALK
- PROPOSED FOREST CONSERVATION EASEMENT / EXISTING FOREST CONSERVATION EASEMENT
- EXISTING WOODSLINE
- PROPOSED WOODSLINE
- DETAIL NO. 4 / DRAWING NO. C-201 — DETAIL REFERENCE
- PROPOSED LIGHTING (SEE MECHANICAL DRAWINGS)

0 10 20 30 60
SCALE 1"=30'

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — 10/23/06 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/30/06 DATE

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Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
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DATE: 10/11/06

BY	NO.	REVISION	DATE

Layout & Detail Reference Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.698
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

C2.07

SCALE: 1"=30'

SHEET 19 OF 70

Z:\03031153-Howard\Co Public Safety\Dwg\C2.07_LayoutPlan.dwg, 10/9/2006 10:14:05 AM, - Copyright, Site Resources, Inc.

MATCHLINE, SEE SHEET C2.06

MATCHLINE, SEE SHEET C2.07

75' BUILDING RESTRICTION LINE

50' USE SETBACK

N 597,000

E 1335,750

50' STREAM BUFFER

30' USE SETBACK & BUILDING RESTRICTION LINE

E

I
6.40

CLASS I
RIP-RAP OUTLET PROTECTION
L=21'
W=20'
THK=
d50 =4.5"

EX. RETENTION AREA
FOREST CONSERVATION
EASEMENT AREA NO. 1
PLAT NO. 18518
14,086 Sq. Ft. / 0.323 AC. +/-

USE I INTERMITTENT STREAM

HOWARD COUNTY, MARYLAND
PARCEL 200
179.6893 ACRES +/-
ZONING: RC-DEO

S 07°40'33" W 1023.32'

N 82°31'34" W 91.29'

N 84°08'29" W 745.08'

HOWARD COUNTY, MARYLAND
PARCEL 220
ZONING: RC-DEO

300' RIGHT OF WAY

(SRC Plats 31496, 31497, 31504, 31505,
31506, 31507, 31508, 31509, 31510, 31511)

RAMP FROM U.S. ROUTE 40 WBL

E 1335,750

N 596,750

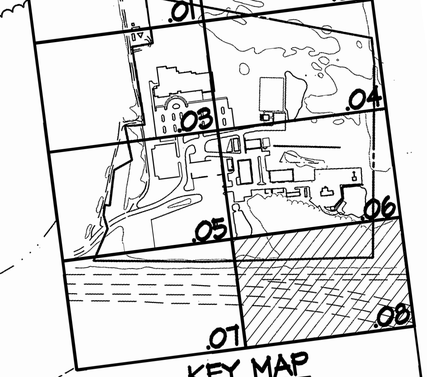
E 1336,000

N 596,750

INTERSTATE ROUTE 70 WBL

INTERSTATE ROUTE 70 EBL

KEY MAP



LEGEND - LAYOUT & DETAIL REFERENCE PLANS

- PROPERTY LINE
- EXISTING ROADS
- PROPOSED ROADS
- EXISTING STORMDRAINS
- EX. S.D. / 24" RCCP — PROPOSED STORMDRAINS
- EXISTING SANITARY SEWER
- EX. SAN / PROP. 8" SAN — PROPOSED SANITARY SEWER
- EXISTING WATER
- EX. 4" W / PROP. 4" WATER — PROPOSED WATER
- PROPOSED FENCE
- EXISTING FENCE
- EXISTING ELECTRIC
- EXISTING GAS
- EXISTING STREAM
- EXISTING BUILDINGS
- PROPOSED BUILDINGS
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- HEAVY DUTY ASPHALT
- HEAVY DUTY CONCRETE
- CONCRETE SIDEWALK
- PROPOSED FOREST CONSERVATION EASEMENT
- EXISTING FOREST CONSERVATION EASEMENT
- EXISTING WOODSLINE
- PROPOSED WOODSLINE
- DETAIL REFERENCE (DETAIL NO. 4 / DRAWING NO. C-20)
- PROPOSED LIGHTING (SEE MECHANICAL DRAWINGS)
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF

0 10 20 30 60
SCALE 1"=30'

NORTH

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

10/30/06
DATE

for COUNTY HEALTH OFFICER

APPROVED: DEPARTMENT OF PLANNING & ZONING

10/30/06
DATE

DIRECTOR

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

10/26/06
DATE

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Phone: 410.683.3388 Fax: 410.683.3389

STEVEN R. MARTY
No. 11708
PROFESSIONAL ENGINEER

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Layout & Detail Reference Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
9250 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

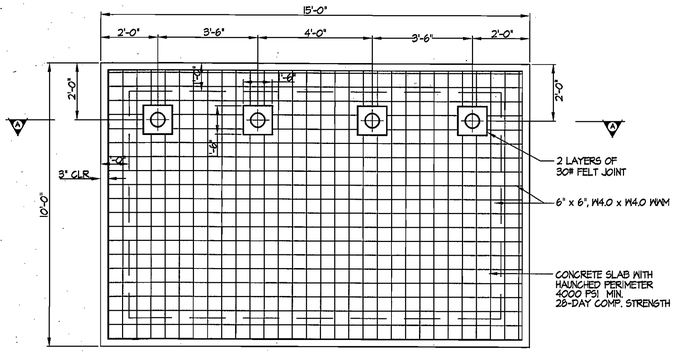
ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6694 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C2.0

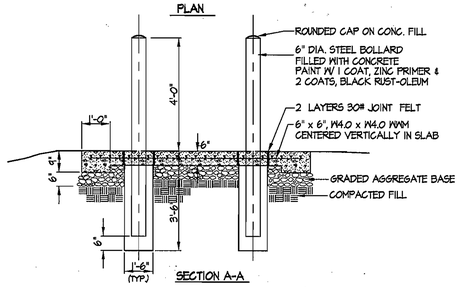
SCA
1"=

SH
20

P:\PublicSafety\Drawings\C2.09_LayoutPlan.dwg, 10/26/2006 9:28:47 AM, - Copyright, Site Resources, Inc.



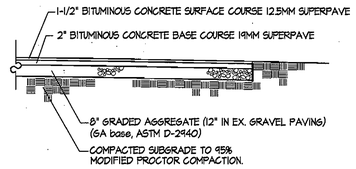
PLAN



SECTION A-A

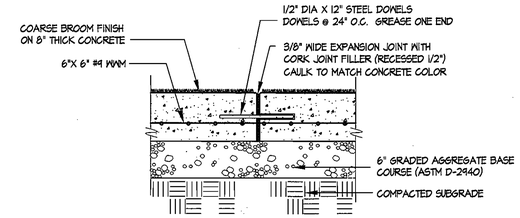
1 DUMPSTER PAD

NOT TO SCALE



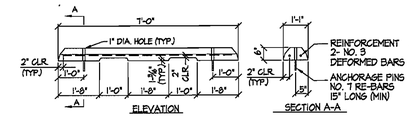
4 LIGHT DUTY ASPHALT PAVING

NOT TO SCALE



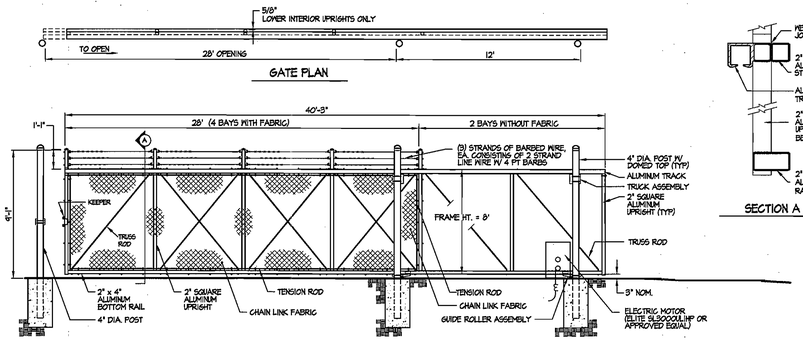
5 HEAVY DUTY CONCRETE PAVING

NOT TO SCALE

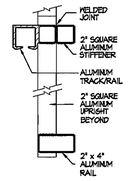


9 PRECAST CONCRETE WHEEL STOPS

NOT TO SCALE



GATE ELEVATION - (4) BAYS

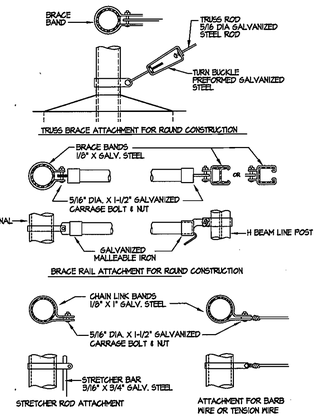


SECTION A

NOTES:
1. FOOTING WIDTH TO BE (4)X POST WIDTH. MIN DEPTH TO BE 36".
2. GATE TO BE MANUALLY OPERATED.

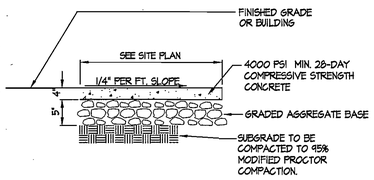
6 SLIDING CHAIN LINK GATE DETAILS

NOT TO SCALE



10 CHAIN LINK FENCE BRACE & ROD ATTACHMENTS - ROUND CONSTRUCTION

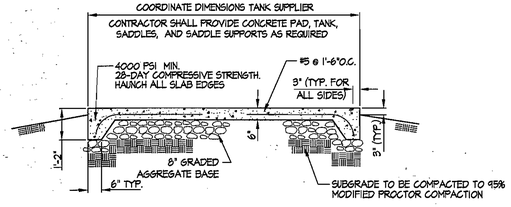
NOT TO SCALE



NOTE : ALL WALKS SHALL HAVE EXPANSION JOINTS NOT MORE THAN 16'-0" APART.

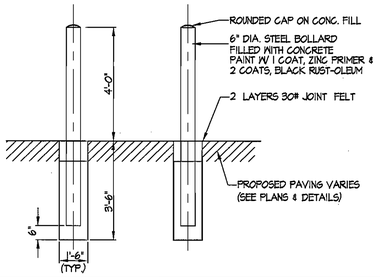
2 SIDEWALK DETAIL

NOT TO SCALE



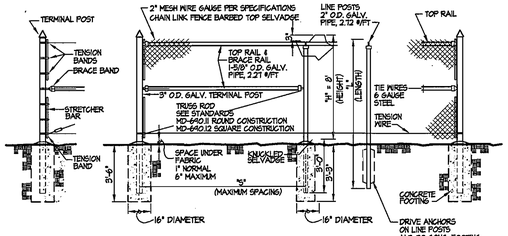
3 PROPANE TANK PAD

NOT TO SCALE



8 BOLLARDS

NOT TO SCALE



"H" HEIGHT OF FENCE	8'-0"
"S" POST SPACING-MAX	10'-0"
"L" LENGTH INCL. CAP	10'-8"

NOTES
1. ALL ROUND LINE POSTS TO BE CAPPED WITH LOOP CAPS. TOP RAIL TO RUN THROUGH LOOPS. CAPS TO BE FASTENED TO ALL TERMINAL POSTS WITH TENSION BANDS.
2. FASTEN FABRIC TO TENSION WIRE WITH HOG RINGS @ 18" +/- O.C. HOG RINGS TO BE 12-1/2 GAUGE GALVANIZED STEEL WIRE
3. MATERIALS TO MEET REQUIREMENTS OF AASHTO M-181
4. FENCING AT GRADE CHANGES TO BE IN ACCORDANCE WITH MSHA STANDARD MD-640.02

11 CHAIN LINK FENCE DETAIL

NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

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DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Site Details

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

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Department of Public Works
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Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #250 ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6829 / F.619
GRID No. 2/B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C3.01

SCALE: AS SHOWN

SHEET 21 OF 70

SDP - 06-110

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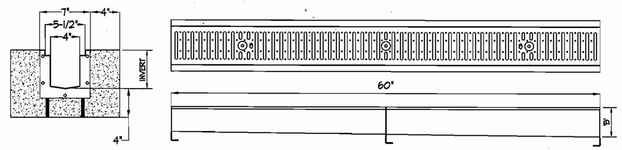
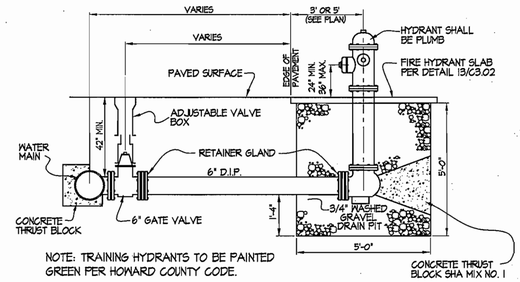


12 TRENCH DRAIN CHANNEL DETAIL

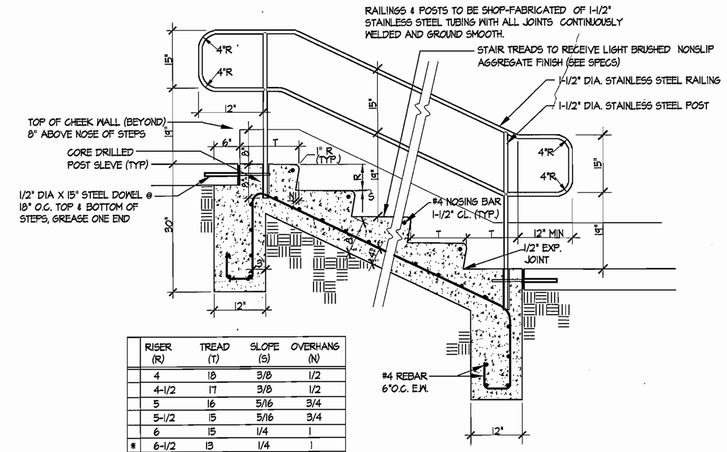
NOT TO SCALE



NOTE: TRAINING HYDRANTS TO BE PAINTED GREEN PER HOWARD COUNTY CODE.

15 FIRE TRAINING WATER SUPPLY HYDRANT & ASSEMBLY DETAIL

NOT TO SCALE

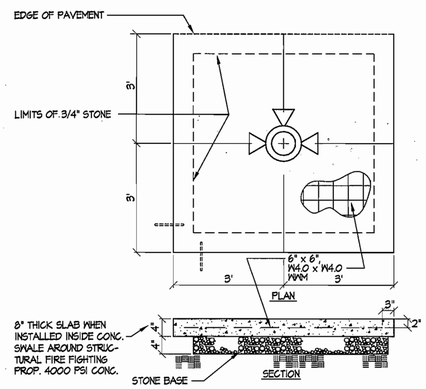


	RISER (R)	TREAD (T)	SLOPE (S)	OVERHANG (N)
	4	18	3/8	1/2
	4-1/2	17	3/8	1/2
	5	16	5/16	3/4
	5-1/2	15	5/16	3/4
	6	15	1/4	1
*	6-1/2	13	1/4	1
	7	12	1/4	1-1/2

ALL DIMENSIONS IN INCHES

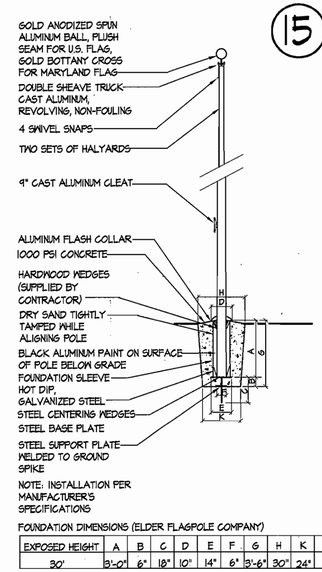
18 CONCRETE STAIRS & RAILING

NOT TO SCALE



13 FIRE TRAINING WATER SUPPLY HYDRANT SLAB DETAIL

NOT TO SCALE

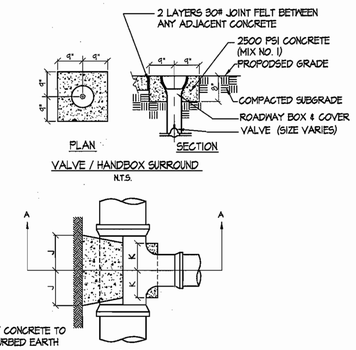


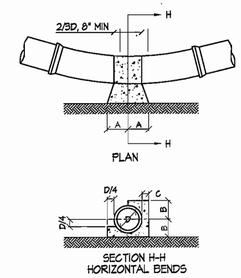
FOUNDATION DIMENSIONS (ELDER FLAGPOLE COMPANY)

EXPOSED HEIGHT	A	B	C	D	E	F	G	H	K	MODEL #
30'	3'-0"	6"	18"	10"	14"	6"	3'-6"	30"	24"	FC 30

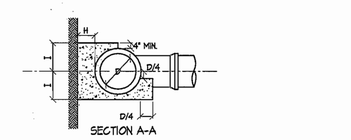
16 FLAG POLE DETAIL

NOT TO SCALE



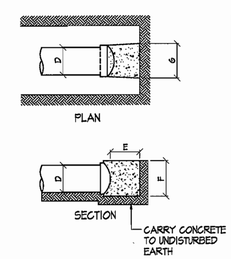


BUTTRESSES FOR HORIZONTAL BENDS											
BEND		SIZE									
		4"	6"	8"	10"	12"	16"	20"	24"	30"	36"
1/64	A							1'-8"	2'-0"	2'-6"	3'-0"
	B							10"	1'-0"	1'-3"	1'-6"
	C							10"	1'-0"	1'-1"	1'-2"
1/32	A	4"	6"	8"	10"	1'-0"	1'-4"	1'-8"	2'-0"	2'-6"	3'-0"
	B	5"	7"	8"	9"	10"	1'-0"	1'-2"	1'-4"	1'-7"	1'-11"
	C	5"	7"	7"	8"	8"	9"	10"	1'-0"	1'-1"	1'-2"
1/16	A	6"	9"	1'-0"	1'-6"	1'-9"	2'-3"	3'-0"	3'-6"	4'-2"	5'-4"
	B	6"	7"	8"	9"	10"	1'-0"	1'-2"	1'-4"	1'-7"	2'-0"
	C	6"	8"	9"	10"	1'1"	1'-2"	1'-3"	1'-6"	1'-9"	2'-0"
1/8	A	10"	1'-3"	1'-8"	2'-1"	2'-6"	3'-4"	4'-2"	5'-0"	6'-3"	7'-6"
	B	7"	7"	8"	9"	1'1"	1'-3"	1'-6"	1'-8"	2'-0"	2'-6"
	C	7"	8"	9"	10"	1'1"	1'-2"	1'-4"	1'-9"	2'-3"	2'-8"



SIZE OF BRANCH										
D	4"	6"	8"	10"	12"	16"	20"	24"	30"	36"
H	5"	8"	9"	10"	1'-0"	1'-2"	1'-4"	1'-6"	1'-9"	2'-0"
I	5"	8"	10"	1'-0"	1'-3"	1'-8"	2'-1"	2'-6"	3'-1"	3'-9"
J	5"	7"	9"	1'-0"	1'-2"	1'-6"	1'-11"	2'-4"	2'-10"	3'-5"
K	6"	6"	8"	8"	8"	10"	1'-2"	1'-4"	1'-6"	1'-10"

BUTTRESS FOR TEES



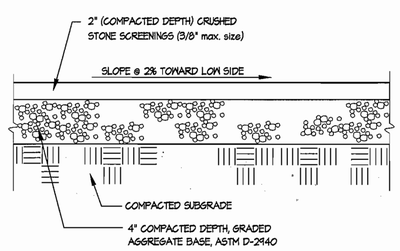
BUTTRESSES FOR CAPS									
D 4"	6"	8"	10"	12"	16"	20"	24"	30"	36"
E 6"	6"	8"	6"	10"	1'-0"	1'-4"	1'-8"	2'-0"	2'-0"
F 9"	1'1"	1'-2"	1'-6"	1'-9"	2'-4"	2'-11"	3'-6"	4'-1"	5'-3"
G 10"	1'-3"	1'-6"	2'-1"	2'-6"	3'-4"	4'-2"	5'-0"	6'-3"	7'-6"

1. All concrete to be 2500 psi (mix no. 1)
2. Buttress dimensions shown are minimum. Dimensions are based on soil bearing pressure of 3000 psf and static water pressure of 150 psi. Where soil bearing pressure is less than 3000 psf, special buttress design is required.

BUTTRESS FOR CAPS AND HORIZONTAL BENDS

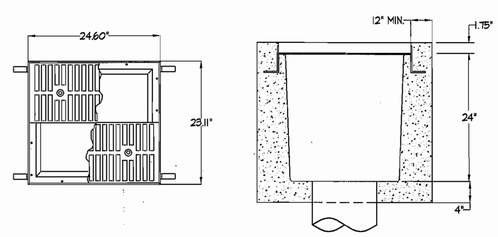
19 WATER MAIN BUTTRESSING AND VALVE HANDBOX SURROUND

NOT TO SCALE



14 FITNESS TRACK DETAIL

NOT TO SCALE



17 TRENCH DRAIN CATCH BASIN DETAIL

NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/31/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
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SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Site Details

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #269, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6694 / F.619
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

C3.02

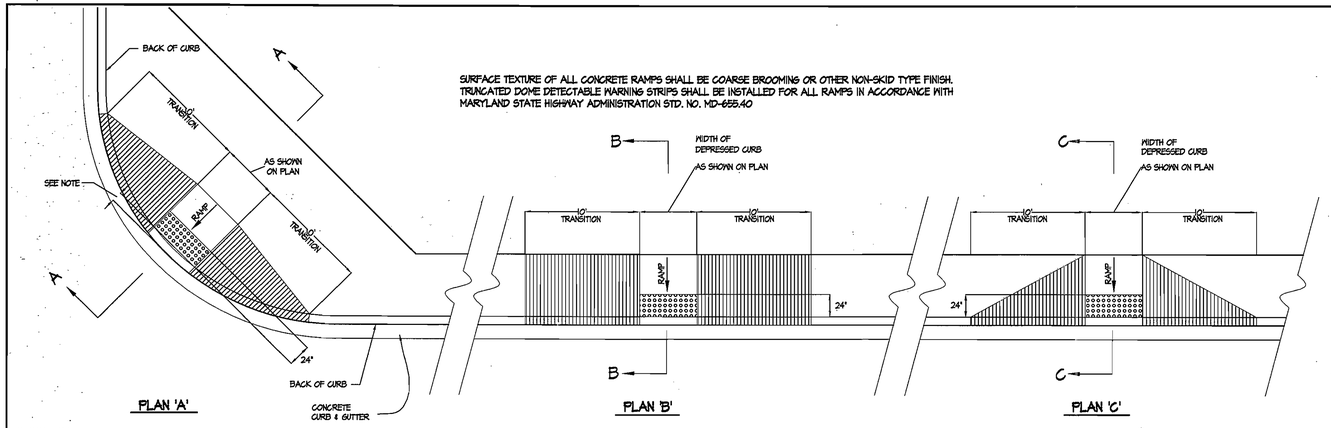
SCALE: AS SHOWN

SHEET 22 OF 70

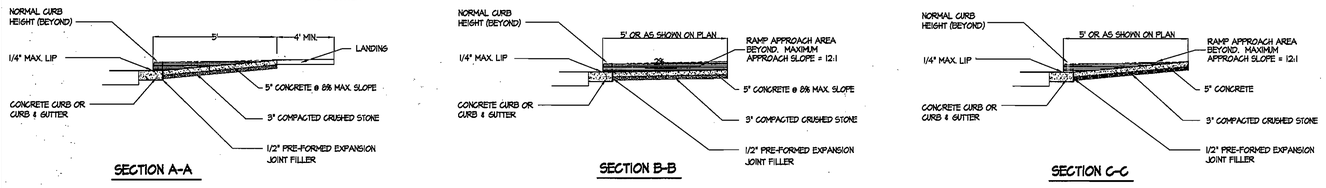
SDP - 06-110

Z:\2020\3153-Howard\Co Public\Safety\Civil\dwg\C3.02_SiteDetails.dwg, 10/5/2006 11:15:49 AM, - Copyright, Site Resources, Inc.

SURFACE TEXTURE OF ALL CONCRETE RAMPS SHALL BE COARSE BROOMING OR OTHER NON-SKID TYPE FINISH. TRUNCATED DOME DETECTABLE WARNING STRIPS SHALL BE INSTALLED FOR ALL RAMPS IN ACCORDANCE WITH MARYLAND STATE HIGHWAY ADMINISTRATION STD. NO. MD-655.40



PLAN 'A' PLAN 'B' PLAN 'C'

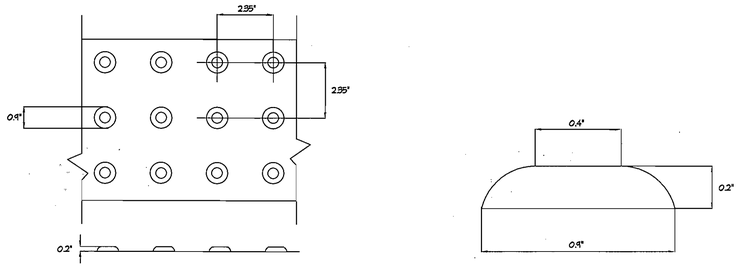


SECTION A-A SECTION B-B SECTION C-C

WHERE ISLANDS OR MEDIANS ARE LESS THAN 6 FEET WIDE, THE DETECTABLE WARNING SHOULD EXTEND ACROSS THE FULL LENGTH OF THE CUT THROUGH THE ISLAND OR MEDIAN

NOTES

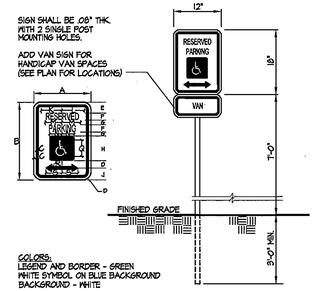
1. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
2. FOR SKEWED APPLICATIONS DETECTABLE WARNING SHALL BE PLACED SUCH THAT THE DOMES CLOSEST TO THE BACK OF CURB ARE NO LESS THAN 0.5" AND NO MORE THAN 9.0" FROM THE BACK OF THE CURB. TRUCATED DOME SURFACES SHALL BE FABRICATED TO PROVIDE FULL DOMES ONLY.
3. DETECTABLE WARNING SURFACE SHALL BE PAID FOR IN ACCORDANCE WITH SECTION 611 OF THE SPECIFICATIONS.



DOME SPACING DOME SECTION

20 CONCRETE RAMP WITH DETECTABLE WARNING SURFACE DETAIL

NOT TO SCALE

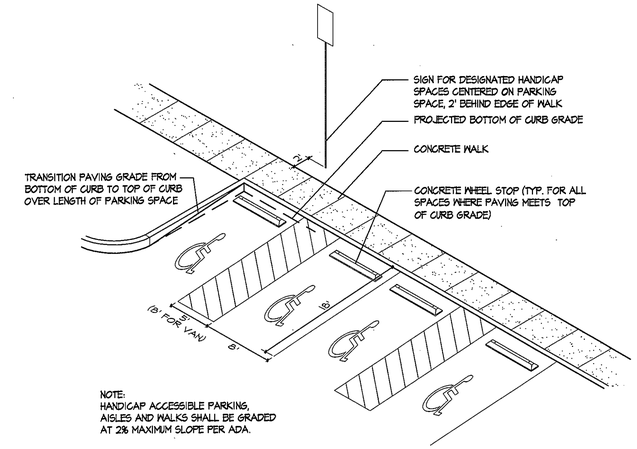


SIGN SIZE	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
STD	12	18	1/2	1-1/2	2	2 0	1	6	2-1/2	4-7/8

SIGN SIZE	DIMENSIONS (INCHES)					
	L	M	N	P	Q	R	S
STD	5	4-1/4	3	1/2	4	3/4	3-7/8

21 HANDICAP PARKING SIGN

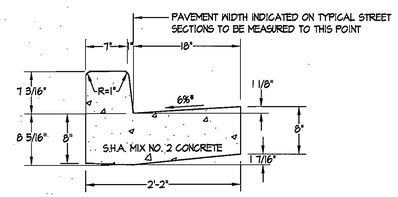
NOT TO SCALE



NOTE:
HANDICAP ACCESSIBLE PARKING, AISLES AND WALKS SHALL BE GRADED AT 2% MAXIMUM SLOPE PER ADA.

22 HANDICAP PARKING DETAIL

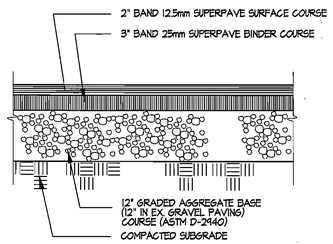
NOT TO SCALE



* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.

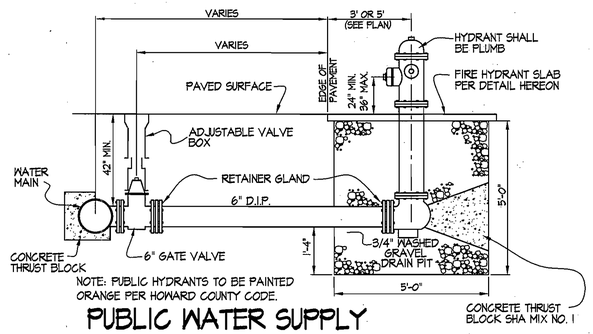
23 STD. 7" COMBINATION CURB AND GUTTER

HOWARD COUNTY R-3.01 SCALE 1" = 1'



24 HEAVY DUTY ASPHALT PAVING

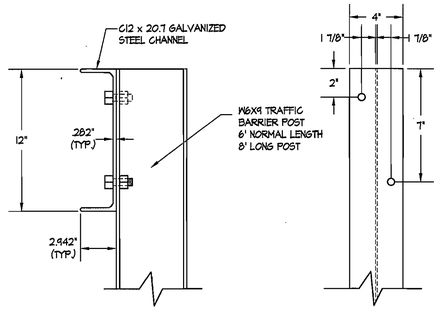
NOT TO SCALE



NOTE: PUBLIC HYDRANTS TO BE PAINTED ORANGE PER HOWARD COUNTY CODE.

25 PUBLIC WATER SUPPLY HYDRANT & ASSEMBLY DETAIL

NOT TO SCALE



26 GUIDE RAIL DETAIL

NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — BRIAN W. WEBER — No. 19844 — PROFESSIONAL ENGINEER

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Site Details

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County,
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C3.03

SCALE: AS SHOWN

SHEET 23 OF 70

SDP - 06-110

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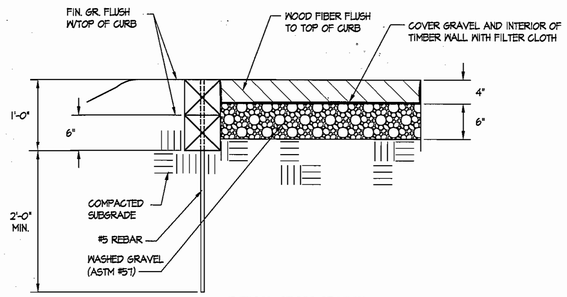
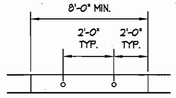
NOTE:

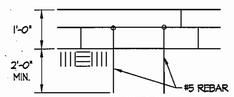
1. WOOD CURB SHALL BE 6"X 6" ACQ C-2 PRESSURE TREATED LUMBER, 40LBS. PER CUBIC FOOT. LENGTH SHALL BE 8'-0" MINIMUM.
2. CONTRACTOR SHALL GRADE AREA WITHIN THE LIMIT OF DISTURBANCE TO ASSURE MINIMUM 2 % GRADE AND PROVIDE A SMOOTH TRANSITION AND POSITIVE DRAINAGE BETWEEN PROPOSED AND EXISTING CONTOURS.



TYPICAL CROSS SECTION
NOT TO SCALE



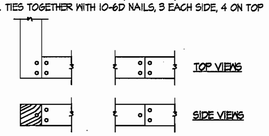
PLAN



SECTION

WOOD CURB ANCHOR DETAIL
NOT TO SCALE

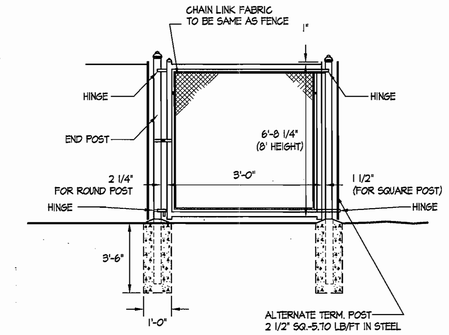
TOENAIL CORNERS WITH 7-6D NAILS, 3 OUTSIDE, 4 ON TOP
TOENAIL TIES TOGETHER WITH 10-6D NAILS, 3 EACH SIDE, 4 ON TOP



WOOD CURB JOINT DETAIL
NOT TO SCALE

27 TOT-LOT DETAILS & NOTES

NOT TO SCALE

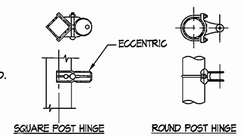


2.875" O.D. PIPE-5.79 LB/FT
OR 4.64 LB/FT

GATE FRAME

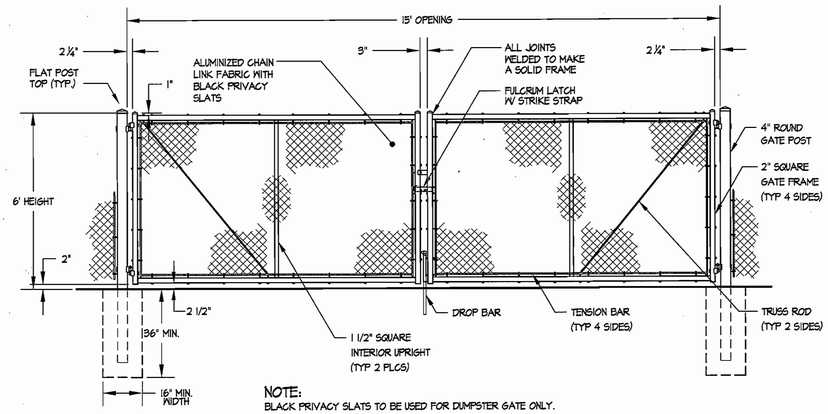
1.90" O.D. PIPE-2.72 LB/FT
OR 2.28 LB/FT

NOTE: ALL STEEL TO BE DARK VINYL COATED.



28 CHAIN-LINK PEDESTRIAN GATE

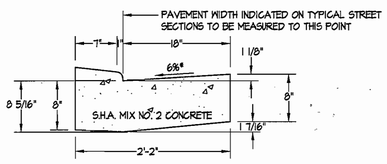
NOT TO SCALE



NOTE:
BLACK PRIVACY SLATS TO BE USED FOR DUMPSTER GATE ONLY.

29 CHAIN-LINK DUMPSTER & CAR STORAGE LOT GATE

NOT TO SCALE



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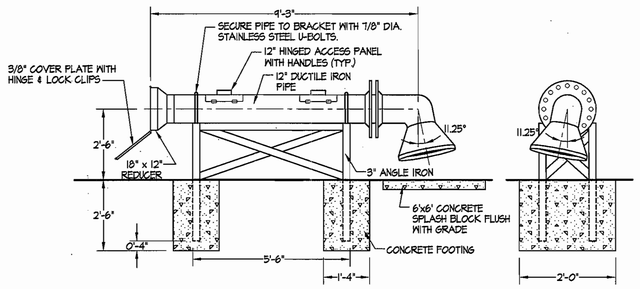
30 STD. COMBINATION DEPRESSED CURB AND GUTTER

HOWARD COUNTY R-3.01 SCALE 1" = 1'



NOTE:
1. ALL MOUNTING BRACKET JOINTS TO BE WELDED.
2. OUTLET SHALL POINT AWAY FROM GAURDRAIL AND TOWARDS STORM DRAIN.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.

31 DISCHARGE PIPE

NOT TO SCALE

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — ALAN MOSKOWITZ — No. 11625 — PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Site Details

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
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ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6694 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C3.04

SCALE: AS SHOWN

SHEET 24 OF 70

SDP - 06-110

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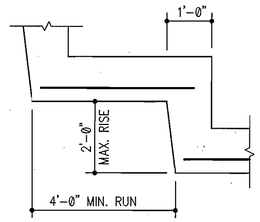
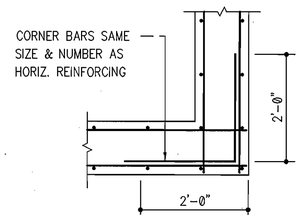
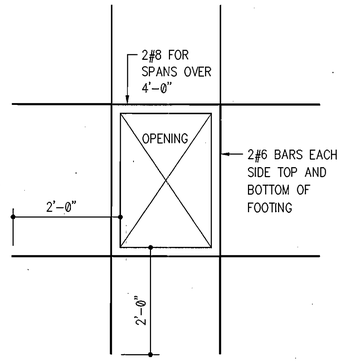


• SEE SECTION FOR SIZE OF REINF. BARS

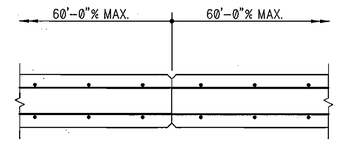
1 TYP. STEPPED FOOTING
SCALE: 3/4" = 1'-0"



2 TYP. CORNER BARS
SCALE: 3/4" = 1'-0"

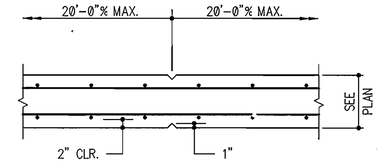


3 TYP. OPENING IN CONCRETE WALL
SCALE: 3/4" = 1'-0"

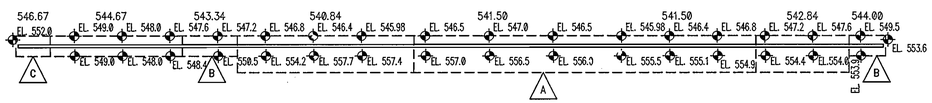


• CUT 50% OF HORIZONTAL REINFORCING

4 CONSTRUCTION JOINT IN CONCRETE WALLS
SCALE: 3/4" = 1'-0"



5 CONTROL JOINT IN CONCRETE WALLS
SCALE: 3/4" = 1'-0"



SITE SEPARATION WALL

PLAN – SITE SEPARATION WALL SCALE: 1" = 30'-0"

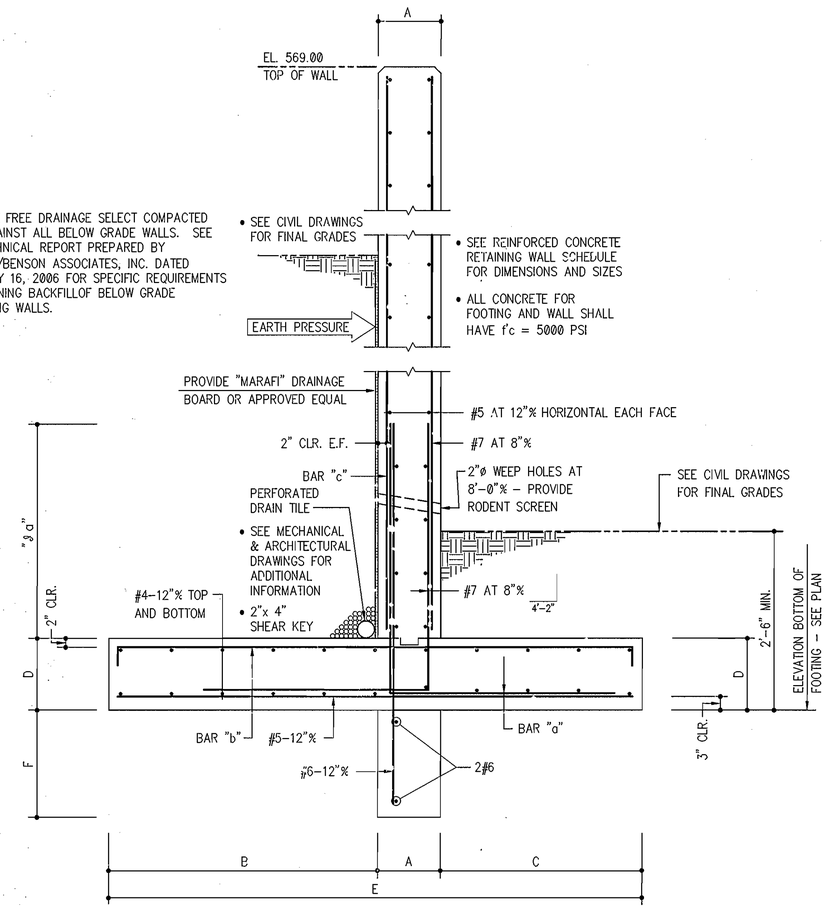
1. SEE CIVIL DRAWINGS AS PREPARED BY SITE RESOURCES FOR EXACT DIMENSIONS FOR WALL LENGTH, LOCATION AND FINAL GRADES. ELEVATION TOP OF WALL = 569.00
2. ELEVATIONS NOTED THUS: ◆ ARE FINAL FINISH GRADES AT WALL.
3. REINFORCED CONCRETE (f'c = 5000 PSI) RETAINING WALL AND FOOTING INDICATED ON PLAN AND IN SCHEDULE THUS: △
4. DESIGN SOIL PARAMETERS USED FOR RETAINING WALL DESIGN AS FURNISHED BY HERBST/BENSON ASSOCIATES, INC. ARE AS FOLLOWS:
   EQUIVALENT ACTIVE FLUID PRESSURE = 45 PCF (SEE NOTE 7)
   SOIL BEARING VALUE = 2500 PSF
5. WALL TYPES ARE INDICATED ON PLAN THUS:
   ▭ REINFORCED CONCRETE RETAINING WALL (f'c = 5000 PSI)
6. ELEVATION BOTTOM OF FOOTING IS SHOWN ON PLAN.
7. PROVIDE SELECT COMPACTED FILL AS BACKFILL AGAINST ALL BELOW GRADE WALLS. SEE GEOTECHNICAL REPORT PREPARED BY HERBST/BENSON ASSOCIATES, INC. DATED JANUARY 16, 2006 FOR SPECIFIC REQUIREMENTS CONCERNING BACKFILL OF BELOW GRADE RETAINING WALLS.
8. AS PER THE REQUIREMENTS OF HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING DEVELOPMENT ENGINEERING DIVISION THE CONSTRUCTION OF REINFORCED CONCRETE WALL AND BACKFILL SHALL BE OBSERVED BY A PROFESSIONAL ENGINEER.

REINFORCED CONCRETE RETAINING WALL SCHEDULE

MARK	WALL	FOOTING				REINFORCING				REMARKS
	A	ExD	B	C	F	BAR"a"	ℓa	BAR"b"	BAR"c"	
△A	1'-2"	15'-9"x 30"	10'-10"	3'-9"	3'-0"	#7-8"%	4'-0"	#9-6"%	#7-8"%	SEE 6/S-1.1
△B	1'-2"	8'-8"x 16"	3'-9"	3'-9"	2'-0"	#7-8"%	4'-0"	#6-8"%	#7-8"%	SEE 6/S-1.1
△C	1'-2"	8'-8"x 16"	3'-9"	3'-9"	--	#7-8"%	4'-0"	#6-12"%	#7-8"%	SEE 6/S-1.1

1. ALL CONCRETE FOR RETAINING WALLS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI.
2. DO NOT BACKFILL WALLS UNTIL CONCRETE HAS ATTAINED DESIGN STRENGTH.

• PROVIDE FREE DRAINAGE SELECT COMPACTED FILL AGAINST ALL BELOW GRADE WALLS. SEE GEOTECHNICAL REPORT PREPARED BY HERBST/BENSON ASSOCIATES, INC. DATED JANUARY 16, 2006 FOR SPECIFIC REQUIREMENTS CONCERNING BACKFILLOF BELOW GRADE RETAINING WALLS.



6 TYPICAL CONCRETE SITE RETAINING WALL
SCALE: 3/4" = 1'-0"

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — MPD — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

MORABITO CONSULTANTS INC.
STRUCTURAL ENGINEERS
2526 SAINT PAUL STREET
BALTIMORE, MARYLAND 21218-4609
(410) 467-2377
FAX (410) 467-4132
www.morabitoconsultants.com

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STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — 11-10-06

DES:	
DRN:	
CHK:	
DATE: 07/25/06	

BY	NO.	REVISION	DATE

Site Separation Wall
Plan and Details

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure
PUBLIC SAFETY TRAINING CENTER
at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PER. TIT INFORMATION:
PARCEL "B3", ADDRESS: 2200 Alpha Ridge Drive
PLAT No. 3714, LIBER / FOLIO
6TH No. 216, ZONE: RC-TOD, TAX MAP No. 16
3rd Election District, Census Tract 6080
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C3.05

SCALE: AS SHOWN

SHEET 25 OF 70

SDP - 06-110

Howard County Public Safety Training Center
Howard County, Maryland

General Design Notes

1. The following effective strength design parameters were assumed in the preparation of structural calculations for the Keystone retaining wall system:

	ϕ	c	γ	Soil Type
Reinforced Soil	28°	0	120	SM -Silty Sand
Retained Soil	28°	0	120	SM -Silty Sand
Foundation Soil	28°	0	120	SM -Silty Sand

Soil types and design properties shall be confirmed by the Owner or its geotechnical engineer prior to wall construction. Keystone accepts no responsibility for the interpretation or verification of subsurface conditions.

2. The system has been evaluated for internal stability and simple external sliding and overturning. Unless otherwise specified, the design maintains a minimum factor of safety of 1.5 on all elements of the wall design.

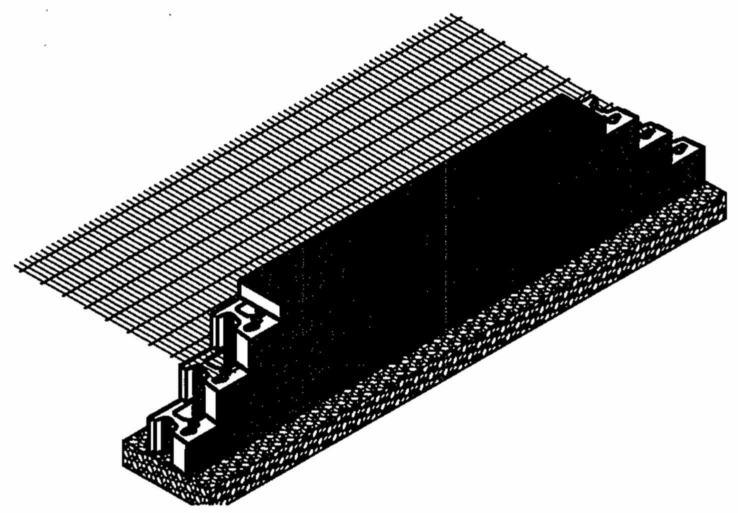
3. The walls are designed to support the following maximum surcharge loadings:

Live Load - 250 psf Pedestrian
Backslope - Level
Seismic - n/a
Hydrostatic - n/a

4. The wall foundation soils at each wall location shall be capable of safely supporting 3000 psf or as indicated on the wall elevations without failure or excessive settlement. Local bearing capacity shall be confirmed by the site engineer.

5. The Contractor shall provide surface and subsurface drainage, grading, and erosion control during and after wall construction to avoid damage to the wall structure.

6. The Contractor is responsible for obtaining all permits and easements necessary for wall construction. The Contractor is responsible for protecting adjacent property from wall construction activities.



DRAWING INDEX	
Description	Sheet No.
Title Sheet	Sheet 1
Site Plan	Sheet 2
Wall Elevations	Sheet 3
Typical Wall Section Details	Sheet 4
Typical Compac Unit Details	Sheet 5
Specifications	Sheet 6

Quality Assurance Provisions

1. Wall construction shall be monitored by a qualified Engineer to verify field conditions. If this work is not performed by the site geotechnical engineer, the geotechnical engineer shall be consulted in those matters pertaining to soil conditions and wall performance.

2. The foundation soils at each wall location shall be inspected by the Engineer and any unsuitable soils or improperly compacted embankment material removed and replaced as directed by the Engineer prior to wall construction to provide adequate bearing capacity and minimize settlement.

3. All wall excavation and retained soils shall be inspected for groundwater conditions and any additional drainage provisions required in the field shall be incorporated into the wall construction as directed by the Engineer.

4. Wall backfill material shall be tested and approved by the Engineer for use in the reinforced soil zone meeting the minimum requirements of the approved design plans.

5. All soil backfill shall be tested by the Engineer for moisture, density, and compaction periodically (every 2' vertically, 100'-200' c/c) meeting the minimum requirements of the approved design plans or project specifications.

6. Wall construction shall be periodically inspected by the Engineer to insure the geogrid reinforcement elevations and lengths are installed in accordance with the approved design plans.

7. All wall elevations, grades, and backslope conditions shall be verified by the Engineer in the field for conformance with the approved design plans. Any revisions to the structure geometry or design criteria shall require design modification prior to proceeding with construction.

8. The construction of the wall and backfill shall be observed by a professional engineer

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Design is for internal stability of the KEYSTONE wall structure only. External stability, including but not limited to foundation and slope stability is the responsibility of the Owner. The design is based on the assumption that the materials within the retained mass, methods of construction, and quality of materials conform to KEYSTONE's specification for this project.

This drawing is being furnished for this specific project only. Any party accepting this document does so in confidence and agrees that it shall not be duplicated in whole or in part, nor disclosed to others without the consent of Keystone Retaining Wall Systems, Inc.

No.	Date	Revision	By
1	07/21/06	Increased Safety Factor for Sliding to >2.0	AC

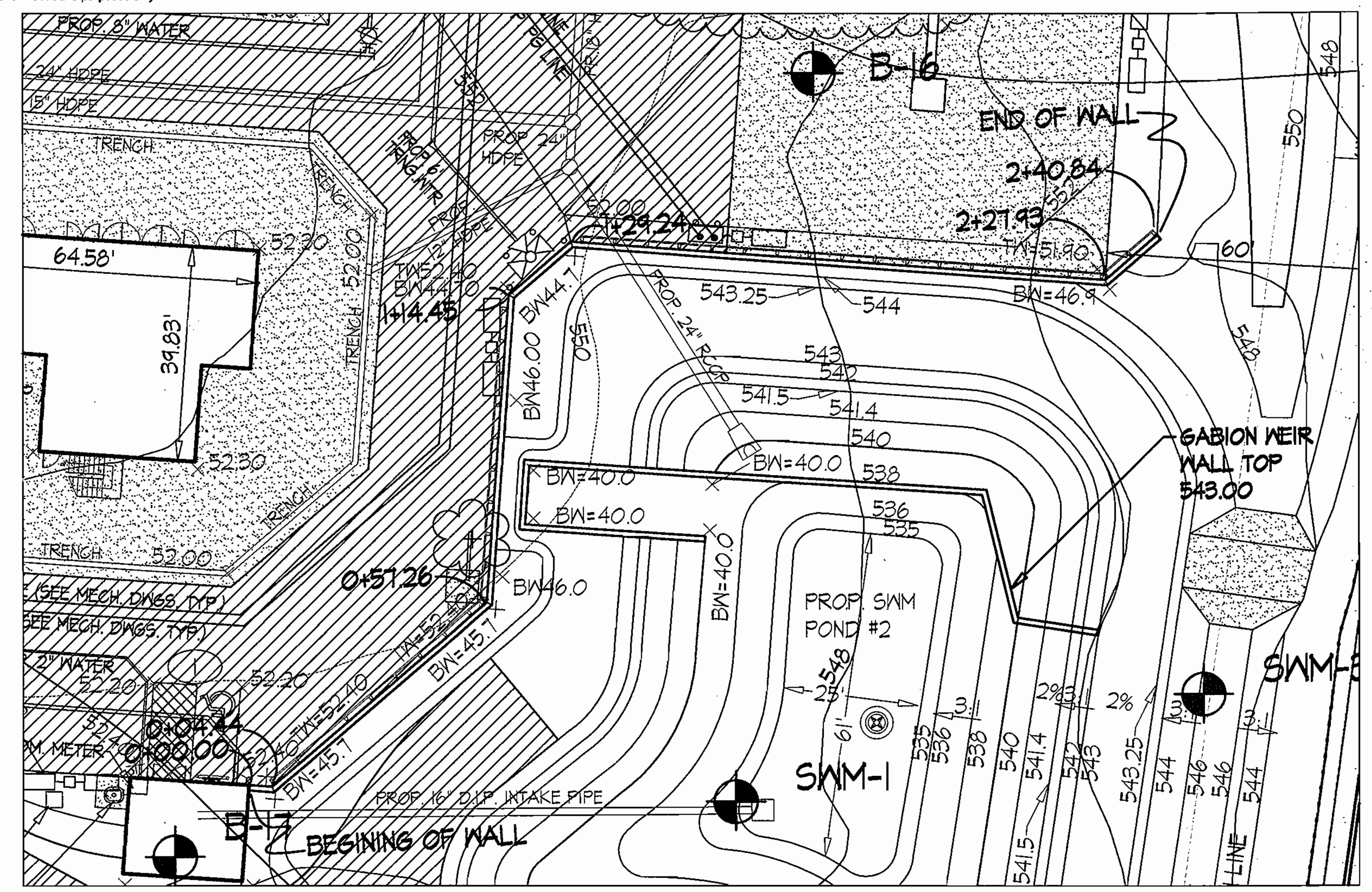
KEYSTONE RETAINING WALL SYSTEMS
A CONTECH COMPANY
4444 W 78th Street
Minneapolis, MN 55435
952-897-1040

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.
Craig D. Moritz, P.E.

Designed By: AC | Checked By: CDM | Scale: No Scale
Title: Title Sheet | Project: HCPSTC, Howard County, Maryland | Date: 05/31/06 | Project No: 06-219 | Drawing No: 1

General Notes:

1. The Site Plan is for illustrative purposes only.



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A CONTECH COMPANY
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Minneapolis, MN 55435
952-897-1040

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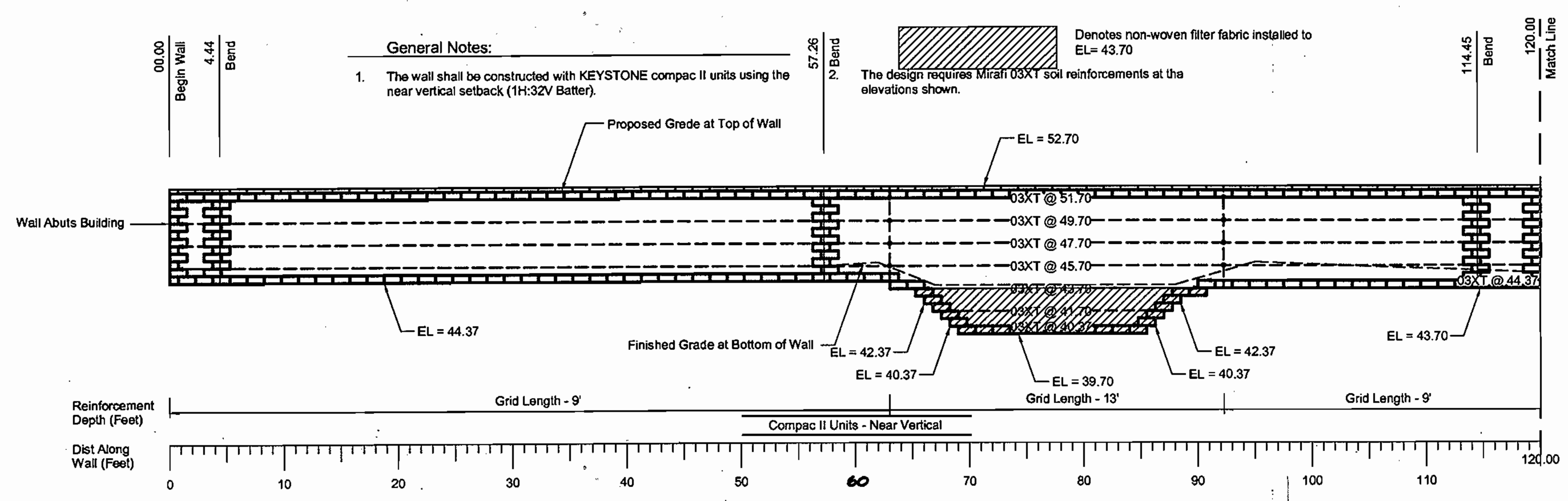
Craig D. Moritz, P.E.

Designed By: AC | Checked By: CDM | Scale: No Scale
Title: Site Plan | Project: HCPSTC, Howard County, Maryland | Date: 05/31/06 | Project No: 06-219 | Drawing No: 2

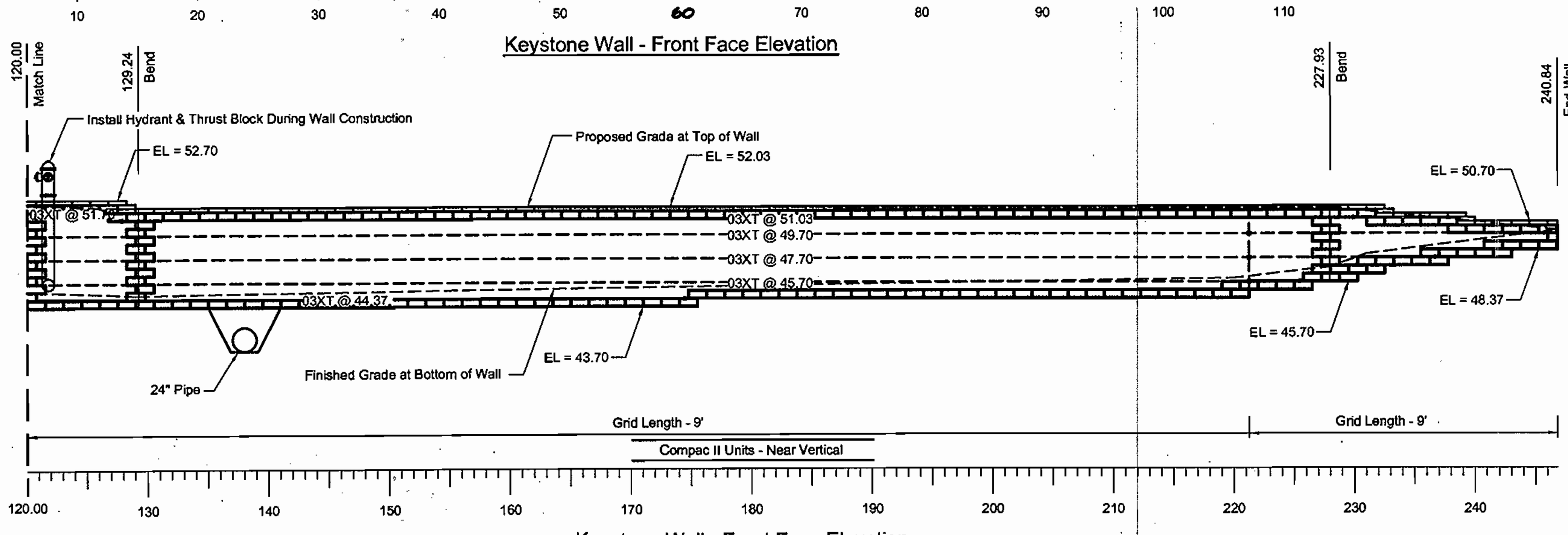
General Notes:

1. The wall shall be constructed with KEYSTONE compac II units using the near vertical setback (1H:32V Batter).
2. The design requires Mirafi 03XT soil reinforcements at the elevations shown.

Denotes non-woven filter fabric installed to EL= 43.70

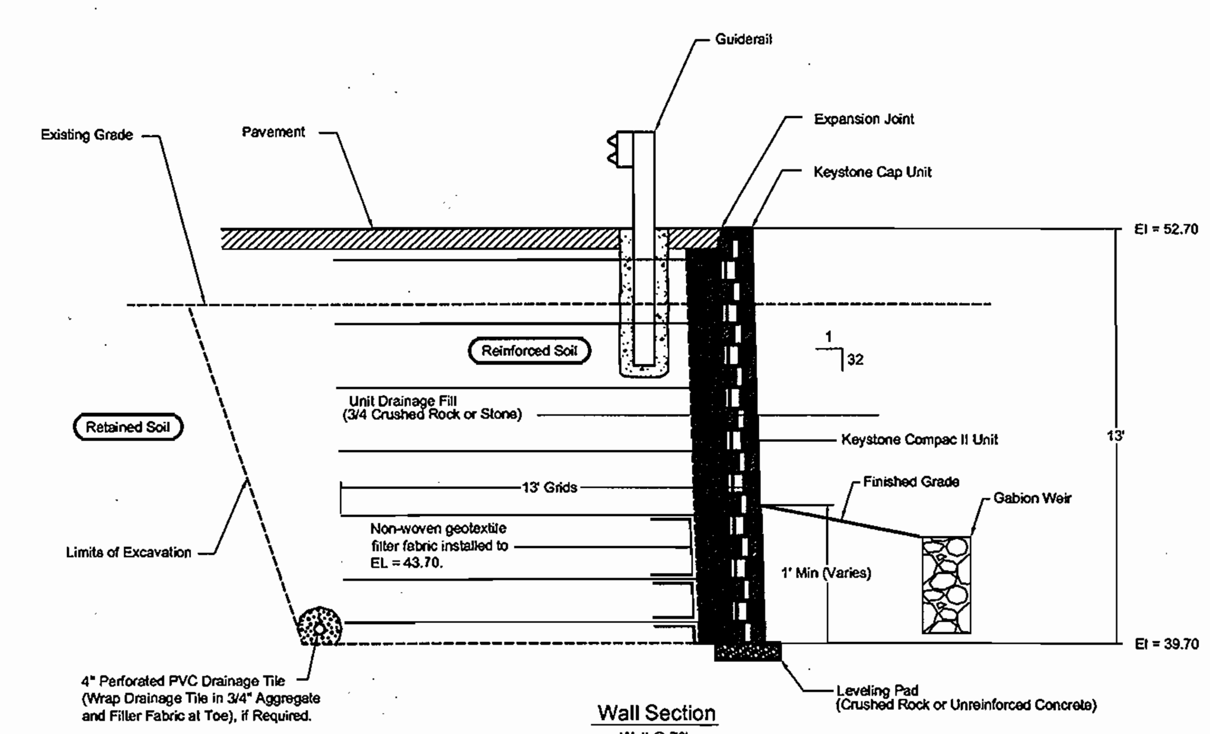


Keystone Wall - Front Face Elevation



Keystone Wall - Front Face Elevation

Designed By: AC | Checked By: CDM | Scale: 1" = 10'
Title: Wall Elevation | Project: HCPSTC, Howard County, Maryland | Date: 05/31/06 | Project No: 06-219 | Drawing No: 3



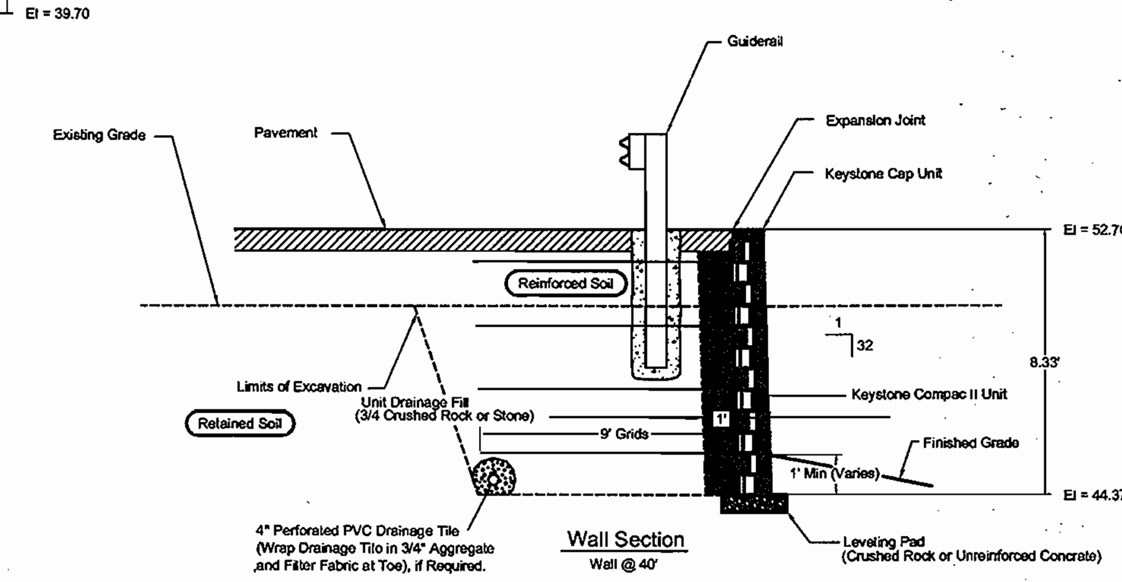
Wall Section
Wall @ 78'

General Notes:

Drainage pipe is not required directly behind the wall units for conventional wall construction where retained soils are not a source of groundwater such as fill wall construction or cut walls into relatively dry banks. Drainage pipes are required where groundwater conditions mandate additional drainage provisions such as cut wall construction into potential water bearing slopes. Generally, additional drainage material such as aggregate drains & fabrics and/or drainage composite nets are used in conjunction with pipe drains for this purpose.

A geotextile filter fabric separator is required between the unit drainage material and site backfill soil in any application where freewater is expected upon the wall face such as in a detention pond or along waterways where the high water level may be above the bottom of wall. Use of filter fabric shall extend a minimum of 1 foot above the anticipated high water level.

A fence, railing, guardrail or other protective barrier is typically required along the top of all walls as required by the site engineer and local codes. The choice, location, and compliance to local codes of the appropriate barrier system is the responsibility of the owner and its site engineer.



Wall Section
Wall @ 40'

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No.	Date	Revision	By
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KEYSTONE RETAINING WALL SYSTEMS
A CONTECH COMPANY
4444 W 78th Street
Minneapolis, MN 55435
952-897-1040

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.
Craig D. Moritz, P.E.

Designed By: AC | Checked By: CDM | Scale: No Scale
Title: Typical Wall Section Details | Project: HCPSTC, Howard County, Maryland | Date: 05/31/06

C3.06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
Robert J. Weber 10/30/06
COUNTY HEALTH OFFICER — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
10/26/06
JAMES M. IRVIN, DIRECTOR

APPROVED: DEPARTMENT OF PLANNING & ZONING
10/30/06
DIRECTOR — DATE
10/24/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE
10/30/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

KEYSTONE RETAINING WALL SYSTEMS
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4444 W 78th Street
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952-897-1040

STATE OF MARYLAND — CRAIG D. MORITZ — No. 22214 — REGISTERED PROFESSIONAL ENGINEER 6/26/06

DES: AC
DRN: AC
CHK: CDM
DATE: 07/26/06

BY	NO.	REVISION	DATE

Retaining Wall Plan, Profiles and Sections

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure
PUBLIC SAFETY TRAINING CENTER
at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Cencus Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

SCALE:

SDP - 06-110

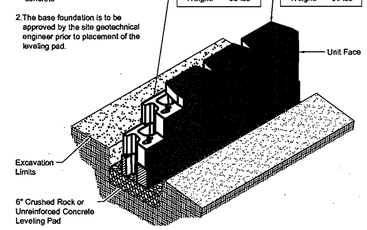
Z:\03\03153-HowardCo PublicSafety\Ctr\dwg\C3.06 Retaining Wall.dwg, 10/5/2006 11:11:08 AM, - Copyright, Site Resources, Inc.

Base Leveling Pad Notes:

1. The leveling pad is to be constructed of crushed stone or 2,000 psi± unreinforced concrete
2. The base foundation is to be approved by the site geotechnical engineer prior to placement of the leveling pad.

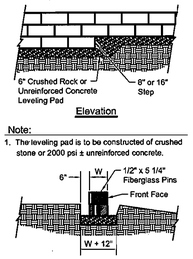
Compac II Unit	
Width:	18"
*Depth:	12"
Height:	8"
*Weight:	90 lbs

Cap Unit	
Width:	18"
*Depth:	10 1/2"
Height:	4"
*Weight:	50 lbs



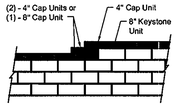
Compac II Unit/Base Pad Isometric Section View

* Dimensions & Weight May Vary by Region



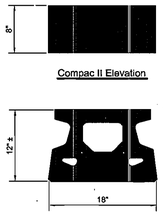
Note:
1. The leveling pad is to be constructed of crushed stone or 2000 psi ± unreinforced concrete.

Leveling Pad Detail



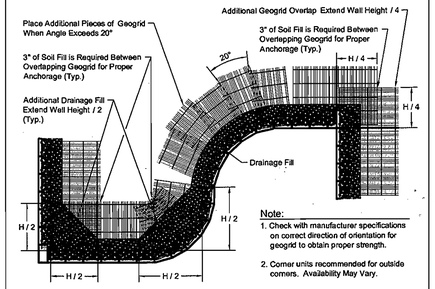
Note:
1. Secure all cap units with Keystone Kapseal or equal.

Top of Wall Steps



Compac II Unit

*Dimensions May Vary by Region



Note:
1. Check with manufacturer specifications on correct direction of orientation for geogrid to obtain proper strength.
2. Corner units recommended for outside corners. Availability May Vary.

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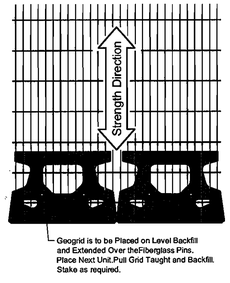
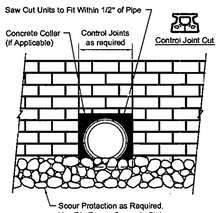


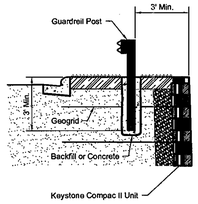
Grid & Pin Connection

Note:
1. For pipes larger than 24", a concrete collar may be cast around pipe for ease of construction and appearance.



Typical Pipe Outlet Detail

Note:
1. Auger through geogrid layers.
2. Backfill or concrete guardrail post in place.



Typical Guardrail Detail

No.	Date	Revision	By
1	07/21/06	Increased Safety Factor for Sliding to >2.0	AC

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KEYSTONE RETAINING WALL SYSTEMS
A CONTECH COMPANY
4444 W 78th Street
Minneapolis, MN 55435
952-897-1040

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Maryland

Craig D. Moritz, P.E.

Designed By:	AC
Checked By:	CDM
Scale:	None
Project:	HCPSTC Howard County, Maryland
Typical Compac II Unit Details	
Date:	05/31/06
Project No:	06-219
Drawing No:	5

SPECIFICATION GUIDELINES (Short Form)

PART 1: GENERAL

1.01 DESCRIPTION

A. Work includes furnishing and installing a KEYSTONE retaining wall to the lines and grades shown on the construction drawings and as specified herein.
B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and backfill to the lines and grades shown on the construction drawings.
C. Work includes furnishing and installing all related materials required for construction of the retaining wall as shown on the construction drawings.

1.02 REFERENCE STANDARDS

A. ASTM C1372 Specification for Segmantal Retaining Wall Units
B. ASTM D 422 Particle Size Analysis
C. ASTM D 698 Laboratory Compaction Characteristics using Standard Effort.
D. ASTM D 4318 Liquid Limit, Plastic Limit, Plasticity Index of Soils
E. ASTM D 4595 Tensile Properties of Geotextiles - Wide Width Strip
F. ASTM D 5262 Unconfined Tension Creep Behavior of Geotextiles
G. NCMA SRWU-1 Test Method for Determining Connection Strength of SRW

1.03 QUALITY ASSURANCE

A. Owner will be responsible for soil testing and inspection quality control during wall construction and earthwork operations.

PART 2: MATERIALS

2.01 DEFINITIONS

A. Concrete Units - a KEYSTONE modular concrete facing unit, machine made from portland cement, water and mineral aggregates.
B. Structural Geogrid - a structural geogrid formed by a regular network of integrally connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.
C. Unit Drainage Fill - drainage aggregate which is placed within and immediately behind the modular concrete units.
D. Reinforced Backfill - Compacted soil which is within the reinforced soil volume as shown on the plans.

2.02 KEYSTONE UNITS

A. KEYSTONE wall units shall have a minimum 28-day compressive strength of 3,000 psi. Standard weight concrete shall have a maximum moisture absorption of 8% (6% in northern climates).

2.03 FIBERGLASS CONNECTING PINS

A. Connecting pins shall be 1/2" diameter thermoset isophthalic polyester resin pultruded fiberglass reinforcement rods supplied by the unit manufacturer.

2.04 KEYSTONE KAPSEAL CONSTRUCTION ADHESIVE

A. Material shall conform to ASTM 2339 and shall be supplied by the KEYSTONE unit supplier.

2.05 GEOGRID REINFORCEMENT

A. Geogrid shall be the type as shown on the drawings having the property requirements described within the manufacturer's specifications and required by the design calculations.

2.06 BASE LEVELING PAD MATERIAL

A. Material shall consist of compactad crushed stone or unreinforced concrete as shown on the construction drawings.

2.07 UNIT DRAINAGE FILL

A. Unit fill shall consist of clean 1" minus crushed stone or crushed gravel meeting the following gradation:

Sieve Size	% Passing
1 inch	100
3/4"	75-100
No. 4	0-10
No. 50	0-5

2.08 REINFORCED BACKFILL

A. Reinforced backfill shall be free of debris or organic material meeting the following gradation tested in accordance with ASTM D-422:

Sieve Size	% Passing
2 inch	100
3/4"	75-100
No. 40	0-60
No. 200	0-35

LL < 40 and PI < 15 per ASTM D4318

B. The maximum aggregate size shall be limited to 3/4" unless field tests have been performed to evaluate potential strength reduction due to installation damage.
C. Material can be site excavated material when the above requirements are met. Unsuitable soils for backfill (high plastic clays or organic materials) shall not be used in the reinforced soil mass.
D. Contractor shall submit reinforced fill sample and test results to the Architect/Engineer for approval prior to construction.

2.09 DRAINAGE PIPE

A. When required, drainage pipe shall be perforated or slotted PVC pipe manufactured in accordance with ASTM F794 and F949 equivalent to A-2000 Perforated Pipe by Contech Construction Products.

2.10 GEOTEXTILE FILTER FABRIC

A. When required, geotextile filter fabric shall be a 4.0 oz/sy, polypropylene, needlepunched nonwoven fabric equivalent to C45NW by Contech Construction Products.

PART 3: EXECUTION

3.01 EXCAVATION

A. Contractor shall excavate to the lines and grades shown on the construction drawings. Contractor shall be careful not to disturb embankment and foundation materials beyond lines shown.

3.02 FOUNDATION SOIL PREPARATION

A. Foundation soil shall be excavated as required for leveling pad dimensions shown on the construction drawings, or as directed by the Engineer.
B. Unsuitable soils shall be removed and replaced with approved compacted material as directed by the Engineer
C. Over-excavated areas shall be backfilled with approved compacted backfill material.

3.03 BASE LEVELING PAD

A. Leveling pad materials shall be placed upon an approved foundation as shown on the construction drawings to a minimum thickness of 6".
B. Aggregate material shall be compacted to provide a dense, level surface on which to place the first course of modular units. Compaction shall be to 95 % of Standard Proctor Density as determined in accordance with ASTM D698. For crushed rock, material shall be densely compacted as determined by visual observation.

3.04 UNIT INSTALLATION

A. The first course of concrete modular wall units shall be carefully placed on the base leveling pad. Each unit shall be checked for level and alignment.
B. Units are placed side by side for full length of wall alignment. Alignment may be done by means of a string line or offset from a base line.
C. Install fiberglass connecting pins and fill all voids in end around the modular units with unit fill material. Tamp or rod unit fill to insure that all voids are completely filled.
D. Sweep excess material from top of units and install the next course. Ensure that each course is completely unit filled, backfilled and compacted prior to proceeding to next course.
E. Place each subsequent course ensuring that pins protrude into adjoining courses a minimum of 1". Two pins are required per unit. Pull each unit forward, away from the fill zone, locking against the pins in the previous course and backfill as the course is completed. Repeat procedure to the extent of wall height.

3.05 GEOGRID INSTALLATION

A. Geogrid shall be laid at the proper elevations and orientation as shown on the construction drawings or as directed by the Engineer.
B. Correct orientation (roll direction) of the geogrid shall be verified by the contractor with the strongest direction placed perpendicular to the wall.
C. Geogrid soil reinforcement shall be connected to the KEYSTONE wall units by placing the geogrid over fiberglass pins and laying the grid back on compacted fill. Place the next course of units over the geogrid.
D. The geogrid shall be pulled taut to eliminate loose folds and pretension the reinforcement. Stake or secure back edge of geogrid prior to and during backfill and compaction. Geogrid shall be placed side by side with no gaps.

3.06 FILL PLACEMENT

A. Backfill material shall be placed in 8" lifts and compacted to 95 % of Standard Proctor density as determined in accordance with ASTM D698. The inplace moisture content shall not exceed the optimum moisture content as determined in accordance with ASTM D698 and be no lower than 3 % below optimum moisture content
B. Backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack or loss of pretension of the geogrid.
C. Only hand-operated compaction equipment shall be allowed within 3' of the back surface of the KEYSTONE units.
D. Backfill shall be placed from the wall back towards the embankment to ensure that the geogrid remains taut.
E. Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 6" is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
F. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds. [less than 10 mph.] Avoid sudden braking and sharp turning.
G. At the end of each day's operation, the Contractor shall grade the backfill away from the wall and direct runoff away from the wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

3.07 CAP INSTALLATION

A. Place KEYSTONE Cap units over projecting pins from units below. Apply KapSeal adhesive to top surface of unit below and place cap unit into position. Backfill and compact to finished grade with low permeability soil.

Copyright 2006 Keystone Retaining Wall Systems

Design is for internal stability of the KEYSTONE wall structure only. External stability, including but not limited to foundation and slope stability is the responsibility of the Owner. The design is based on the assumption that the materials within the retained mass, methods of construction, and quality of materials conform to KEYSTONE's specification for this project.

This drawing is being furnished for this specific project only. Any party accepting this document does so in confidence and agrees that it shall not be duplicated in whole or in part, nor disclosed to others without the consent of Keystone Retaining Wall Systems, Inc.

No.	Date	Revision	By
1	07/21/06	Increased Safety Factor for Sliding to >2.0	AC

KEYSTONE RETAINING WALL SYSTEMS
A CONTECH COMPANY
4444 W 78th Street
Minneapolis, MN 55435
952-897-1040

I hereby certify that this engineering document was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Maryland

Craig D. Moritz, P.E.

Designed By:	AC
Checked By:	CDM
Scale:	No Scale
Project:	HCPSTC Howard County, Maryland
Title:	Specifications
Date:	05/31/06
Project No:	06-219
Drawing No:	6

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

KEYSTONE RETAINING WALL SYSTEMS
A CONTECH COMPANY
4444 W 78th Street
Minneapolis, MN 55435
952-897-1040

STATE OF MARYLAND — CRAIG D. MORITZ — No. 28214 — REGISTERED PROFESSIONAL ENGINEER — 6/28/06

DES: AC			
DRN: AC			
CHK: CDM			
DATE: 07/26/06	BY	NO.	REVISION	DATE

Retaining Wall Details and Notes

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.69
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

C3.07

SCALE: AS SHOWN

SHEET 21 OF 70

SDP - 06-110

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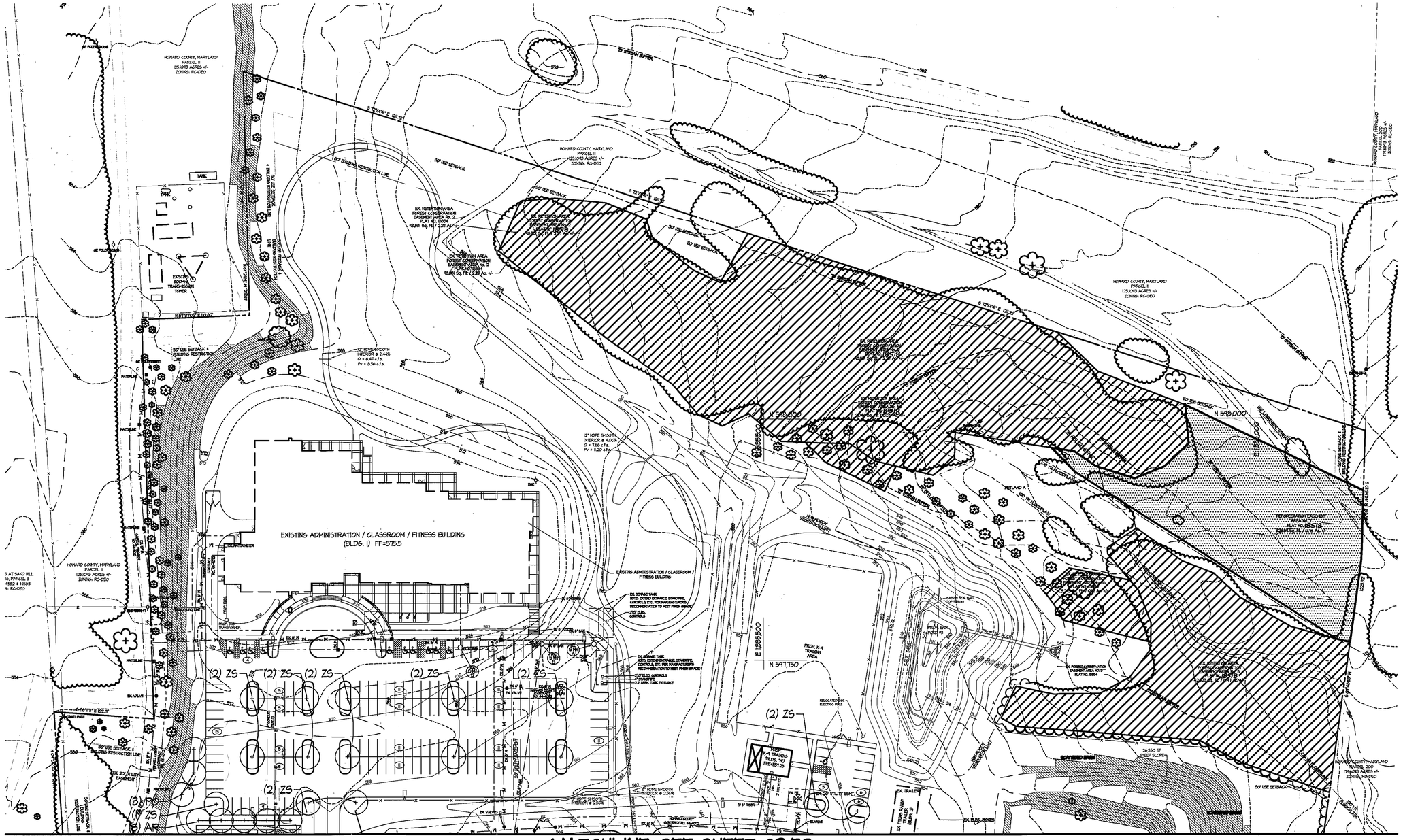

MATCHLINE, SEE SHEET C3.52

LEGEND - PLANTING PLAN

- PROPERTY LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
- PROPOSED ROADS
- EXISTING TREES
- PROPOSED SHADE TREE

DEVELOPER'S/BUILDER'S CERTIFICATE

I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Subdivision and Land Development Regulations and the Landscape Manual. I/We further certify that upon completion a letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Michael D. Gavaniello — Name — 10-12-06 — Date

PREPARED BY: KEVIN P. RILEY, RLA
STATE OF MARYLAND
REGISTERED LANDSCAPE ARCHITECT
LICENSE REGISTRATION NO. 3231

K P Riley — NAME — 10/11/06 — DATE

0 25 50 100
SCALE 1"=50'

NOTES:
1. SEE SHEET C3.53 FOR PLANTING CALCULATIONS, NOTES AND SCHEDULE.
2. SEE SHEET C6.23, C6.33, AND C 6.42 FOR STORMWATER MANAGEMENT AREA PLANTING PLAN & DETAILS.

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
for Robert J. Weber — COUNTY HEALTH OFFICER — MDD — 10/30/06 — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James M. Irvin — JAMES M. IRVIN, DIRECTOR — 10/26/06 — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — 10/30/06 — DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 — DATE
CHIEF, DIVISION OF LAND DEVELOPMENT — 10/24/06 — DATE

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ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
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SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KEVIN PATRICK RILEY — No. 3231 — REGISTERED LANDSCAPE ARCHITECT — 10/11/06

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Planting Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure
PUBLIC SAFETY TRAINING CENTER
at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

C3.51

SCALE: 1"=50

SHEET 28 OF 70

SDP - 06-110

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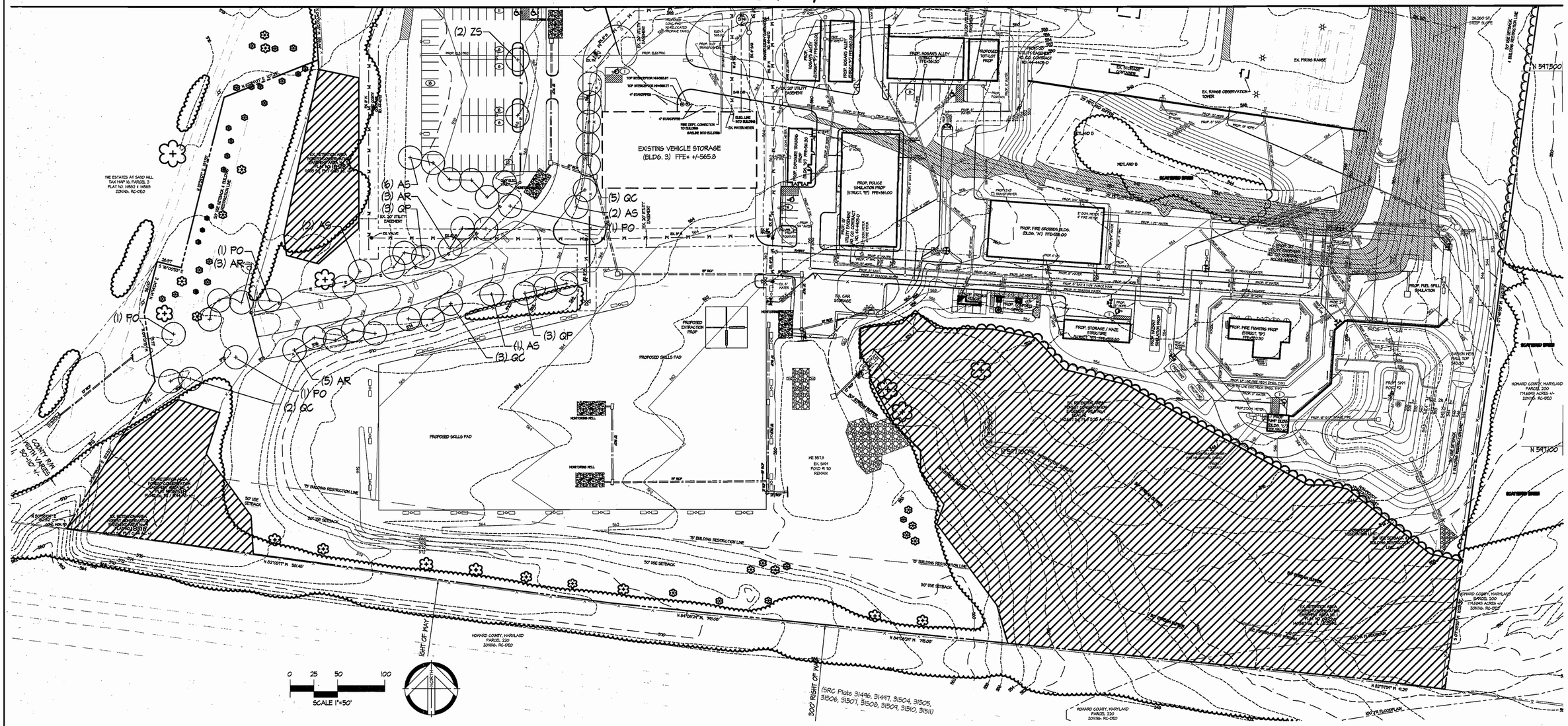
MATCHLINE, SEE SHEET C3.51



LEGEND - PLANTING PLAN

- PROPERTY LINE
- EXISTING CONTOURS (350, 348)
- PROPOSED CONTOURS (350, 348)
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
- PROPOSED ROADS
- EXISTING TREES
- PROPOSED SHADE TREE

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Michael A. Giovannetti — Name — 10-12-06 — Date

PREPARED BY: KEVIN P. RILEY, RLA
STATE OF MARYLAND
REGISTERED LANDSCAPE ARCHITECT
LICENSE REGISTRATION NO. 3231

K P Riley — NAME — 10/11/06 — DATE

NOTES:
1. SEE SHEET C3.53 FOR PLANTING CALCULATIONS, NOTES AND SCHEDULE.
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APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
for Robert J. Weber — COUNTY HEALTH OFFICER — 10/30/06 — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James M. Irvin — JAMES M. IRVIN, DIRECTOR — 10/26/06 — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — 10/30/06 — DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 — DATE
Andy Hamer — CHIEF, DIVISION OF LAND DEVELOPMENT — 10/24/06 — DATE

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STATE OF MARYLAND — KEVIN PATRICK RILEY — No. 3231 — REGISTERED LANDSCAPE ARCHITECT — 10/11/06

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Planting Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

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3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C3.52

SCALE: 1"=50

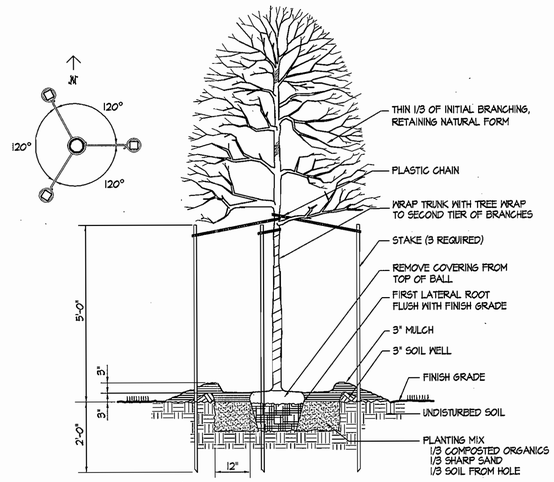
SHEET 29 OF 70

SDP - 06-110

Z:\03031\53-HowardCo Public\Safety\Civil\dwg\C3.52_PlantingPlan.dwg, 10/5/2006 11:12:09 AM, - Copyright, Site Resources, Inc.

GENERAL PLANTING NOTES:

1. PLANT MATERIAL SUBSTITUTIONS ARE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT.
2. PLANT MATERIAL SHALL BE TAGGED AT THE SOURCE BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE UNLESS THE REQUIREMENT IS SPECIFICALLY WAIVED.
3. LOCATIONS OF ALL PLANT MATERIAL SHALL BE STAKED FOR APPROVAL BY THE OWNER'S REPRESENTATIVE.
4. ALL SHRUB AND GROUND COVER AREAS SHALL BE PLANTED IN CONTINUOUS PREPARED BEDS, MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILED AND SPECIFIED.
5. PLANTING BEDS SHALL HAVE POSITIVE DRAINAGE WITH A MINIMUM 2 PERCENT SLOPE.
6. CONTRACTOR SHALL VERIFY ACCURACY OF BASE INFORMATION AND EXISTING CONDITIONS IN THE FIELD TO HIS OWN SATISFACTION. BID SHALL BE BASED ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS.
7. ALL PLANT MATERIAL SHALL BE NURSERY GROWN AND SHALL CONFORM TO AMERICAN NURSERYMEN ASSOCIATION STANDARDS.
8. ALL PLANTING PROCEDURES SHALL CONFORM TO THE LATEST EDITION OF LANDSCAPE CONTRACTOR ASSOCIATION GUIDELINES FOR THE BALTIMORE/WASHINGTON METROPOLITAN AREA AND THE PROJECT SPECIFICATIONS.
9. SEE GRADING & UTILITY DRAWINGS FOR EXISTING & PROPOSED GRADES AND UTILITIES. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS TO HIS OWN SATISFACTION.
10. SEE SHEETS C3.51 AND C3.52 FOR PLANTING PLANS.
11. SEE SHEET C6.23, C6.33 & C6.41 FOR STORMWATER MANAGEMENT AREA PLANTING PLAN & DETAILS.
12. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING.
13. SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN DIE, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
14. THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES, AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
15. SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED, AS NEEDED, IN ACCORDANCE WITH LOCAL JURISDICTION REQUIREMENTS. STABILIZE ALL DISTURBED AREAS AS SOON AS FINAL GRADING HAS BEEN COMPLETED. ALL DISTURBED AREAS SHALL BE SEEDED WITH THE EXCEPTION OF PLANTING BEDS.
16. INSTALL TREE PROTECTION FENCING ALONG THE LIMITS OF DISTURBANCE (LOD) OF THE EXISTING WOODS. ALL SITE GRADING, PLANTING BED PREPARATION, AND TREE AND SHRUB PLANTING MUST BE DONE OUTSIDE OF THE DRIP LINE OF EXISTING TREES TO BE PRESERVED IN ORDER TO MAINTAIN AND PROTECT THE ROOT SYSTEM.
17. TREES ARE NOT TO BE INSTALLED CLOSER THAN 6' TO ANY EDGE OF PAVEMENT, CURB OR SIDEWALK.
18. ALL PERIMETER LANDSCAPE REQUIREMENTS HAVE BEEN FULFILLED UNDER SDP-03-036. THIS LANDSCAPING SHALL REMAIN INTACT AND UNDISTURBED DURING SDP-06-110.



DECIDUOUS TREE DETAIL

N.T.S.

PARKING LOT PLANTING

Number of Parking Spaces	256
Internal Islands @ 1/20 spaces	
Required:	13
Provided:	14
Shade Trees @ 1/20 spaces	
Required:	13
Provided:	31

STREET TREE PLANTING

Internal Road A

Right-of-Way	1,440 LF
Large Street Trees @ 1/40 LF	
Required	36
Provided	36

PLANTING SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	COMMENTS
SHADE TREES						
AR	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2" - 2½" CAL.	AS SHOWN	16	
AS	ACER SACCHARUM 'GREEN MOUNTAIN'	GREEN MOUNTAIN SUGAR MAPLE	2" - 2½" CAL.	AS SHOWN	11	
PO	PLATANUS OCCIDENTALIS	SYCAMORE	2" - 2½" CAL.	AS SHOWN	7	
QC	QUERCUS COCCINEA	SCARLET OAK	2" - 2½" CAL.	AS SHOWN	10	
QP	QUERCUS PALUSTRIS	PIN OAK	2" - 2½" CAL.	AS SHOWN	6	
ZS	ZELKOVA SERRATA 'VILLAGE GREEN'	VILLAGE GREEN ZELKOVA	2" - 2½" CAL.	AS SHOWN	17	

DEVELOPER'S/BUILDER'S CERTIFICATE

I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Subdivision and Land Development Regulations and the Landscape Manual. I/We further certify that upon completion a letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Michael A. Grossmaillo 10/12/06
Name Date

PREPARED BY: KEVIN P. RILEY, RLA
STATE OF MARYLAND
REGISTERED LANDSCAPE ARCHITECT
LICENSE REGISTRATION NO. 3231

KPRiley 10/11/06
NAME DATE

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Weber 10/30/06
for COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. Irvin 10/26/06
JAMES M. IRVIN, DIRECTOR DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

Director 11/30/06
DIRECTOR DATE

10/26/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Tomash 10/30/06
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

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ARCHITECTS / PLANNERS
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Phone: 410.879.0388 Fax: 410.879.4785
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SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND KEVIN PAT RILEY No. 3231 LANDSCAPE ARCHITECT 10/11/06

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Planting Details

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6694 / F.614
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C3.53

SCALE: as shown

SHEET 30 OF 70

SDP - 06-110

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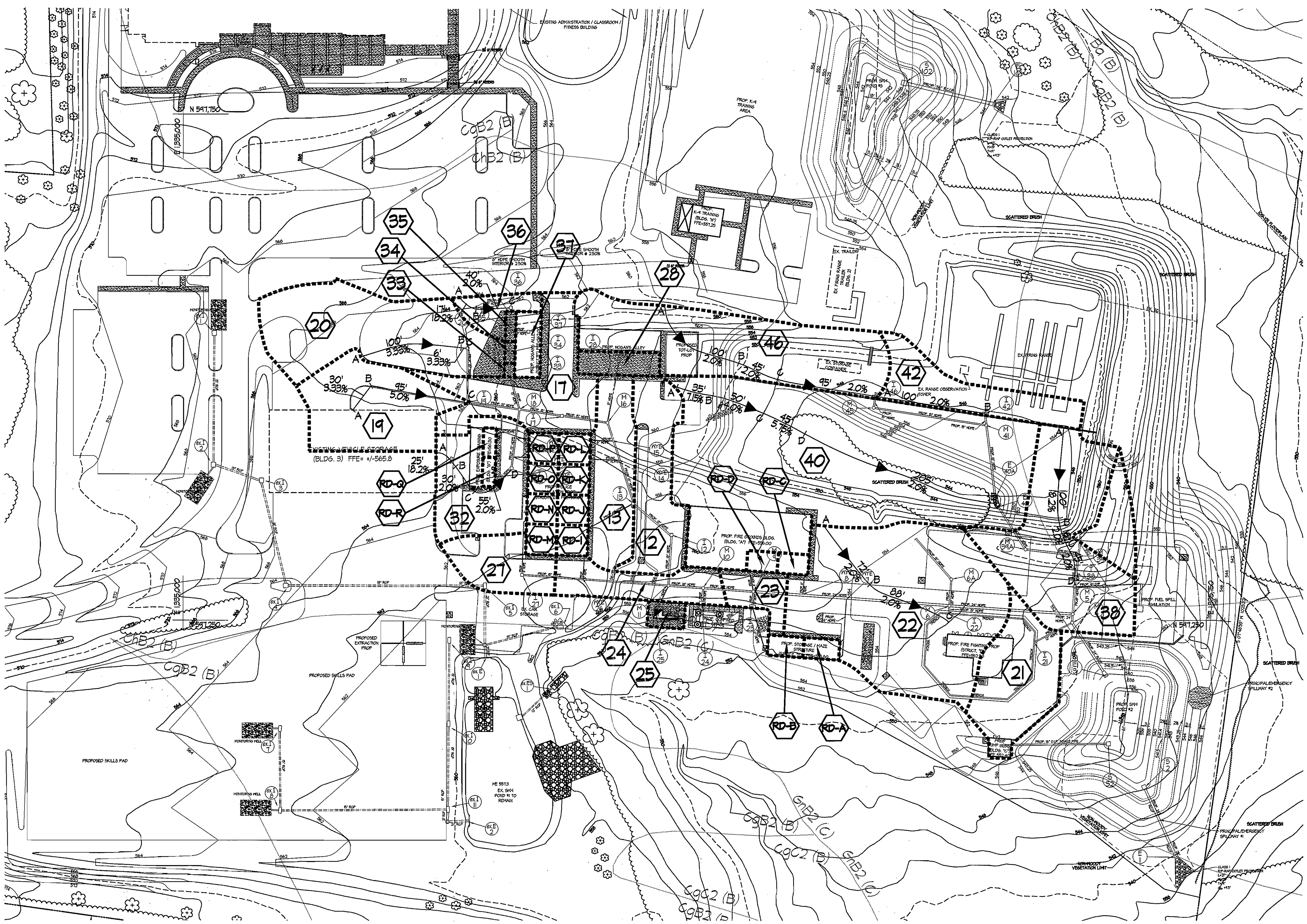

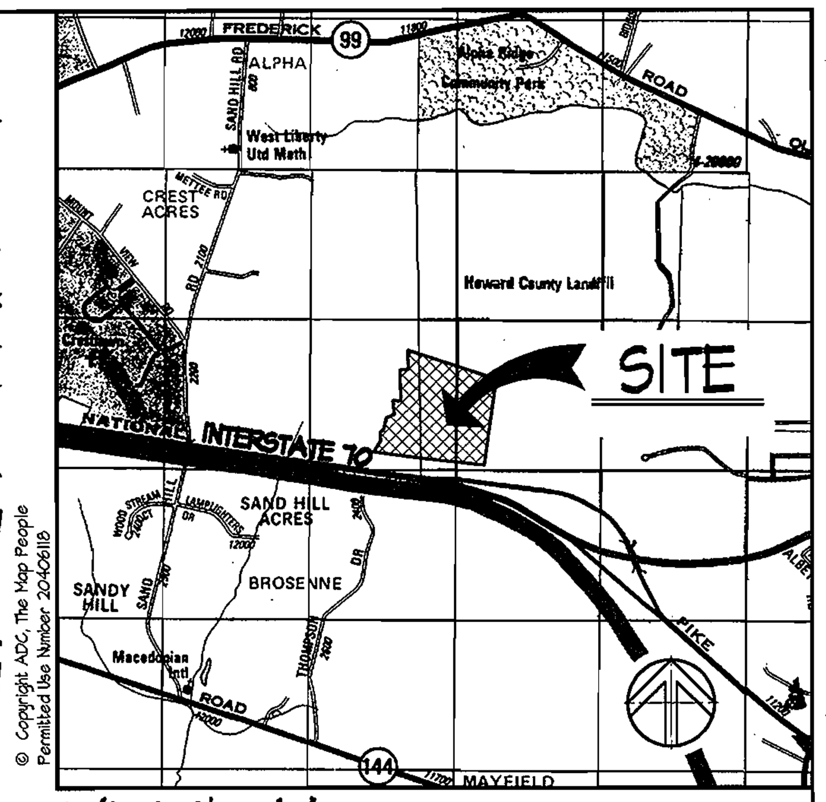

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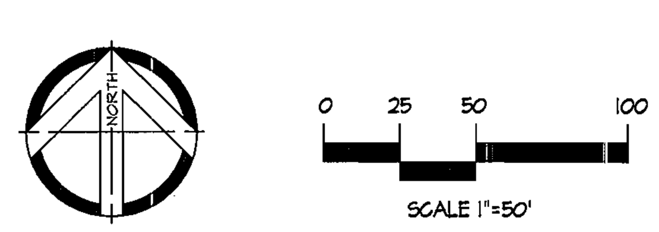
Vicinity Map Scale: 1" = 2000'

LEGEND - DRAINAGE AREA MAP

—— — — ——	PROPERTY LINE
348 350 (dashed)	EXISTING CONTOURS
348 350 (solid)	PROPOSED CONTOURS
————	PROPOSED ROADS
PROP. 24" RCCP	PROPOSED STORMDRAINS
EX. 24" RCCP	EXISTING STORM DRAINS
(dashed box)	EXISTING BUILDINGS
(solid box)	PROPOSED BUILDINGS
■■■■■■■■	DRAINAGE AREA
T_CPATH	TIME OF CONCENTRATION PATH

AREA DESIGNATION	TOTAL AREA (ACRES)	IMPERVIOUS AREA (ACRES)	% IMPERVIOUS	WEIGHTED 'C' FACTOR
12	0.20	0.15	75.00	0.77
13	0.18	0.18	100.00	0.96
17	0.25	0.22	88.00	0.87
19	0.26	0.22	84.62	0.84
20	0.38	0.17	44.74	0.54
21	0.23	0.23	100.00	0.96
22	0.68	0.52	76.47	0.78
23	0.07	0.07	100.00	0.96
24	0.12	0.12	100.00	0.96
25	0.02	0.02	100.00	0.96
27	0.11	0.09	81.82	0.82
28	0.05	0.05	100.00	0.96
32	0.21	0.13	61.91	0.67
33	0.01	0.01	100.00	0.96
34	0.01	0.01	100.00	0.96
35	0.01	0.01	100.00	0.96
36	0.05	0.02	40.00	0.50
37	0.04	0.04	100.00	0.96
38	0.45	0.24	53.33	0.61
40	1.13	0.14	12.39	0.29
42	0.16	0.01	6.25	0.25
46	0.42	0.07	16.67	0.33
RD A	0.02	0.02	100.00	0.96
RD B	0.02	0.02	100.00	0.96
RD C	0.01	0.01	100.00	0.96
RD D	0.01	0.01	100.00	0.96
RD I	0.02	0.02	100.00	0.96
RD J	0.03	0.03	100.00	0.96
RD K	0.03	0.03	100.00	0.96
RD L	0.01	0.01	100.00	0.96
RD M	0.02	0.02	100.00	0.96
RD N	0.03	0.03	100.00	0.96
RD O	0.03	0.03	100.00	0.96
RD P	0.01	0.01	100.00	0.96
RD Q	0.01	0.01	100.00	0.96
RD R	0.01	0.01	100.00	0.96



APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
for COUNTY HEALTH OFFICER — 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — 10/30/06 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT — 10/30/06 DATE

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DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Proposed Storm Drain Drainage Area Map

600' SCALE MAP NO. 16 BLOCK NO. 2/8

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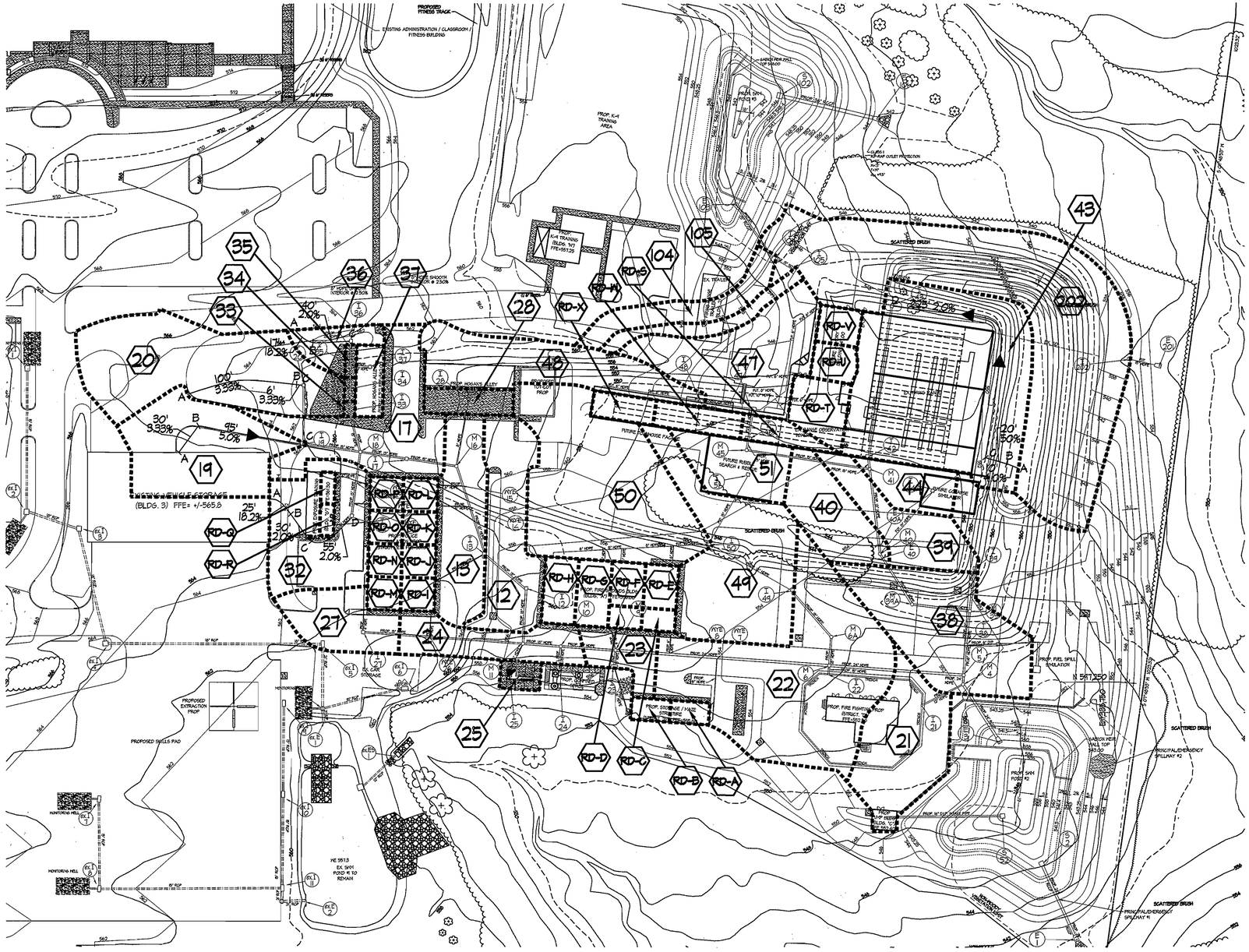
WATER CODE: 730, SEWER CODE: Private - Holding Tank

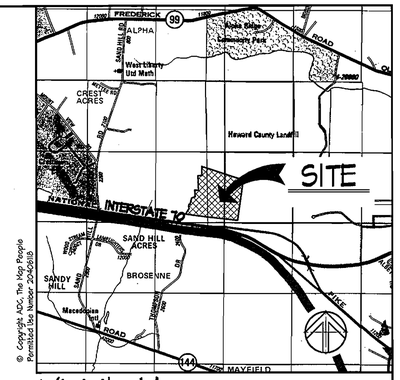
C4.01

SCALE: 1"=50'

SDP - 06-110

AREA DESIGNATION	TOTAL AREA (ACRES)	IMPERVIOUS AREA (ACRES)	% IMPERVIOUS	WEIGHTED 'C' FACTOR
12	0.20	0.15	75.00	0.71
13	0.18	0.18	100.00	0.96
17	0.25	0.22	88.00	0.87
19	0.26	0.22	84.62	0.84
20	0.38	0.17	44.74	0.54
21	0.23	0.23	100.00	0.96
22	0.54	0.54	100.00	0.96
23	0.07	0.07	100.00	0.96
24	0.12	0.12	100.00	0.96
25	0.02	0.02	100.00	0.96
27	0.11	0.09	81.82	0.82
28	0.05	0.05	100.00	0.96
32	0.21	0.13	61.91	0.67
33	0.01	0.01	100.00	0.96
34	0.01	0.01	100.00	0.96
35	0.01	0.01	100.00	0.96
36	0.05	0.02	40.00	0.50
37	0.04	0.04	100.00	0.96
38	0.32	0.32	100.00	0.96
39	0.12	0.12	100.00	0.96
40	0.12	0.12	100.00	0.96
43	0.60	0.37	61.67	0.67
44	0.10	0.10	100.00	0.96
47	0.28	0.17	60.71	0.66
48	0.12	0.04	33.33	0.45
49	0.40	0.40	100.00	0.96
50	0.44	0.44	100.00	0.96
51	0.13	0.13	100.00	0.96
104	0.13	0.07	53.85	0.61
105	0.05	0.04	80.00	0.81
202	0.80	0.38	47.50	0.56
RD A	0.02	0.02	100.00	0.96
RD B	0.02	0.02	100.00	0.96
RD C	0.01	0.01	100.00	0.96
RD D	0.01	0.01	100.00	0.96
RD E	0.03	0.03	100.00	0.96
RD F	0.03	0.03	100.00	0.96
RD G	0.04	0.04	100.00	0.96
RD H	0.04	0.04	100.00	0.96
RD I	0.02	0.02	100.00	0.96
RD J	0.03	0.03	100.00	0.96
RD K	0.03	0.03	100.00	0.96
RD L	0.01	0.01	100.00	0.96
RD M	0.02	0.02	100.00	0.96
RD N	0.03	0.03	100.00	0.96
RD O	0.03	0.03	100.00	0.96
RD P	0.01	0.01	100.00	0.96
RD Q	0.01	0.01	100.00	0.96
RD R	0.01	0.01	100.00	0.96
RD S	0.04	0.04	100.00	0.96
RD T	0.07	0.07	100.00	0.96
RD U	0.03	0.03	100.00	0.96
RD V	0.03	0.03	100.00	0.96
RD W	0.05	0.05	100.00	0.96
RD X	0.03	0.03	100.00	0.96





Vicinity Map

Scale: 1" = 2000'

LEGEND - DRAINAGE AREA MAP

- PROPERTY LINE
- 350 / 348 — EXISTING CONTOURS
- 350 / 348 — PROPOSED CONTOURS
- PROPOSED ROADS
- PROP. 24" RCCP — PROPOSED STORMDRAINS
- FUT. 24" RCCP — FUTURE STORMDRAINS
- EX. 24" RCCP — EXISTING STORM DRAINS
- EXISTING BUILDINGS
- PROPOSED BUILDINGS
- DRAINAGE AREA
- T_CPATH — TIME OF CONCENTRATION PATH

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/06

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Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Future Storm Drain Drainage Area Map

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
9430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C4.02

SCALE: 1"=50'

SHEET 32 OF 70

SDP - 06-110

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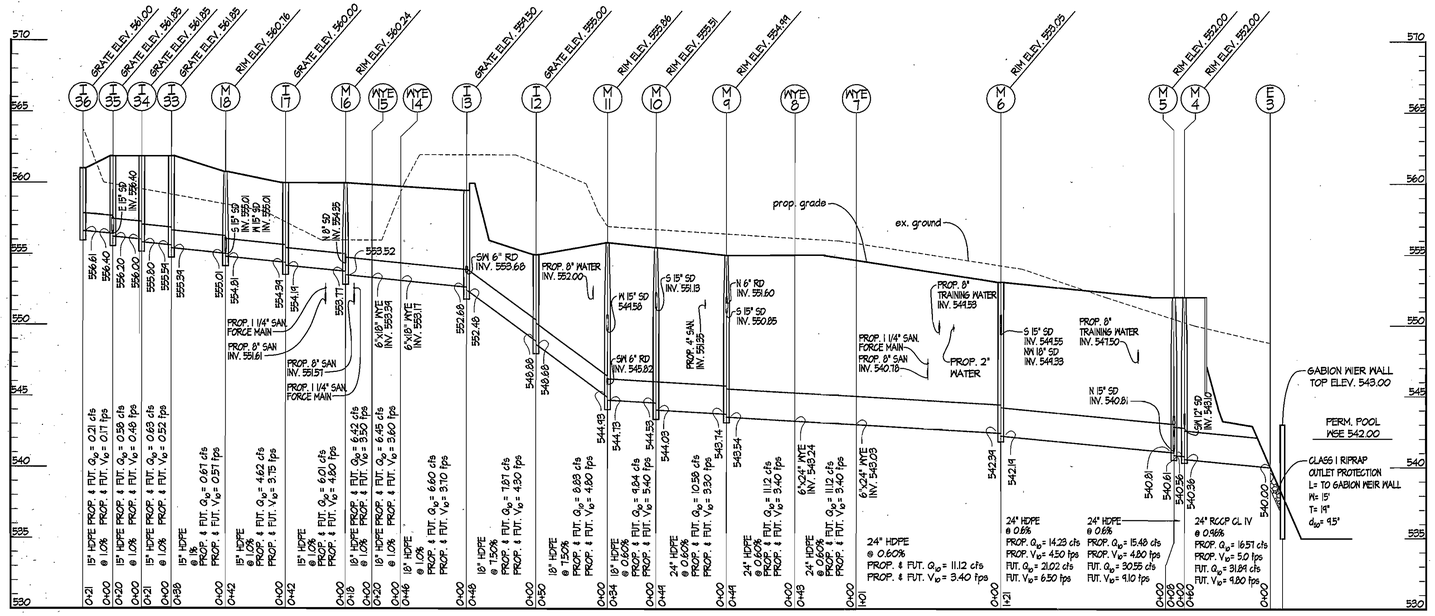
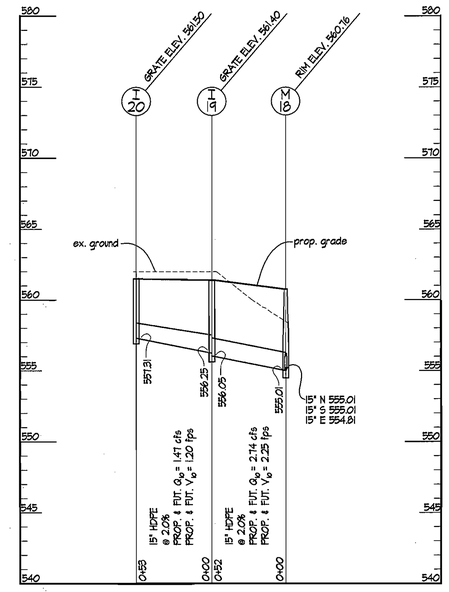


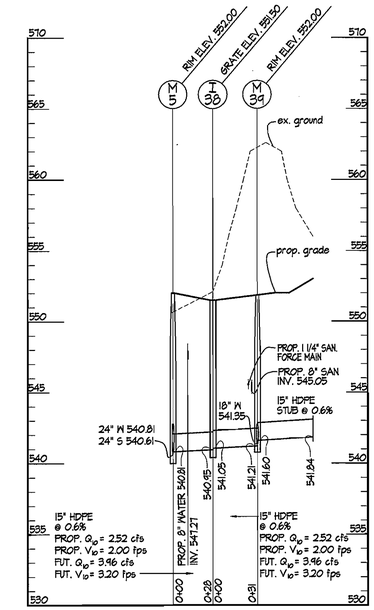
1 PROFILE E-3 TO I-36

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



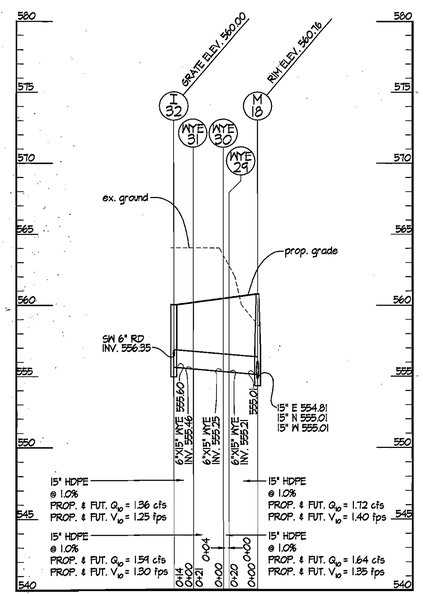
2 PROFILE M-18 TO I-20

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



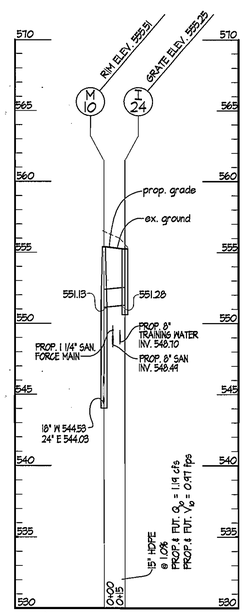
3 PROFILE M-5 TO I-38

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



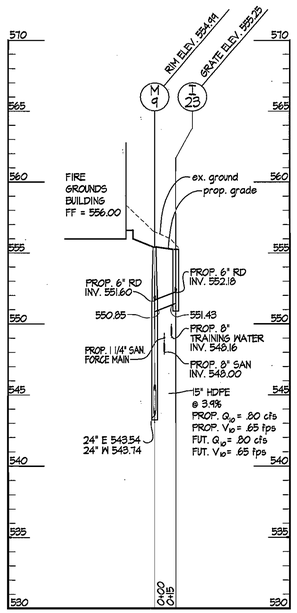
4 PROFILE M-18 TO I-32

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



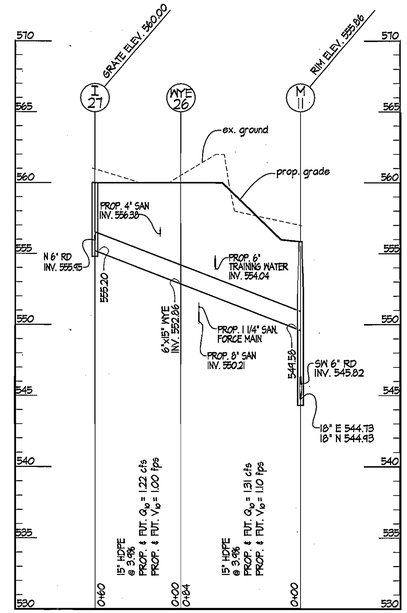
5 PROFILE M-10 TO I-24

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



6 PROFILE M-9 TO I-23

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

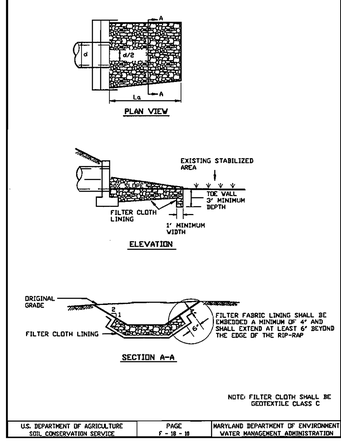


7 PROFILE M-11 TO I-27

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

*ALL HDPE SHALL BE SMOOTH INTERIOR

DETAIL 27 - ROCK OUTLET PROTECTION III



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F - 19 - 18 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

ROCK OUTLET PROTECTION III

Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.

3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE F - 19 - 19A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — 10/30/06 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/30/06 DATE

EDMEADES & STROMDAHL, LTD.
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14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — BENJAMIN E. KINGSLEY — No. 13818 — PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

STORM DRAIN PROFILES

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: Four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #253 ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6694 / F.614
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C4.03

SCALE: AS SHOWN

SHEET 33 OF 70

SDP - 06-110

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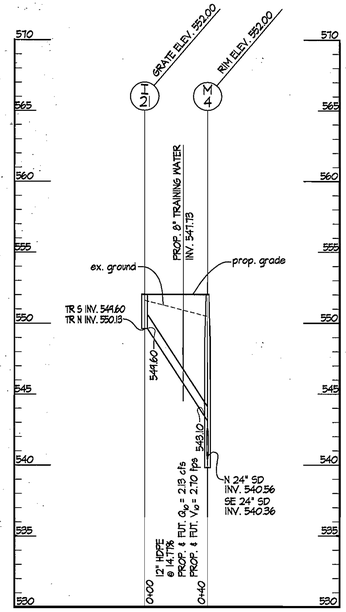
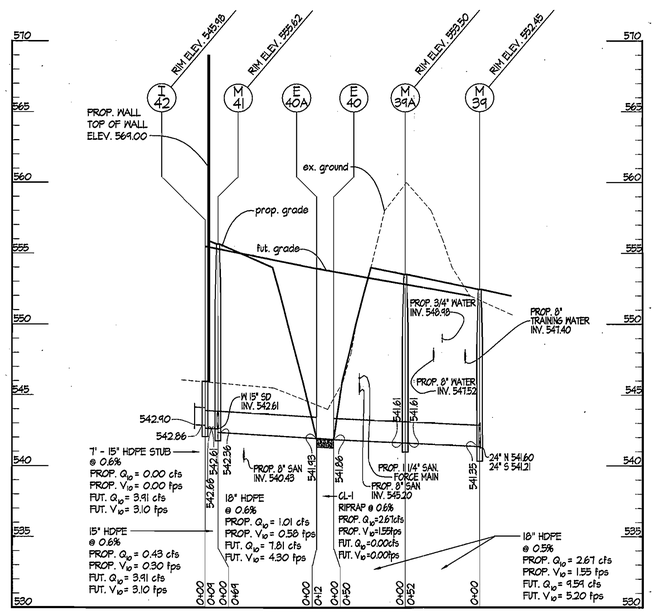


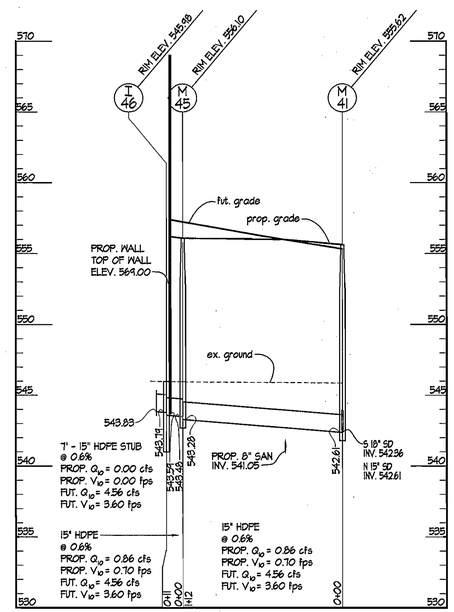
8 PROFILE I-21 TO M-4

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



9 PROFILE M-5 TO I-42 & STUB

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



10 PROFILE M-41 TO I-46 & STUB

SCALES: HORIZ.: 1" = 50'
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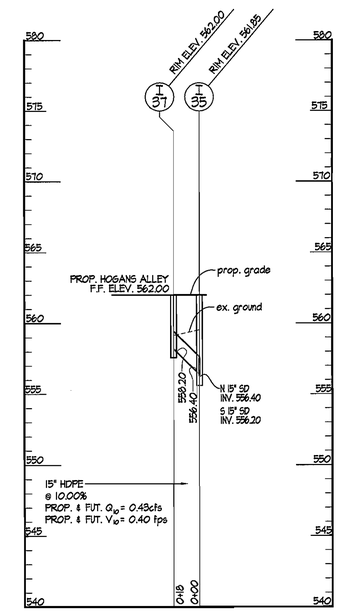

11 PROFILE I-37 TO I-35

SCALES: HORIZ.: 1" = 50'
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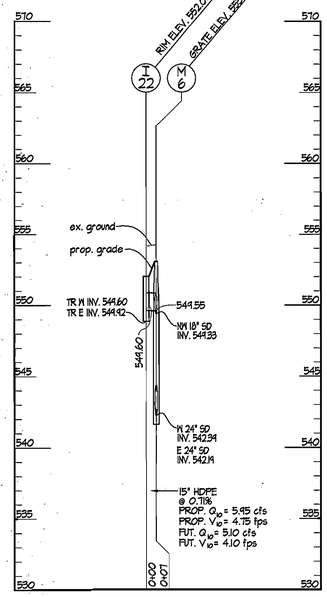

12 PROFILE I-22 TO M-6

SCALES: HORIZ.: 1" = 50'
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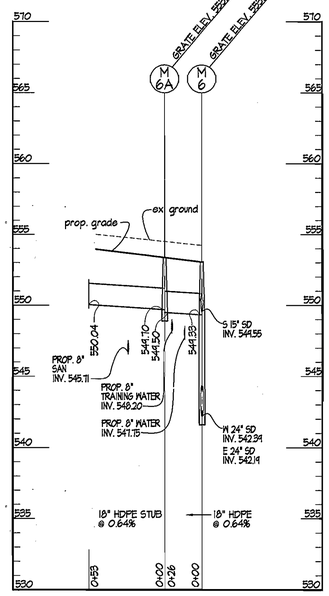

13 PROFILE STUB TO M-6

SCALES: HORIZ.: 1" = 50'
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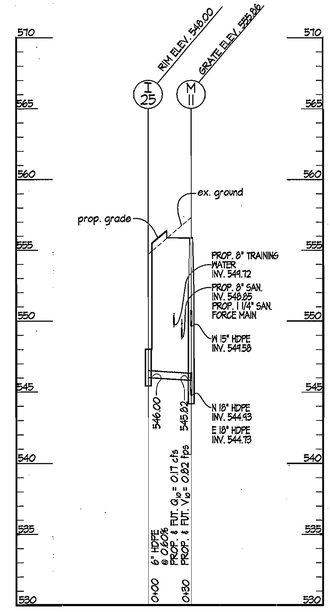
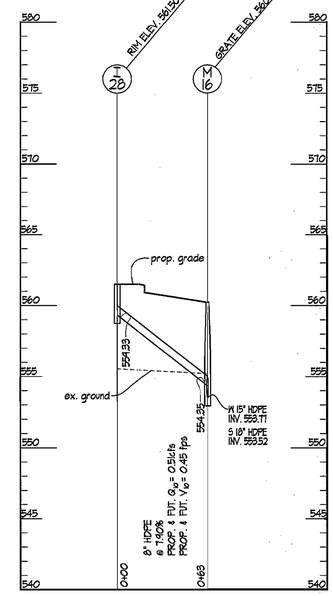


14 PROFILE I-25 TO M-11

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



15 PROFILE I-28 TO M-16

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

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HOWARD COUNTY HEALTH DEPARTMENT

Robert A. Weber — 10/20/06
COUNTY HEALTH OFFICER — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. Irvin — 10/26/06
JAMES M. IRVIN, DIRECTOR — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Hanson — 10/31/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

*ALL HDPE SHALL BE SMOOTH INTERIOR

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — BRIAN W. WEBER — No. 15716 — PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

STORM DRAIN PROFILES

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: Four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #293, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C4.04

SCALE: AS SHOWN

SHEET 34 OF 70

SDP - 06-110

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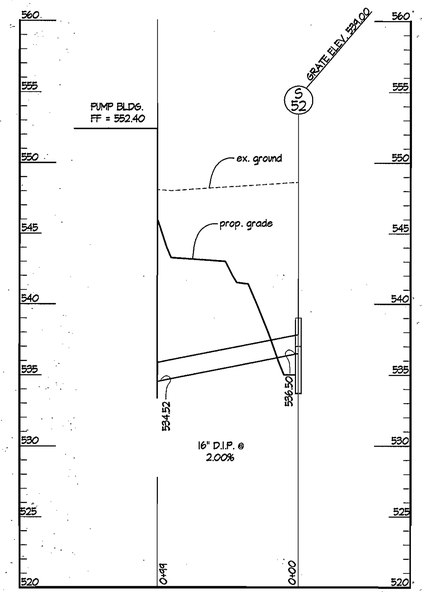
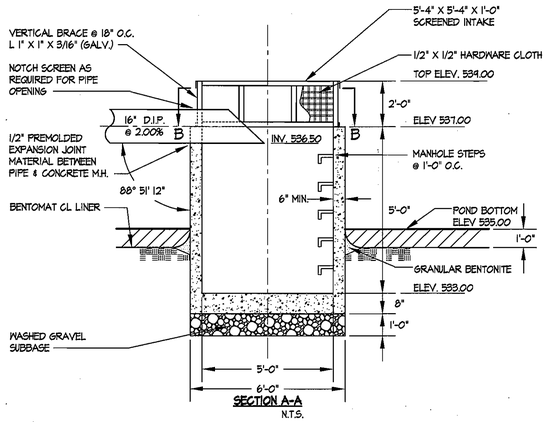


1 PROFILE POND#2 TO PUMP BLDG.

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



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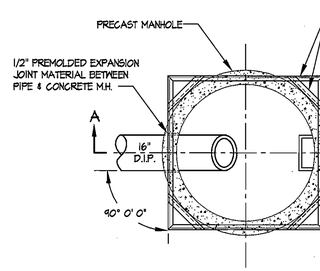
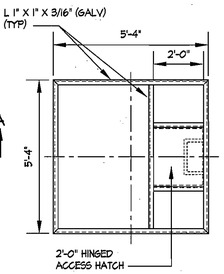


SECTION B-B
N.T.S.



PLAN- TOP OF SCREEN
N.T.S.

2 PUMP BLDG. SUPPLY STRUCTURE (S-52)

NOT TO SCALE

PROPOSED STORM DRAIN STRUCTURES SCHEDULE

STRUC. NO.	TYPE	TOP/GRATE ELEVATION	INVERT IN	INVERT OUT	COMMENTS
E-1	STD. 24" RCCP END SECTION	------	538.00	------	
S-2	SWM RISER STRUCTURE SEE SHEET C6.22	------	------	------	
E-3	STD. 24" RCCP END SECTION	------	548.00	------	
M-4	HOWARD CO. TYPE 'A' MANHOLE	552.00	540.78 / 543.10	540.58	
M-5	HOWARD CO. TYPE 'A' MANHOLE	552.00	541.10/541.40/542.25	540.90	
M-6	HOWARD CO. TYPE 'A' MANHOLE	558.05	542.94/544.33/544.55	542.14	
WYE-7	ADS N-12 REDUCING WYE 2481-AN (6"x24")	------	543.03	------	OR APPROVED EQUIVALENT
WYE-8	ADS N-12 REDUCING WYE 2481-AN (6"x24")	------	543.24	------	OR APPROVED EQUIVALENT
M-9	HOWARD CO. TYPE 'A' MANHOLE	554.44	543.74/550.25/551.60	543.54	
M-10	HOWARD CO. TYPE 'A' MANHOLE	555.51	544.53 / 551.13	544.03	
M-11	HOWARD CO. TYPE 'A' MANHOLE	555.86	544.93/545.82/544.58	544.73	
I-12	HOWARD CO. TYPE 'S' INLET	555.00	548.88	548.68	
I-13	HOWARD CO. TYPE 'S' COMB. INLET	554.50	552.68 / 553.68	552.48	
WYE-14	ADS N-12 REDUCING WYE 1881-AN (6"x18")	------	553.17	------	OR APPROVED EQUIVALENT
WYE-15	ADS N-12 REDUCING WYE 1881-AN (6"x18")	------	553.34	------	OR APPROVED EQUIVALENT
M-16	HOWARD CO. TYPE 'A' MANHOLE	560.00	553.77 / 554.35	553.52	
I-17	HOWARD CO. TYPE 'S' INLET	560.00	554.94	554.19	
M-18	HOWARD CO. TYPE 'A' MANHOLE	560.76	555.01/555.01/555.01	554.81	
I-19	HOWARD CO. TYPE 'S' COMB. INLET	561.40	556.25	556.05	
I-20	HOWARD CO. STD. YARD INLET	561.50	------	557.91	
I-21	ZURN-B17 CATCH BASIN FOR 12x24	552.00	544.60 / 550.13	544.60	OR APPROVED EQUIVALENT
I-22	ZURN-B17 CATCH BASIN FOR 12x24	552.00	544.60 / 544.92	544.60	OR APPROVED EQUIVALENT
I-23	HOWARD CO. TYPE 'S' COMB. INLET	555.25	552.18	551.43	
I-24	HOWARD CO. TYPE 'S' COMB. INLET	555.25	------	551.28	
I-25	ZURN-B17 CATCH BASIN FOR 24x24	548.00	------	546.00	OR APPROVED EQUIVALENT
WYE-26	ADS N-12 REDUCING WYE 1581-AN (6"x15")	------	552.70	------	OR APPROVED EQUIVALENT
I-27	HOWARD CO. TYPE 'S' INLET	560.00	555.45	555.20	
I-28	HOWARD CO. TYPE 'S' INLET	561.50	------	554.33	
WYE-29	ADS N-12 REDUCING WYE 1581-AN (6"x15")	------	555.21	------	OR APPROVED EQUIVALENT
WYE-30	ADS N-12 REDUCING WYE 1581-AN (6"x15")	------	555.25	------	OR APPROVED EQUIVALENT
WYE-31	ADS N-12 REDUCING WYE 1581-AN (6"x15")	------	555.46	------	OR APPROVED EQUIVALENT
I-32	HOWARD CO. TYPE 'S' INLET	560.00	556.35	555.60	
I-33	HOWARD CO. TYPE 'S' INLET	561.85	555.54	555.34	
I-34	HOWARD CO. TYPE 'S' INLET	561.85	556.00	555.80	
I-35	HOWARD CO. TYPE 'S' INLET	561.85	556.40 / 556.40	556.20	
I-36	HOWARD CO. STD. YARD INLET	562.00	------	556.61	
I-37	HOWARD CO. TYPE 'S' INLET	562.00	------	558.20	
I-38	HOWARD CO. TYPE 'S' INLET	551.50	544.55	544.35	
E-40	HOWARD CO. TYPE 'A' HEADWALL	------	541.86	------	
E-40A	HOWARD CO. TYPE 'A' HEADWALL	------	541.93	------	
M-41	HOWARD CO. TYPE 'A' MANHOLE	555.62	542.61 / 542.61	542.36	
I-42	HOWARD CO. TYPE 'S' INLET	545.48	542.86	542.66	
M-45	HOWARD CO. TYPE 'A' MANHOLE	556.10	543.48	543.28	
I-46	HOWARD CO. TYPE 'S' INLET	545.48	543.74	543.54	
S-52	FIRE TRAINING INTAKE SEE SHEET C4.05	------	------	------	
E-101	STD. 36" RCCP END SECTION	------	541.00	------	
S-102	SWM RISER STRUCTURE SEE SHEET C6.32	------	------	------	
RD B	ADS N-12 FABRICATED 22 1/2 BEND 0642-AN (6")	------	------	------	OR APPROVED EQUIVALENT
RD B	ADS N-12 FABRICATED WYE 0681-AN (6")	------	------	------	OR APPROVED EQUIVALENT
RD A	ADS N-12 FABRICATED 45° BEND 0644-AN (6")	------	------	------	OR APPROVED EQUIVALENT
RD A	ADS N-12 FABRICATED WYE 0681-AN (6")	------	------	------	OR APPROVED EQUIVALENT
RD M-N	ADS N-12 FABRICATED 45° BEND 0644-AN (6")	------	------	------	OR APPROVED EQUIVALENT
RD M-N	ADS N-12 FABRICATED WYE 0681-AN (6")	------	------	------	OR APPROVED EQUIVALENT

ZURN B12-SW 12" WIDE TRENCH
DRAIN SYSTEM WITH SIDEWALL
EXTENSIONS
GRATE ELEV. 522.00

TRENCH DRAINS	FLOW FROM SOUTH TO I-21	FLOW FROM NORTH TO I-21	FLOW FROM WEST TO I-22	FLOW FROM EAST TO I-22
2002	X	X	X	X
2002N	------	------	X	------
2003	X	X	X	X
2004	X	X	X	X
2004N	------	------	X	------
2005	X	X	X	X
2006	X	------	X	X
2007	X	------	X	X
2008	X	------	X	------
2008N	X	------	X	------
2009	X	------	X	------
2010	X	------	X	------

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — 10/30/06 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/30/06 DATE

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — BRIAN W. WOLFE — No. 19915 — PROFESSIONAL ENGINEER

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

STORM DRAIN PROFILES

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
9430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #255, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.614
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C4.05

SCALE: AS SHOWN

SHEET 35 OF 70

SDP - 06-110

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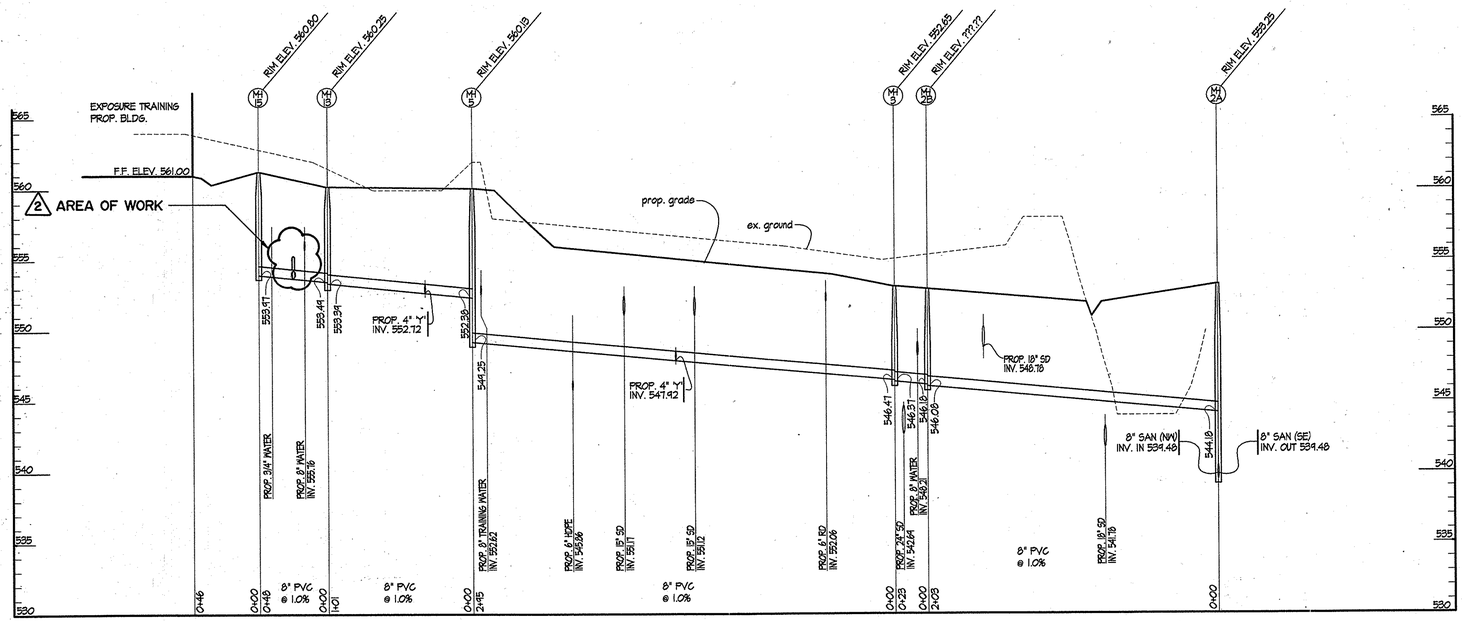
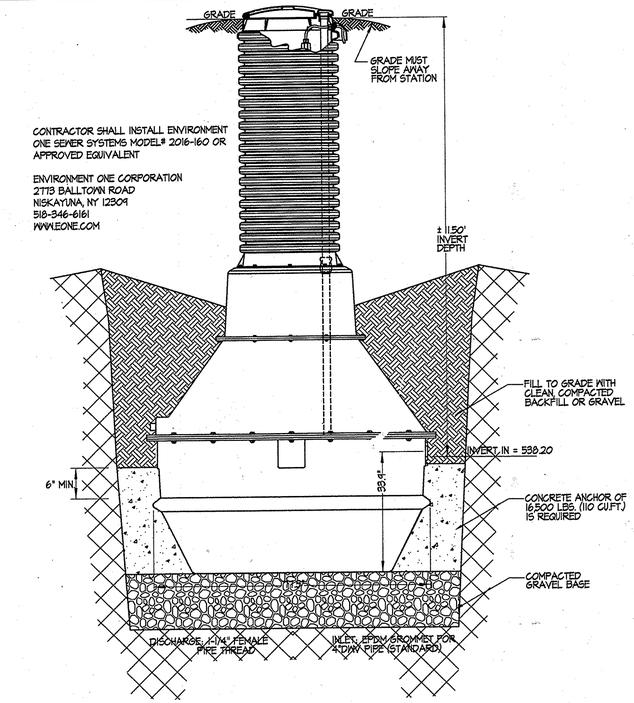


1 SANITARY PROFILE EXPOSURE TRAINING PROP. TO MH-2A

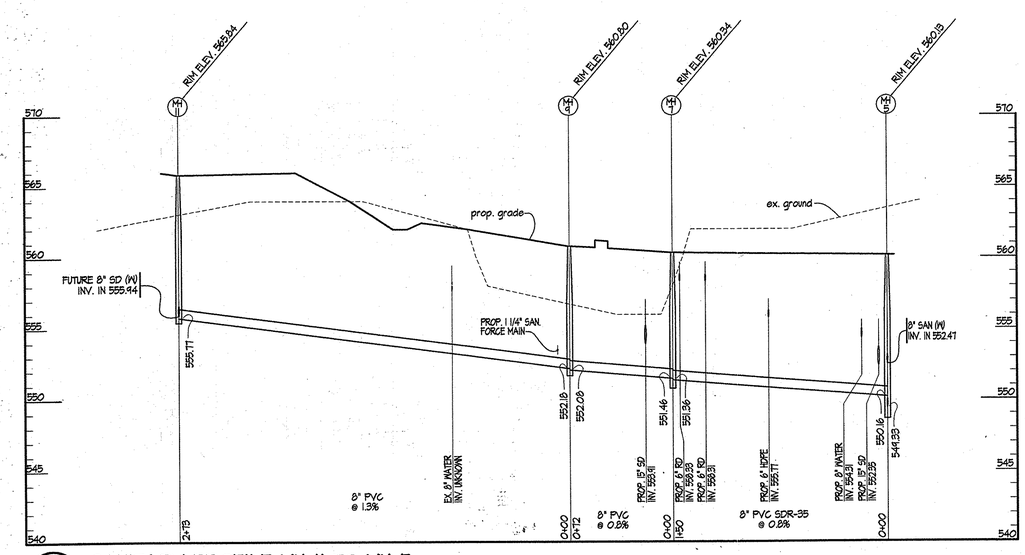
SCALES: HORIZ.: 1" = 50'
VERT.: 1" = 5'

PROFESSIONAL CERTIFICATE:
I HEREBY CERTIFY THAT THE INFORMATION CLOUDED AND LISTED UNDER REVISION #2 ON THIS DOCUMENT WAS PREPARED OR APPROVED BY ME.
12-16-14



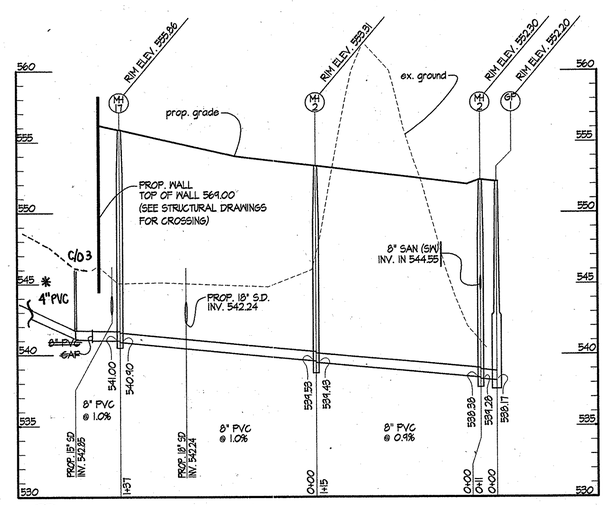
2 GRINDER PUMP DETAIL

NOT TO SCALE



3 SANITARY PROFILE MH-11 TO MH-5

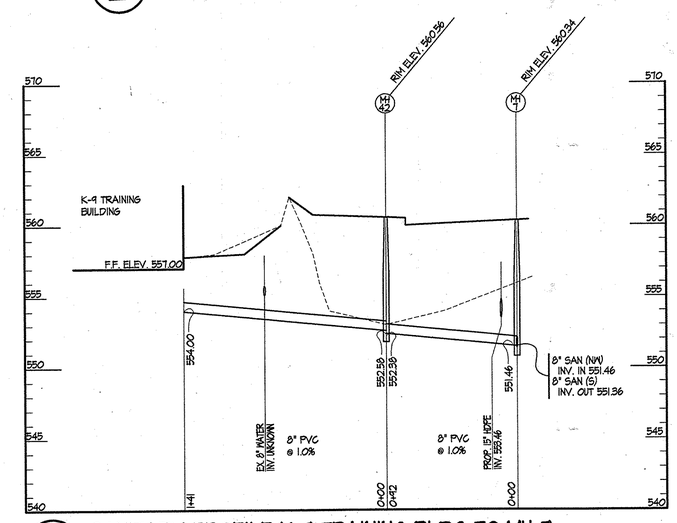
SCALES: HORIZ.: 1" = 50'
VERT.: 1" = 5'



4 SANITARY PROFILE MH-17 TO GP-1

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

* 4" PVC SEWER TO CONTINUE TO TRAILER. SEE PLAN VIEW FOR INVERT AT PROPOSED CLEANOUTS.



5 SANITARY PROFILE K-9 TRAINING BLDG TO MH-7

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

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 11/8/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE
JEB	2	REDLINE REVISIONS - SEE NOTE 1 ON DRAWING C2.05 (17 OF 70)	12/11/14
AFE	1	NEW TRAILER WITH WATER AND SEWER CONNECTION	11/1/2013

SANITARY SEWER PROFILES

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #258, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.69
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 1130, SEWER CODE: Private - Holding Tank

C4.11

SCALE: AS SHOWN

SHEET 36 OF 70

SDP - 06-110

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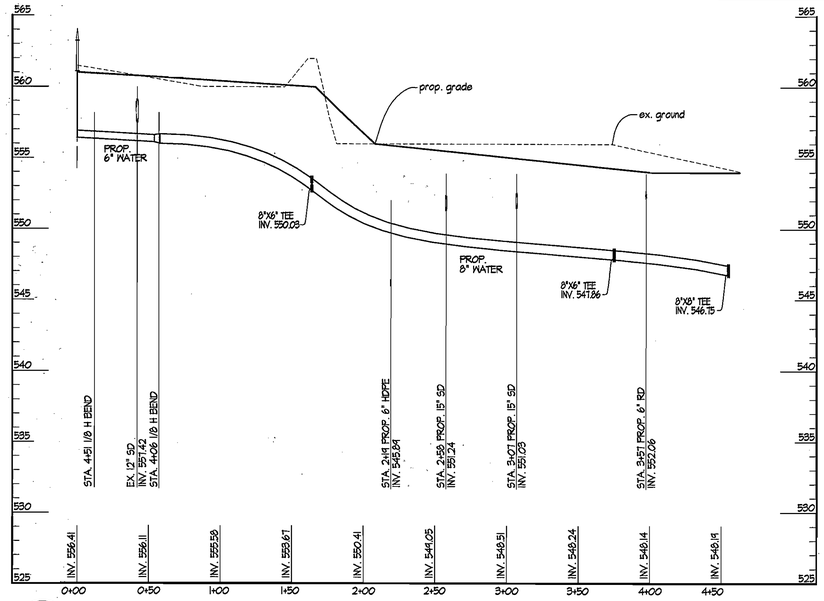
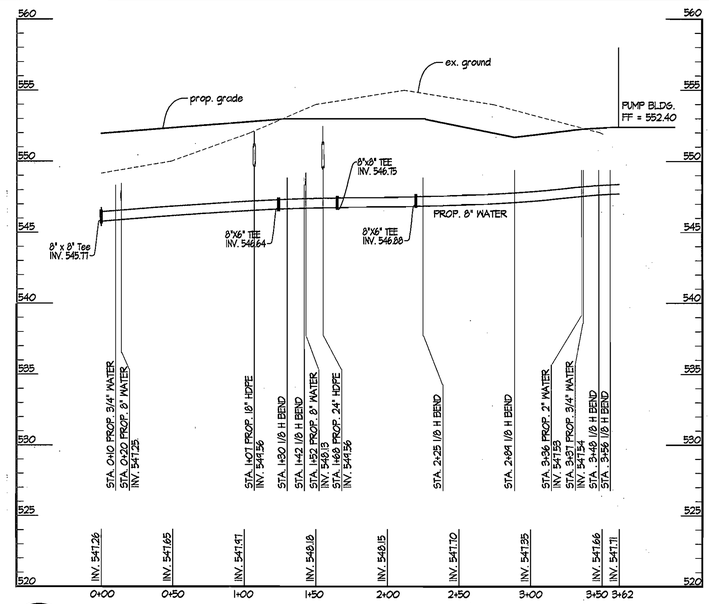


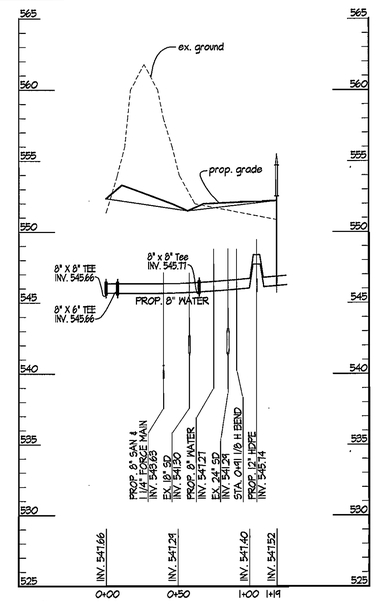
1 PROFILE STA. 0+00 TO 4+63

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



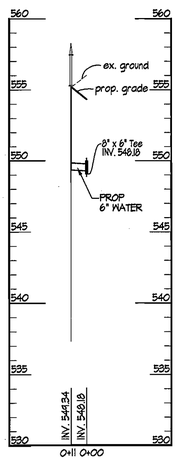
2 PROFILE STA. 0+00 TO 3+51

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



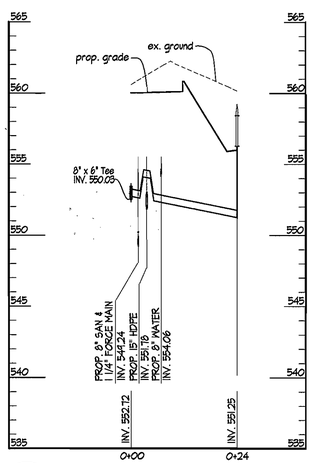
3 PROFILE STA. 0+00 TO 1+19

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



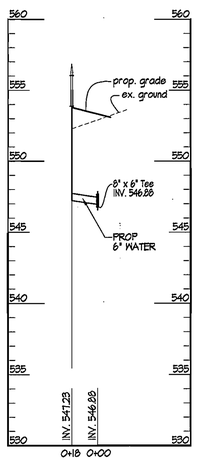
4 PROFILE STA. 3+74 TO 0+11

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



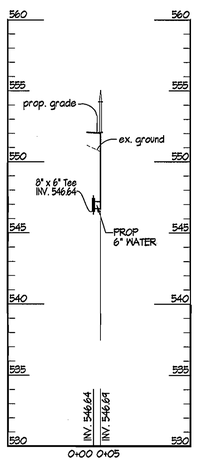
5 PROFILE STA. 1+64 TO 0+74

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



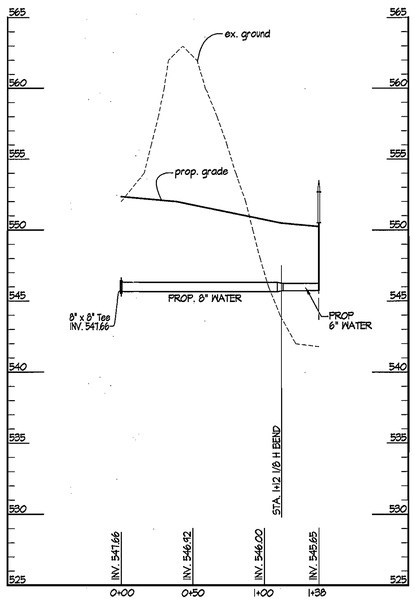
6 PROFILE STA. 1+32 TO 0+27

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



7 PROFILE STA. 0+08 TO 0+05

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



8 PROFILE STA. 0+00 TO 1+38

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

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/31/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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E-mail: bw@edmeades-stromdahl.com

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

TRAINING WATER PROFILES (PRIVATE ON-SITE SYSTEM)

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

C4.21

SCALE: AS SHOWN

SHEET 37 OF 70

SDP - 06-110

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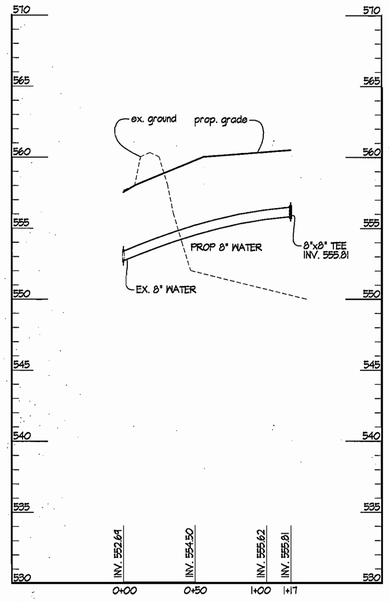
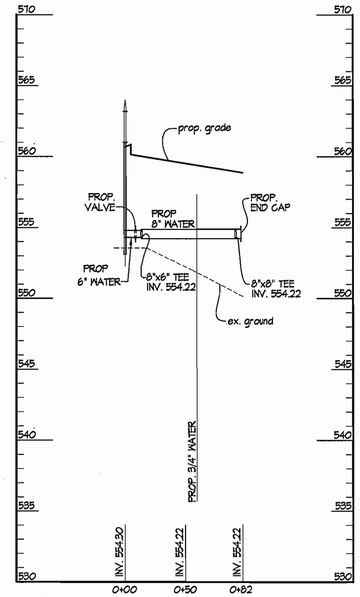


1 PROFILE

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



2 PROFILE

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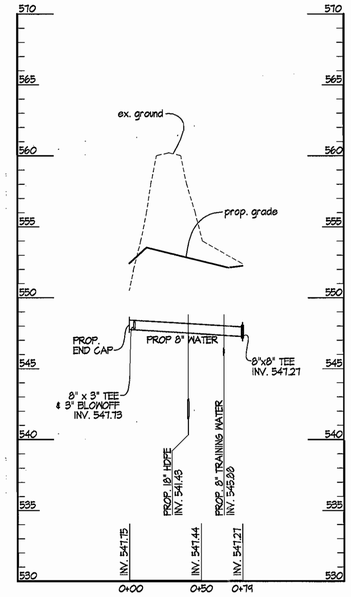
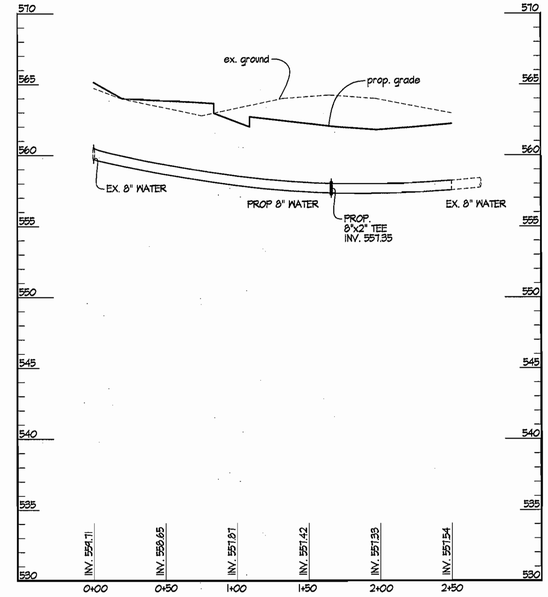


3 PROFILE

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



4 PROFILE

SCALES: HORIZ.: 1" = 50'
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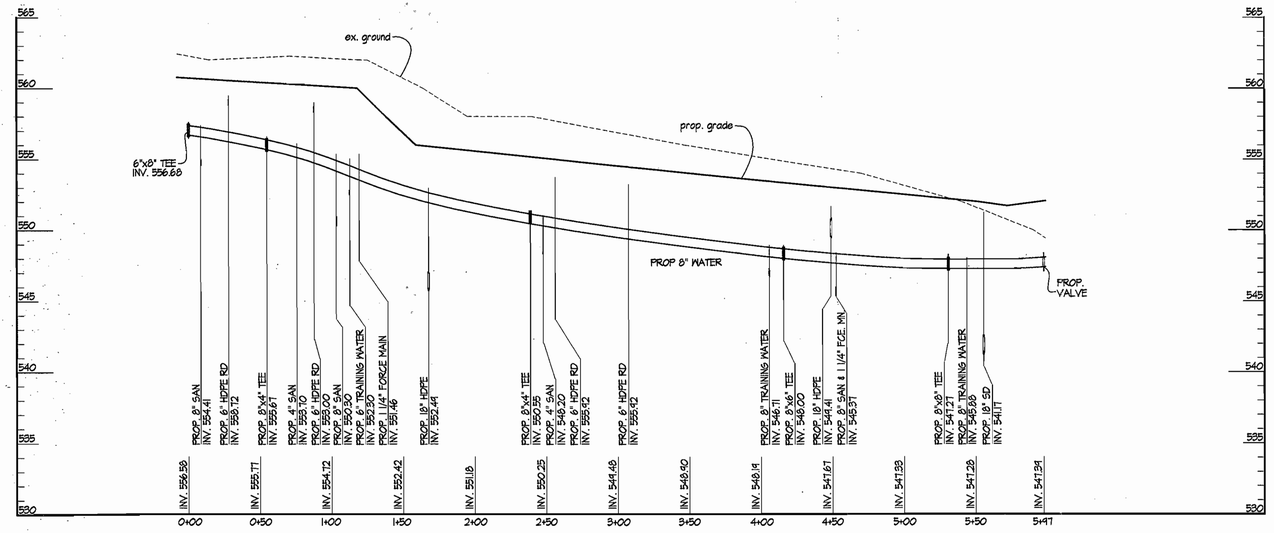

5 PROFILE

SCALES: HORIZ.: 1" = 50'
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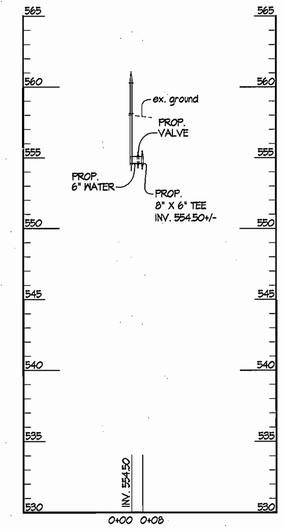
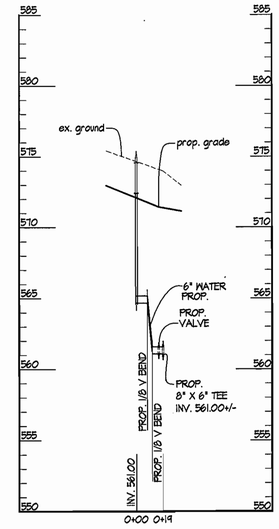


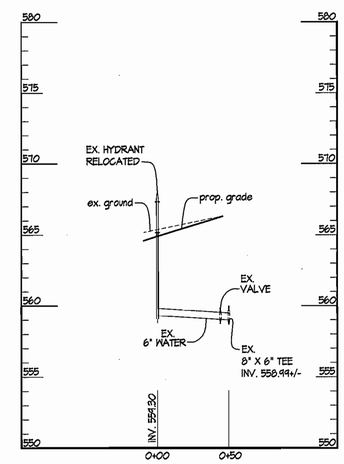
6 PROFILE

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



7 PROFILE

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



8 PROFILE

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

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/26/06

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DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

WATER PROFILES (PUBLIC SYSTEM)

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

NOTE:
PROPOSED WATER INFORMATION SHOWN ON THESE PLANS IS FOR INFORMATIONAL PURPOSES ONLY AND NOT FOR CONSTRUCTION. WATER UTILITIES SHALL BE CONSTRUCTED ACCORDING TO THE APPROVED WATER CONTRACT DRAWINGS.

C4.22

SCALE: AS SHOWN

SHEET 38 OF 70

SDP - 06-110

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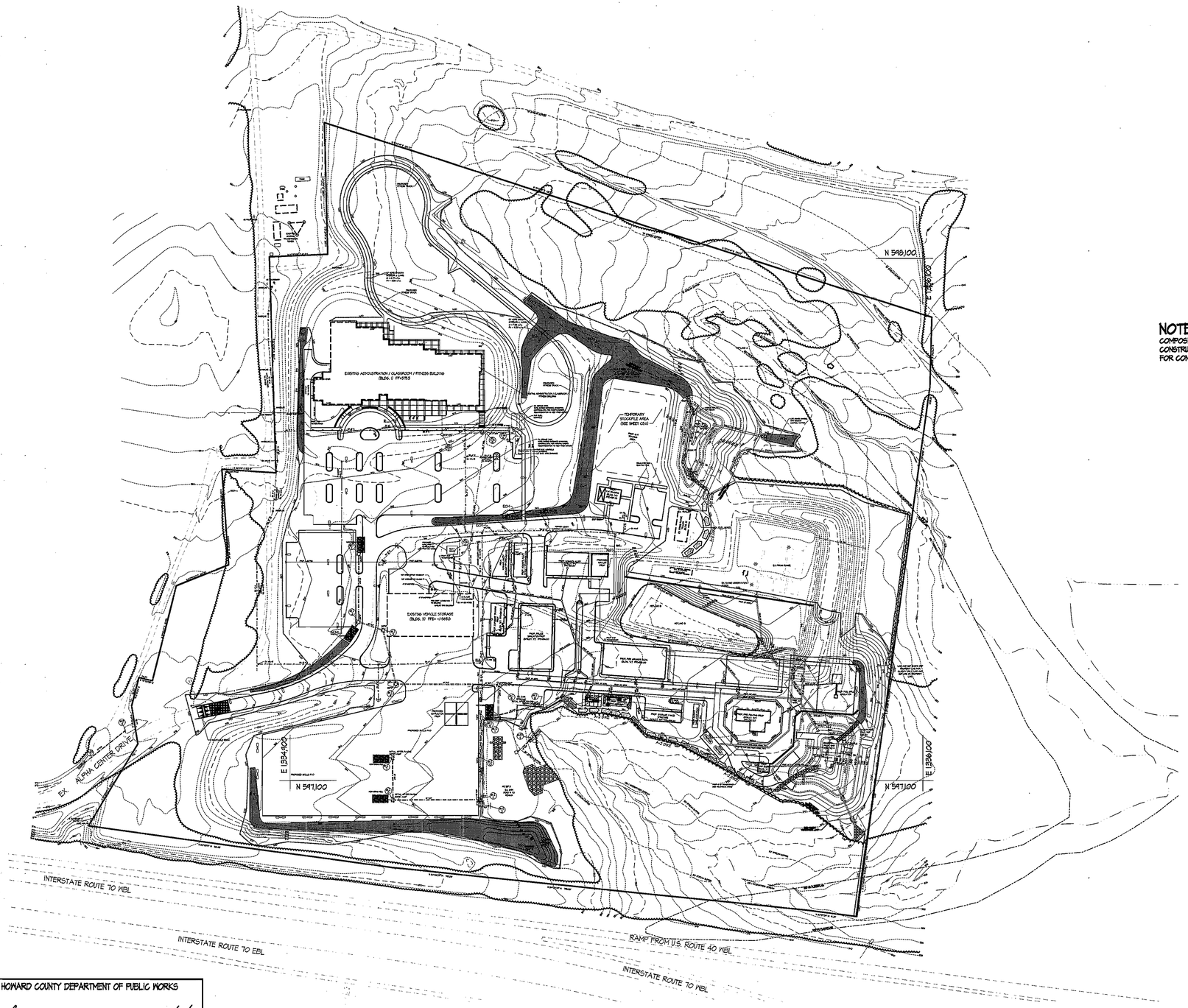
LEGEND - GRADING & SEC PLAN

- PROPERTY LINE
- 350 / 348 — EXISTING CONTOURS
- 350 / 348 — PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
- PROPOSED ROADS
- EX. 15" SD — EXISTING STORMDRAINS
- EX. 8" SAN — EXISTING SANITARY SEWER
- EX. 6" W — EXISTING WATER
- EXISTING ELECTRIC
- EXISTING GAS
- A-2 DIKE — EARTH DIKE
- LOD — LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- TREE PROTECTION FENCE
- RRIP — RIPRAP INFLOW PROTECTION
- GMIP — GABION INFLOW PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE with MOUNTABLE BERM
- SSFIP — SUPER SILT FENCE INLET PROTECTION
- AGIP — AT GRADE INLET PROTECTION
- CIP — CURB INLET PROTECTION
- RPS — REMOVABLE PUMPING STATION



NORTH

0 50 100 200

SCALE 1"=100'

NOTE:
COMPOSITE PLAN NOT FOR CONSTRUCTION. SEE 30 SCALE PLANS FOR CONSTRUCTION.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — 10/19/06 DATE

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

HOWARD SOIL CONSERVATION DISTRICT — 10/19/06 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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

ENGINEER — 10/11/06 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."

DEVELOPER — 10/12/06 DATE

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for Robert J. Weber — COUNTY HEALTH OFFICER — 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — 10/30/06 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/30/06 DATE

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Grading & Erosion & Sediment Control Composite Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C5.00

SCALE: 1"=100'

SHEET 39 OF 70

SDP - 06-110

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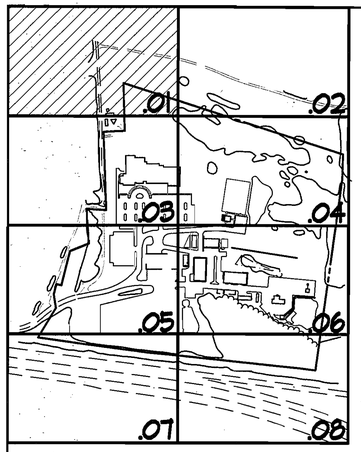

KEY MAP

LEGEND - GRADING & SEC PLAN

- PROPERTY LINE
- EXISTING CONTOURS (350, 348)
- PROPOSED CONTOURS (350, 348)
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
- PROPOSED ROADS
- EXISTING STORMDRAINS (EX. 15" SD)
- EXISTING SANITARY SEWER (EX. 8" SAN)
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- EXISTING GAS
- EARTH DIKE (A-2 DIKE)
- LIMIT OF DISTURBANCE (LOD)
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- TREE PROTECTION FENCE
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- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF
- (55.50) × BAFFLE EXISTING SPOT ELEVATION
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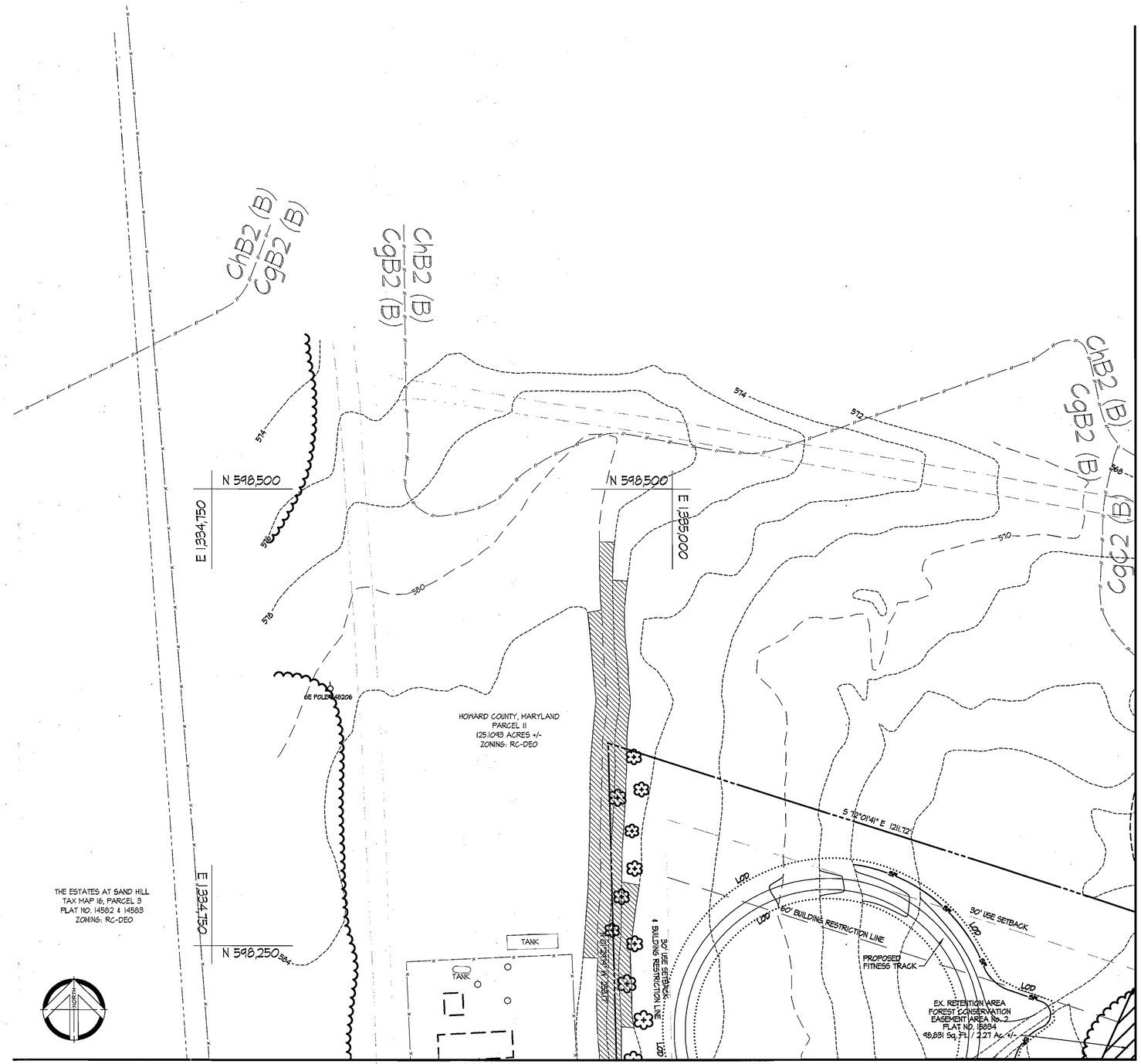

0 10 20 30 60
SCALE 1"=30'

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/06

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/06

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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

ENGINEER — DATE 10/11/06

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DEVELOPER — DATE 10-12-06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/24/06

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Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

600' SCALE MAP NO. 16 BLOCK NO. 2 / B

Grading & Erosion & Sediment Control Plan

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.614
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C5.01

SCALE: 1"=30'

SHEET 40 OF 70

SDP - 06-110

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LEGEND - GRADING & SEC PLAN

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- EXISTING CONTOURS (350, 348)
- PROPOSED CONTOURS (350, 348)
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
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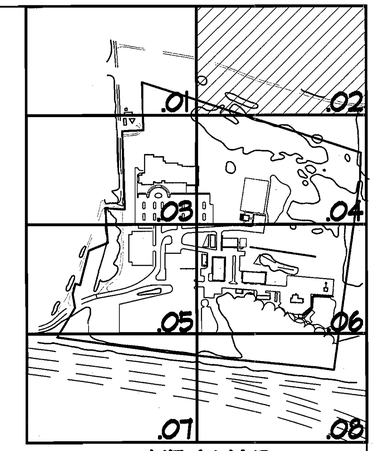
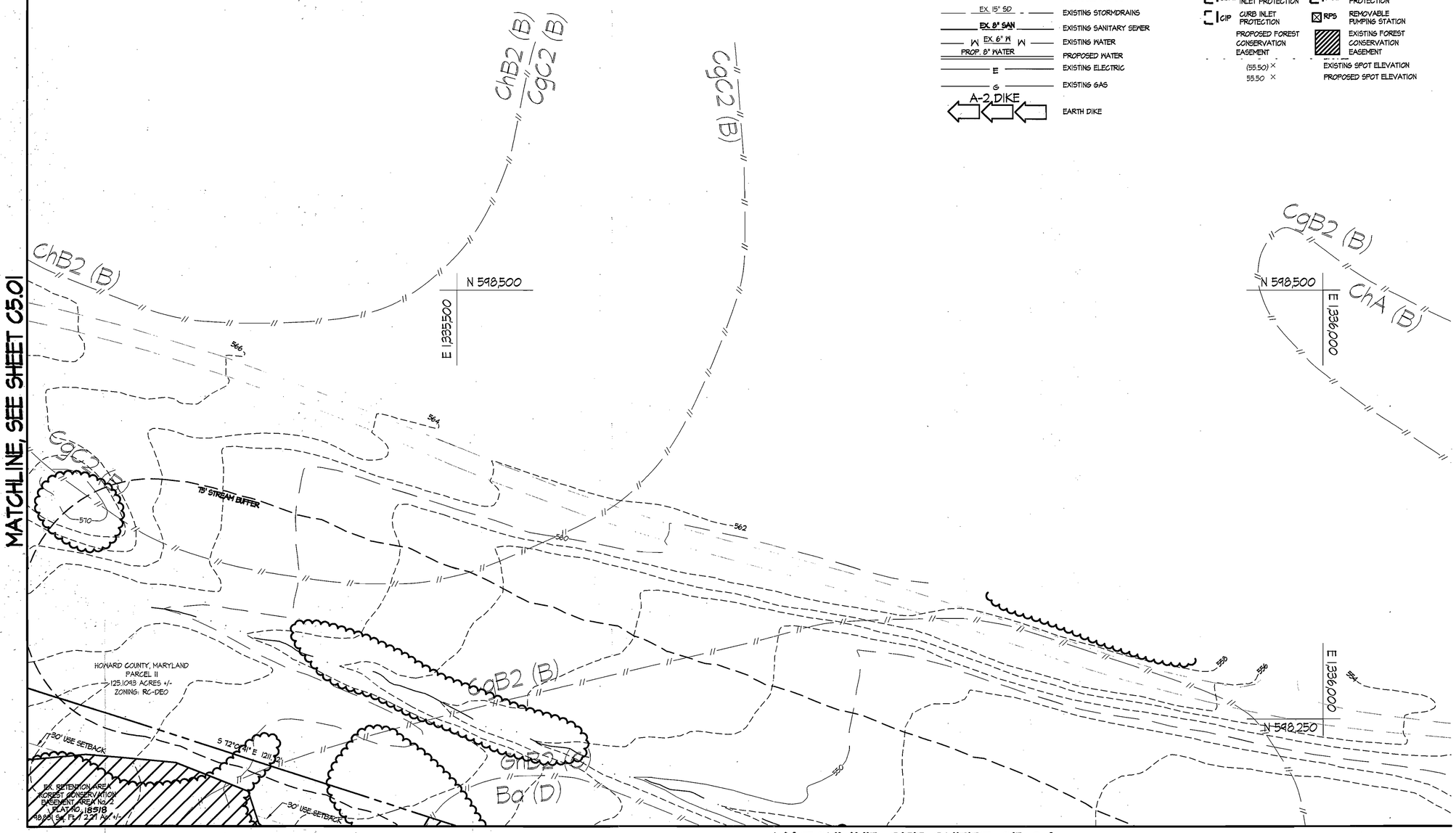


KEY MAP



MATCHLINE, SEE SHEET C5.04

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/06

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HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/06

ENGINEER'S CERTIFICATE

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DEVELOPER — DATE 10/12/06

SCALE 1"=30' (0 10 20 30 60)

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/24/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Grading & Erosion & Sediment Control Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: Four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

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Phone (410) 313-2700

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PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6698 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C5.02

SCALE: 1"=30'

SHEET 41 OF 70

SDP - 06-110

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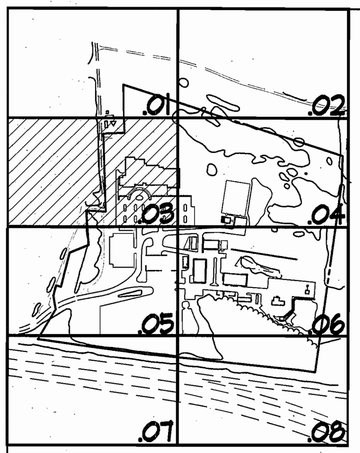

KEY MAP

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REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — 10/19/06 DATE

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HOWARD SOIL CONSERVATION DISTRICT — 10/19/06 DATE

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ENGINEER — 10/11/06 DATE

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Michael A. Scarariello — 10/12/06 DATE
DEVELOPER

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Weber — 10/30/06
COUNTY HEALTH OFFICER — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

10/26/06
JAMES M. IRVIN, DIRECTOR — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

10/31/06
DIRECTOR — DATE

10/24/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

10/31/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

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DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Grading & Erosion & Sediment Control Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

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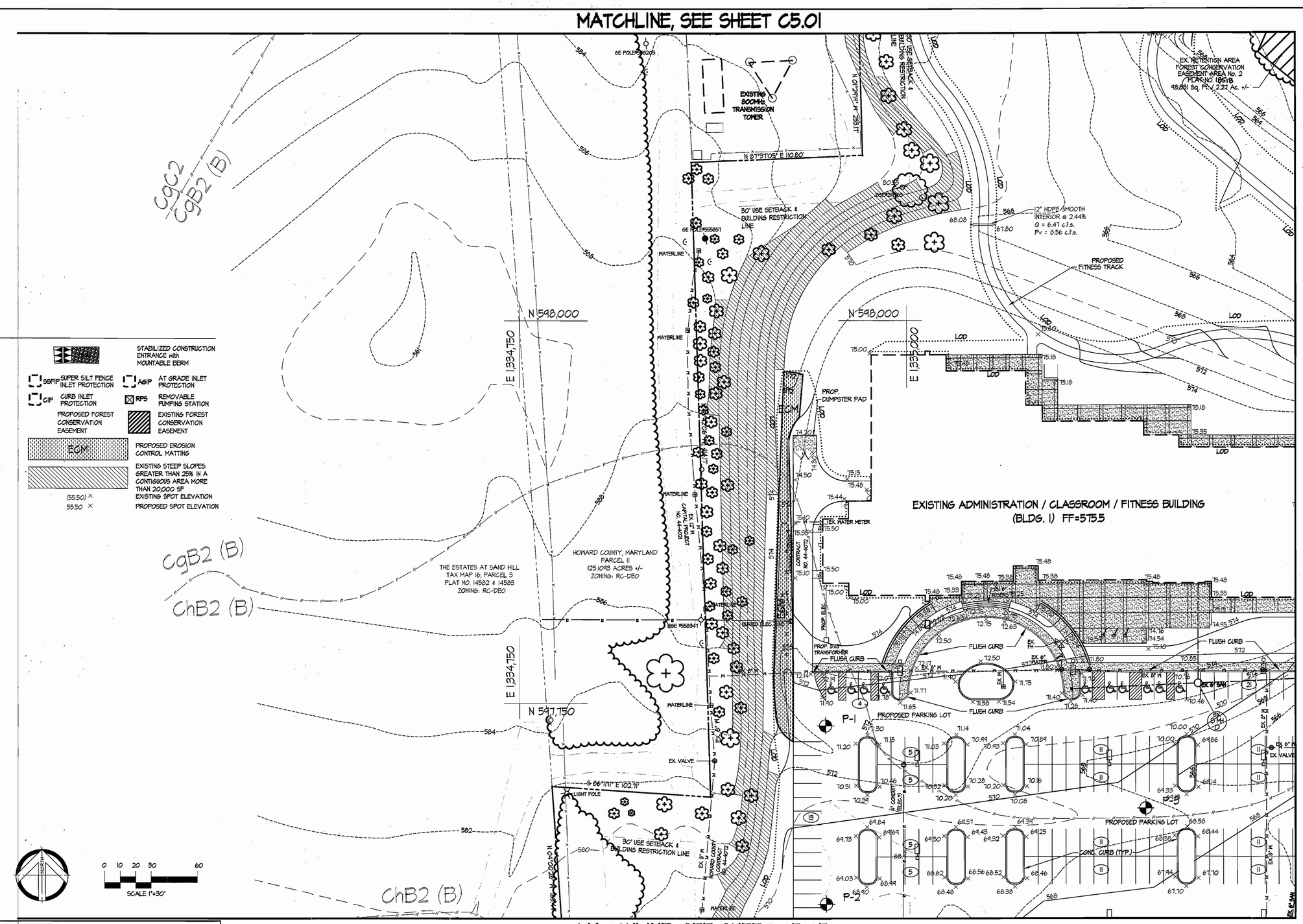
PLAT No. 15116, L.6684 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C5.03

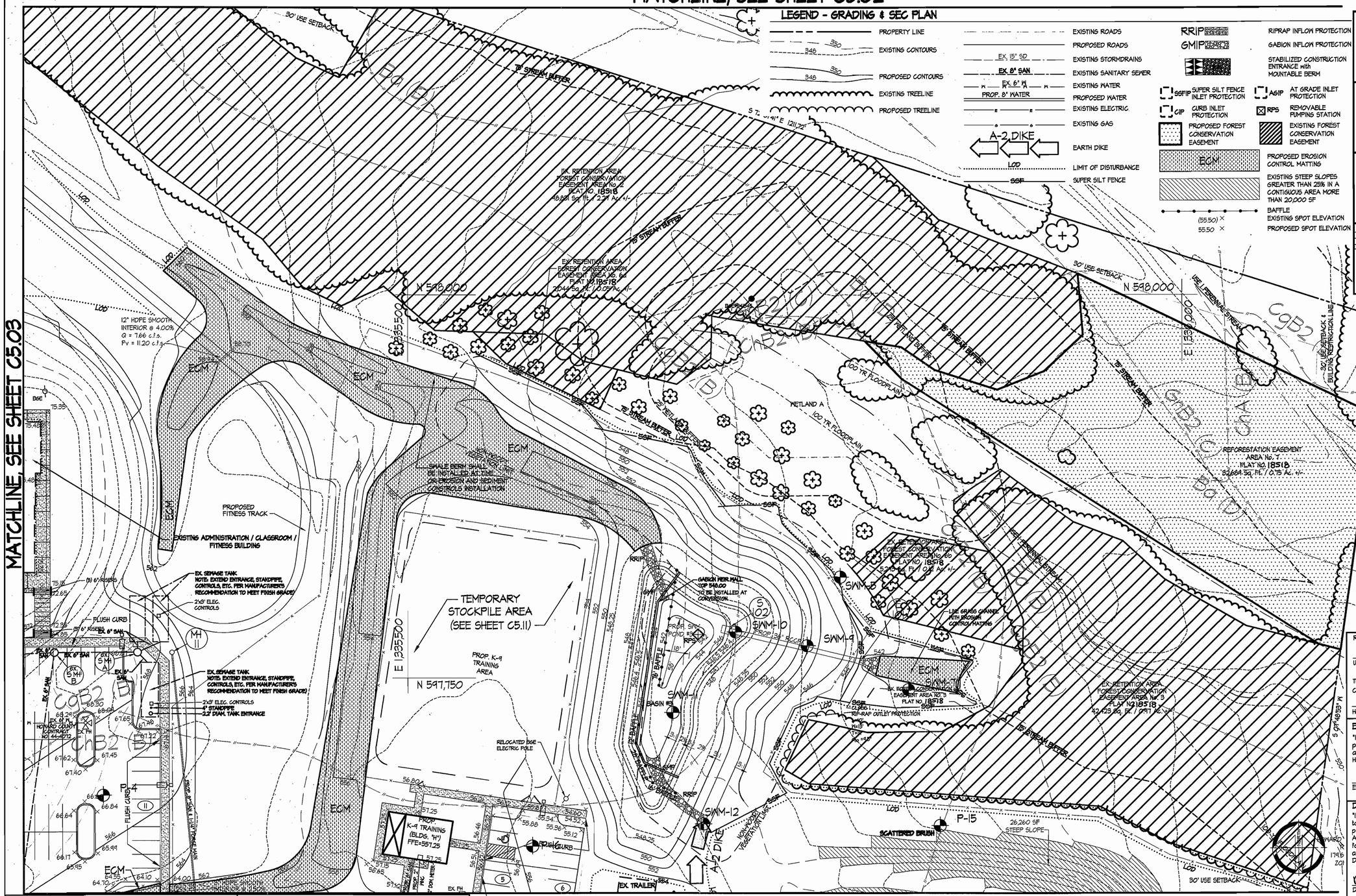
SCALE: 1"=30'

SHEET 42 OF 70

SDP - 06-110



MATCHLINE, SEE SHEET C5.02



LEGEND - GRADING & SEC PLAN

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- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF
- BAFFLE
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION

KEY MAP

SEDIMENT BASIN TABLE

BASIN NUMBER		3
EXISTING DRAINAGE AREA AC.		8.32
INTERIM DRAINAGE AREA AC.		8.32
PROPOSED DRAINAGE AREA AC.		8.32
STORAGE REQUIRED C.F.	WET	14,816
	DRY	14,816
	TOTAL	29,652
STORAGE PROVIDED C.F.	WET	16,325
	DRY	21,421
	TOTAL	37,752
EXISTING GROUND ELEV.		546.25
TOP EMBANKMENT ELEV.		550.00
EMERGENCY SPILLWAY CREST ELEV.		N/A
RISER CREST ELEV.		544.00
WET STORAGE ELEV.		541.00
CLEANOUT ELEV.		540.00
BOTTOM ELEV.		540.00
QI0 INTO BASIN C.F.S.		33.00
QI0 OUT BARREL C.F.S.		28.41
QI0 OUT EMERGENCY SPILLWAY C.F.S.		N/A
TOTAL QI0 OUT OF BASIN C.F.S.		28.41
BASIN DEPTH	WET	5.0'
	DRY	2.0'
	TOTAL	7.0'
DESIGN HIGHWATER 100 YEAR		544.41
FREEBOARD REQUIRED 100 YEAR		2.00
FREEBOARD PROVIDED 100 YEAR		2.03
BARREL DIAMETER		36"
RISER INTERIOR DIMENSIONS		9' x 9'
EMERGENCY SPILLWAY WIDTH		N/A
WET STORAGE ZONE ELEV.		540.00 - 541.00
DRY STORAGE ZONE ELEV.		541.00 - 544.00
BOTTOM DIMENSIONS		18' x 58'
STORAGE REQUIRED AT CLEANOUT C.F.		7,488
STORAGE PROVIDED AT CLEANOUT C.F.		6,371
DIMENSION FROM CLEANOUT ELEV. TO RISER TOP		5.88'
START SKIMDOWN PERFORATIONS AT ELEV.		541.00
1 YEAR MANAGEMENT REQUIRED		YES
1 YEAR MANAGEMENT PROVIDED		YES
1 YEAR EXISTING Q C.F.S.		3.45
1 YEAR OUTFLOW Q C.F.S.		1.02

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/06

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/06

ENGINEER'S CERTIFICATE

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ENGINEER — DATE 10/4/06

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DEVELOPER — DATE 10-12-06

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for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVAN, DIRECTOR — DATE 10.26.06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/31/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/31/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/31/06

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DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Grading & Erosion & Sediment Control Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

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Howard County
Department of Public Works
3430 Courthouse Drive
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Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
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PLAT No. 15716, L.6684 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

0 10 20 30 60
SCALE 1"=30'

C5.04

SCALE: 1"=30

SHEET 43 OF 70

SDP - 06-110

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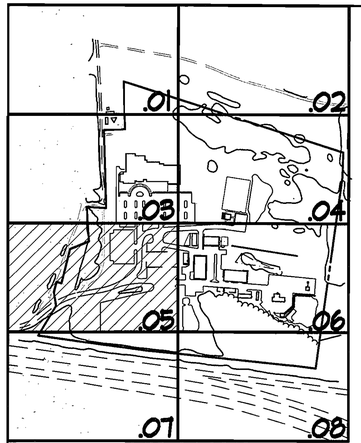
MATCHLINE, SEE SHEET C5.03



KEY MAP

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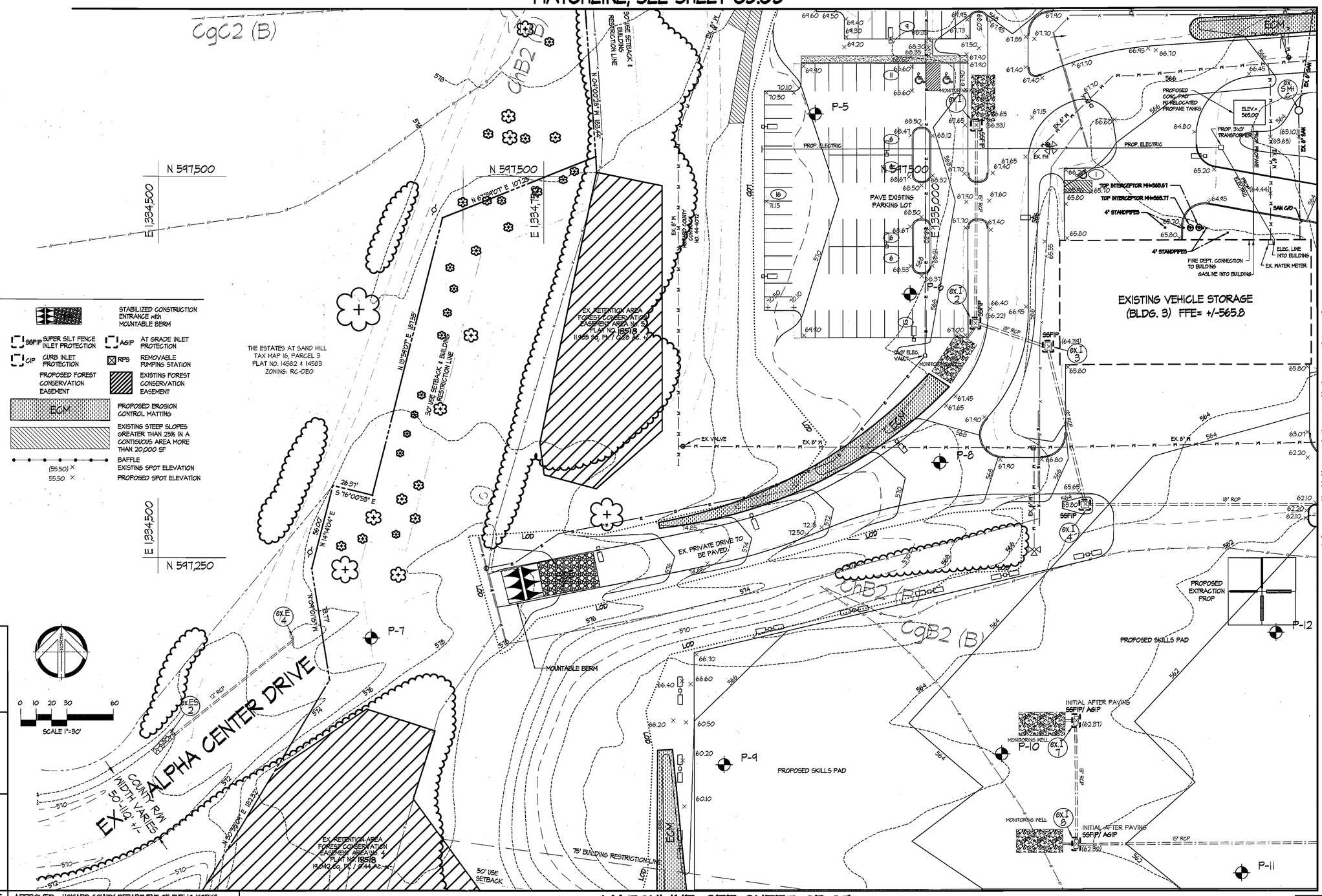
- 55.50 × — EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION



MATCHLINE, SEE SHEET C5.06

MATCHLINE, SEE SHEET C5.07

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/06

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/06

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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

ENGINEER — DATE 10/11/06

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Michael S. Tomaiuolo — DEVELOPER — DATE 10-12-06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

Robert J. Weber — COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Grading & Erosion & Sediment Control Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
9430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #250, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.614
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

C5.05

SCALE: 1"=30'

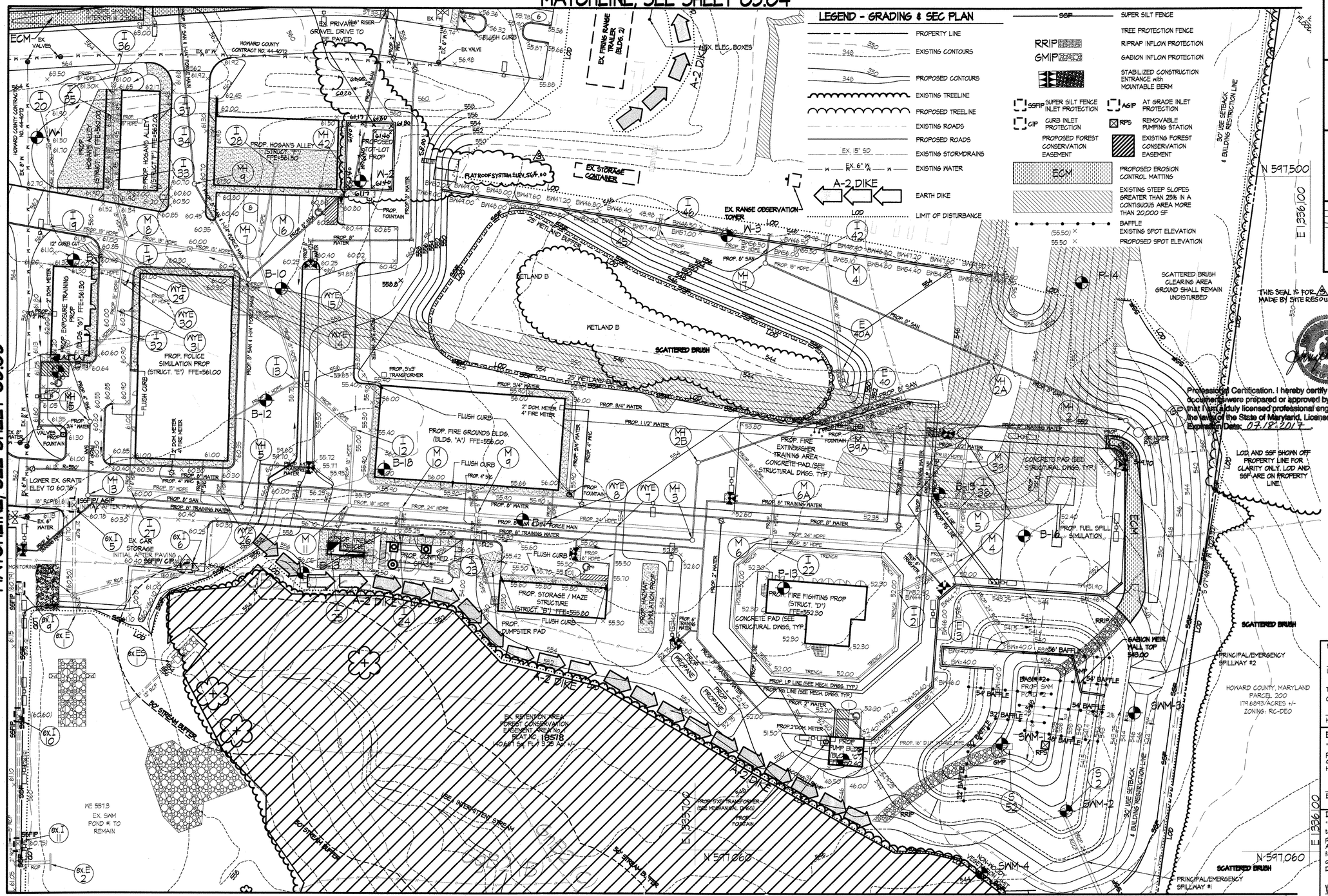
SHEET 44 OF 70

SDP - 06-110

Z:\2020\153-Howard\Co-Public\Safety\Civil\dwg\C5.05_GradingSedCon Plan.dwg, 10/5/2006 11:14:03 AM, - Copyright, Site Resources, Inc.

MATCHLINE, SEE SHEET C5.04

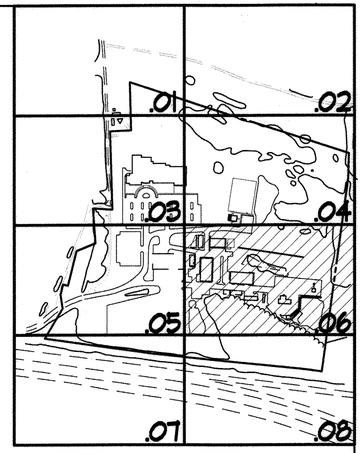
MATCHLINE, SEE SHEET C5.05



LEGEND - GRADING & SEC PLAN

- PROPERTY LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
- PROPOSED ROADS
- EXISTING STORMDRAINS
- EXISTING WATER
- EARTH DIKE
- LIMIT OF DISTURBANCE
- SSF — SUPER SILT FENCE
- TREE PROTECTION FENCE
- RRIP — RIPRAP INFLOW PROTECTION
- GMIP — GABION INFLOW PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE with MOUNTABLE BERM
- SSFIP — SUPER SILT FENCE INLET PROTECTION
- AGIP — AT GRADE INLET PROTECTION
- CIP — CURB INLET PROTECTION
- RPS — REMOVABLE PUMPING STATION
- PROPOSED FOREST CONSERVATION EASEMENT
- EXISTING FOREST CONSERVATION EASEMENT
- ECM — PROPOSED EROSION CONTROL MATTING
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF
- BAFFLE
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION

KEY MAP



THIS SEAL IS FOR 3 REVISIONS MADE BY SITE RESOURCES, INC.

10.17.06

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. 23165, Expiration Date: 07.18.2017

SEDIMENT BASIN TABLE

BASIN NUMBER		2
EXISTING DRAINAGE AREA AC.		6.38
INTERIM DRAINAGE AREA AC.		6.46
PROPOSED DRAINAGE AREA AC.		6.46
STORAGE REQUIRED C.F.	WET	11,628
	DRY	11,628
	TOTAL	23,256
STORAGE PROVIDED C.F.	WET	32,166
	DRY	28,036
	TOTAL	60,202
EXISTING GROUND ELEV.		548.25
TOP EMBANKMENT ELEV.		546.00
EMERGENCY SPILLWAY CREST ELEV.		544.00
RISER CREST ELEV.		544.00
WET STORAGE ELEV.		542.00
CLEANOUT ELEV.		537.00
BOTTOM ELEV.		535.00
QI0 INTO BASIN C.F.S.		24.16
QI0 OUT BARREL C.F.S.		17.74
QI0 OUT EMERGENCY SPILLWAY C.F.S.		7.00
TOTAL QI0 OUT OF BASIN C.F.S.		24.74
BASIN DEPTH	WET	7.0'
	DRY	2.0'
	TOTAL	9.0'
DESIGN HIGHWATER 100 YEAR		544.77
FREEBOARD REQUIRED 100 YEAR		1.00
FREEBOARD PROVIDED 100 YEAR		1.23
BARREL DIAMETER		24"
RISER INTERIOR DIMENSIONS		4' x 4'
EMERGENCY SPILLWAY WIDTH		12'
WET STORAGE ZONE ELEV.		535.00 - 542.00
DRY STORAGE ZONE ELEV.		542.00 - 544.00
BOTTOM DIMENSIONS		25' x 61'
STORAGE REQUIRED AT CLEANOUT C.F.		5,814
STORAGE PROVIDED AT CLEANOUT C.F.		4,486
DIMENSION FROM CLEANOUT ELEV. TO RISER TOP		8.83'
START DRAWDOWN PERFORATIONS AT ELEV.		542.00
1 YEAR MANAGEMENT REQUIRED		YES
1 YEAR MANAGEMENT PROVIDED		YES
1 YEAR EXISTING Q C.F.S.		0.41
1 YEAR OUTFLOW Q C.F.S.		0.44

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

HOWARD SOIL CONSERVATION DISTRICT — 10/19/06 DATE

ENGINEER'S CERTIFICATE

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ENGINEER — 10/11/06 DATE

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DEVELOPER — 10-12-06 DATE

MATCHLINE, SEE SHEET C5.08

0 10 20 30 60
SCALE 1"=30'

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — 11/3/06 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/25/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 10/26/06 DATE

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Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE
SRI	3	REDLINE REVISION: ADD ARMORY AND SNIPER DECK.	10/17/06

Grading & Erosion & Sediment Control Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6668 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C5.06

SCALE: 1"=30'

SHEET 45 OF 70

SDP - 06-110

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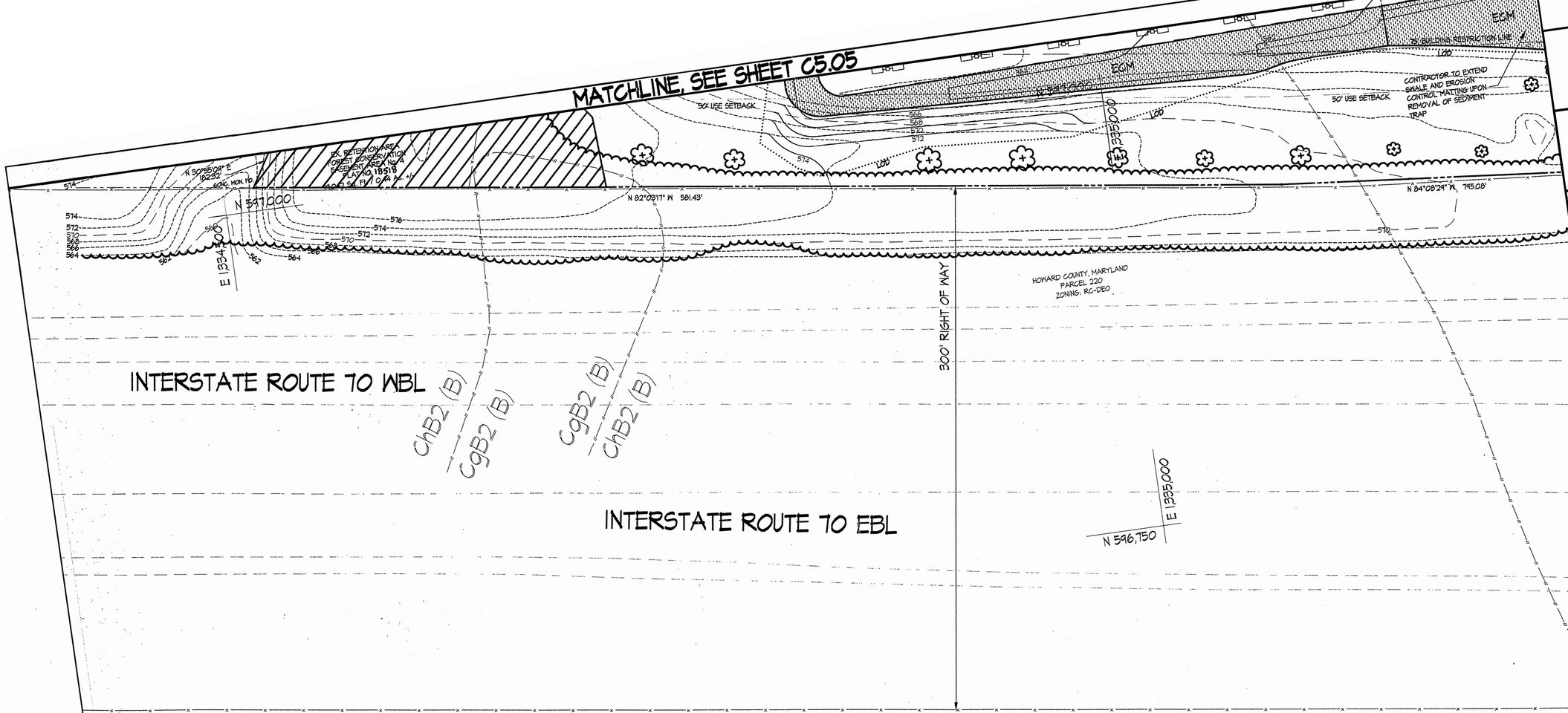

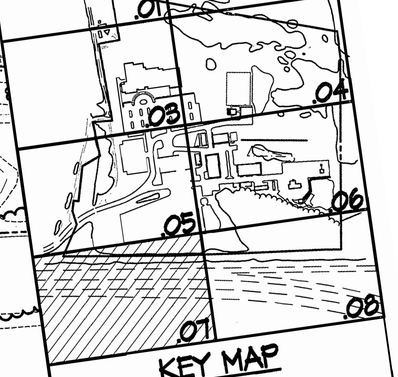

KEY MAP

LEGEND - GRADING & SEC PLAN

- PROPERTY LINE
- EXISTING CONTOURS (348, 350)
- PROPOSED CONTOURS (348, 350)
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
- PROPOSED ROADS
- EXISTING STORMDRAINS (EX. 15" SD)
- EXISTING SANITARY SEWER (EX. 8" SAN)
- EXISTING WATER (EX. 6" W)
- PROPOSED WATER (PROP. 8" WATER)
- EXISTING ELECTRIC
- EXISTING GAS
- EARTH DIKE (A-2 DIKE)
- LIMIT OF DISTURBANCE (LOD)
- SUPER SILT FENCE (SSF)
- TREE PROTECTION FENCE
- RIPRAP INFLOW PROTECTION (RRIP)
- GABION INFLOW PROTECTION (GMIP)
- STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM
- SSFIP SUPER SILT FENCE INLET PROTECTION
- CIP CURB INLET PROTECTION
- AGIP AT GRADE INLET PROTECTION
- RPS REMOVABLE PUMPING STATION
- PROPOSED FOREST CONSERVATION EASEMENT
- EXISTING FOREST CONSERVATION EASEMENT
- PROPOSED EROSION CONTROL MATTING (ECM)

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

10/19/06
USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE

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

10/19/06
HOWARD SOIL CONSERVATION DISTRICT — DATE

ENGINEER'S CERTIFICATE

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10/11/06
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10-12-06
DEVELOPER — DATE

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
10/30/06
COUNTY HEALTH OFFICER — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
10/31/06
DIRECTOR — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
10/26/06
JAMES M. IRVIN, DIRECTOR — DATE

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
Bel Air, Maryland 21014
Fax: 410.879.4785

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Grading & Erosion & Sediment Control Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: Four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

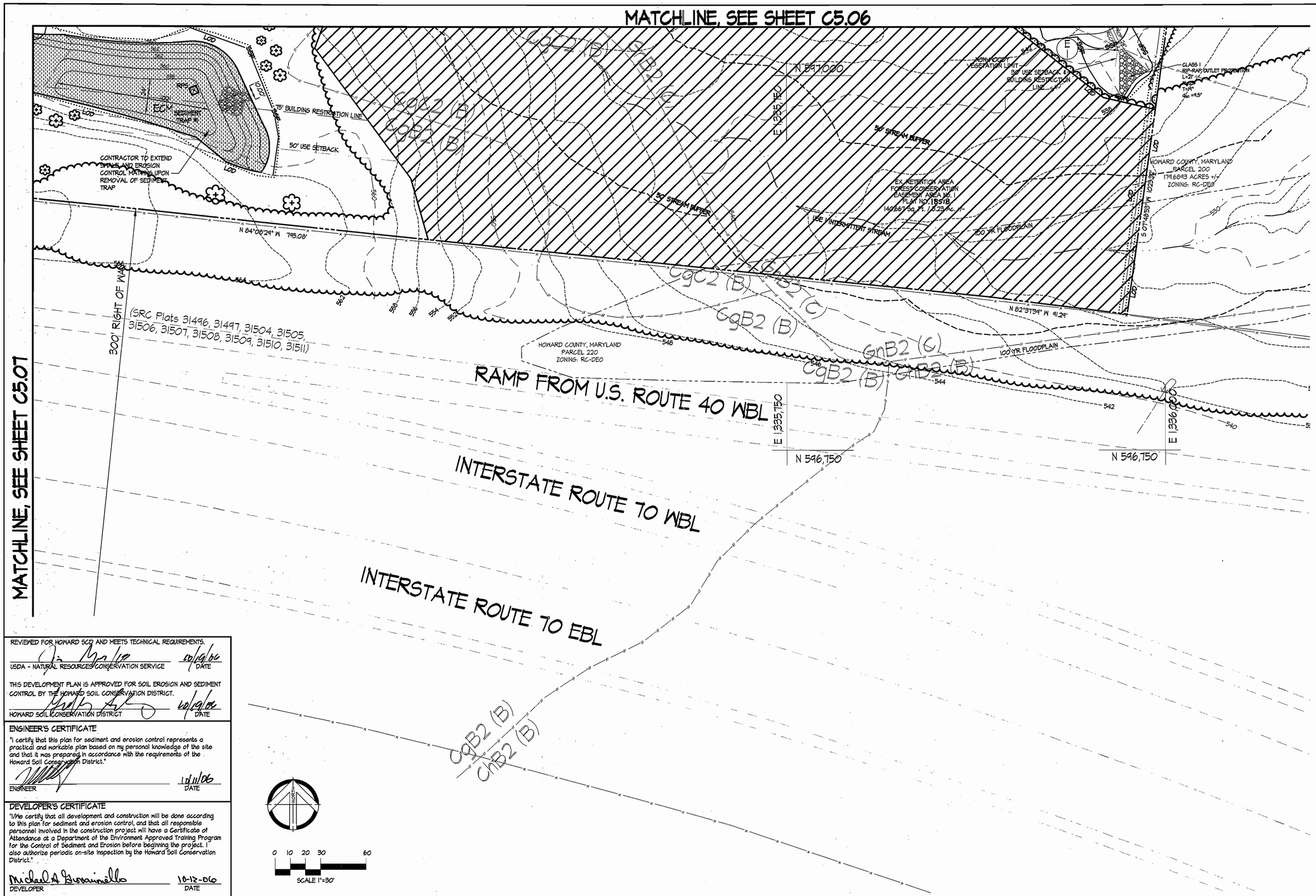
at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

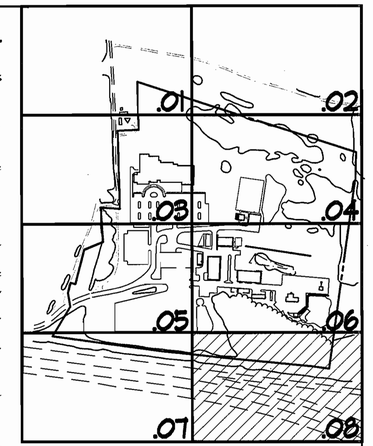
OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #250, ADDRESS: 2200 Alpha Center Drive
PLAT No. 18118, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

SDP -

SCALE 1"=30'
0 10 20 30 60





KEY MAP

LEGEND - GRADING & SEC PLAN

- PROPERTY LINE
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- AT GRADE INLET PROTECTION (AGIP)
- CURB INLET PROTECTION (CIP)
- REMOVABLE PUMPING STATION (RPS)
- PROPOSED FOREST CONSERVATION EASEMENT
- EXISTING FOREST CONSERVATION EASEMENT

SEDIMENT TRAP TABLE

TRAP NUMBER		1
TRAP TYPE		ST-11
EXISTING DRAINAGE AREA AC.		1.25
INTERIM DRAINAGE AREA AC.		1.48
PROPOSED DRAINAGE AREA AC.		1.48
STORAGE REQUIRED C.F.	WET	3,569
	DRY	3,569
	TOTAL	7,138
STORAGE PROVIDED C.F.	WET	5,569
	DRY	6,136
	TOTAL	11,705
EXISTING GROUND ELEV.		559.80
TOP OF EMBANKMENT		562.00
DRY STORAGE ZONE ELEV.		561.00
WEIR CREST ELEV.		561.00
WET STORAGE/ OUTLET ELEV.		559.80
CLEANOUT ELEV.		558.50
BOTTOM ELEV.		558.00
DEPTH OF CHANNEL (A)		N/A
OUTLET WIDTH (B)		10'
BOTTOM DIMENSION		24'x102'
TRAP SIDESLOPES		3:1
TRAP DEPTH	WET	1.8'
	DRY	1.2'
	TOTAL	3.0'
BARREL DIAMETER		N/A
RISER DIAMETER		N/A
WET STORAGE ZONE ELEV.		558.00-559.80
DRY STORAGE ZONE ELEV.		559.80-561.00

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/06

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

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Michael A. Giovannitello
DEVELOPER — DATE 10-12-06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER — DATE 10/20/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KENNETH R. KINGSLEY — No. 13575 — PROFESSIONAL ENGINEER

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Grading & Erosion & Sediment Control Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / B

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

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GRID No. 2/B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C5.08

SCALE: 1"=30'

SHEET 47 OF 70

SDP - 06-110

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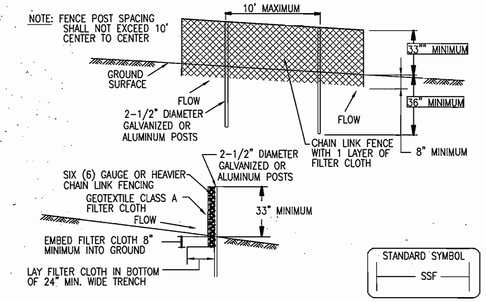
NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER



CONSTRUCTION SPECIFICATIONS

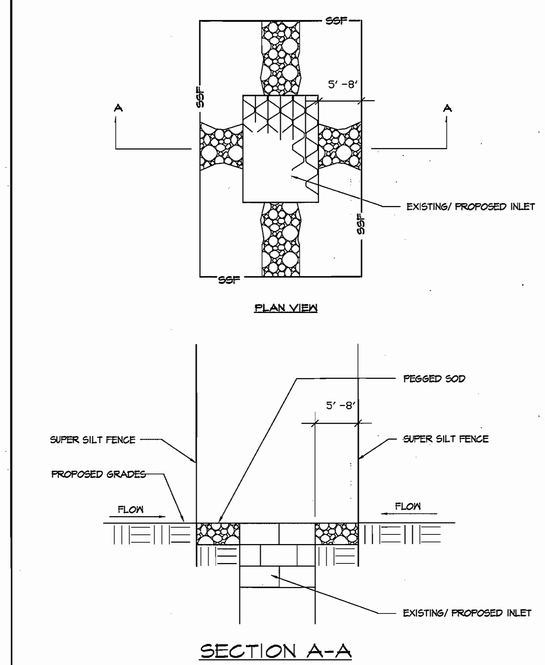
1. FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.
2. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE. THE CHAIN LINK FENCING SHALL BE SIX (6) GAUGE OR HEAVIER.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
5. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
6. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT

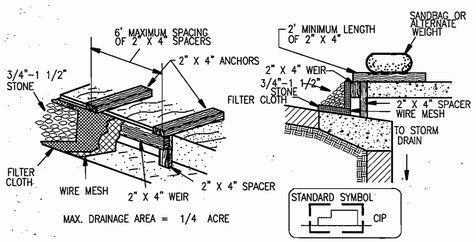
DETAIL H-26-3

SUPER SILT FENCE

H263 NOT TO SCALE

SUPER SILT FENCE MODIFIED INLET PROTECTION





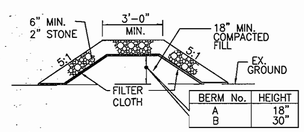
MAX. DRAINAGE AREA = 1/4 ACRE

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 & 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.

CURB INLET PROTECTION

E-163 NOT TO SCALE

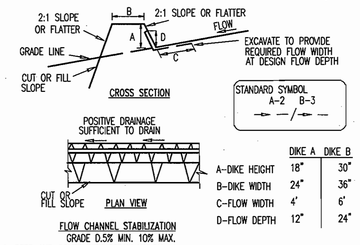


BERM	No.	HEIGHT
A		18"
B		30"

Filter cloth shall be Geotextile Class 'C', or better.

MOUNTABLE BERM

M-378 NOT TO SCALE



	DIKE A	DIKE B
A-DIKE HEIGHT	18"	30"
B-DIKE WIDTH	24"	36"
C-FLOW WIDTH	4'	6'
D-FLOW DEPTH	12"	24"

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

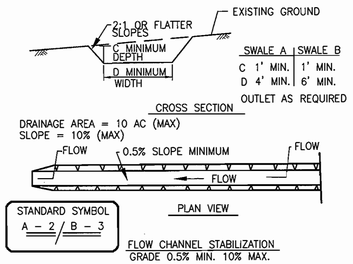
1. SEED AND COVER WITH STRAW MULCH.
2. SEED AND COVER WITH EROSION CONTROL MATTING OR LINE WITH SOD.
3. 4"-7" STONE OR RECYCLED CONCRETE EQUIVALENT PRESSED INTO SOIL IN A MINIMUM 7" LAYER.

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.

EARTH DIKE

A16 NOT TO SCALE



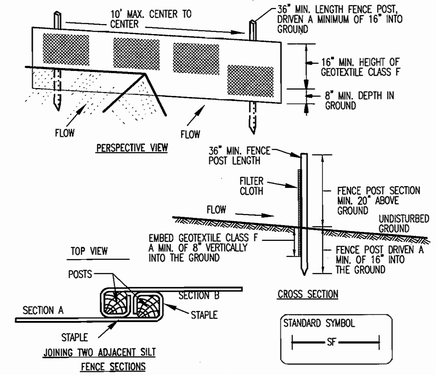
1. SEED AND COVER WITH STRAW MULCH.
2. SEED AND COVER WITH EROSION CONTROL MATTING OR LINE WITH SOD.
3. 4"-7" STONE OR RECYCLED CONCRETE EQUIVALENT PRESSED INTO SOIL IN A MINIMUM 7" LAYER.

CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES 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 SWALE.
5. THE SWALE 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, IF NECESSARY, 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 SWALE.
8. INSPECTION AND MAINTENANCE MUST BE PROVIDED PERIODICALLY AND AFTER EACH RAIN EVENT.

TEMPORARY SWALE

A24 NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 11/2" X 11/2" SQUARE (MINIMUM) CUT, OR 13/4" DIA. (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHTING NOT LESS THAN 1.00 POND 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

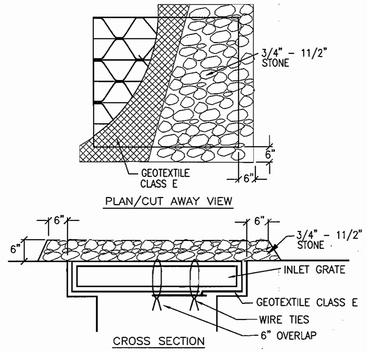
3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.
4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHED 50% OF THE FABRIC HEIGHT.

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE LB. MIN. STRENGTH	BURST STRENGTH PSI MIN.
F (SILT FENCE)	0.40 - 0.80*	90	190

* US STD. SIEVE CW-02215

SILT FENCE

E-183 E-183-A NOT TO SCALE



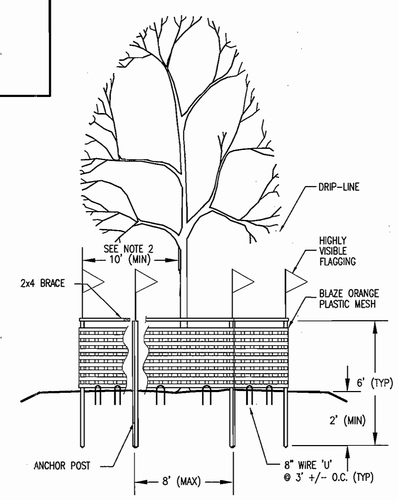
MAX. DRAINAGE AREA = 1 ACRE

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 11/2" STONE, 4"-6" THICK ON THE GRATE TO SECURE THE FABRIC AND PROVIDE ADDITIONAL FILTRATION.

AT GRADE INLET PROTECTION

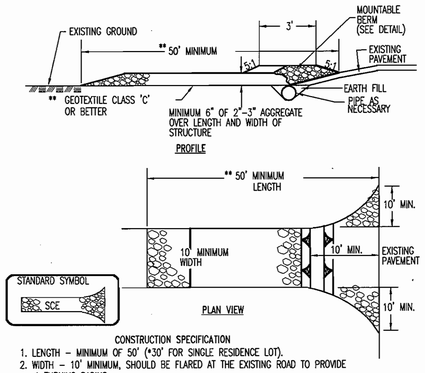
E-163A NOT TO SCALE



1. Forest protection device only.
2. Retention area will be set as part of the review process.
3. Boundaries of retention area to be staked and flagged prior to installing device.
4. Root damage should be avoided.
5. Protection signage may also be used.
6. Maintain tree protection devices throughout construction.
7. This fence is a tree protection device only.

TREE PROTECTION FENCE

NOT TO SCALE



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 REQUIRE 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 ENTRANCES 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 SIZE 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.

STABILIZED CONSTRUCTION ENTRANCE

F-173 NOT TO SCALE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/06

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/06

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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

ENGINEER — DATE 10/11/06

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."

DEVELOPER — DATE 10-12-06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/26/06

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Erosion & Sediment Control Details

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C5.09

SCALE: As Shown

SHEET 48 OF 70

SDP - 06-110

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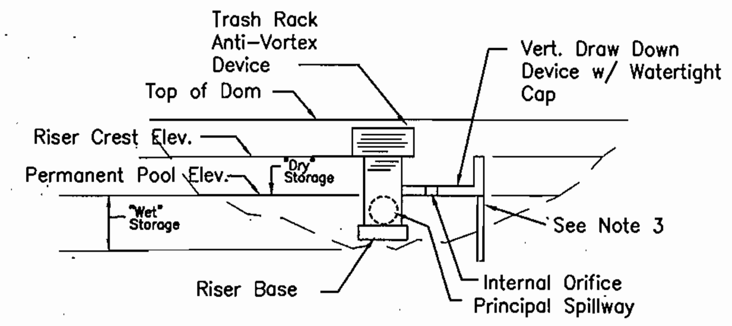
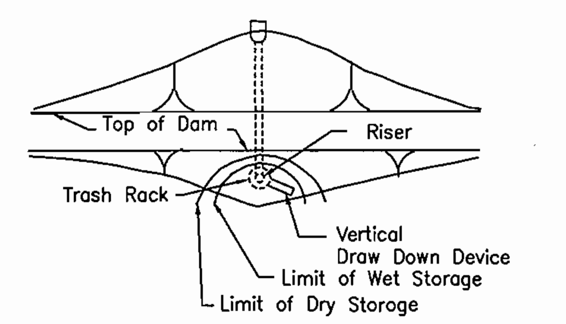


ELEVATION



PLAN VIEW

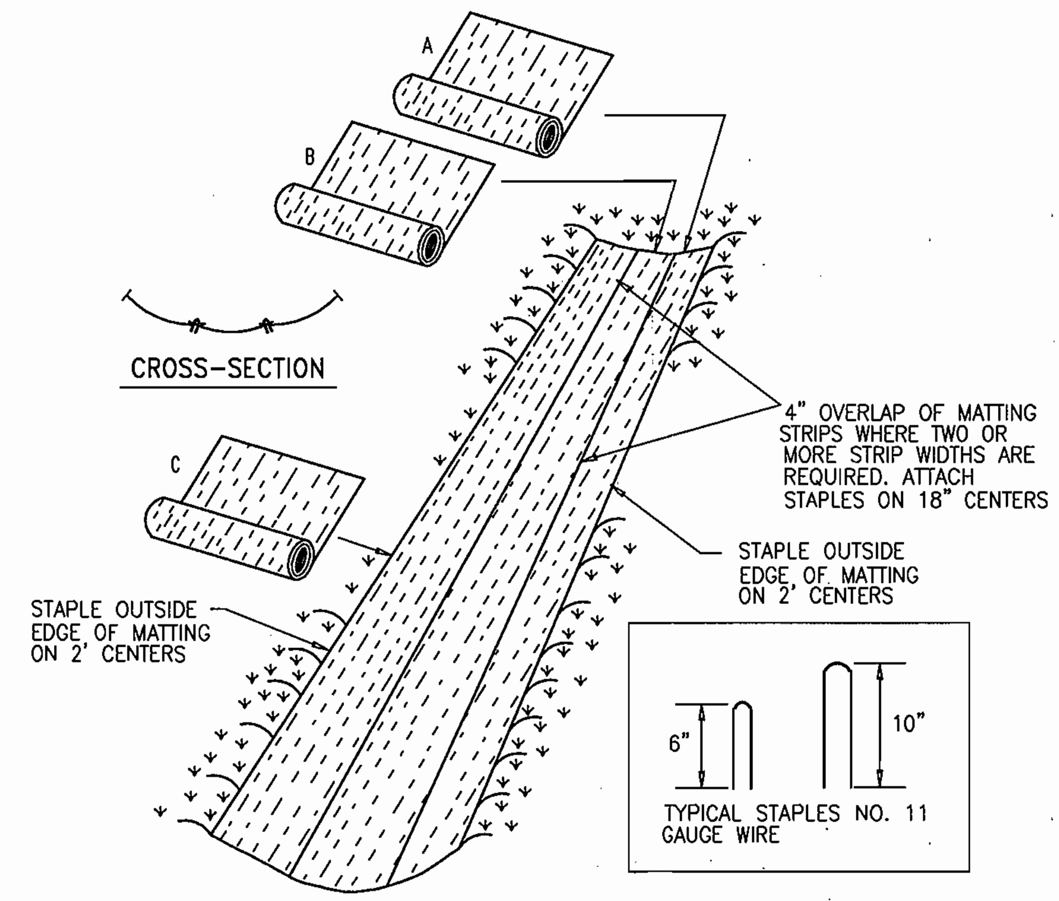
CONSTRUCTION SPECIFICATIONS

1. Perforartions in the drow–down device may not extend into the wet storage.
2. The total area of the perforations must be greater than 2 times the area of the internal orifice. A minimum of 25 – 4" perforations.
3. The perforated portion of the draw–down device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
4. Provide support of draw–down device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of draw–down device with 1" steel angle, or 1' X 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping them with 12 guage minimum wire.

VERTICAL DRAW–DOWN DEVICE

HORDRAWD.DWG

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

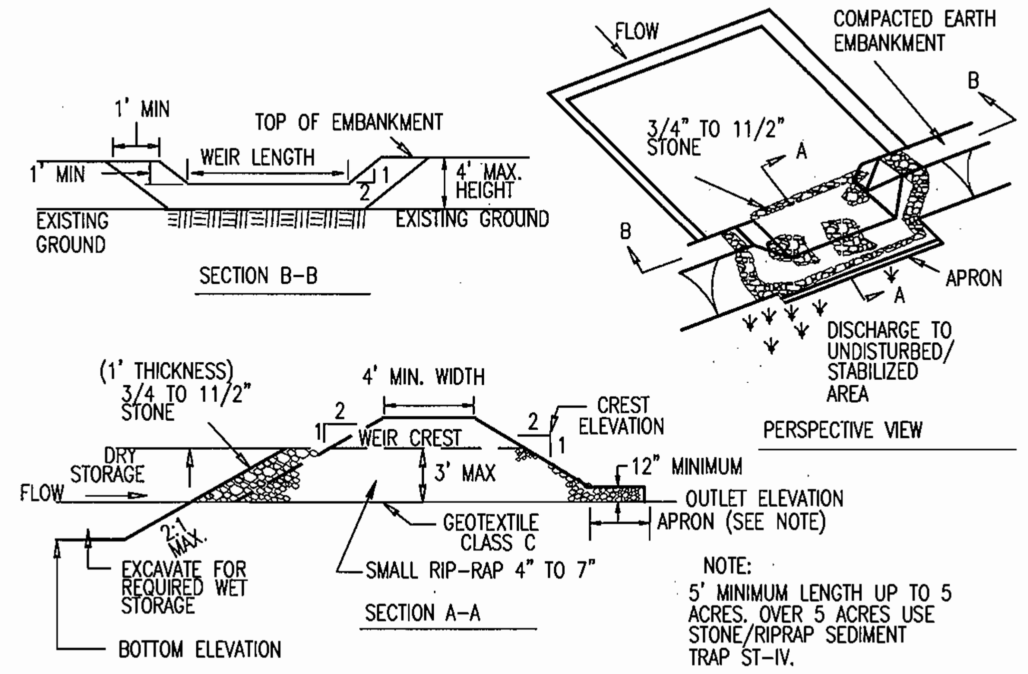
1. KEY–IN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A NARROW TRENCH, 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS–SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IS 6".
2. STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES.
3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.
4. STAPLES SHALL BE PLACED 2' APART WITH 4 ROWS FOR EACH STRIP, 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.
5. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4", SHIPLAP FASHION. REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 6" APART IN A STAGGERED PATTERN ON EITHER SIDE.
6. THE DISCHARGE END OF THE MATTING LINER SHOULD BE SIMILARLY SECURED WITH 2 DOUBLE ROWS OF STAPLES.

NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EFFECTED BY THE FLOW MUST BE KEYED–IN.

EROSION CONTROL MATTING

G222

NOT TO SCALE



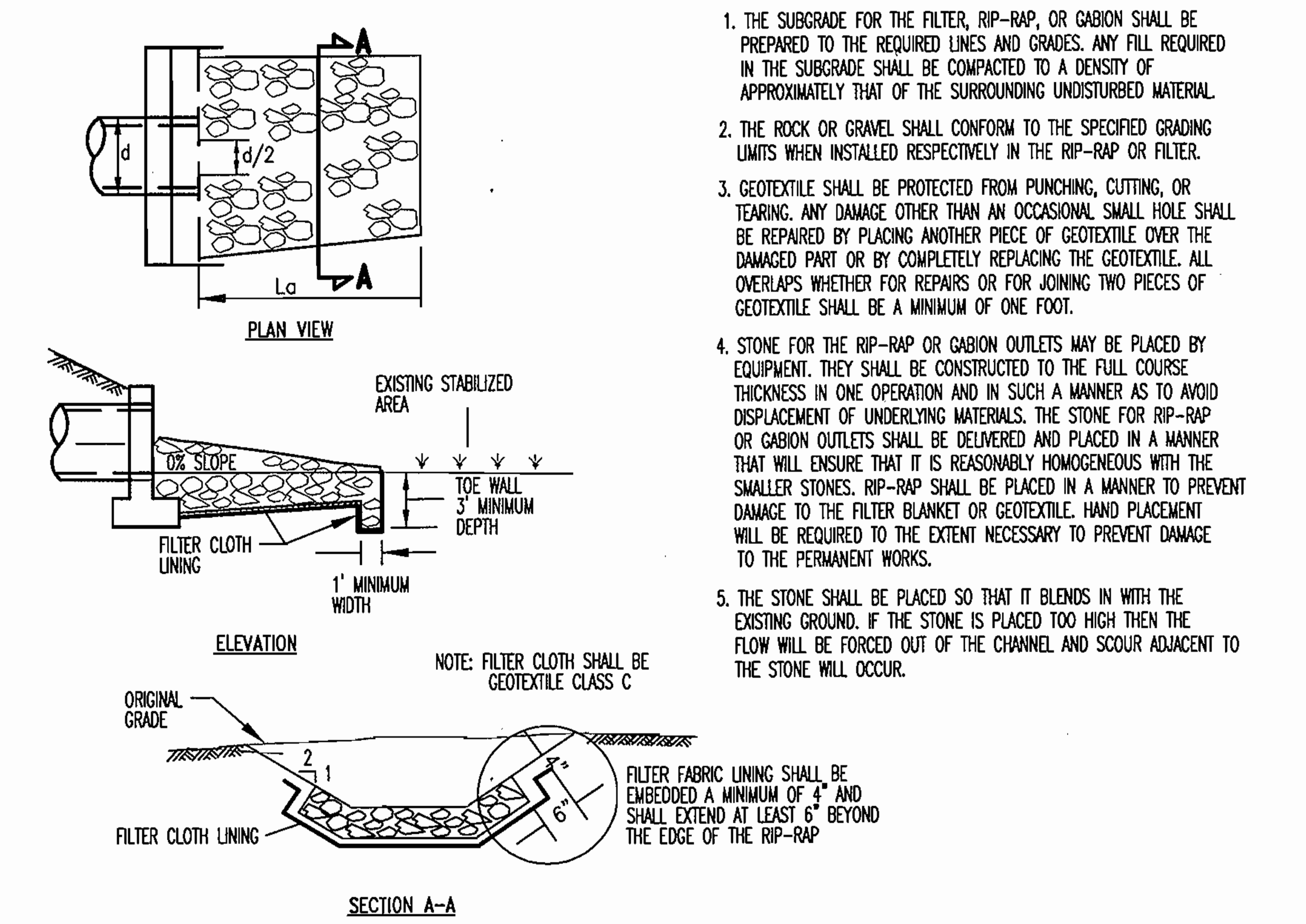
CONSTRUCTION SPECIFICATIONS

1. AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
2. THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER–SIZED 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.

STONE OUTLET SEDIMENT TRAP – ST–II

C910

NOT TO SCALE



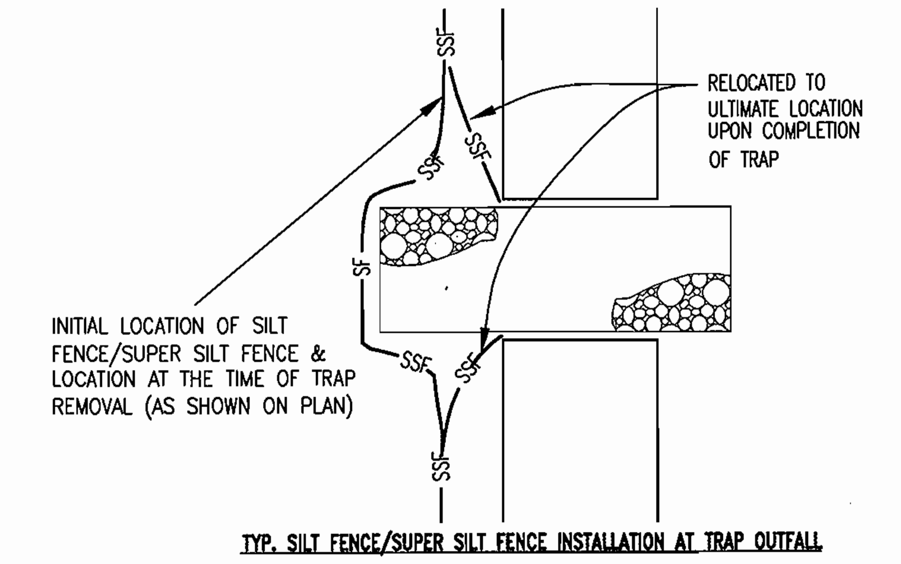
CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER, RIP–RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP–RAP OR FILTER.
3. GEOTEXTILE SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR THE RIP–RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP–RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES. RIP–RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

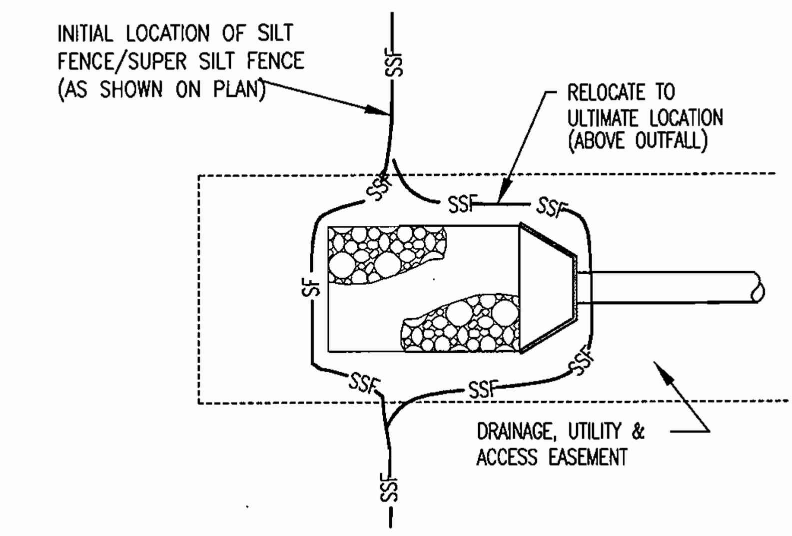
ROCK OUTLET PROTECTION III

F1810.DWG

NOT TO SCALE



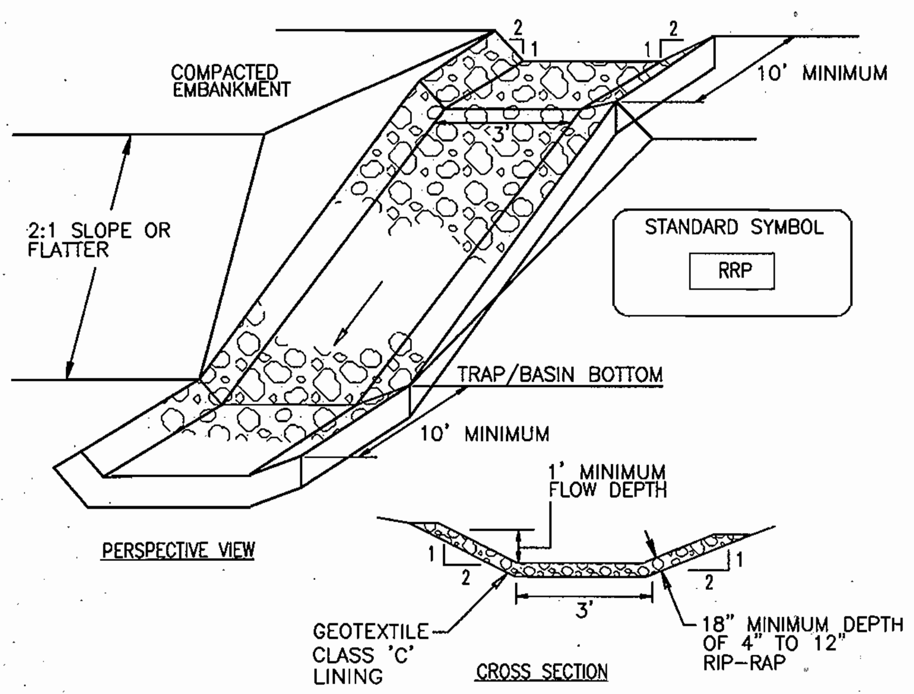
TYP. SILT FENCE/SUPER SILT FENCE INSTALLATION AT TRAP OUTFALL



TYP. SILT FENCE/SUPER SILT FENCE INSTALLATION AT PIPE OUTFALL

SUPER SILT FENCE OUTFALL PROTECTION

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

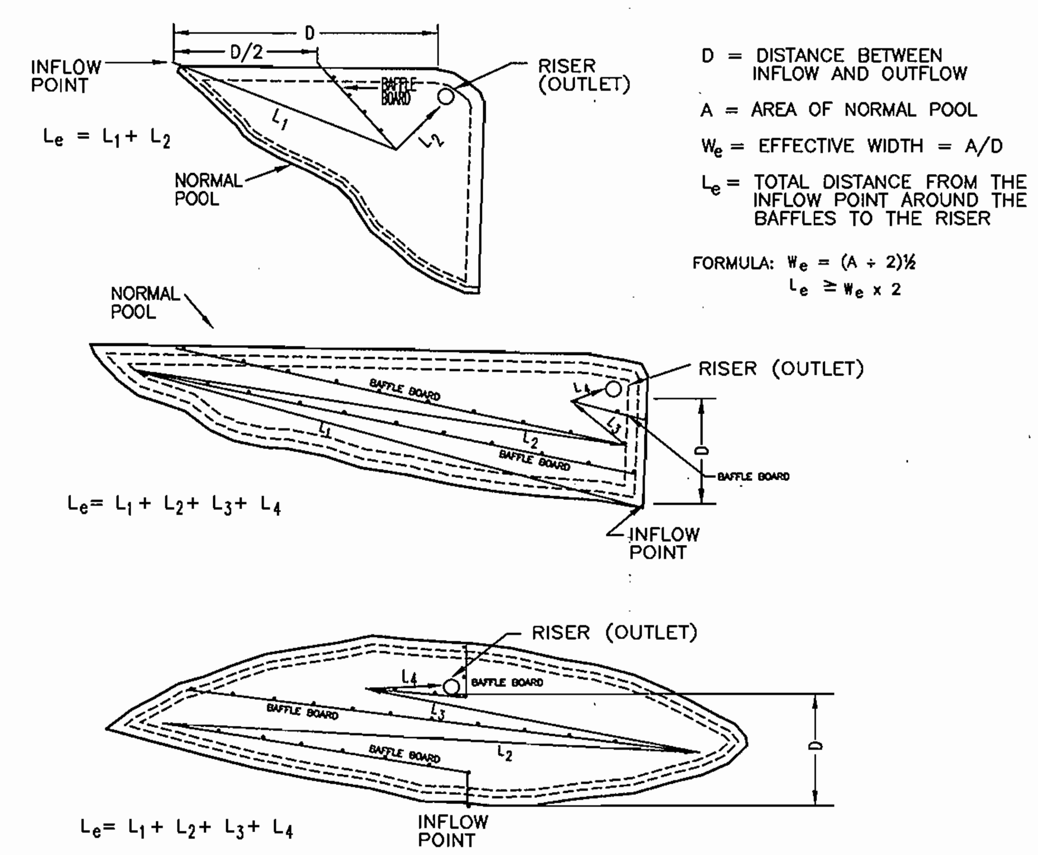
1. RIP–RAP LINED INFLOW CHANNELS SHALL BE 1' IN DEPTH, HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND 3' (MIN.) BOTTOM WIDTH. THE CHANNEL SHALL BE LINED WITH 4" TO 12" RIP– RAP TO A DEPTH OF 18".
2. FILTER CLOTH SHALL BE INSTALLED UNDER ALL RIP–RAP. FILTER CLOTH SHALL BE GEOTEXTILE CLASS C.
3. ENTRANCE AND EXIT SECTIONS SHALL BE INSTALLED AS SHOWN ON THE DETAIL SECTION.
4. RIP–RAP USED FOR THE LINING MAY BE RECYCLED FOR PERMANENT OUTLET PROTECTION IF THE BASIN IS TO BE CONVERTED TO A STORMWATER MANAGEMENT FACILITY.
5. GABION INFLOW PROTECTION MAY BE USED IN LIEU OF RIP–RAP INFLOW PROTECTION.
6. RIP–RAP SHOULD BLEND INTO EXISTING GROUND.
7. RIP–RAP INFLOW PROTECTION SHALL BE USED WHERE THE SLOPE IS BETWEEN 4:1 AND 10:1, FOR SLOPES FLATTER THAN 10:1 USE EARTH DIKE OR TEMPORARY SWALE LINING CRITERIA.

RIP–RAP INFLOW PROTECTION

B62.DWG

NOT TO SCALE

PLAN VIEWS



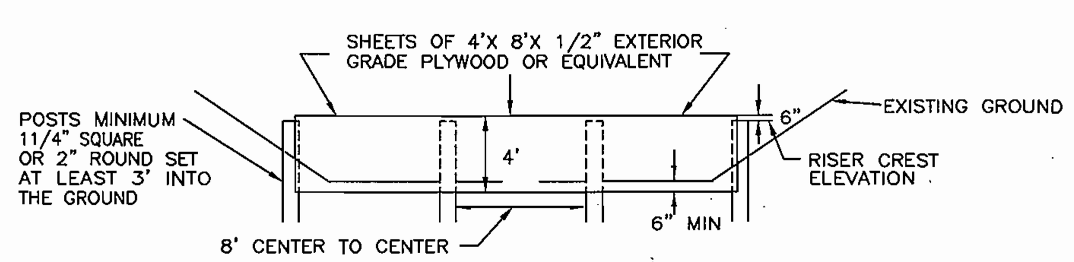
D = DISTANCE BETWEEN INFLOW AND OUTFLOW

A = AREA OF NORMAL POOL

W_e = EFFECTIVE WIDTH = A/D

L_e = TOTAL DISTANCE FROM THE INFLOW POINT AROUND THE BAFFLES TO THE RISER

FORMULA: $W_e = (A \div 2)^{1/2}$
$L_e \geq W_e \times 2$



BAFFLE DETAIL

SEDIMENT BASIN BAFFLES

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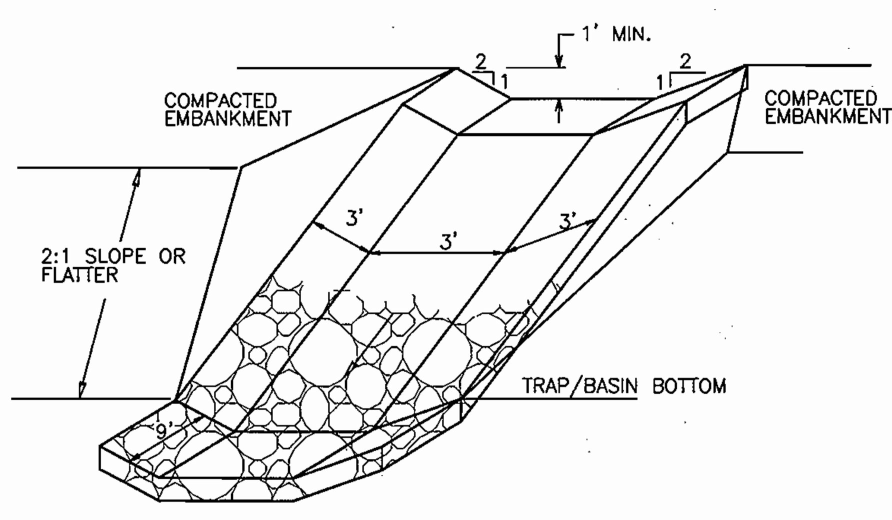
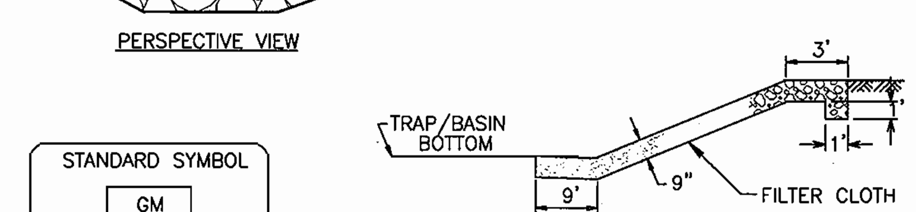


PERSPECTIVE VIEW

STANDARD SYMBOL

GM



PROFILE ALONG CENTERLINE

CONSTRUCTION SPECIFICATIONS

1. GABION INFLOW PROTECTION SHALL BE CONSTRUCTED OF 9' X 3' X 9" GABION BASKETS FORMING A TRAPEZOIDAL CROSS SECTION 1' DEEP, WITH 2:1 SIDE SLOPES, AND A 3' BOTTOM WIDTH.
2. GEOTEXTILE CLASS C SHALL BE INSTALLED UNDER ALL GABION BASKETS.
3. THE STONE USED TO FILL THE GABION BASKETS SHALL BE 4" – 7".
4. GABIONS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
5. GABION INFLOW PROTECTION SHALL BE USED WHERE CONCENTRATED FLOW IS PRESENT ON SLOPES STEEPER THAN 4:1.

GABION INFLOW PROTECTION

B72.DWG

NOT TO SCALE

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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

ENGINEER 10/11/06 DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA – NATURAL RESOURCES CONSERVATION SERVICE 10/19/06 DATE

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

HOWARD SOIL CONSERVATION DISTRICT 10/19/06 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."

Michael A. Guarinello 10/12/06
DEVELOPER DATE

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for Robert J. Weber MGD 10/30/06
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

10/26/06
JAMES M. IRVIN, DIRECTOR DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

10/30/06
DIRECTOR DATE

10/24/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamilton 10/30/06
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
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14315 Jarrettsville Pike Phoenix, Maryland 21131
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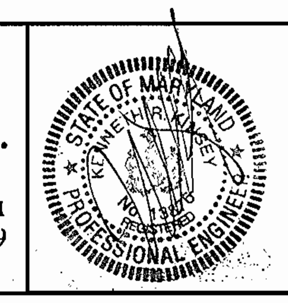

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Erosion & Sediment Control Details

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Deptartment of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Cencus Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C5.10

SCALE: As Shown

SHEET 49 OF 70

SDP - 06-110

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SEDIMENT AND EROSION 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 (410-313-1855).
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.I, 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 seedings (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 conditions until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. SITE ANALYSIS:

Total Area of Site:	38.23 Acres
Area Disturbed:	18.81 Acres
Area to be roofed or paved:	9.95 Acres
Area to be vegetatively stabilized:	8.86 Acres
Total Cut:	24,800 Cu. Yds.
Total Fill:	24,800 Cu. Yds.
Offsite Waste/Borrow Area Location:	N/A

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.

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 lbs/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/1000 sq.ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 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 the periods March 1 -- April 30, and August 1 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/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 apply 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 per 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 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

DUST CONTROL

Temporary Methods

1. Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.
2. Vegetative Cover - See standards for temporary vegetative cover.
3. Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12" apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
4. Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated tot he point that runoff begins to flow.
5. Barriers - Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
6. Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.

Permanent Methods

1. Permanent Vegetation - See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.
2. Topsoiling - Covering with less erosive soil materials. See standards for topsoiling.
3. Stone - Cover surface with crushed stone or coarse gravel.

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

I. To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

II. This practice is limited to areas having 2:1 or flatter slopes where:
- a. The texture of the exposed subsoil/parent materials not adequate to produce vegetative growth.
- b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients
- c. The original soil to be vegetated contains material too toxic to plant growth.
- d. the soil is so acidic that treatment with limestone is not feasible.

For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have appropriate stabilization shown on the plans.

Construction And Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given type of soil can be found in the representative soil profile section in the Soil Survey published by USDA in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used must meet the following:
1. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1.5" in diameter.
2. Topsoil must be free of plants or plant parts such as bermuda grass, quack grass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
3. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons per acre (200-400 pounds per 1000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and be worked into the soil in conjunction with tillage operations as described in the following procedures.

III. For site shaving disturbed areas under 5 acres:
1. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Vegetative Stabilization Methods and Materials.

IV. For sites having disturbed areas over 5 acres:
1. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to to bring the soil into compliance with the following:
   - a. pH for topsoil shall not be between 6.0 and 7.5 . If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
   - b. Organic content of topsoil shall not be less than 1.5 percent by weight.
   - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
   - d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

   Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in leu of natural topsoil.
2. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Vegetative Stabilization Methods and Materials.

V. Topsoil Application
1. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
2. Grades on the areas to be topsoiled , which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
3. Topsoil shall be uniformly distributed in a 4"-8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from top soiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
4. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
1. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall confirm to the following requirements:
   - a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
   - b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added prior to use.
   - c. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1000 square feet, and 1/3 the normal lime application rate.

STONE SIZE AND MATERIAL SPECIFICATIONS

1994 MDE Table 28

	SIZE RANGE	D_{50}	D_{100}	AASHTO	WEIGHT
NUMBER 57 *	3/8"-1 1/2"	1/2"	1 1/2"	M-43	N/A
NUMBER 1	2"-3"	2 1/2"	3"	M-43	N/A
RIP-RAP **	4"-7"	5 1/2"	7"	N/A	N/A
CLASS I	N/A	9.5"	15"	N/A	150 LB MAX.
CLASS II	N/A	16"	24"	N/A	700 LB MAX.
CLASS III	N/A	23"	34"	N/A	200 LB. MAX.

* This classification is to be used on the inside face of stone outlets and check dams.

** This classification is to be used whenever small rip-rap is required. The State Highway Administration designation for this stone is Stone For Gabions (905.01.04).

Stone For Gabion Baskets

BASKET THICKNESS		SIZE OF INDIVIDUAL STONES	
INCHES	MM	INCHES	MM
6	150	3-5	75-125
9	225	4-7	100-175
12	300	4-7	100-175
18	460	4-7	100-175
36	910	4-12	100-300

NOTE: Recycled concrete equivalent may be substituted for all stone classifications. Recycled concrete equivalent shall be concrete broken into the sizes meeting the appropriate classification, shall contain no steel reinforcement, and shall have a density of 150 pounds per cubic foot.

SEQUENCE OF CONSTRUCTION

	NUMBER OF DAYS
1. Obtain grading permits. Contractor shall contact the Construction Inspection Division twenty four (24) hours in advance of commencement of work at (410) 313-1880.	2 days
2. Contact Miss Utility at 1-800-257-7777 at least three days in advance of starting work shown on plans.	1 day
3. Clear and grub for and install erosion and sediment control measures or devices. Construction of the sediment trap and sediment basins may not begin until stabilized construction entrance and super silt fence below sediment trap and sediment basin installation is complete.	6 weeks

Construction of the sediment basins shall be in the following order:

A. Notify the engineer in charge for as-built inspections at least 48 hours before beginning any work on the sediment basins.

B. Excavate the basin. Material not used in the basin construction shall be placed in the temporary stockpile area. Double-staked silt fence shall be placed below the stockpile until all erosion and sediment control measures are installed and functioning.

C. Install principal spillways and appurtenances.

D. Install remainder of embankment.

E. Conduct partial "As-built" survey of all structures and check storage volumes. Adjust elevations, inverts, and grading as needed.

F. Complete installation of all other erosion and sediment control measures upon completion of sediment basin construction.

	1 day
4. The sediment trap and sediment basins shall be dewatered as required by the sediment control inspector using the removable pumping station installed during construction of the trap.	1 week
5. Once erosion and sediment control are operational and with permission of the sediment control inspector, clear and grub for and install proposed storm drain from E-3 to E-40. Connections at M-4 and M-5 are to be bulkheaded until remainder of storm drain installation.	1 week
6. Once storm drain from E-3 to E-40 is complete and operational and with approval of the sediment control inspector, clear and grub remainder of site.	6 weeks
7. Mass grade all areas within limits of disturbance. No more than 20 acres may be un-stabilized at any time. Dust control shall be applied per specification on this sheet.	8 months
8. Install utilities except training water inlet structure 52 and begin building construction.	4 weeks
9. Fine grade all road surfaces. Install curbs and gutters. Apply road sub-base.	3 weeks
10. Fine grade remaining areas and permanently stabilize those areas.	3 weeks
11. Pave all road surfaces.	1 week
12. After permanent stabilization of site with established vegetation and with permission of the sediment control inspector, remove erosion and sediment control measures or devices, except sediment basins, and stabilize those areas disturbed by this process.	1 month
13. Convert the sediment asins to wet ponds and extended detention facilities per approved stormwater management plans. Install training water inlet structure and pipe. Provide permanent stabilization.	1 month
14. Conduct final "As-built" surveys of the stormwater management facilities and submit "As-built" plans and computations to Howard County within 30 days of completion of conversion.	

MATERIALS SPECIFICATIONS
Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30**	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

*US Std Sieve CW-02215 **.50 mm. max. for Super Silt Fence

The properties shall be determined in accordance with the following procedures:

- -Apparent opening size: MSMT 323
- -Grab tensile strength: ASTM D 1682: 4x8" specimen, 1x2" clamps, 12"/min. strain rate in both principal directions of geotextile fabric.
- -Burst strength: ASTM D 3786

The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be rot and mildew resistant. It shall be manufactured from fibers consisting of long chain synthetic polymers, and composed of a minimum of 85% by weight of polyolephins, polyesters, or polyamides. The geotextile fabric shall resist deterioration from ultraviolet exposure.

In addition, Classes A through E shall have a 0.01 cm/sec. minimum permeability when tested in accordance with MSMT 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance with the grab tensile strength requirements listed above.

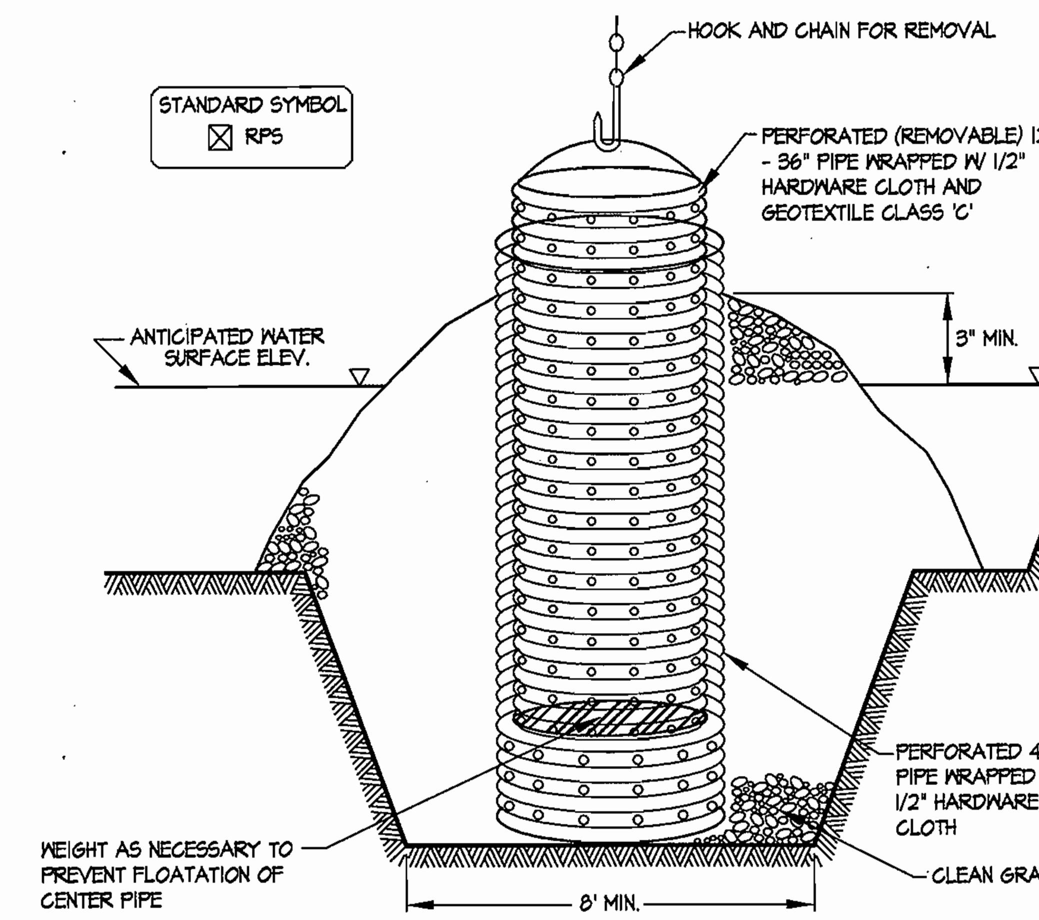
Silt Fence
Class F geotextile fabrics for silt fence shall have a 50 lb./in. minimum tensile strength and a 20 lb./in. minimum tensile modules when tested in accordance with MSMT 509. The material shall also have a 0.3 gal./sf./min. flow rate and seventy-five percent (75%) minimum filtering efficiency when tested in accordance with MSMT 322.

Geotextile fabrics used in the construction of silt fence shall resist deterioration from ultraviolet exposure. The fabric shall contain sufficient amounts of ultraviolet ray inhibitors and stabilizers to provide a minimum of 12 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

TEMPORARY STOCKPILE NOTE

Additional Temporary Stockpiles may be added with the approval of the Sediment Control Inspector. Additional Temporary Stockpiles shall:

1. Be Located within the Limit of Disturbance.
2. Drain to a functioning Sediment Control Device.
3. Be positioned to not impede upon or impair the function of said device.
4. Be positioned not to alter drainage divides.



ELEVATION

CONSTRUCTION SPECIFICATIONS

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with ½" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be ½" x 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with ½" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

REMOVABLE PUMPING STATION

NOT TO SCALE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.
USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/06

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/06

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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."
ENGINEER — DATE 10/11/06

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"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."
DEVELOPER — DATE 10-12-06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 10/30/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Erosion & Sediment Control Details

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure
PUBLIC SAFETY TRAINING CENTER
at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Deptartment of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Cencus Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C5.11

SCALE: As Shown

SDP - 06-110

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LEGEND - GRADING & SEC PLAN

- PROPERTY LINE
- EXISTING CONTOURS (350, 348)
- EXISTING TREELINE
- EXISTING ROADS
- EXISTING STORMDRAINS (EX. 15" SD)
- EXISTING SANITARY SEWER (EX. 8" SAN)
- EXISTING WATER (EX. 6" W)
- EXISTING ELECTRIC
- EXISTING GAS
- EARTH DIKE (A-2 DIKE)
- LIMIT OF DISTURBANCE (LOD)
- SUPER SILT FENCE
- RIPRAP INFLOW PROTECTION (RRIP)
- GABION INFLOW PROTECTION (GMIP)
- STABILIZED CONSTRUCTION ENTRANCE with MOUNTABLE BERM
- SUPER SILT FENCE INLET PROTECTION (SSFIP)
- AT GRADE INLET PROTECTION (AGIP)
- CURB INLET PROTECTION (CIP)
- REMOVABLE PUMPING STATION (RPS)
- PROPOSED FOREST CONSERVATION EASEMENT
- EXISTING FOREST CONSERVATION EASEMENT
- PROPOSED EROSION CONTROL MATTING (ECM)
- Tc PATH (225' / 1.78%)

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/06

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/06

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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

ENGINEER — DATE 10/11/06

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."

Michael A. Giovannielli — DEVELOPER — DATE 10-12-06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for Robert J. Weber — COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Temporary Stormwater Management Existing Conditions Drainage Area Map

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C5.12

SCALE: 1"=100'

SHEET 51 OF 70

SDP - 06-110

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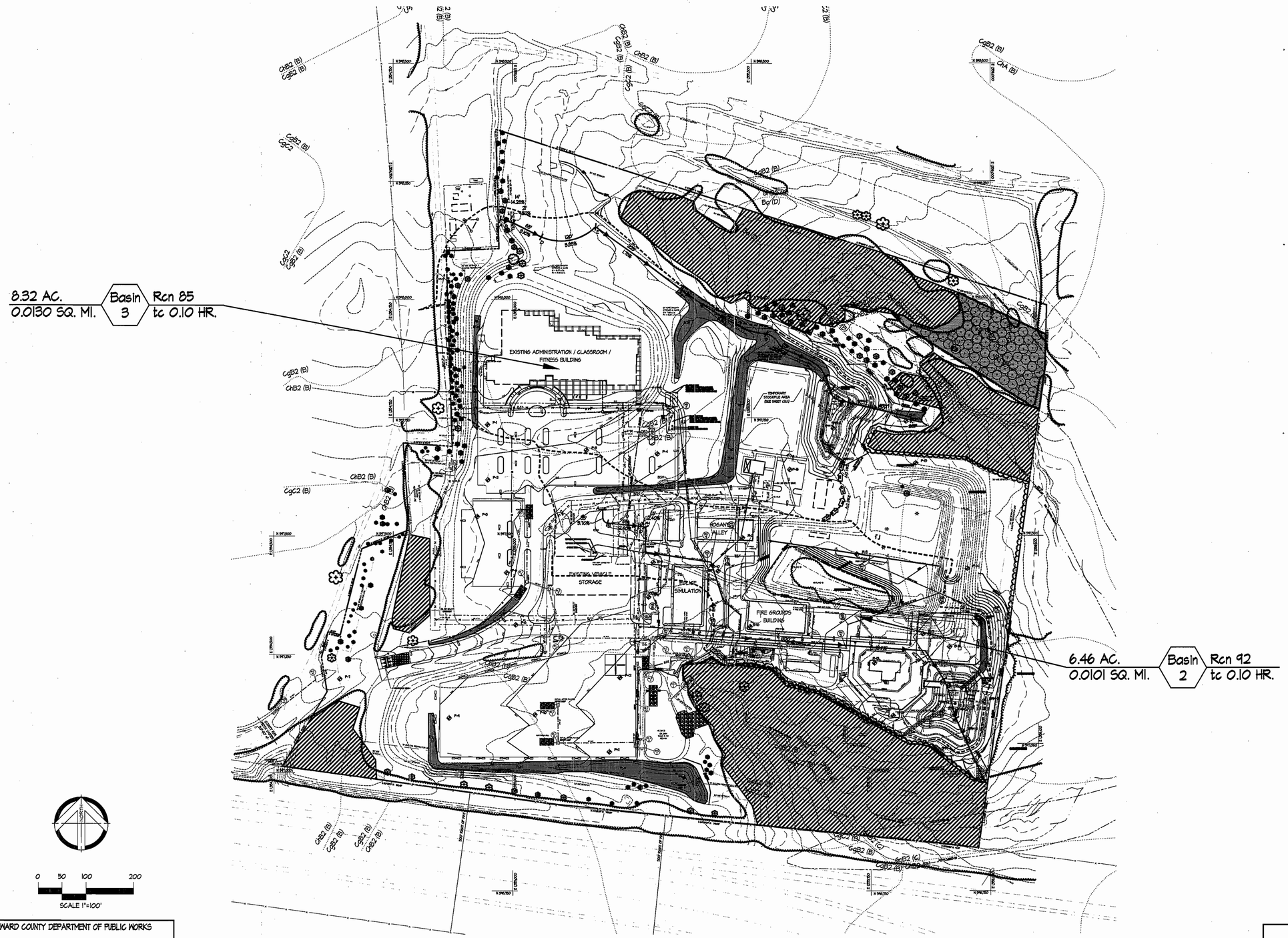
LEGEND - GRADING & SEC PLAN

- PROPERTY LINE
- 350 / 348 — EXISTING CONTOURS
- 350 / 348 — PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
- PROPOSED ROADS
- EX. 15" SD — EXISTING STORMDRAINS
- EX. 8" SAN — EXISTING SANITARY SEWER
- EX. 6" W — EXISTING WATER
- PROP. 8" WATER — PROPOSED WATER
- EXISTING ELECTRIC
- EXISTING GAS
- A-2 DIKE — EARTH DIKE
- LIMIT OF DISTURBANCE
- SSF — SUPER SILT FENCE
- TREE PROTECTION FENCE
- RRIP — RIPRAP INFLOW PROTECTION
- GMIP — GABION INFLOW PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM
- SSFIP — SUPER SILT FENCE INLET PROTECTION
- AGIP — AT GRADE INLET PROTECTION
- CIP — CURB INLET PROTECTION
- RPS — REMOVABLE PUMPING STATION
- PROPOSED FOREST CONSERVATION EASEMENT
- EXISTING FOREST CONSERVATION EASEMENT
- ECM — PROPOSED EROSION CONTROL MATTING
- 225' E — 1.78% — F — Tc PATH



REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE 10/19/06

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 10/19/06

ENGINEER'S CERTIFICATE

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ENGINEER — DATE 10/11/06

DEVELOPER'S CERTIFICATE

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DEVELOPER — DATE 10-12-06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/31/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/31/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/31/06

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — BRIAN E. WEBB — No. 19875 — PROFESSIONAL ENGINEER

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Temporary Stormwater Management Proposed Conditions Drainage Area Map

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.614
GRID No. 21/0, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C5.13

SCALE: 1"=100'

SHEET 52 OF 70

SDP - 06-110

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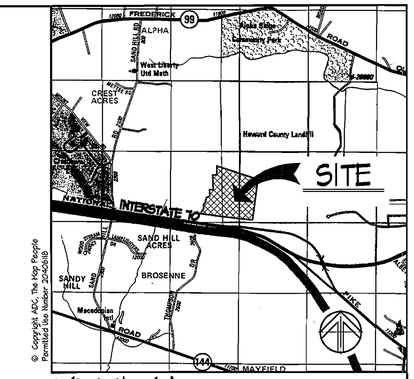

Vicinity Map

Scale: 1" = 2000'

LEGEND - DRAINAGE AREA MAP

	PROPERTY LINE
348 350	EXISTING CONTOURS
	EXISTING ROADS
EX. 24" RCCP	EXISTING STORM DRAINS
	EXISTING BUILDINGS
ChC2	EXISTING SOILS
	DRAINAGE AREA
D 200' 2.0% E	TC PATH
B	DRAINAGE AREA INDICATOR
* DP#2	DESIGN POINT

SOILS CHART		
SYMBOL	NAME	HYDROLOGIC SOIL GROUP
Ba	BAILE SILT LOAM	D
CgB2	CHESTER GRAVELLY SILT LOAM	B
CgC2	CHESTER GRAVELLY SILT LOAM	B
ChA	CHESTER SILT LOAM	B
ChB2	CHESTER SILT LOAM	B
GnB2	GLENVILLE SILT LOAM	C

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/9/06

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date 10/9/06

BY THE ENGINEER:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer — Date 10/11/06

KENNETH R. KLINSKY

Printed Name of Engineer

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Michael A. Giovanniello — Date 10-12-06

Michael A. Giovanniello

Printed Name

SCALE 1"=100'

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/26/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Existing Drainage Area Map

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

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PLAT No. 15716, L.6684 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

C6.01

SCALE: 1" = 100'

SHEET 53 OF 70

SDP - 06-110

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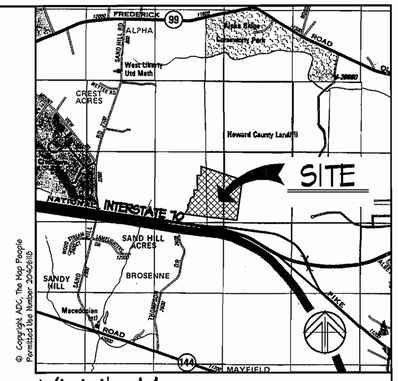

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Permitted Use Number 20406115

Vicinity Map

Scale: 1" = 2000'

LEGEND - DRAINAGE AREA MAP

	PROPERTY LINE
348 350	EXISTING CONTOURS
348 350	PROPOSED CONTOURS
	PROPOSED ROADS
PROP. 24" RCCP	PROPOSED STORMDRAINS
EX. 24" RCCP	EXISTING STORM DRAINS
	EXISTING BUILDINGS
	PROPOSED BUILDINGS
ChC2	EXISTING SOILS
FUT. 24" RCCP	FUTURE STORMDRAINS
	DRAINAGE AREA
D 20% 20% E	TC PATH
B	DRAINAGE AREA INDICATOR
* DP#2	DESIGN POINT

SOILS CHART		
SYMBOL	NAME	HYDROLOGIC SOIL GROUP
Ba	BAILE SILT LOAM	D
CgB2	CHESTER GRAVELLY SILT LOAM	B
CgC2	CHESTER GRAVELLY SILT LOAM	B
ChA	CHESTER SILT LOAM	B
ChB2	CHESTER SILT LOAM	B
GnB2	GLENVILLE SILT LOAM	C

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/9/06

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Howard Soil Conservation District — Date 10/9/06

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Signature of Engineer — Date 10/11/06

KENNETH R. KINSEY
Printed Name of Engineer

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature — Date 10-12-06

Michael S. Giovanniello
Printed Name

NORTH

0 50 100 200
SCALE 1"=100'

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 11/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KENNETH R. KINSEY — No. 11668 — PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Proposed Drainage Area Map

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 5716, L.6694 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 130, SEWER CODE: Private - Holding Tank

SCALE: 1" = 100'

SHEET 54 OF 70

C6.02

SDP - 06-110

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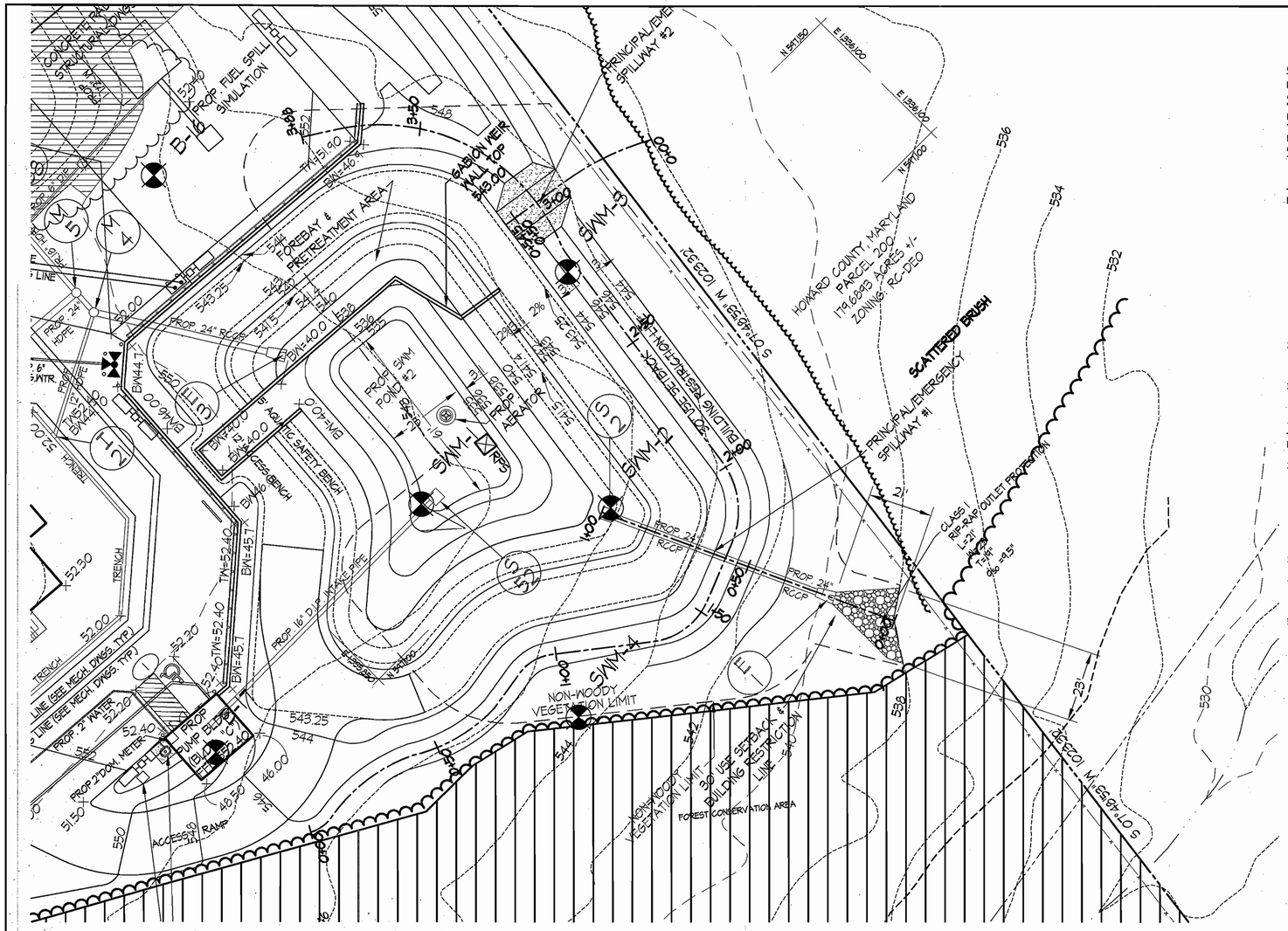

NOTE: TREES, SHRUBS, AND OTHER WOODY VEGETATION NOT ALLOWED WITHIN FIFTY (50) FEET OF THE INLET STRUCTURE AND NOT ALLOWED WITHIN FIFTEEN (15) FEET OF ANY PORTION OF THE EMBANKMENT.

0 10 20 40

SCALE 1"=20'

OPERATION, MAINTENANCE, AND INSPECTION

INSPECTIONS OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378), THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

INSPECTION SCHEDULE:

1. PRIOR NOTIFICATION SHALL BE GIVEN TO THE ENGINEER SO THAT INSPECTIONS MAY BE MADE AT THE FOLLOWING STAGES:
   - A. UPON COMPLETION OF EXCAVATION TO SUB FOUNDATION AND WHERE REQUIRED, INSTALLATION OF STRUCTURAL SUPPORTS OR REINFORCEMENT FOR STRUCTURES, INCLUDING BUT NO LIMITED TO:
     - I. CORE TRENCHES FOR STRUCTURAL EMBANKMENTS;
     - II. INLET-OUTLET STRUCTURES AND ANTI-SEEP STRUCTURES, WATERTIGHT CONNECTORS ON PIPES; AND
     - III. TRENCHES FOR ENCLOSED STORM DRAINAGE FACILITIES.

   NO WORK SHALL PROCEED UNTIL THE ENGINEER INSPECTS AND APPROVES THE WORK PREVIOUSLY COMPLETED.
2. GEOTECHNICAL COMPACTION TESTING OF THE FACILITY EMBANKMENT IS REQUIRED. CERTIFICATION MUST BE PROVIDED TO THE DESIGNATED ENGINEER IN CHARGE OF THE AS-BUILT.
3. A COPY OF ALL MATERIAL SUPPLY TICKETS MUST BE GIVEN TO THE DESIGNATED ENGINEER IN CHARGE OF THE AS-BUILT.

MAINTENANCE SCHEDULE

1. THE POND IS PUBLIC AND SHALL BE MAINTAINED BY HOWARD COUNTY.
2. THE FACILITY SHALL BE INSPECTED TWICE ANNUALLY, MARCH AND SEPTEMBER, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.
3. VEGETATED COVER SHALL BE MAINTAINED AT ALL TIMES.
4. RILLS ON THE SLOPES OF THE DAM AND WASHED IN THE EARTH SPILLWAY SHALL BE FILLED WITH SUITABLE MATERIAL AND THOROUGHLY COMPACTED. THESE AREAS SHALL BE RESEEDED OR RESODDED, LIMED, AND FERTILIZED AS NEEDED.
5. ALL APPURTENANCES SHALL BE KEPT FREE OF TRASH.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/19/06

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date 10/19/06

BY THE ENGINEER:

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Signature of Engineer — Date 10/11/06

KENNETH R. KINSEY
Printed Name of Engineer

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature — Date 10-12-06

Michael A. Giovanniello
Printed Name

DESIGN SUMMARY

	CD_v / 1 YEAR	10 YEAR	100 YEAR
EXISTING D.P. (c.f.s.) (TR-20 SEC. 8)	4.41	30.16	56.84
DEVELOPED BYPASS (c.f.s.) (TR-20 SEC. 7)	1.05	9.73	14.62
DEVELOPED EX. POND #1 (c.f.s.) (TR-20 STRUCT. 1)	0.19	20.14	36.92
ALLOWABLE RELEASE (c.f.s.)	3.67	0.24	0.35
DEVELOPED INFLOW (c.f.s.) (TR-20 SEC. 5)	11.66	28.48	43.54
DEVELOPED OUTFLOW (c.f.s.) (TR-20 STRUCT. 2)	.032	21.84	35.06
DEVELOPED D.P. (c.f.s.) (TR-20 SEC. 8)	1.45	50.85	90.73
WATER SURFACE ELEVATION	543.95	544.41	544.73
STORAGE PROVIDED PRETREATMENT (ac. ft.)	0.11	0.11	0.11
STORAGE PROVIDED WQ_v (WET POOL) (ac. ft.)	0.71	0.71	0.71
STORAGE PROVIDED CP_v (ac. ft.)	1.32	1.32	1.32
STORAGE PROVIDED TOTAL (ac. ft.)	1.32	1.51	1.61
WATERSHED	LITTLE PATUXENT RIVER (USE I-P)		
STRUCTURE TYPE	URBAN		
WATER QUALITY TYPE	WET POOL		
WET POOL SURFACE AREA (ACRES)	0.19		
STRUCTURE CLASSIFICATION	A		
STRUCTURE LOCATION	N 571,090 E 1,335,938		
STORAGE HEIGHT PRODUCT (AC. FT.)	4.54		
WATERSHED TO FACILITY (AC.)	7.05		
LEVEL MANAGEMENT REQUIRED	R_{ev} WQ_v CP_v		
LEVEL MANAGEMENT PROVIDED	R_{ev} WQ_v CP_v		
FREEBOARD REQUIRED (100 YR)	1.00'		
FREEBOARD PROVIDED (100 YR)	1.27' / CLOGGED 1.25'		
PRINCIPAL SPILLWAY CAPACITY 100 YR (c.f.s.)	14.08 / CLOGGED 14.13		
EMERGENCY SPILLWAY CAPACITY 100 YR (c.f.s.)	15.48 / CLOGGED 16.26		

LEGEND - STORMWATER MANAGEMENT

- PROPERTY LINE
- 348 350 — EXISTING CONTOURS
- 348 350 — PROPOSED CONTOURS
- PROPOSED ROADS
- 24" RCCP — PROPOSED STORMDRAINS
- PROP. 8" SAN. — PROPOSED SANITARY SEWER
- PROP. 8" WATER — PROPOSED WATER
- SWM-7 B-17 — EXISTING SOIL BORINGS
- PROPOSED BUILDINGS
- RPS — REMOVABLE PUMPING STATION

CONSULTANT'S HAZARD CLASS CERTIFICATION

I certify that this pond meets all requirements for hazard class (A). [Requirements as stated in the USDA NATURAL RESOURCES CONSERVATION SERVICE - MARYLAND CONSERVATION PRACTICE STANDARD FOR POND, CODE 378, JANUARY 2000.] All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to N.R.C.S./H.S.C.D.

Signature: _____ MD License No.: 13976 PE Date: 10/11/06

Print Name: KENNETH R. KINSEY

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/26/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/26/06

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STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — KENNETH R. KINSEY — No. 13976 — 10/11/2006

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

SWM Pond 2 Plan (Basin 2)

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

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Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.614
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C6.20

SCALE: 1"=20'

SHEET 55 OF 70

SDP - 06-110

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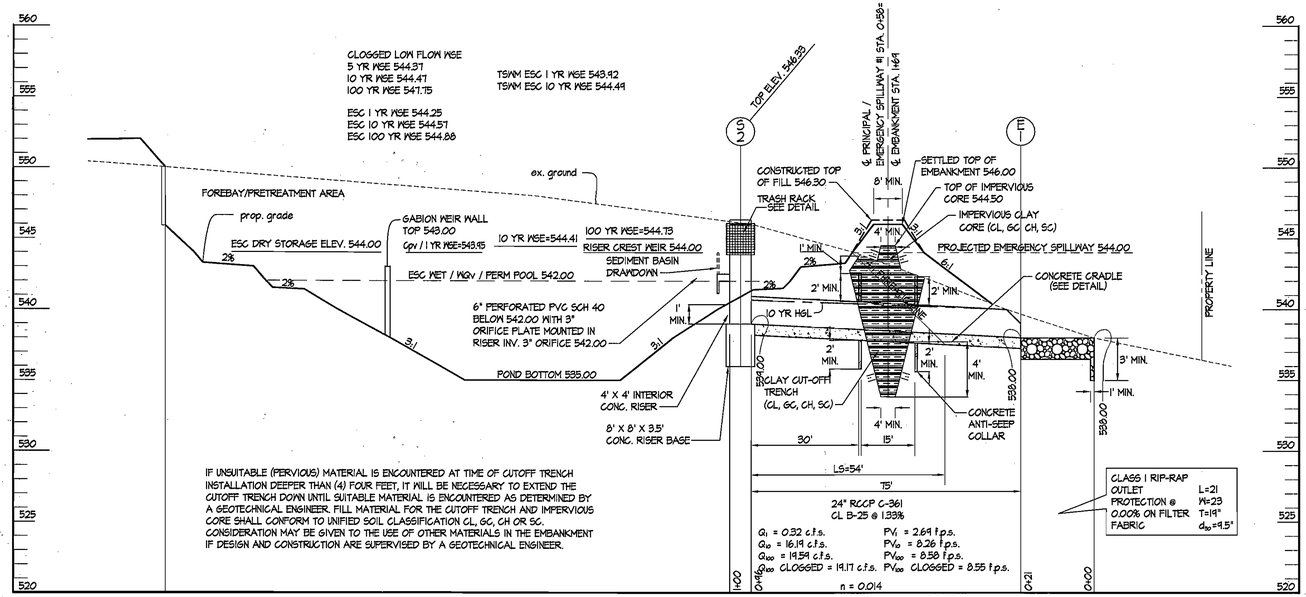
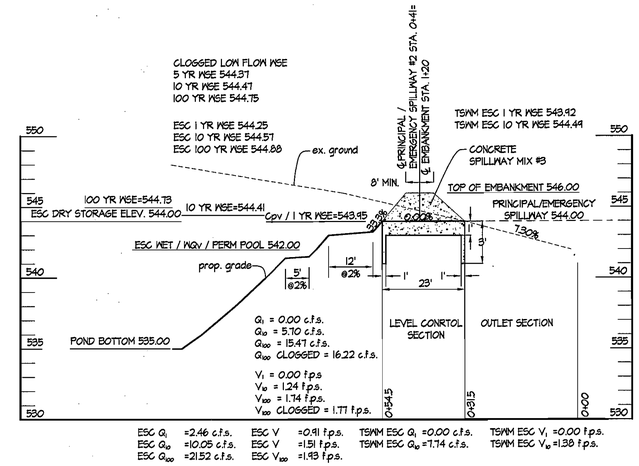


1 PROFILE ALONG CENTERLINE OF PRINCIPAL / EMERGENCY #1 SPILLWAY POND #2

SCALES: HORIZ.: 1" = 20'
VERT.: 1" = 5'

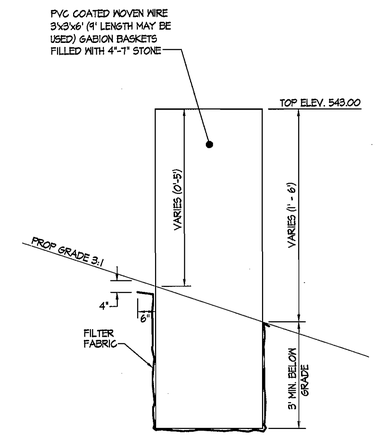


2 PROFILE ALONG CENTERLINE OF PRINCIPAL/EMERGENCY SPILLWAY #2 POND#2

SCALES: HORIZ.: 1" = 20'
VERT.: 1" = 5'

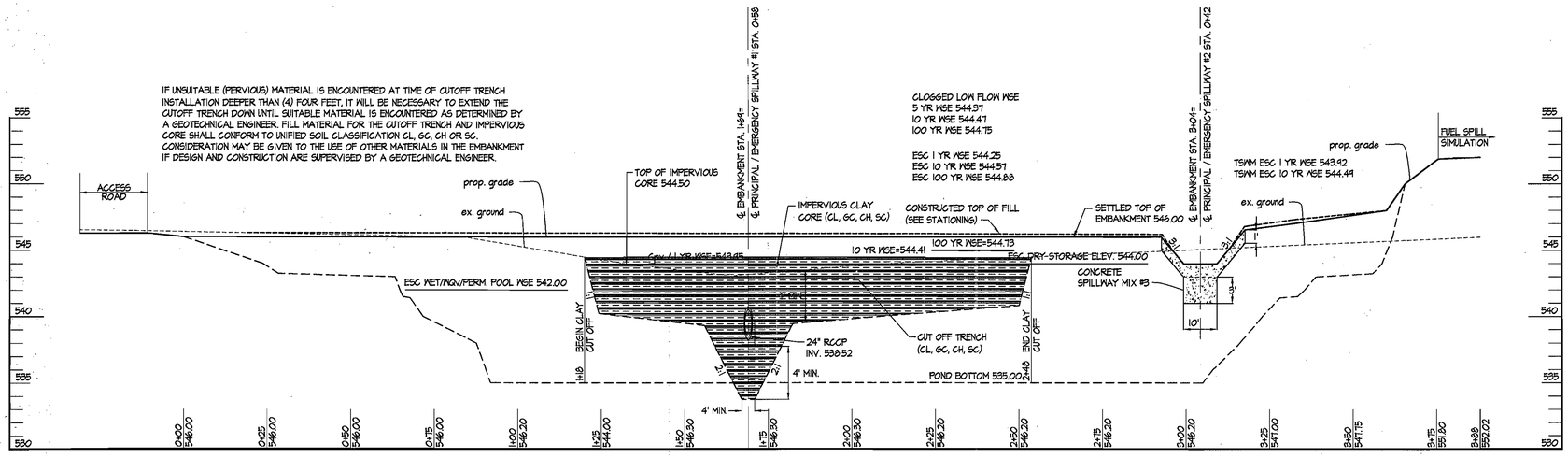
NOTES:

1. POND SIDE SLOPES ARE 3:1 UNLESS OTHERWISE NOTED.
2. CONCRETE ANTI-SEEP COLLARS SHALL BE TWO (2) FEET MINIMUM FROM PIPE JOINTS.
3. CONCRETE ANTI-SEEP COLLARS SHALL BE SPACED A MINIMUM OF TEN (10) FEET APART AND A MAXIMUM OF TWENTY-FIVE (25) FEET APART.
4. POND SHALL BE LINED WITH BENTOMAT CL OR APPROVED EQUIVALENT TO ELEVATION 542.00. BENTOMAT CL OR APPROVED EQUAL SHALL BE BURIED 1' BELOW SURFACE.



3 GABION WEIR WALL DETAIL

SCALES: 1" = 2'



4 PROFILE ALONG CENTERLINE OF EMBANKMENT POND#2

SCALES: HORIZ.: 1" = 20'
VERT.: 1" = 5'

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/19/06

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date 10/19/06

BY THE ENGINEER:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer — Date 10/11/06

KENNETH R. KINSEY
Printed Name of Engineer

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature — Date 10-12-06

Michael A. Giovanniello
Printed Name

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 10/30/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KENNETH R. KINSEY — No. 9871 — PROFESSIONAL ENGINEER

DES: CRW
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

SWM Pond 2
Profiles
(Basin 2)

600' SCALE MAP NO. 16 BLOCK NO. 2 / B

Phase II Improvements: four buildings, eight training props and associated infrastructure
PUBLIC SAFETY TRAINING CENTER
at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.619
GRID No. 2/B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C6.21

SCALE: As Shown

SHEET 56 OF 70

SDP - 06-110

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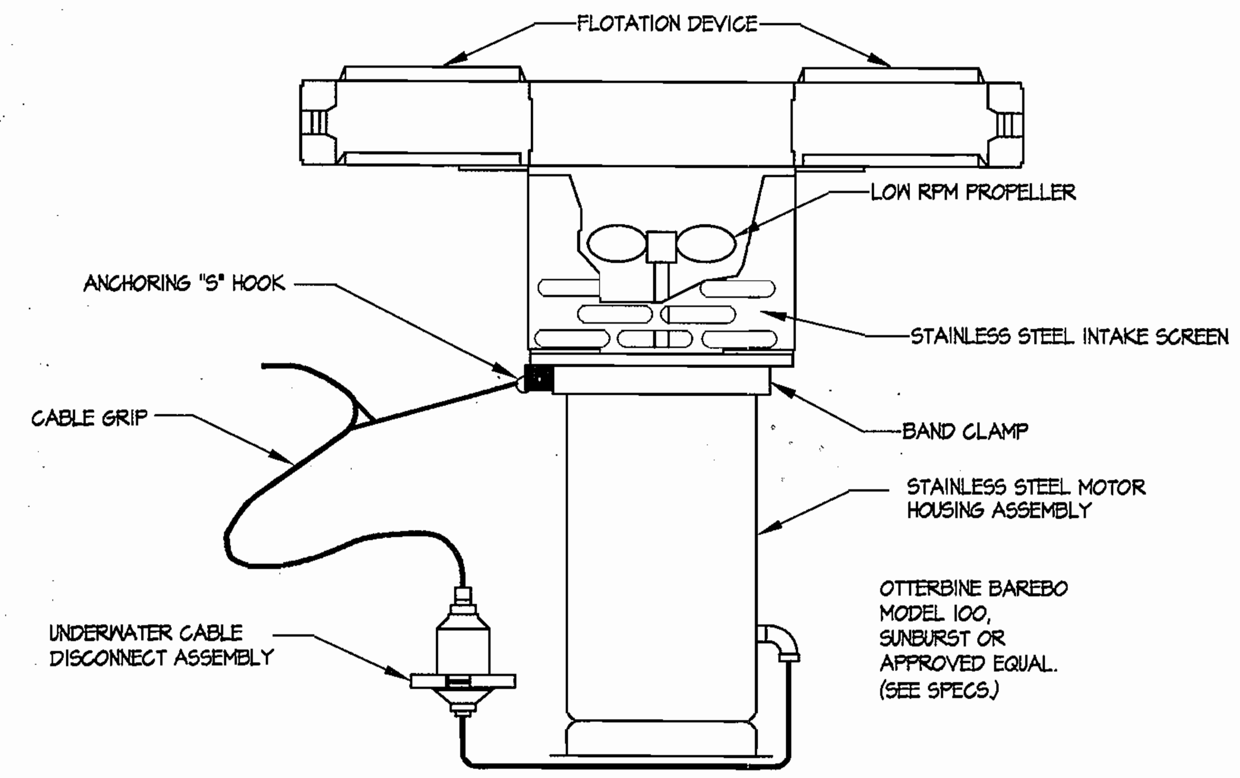
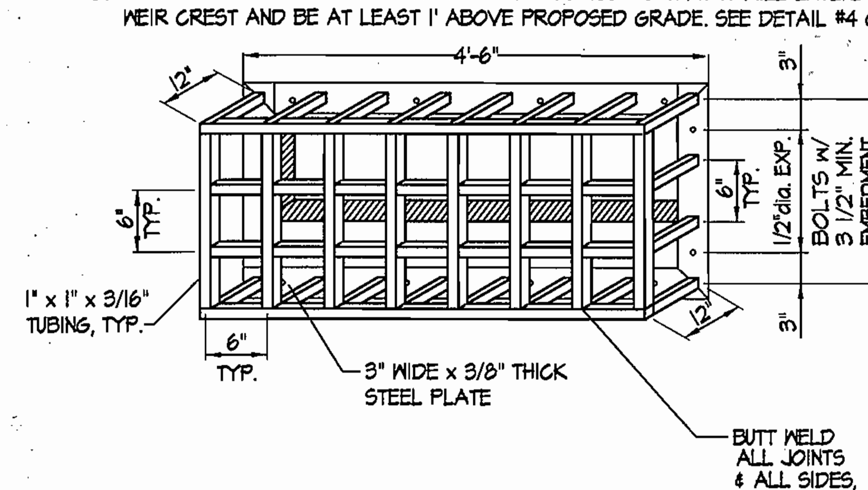


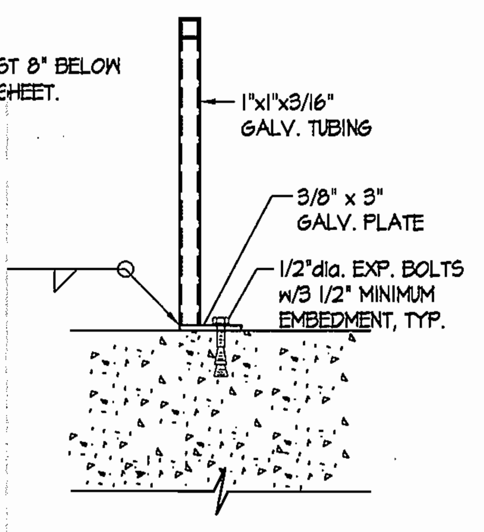
1 FLOATING SURFACE AERATOR DETAIL

NOT TO SCALE

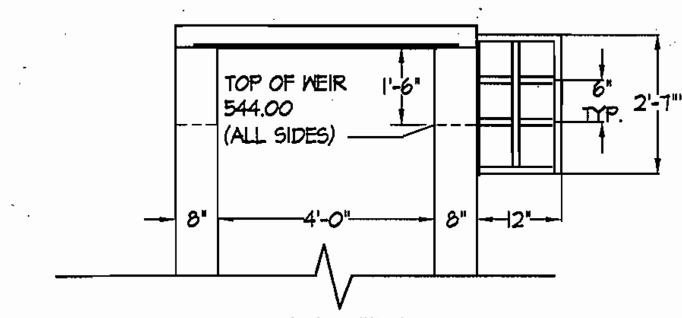
NOTES:
1. ALL MATERIALS SHALL BE HOT DIPPED GALVANIZED SHOP FABRICATED.
2. TRASH RACK SHALL BE FABRICATED AND MOUNTED TO THAT IT WILL EXTEND AT LEAST 8" BELOW WEIR CREST AND BE AT LEAST 1' ABOVE PROPOSED GRADE. SEE DETAIL #4 ON THIS SHEET.



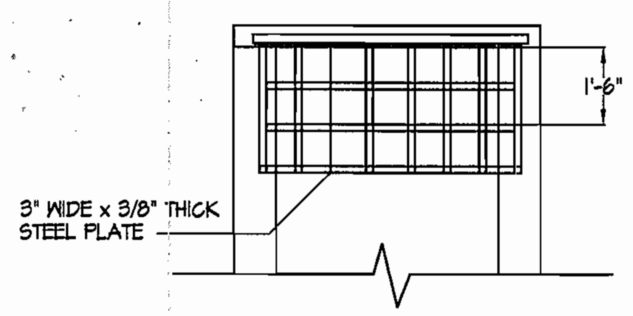
SIDE TRASH RACK DETAIL
N.T.S.



TRASH RACK CONNECTION DETAIL
N.T.S.



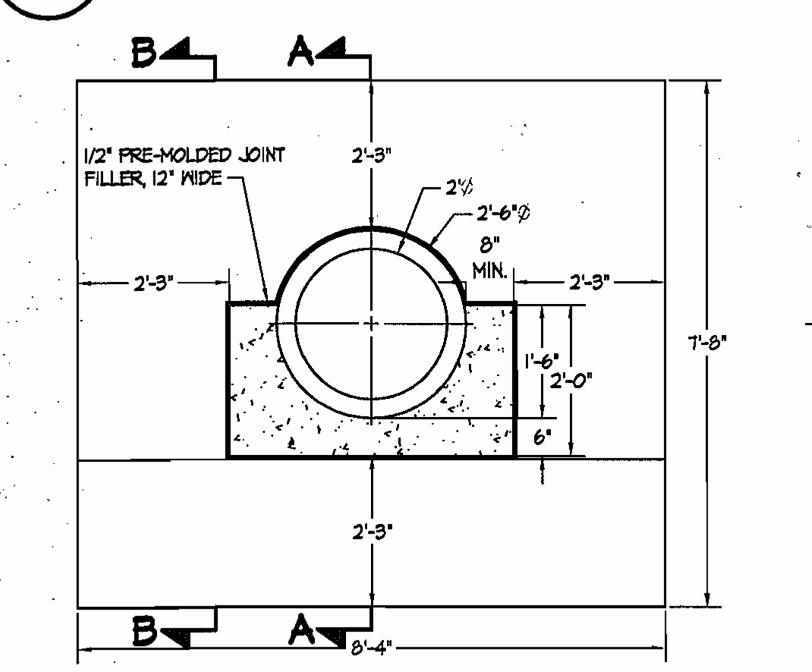
SIDE VIEW
N.T.S.



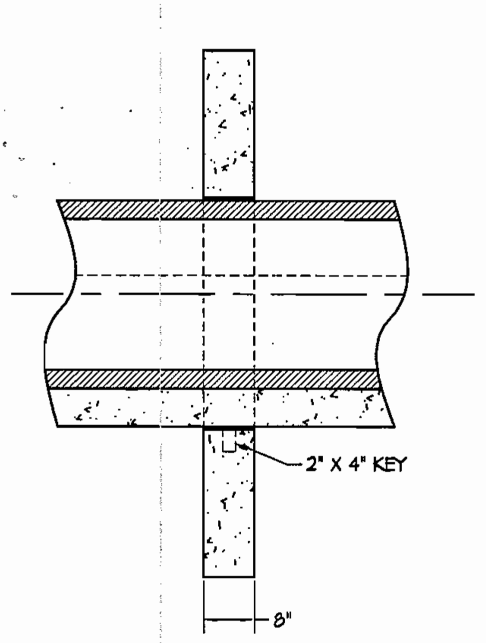
ELEVATION
N.T.S.

2 TRASH RACK DETAIL

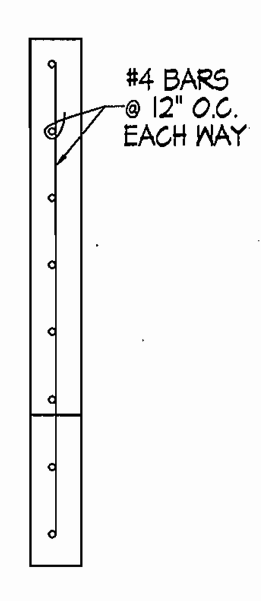
NOT TO SCALE



PLAN



SECTION A-A



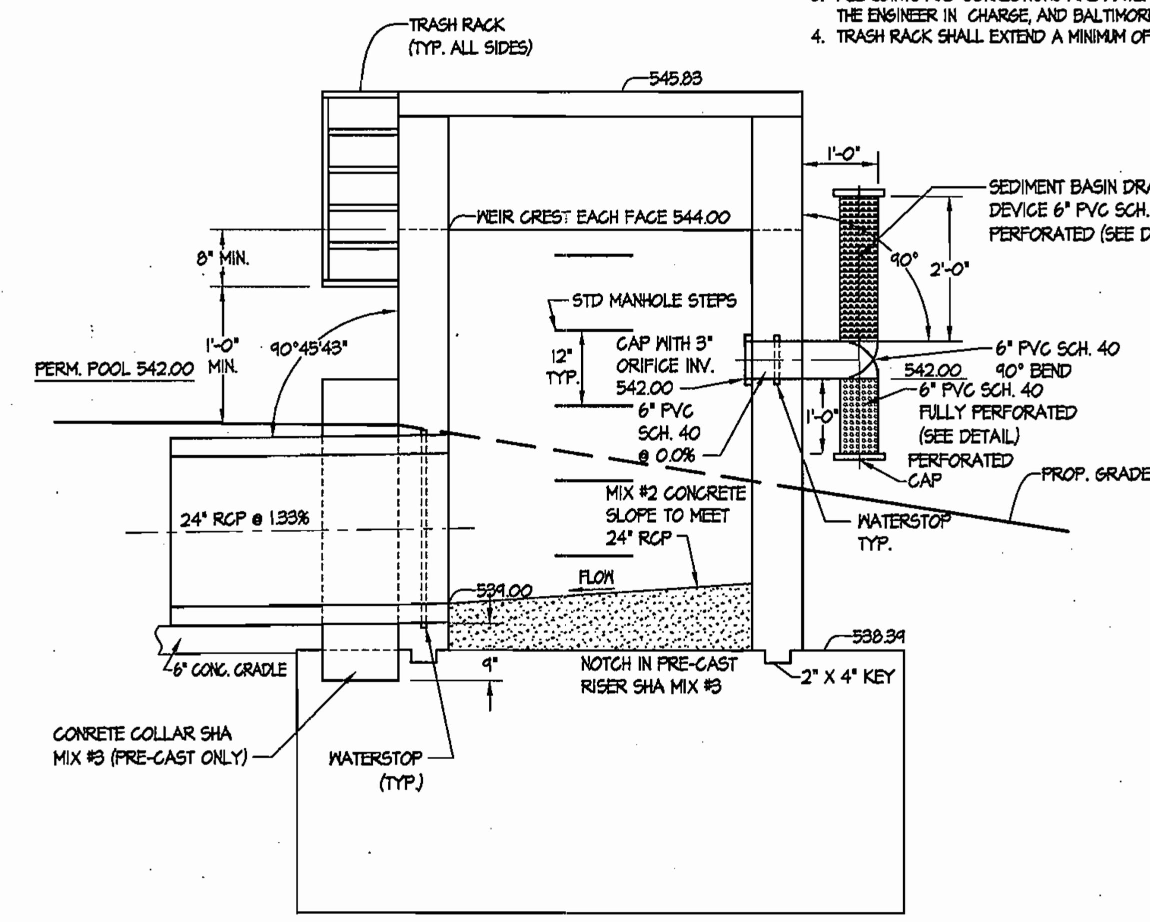
SECTION B-B

2 POND#2 CRADLE & ANTI-SEEP COLLAR DETAIL

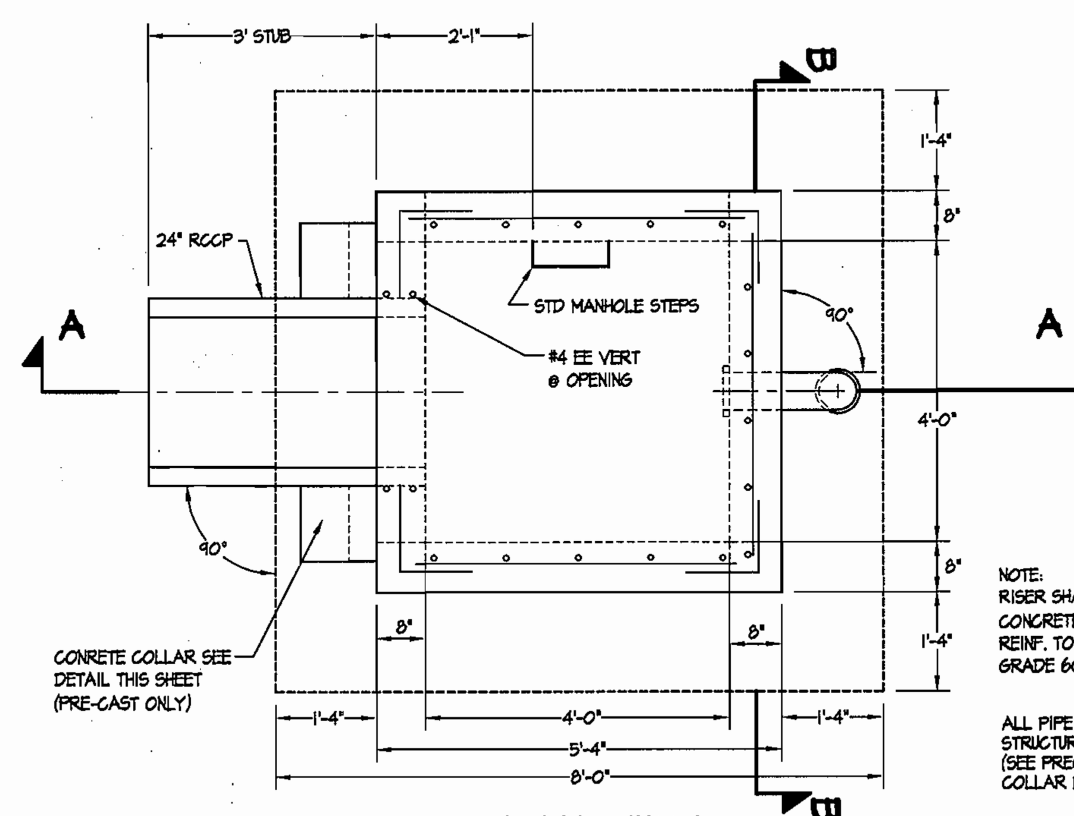
NOT TO SCALE

NOTE: PRE-CAST RISER IS AN ACCEPTABLE ALTERNATIVE TO THE CAST IN PLACE RISER SHOWN PROVIDED:

1. SHOP DRAWING WITH SUPPORTING STRUCTURAL COMPUTATIONS (SIGNED & SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER) MEETING ASTM REQUIREMENTS FOR PRE-CAST STRUCTURES MUST BE SUBMITTED TO THE ENGINEER, AND THE APPROVING AGENCY (HOWARD CO. DEPRM) FOR APPROVAL PRIOR TO FABRICATION.
2. IF ANY STRUCTURE DIMENSIONS VARY FROM WHAT WAS ORIGINALLY REVIEWED / APPROVED, THEN THE HYDRAULICS, FLOTATION AND STRUCTURAL INTEGRITY WILL HAVE TO BE RE-ANALYZED.
3. ALL JOINTS AND CONNECTIONS ARE WATERTIGHT. METHOD OF ACHIEVING A WATERTIGHT SEAL BETWEEN THE RISER STRUCTURE AND ALL CONDUITS (i.e., BARREL, AND LOW FLOW PIPES) SHALL BE APPROVED BY THE ENGINEER IN CHARGE, AND BALTIMORE COUNTY DEPRM PRIOR TO FABRICATION.
4. TRASH RACK SHALL EXTEND A MINIMUM OF 8 INCHES BELOW WEIR CREST AND BE AT LEAST 1 FOOT ABOVE GRADE.



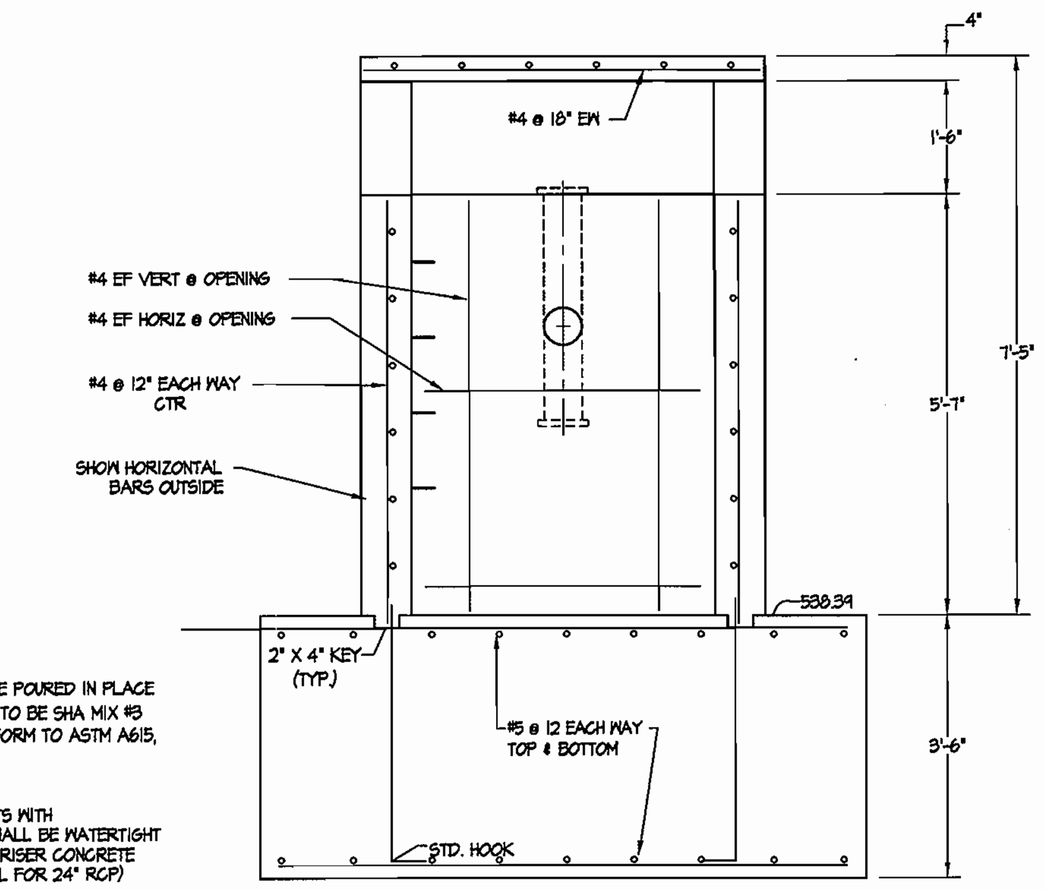
SECTION A-A



PLAN VIEW

NOTE:
RISER SHALL BE POURED IN PLACE CONCRETE MIX TO BE SHA MIX #3 REINF. TO CONFORM TO ASTM A615, GRADE 60

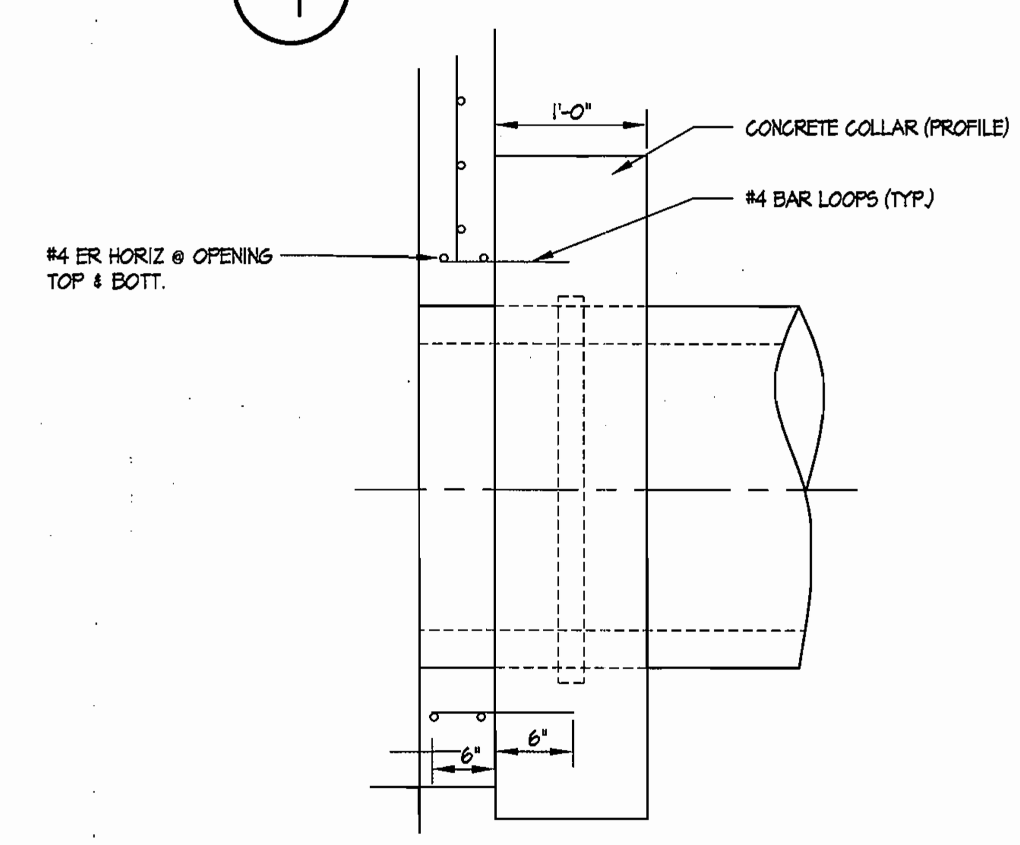
ALL PIPE JOINTS WITH STRUCTURES SHALL BE WATERTIGHT (SEE PRECAST RISER CONCRETE COLLAR DETAIL FOR 24" RCP)

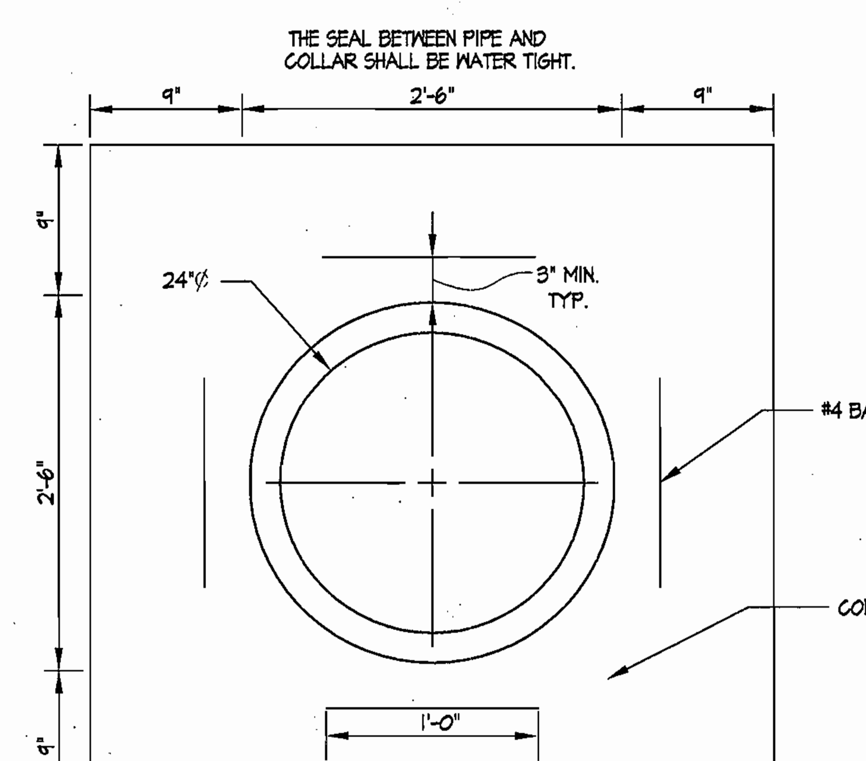


SECTION B-B

4 RISER STRUCTURE DETAIL

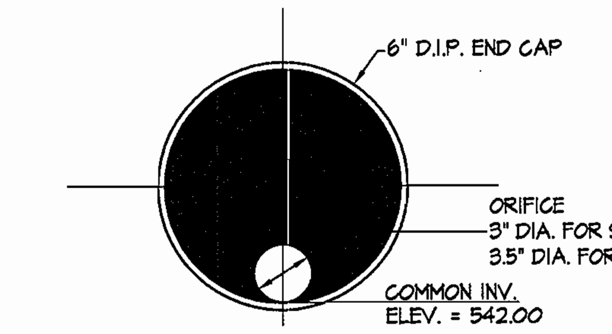
SCALE: 1" = 2'-0"





5 PRECAST RISER CONCRETE COLLAR DETAIL

NOT TO SCALE



6" PVC END CAP DETAIL

NOT TO SCALE

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/19/06

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date 10/19/06

BY THE ENGINEER:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer — Date 10/11/06

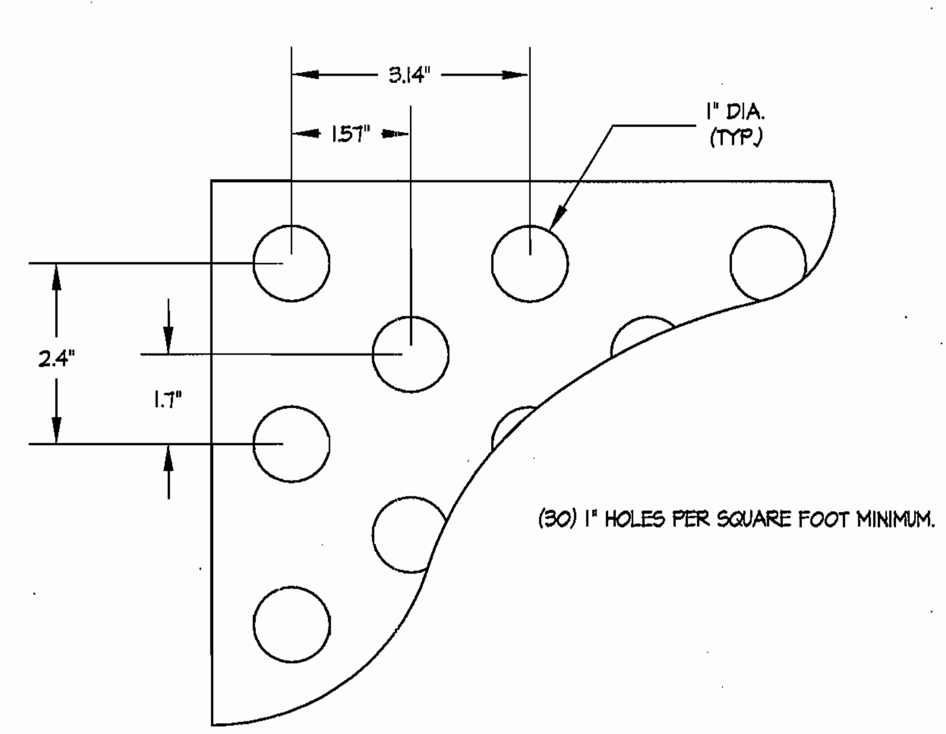
KENNETH R. KINSEY
Printed Name of Engineer

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

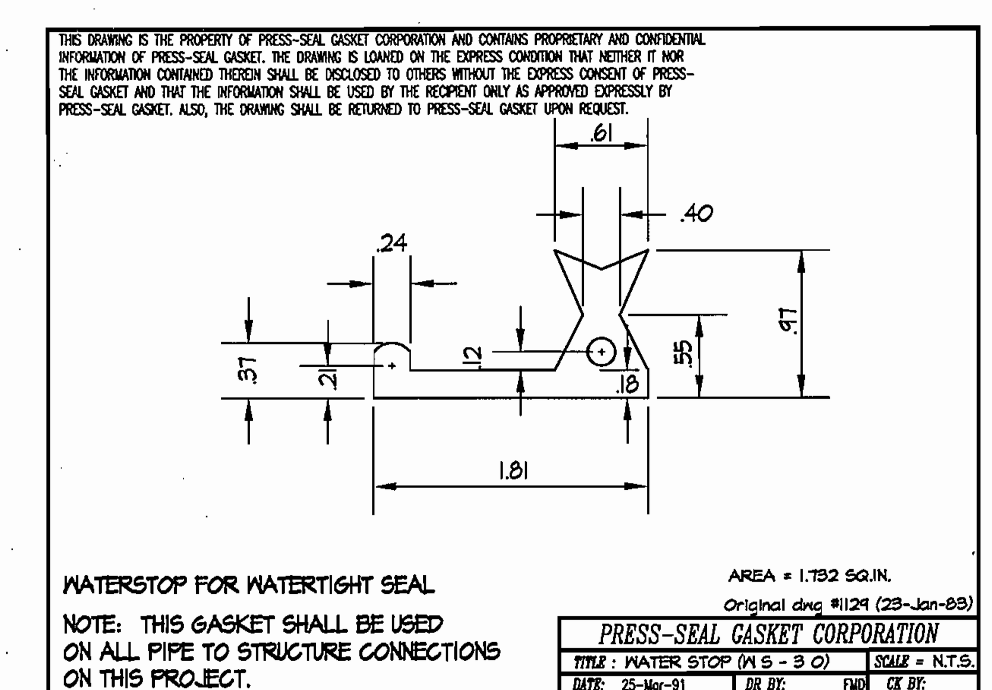
Michael A. Giovanniello — Signature — Date 10-12-06

Michael A. Giovanniello
Printed Name



PERFORATED PVC DETAIL
NOT TO SCALE

THIS DRAWING IS THE PROPERTY OF PRESS-SEAL GASKET CORPORATION AND CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION OF PRESS-SEAL GASKET. THE DRAWING IS LOANED ON THE EXPRESS CONDITION THAT NEITHER IT NOR THE INFORMATION CONTAINED THEREIN SHALL BE DISCLOSED TO OTHERS WITHOUT THE EXPRESS CONSENT OF PRESS-SEAL GASKET AND THAT THE INFORMATION SHALL BE USED BY THE RECIPIENT ONLY AS APPROVED EXPRESSLY BY PRESS-SEAL GASKET. ALSO, THE DRAWING SHALL BE RETURNED TO PRESS-SEAL GASKET UPON REQUEST.



WATERSTOP FOR WATERTIGHT SEAL

NOTE: THIS GASKET SHALL BE USED ON ALL PIPE TO STRUCTURE CONNECTIONS ON THIS PROJECT.

AREA = 1.732 SQ.IN.
Original dwg #1129 (23-Jan-83)

PRESS-SEAL GASKET CORPORATION			
TITLE : WATER STOP (W S - 3 O)			SCALE = N.T.S.
DATE: 25-Mar-91	DR BY:	FMD	CK BY:
M-4514	PART # : 129	DR # : 1 1 2 9 - C	

WATERSTOP DETAIL

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT	APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
for Robert J. Weber, COUNTY HEALTH OFFICER — 10/30/06 DATE	JAMES M. IRVIN, DIRECTOR — 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — 10/30/06 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION — 10/24/06 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT — 10/30/06 DATE

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

SWM Pond 2 Details (Basin 2)

600' SCALE MAP NO. 16 BLOCK NO. 2/8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Deptartment of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Cencus Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C6.22

SCALE: As Shown

SHEET 57 OF 70

SDP - 06-110

Z:\03\03153-HowardCo PublicSafetyCtr\dwg\C6.22_SWMPond2Details.dwg, 10/5/2006 11:18:01 AM, - Copyright, Site Resources, Inc.

NOTE: TREES, SHRUBS, AND OTHER WOODY VEGETATION NOT ALLOWED WITHIN FIFTY (50) FEET OF THE INLET STRUCTURE AND NOT ALLOWED WITHIN FIFTEEN (15) FEET OF ANY PORTION OF THE EMBANKMENT.

0 10 20 40

SCALE 1"=20'

Landscape Notes:

1. Quantities shown on the plant list are estimates only; the contractor is required to install the quantities labeled in plan view. Contractor shall notify Site Resources of any discrepancy between the quantities listed in the chart and quantities shown in plan view.
2. Plant material substitutions are subject to approval by the owner's representative.
3. Locations of all plant material shall be staked for approval by the owner's representative. Owner reserves the right to shift stakeout locations.
4. All shrub and groundcover areas shall be planted in continuous prepared beds, mulched with composted hardwood mulch as detailed and specified.
5. Planting beds shall have positive drainage with a minimum 2 percent slope.
6. Contractor shall verify accuracy of base information and existing conditions in the field to his own satisfaction. Bid shall be based on actual site conditions. No extra shall be made for work arising from site conditions differing from those indicated on drawings and specifications.
7. The contractor shall notify Miss Utility at 1-800-257-7777 a minimum of two working days prior to beginning planting and construction.
8. Damage to existing conditions and utilities shall be repaired and restored at the expense of the contractor.
9. All plant material shall be nursery grown and shall conform to American Association of Nurserymen, Inc. standards.
10. All planting procedures shall conform to the latest edition of Landscape Contractor Association Guidelines for the Baltimore/Washington metropolitan area, latest edition.
11. A minimum of 96" headroom is required for all handicap accessible spaces per ADAAG4.6.5.
12. At the time of installment, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning.
13. Should any tree designated for preservation for which landscaping credit is given, the owner will be required to replace the tree with the equivalent species or with a tree which will obtain the same height, spread, and growth characteristics. The replacement tree must be a minimum of 3 inches in caliper and installed as required in the Howard County Landscape Manual.
14. The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences, and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
15. Sediment control devices shall be installed and maintained, as needed, in accordance with local jurisdiction requirements. Stabilize all disturbed areas as soon as final grading has been completed. All disturbed areas shall be seeded with the exception of planting beds.
16. Install tree protection fencing along the limits of disturbance (lod) of the existing woods. All site grading, planting bed preparation, and tree and shrub planting must be done outside of the drip line of existing trees to be preserved in order to maintain and protect the root system.

SWM LANDSCAPE REQUIREMENTS

PERIMETER LANDSCAPING REQUIRED:	
Total Perimeter of Pond #2	= 966 LF
Length of Perimeter in Existing Woods	= 305 LF
Buffer Length of Pond #2	= 661 LF
Buffer Type	= B
Required Plantings, Buffer Type B	
1 Shade Tree per 50 LF Perimeter	= 14 Planting Units
1 Evergreen Tree per 40 LF Perimeter	= 17 Planting Units
Total Required Plantings	= 31 Planting Units
PERIMETER LANDSCAPING PROVIDED:	
Shade Trees	= 5 Planting Units
Evergreen Trees	= 8 Planting Units
Small Deciduous Trees (4 @ 2=1 Shade Tree)	= 2 Planting Units
Shrubs (40 @ 10=1 Shade Tree)	= 4 Planting Units
Total Provided Plantings	= 19 Planting Units *

*(1) Planting unit shall be equal to (1) shade tree or (1) evergreen tree or (2) small deciduous trees or (10) shrubs

NOTE:
Provided plantings do not exceed quantity required because available space is limited for the following reasons: 1. The non-woody vegetation limit extends to the property boundary to the east and to the existing woods to the south. 2. The use of this facility for safety training purposes requires greater than usual vehicular access. 3. The increased access makes necessary a retaining wall along the north and west sides of the facility.

SWM PLANT LIST, POND #2

KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	COMMENTS
SHADE TREES						
LS	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2 1/2"-3" CAL.	25'-30' O.C.	2	
NS	NYSSA SYLVATICA	BLACK GUM	2 1/2"-3" CAL.	25'-30' O.C.	3	
ORNAMENTAL TREES						
AC	AMALANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	8'-10' HT.	15' O.C.	4	MULTI-STEM
EVERGREEN TREES						
PS	PINUS STROBUS	EASTERN WHITE PINE	6'-8' HT.	20' O.C.	8	
SHRUBS						
CS	CORNUS SERICEA	REDOSIER DOGWOOD	#4B	7' O.C.	40	
EMERGENT/AQUATIC PLANTS						
CX	CAREX STRICTA	TUSSOCK SEDGE	1 QUART	12" O.C.	1270	
IP	IRIS PSEUDACORUS	YELLOW IRIS	1 QUART	18" O.C.	245	
IV	IRIS VERSICOLOR	BLUE IRIS	1 QUART	18" O.C.	236	
PV	PELTANDRA VIRGINICA	ARROW ARUM	1 QUART	12" O.C.	448	
PC	PONTEDERIA CORDATA	PICKERELWEED	1 QUART	12" O.C.	371	
SL	SAGITARIA LATIFOLIA	DUCK POTATO	1 QUART	12" O.C.	258	
SA	SCIRPUS ACUTUS	HARDSTEM BULRUSH	1 QUART	18" O.C.	215	
TA	TYPHA ANGUSTIFOLIA	NARROW-LEAVED CATTAIL	1 QUART	18" O.C.	159	

LEGEND - SWM PLANTING PLAN

- PROPERTY LINE
- EXISTING CONTOURS (348, 350)
- PROPOSED CONTOURS (348, 350)
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
- PROPOSED ROADS
- EXISTING TREES
- PROPOSED SHRUB
- PROPOSED ORNAMENTAL TREE
- PROPOSED SHADE TREE
- PROPOSED EVERGREEN TREE

PREPARED BY: KEVIN P. RILEY, RLA
STATE OF MARYLAND
REGISTERED LANDSCAPE ARCHITECT
REGISTRATION NO. 3231

NAME KPRiley DATE 10/11/06

DEVELOPER'S/BUILDER'S CERTIFICATE
I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Subdivision and Land Development Regulations and the Landscape Manual. I/We further certify that upon completion a letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Michael A. Giovaniello 10-12-06
Name Date

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.
USDA - NATURAL RESOURCES CONSERVATION SERVICE 10/26/06 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SOIL CONSERVATION DISTRICT 10/26/06 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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."
ENGINEER 10/11/06 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."
Michael A. Giovaniello 10-12-06
DEVELOPER DATE

CONSULTANT'S HAZARD CLASS CERTIFICATION
I certify that this pond meets all requirements for hazard class (A). [Requirements as stated in the USDA NATURAL RESOURCES CONSERVATION SERVICE - MARYLAND CONSERVATION PRACTICE STANDARD FOR POND, CODE 378, JANUARY 2000.] All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to NRCS/HSCD.
Signature: MD License No.: 13876 PE Date: 10/11/06
Print Name: KENNETH D. KLINSKY

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
for COUNTY HEALTH OFFICER 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR 10/30/06 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/24/06 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT 10/30/06 DATE

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND KEVIN PAT RICK RILEY No. 3231 LANDSCAPE ARCHITECT 10/11/06

DES: KPR					
DRN: AM					
CHK: REM					
DATE: 10/11/06	BY	NO.	REVISION	DATE	

SWM Pond 2
Planting Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure
PUBLIC SAFETY TRAINING CENTER
at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.614
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6080
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C6.23

SCALE: 1"=20'

SHEET 58 OF 70

SDP - 06-110

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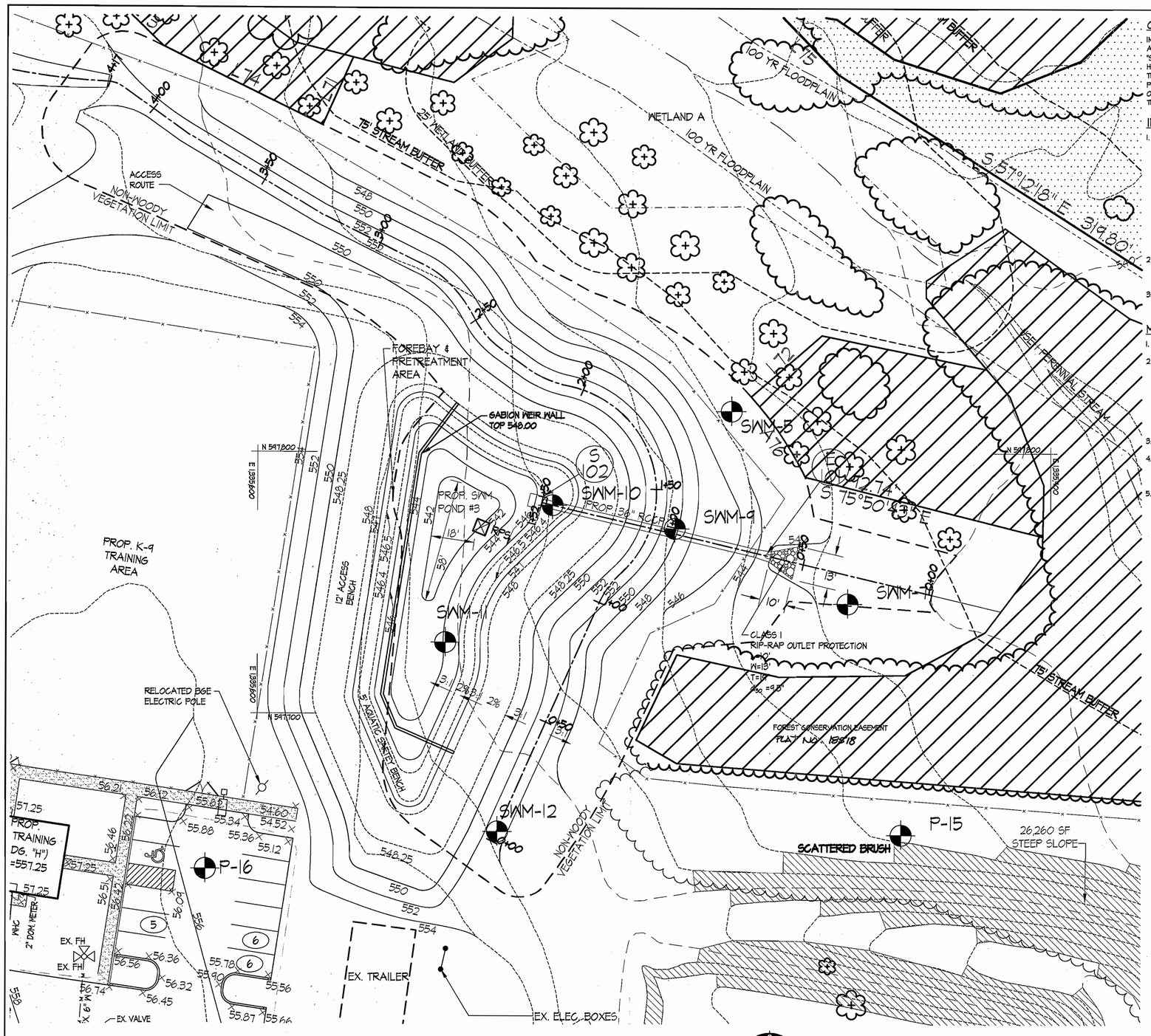

OPERATION, MAINTENANCE, AND INSPECTION

INSPECTIONS OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

INSPECTION SCHEDULE:

1. PRIOR NOTIFICATION SHALL BE GIVEN TO THE ENGINEER SO THAT INSPECTIONS MAY BE MADE AT THE FOLLOWING STAGES:
   - A. UPON COMPLETION OF EXCAVATION TO SUB FOUNDATION AND WHERE REQUIRED, INSTALLATION OF STRUCTURAL SUPPORTS OR REINFORCEMENT FOR STRUCTURES, INCLUDING BUT NOT LIMITED TO:
     - I. CORE TRENCHES FOR STRUCTURAL EMBANKMENTS;
     - II. INLET-OUTLET STRUCTURES AND ANTI-SEEP STRUCTURES, WATERTIGHT CONNECTORS ON PIPES; AND
     - III. TRENCHES FOR ENCLOSED STORM DRAINAGE FACILITIES.

   NO WORK SHALL PROCEED UNTIL THE ENGINEER INSPECTS AND APPROVES THE WORK PREVIOUSLY COMPLETED.
2. GEOTECHNICAL COMPACTION TESTING OF THE FACILITY EMBANKMENT IS REQUIRED. CERTIFICATION MUST BE PROVIDED TO THE DESIGNATED ENGINEER IN CHARGE OF THE AS-BUILT.
3. A COPY OF ALL MATERIAL SUPPLY TICKETS MUST BE GIVEN TO THE DESIGNATED ENGINEER IN CHARGE OF THE AS-BUILT.

MAINTENANCE SCHEDULE

1. THE POND IS PUBLIC AND SHALL BE MAINTAINED BY HOWARD COUNTY.
2. THE FACILITY SHALL BE INSPECTED TWICE ANNUALLY, MARCH AND SEPTEMBER, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.
3. VEGETATED COVER SHALL BE MAINTAINED AT ALL TIMES.
4. RILLS ON THE SLOPES OF THE DAM AND WASHED IN THE EARTH SPILLWAY SHALL BE FILLED WITH SUITABLE MATERIAL AND THOROUGHLY COMPACTED. THESE AREAS SHALL BE RESEEDED OR RESODDED, LIMED, AND FERTILIZED AS NEEDED.
5. ALL APPURTENANCES SHALL BE KEPT FREE OF TRASH.

DESIGN SUMMARY

	1 YEAR	10 YEAR	100 YEAR
EXISTING D.P. (c.f.s.) (TR-20 SEC. 3)	5.32	27.27	53.42
DEVELOPED BYPASS (c.f.s.) (TR-20 SEC. 2)	1.60	11.85	23.03
ALLOWABLE RELEASE (c.f.s.)	1.72	15.42	30.84
DEVELOPED INFLOW (c.f.s.) (TR-20 SEC. 1)	5.10	23.11	41.08
DEVELOPED OUTFLOW (c.f.s.) (TR-20 STRUCT. 3)	0.12	13.02	34.03
DEVELOPED D.P. (c.f.s.) (TR-20 SEC. 3)	1.69	21.17	56.19
WATER SURFACE ELEVATION	548.32	549.29	549.74
STORAGE PROVIDED PRETREATMENT (ac. ft.)	0.10	0.10	0.10
STORAGE PROVIDED WQ_v (WET POOL) (ac. ft.)	0.29	0.29	0.29
STORAGE PROVIDED CP_v (ac. ft.)	0.51	0.51	0.51
STORAGE PROVIDED TOTAL (ac. ft.)	0.51	0.86	1.04
WATERSHED	LITTLE PATUXENT RIVER (USE I-P)		
STRUCTURE TYPE	URBAN		
WATER QUALITY TYPE	WET POOL		
WET POOL SURFACE AREA (ACRES)	.011		
STRUCTURE CLASSIFICATION	A		
STRUCTURE LOCATION	N 547,781 E 1,335,705		
STORAGE HEIGHT PRODUCT (AC. FT.)	8.45		
WATERSHED TO FACILITY (AC.)	9.04		
LEVEL MANAGEMENT REQUIRED	R_{ev}	WQ_v	CP_v
LEVEL MANAGEMENT PROVIDED	R_{ev}	WQ_v	CP_v
FREEBOARD REQUIRED (100 YR)	2.00'		
FREEBOARD PROVIDED (100 YR)	2.26' / CLOGGED 2.23'		
PRINCIPAL SPILLWAY CAPACITY 100 YR (c.f.s.)	34.03 / CLOGGED 33.50		
EMERGENCY SPILLWAY CAPACITY 100 YR	NA		

LEGEND - STORMWATER MANAGEMENT

- PROPERTY LINE
- 348 350 — EXISTING CONTOURS
- 348 350 — PROPOSED CONTOURS
- PROPOSED ROADS
- 24" RCCP — PROPOSED STORMDRAINS
- PROP. 8" SAN. — PROPOSED SANITARY SEWER
- PROP. 8" WATER — PROPOSED WATER
- SWM-7 B-17 — EXISTING SOIL BORINGS
- RPS — REMOVABLE PUMPING STATION

0 10 20 40
SCALE 1"=20'

NOTE: TREES, SHRUBS, AND OTHER WOODY VEGETATION NOT ALLOWED WITHIN FIFTY (50) FEET OF THE INLET STRUCTURE AND NOT ALLOWED WITHIN FIFTEEN (15) FEET OF ANY PORTION OF THE EMBANKMENT.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/5/06

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date 10/19/06

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Michael A. Giovanniello — Date 10/12/06
Signature
Michael A. Giovanniello
Printed Name

CONSULTANT'S HAZARD CLASS CERTIFICATION

I certify that this pond meets all requirements for hazard class (A). (Requirements as stated in the USDA NATURAL RESOURCES CONSERVATION SERVICE - MARYLAND CONSERVATION PRACTICE STANDARD FOR POND, CODE 378, JANUARY 2000.) All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to N.R.C.S./H.S.C.D.

Signature: — MD License No.: 13876 PE — Date: 10/4/06
Print Name: KENNETH R. KINSEY

BY THE ENGINEER:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer — Date 10/11/06
KENNETH R. KINSEY
Printed Name of Engineer

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 10/25/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND KENNETH R. KINSEY No. 13876 PROFESSIONAL ENGINEER

DES: KFR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

SWM Pond 3 Plan (Basin 3)

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2100

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.69
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C6.30

SCALE: 1"=20

SHEET 59 OF 70

SDP - 06-110

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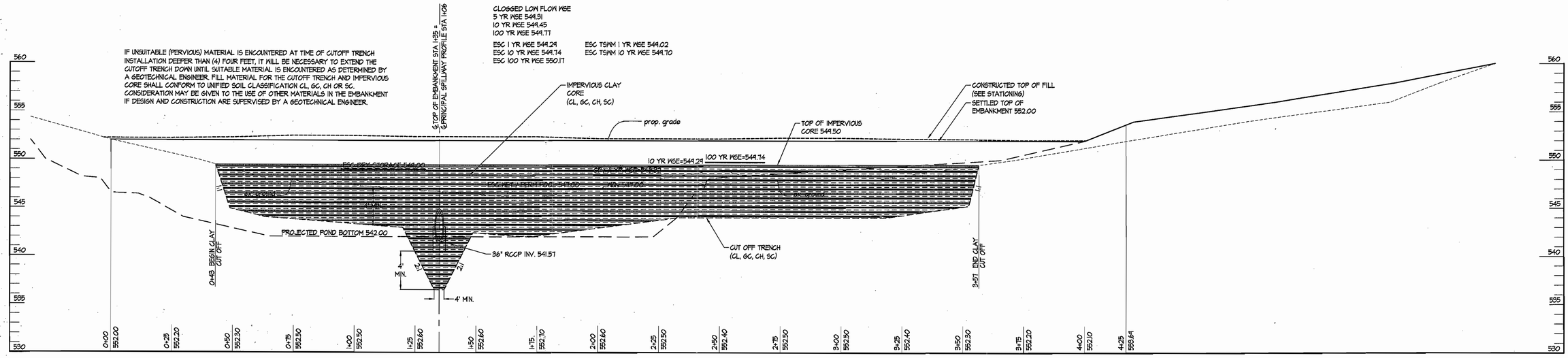
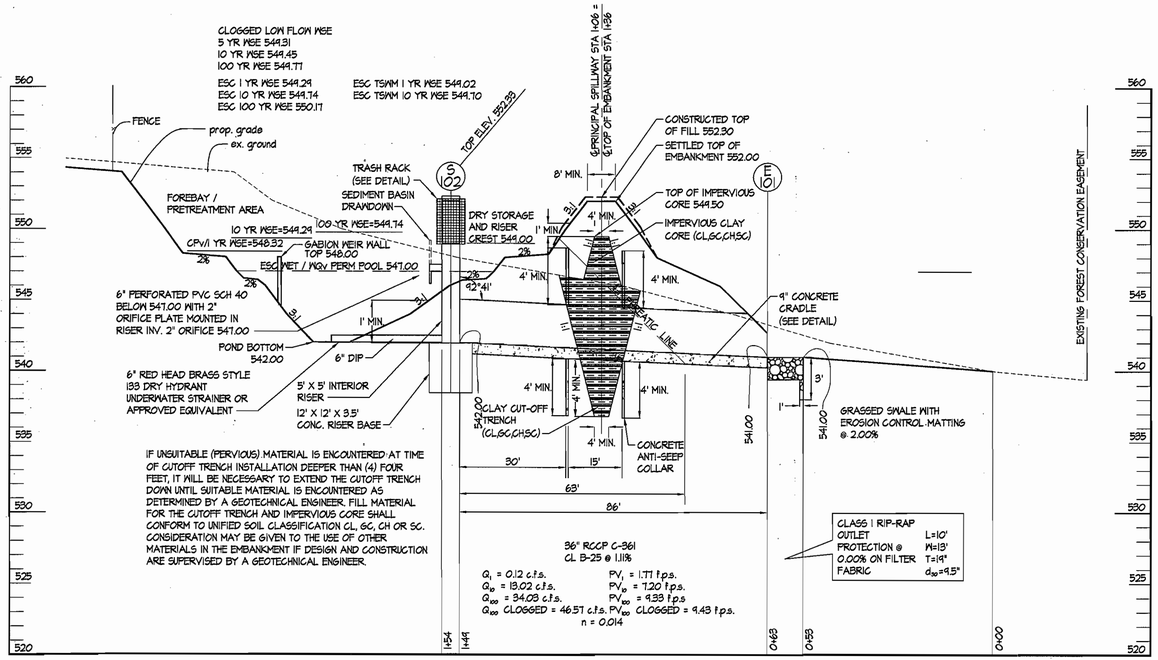


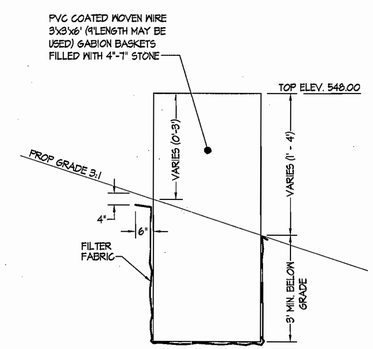
1 PROFILE ALONG CENTERLINE OF EMBANKMENT POND#3

SCALES: HORIZ.: 1" = 20'
VERT.: 1" = 5'



2 PROFILE ALONG CENTERLINE OF PRINCIPAL SPILLWAY POND #3

SCALES: HORIZ.: 1" = 20'
VERT.: 1" = 5'



3 GABION WEIR WALL DETAIL

SCALES: 1" = 2'

NOTES:

1. POND SIDE SLOPES ARE 3:1 UNLESS OTHERWISE NOTED.
2. CONCRETE ANTI-SEEP COLLARS SHALL BE TWO (2) FEET MINIMUM FROM PIPE JOINTS.
3. CONCRETE ANTI-SEEP COLLARS SHALL BE SPACED A MINIMUM OF TEN (10) FEET APART AND A MAXIMUM OF TWENTY-FIVE (25) FEET APART.
4. POND SHALL BE LINED WITH BENTOMAT CL OR APPROVED EQUIVALENT TO ELEVATION 542.00. BENTOMAT CL OR APPROVED EQUAL SHALL BE BURIED 1' BELOW SURFACE.

These plans have been reviewed for the Howard Soil Conservation District and meet the techical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/3/06

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date 10/9/06

BY THE ENGINEER:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer — Date 10/4/06

KENNETH R. KINSEY
Printed Name of Engineer

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature — Date 10/12/06

Michael A. Giovanniello
Printed Name

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 10/30/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KENNETH R. KINSEY — No. 11431 — PROFESSIONAL ENGINEER

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

SWM Pond 3
Profiles
(Basin 3)

600' SCALE MAP NO. 16 BLOCK NO. 2 / B

Phase II Improvements: four buildings, eight training props and associated infrastructure
PUBLIC SAFETY TRAINING CENTER
at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.614
GRID No. 2/B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C6.31

SCALE: As Shown

SHEET 60 OF 70

SDP - 06-110

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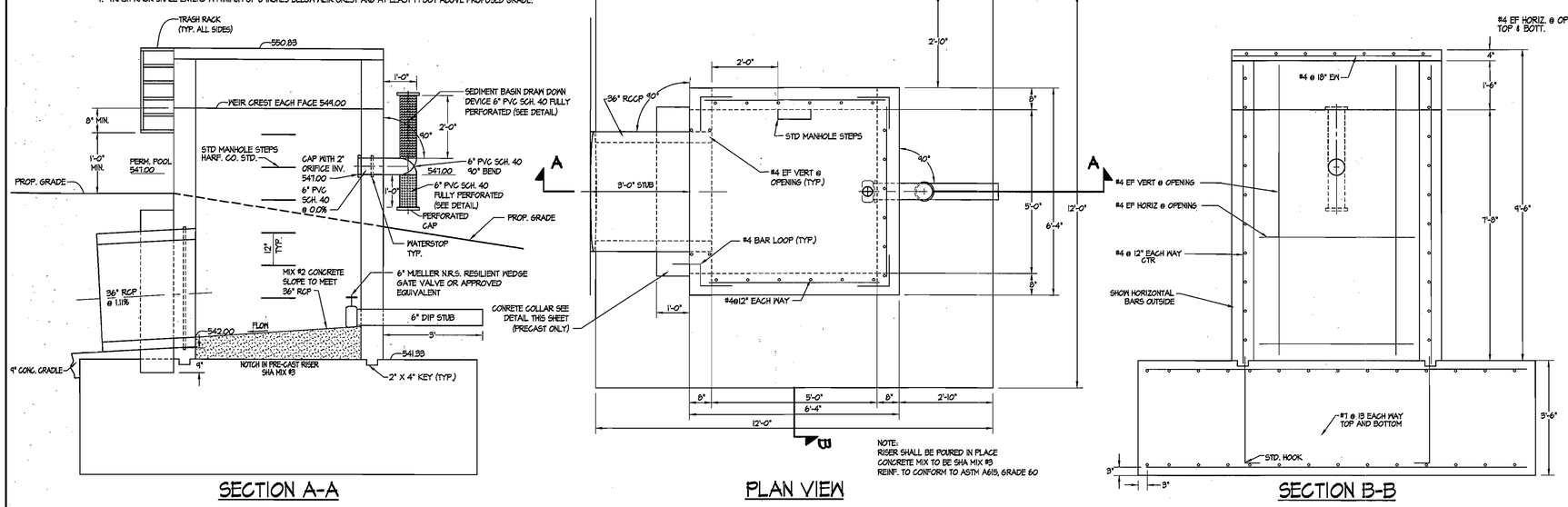
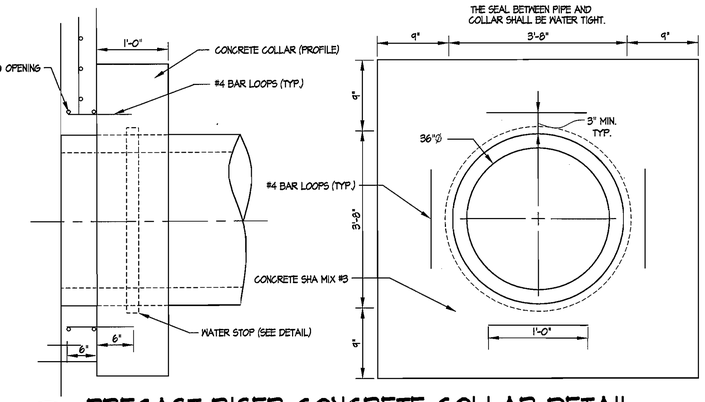
NOTE: PRE-CAST RISER IS AN ACCEPTABLE ALTERNATIVE TO THE CAST IN PLACE RISER SHOWN PROVIDED:

1. SHOP DRAWING WITH SUPPORTING STRUCTURAL COMPUTATIONS (SIGNED & SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER) MEETING ASTM REQUIREMENTS FOR PRE-CAST STRUCTURES MUST BE SUBMITTED TO THE ENGINEER, AND THE APPROVING AGENCY (HOWARD CO. DEPRM) FOR APPROVAL PRIOR TO FABRICATION.
2. IF ANY STRUCTURE DIMENSIONS VARY FROM WHAT WAS ORIGINALLY REVIEWED / APPROVED, THEN THE HYDRAULICS, FLOTATION AND STRUCTURAL INTESRITY WILL HAVE TO BE RE-ANALYZED.
3. ALL JOINTS AND CONNECTIONS ARE WATERTIGHT. METHOD OF ACHIEVING A WATERTIGHT SEAL BETWEEN THE RISER STRUCTURE AND ALL CONDUITS (i.e., BARREL, AND LOW FLOW PIPES) SHALL BE APPROVED BY THE ENGINEER IN CHARGE, AND BALTIMORE COUNTY DEPRM PRIOR TO FABRICATION.
4. TRASH RACK SHALL EXTEND A MINIMUM OF 8 INCHES BELOW WEIR CREST AND AT LEAST 1 FOOT ABOVE PROPOSED GRADE.



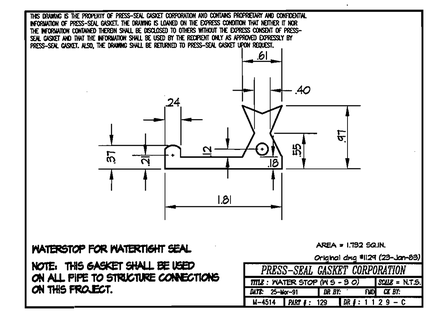
1 RISER STRUCTURE DETAIL

NOT TO SCALE



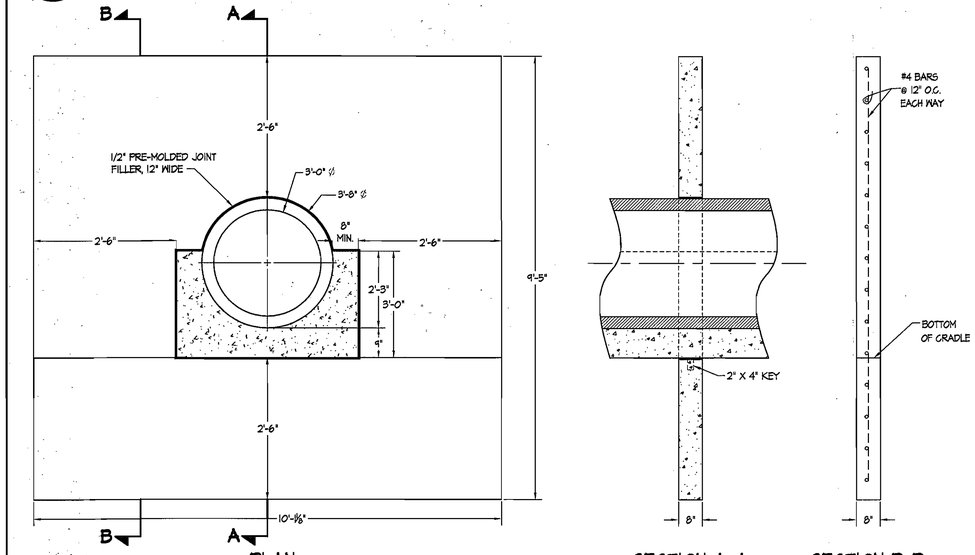
2 PRECAST RISER CONCRETE COLLAR DETAIL

NOT TO SCALE



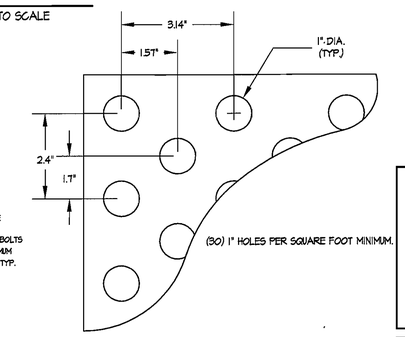
WATERSTOP DETAIL

NOT TO SCALE



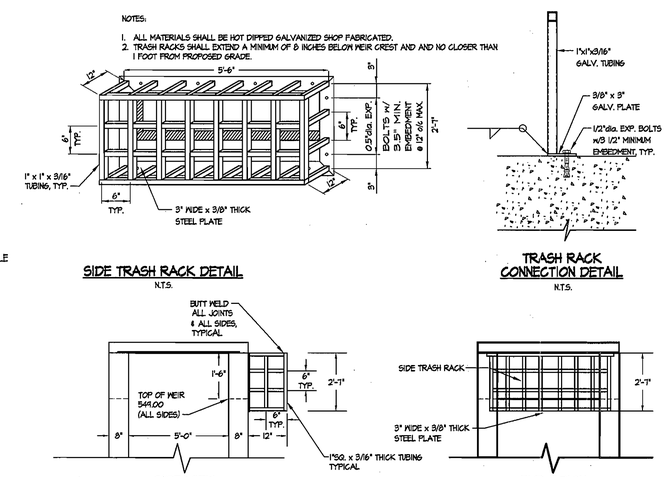
3 POND #3 CRADLE & ANTI-SEEP COLLAR DETAIL

NOT TO SCALE



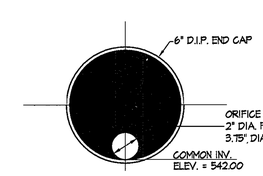
PERFORATED PVC DETAIL

NOT TO SCALE



4 TRASH RACK DETAIL

NOT TO SCALE



6" PVC END CAP DETAIL

NOT TO SCALE

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/19/06

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date 10/19/06

BY THE ENGINEER:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer — Date 10/11/06

Kenneth R. Kinsey
Printed Name of Engineer

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature — Date 10/12/06

Michael A. Giovanniello
Printed Name

C6.32

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/26/06

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KENNETH R. KINSEY — No. 13961 — PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

SWM Pond 3 Details (Basin 3)

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

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Howard County
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GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

SCALE: As Shown

SHEET 61 OF 70

SDP - 06-110

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SWM PLANT LIST, POND #3

KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	COMMENTS
SHADE TREES						
LS	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2 ½"-3" CAL.	25'-30' O.C.	5	
NS	NYSSA SYLVATICA	BLACK GUM	2 ½"-3" CAL.	25'-30' O.C.	6	
ORNAMENTAL TREES						
AC	AMALANCHIER CANADENSIS	SHADBLOW SERVICEBERRY	8'-10' HT.	15' O.C.	8	MULTI-STEM
EVERGREEN TREES						
PS	PINUS STROBUS	EASTERN WHITE PINE	6'-8' HT.	20' O.C.	16	
SHRUBS						
CS	CORNUS SERICEA	REDOSIER DOGWOOD	B&B	7' O.C.	40	
EMERGENT/AQUATIC PLANTS						
CX	CAREX STRICTA	TUSSOCK SEDGE	1 QUART	12" O.C.	901	
IP	IRIS PSEUDACORUS	YELLOW IRIS	1 QUART	18" O.C.	184	
IV	IRIS VERSICOLOR	BLUE IRIS	1 QUART	18" O.C.	302	
PV	PELTANDRA VIRGINICA	ARROW ARUM	1 QUART	12" O.C.	635	
PC	PONTEDERIA CORDATA	PICKERELWEED	1 QUART	12" O.C.	145	
SL	SAGITARIA LATIFOLIA	DUCK POTATO	1 QUART	12" O.C.	337	
SA	SCIRPUS ACUTUS	HARDSTEM BULRUSH	1 QUART	18" O.C.	250	
TA	TYPHA ANGUSTIFOLIA	NARROW-LEAVED CATTAIL	1 QUART	18" O.C.	221	

LEGEND - SWM PLANTING PLAN

- PROPERTY LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING ROADS
- PROPOSED ROADS
- EXISTING TREES
- PROPOSED SHRUB
- PROPOSED ORNAMENTAL TREE
- PROPOSED SHADE TREE
- PROPOSED EVERGREEN TREE

SWM LANDSCAPE REQUIREMENTS

PERIMETER LANDSCAPING REQUIRED:

Total Perimeter of Pond #3	= 805 LF
Length of Perimeter in Existing Woods	= 72 LF
Buffer Length of Pond #2	= 733 LF
Buffer Type	= B

Required Plantings, Buffer Type B

1 Shade Tree per 50 LF Perimeter	= 15 Planting Units
1 Evergreen Tree per 40 LF Perimeter	= 19 Planting Units
Total Required Plantings	= 34 Planting Units

PERIMETER LANDSCAPING PROVIDED:

Shade Trees	= 11 Planting Units
Evergreen Trees	= 16 Planting Units
Small Deciduous Trees (8 @ 2=1 Shade Tree)	= 4 Planting Units
Shrubs (40 @ 10=1 Shade Tree)	= 4 Planting Units
Total Provided Plantings	= 35 Planting Units *

*(1) Planting unit shall be equal to (1) shade tree or (1) evergreen tree or (2) small deciduous trees or (10) shrubs

Landscape Notes:

1. Quantities shown on the plant list are estimates only; the contractor is required to install the quantities labeled in plan view. Contractor shall notify Site Resources of any discrepancy between the quantities listed in the chart and quantities shown in plan view.
2. Plant material substitutions are subject to approval by the owner's representative.
3. Locations of all plant material shall be staked for approval by the owner's representative. Owner reserves the right to shift stakeout locations.
4. All shrub and groundcover areas shall be planted in continuous prepared beds, mulched with composted hardwood mulch as detailed and specified.
5. Planting beds shall have positive drainage with a minimum 2 percent slope.
6. Contractor shall verify accuracy of base information and existing conditions in the field to his own satisfaction. Bid shall be based on actual site conditions. No extra shall be made for work arising from site conditions differing from those indicated on drawings and specifications.
7. The contractor shall notify Miss Utility at 1-800-257-7777 a minimum of two working days prior to beginning planting and construction.
8. Damage to existing conditions and utilities shall be repaired and restored at the expense of the contractor.
9. All plant material shall be nursery grown and shall conform to American Association of Nurserymen, Inc. standards.
10. All planting procedures shall conform to the latest edition of Landscape Contractor Association Guidelines for the Baltimore/Washington metropolitan area, latest edition.
11. A minimum of 96" headroom is required for all handicap accessible spaces per ADAAG4.6.5.
12. At the time of installment, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning.
13. Should any tree designated for preservation for which landscaping credit is given, the owner will be required to replace the tree with the equivalent species or with a tree which will obtain the same height, spread, and growth characteristics. The replacement tree must be a minimum of 3 inches in caliper and installed as required in the Howard County Landscape Manual.
14. The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences, and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
15. Sediment control devices shall be installed and maintained, as needed, in accordance with local jurisdiction requirements. Stabilize all disturbed areas as soon as final grading has been completed. All disturbed areas shall be seeded with the exception of planting beds.
16. Install tree protection fencing along the limits of disturbance (lod) of the existing woods. All site grading, planting bed preparation, and tree and shrub planting must be done outside of the drip line of existing trees to be preserved in order to maintain and protect the root system.

PREPARED BY: KEVIN P. RILEY, RLA
STATE OF MARYLAND
REGISTERED LANDSCAPE ARCHITECT
REGISTRATION NO. 3231

NAME — DATE 10/11/06

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/19/06

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date 12/5/06

BY THE ENGINEER:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer — Date 10/11/06

KENNETH R. KLINSKY
Printed Name of Engineer

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature — Date 10/12/06

Michael A. Giovanniello
Printed Name

DEVELOPER'S/BUILDER'S CERTIFICATE

I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Subdivision and Land Development Regulations and the Landscape Manual. I/We further certify that upon completion a letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Name — Date 10-12-06

CONSULTANT'S HAZARD CLASS CERTIFICATION

I certify that this pond meets all requirements for hazard class (A). [Requirements as stated in the USDA NATURAL RESOURCES CONSERVATION SERVICE - MARYLAND CONSERVATION PRACTICE STANDARD FOR POND, CODE 378, JANUARY 2000.] All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to N.R.C.S./H.S.C.D.

Signature: — MD License No.: 13876 PE — Date: 10/11/06

Print Name: KENNETH R. KLINSKY

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 10/30/06

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

SCALE 1"=20'

NOTE: TREES, SHRUBS, AND OTHER WOODY VEGETATION NOT ALLOWED WITHIN FIFTY (50) FEET OF THE INLET STRUCTURE AND NOT ALLOWED WITHIN FIFTEEN (15) FEET OF ANY PORTION OF THE EMBANKMENT.

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND KEVIN PATRICK RILEY No. 3231 REGISTERED LANDSCAPE ARCHITECT — 10/11/06

DES: KPR	
DRN: AM	
CHK: REM	
DATE: 10/11/06	

BY	NO.	REVISION	DATE

SWM Pond 3 Planting Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6694 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C6.33

SCALE: 1"=20

SHEET 62 OF 70

SDP - 06-110

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SWM POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 20 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to United Soil Classification SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tied or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

The minimum required density shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Removal and Replacement of Defective Fill

Fill placed at densities lower than specified minimum density or at moisture contents outside the specified acceptable range of moisture content or otherwise not conforming to the requirements of the specifications shall be reworked to meet the requirements or removed and replaced by acceptable fill.

The bottoms of such excavations shall be finished flat or gently curving and at the sides of such excavations the adjacent sound fill shall be trimmed to a slope not steeper than 3 feet horizontally to 1 foot vertically extending from the bottom of the excavation to the fill surface.

Pipe Conduits

All pipes shall be circular in cross section.

Ductile Iron Pipe And Fittings

1. Mechanical-Joint, Ductile Iron Pipe: AWWA C151, with mechanical-joint, bell- and plain-spigot end unless grooved or flanged ends are indicated; Class 52.
2. Joints: All joints must be mechanical and completely watertight.
   a. Glands, Gaskets, and Bolts: AWWA C111, ductile or gray iron glands, rubber gaskets, and steel bolts.
   b. Push-on-Joint, Ductile Iron Pipe: AWWA C151, with push-on-joint, bell and plain spigot end unless grooved or flanged ends are indicated; Class 52.
   c. Push-on-Joint, Ductile Iron Fittings: AWWA C110, ductile or gray iron standard pattern or AWWA C153, ductile iron compact pattern.
3. Fittings: AWWA C110, ductile or gray iron standard pattern or AWWA C153, ductile iron compact pattern; Class D or Class 250.
4. Gaskets: AWWA C111, rubber.
5. Backfilling shall conform to 'Structural Backfill'.

Reinforced Concrete Pipe

All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.
2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding /cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Gravel bedding is not permitted.
3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacture of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation form the original line of grade of the pipe. The first joint must be located within 4 feet from the riser.
4. Backfilling shall conform to "Structure Backfill".
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe

All of the following criteria shall apply for all plastic pipe:

1. Materials: PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4-10 inch pipe shall meet the requirements of AASHTO M252 Type S, and 12-24 inch shall meet the requirements of AASHTO M294 Type S.
2. Joints and connections to anti-seep collars shall be completely watertight.
3. Bedding: The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
4. Backfilling shall conform to 'Structure Backfill'.
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Rip Rap

Rock Rip Rap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, and pond bottom shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications For Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

Seeding

Seeding, fertilizing and mulching shall be as follows:

Seed Mix:
50% Kenblue Kentucky Bluegrass
40% Pennlawn Creeping Red Fescue
10% Streaker Redtop
Applied at a rate of 150 lbs. per acre.
or
Rebel II Tall Fescue (125 lbs. per acre)
Pennfine Perennial Ryegrass (15 lbs. per acre)
Kenblue Kentucky Bluegrass (10 lbs. per acre)
or
Pennlawn Creeping Red Fescue (70 lbs. per acre)
Aurora Hard Fescue (50 lbs. per acre)
Common White Clover (6 lbs. per acre)
Winter Rye (45 lbs. per acre)
or
70% Forager Tall Fescue
30% Chemung Crownvetch, inoculated
Applied at a rate of 55 lbs. per acre
Optimum seeding dates: March 1 to April 30

Lime: 2 tons/acre Dolomitic Limestone

Fertilizer: 600 lbs./acre 10-10-10 fertilizer before seeding.
400 lbs./acre 30-0-0 urea fertilizer at time of seeding.

Mulch: Straw at 4,000 lbs. per acre.

Anchoring: Mulching tool or wood cellulose fiber binder at a net dry binder rate of 750 lbs. per acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water or at rates recommended by the manufacturer.

Filter Cloth

All filter cloth shall conform to the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control, or the latest edition.

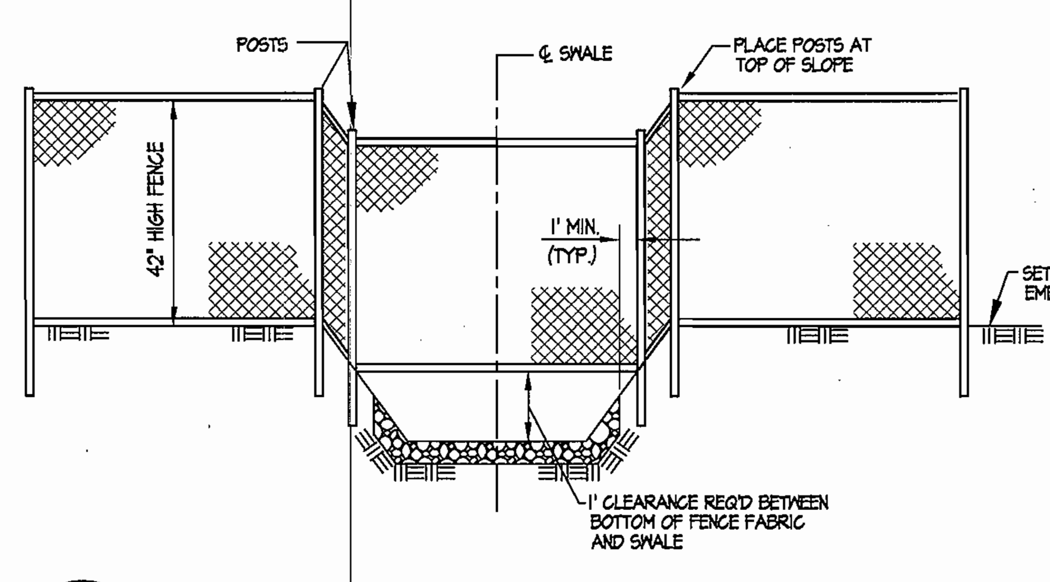
Gabions

All gabions shall be PVC coated woven wire baskets. Stone size shall be 4 inches to 7 inches. (Class IV gabions)

Construction Inspection by Designated Engineers

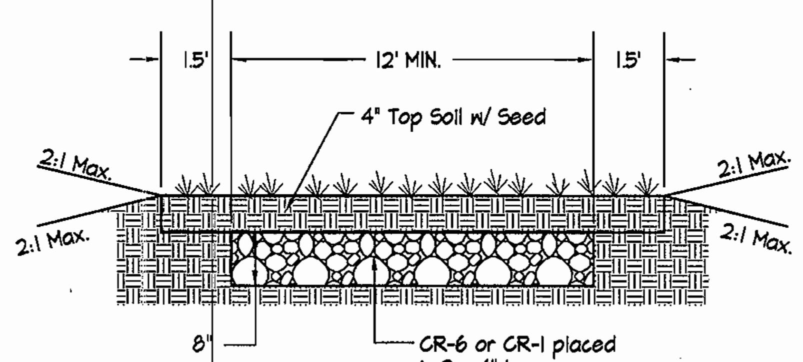
The construction of the pond and embankment and certification that the pond and embankment have been built in accordance with the plans shall be under the supervision of a Registered Professional Engineer. The Engineer shall be notified sufficiently in advance of construction in order that arrangements can be made for (1) inspection of pipe trench and bedding, (2) inspection of riser and anti-seep collars and (3) supervision of embankment construction, minor changes not affecting the integrity of the dam in order to compensate for unusual soil conditions, and the removal and replacement of defective fill.

NOTE : IT IS THE CONTRACTOR'S RESPONSIBILITY, ON BEHALF OF THE OWNER, TO ENGAGE A LICENSED PROFESSIONAL ENGINEER TO CERTIFY THE STORMWATER MANAGEMENT FACILITY AND TO PREPARE AND SUBMIT AS-BUILT DRAWINGS.



1 DETAIL OF FENCE CROSSING

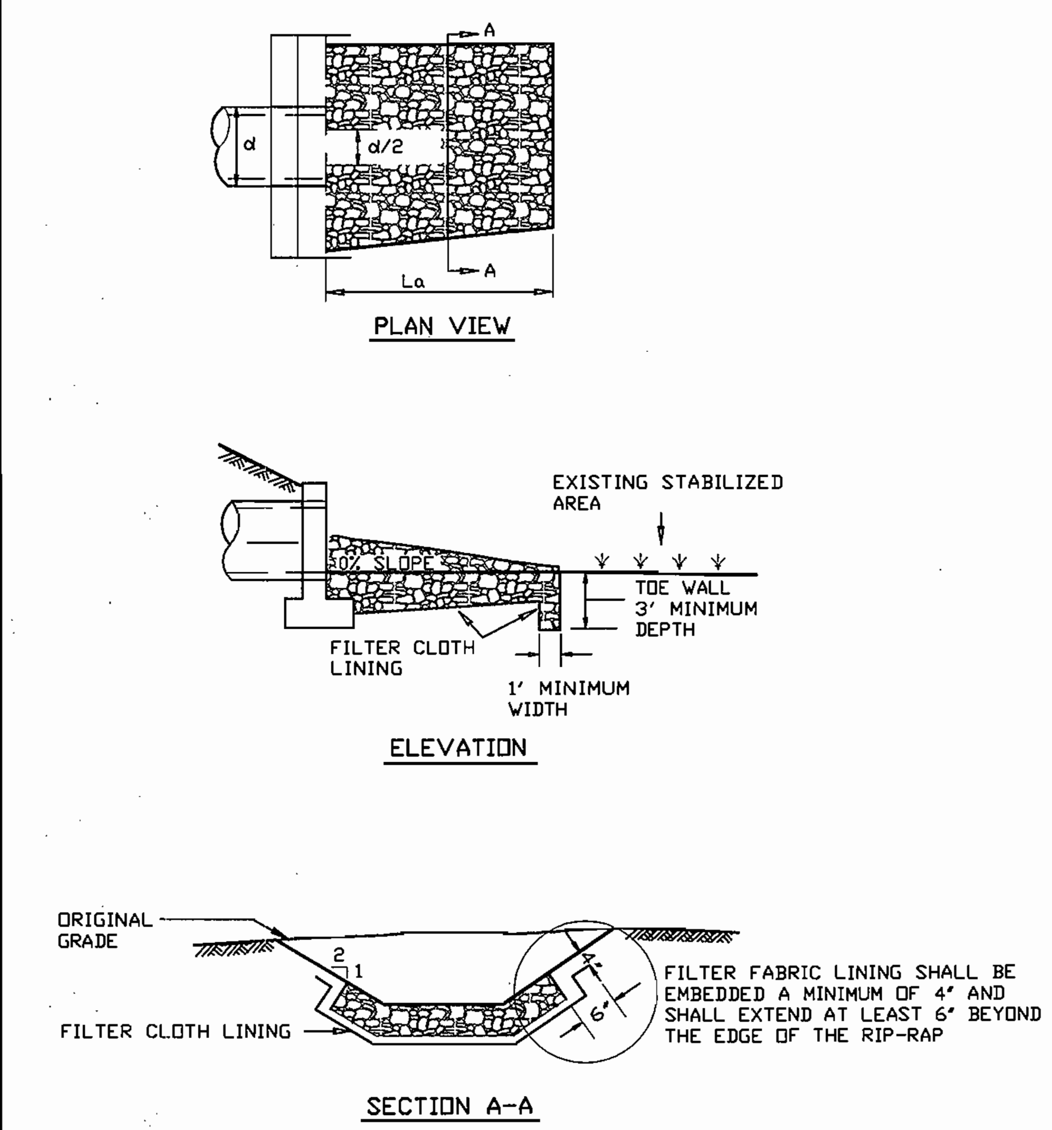
FOR USE ON SWALES NEAR FITNESS TRACK — NOT TO SCALE



2 ACCESS RAMP DETAIL

NOT TO SCALE

DETAIL 27 - ROCK OUTLET PROTECTION III



NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

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ROCK OUTLET PROTECTION III

Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.

3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

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Storm Water Management Facilities

From pages 13-15 of geotechnical report prepared by Herbst, Benson & Associates, dated January 16, 2006

Two ponds are being planned for the project, one at the northeast and one at the southeast corner of the site. The embankments will be formed partially in cut and partially in fill to reach proposed crest elevation. Both ponds are to be wet pond facilities with proposed permanent pond levels as shown on the approved plans.

Both ponds should be designed and constructed in accordance with MD 378/2000 specifications. From the test boring information, it appears that some remedial work will be required for proper support of the outfall structure for the northeast pond. Boring B-9 shows existing fill and soft alluvial material in the area of the storm water management outfall. This material should be undercut and replaced with properly controlled compacted fill for stable outfall and embankment support. All existing fill and soft alluvial soils should also be undercut from the embankment area from toe to toe of embankment to expose undisturbed native soil. The exposed surface may have to be stabilized to allow proper fill compaction. A core trench should extend at least 4 feet below the stripped existing grade or two feet into competent native solids below the undercut backfill, whichever is greater.

At the proposed 3 or 4 horizontal to 1 vertical inclination, cut slopes in the relatively loose silty sand may show signs of shallow sloughage. In these cases, the sloughed material must be undercut and replaced with more competent granular soil or crushed stone material.

As is expected for the geologic conditions, the residual soils on site do not contain Unified "C" materials; thus, core trench and pond liner clays will have to be imported from off site. Most of the basin soils appear to be loose, granular silty sands with ground water table above proposed basin elevation. Additional depth of water, however, will cause additional pressure head and in our opinion stored water will be lost into the underlying granular subgrade soil. As such, we recommend that both ponds be lined at least to the permanent pool elevation with either compacted clay or bentonite liner covered with at least 12 inches of controlled, compacted on site fill. Since the ground water table is actually higher than the basin elevation, pressure relief valves should be placed in the liner to allow water to flow into the basin, but prevent water from draining back through the bottom of the basin.

Materials may be blasted for buildings, roadway or utility excavations. Blasting may also be allowed in the pond areas, in our opinion, for the portions furthest away from the outfall structures. Although blasting will open up residual fissures and joints, the pond is already planned to be lined to hold a permanent pool; thus, any increased permeability of the rock material would not be a problem. We still recommend, however, that blasting not be performed for principal spillway excavations. If materials exceeding 100 blows per foot or the equivalent are noted above proposed invert grade, the outfall should either be relocated to an area of soil material, or excavation should be performed using jackhammers, hoe rams or similar type excavation equipment.

Ground water will be encountered in the storm water management excavation. The contractor should plan on providing temporary controls during construction. Ground water may also be encountered in excavations for the armory foundation, the firing range separation wall, and the northeast corner of the fire grounds building requiring temporary control during construction.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

[signature] 10/19/06
USDA - Natural Resources Conservation Service — Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

[signature] 10/19/06
Howard Soil Conservation District — Date

BY THE ENGINEER:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

[signature] 10/11/06
Signature of Engineer — Date

KENNETH R KINSEY
Printed Name of Engineer

BY THE DEVELOPER:

"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

[signature] 10/12/06
Signature — Date

Michael A. Giovanniello
Printed Name

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
[signature] for — 10/30/06
COUNTY HEALTH OFFICER — MDD — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[signature] — 10/26/06
JAMES M. IRVIN, DIRECTOR — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
[signature] — 10/31/06
DIRECTOR — DATE
[signature] — 10/24/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — CE — DATE
[signature] — 10/30/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

EDMEADES & STROMDAHL, LTD.
ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KENNETH R. KINSEY — REGISTERED No. 13870 — PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

SWM Specifications & General SWM Details

600' SCALE MAP NO. 16 — BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Cencus Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C6.40

SCALE: As Shown

SHEET 63 OF 70

SDP - 06-110

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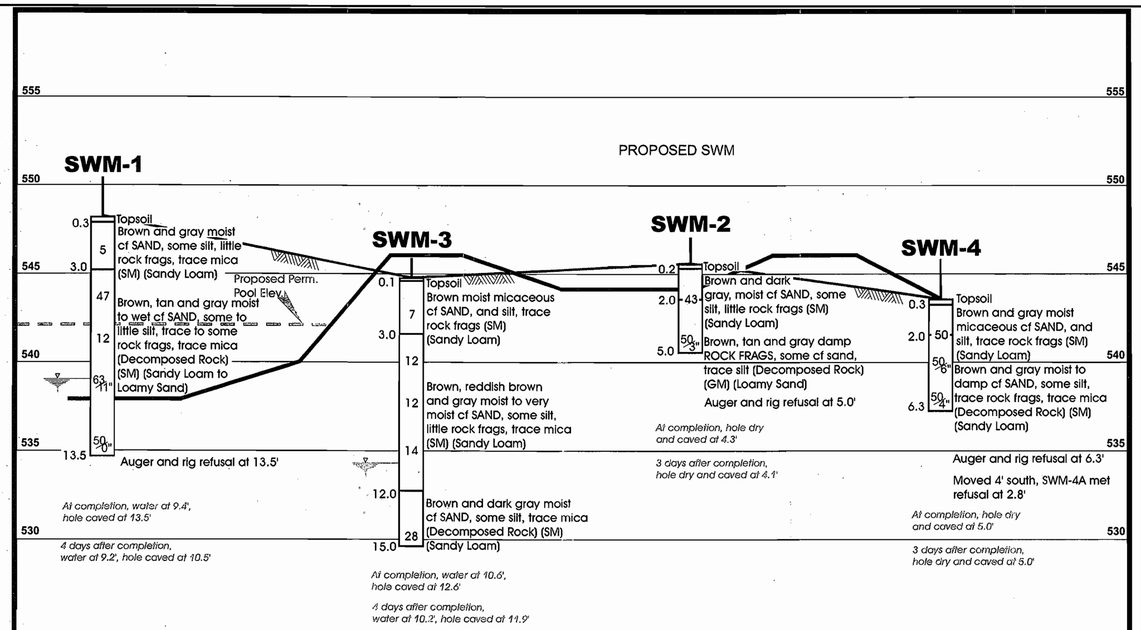
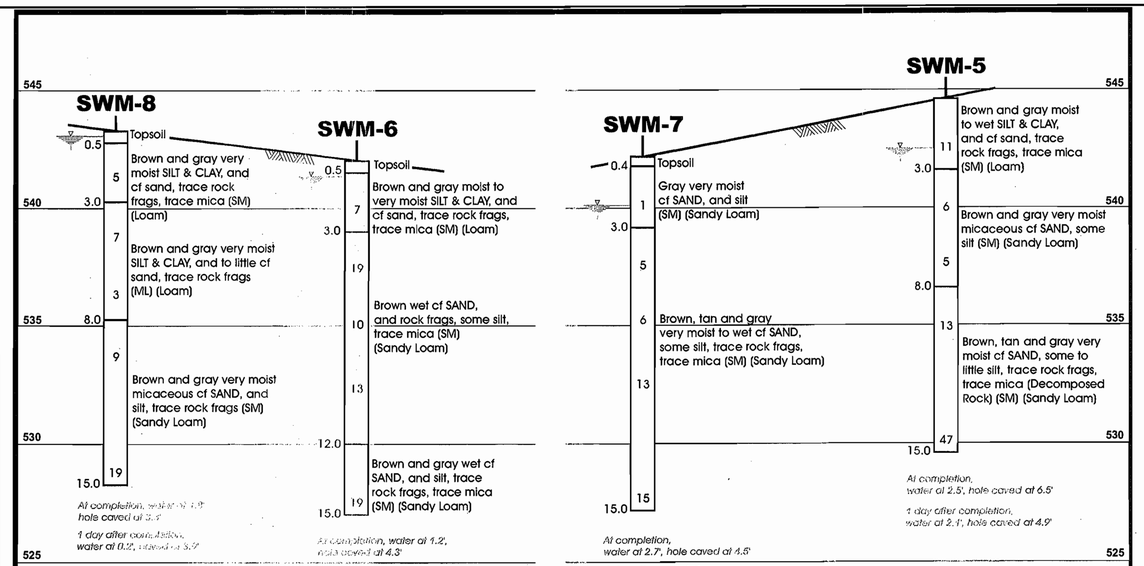


SECTION I - I

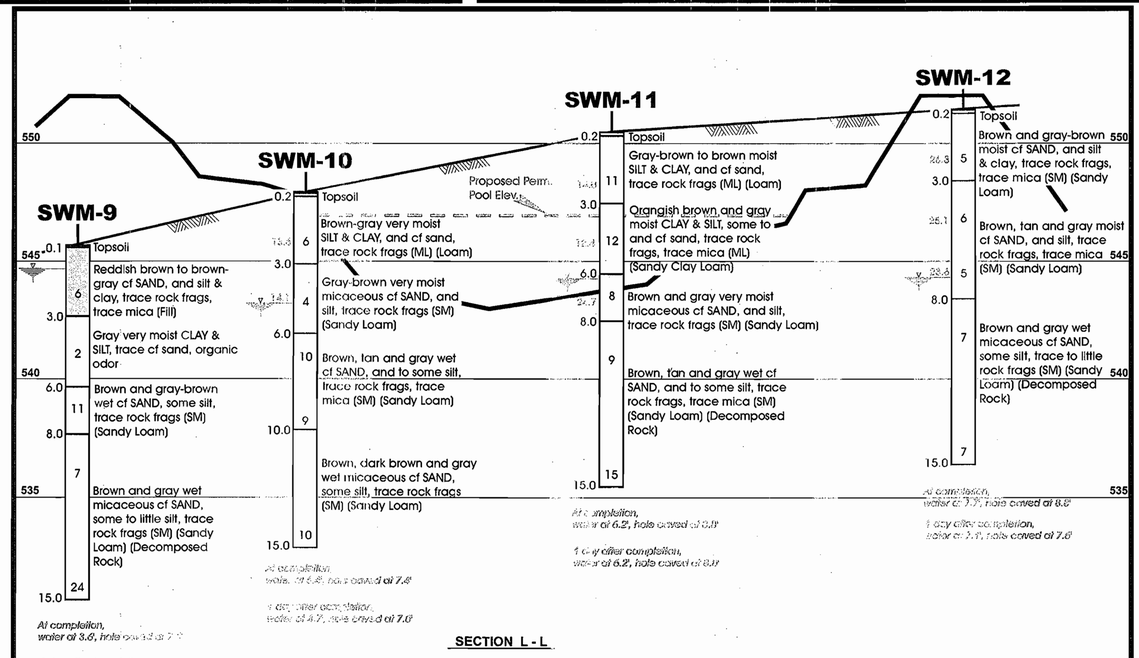
HOWARD COUNTY PUBLIC SAFETY TRAINING CENTER HOWARD COUNTY, MARYLAND	05050MD JAN., 2006	BORING PROFILES HORIZ SCALE (FEET) 0 20 VERT SCALE (FEET) 0 4	PLATE 6S



SECTION J - J

SECTION K - K

HOWARD COUNTY PUBLIC SAFETY TRAINING FACILITY HOWARD COUNTY, MARYLAND	05050MD JAN., 2006	BORING PROFILES HORIZ SCALE (FEET) 0 20 VERT SCALE (FEET) 0 3	PLATE 7S



SECTION L - L

X.X = % Moisture

HOWARD COUNTY PUBLIC SAFETY TRAINING CENTER HOWARD COUNTY, MARYLAND	05050MD JAN., 2006	BORING PROFILES HORIZ SCALE (FEET) 0 15 VERT SCALE (FEET) 0 3	PLATE 8S

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date 10/9/06

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date 10/9/06

BY THE ENGINEER:

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Signature of Engineer — Date 10/11/06

KENNETH R. KINSEY
Printed Name of Engineer

BY THE DEVELOPER:

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Signature — Date 10/12/06

Michael A. Giovanniello
Printed Name

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

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STATE OF MARYLAND KENNETH R. KINSEY No. 11668 PROFESSIONAL ENGINEER

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Stormwater Management Soil Borings

600' SCALE MAP NO. 16 BLOCK NO. 2 / B

Phase II Improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

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Howard County
Department of Public Works
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Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.614
GRID No. 2/B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: TBD, SEWER CODE: Private - Holding Tank

C6.41

SCALE: As Shown

SHEET 64 OF 70

SDP - 06-110

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PLANT MATERIALS AND PLANTING METHODS

A. Plant Materials

The landscape contractor shall furnish and install and/or dig, ball, burlap and transplant all of the plant materials called for on drawings and/or listed in the Plant Schedule.

1. Plant Names

Plant names used in the Plant Schedule shall conform with "Standardized Plant Names," latest edition.

2. Plant Standards

All plant material shall be equal to or better than the requirements of the "USA Standard for Nursery Stock" latest edition, as published by the American Association of Nurserymen (hereafter referred to as AAN Standards). All plants shall be typical of their species and variety, shall have a normal habit of growth and shall be first quality, sound, vigorous, well-branched and with healthy, well-furnished root systems. They shall be free of disease, insect pests and mechanical injuries.

All plants shall be nursery grown and shall have been grown under the same climate conditions as the location of this project for at least two years before planting. Neither heeled-in plants nor plants from cold storage will be accepted.

3. Plant Measurements

All plants shall conform to the measurements specified in the Plant Schedule as approved by the ARC.

a. Caliper measurements shall be taken six inches (6") above grade for trees under four-inch (4") caliper and twelve (12") above grade for trees four inches (4") in caliper and over.

b. Minimum branching height for all shade trees shall be six feet (6'), maximum eight feet (8').

c. Caliper, height, spread and size of ball shall be generally as follows:

CALIPER	HEIGHT	SPREAD	SIZE OF BALL
3" - 3.5"	14'-16'	6'-8'	32" diameter
3.5"- 4"	14'-16'	8'-10'	36" diameter
4" - 4.5"	16'-18'	8'-10'	40" diameter
4.5"- 5"	16'-17'	10'-12'	44" diameter
5" - 5.5"	16'-20'	10'-12'	48" diameter
5.5"- 6"	18'-20'	12'-14'	52" diameter

All plant material shall generally average the median for the size ranges indicated above as indicated in the "AAN Standards".

4. Plant Identification

Legible labels shall be attached to all shade trees, minor trees, specimen shrubs and bundles or boxes of other plant material giving the botanical and common names, size and quantity of each. Each shipment of plants shall bear certificates of inspection as required by Federal, State and County authorities.

5. Plant Inspection

The ARC may, upon request by the builder or developer, at least ten (10) days prior to the installation of any proposed plant material, inspect all proposed plant material at the source of origin.

B. Planting Methods

All proposed plant materials that meet the specifications in Section A are to be planted in accordance with the following methods during the proper planting seasons as described in the following:

1. Planting Seasons

The planting of deciduous trees, shrubs and vines shall be from March 1st to June 15th and from September 15th to December 15th. Planting of deciduous material may be continued during the winter months providing there is no frost in the ground and frost-free topsoil planting mixtures are used.

The planting of evergreen material shall be from March 15th to June 15th and from August 15th to December 1st. No planting shall be done when ground is frozen or excessively moist. No frozen or wet topsoil shall be used at any time.

3. Excavation of Plant Pits

The landscaping contractor shall excavate all plant pits, vine pits, hedge trenches and shrub beds in accordance with the following schedule:

a. Locations of all proposed plant material shall be staked and approved in the field by the landscape architect before any of the proposed plant material is installed by the landscape contractor.

b. All pits shall be generally circular in outline, vertical sides; depth shall not be less than 6" deeper than the root ball, diameter shall not be less than two times the diameter of the root ball as set forth in the following schedule.

c. If areas are designated as shrub beds or hedge trenches, they shall be excavated to at least 18" depth minimum. Areas designated for ground covers and vines shall be excavated to at least 12" in depth minimum.

d. Diameter and depth of tree pits shall generally be as follows:

PLANT SIZE	ROOT BALL	PIT DIAMETER	PIT DEPTH
3" - 3.5"cal.	32"	64"	28"
3.5"- 4" cal.	36"	72"	32"
4" - 4.5"cal.	40"	80"	36"
4.5"- 5" cal.	44"	88"	40"
5" - 5.5"cal.	48"	96"	44"
5.5"- 6" cal.	52"	104"	48"

A 20% compaction figure of the soil to be removed is assumed and will be allowed in calculation of extra topsoil. The tabulated pit sizes are for purposes of uniform calculation and shall not override the specified depths below the bottoms of the root balls.

4. Staking, Guying and Wrapping

All plant material shall be staked or guyed, and wrapped in accordance with the following specifications:

a. Stakes: Shall be sound wood 2" x 2" rough sawn oak or similar durable woods, or lengths, minimum 7'-0" for major trees and 5'-0" minimum for minor trees.

b. Wire and Cable: Wire shall be #10 ga. galvanized or bethanized annealed steel wire. For trees over 3" caliper, provide 5/16" turn buckles, eye and eye with 4" take-up. For trees over 5" caliper, provide 3/16", 7 strand cable cadmium plated steel, with galvanized "eye" thimbles of wire and hose on trees up to 3" in caliper.

c. Hose: Shall be new, 2 ply reinforced rubber hose, minimum 1/2" I.D. "Plastic Lock Ties" or "Paul's Trees Braces" may be used in place of wire and hose on trees up to 3" in caliper.

d. All trees under 3" in caliper are to be planted and staked in accordance with the attached "Typical Tree Staking Detail".

5. Plant Pruning, Edging and Mulching

a. Each tree, shrub or vine shall be pruned in an appropriate manner to its particular requirements, in accordance with accepted standard practice. Broken or bruised branches shall be removed with clean cuts flush with the adjacent trunk or branches. All cuts over 1" in diameter shall be painted with an approved antiseptic tree wound dressing.

b. All trenches and shrub beds shall be edged and cultivated to the lines shown on the drawing. The areas around isolated plants shall be edged and cultivated to the full diameter of the pit. Sod which has been removed and stacked shall be used to trim the edges of all excavated areas to the neat lines of the plant pit saucers, the edges of shrub areas, hedge trenches and vine pockets.

c. After cultivation, all plant materials shall be mulched with a 2" layer of fine, shredded pine bark, peat moss, or another approved material over the entire area of the bed or saucer.

6. Plant Inspection and Acceptance

The ARC shall be responsible for inspecting all planting projects on a periodic basis to assure that all work is proceeding in accordance with the approved plans and specifications.

7. Plant Guarantee

All plant material shall be guaranteed for the duration of one full growing season, after final inspection and acceptance of the work in the planting project. Plants shall be alive and in satisfactory growing condition at the end of the guarantee period.

a. For this purpose, the "growing season" shall be that period between the end of the "Spring" planting season, and the commencement of the "Fall" planting season.

b. Guarantee for planting performed after the specified end of the "Spring" planting season, shall be extended through the end of the next following "Spring" planting season.

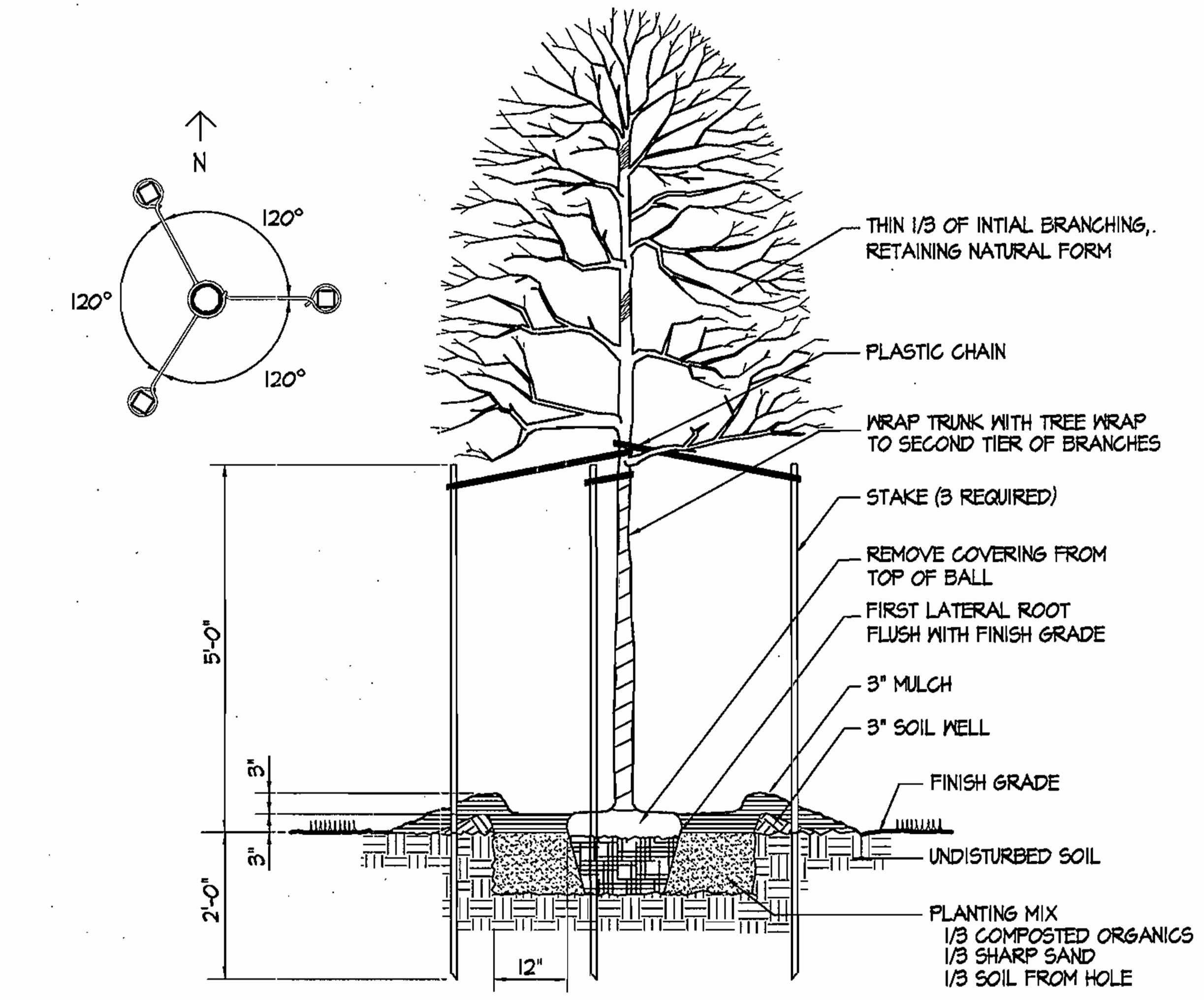
SODDING

All sodding shall be in accordance to the "Landscape Specification Guidelines for Baltimore-Washington metropolitan Areas" latest edition, approved by the Landscape Contractors Association of Metropolitan Washington and the American Society of Landscape Architects.

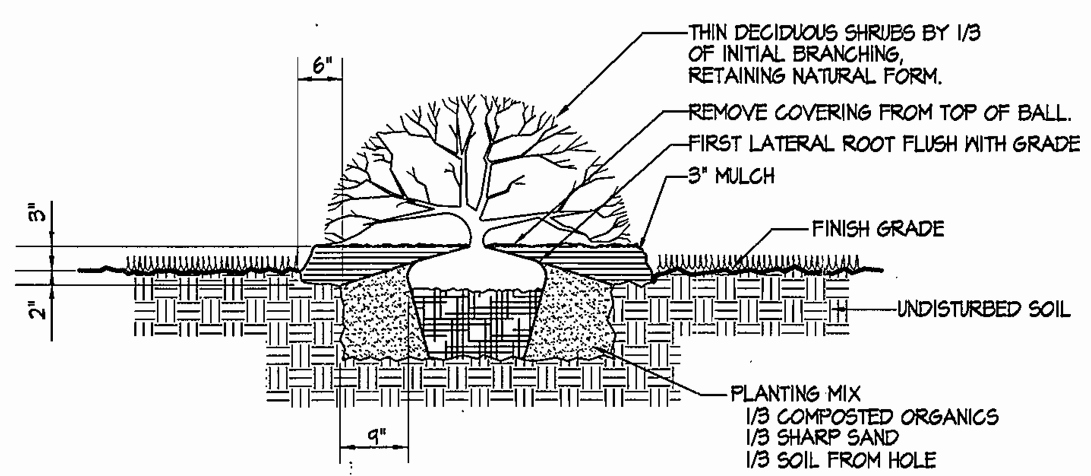
All sod shall be strongly rooted sod, not less than two years old and free of weeds and undesirable native grasses. Provide only sod capable of growth development when planted and in strips not more than 18" wide x 4" long. Provide sod composed principally of improved strain Kentucky bluegrass, such as, Columbia, Victa, or Escort.

LANDSCAPING NOTES

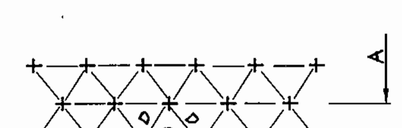
1. This plan has been prepared in accordance with the New Town Alternative Compliance provisions of Section 16.124 of the Howard County Code and the Howard County Landscape Manual.
2. Contractor shall notify all utilities at least (5) five days before starting work. All General Notes, especially those regarding utilities, on Sheet 1 shall apply.
3. Field verify underground utility locations and existing conditions before starting planting work. Contact engineer / landscape architect if any relocation's are required.
4. Plant quantities shown on Plant List are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on the plan and those shown on the plant list, the quantities on the plan shall take precedence.
5. All plant material shall be full, heavy, well formed, and symmetrical, and conform to the A.A.N. Specifications, and be installed in accordance with project specifications.
6. No substitution shall be made without written consent of the owner or his representative.
7. All areas disturbed by construction activities but not otherwise planted, paved, or mulched shall be seeded or sodded in accordance with the project specifications.
8. The contractor shall notify the owner in writing if he/she encounters soil drainage conditions which may be detrimental to the growth of the plants.
9. All exposed earth within limits of planting beds shall be mulched with shredded hardwood mulch per Planting Details.
10. The owner, tenant, and /or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.



DECIDUOUS TREE DETAIL
NOT TO SCALE



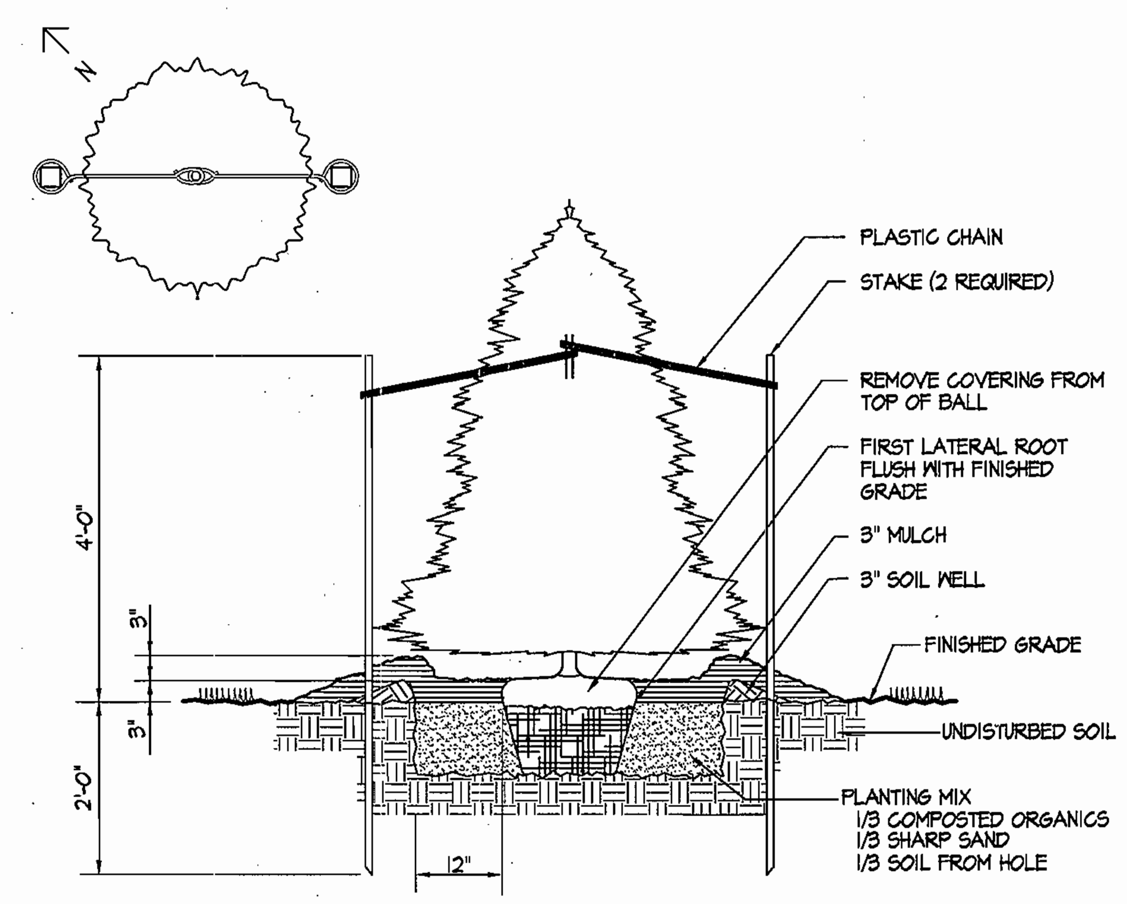
SHRUB DETAIL



NOTE: FOR USE ONLY WHEN PLANTS ARE SPACED EQUIDISTANT FROM EACH OTHER AS SHOWN, AND SPECIFIED IN THE PLANT LIST.

SPACING "D"	ROW "A"	NO. OF PLANTS / S.F.
6" O.C.	5.20"	4.61
8" O.C.	6.93"	2.60
10" O.C.	8.66"	1.66
12" O.C.	10.40"	1.15
15" O.C.	13.00"	.738
18" O.C.	15.60"	.512
24" O.C.	20.80"	.290
30" O.C.	26.00"	.185
36" O.C.	30.00"	.128

PLANT SPACING CHART
NOT TO SCALE



EVERGREEN TREE DETAIL
NOT TO SCALE

PREPARED BY: KEVIN P. RILEY, RLA
STATE OF MARYLAND
REGISTERED LANDSCAPE ARCHITECT
REGISTRATION NO. 3231

K P Riley — NAME 10/11/06 — DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Subdivision and Land Development Regulations and the Landscape Manual. I/We further certify that upon completion a letter of Landscape Installation, accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Michael A. Giovanniello — Name 10-12-06 — Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA - Natural Resources Conservation Service — Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District — Date

BY THE ENGINEER:

"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer — 10/11/06 Date

Kenneth R. Kinsey — Printed Name of Engineer

BY THE DEVELOPER:

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Michael A. Giovanniello — Signature 10-12-06 — Date

Michael A. Giovanniello

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

for Robert J. Weber — COUNTY HEALTH OFFICER 10/30/06 — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. Irvin — JAMES M. IRVIN, DIRECTOR 10/26/06 — DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR 10/31/06 — DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/24/06 — DATE

Cindy Hamilton — CHIEF, DIVISION OF LAND DEVELOPMENT 10/30/06 — DATE

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KEVIN PATRICK RILEY — No. 3231 — REGISTERED — LANDSCAPE ARCHITECT — 10/11/06

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Stormwater Management Planting Details & Notes

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure

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at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

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3rd Election District, Cencus Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

C6.42

SCALE: As Shown

SDP - 06-110

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FOREST CONSERVATION WORKSHEET

NET TRACT AREA:

A. Total Tract Area: 38.23
B. Area Within 100 Year Floodplain: 0.74
C. Area To Remain In Agricultural Production: 0.00
D. Net Tract Area: 37.49

LAND USE CATEGORY:

Input the number "1" under the appropriate land use zoning and limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	1	0	0	0

E. Afforestation Threshold 15% X D = 5.62
F. Conservation Threshold 20% X D = 7.50

EXISTING FOREST COVER:

G. Existing Forest Cover (excluding floodplain): 6.86
H. Area of Forest Above Afforestation Threshold: 1.24
I. Area of Forest Above Conservation Threshold: 0.00

BREAK EVEN POINT:

J. Forest Retention Above Threshold With No Mitigation: 0.00
K. Clearing Permitted Without Mitigation: 0.00

PROPOSED FOREST CLEARING:

L. Total Area Of Forest To Be Cleared: 0.24
M. Total Area Of Forest To Be Retained: 6.62

PLANTING REQUIREMENTS:

N. Reforestation For Clearing Above Conservation Threshold: 0.00
P. Reforestation For Clearing Below Conservation Threshold: 0.48
Q. Credit For Retention Above Conservation Threshold: 0.00
R. Total Reforestation Required: 0.48
S. Total Afforestation Required: 0.00
T. Total Reforestation And Afforestation Required: 0.48

LINE TABLE

LINE	BEARING	DISTANCE
L1	N15°49'26"W	42.33'
L2	N19°50'23"E	22.10'
L3	N34°48'54"W	43.61'
L4	N00°31'45"E	21.93'
L5	N44°46'50"W	40.00'
L6	N27°36'47"W	55.03'
L7	N36°20'52"E	25.18'
L8	N47°16'09"W	15.86'
L9	S53°01'23"W	17.35'
L10	N84°20'04"E	43.52'
L11	N45°03'58"E	20.18'
L12	S49°08'32"E	24.17'
L13	S84°01'43"E	59.74'
L14	S78°19'20"E	46.19'
L15	S42°32'04"E	45.90'
L16	S76°16'23"E	66.76'
L17	N90°00'00"E	21.11'
L18	S77°28'01"E	20.86'
L19	S76°54'45"E	35.17'
L20	N71°23'01"W	95.15'
L21	N61°51'27"W	49.57'
L22	N59°35'54"W	17.81'
L23	N25°12'58"E	36.02'
L24	S77°45'51"E	39.34'
L25	N89°02'03"E	47.93'
L26	N61°25'00"E	34.34'
L27	N36°31'08"E	36.19'
L28	N01°08'02"E	27.21'
L29	N20°50'51"W	36.31'
L30	N39°54'39"W	49.43'
L31	N00°00'00"E	6.46'
L32	N56°18'02"E	35.92'
L33	S54°01'17"E	58.22'
L34	S68°47'45"E	34.25'
L35	S47°04'01"E	36.77'
L36	S59°48'27"E	61.05'
L37	S75°22'41"E	62.78'
L38	S50°56'02"E	56.51'
L39	S04°40'06"E	46.00'
L40	S46°19'19"W	34.44'
L41	S68°17'52"W	32.80'
L42	N72°24'06"W	42.29'
L43	N55°09'31"W	26.41'
L44	S01°33'20"W	27.73'
L45	S52°44'43"W	27.12'
L46	N75°54'55"W	61.92'
L47	N54°37'40"W	30.65'
L48	N88°02'48"W	70.98'
L49	N49°09'10"W	43.96'
L50	S64°45'31"W	29.99'
L51	N64°10'15"W	27.76'
L52	N39°47'44"W	40.93'
L53	N23°46'28"E	56.49'
L54	N85°11'25"E	35.06'
L55	S84°43'01"E	52.37'
L56	S68°11'29"E	45.17'
L57	S17°55'05"E	19.66'
L58	S51°06'20"E	55.04'
L59	S65°20'11"E	29.80'
L60	N29°17'37"E	58.23'
L61	N55°57'57"E	71.67'
L62	S17°35'59"W	46.79'
L63	S35°48'59"E	80.89'
L64	S03°09'49"E	40.73'
L65	S78°17'03"E	43.40'
L66	S48°22'50"W	57.23'
L67	N75°01'11"W	34.92'
L68	N07°35'26"W	21.17'
L69	N11°42'57"E	181.30'
L70	N78°22'40"W	63.77'
L71	N23°52'36"E	28.33'
L72	S48°37'03"W	35.61'
L73	S45°29'21"E	29.96'
L74	S63°49'05"E	67.43'
L75	N 43°52'09" W	34.50'

A76
RADIUS: 139.24'
ARC LENGTH: 36.98'
BEARING: S33°46'29"E
CHORD LENGTH: 36.87'

FOREST STAND NARRATIVE

FS1. 3.23 ac. FS1 is a Maple and Oak stand. The stand is the largest associated stand and the onsite portions are approximately 4.6 acres of a much larger stand. The onsite canopy species include Red Oak, Red Maple, Black Oak, and Tulip Poplar. This stand contains some large maple trees including a 36 inch dba Red Maple. The understory is shrubby and viney and dense. Species include Greenbrier, Multiflora Rose, Poison Ivy, Japanese Honeysuckle and grape. One of two separate stream branches run through each of the two onsite portions of FS1. The stream branch running through the southern, onsite portion of FS1 is dry. The stream branch running through the northern, onsite portion of FS1 is aq perennial tributary of the Little Patuxent River. The canopy is approximately 70 to 90 percent closed. The portion of the stand, which is located directly behind the onsite gun/shooting range, was not accessable at the time of inspection. No disturbance to this area is proposed. The onsite portions of this stand are of moderately good structure and habitat value.

The adjacent treeline running along Interstate Route 70 is a stand of Tree of Heaven.

Trees Indicated on FSD Map:
Specimen Tree: 36" Red Maple
Large Trees: 28" Red Maple
28" Red Maple
28" Red Maple

FS2. 3.48 ac. FS2 is a Red Maple stand. The canopy species include Red Maple, Red Oak, Tulip Poplar and a few American Elm trees. In some areas of the stand, Red Maple is the only canopy species. The canopy is approximately 90 percent closed in the western portion of the stand and is as low as 65 percent closed in the eastern portion of the stand. The eastern portion of the stand is in closer proximity to Wetland A. The shrub layer consists of Multiflora Rose which is concentrated in the eastern portion of the stand. The dominant herbaceous species consist of Poison Ivy, Virginia Creeper, and Japanese Honeysuckle. Groundcover is at approximately 70 percent. This stand has moderately good forest structure, but has limited habitat due to it's small size and disconnection from FS1. A corridor linking FS1 and FS2 would improve the value.

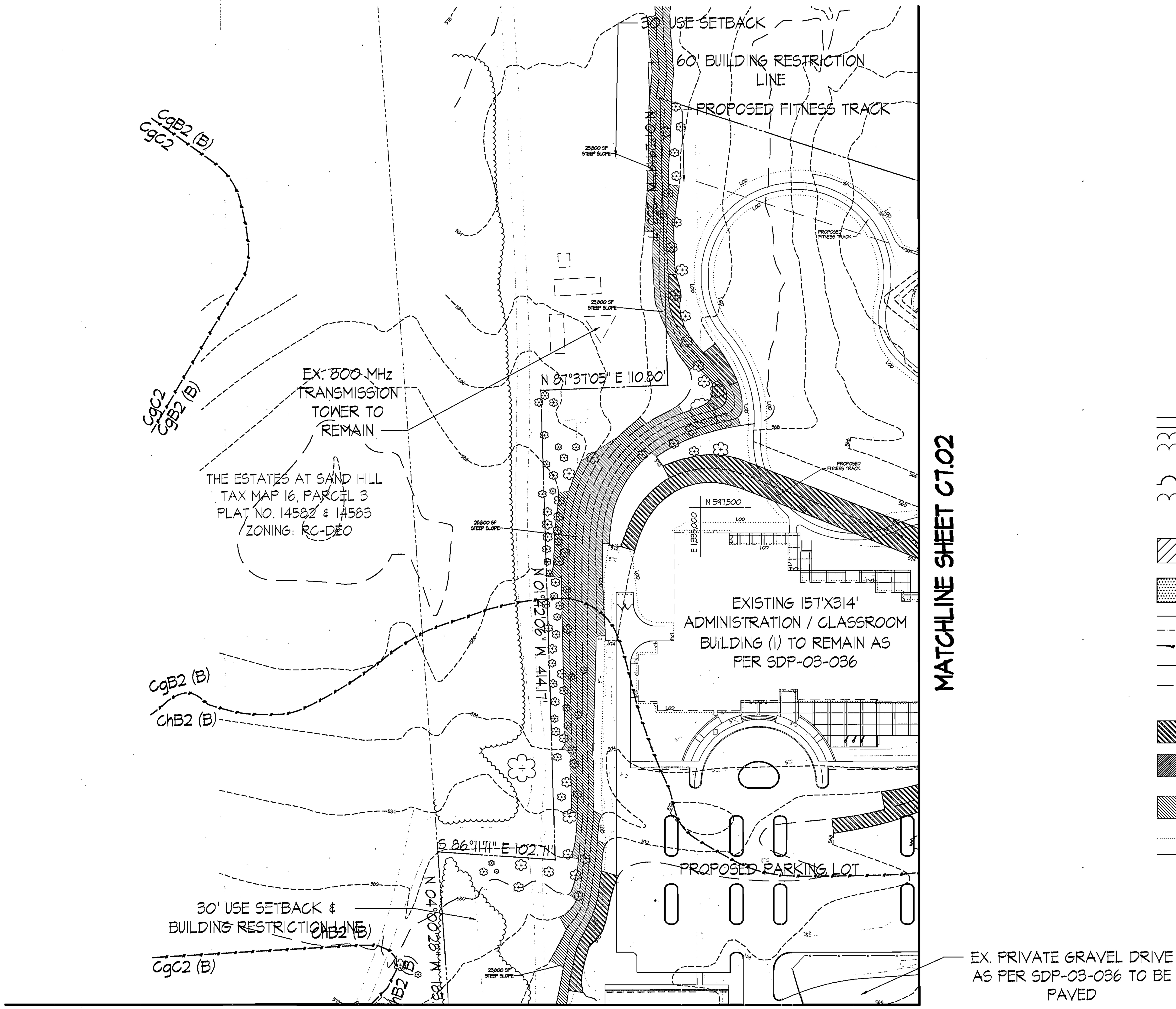
Trees Indicated on FSD Map:
Specimen Trees: 33" Tulip Poplar
35" White Oak

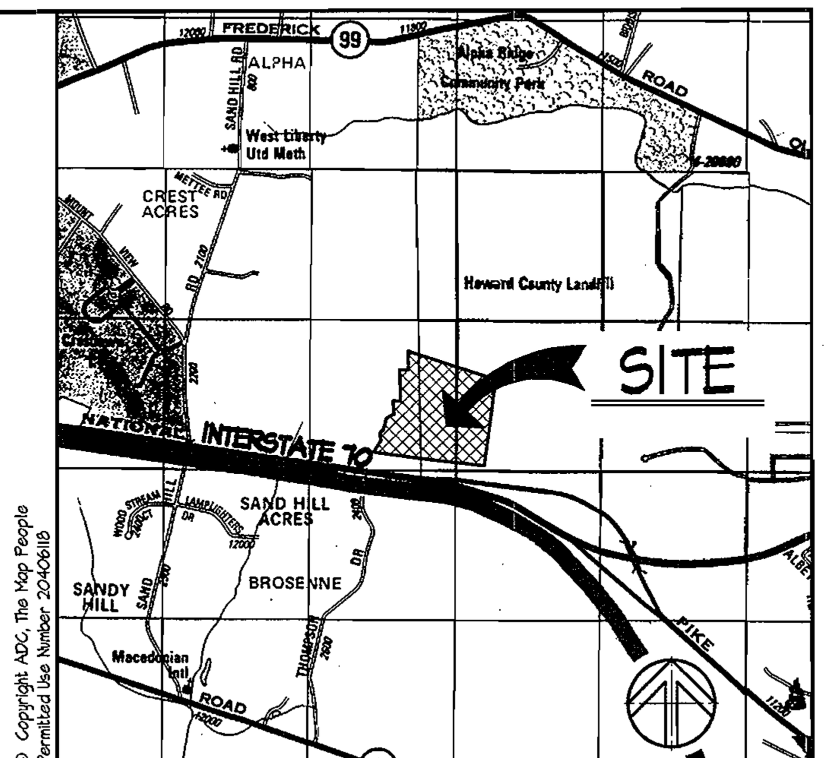
FS3. 0.44 ac. FS3 is a disturbed, low quality stand of Tree of Heaven. Some Tulip Poplar, Red Maple, Black Cherry, and Red Oak are also growing in this stand. This stand has been subject to much disturbance from Interstate Route 70, the unnamed access access road, and the clearing and grading of the site.

Tree Stands
The tree rows adjacent to and buffering the unnamed access road consist of Red Maple, White Pine, Tree of Heaven, and some Red Oak and Huckleberry. Multiflora Rose and Honeysuckle are growing here as well.

The tree stands on the inside of the site consist primarily of Tree of Heaven.

PLAT REF. NO. 18518





Vicinity Map
Scale: 1" = 2000'

LEGEND

PROPERTY LINE
EXISTING TREELINE
EXISTING BRUSHLINE
EXISTING TREES TO REMAIN
PROPOSED TREELINE
EXISTING BRUSHLINE TO BE REMOVED
EXISTING TREES TO BE REMOVED
EXISTING FOREST CONSERVATION EASEMENT
PROPOSED REFORESTATION EASEMENT
EXISTING STREAM
EXISTING WETLAND
ChC2 — EXISTING SOILS
SSF — PROPOSED SUPER SILT FENCE
EXISTING FLOODPLAIN
PROPOSED TREES
EXISTING STEEP SLOPES 15% - 25%
EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA LESS THAN 20,000 SF
EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF
LOD — LIMIT OF DISTURBANCE
TPF — TREE PROTECTION FENCE

0 25 50 100
SCALE 1"=50'

SOILS CHART

SYMBOL	NAME	HYDROLOGIC SOIL GROUP	K FACTOR
Ba	BAILE SILT LOAM	D	0.43
Cgb2	CHESTER GRAVELLY SILT LOAM	B	0.32
CgC2	CHESTER GRAVELLY SILT LOAM	B	0.32
ChA	CHESTER SILT LOAM	B	0.32
ChB2	CHESTER SILT LOAM	B	0.32
GnB2	GLENVILLE SILT LOAM	C	0.32

PREPARED BY: KEVIN P. RILEY
STATE OF MARYLAND
LICENSED LANDSCAPE ARCHITECT
LICENSE REGISTRATION NO.
NAME: K P Riley DATE: 10/11/06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
Robert J. Weber — COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 10/30/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KEVIN PATRICK RILEY — NO. 323 — REGISTERED LANDSCAPE ARCHITECT

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Forest Conservation Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II Improvements: four buildings, eight training props and associated infrastructure
PUBLIC SAFETY TRAINING CENTER
at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Deptartment of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #253, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6689 / F.619
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Cencus Tract 6030
WATER CODE: 730, SEWER CODE: Private - Holding Tank

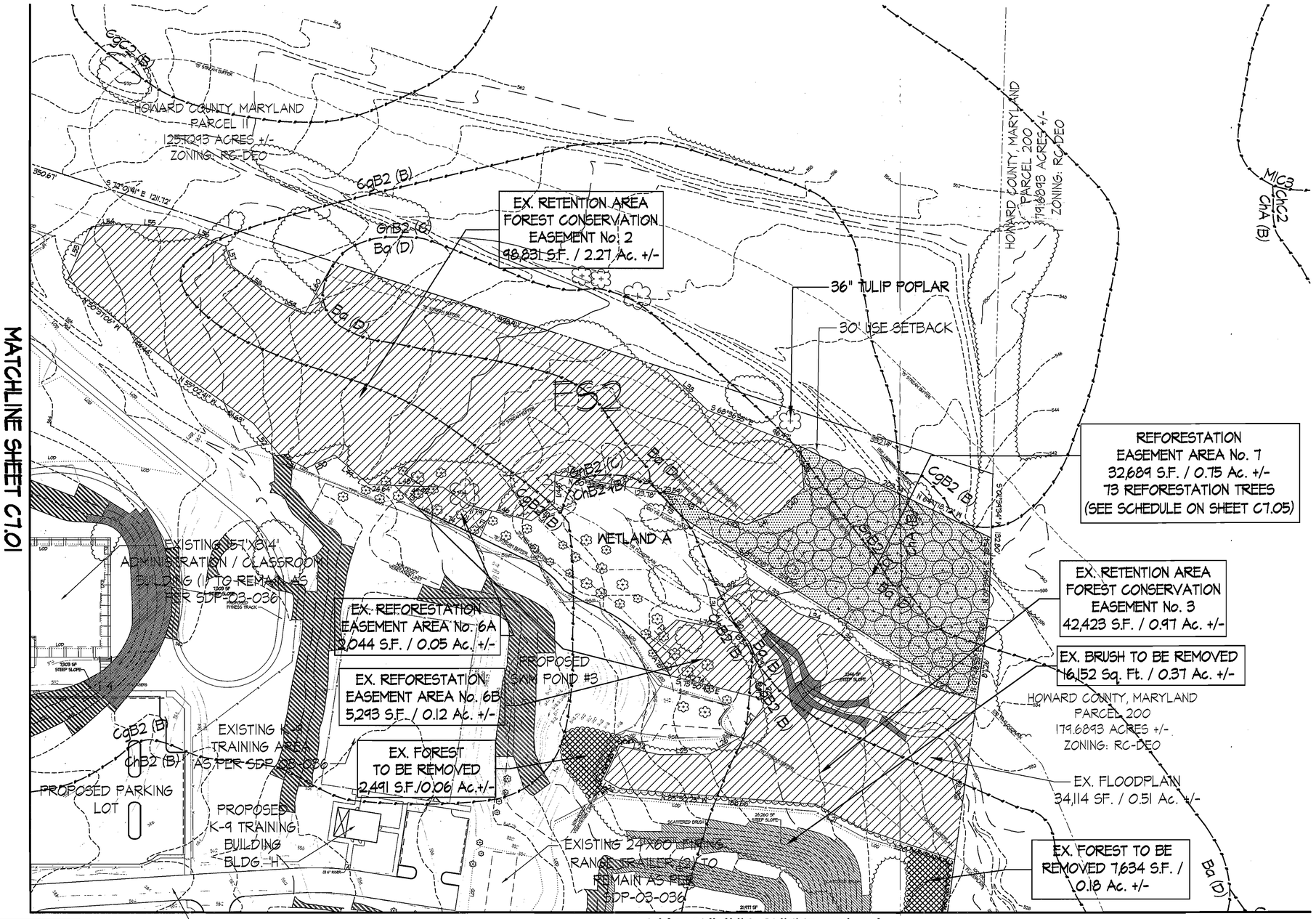
C7.01

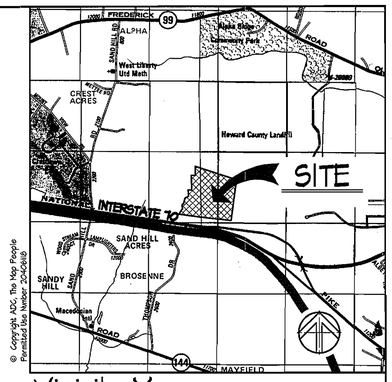
SCALE: 1"=50

SHEET 66 OF 70

SDP - 06-110

Z:\03\03153-HowardCo PublicSafetyCtr\dwg\C7.01_ForestConservationPlan.dwg, 10/5/2006 11:16:51 AM, - Copyright, Site Resources, Inc.





Vicinity Map

Scale: 1" = 2000'

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LINE TABLE

LINE	BEARING	DISTANCE
L1	N59°44'28"W	42.39'
L2	N14°50'23"E	22.10'
L3	N54°46'54"W	48.61'
L4	N00°31'45"E	21.93'
L5	N44°46'50"W	40.00'
L6	N21°36'47"W	35.03'
L7	N36°20'52"E	25.18'
L8	N47°16'04"W	15.86'
L9	S68°01'29"W	17.55'
L10	N84°20'04"E	43.52'
L11	N45°09'58"E	20.18'
L12	S44°08'32"E	24.17'
L13	S84°01'43"E	54.14'
L14	S18°14'20"E	46.14'
L15	S42°32'04"E	45.90'
L16	S76°16'23"E	66.76'
L17	N40°00'00"E	21.11'
L18	S77°28'07"E	20.86'
L19	S76°54'45"E	35.17'
L20	N77°23'01"W	45.95'
L21	N6°51'27"W	44.57'
L22	N54°55'54"W	17.81'
L23	N25°12'58"E	36.02'
L24	S77°48'51"E	34.94'
L25	N84°02'05"E	47.93'
L26	N61°25'00"E	54.34'
L27	N36°31'08"E	36.14'
L28	N01°08'02"E	27.21'
L29	N20°50'51"W	36.51'
L30	N34°51'34"W	44.43'
L31	N00°00'00"E	6.46'
L32	N66°18'02"E	35.42'
L33	S54°01'17"E	38.22'
L34	S68°47'45"E	34.25'
L35	S47°04'01"E	36.77'
L36	S54°48'27"E	61.05'
L37	S75°22'41"E	62.18'
L38	S50°39'02"E	56.51'
L39	S04°40'06"E	46.00'
L40	S46°14'17"W	34.44'
L41	S68°11'52"W	32.80'
L42	N72°24'06"W	42.29'
L43	N55°09'31"W	26.41'
L44	S01°33'20"W	27.73'
L45	S52°44'43"W	27.72'
L46	N75°54'35"W	61.42'
L47	N54°37'40"W	30.65'
L48	N88°02'48"W	70.98'
L49	N44°09'07"W	48.98'
L50	S64°46'37"W	24.94'
L51	N54°07'57"W	27.76'
L52	N84°47'44"W	40.83'
L53	N23°46'28"E	56.44'
L54	N89°11'25"E	35.26'
L55	S84°49'01"E	52.37'
L56	S68°11'24"E	45.17'
L57	S17°55'25"E	14.66'
L58	S51°06'20"E	59.04'
L59	S65°20'11"E	24.80'
L60	N24°17'37"E	58.23'
L61	N55°57'57"E	71.67'
L62	S17°39'59"W	46.74'
L63	S55°48'54"E	80.84'
L64	S03°09'49"E	40.73'
L65	S78°17'09"E	49.40'
L66	S49°22'50"W	57.23'
L67	N75°01'17"W	34.92'
L68	N07°39'28"X	21.17'
L69	N1°42'57"E	181.30'
L70	N19°22'40"W	63.77'
L71	N23°52'36"E	28.33'
L72	S48°37'09"W	35.61'
L73	S45°24'21"E	24.56'
L74	S49°44'09"E	67.43'
L75	N 43°52'04" W	34.50'

AT6:
RADIUS: 194.24'
ARC LENGTH: 36.49'
BEARING: S23°46'29"E
CHORD LENGTH: 36.87'

LEGEND

- PROPERTY LINE
- EXISTING TREELINE
- EXISTING BRUSHLINE
- EXISTING TREES TO REMAIN
- PROPOSED TREELINE
- EXISTING BRUSHLINE TO BE REMOVED
- EXISTING TREES TO BE REMOVED
- EXISTING FOREST CONSERVATION EASEMENT
- PROPOSED REFORESTATION EASEMENT
- EXISTING STREAM
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- SSF — PROPOSED SUPER SILT FENCE
- EXISTING FLOODPLAIN
- PROPOSED TREES
- EXISTING STEEP SLOPES 15% - 25%
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA LESS THAN 20,000 SF
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA MORE THAN 20,000 SF
- LOD — LIMIT OF DISTURBANCE
- TPF — TREE PROTECTION FENCE

PLAT REF. NO. 18518

PREPARED BY: KEVIN P. RILEY
STATE OF MARYLAND
LICENSED LANDSCAPE ARCHITECT
LICENSE REGISTRATION NO.
NAME — DATE 10/11/06

SOILS CHART

SYMBOL	NAME	HYDROLOGIC SOIL GROUP	K FACTOR
Ba	BAILE SILT LOAM	D	0.43
CgB2	CHESTER GRAVELLY SILT LOAM	B	0.32
CgC2	CHESTER GRAVELLY SILT LOAM	B	0.32
ChA	CHESTER SILT LOAM	B	0.32
ChB2	CHESTER SILT LOAM	B	0.32
GnB2	GLENVILLE SILT LOAM	C	0.32

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

SCALE 1"=50' (0, 25, 50, 100)

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 10/30/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

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ARCHITECTS / PLANNERS
34 North Main Street Bel Air, Maryland 21014
Phone: 410.879.0388 Fax: 410.879.4785
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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KEVIN PATRICK RILEY — LICENSED LANDSCAPE ARCHITECT — 10/11/06

DES: KPR
DRN: AM
CHK: REM
DATE: 10/11/06

BY	NO.	REVISION	DATE

Forest Conservation Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #259, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15116, L.6684 / F.614
GRID No. 21B, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C7.02

SCALE: 1"=50

SHEET 67 OF 70

SDP - 06-110

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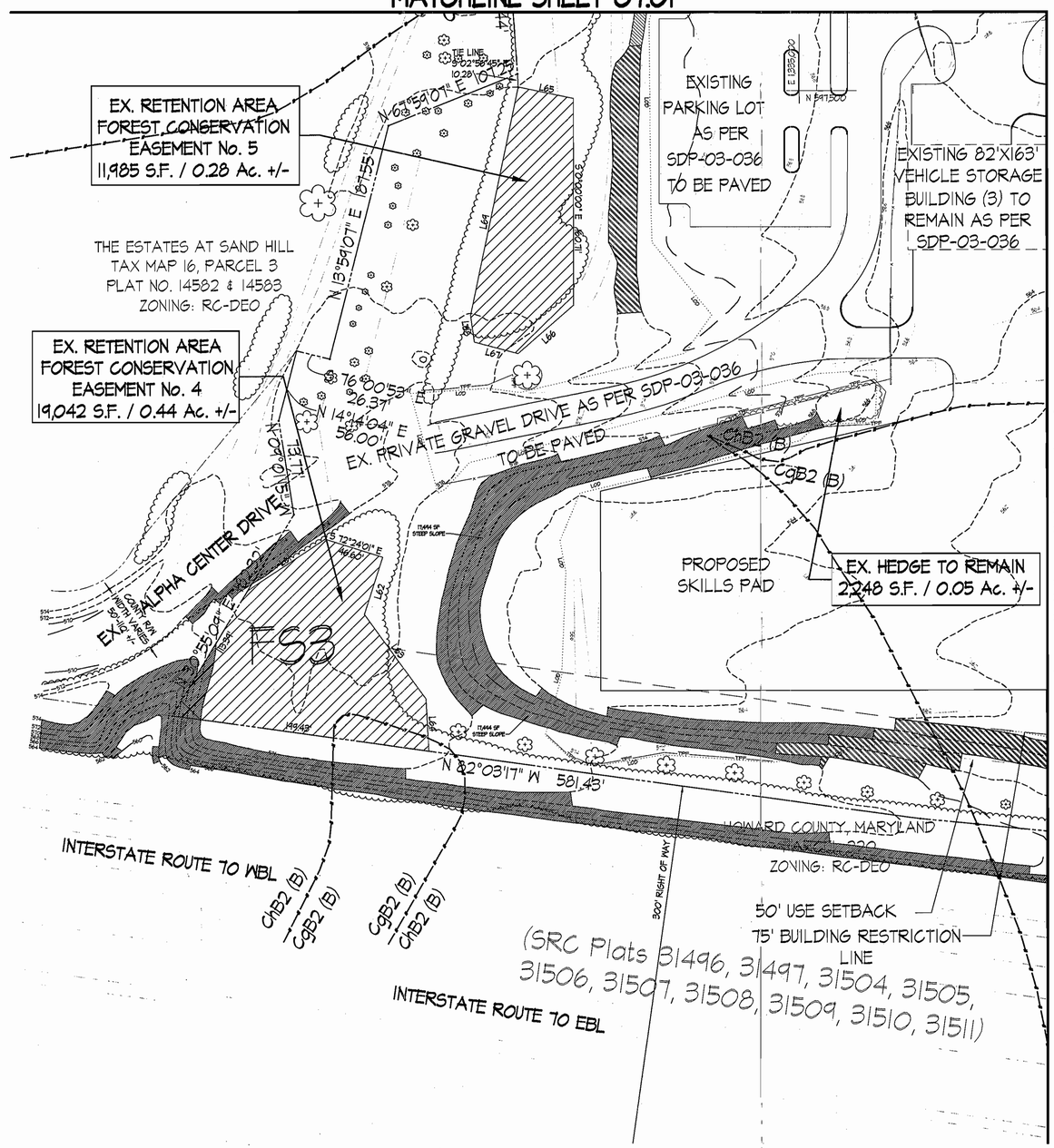
MATCHLINE SHEET C7.01



MATCHLINE SHEET C7.04

LINE TABLE

LINE	BEARING	DISTANCE
L1	N53°41'26"W	42.33'
L2	N14°50'23"E	22.10'
L3	N34°48'54"W	49.61'
L4	N00°51'45"E	21.49'
L5	N44°46'50"W	40.00'
L6	N21°56'47"W	55.03'
L7	N36°20'52"E	25.18'
L8	N47°16'08"W	15.86'
L9	S59°01'39"W	17.55'
L10	N84°20'04"E	43.52'
L11	N45°09'58"E	20.18'
L12	S44°06'52"E	24.17'
L13	S64°10'49"E	54.74'
L14	S78°19'20"E	46.19'
L15	S42°32'04"E	45.40'
L16	S76°16'23"E	66.76'
L17	N90°00'00"E	21.11'
L18	S77°28'01"E	20.86'
L19	S76°54'45"E	35.17'
L20	N11°23'01"W	45.15'
L21	N61°51'27"W	44.57'
L22	N54°35'34"W	17.81'
L23	N25°12'56"E	36.02'
L24	S77°45'51"E	94.34'
L25	N24°02'09"E	47.43'
L26	N61°29'00"E	34.34'
L27	N36°31'08"E	36.19'
L28	N01°08'02"E	27.21'
L29	N20°50'51"W	36.31'
L30	N34°51'34"W	44.49'
L31	N00°00'00"E	6.46'
L32	N56°18'02"E	55.42'
L33	S54°01'17"E	58.22'
L34	S68°47'45"E	34.25'
L35	S47°04'01"E	36.77'
L36	S59°49'27"E	61.06'
L37	S75°22'41"E	62.18'
L38	S50°56'02"E	56.51'
L39	S04°40'06"E	46.00'
L40	S46°19'19"W	34.44'
L41	S68°11'52"W	32.80'
L42	N72°24'06"W	42.24'
L43	N59°09'31"W	28.41'
L44	S01°59'20"W	27.79'
L45	S52°44'49"W	27.72'
L46	N75°54'55"W	61.42'
L47	N54°51'40"W	30.65'
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L58	S51°06'20"E	55.04'
L59	S65°20'11"E	24.80'
L60	N24°11'37"E	58.23'
L61	N55°51'51"E	71.67'
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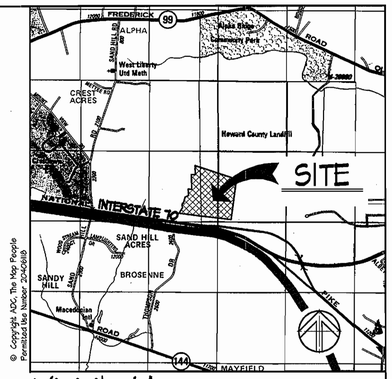
L66	S49°22'50"W	57.23'
L67	N75°01'17"W	34.92'
L68	N27°35'26"W	21.17'
L69	N11°42'51"E	151.30'
L70	N78°22'40"W	68.77'
L71	N25°52'36"E	28.33'
L72	S48°37'03"W	35.61'
L73	S45°24'21"E	24.46'
L74	S63°41'05"E	67.49'
L75	N 43°52'01" W	34.50'

A16
RADIUS: 134.24'
ARC LENGTH: 36.48'
BEARING: S53°46'24"E
CHORD LENGTH: 36.37'



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Vicinity Map

Scale: 1" = 2000'

LEGEND

- PROPERTY LINE
- EXISTING TREELINE
- EXISTING BRUSHLINE
- EXISTING TREES TO REMAIN
- PROPOSED TREELINE
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SYMBOL	NAME	HYDROLOGIC SOIL GROUP	K FACTOR
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CgC2	CHESTER GRAVELLY SILT LOAM	B	0.32
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ChB2	CHESTER SILT LOAM	B	0.32
GnB2	GLENVILLE SILT LOAM	C	0.32

PLAT REF. NO. 18518

PREPARED BY: KEVIN P. RILEY
STATE OF MARYLAND
LICENSED LANDSCAPE ARCHITECT
LICENSE REGISTRATION NO.
NAME — DATE: 10/11/06

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 10/31/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

0 25 50 100
SCALE 1"=50'

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LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KEVIN PAT RILEY — No. 320 — LICENSED LANDSCAPE ARCHITECT

DES: KPR				
DRN: AM				
CHK: REM				
DATE: 10/11/06	BY	NO.	REVISION	DATE

Forest Conservation Plan

600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

Phase II improvements: four buildings, eight training props and associated infrastructure

PUBLIC SAFETY TRAINING CENTER

at Alpha Ridge Landfill, Capital Project No.C-0182, Howard County, Maryland

OWNER:
Howard County
Department of Public Works
3430 Courthouse Drive
Ellicott City, Maryland 21043
Phone (410) 313-2700

ADDRESS / PERMIT INFORMATION:
PARCEL #250, ADDRESS: 2200 Alpha Center Drive
PLAT No. 15716, L.6684 / F.614
GRID No. 2/8, ZONE: RC-DEO, TAX MAP No. 16
3rd Election District, Census Tract 6030
WATER CODE: T30, SEWER CODE: Private - Holding Tank

C7.03

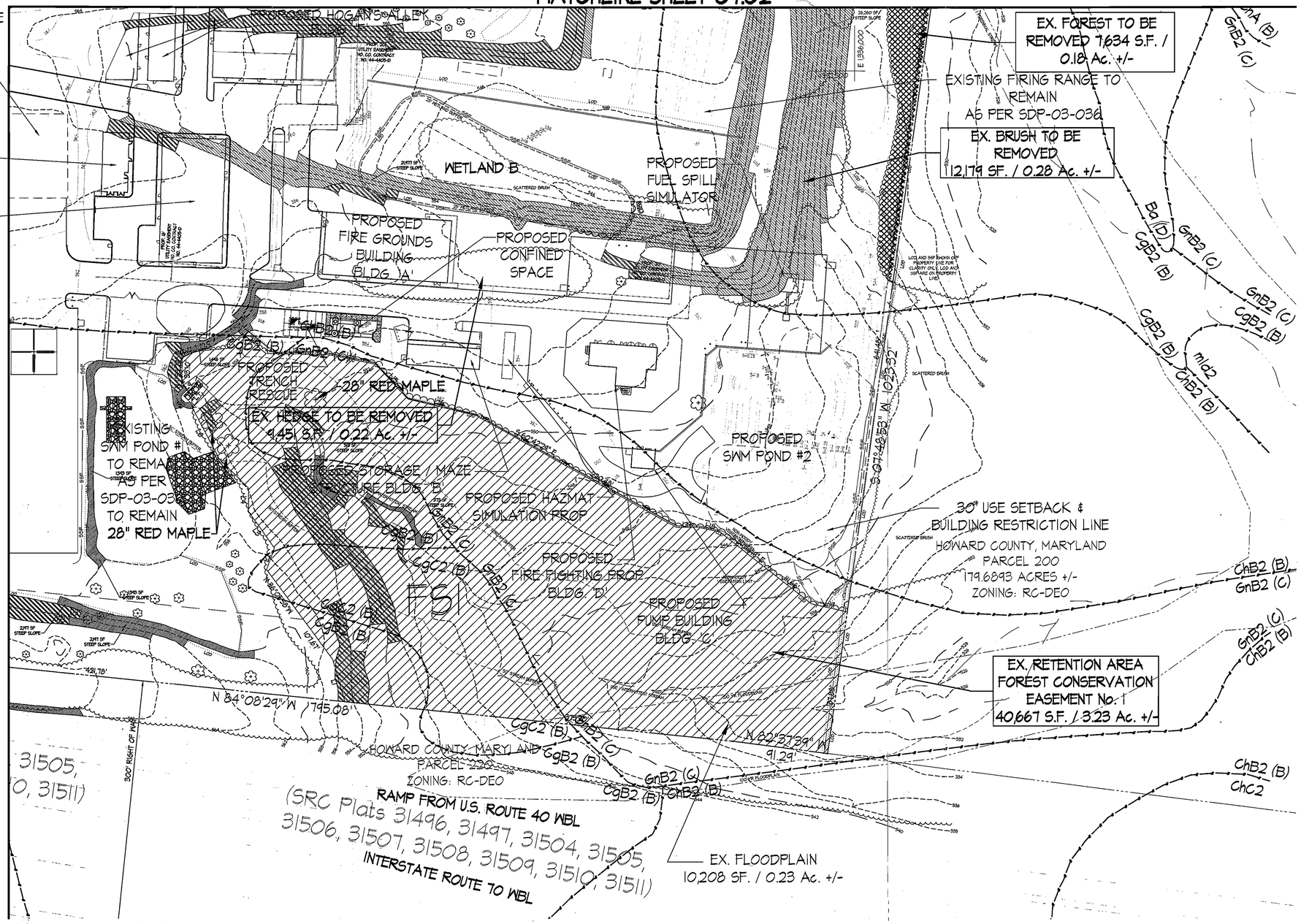
SCALE: 1"=50

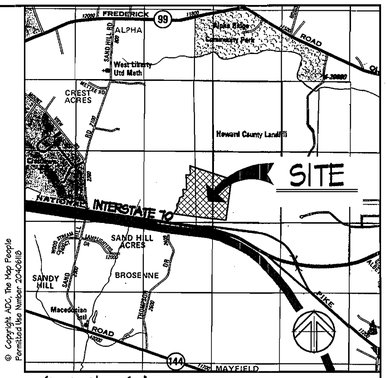
SHEET 68 OF 70

SDP - 06-110

Z:\02103153-Howard\Dp Public\Safety\Dwg\C7.03_ForestConservationPlan.dwg, 10/5/2006 11:17:05 AM, - Copyright, Site Resources, Inc.

MATCHLINE SHEET C7.02





Vicinity Map

Scale: 1" = 2000'

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LINE TABLE

LINE	BEARING	DISTANCE
L1	N15°49'26"W	42.33'
L2	N14°50'23"E	22.10'
L3	N34°46'54"W	43.61'
L4	N00°31'45"E	21.69'
L5	N44°46'50"W	40.00'
L6	N27°56'47"W	55.03'
L7	N36°20'52"E	25.18'
L8	N47°15'01"W	15.86'
L9	S65°01'23"W	11.39'
L10	N84°20'04"E	43.52'
L11	N45°03'58"E	20.18'
L12	S49°08'32"E	24.11'
L13	S89°01'43"E	54.74'
L14	S78°49'20"E	46.91'
L15	S42°32'04"E	45.40'
L16	S76°16'23"E	66.78'
L17	N40°00'00"E	21.17'
L18	S77°28'01"E	20.86'
L19	S76°54'45"E	35.17'
L20	N11°23'01"W	45.15'
L21	N41°57'27"W	44.51'
L22	N34°35'54"W	17.81'
L23	N25°12'58"E	36.02'
L24	S77°45'51"E	34.94'
L25	N84°22'23"E	47.43'
L26	N61°25'00"E	34.34'
L27	N36°31'08"E	36.91'
L28	N01°08'02"E	27.21'
L29	N20°50'51"W	36.31'
L30	N84°54'34"W	41.43'
L31	N00°00'00"E	6.46'
L32	N56°18'02"E	35.42'
L33	S54°01'11"E	58.22'
L34	S68°47'45"E	34.25'
L35	S47°04'01"E	36.77'
L36	S54°46'21"E	61.05'
L37	S75°22'41"E	62.78'
L38	S50°36'02"E	36.91'
L39	S04°40'06"E	46.00'
L40	S46°18'41"W	34.44'
L41	S69°11'52"W	52.80'
L42	N72°24'06"W	43.29'
L43	N55°04'51"W	26.41'
L44	S01°33'20"W	21.78'
L45	S62°44'43"W	21.72'
L46	N75°54'55"W	61.92'
L47	N54°31'40"W	30.65'
L48	N36°02'48"W	70.98'
L49	N49°24'10"W	49.96'
L50	S64°45'31"W	26.95'
L51	N64°10'15"W	27.76'
L52	N34°47'44"W	40.93'
L53	N23°46'28"E	56.44'
L54	N85°11'25"E	35.06'
L55	S84°43'01"E	52.31'
L56	S65°11'24"E	45.11'
L57	S11°55'05"E	16.86'
L58	S51°09'02"E	55.04'
L59	S65°20'11"E	24.80'
L60	N24°11'31"E	58.23'
L61	N55°57'51"E	11.67'
L62	S11°35'54"W	46.78'
L63	S85°48'54"E	80.24'
L64	S03°04'44"E	40.73'
L65	S18°17'03"E	43.40'
L66	S49°22'50"W	51.29'
L67	N75°01'11"W	34.42'
L68	N07°39'26"W	21.17'
L69	N11°42'51"E	181.50'
L70	N18°22'40"W	68.77'
L71	N23°52'36"E	28.33'
L72	S48°37'05"W	35.61'
L73	S45°24'21"E	24.96'
L74	S63°44'05"E	67.49'
L75	N 43°52'24" W	34.50'

A76
RADIUS: 194.24'
ARC LENGTH: 36.48'
BEARING: S83°46'24"E
CHORD LENGTH: 36.37'

PREPARED BY: KEVIN P. RILEY
STATE OF MARYLAND
LICENSED LANDSCAPE ARCHITECT
LICENSE REGISTRATION NO.
NAME KPRiley DATE 10/11/06

PLAT REF. NO. 18518

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 10/30/06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR — DATE 10/26/06

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR — DATE 10/30/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 10/24/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 10/30/06

SCALE 1"=50'

SOILS CHART

SYMBOL	NAME	HYDROLOGIC SOIL GROUP	K FACTOR
Ba	BAILE SILT LOAM	D	0.43
CgB2	CHESTER GRAVELLY SILT LOAM	B	0.32
CgC2	CHESTER GRAVELLY SILT LOAM	B	0.32
ChA	CHESTER SILT LOAM	B	0.32
ChB2	CHESTER SILT LOAM	B	0.32
GnB2	GLENVILLE SILT LOAM	C	0.32

C7.04

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Phone: 410.879.0388 Fax: 410.879.4785
E-mail: bw@edmeades-stromdahl.com

SITE RESOURCES, INC.
LAND PLANNING / SITE DESIGN
14315 Jarrettsville Pike Phoenix, Maryland 21131
Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KEVIN PATRICK RILEY — No. 382 — LANDSCAPE ARCHITECT — 10/11/06

DES: KPR			
DRN: AM			
CHK: REM			
DATE: 10/11/06	BY	NO.	REVISION

DATE

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600' SCALE MAP NO. 16 BLOCK NO. 2 / 8

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SHEET 69 OF 70

SDP - 06-110

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GENERAL NOTES

1. ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED TEMPORARY ORANGE CONSTRUCTION FENCING AND BARBED WIRE WITH SIGNAGE AS INDICATED ON THE PLANS. SUPER SILT FENCE WITH ORANGE FLAGGING SHALL BE USED IN LIEU OF TREE PROTECTION FENCE AS SHOWN ON PLANS. DEVICES SHALL BE INSTALLED PRIOR TO ANY LAND CLEARING, GRUBBING OR GRADING ACTIVITIES. ALL DEVICES SHALL REMAIN UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY. DEVICES SHALL BE FIELD LOCATED AND APPROVED BY THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
2. FOREST RETENTION AREA TO BE STAKED AND FLAGGED PRIOR TO PROTECTION DEVICE INSTALLATION. PROTECTIVE FENCING AND SIGNAGE SHALL BE INSTALLED AS A FIRST ORDER OF BUSINESS.
3. FOREST PROTECTION DEVICES SHALL BE INSTALLED AS SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA WILL BE WITHIN PROTECTION DEVICES.
4. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR EXCESSIVE PEDESTRIAN DISTURBANCE WITHIN THE FOREST CONSERVATION EASEMENT EXCEPT AS PERMITTED BY HOWARD COUNTY.
5. AFTER INSTALLATION OF TEMPORARY FOREST PROTECTION DEVICES, REVIEWING AUTHORITY IS TO BE NOTIFIED AND SHALL INSPECT THE DEVICES. REVIEWING AUTHORITY TO INSPECT COMPLETED CONSTRUCTION SITE.
6. STOCKPILE AREAS TO BE RELOCATED PER CONSTRUCTION STAGE. STOCKPILE AREAS TO BE LOCATED WITHIN LIMIT OF DISTURBANCE DURING ALL STAGES OF CONSTRUCTION AND THROUGHOUT ALL CONSTRUCTION ACTIVITIES. ALL STOCKPILE AREAS SHALL BE LOCATED OUTSIDE OF ANY FOREST CONSERVATION EASEMENT AREA AND OUTSIDE OF ALL ENVIRONMENTAL BUFFERS.
7. A POST CONSTRUCTION PROTECTION AND MANAGEMENT PROGRAM WILL BE IMPLEMENTED TO ENSURE THE SURVIVAL RATES OF FOREST RESOURCES SAVED OR PLANTED AS PART OF THE DEVELOPMENT PROPOSAL. ON SITE MEASURES SUCH AS FENCING WILL BE MAINTAINED DURING CONSTRUCTION AND WILL BE REMOVED AFTER CONSTRUCTION. INSPECTION FOR COMPLIANCE WITH FOREST CONSERVATION REQUIREMENTS WILL BE CARRIED OUT AND CERTIFICATION WILL BE PROVIDED TO IDENTIFY THAT SPECIFIC SURVIVAL RATES HAVE BEEN MET.
8. HOWARD COUNTY WILL ASSUME LONG TERM RESPONSIBILITY FOR PROTECTING THE INTEGRITY OF FOREST CONSERVATION AREAS AND PERFORMING AND DESIRED MAINTENANCE AFTER DEVELOPER GUARANTEES AND OBLIGATIONS HAVE BEEN MET.
9. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL WITH A FOREST CONSERVATION OBLIGATION OF 7.10 AC. THIS HAS BEEN PROVIDED AS 6.62 AC. IN RETENTION AND 0.48 AC. OF REFORESTATION. REFORESTATION EASEMENT AREA #7 INCLUDES THIS ADDITIONAL REFORESTATION PLUS 0.27 ACRES RELOCATED FROM OLD REFORESTATION EASEMENT AREA #6. THE REMAINDER OF REFORESTATION AREA #6 IS NOW LABELED AS REFORESTATION EASEMENT AREAS #6A AND #6B.
10. THE FOREST CONSERVATION EASEMENTS ON THIS PLAN HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS, HOWEVER FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
11. PRIOR TO CONSTRUCTION, SUPER SILT FENCE SHALL BE INSTALLED IN AREAS ADJACENT TO STREAMS, WETLANDS, OR THEIR BUFFERS AS SHOWN ON PLANS.

WRITTEN EXPLANATION OF FOREST CLEARING

1. THE PURPOSE OF THE PROJECT IS FOR THE CONSTRUCTION OF THE HOWARD COUNTY PUBLIC SAFETY TRAINING CENTER. DUE TO THE CONFIGURATION OF THE TRAINING FACILITIES AND THE LOCATION OF THE STORMWATER MANAGEMENT AREA, FOREST IMPACTS ARE REQUIRED.
2. CLEARING WILL BE LIMITED TO TWO AREAS OF EXISTING FOREST TOTALING 0.24 ACRES, AND AN ADDITIONAL AREA OF 0.27 ACRES OF OLD REFORESTATION EASEMENT AREA #6.
3. REFORESTATION/AFFORESTATION CALCULATIONS HAVE IDENTIFIED 0.48 ACRES OF ADDITIONAL REFORESTATION AREA REQUIRED. THIS AREA, ALONG WITH THE RELOCATED PORTION OF OLD REFORESTATION AREA #6 HAS BEEN PROVIDED IN REFORESTATION EASEMENT AREA #7.

FOREST PROTECTION PROCEDURES - Construction Management Period

Stress Reduction and Protection of Specimen Trees Isolated from Forest Retention Areas and General Forest Retention Areas (As They May Apply)

1. The edge of the forest area to be protected will be marked (staked or flagged) in the field per the limits of disturbance shown on these plans prior to the start of construction activity. All areas within protective fences are to be considered "off limits" to any construction activities. The protective fencing shall be installed at the outside edge of forested areas and specimen trees to be retained and should be combined with sediment control devices when possible. The limit of the critical root zone and therefore the location of protective devices is to be determined as follows:

   Isolated Specimen Trees - 1.5 feet of protective radius per inch of DBH

   Edge of Forested Area - 1 foot of protective radius/inch of DBH or an eight foot protective radius, whichever is greater.

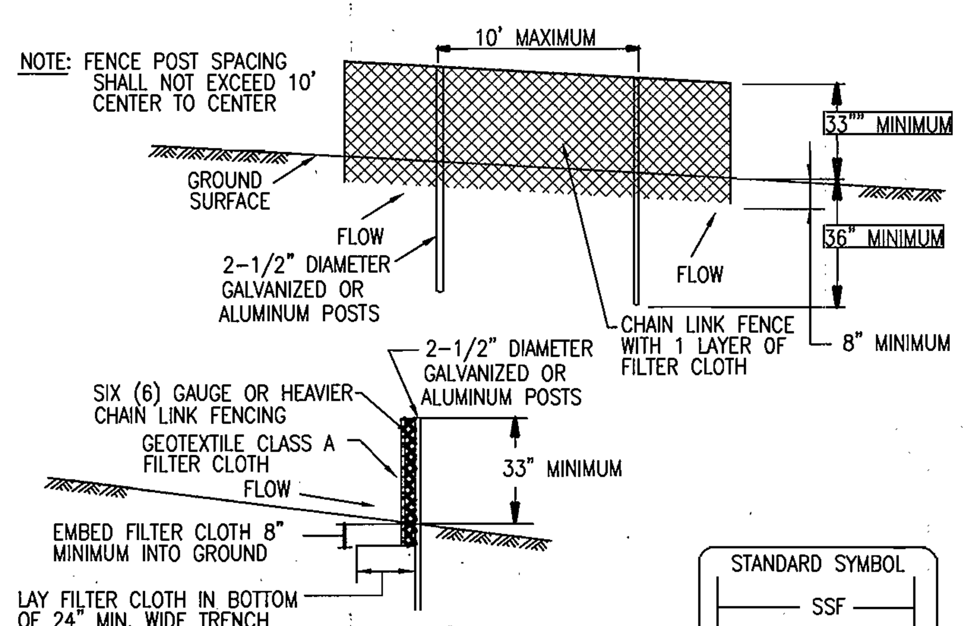
2. Construction activities expressly prohibited within the preservation areas are:

   Placing or stockpiling backfill or top soil in protected areas
   Felling trees into protected areas
   Driving construction equipment into or through protected areas
   Burning in or in close proximity to protected areas
   Stacking or storing supplies of any kind
   Concrete wash-off areas
   Conducting trenching operations
   Grading beyond the limits of disturbance
   Parking vehicles or construction equipment
   Removal of root mat or topsoil
   Siting and construction of: Utility lines, Storm water management Devices, Access roads, Impervious surfaces, Staging Areas

3. Tree Protection Fence (see detail this sheet) shall be the responsibility of the general contractor. The general contractor shall affix signs to the fencing at 25' minimum intervals indicating that these areas are "Forest Retention Area" or "Specimen Tree" (see Figure "Signage"). The general contractor shall take great care to assure the restricted areas are not violated and that the root systems are protected from smothering, flooding, excessive wetting from de-watering operations, off-site run-off, spillage and drainage or solutions containing materials hazardous to tree roots.
4. The general contractor shall be responsible for any tree damaged or destroyed within the preservation areas whether caused by the contractor, his agents, employees, subcontractors, or licensees.
5. Foot traffic shall be kept to a minimum in the protective areas.
6. All trees which are not to be preserved within fifty feet of any tree preservation areas are to be removed in a manner that will no damage those trees that are designated for preservation. It is highly recommended that tree stumps within this fifty foot area be ground out with a stump grinding machine to minimize damage.
7. The general contractor shall designate a "wash out" area on-site for concrete trucks which will not drain toward a protected area.
8. A pre-construction meeting shall be held with local authorities before any disturbances has taken place on site.

FOREST PROTECTION PROCEDURES - Post-Construction Management Period

1. Post-costruction management processes shall through the end of the second complete growing season after installation of plant material.
2. Inspection of the forest conservation easements is to be conducted at the beginning and end of each growing season to identify survival rates and any remedial actions needed to correct existing problems and prevent future problems..
3. Management of forest conservation areas is the responsibility of the post-construction plan supervisor. Management shall include repair/replacement of required fencing and signage, removal of competing undesirable species, elimination or discouragement of pests including deer, thinning or pruning plantings, watering during drought, fertilization and replacement of dead or damaged plantings.
4. Inspection shall take place at the end of the first growing season or before the beginning of the second growing season to evaluate survival rates of the plant material. Plantings will be evaluated based on vigor, structure, growth rate, crown development and trunk health. If plant mortality exceeds 10% after the end of the first growing season, additional material shall be installed to bring the survival rate to 90%. If plant mortality exceeds 25% after the end of the second growing season, material shall be added to guarantee a survival rate of 75%.
5. Plans depicting all protected areas on the site and a description of permitted and prohibited activities in these areas must be provided by the owner to the ultimate user of the site.
6. At the end of the post-construction and Management period, the post-construction plan supervisor shall convey to the County that the site has been restored to the appropriate condition as described above, that minimum survival rates have been achieved and that any permanent protection measures, fencing and signage are in place. The County will then notify the developer of release of surety and all future obligations. The developer's last responsibility will be to transmit a copy of this notification to the owner, tenant or agent responsible for the maintenance of the site. This transmittal shall serve as an assumption of full responsibility by the owner for all future forest conservation obligations.



CONSTRUCTION SPECIFICATIONS

1. 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.
2. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE. THE CHAIN LINK FENCING SHALL BE SIX (6) GAUGE OR HEAVIER.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
5. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
6. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT

DETAIL H-26-3

SUPER SILT FENCE

H263 NOT TO SCALE

REFORESTATION PLANTING SCHEDULE

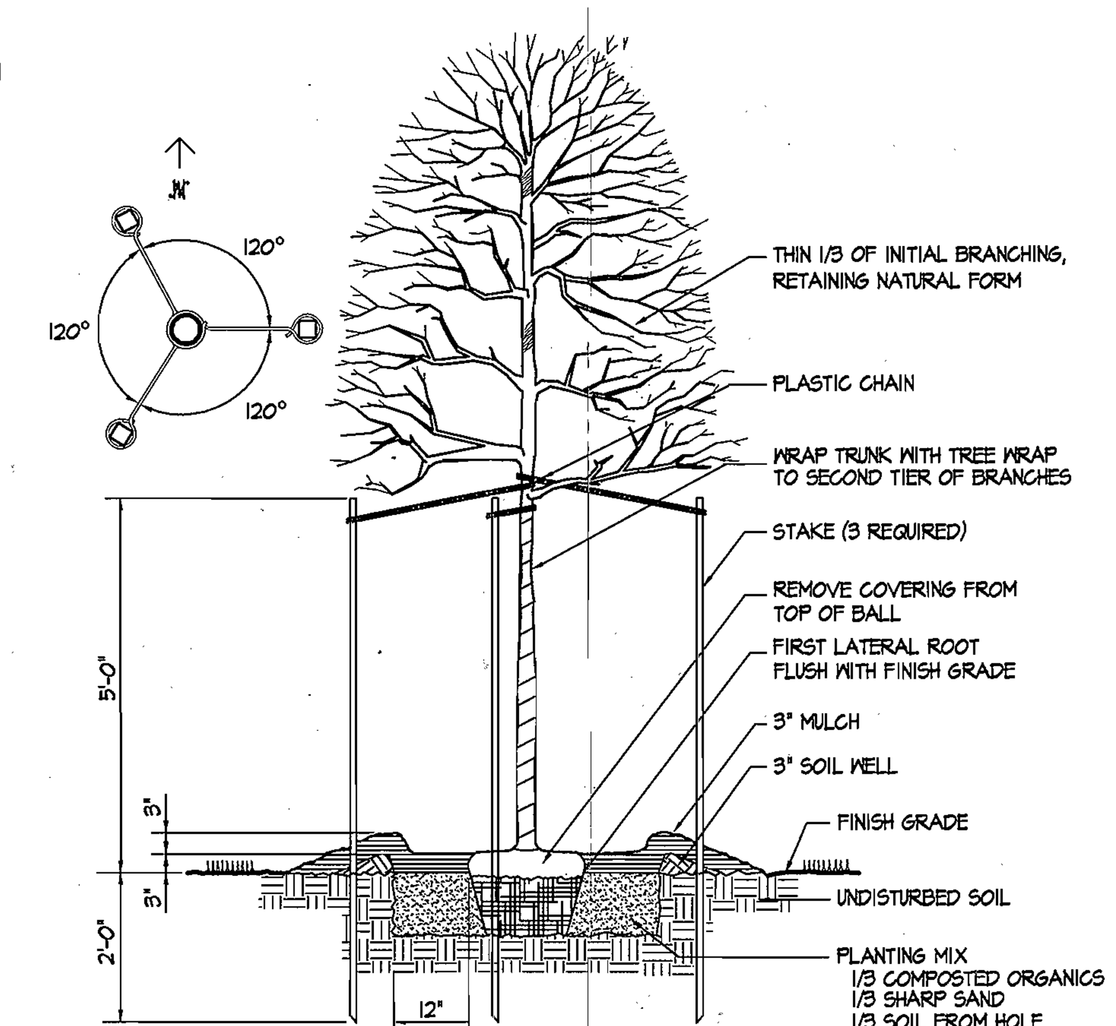
KEY	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	COMMENTS
AR	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2" - 2 ½" CAL.	15	
BN	BETULA NIGRA 'DURA-HEAT'	DURA-HEAT RIVER BIRCH	2" - 2 ½" CAL.	14	
PO	PLATANUS OCCIDENTALIS	SYCAMORE	2" - 2 ½" CAL.	15	
QB	QUERCUS BICOLOR	SWAMP WHITE OAK	2" - 2 ½" CAL.	15	
QP	QUERCUS PALUSTRIS	PIN OAK	2" - 2 ½" CAL.	14	

REFORESTATION PLANTINGS TO BE INSTALLED/SPACED RANDOMLY AT ROUGHLY 20' O.C.

PLANT DENSITY: 100 2" CALIPER TREES/ACRE (20' X 20' SPACING) X .73 ACRES = 73 TREES

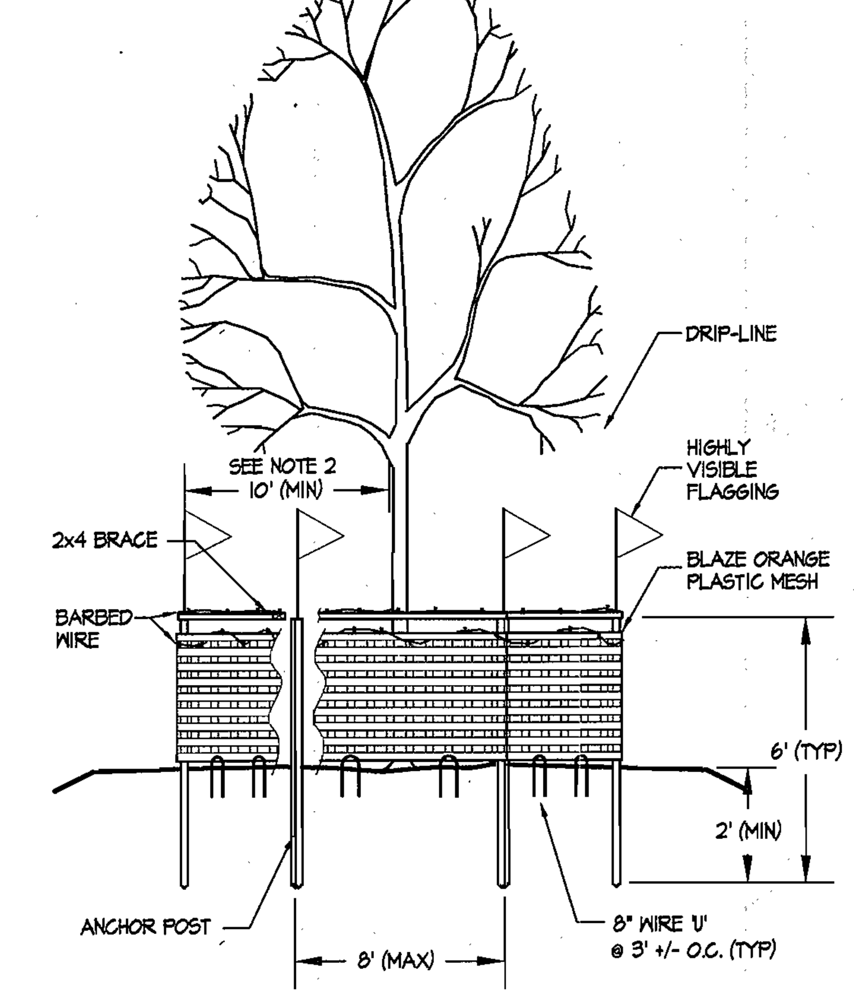
REFORESTATION METHOD: NURSERY STOCK

1. PLANT SIZE: GREATER THAN 1" SHOULD MEET OR EXCEED AMERICAN ASSOCIATION OF NURSERYMEN SPECIFICATIONS.
2. PLANTING STOCK LESS THAN 1" CALIPER SHOULD MEET THE FOLLOWING STANDARDS: SEEDLINGS/WHIPS (HARDWOODS 1/4" - 1/2" CALIPER WITH 8" ROOTS; CONIFERS 1/8" - 1/4" CALIPER WITH ROOTS 8" AND TOP HEIGHT OF 6" OR MORE. SHRUBS SHOULD BE PLANTED 1/8" OR LARGER WITH 8" ROOT SYSTEMS.



DECIDUOUS TREE PLANTING DETAIL

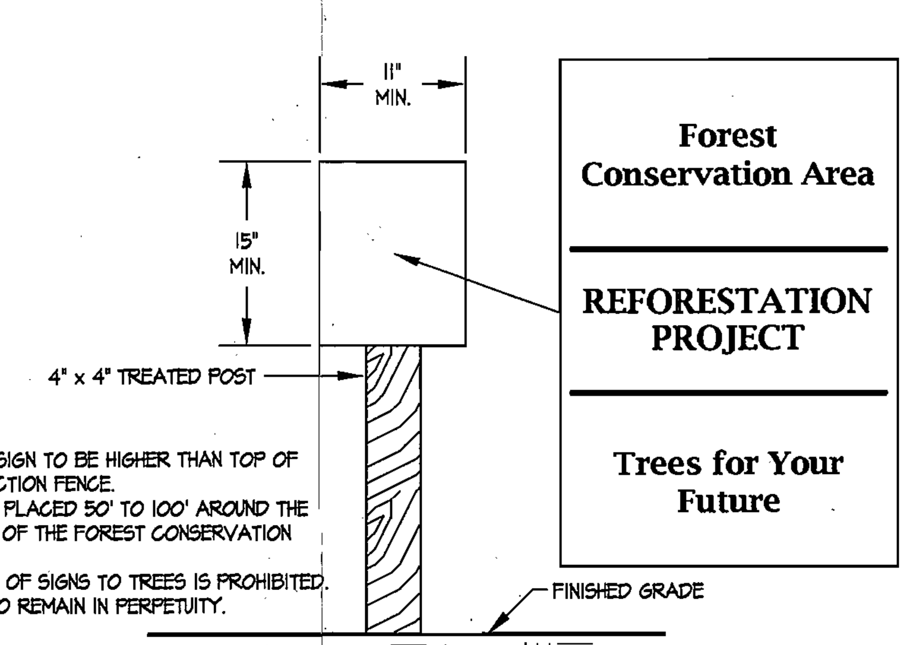
N.T.S.



1. Tree protection fence shall be blaze orange plastic mesh with anchor posts. Anchor posts shall be minimum 2" steel 'U' channel or 2" x 2" timber, 6' in length, spaced 8' O.C. (maximum) marked with highly visible flagging. Anchor posts must be installed to a depth of no less than 1/3 of the total height of the post. Use 2" x 4" lumber for cross bracing along top of fence. Use 8" wire 'U' to secure fence bottom. Barbed wire shall be secured to the entire top of the fence.
2. Place fence at dripline around trees with greater than 20' spread. For smaller trees, place fence 10' (minimum) from trunk.
3. Root damage should be avoided during installation of anchor posts and fence.
4. Protection signage may also be used.
5. No construction equipment, materials or excavated earth permitted inside tree protection fences.
6. Maintain tree protection devices throughout construction.
7. This fence is a tree protection device only.
8. In areas of super silt fence for erosion and sediment control, use super silt fence with flagging in lieu of plastic mesh.
9. In areas adjacent to streams, wetlands or their buffers and all forest retention area, super silt fence or barbed wire shall be used in lieu of tree protection fence.

TREE PROTECTION FENCE DETAIL

N.T.S.

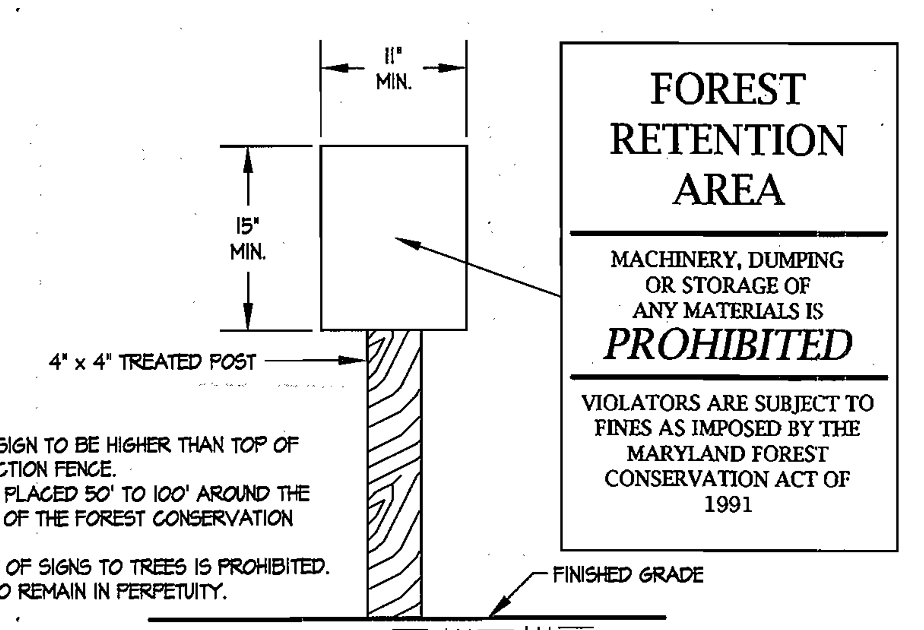


NOTES:

1. BOTTOM OF SIGN TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
2. SIGNS TO BE PLACED 50' TO 100' AROUND THE ENTIRE LIMIT OF THE FOREST CONSERVATION EASEMENT.
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
4. SIGNS ARE TO REMAIN IN PERPETUITY.

REFORESTATION AREA PROTECTION SIGN DETAIL

HOWARD CO. EXHIBIT G-16 N.T.S.



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FOREST RETENTION AREA SIGN DETAIL

HOWARD CO. EXHIBIT G-17 N.T.S.

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER 10/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
JAMES M. IRVIN, DIRECTOR 10/26/06 DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
DIRECTOR 10/30/06 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/24/06 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT 10/30/06 DATE

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Phone: 410.683.3388 Fax: 410.683.3389

STATE OF MARYLAND — KEVIN PATRICK RILEY — No. 323 — REGISTERED LANDSCAPE ARCHITECT — 10/11/06

DES: KPR
DRN: AM
CHK: REM
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BY	NO.	REVISION	DATE

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C7.05

SCALE: AS SHOWN

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