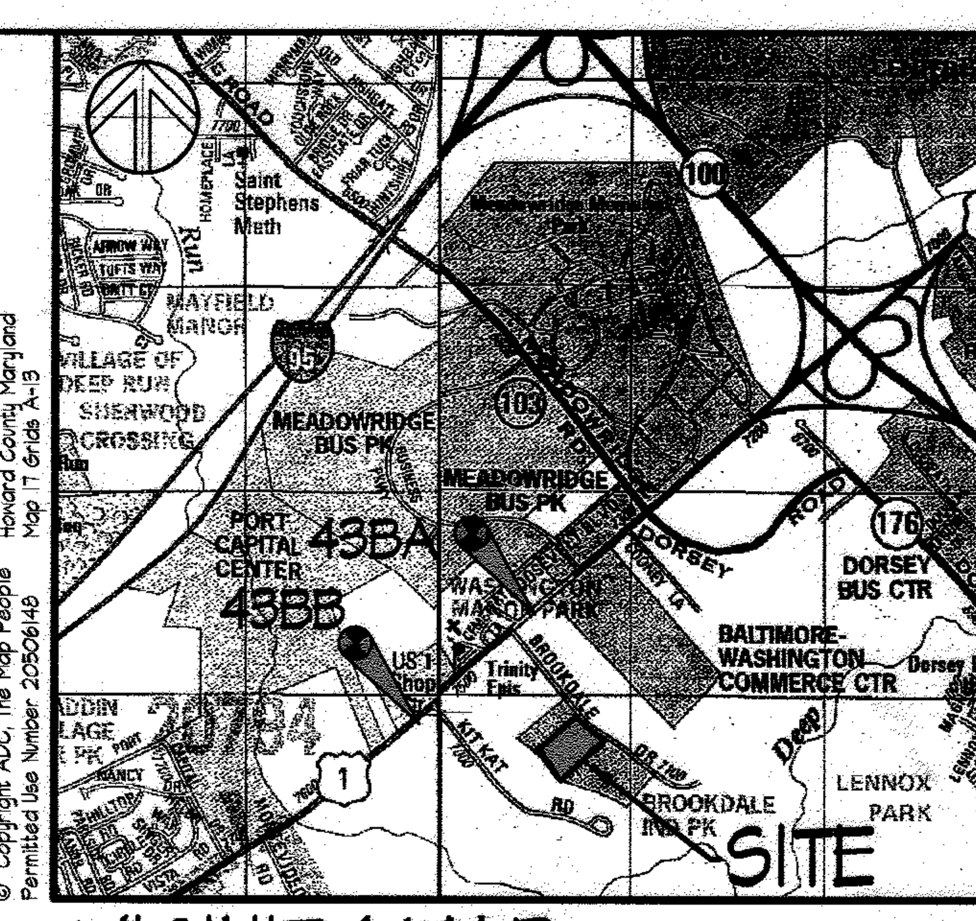
Brookdale Industrial Park
Parcel A



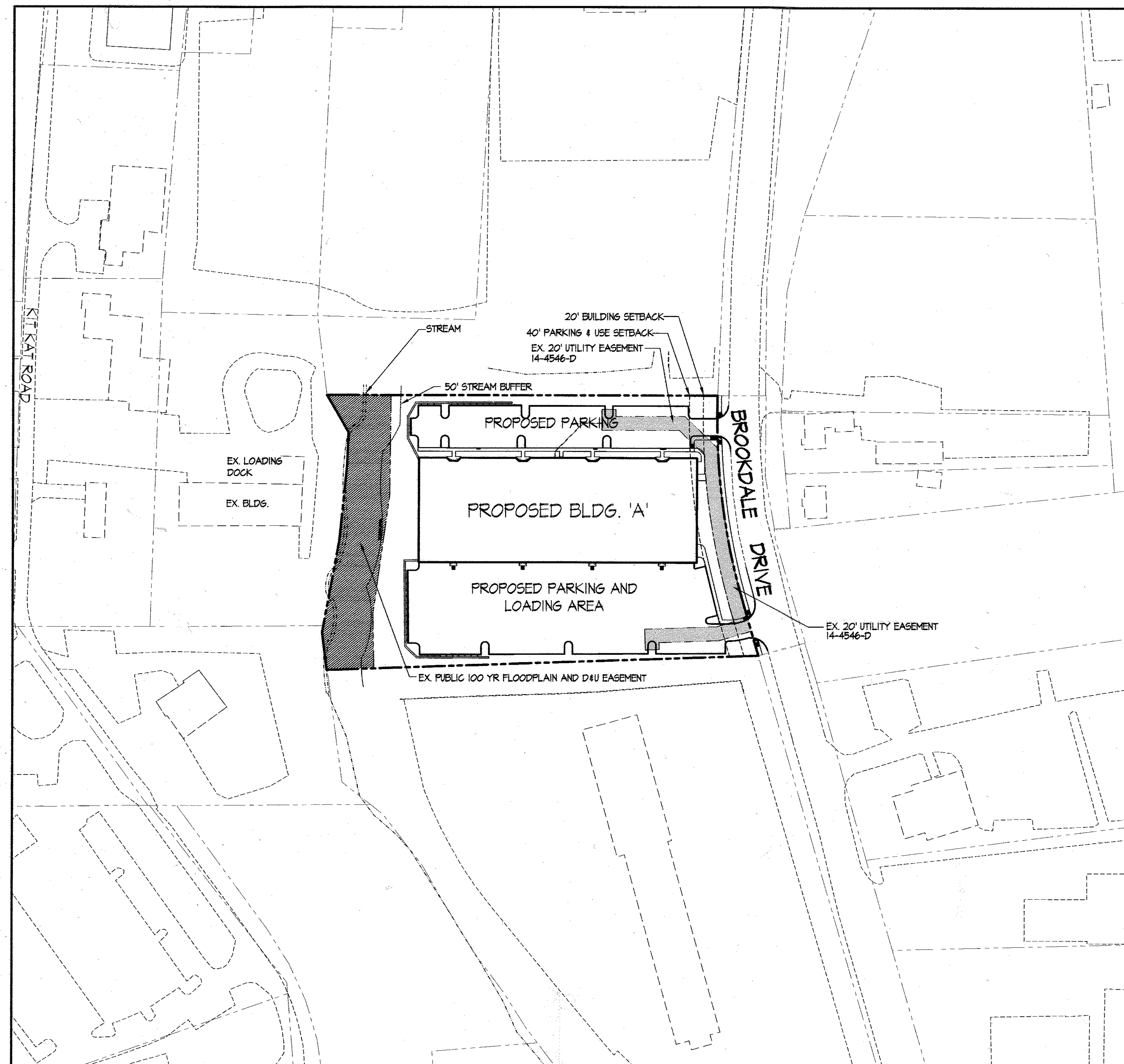
VICINITY MAP 1"=2000'

GENERAL NOTES

1. All construction shall be in accordance with the latest standards and specifications of Howard County, latest ADA accessability guidelines and 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 field run survey with 2 foot contour intervals on July 16, 2007 performed by Shanaberger and Lane. Additional topography shown taken from Howard County GIS.
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. 43BA, 43BB were used for this project.
8. Water connection will be made at 12" public line in Brookdale Drive (Contract 573 W&S).
9. Sewer connection will be made at 8" public line in Brookdale Drive (Contract 573 W&S).
10. Stormwater Management will be provided by an underground management system. The facilities are to be privately maintained.
11. Existing utilities are based on surveys performed by Shanaberger and Lane and Howard County GIS, the contractor must determine the exact location of utilities by digging test pits, by hand, at all utility 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 40 of 45, Map Number 2400440040B, however there is a Floodplain Easement shown on this plan from flood plain study dated July 25, 1973, performed by Purdum & Jeschke Engineers for SDP-74-034 and on F-74-12, Brookdale Industrial Park, Parcel A, P.B. 26, F. 10.
13. There are streams and stream buffers located on this site as shown on the plan. There are no known wetlands on this site and none within the development area.
14. A traffic study was conducted on November 9, 2007 and was submitted to Howard County P&Z on December 10, 2007.
15. An APFO Test was conducted on November 9, 2007 and was submitted to Howard County P&Z on December 10, 2007.
16. The property boundaries shown on these plans are recorded in plat book #26, folio 10.
17. 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 the floodplain easement.
18. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual.
19. This project complies with the requirements of Section 16.1200 of the Howard County Code for Forest Conservation by redevelopment within an original development area as determined from SDP 74-34. See General Note 27.
20. All exterior light fixtures shall be oriented to direct light downward on-site, away from adjoining properties and public roads in accordance with the requirements of Section 134 of the Howard County Zoning Regulations. Light trespass onto adjoining properties shall be limited to 0.1 foot candles.
21. There are no cemeteries or grave sites on the subject property.
22. 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.
23. All utilities constructed within fill material must be installed in accordance with AASHTO-T180.
24. 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

25. The subject property is zoned CE per the 02/02/04 comprehensive zoning plan.
26. No wetlands, wetland buffers, streams, stream buffers, floodplain easement and/or steep slopes 25% or greater of 20,000 sf contiguous are proposed to be disturbed as part of this project.
27. This project is exempt from the requirements of Section 16-1200 of the Howard County Code for Forest Conservation as described in Section 16-1202(b)(1)(iii) because the proposed development is contained within the previous limit of development of SDP 74-34.
28. All spot elevations are at flowline / bottom of curb unless otherwise mentioned.
29. Developer shall be responsible for any damage to the public right-of-way.
30. This site was previously developed under SDP 74-34.
31. Related DPZ File Nos.: SDP-74-34, F-74-12, P.B. 26 / F. 10., 14-4546-D, Revision Plat F-08-168/P.N. 20330
32. Landscape surety in the amount of $8,850.00 has been posted as a part of the Developer's Agreement.
33. On May , 2016 revisions were made to this approved SDP to change the use from Flex Space to Warehouse/Distribution & Office and to reduce the required parking quantities accordingly, to adjust the accessible parking location and to update the gross square footage of the building. Also added were an existing 1,250 sf truck ramp, approximately 620 sf of outdoor refrigeration equipment, three new doors, a set of stairs and 1,155 sf of sidewalk. Changes are within the original LOD and constitute less than 5,000 sf therefore no stormwater management or erosion & sediment control revisions are required. (Revision 1)
34. ON NOV. 9, 2016 REVISIONS WERE MADE TO THIS APPROVED REVISED SDP TO ADD A NINE FOOT HIGH SECURITY FENCE WITH VEHICULAR ENTRY SWING GATE ON THE SOUTH SIDE OF THE BUILDING. (Revision 2)



BENCHMARKS

MONUMENT	NORTHING	EASTING	ELEVATION	HORIZ. DATUM	VERT. DATUM
43BA	550534.186	1376905.228	209.31	NAD83(91)	NAVD88
43BB	551676.391	1378108.415	209.50	NAD83(91)	NAVD88

DRAWING INDEX

SHEET #	DRAWING #	DRAWING TITLE
1 OF 24	C0.01	COVER SHEET
2 OF 24	C0.02	GENERAL NOTES & BUILDING ELEVATIONS
3 OF 24	C1.01	EXISTING CONDITIONS & DEMOLITION PLAN
4 OF 24	C2.01	LAYOUT & DETAIL REFERENCE PLAN
5 OF 24	C3.01	SITE DETAILS
6 OF 24	C3.02	SITE DETAILS
7 OF 24	C4.01	GRADING & EROSION & SEDIMENT CONTROL PLAN
8 OF 24	C4.02	EROSION & SEDIMENT CONTROL DETAILS
9 OF 24	C4.03	EROSION & SEDIMENT CONTROL DETAILS
10 OF 24	C5.01	STORMWATER MANAGEMENT DRAINAGE AREA MAP
11 OF 24	C5.02	STORMWATER MANAGEMENT PLAN
12 OF 24	C5.03	STORMWATER MANAGEMENT DETAILS
13 OF 24	C5.04	STORMWATER MANAGEMENT NOTES
14 OF 24	C5.05	STORM DRAIN DRAINAGE AREA MAP
15 OF 24	C5.06	STORM DRAIN PROFILES
16 OF 24	C5.07	STORM DRAIN PROFILES
17 OF 24	C5.08	WATER PROFILES
18 OF 24	C6.01	PLANTING PLAN
19 OF 24	C6.02	PLANTING NOTES & DETAILS
20 OF 24	-	RETAINING WALL #1 PLAN
21 OF 24	-	RETAINING WALL #2 PLAN & ELEVATION
22 OF 24	-	RETAINING WALL #1 ELEVATION
23 OF 24	-	RETAINING WALL SECTIONS
24 OF 24	-	RETAINING WALL NOTES & DETAILS

SITE ANALYSIS DATA CHART

a. Total Project Area = 5.00 Ac / 217,800 SF
b. Limit of Disturbed Area = 4.34 Ac / 189,268 SF
c. Present Zoning Designation = CE
d. Proposed Use for Site and Structures = Warehouse/Distribution 52,161 SF; Office 7,840 SF; Mezzanine 2,812 SF; total 62,813 SF
e. Maximum Number of Users =
f. Parking Spaces Required: Warehouse/Distribution @ .75/1,000 SF = 39.1 sp; Office/Mezzanine @ 3.3/1,000 SF = 35.2 sp; required total = 75 sp
g. Parking Spaces Provided: provided total = ~~144~~ 140 sp
h. Handicap Parking Spaces Required: 5 (4 standard / 1 van accessible)
i. Handicap Parking Spaces Provided: 5 (3 standard / 2 van accessible)

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/4/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — J.P. DATE 12/1/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

BUILDING INDEX

PROPOSED STRUCTURE	IDENTIFIER
62,813 SF WAREHOUSE/DIST.	A

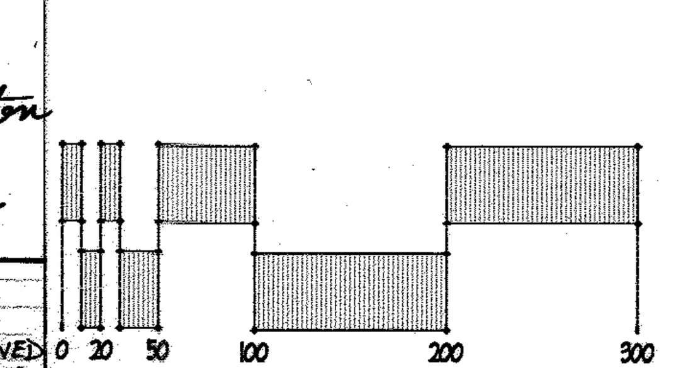
PURPOSE AND INTENT

This project will provide a ~~flex space building~~ Warehouse/Distribution Building with an underground stormwater management facility and associated parking and infrastructure. There will be no food services on site.

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

11.9.16

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, EXP. DATE 7/18/17



SCALE: 1" = 100'

THIS SEAL IS FOR 1 REVISIONS MADE BY SITE RESOURCES, INC.

5.19.16

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: 07.18.17.

ADDRESS CHART

PARCEL #	STREET ADDRESS
PARCEL A	7010 BROOKDALE DRIVE

SUBDIVISION NAME	SECTION / AREA	LOTS / PARCELS
BROOKDALE INDUSTRIAL PARK	N/A	Parcel A

PLAT No.	BLOCK No.	ZONE	TAX MAP No.	ELECT. DIST.	CENSUS TRACT
20330	4/5	CE	43	1	6012.02

WATER CODE	SEWER CODE
B01	2350000

OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841

Cover Sheet

Brookdale Industrial Park
Parcel A
PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS
1. 5/25/16 revision to approved SDP see general note #33.
2. 11/7/16 REVISION TO APPROVED SDP, SEE GEN. NOTE #34

11/14/08

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. 24181, EXPIRATION DATE 06/13/09.

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY:	AM	CONTRACT NO.:	
DESIGNED BY:	KPR	SCALE:	1" = 100'
CHECKED BY:	SGC/REM	SRI PROJECT NO:	07033
DATE:	NOVEMBER 17, 2008	SHEET	C0.01 1 OF 24

SDP-08-031

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BUILDING INFORMATION TABLE

PROPOSED STRUCTURE	TYPE	MEAN HEIGHT	STREET ADDRESS	AGE
BUILDING	PERMANENT BUILDING	31'±	7010 BROOKDALE DRIVE	-

KNOWN ENCUMBERANCES

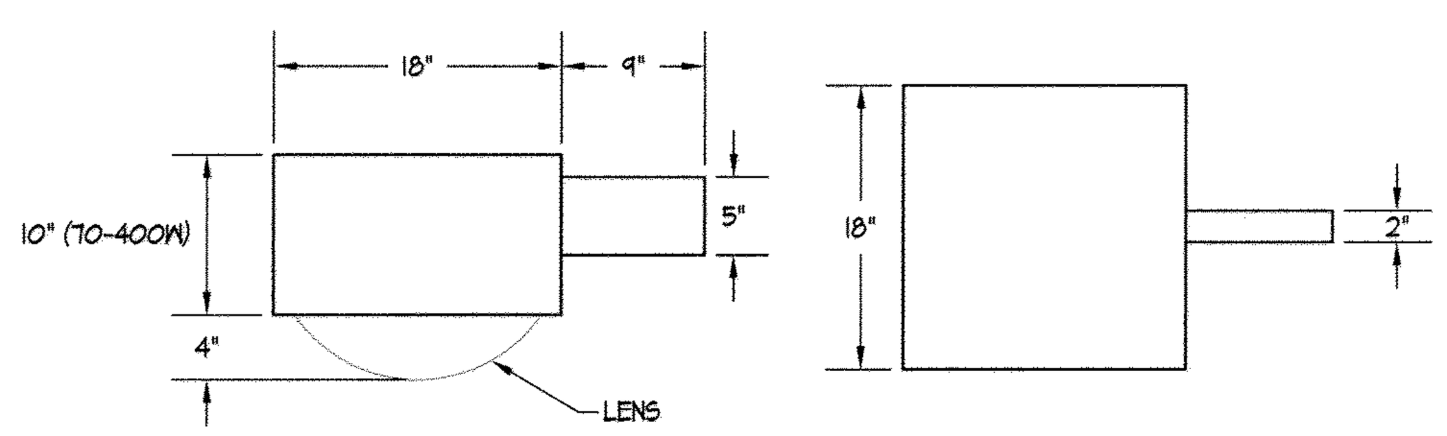
1. There are no known encumberances on this site.

PROJECT TIMELINE

REFERENCE	ACTION	DATE APPROVED	APPROVED BY
SDP-74-34	ORIGINAL CONSTRUCTION OF OFFICE/TRUCK DOCK BUILDING AND SHOP BUILDING.	JANUARY 11, 1974	HOWARD COUNTY OFFICE OF PLANNING AND ZONING

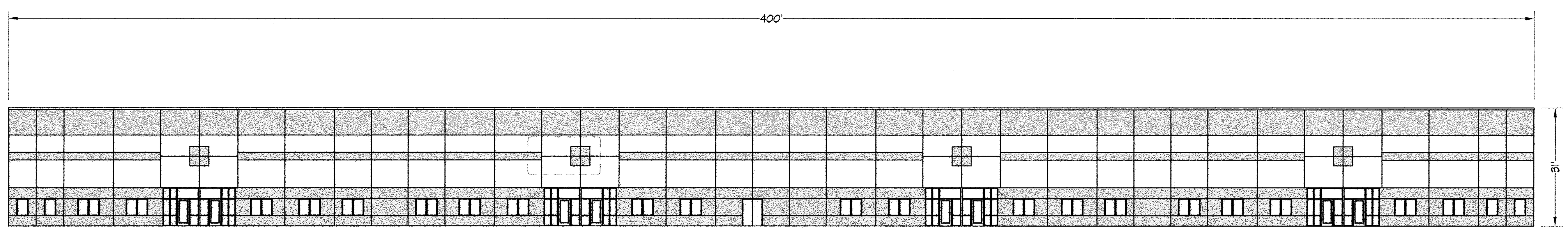
LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS			MAX W.	MOUNTING	MANU. / MODEL No. (OR APPROVED EQUAL)
		VOLTS	NO.	TYPE			
S1	SHOE BOX STYLE H.I.D. LUMINIARE WITH FORMED ALUMINUM SHEET METAL HOUSING, TEMPER GLASS LENS AND TYPE III DISTRIBUTION. U.L. LISTED FOR WET LOCATIONS.	277	7	400 WATT HIGH PRESSURE SODIUM	400	POLE	LITHONIA KSF SERIES
S2	HPS VAPOR SAG COBRA FIXTURE MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM. (THIS IS A PUBLIC STREET LIGHT TO BE INSTALLED BY HOWARD COUNTY.)	-	2	250 WATT HIGH PRESSURE SODIUM	250	POLE	-



SIDE VIEW   TOP VIEW

S1 LIGHT DETAIL
NOT TO SCALE



BUILDING ELEVATION

SCALE: 1"=20'

APPROVED: DEPARTMENT OF PLANNING & ZONING

[illegible] 12/4/08
DIRECTOR DATE

[illegible] J.P. 12/1/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[illegible] 12/4/08
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME: BROOKDALE INDUSTRIAL PARK			SECTION / AREA: N/A	LOTS / PARCELS: Parcel A	
PLAT No.: 20330	BLOCK No.: 4/5	ZONE: CE	TAX MAP No.: 43	ELECT. DIST.: 1	CENSUS TRACT: 6012.02
WATER CODE: B01			SEWER CODE: 2350000		
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

General Notes & Building Elevation

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

PROFESSIONAL ENGINEER STEPHEN GARY CROWE Reg. No. 29181 STATE OF MARYLAND

[illegible] 11/14/08

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SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM	CONTRACT NO.:
DESIGNED BY: KPR	SCALE: AS SHOWN
CHECKED BY: REM	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C0.02 2 OF 24

SDP-08-031

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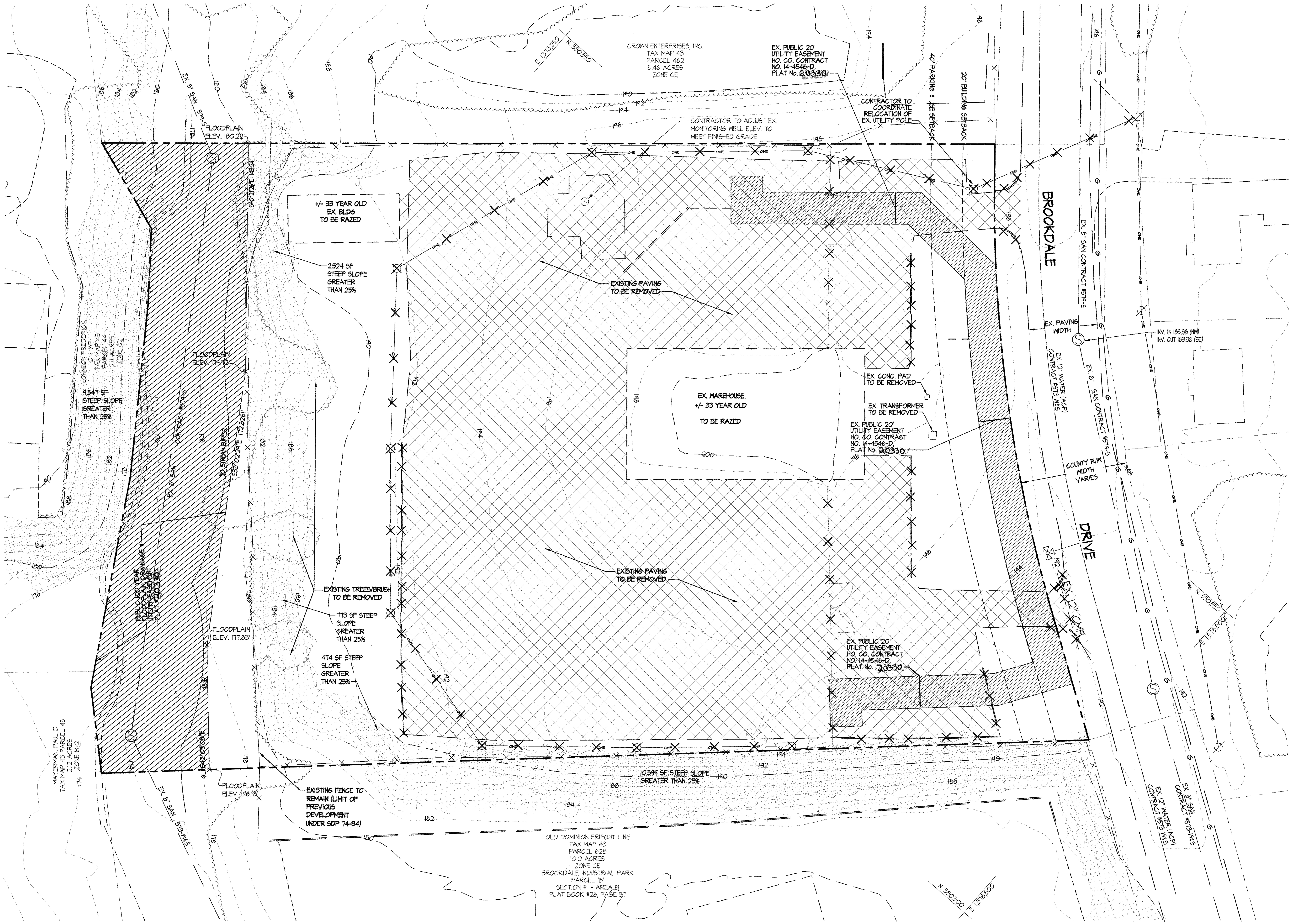

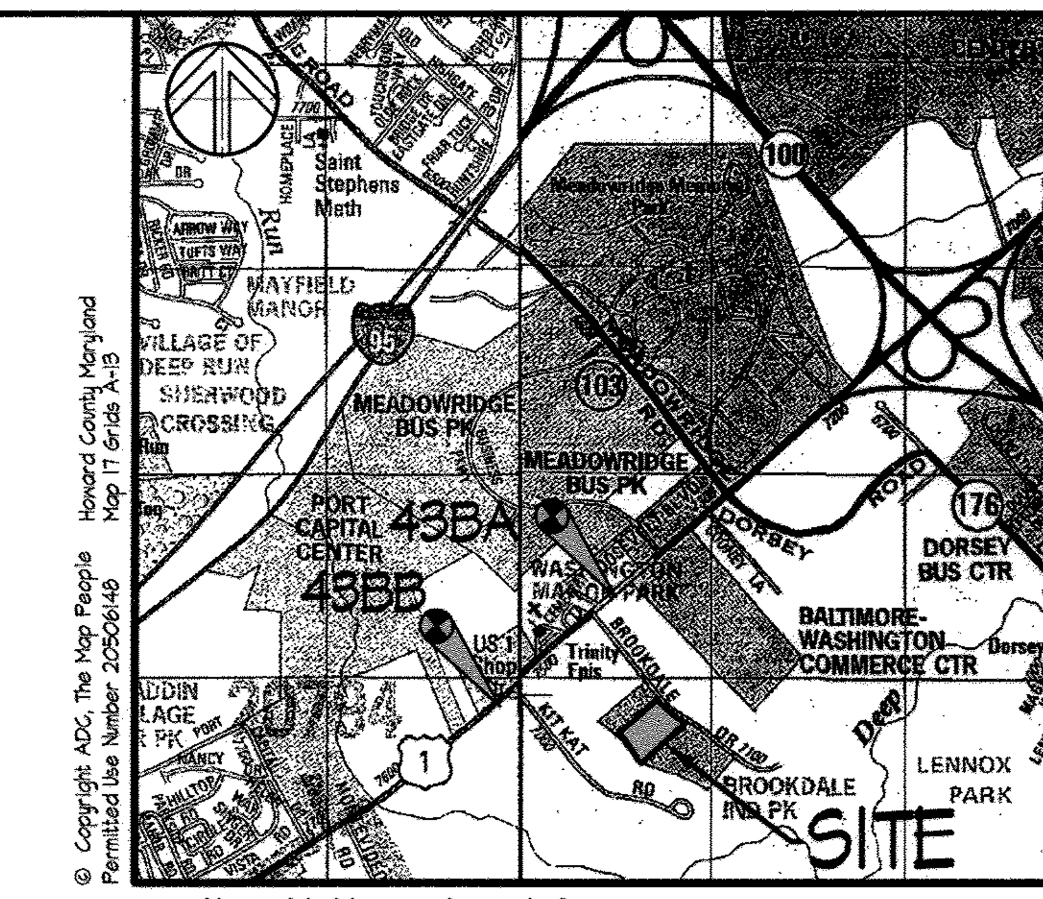

VICINITY MAP

1"=2000'

BENCHMARKS

MONUMENT	NORTHING	EASTING	ELEVATION	HORIZ. DATUM	VERT. DATUM
43BA	550534.186	1376905.228	209.37	NAD83(91)	NAVD88
43BB	551676.391	1378108.415	209.50	NAD83(91)	NAVD88

LEGEND

- PROPERTY LINE
- EXISTING CONTOURS (348, 350)
- EXISTING TREELINE
- EXISTING TREELINE TO BE REMOVED
- EXISTING PAVING TO REMAIN
- EXISTING CURB & GUTTER TO BE REMOVED
- EXISTING PAVING TO BE REMOVED
- EX. 15" SD — EXISTING STORM DRAIN TO REMAIN
- EX. 8" WATER — EXISTING WATER TO REMAIN
- EX. 8" WATER — EXISTING WATER TO BE ABANDONED/REMOVED
- EX. 8" SAN. — EXISTING SANITARY TO REMAIN
- EX. 8" SAN. — EXISTING SANITARY TO BE ABANDONED/REMOVED
- EXISTING GAS LINE TO REMAIN
- EXISTING OVERHEAD ELECTRIC TO REMAIN
- EXISTING OVERHEAD ELECTRIC TO BE REMOVED
- EXISTING FENCE TO REMAIN
- EXISTING FENCE TO BE DEMOLISHED
- EXISTING BUILDINGS
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EX. PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT — EX PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT
- EXISTING STEEP SLOPES 15% - 25%
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA LESS THAN 20,000 SF
- EXISTING 20' WIDE WATER UTILITY EASEMENT 14-4546-D

Existing Conditions & Demolition Plan

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR	12/4/08 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION J.P.	12/1/08 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	12/4/08 DATE

0 10 20 30 50 100

SCALE: 1" = 30'

NORTH

ADDRESS CHART

PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME: BROOKDALE INDUSTRIAL PARK				SECTION / AREA: N/A	LOTS / PARCELS: Parcel A
PLAT No.: 20330	BLOCK No.: 4/5	ZONE: CE	TAX MAP No.: 43	ELECT. DIST.: 1	CENSUS TRACT: 6012.02
WATER CODE: B01			SEWER CODE: 2350000		
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

PROFESSIONAL ENGINEER STEPHEN GARY CROWE STATE OF MARYLAND Reg. No. 29181

11/14/08

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SITE RESOURCES incorporated

Comprehensive Land Planning & Site Design Services

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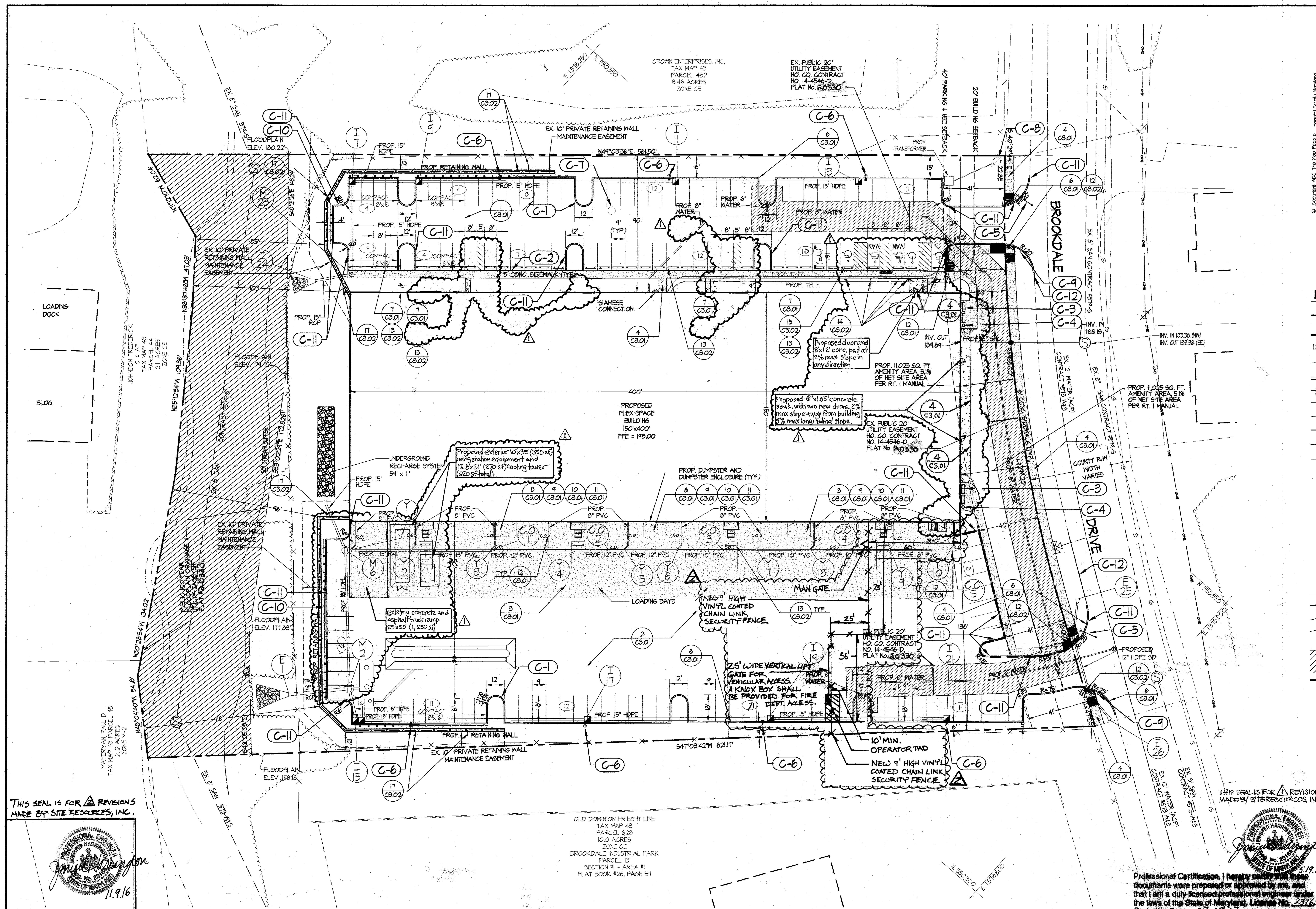
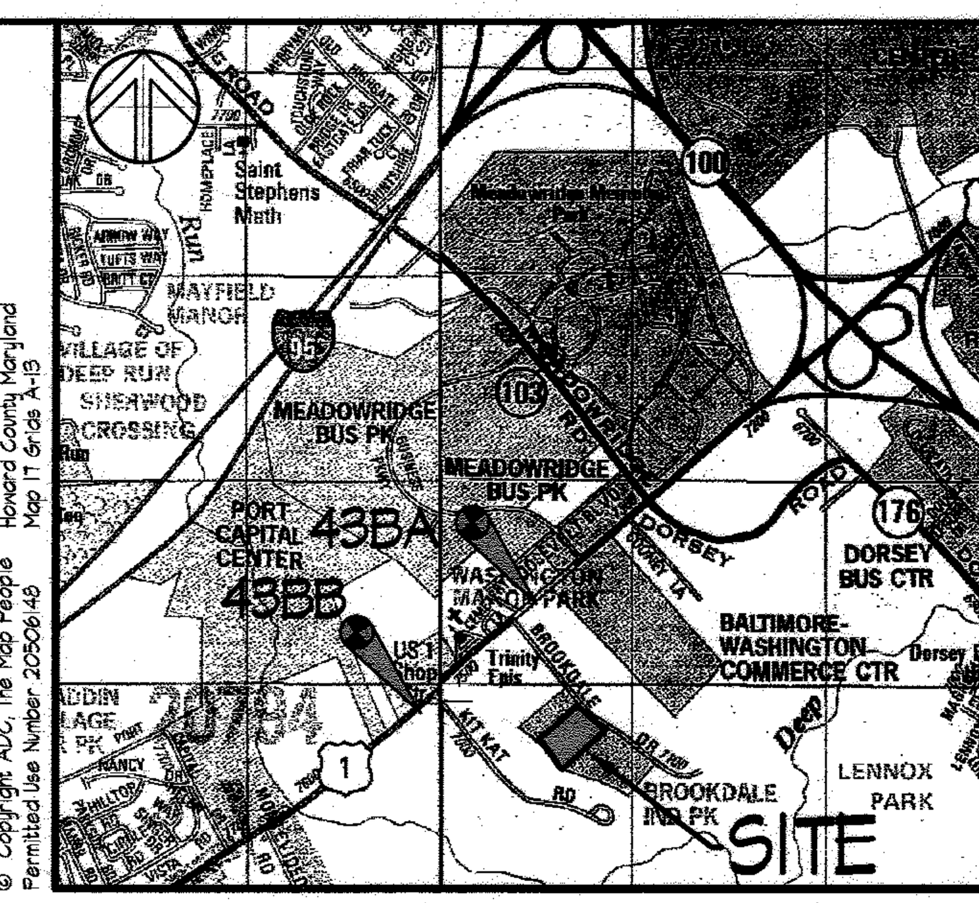
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM	CONTRACT NO.:
DESIGNED BY: KPR	SCALE: 1" = 30'
CHECKED BY: REM	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C1.01 3 OF 24

SDP-08-031





VICINITY MAP 1"=2000'

BENCHMARKS

MONUMENT	NORTHING	EASTING	ELEVATION	HORIZ. DATUM	VERT. DATUM
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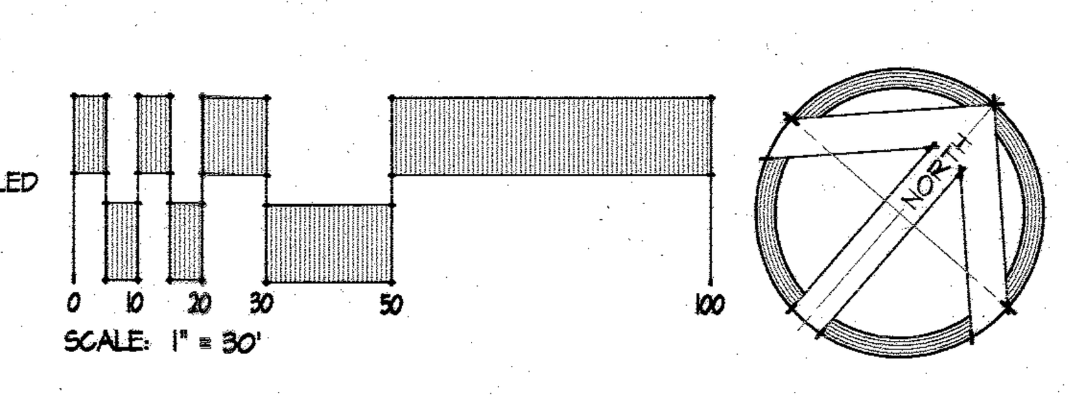
LEGEND

- PROPERTY LINE
- EXISTING PAVING
- PROPOSED CURB
- PROPOSED WALKS
- EX. 15" SD — EXISTING STORM DRAIN
- PROP. 30" RCCP — PROPOSED STORM DRAIN
- EX. 8" SAN. — EXISTING SANITARY SEWER
- PROP. 8" SAN. — PROPOSED SANITARY SEWER
- EX. 8" WATER — EXISTING WATER
- PROP. 8" WATER — PROPOSED WATER
- EX. ELEC. — EXISTING ELECTRIC
- PROP. ELEC. — PROPOSED ELECTRIC
- PROPOSED BUILDINGS
- EXISTING BUILDINGS
- HEAVY DUTY CONCRETE
- CONCRETE WHEELSTOP
- PROPOSED SITE LIGHTING
- PROPOSED GUARDRAIL
- DETAIL NO. / DRAWING NO. (4 / C-201) — DETAIL REFERENCE
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EX. PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT — EX PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT
- PROPOSED AMENITY AREA
- EXISTING 20' WIDE WATER UTILITY EASEMENT 14-4546-D

CONSTRUCTION NOTES

- C-1 ALL CURB RADII SHALL BE 6' UNLESS OTHERWISE NOTED.
- C-2 ALL CURBS THIS SIDE OF PARKING LOT SHALL BE HO. CO. STD. COMBINATION DEPRESSED CURB & GUTTER.
- C-3 BENCHES TO BE INSTALLED SHALL BE CLASSIC SERIES MODEL CS-138, 6-FOOT LENGTH WITH CENTER ARM REST, BY VICTOR STANLEY, INC., OR APPROVED EQUAL, PER HOWARD COUNTY ROUTE 1 MANUAL.
- C-4 LITTER RECEPTACLES TO BE INSTALLED SHALL BE IRONSITES SERIES MODEL S-42, 36-GALLON CAPACITY, BY VICTOR STANLEY, INC., OR APPROVED EQUAL, PER HOWARD COUNTY ROUTE 1 MANUAL.
- C-5 SEE S2 LIGHTING DESCRIPTION, SHEET C0.02
- C-6 SEE S1 LIGHTING DESCRIPTION, SHEET C0.02
- C-7 EX. MONITORING WELL CONTRACTOR TO ADJUST ELEVATION TO MEET FINISHED GRADE
- C-8 CONTRACTOR TO COORDINATE RELOCATION OF EX. UTILITY POLE ON BEHALF OF PROPERTY OWNER.
- C-9 R1-1 STOP SIGN (ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.)
- C-10 INSTALL TIMBER GUARDRAIL PER HOWARD COUNTY STANDARD DETAIL R-5.10. SET POSTS AT 5' O.C. IN 18" DIA. CONCRETE FILLED SONOTUBES. SEE RETAINING WALL DRAWINGS THIS SET FOR INSTALLATION.
- C-11 REVERSE SLOPE GUTTER (SLOPE AWAY FROM CURB)
- C-12 SAW CUT EX. PAVEMENT TO MATCH EX. EDGE OF ROAD



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

11.9.16

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, EXP. DATE 7/18/17

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR	DATE 12/4/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 12/1/08
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 12/4/08

5.19.16

ADDRESS CHART

PARCEL #	STREET ADDRESS						
PARCEL A	7010 BROOKDALE DRIVE						
SUBDIVISION NAME	BROOKDALE INDUSTRIAL PARK			SECTION / AREA	N/A	LOTS / PARCELS	Parcel A
PLAT No. 20330	BLOCK No. 4/5	ZONE CE	TAX MAP No. 43	ELECT. DIST. 1	CENSUS TRACT 6012.02		
WATER CODE	B01	SEWER CODE	2350000				
OWNER:	KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841						

Layout & Detail Reference Plan

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

1. 5/25/16 revision to approved SDP see general note #33.
2. 11/17/16 REVISION TO APPROVED SDP, SEE GEN. NOTE #34

11/14/08

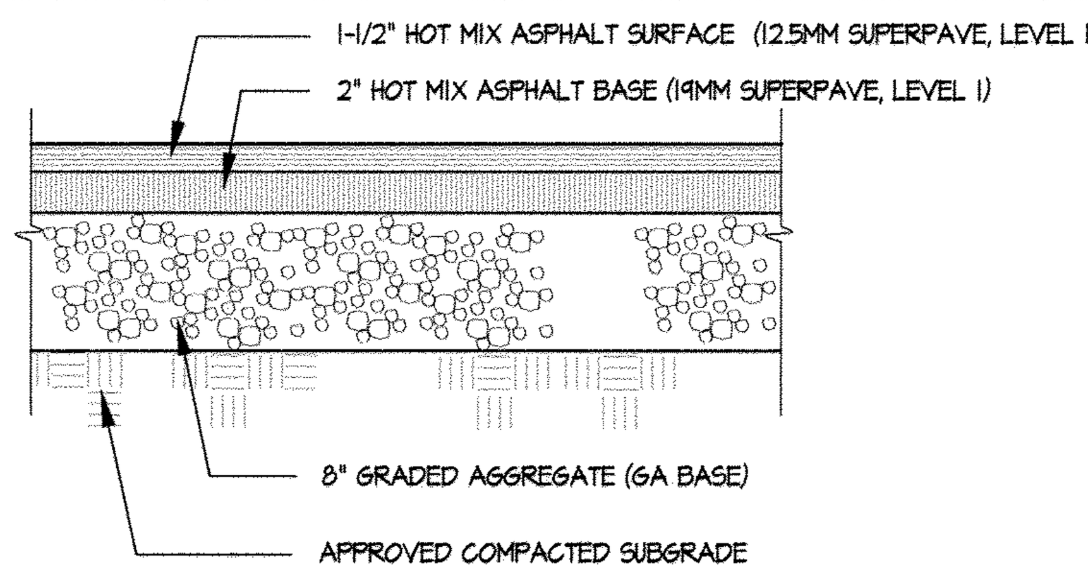
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29181, EXPIRATION DATE: 06/13/09.

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY:	AM	CONTRACT NO.:	
DESIGNED BY:	KPR	SCALE:	1" = 30'
CHECKED BY:	SGC/REM	SRI PROJECT NO:	07033
DATE:	NOVEMBER 17, 2008	SHEET C2.01	4 OF 24

SDP-08-031

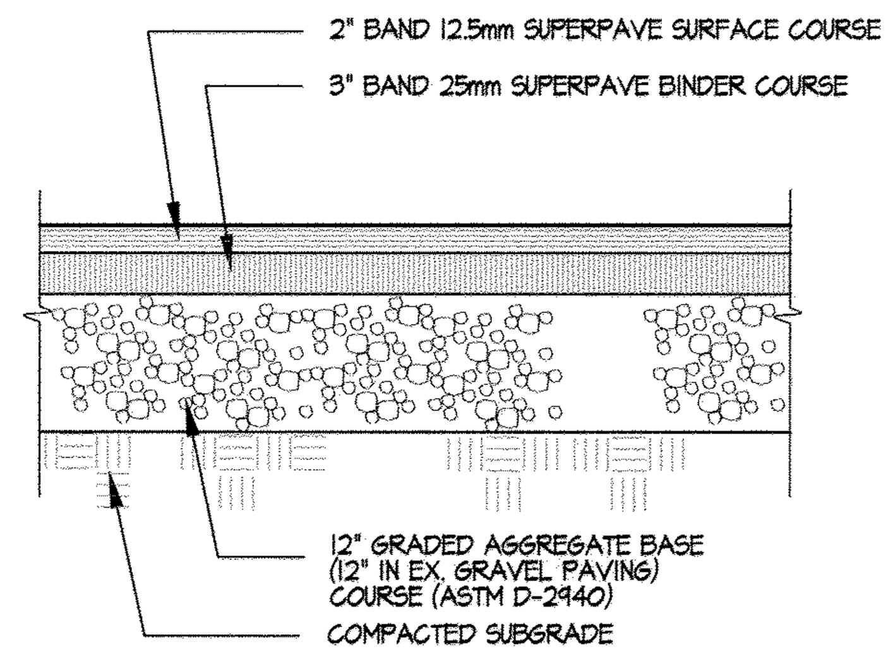
\\Projects\projects\07\07033-Brookdale Industrial Park Parcel A\dwg\C2.01_Layout&Detail_Reference_Plan.dwg, 11/13/2008 1:55:45 PM, KPR



APPROVED COMPACTED SUBGRADE CONSISTS OF A FIRM, UNYIELDING SOIL SURFACE COMPACTED TO A MINIMUM 100 PERCENT OF THE AASHTO T-99 MAXIMUM DRY DENSITY. FURTHER, THE UPPER 2 FEET BELOW SOIL SUBGRADE ELEVATION SHALL CONSIST OF SOILS COMPACTED IN ACCORDANCE WITH APPENDIX I, COMPACTED FILL HAVING A CBR VALUE OF AT LEAST 5 WHEN COMPACTED TO A MINIMUM 100 PERCENT OF THE AASHTO T-99 MAXIMUM DRY DENSITY.

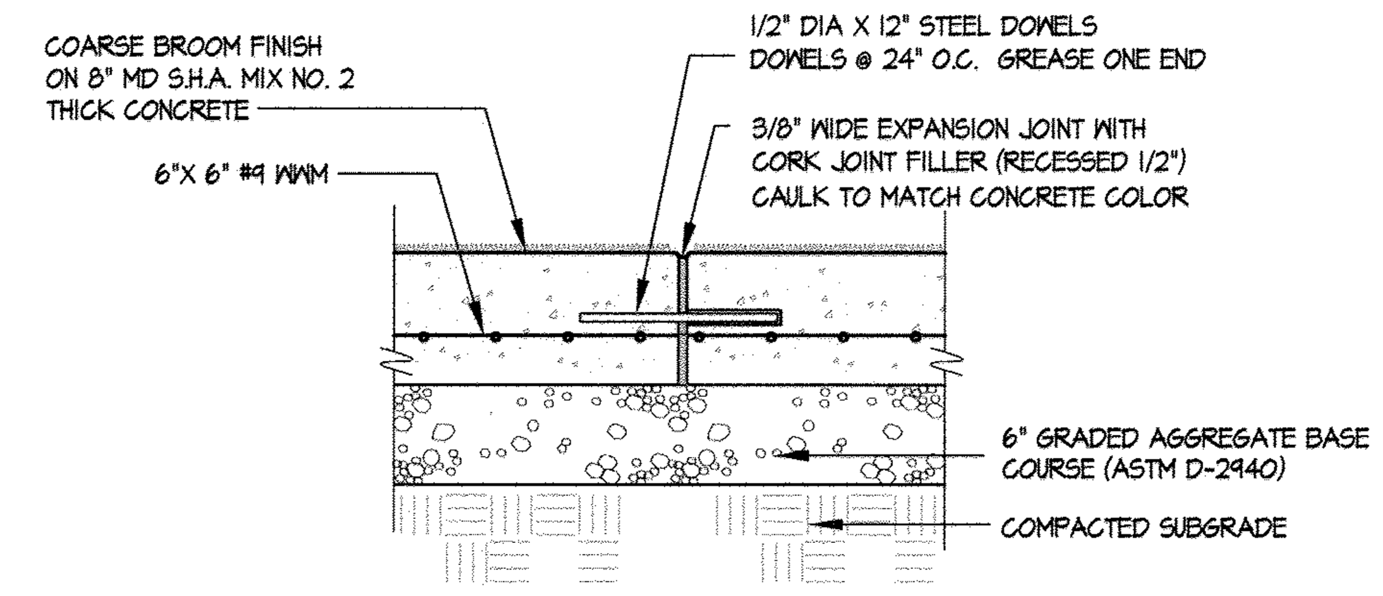
(1) MEDIUM DUTY ASPHALT PAVING

NOT TO SCALE



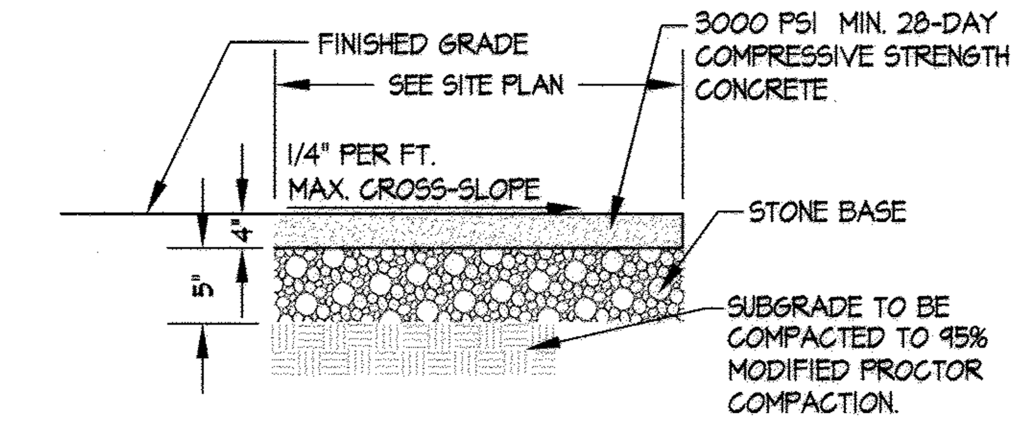
(2) HEAVY DUTY ASPHALT PAVING

NOT TO SCALE



(3) HEAVY DUTY CONCRETE PAVING

NOT TO SCALE

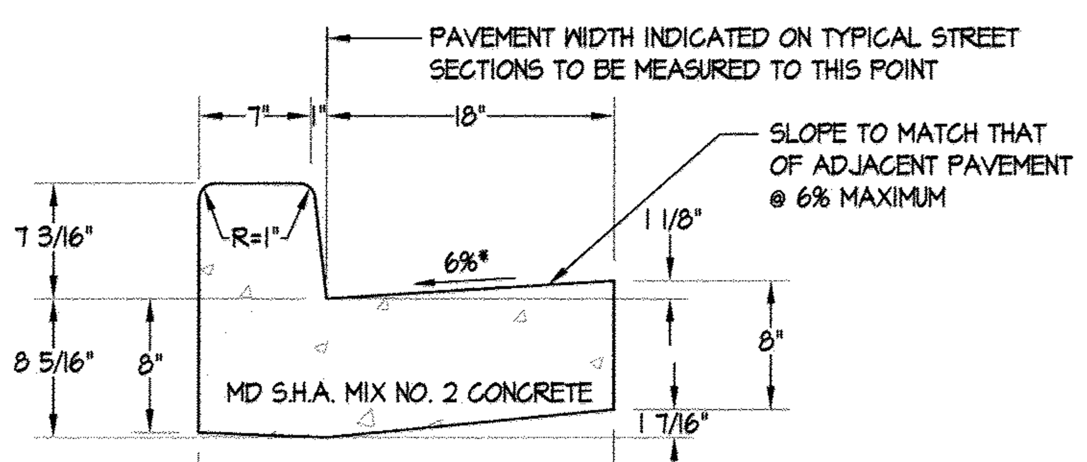


NOTES: ALL WALKS SHALL HAVE EXPANSION JOINTS NOT MORE THAN 20'-0" APART AND CONTROL JOINTS NOT MORE THAN 5' APART.

ALL CONCRETE SURFACES SHALL HAVE MEDIUM BROOMING OR OTHER NON-SKID SURFACE.

(4) SIDEWALK DETAIL

NOT TO SCALE

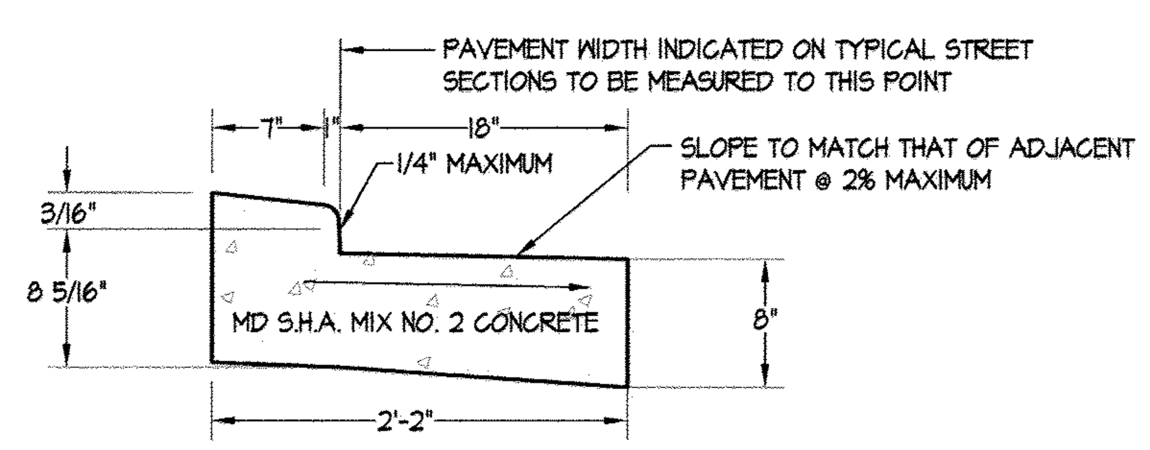


* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER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

(6) HOWARD COUNTY STD. 7" COMBINATION CURB AND GUTTER

HOWARD COUNTY R-3.01 (MODIFIED)

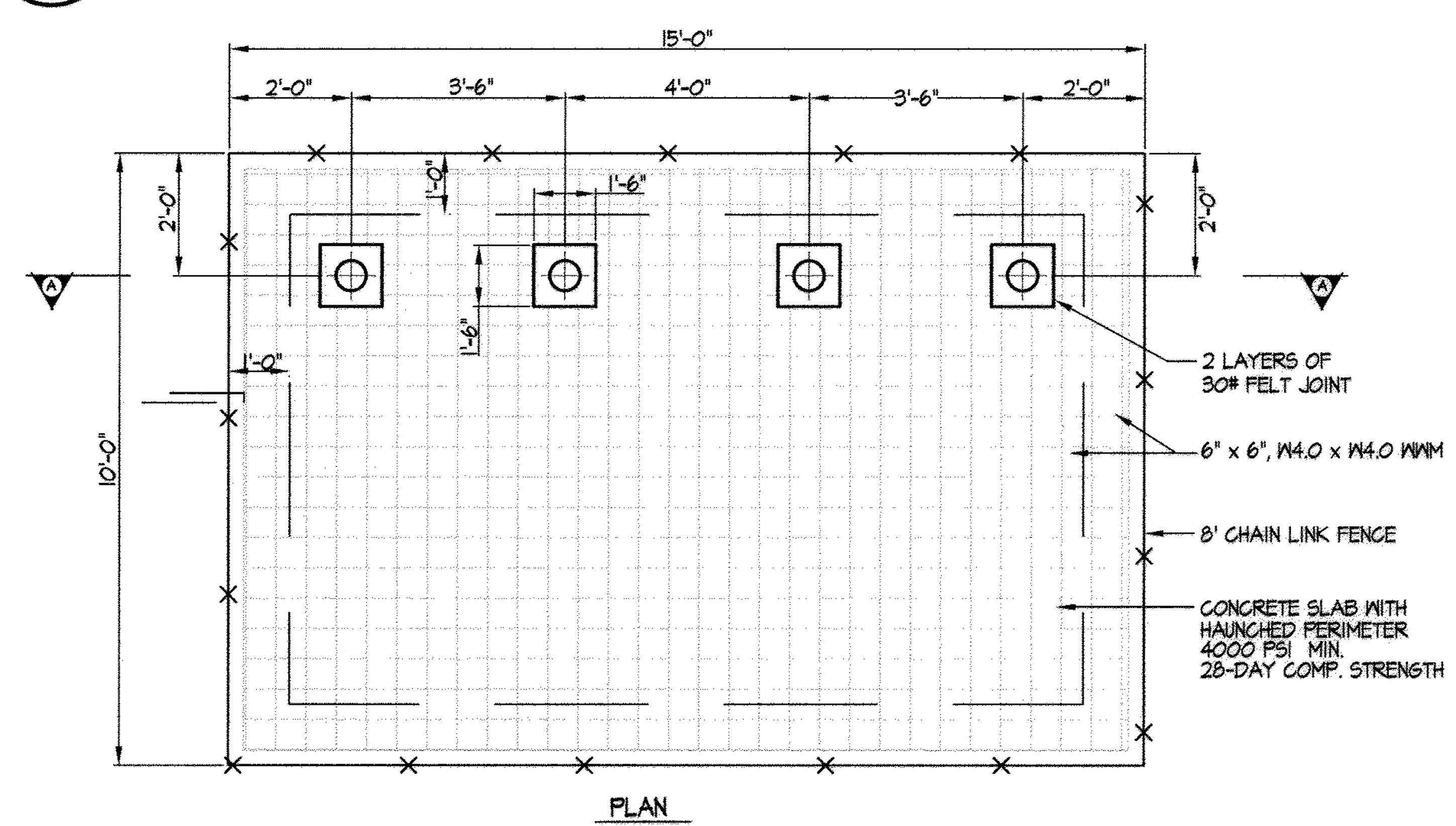
SCALE 1" = 1'

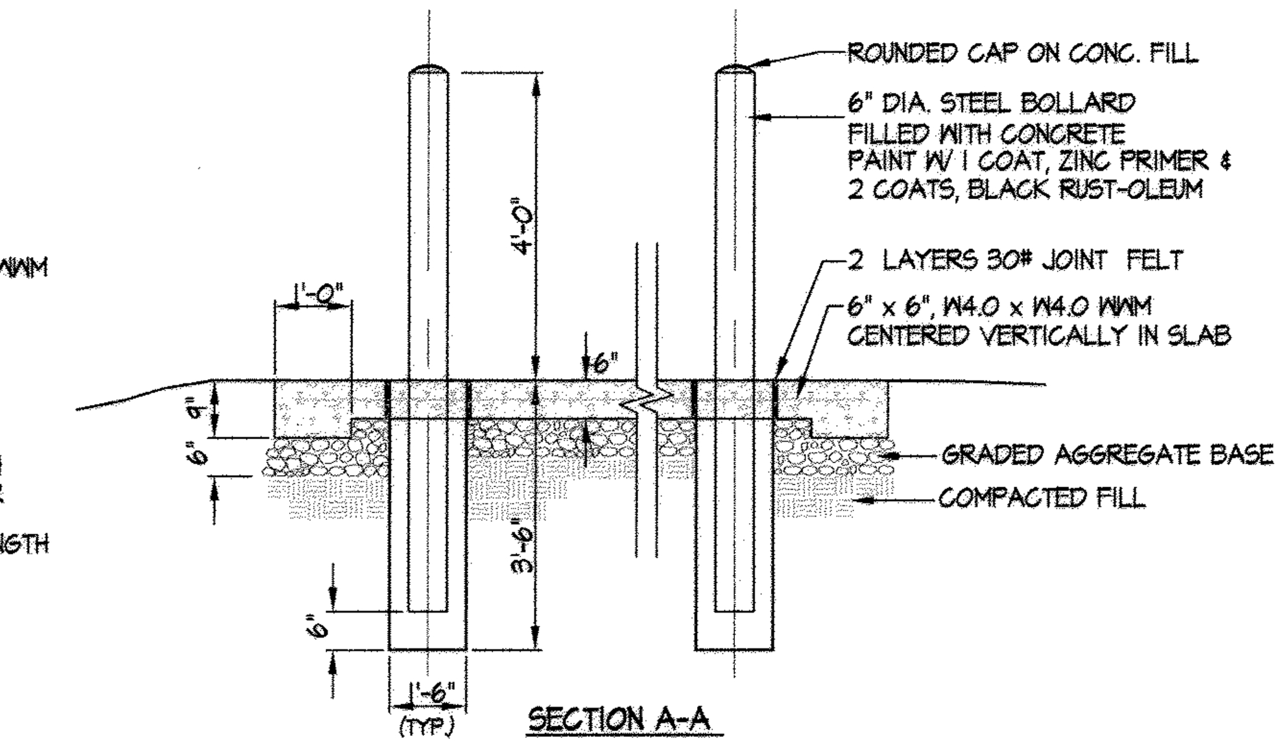


(7) HOWARD COUNTY STD. COMBINATION DEPRESSED CURB AND GUTTER

HOWARD COUNTY R-3.01 (MODIFIED)

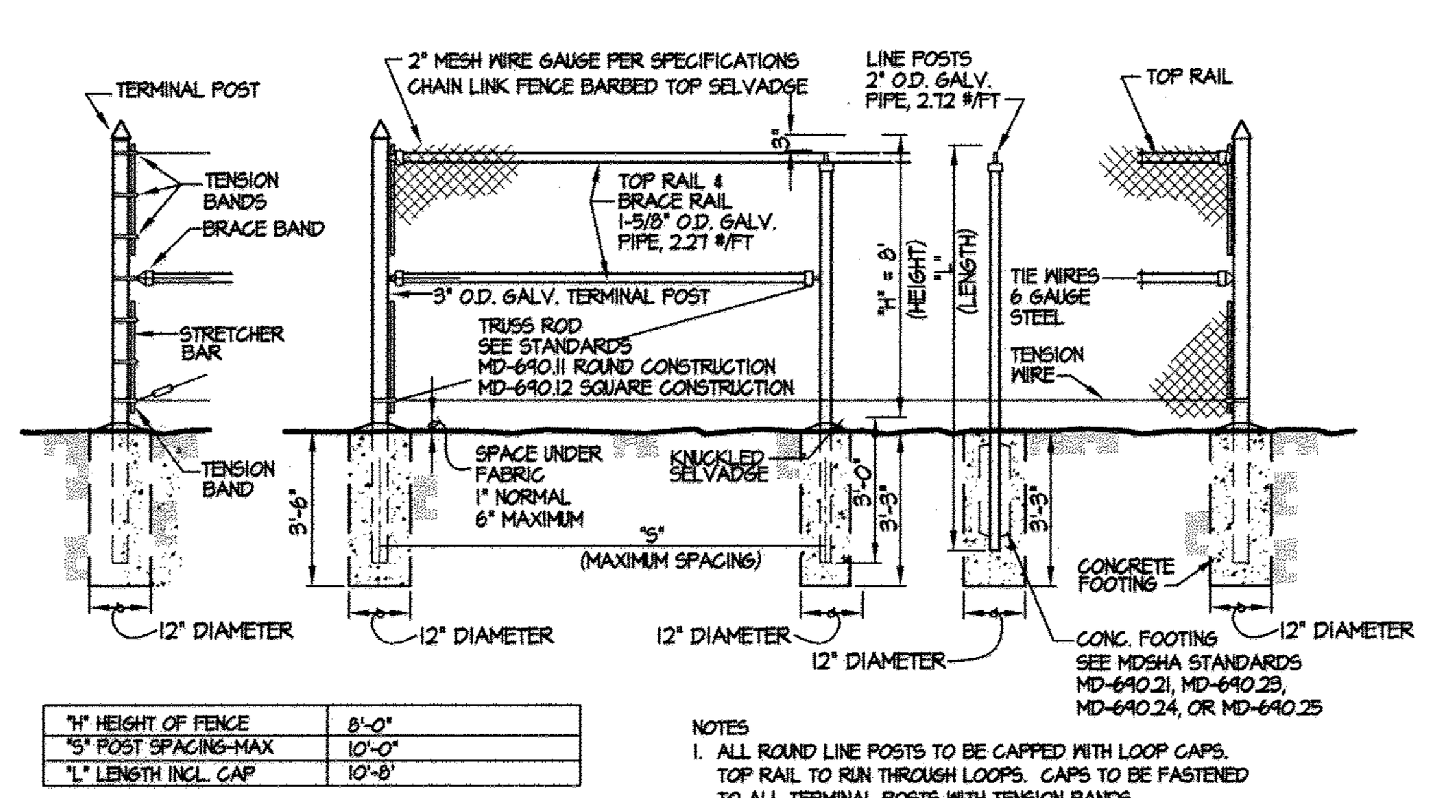
SCALE 1" = 1'





(8) DUMPSTER PAD

NOT TO SCALE

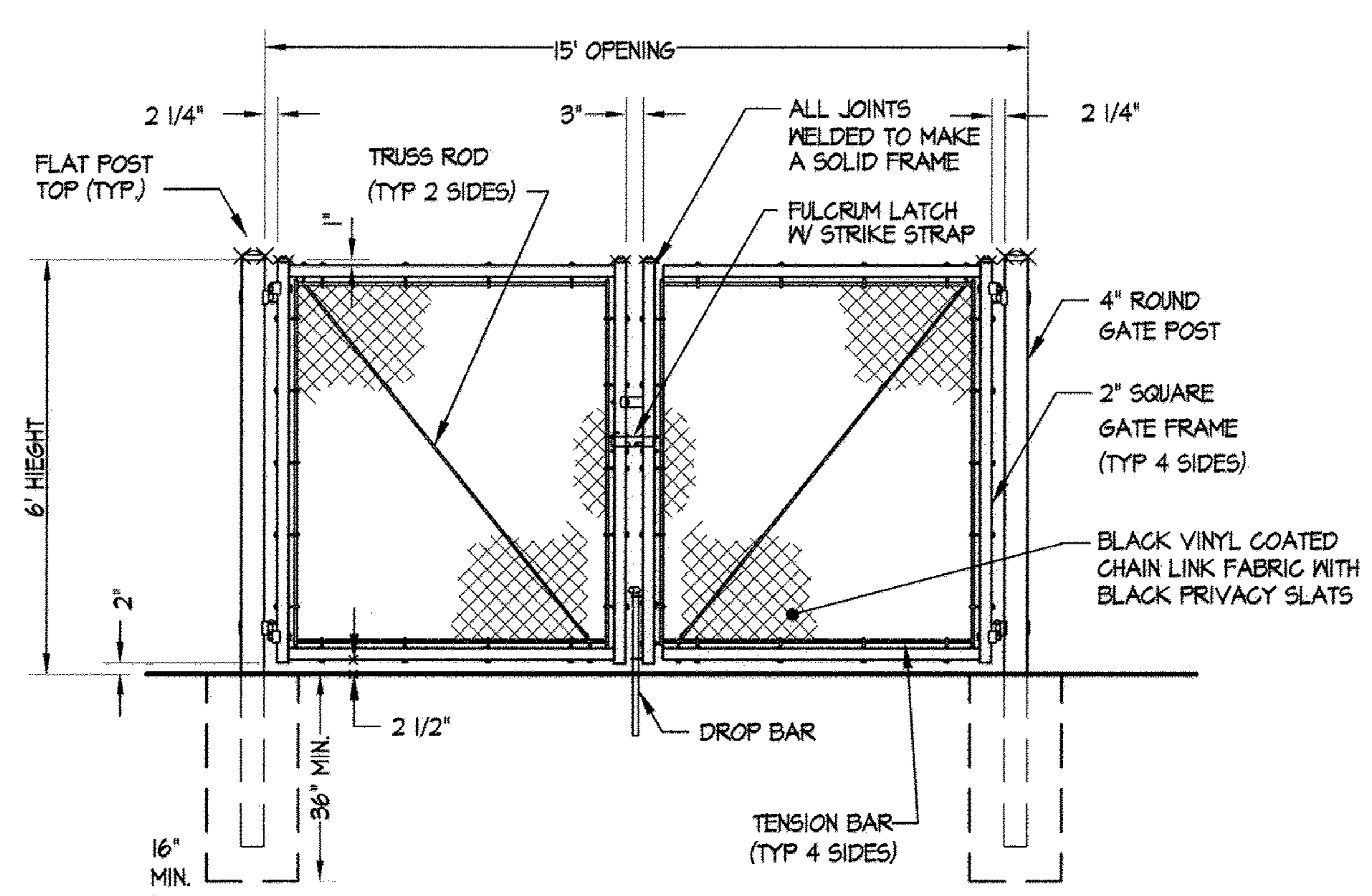


"H" HEIGHT OF FENCE	8'-0"
"S" POST SPACING-MAX	10'-0"
"L" LENGTH INCL. CAP	10'-8"

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" +/- C/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 MDSHA STANDARD MD-640.02

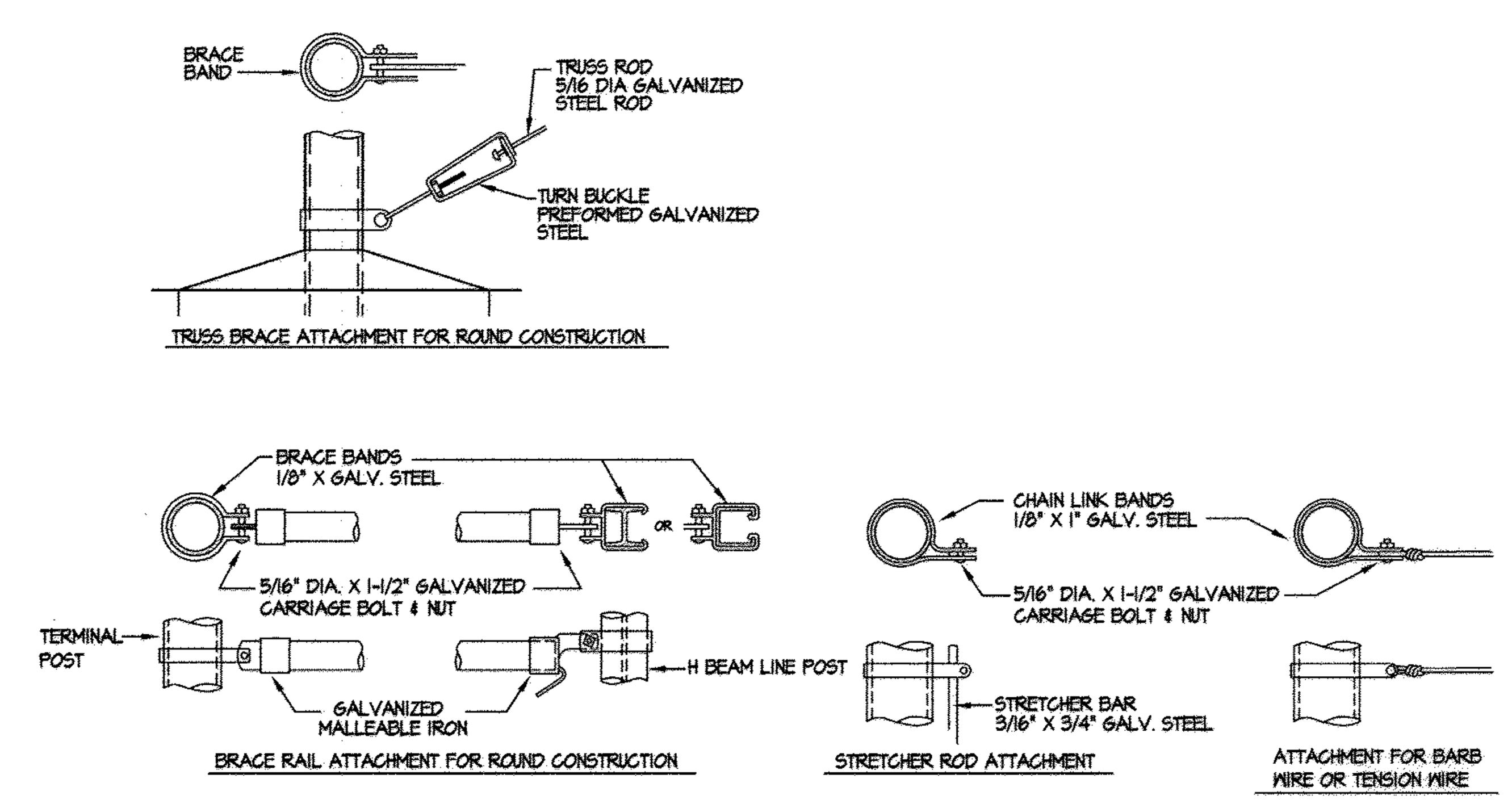
(9) CHAIN LINK DUMPSTER ENCLOSURE DETAIL

NOT TO SCALE



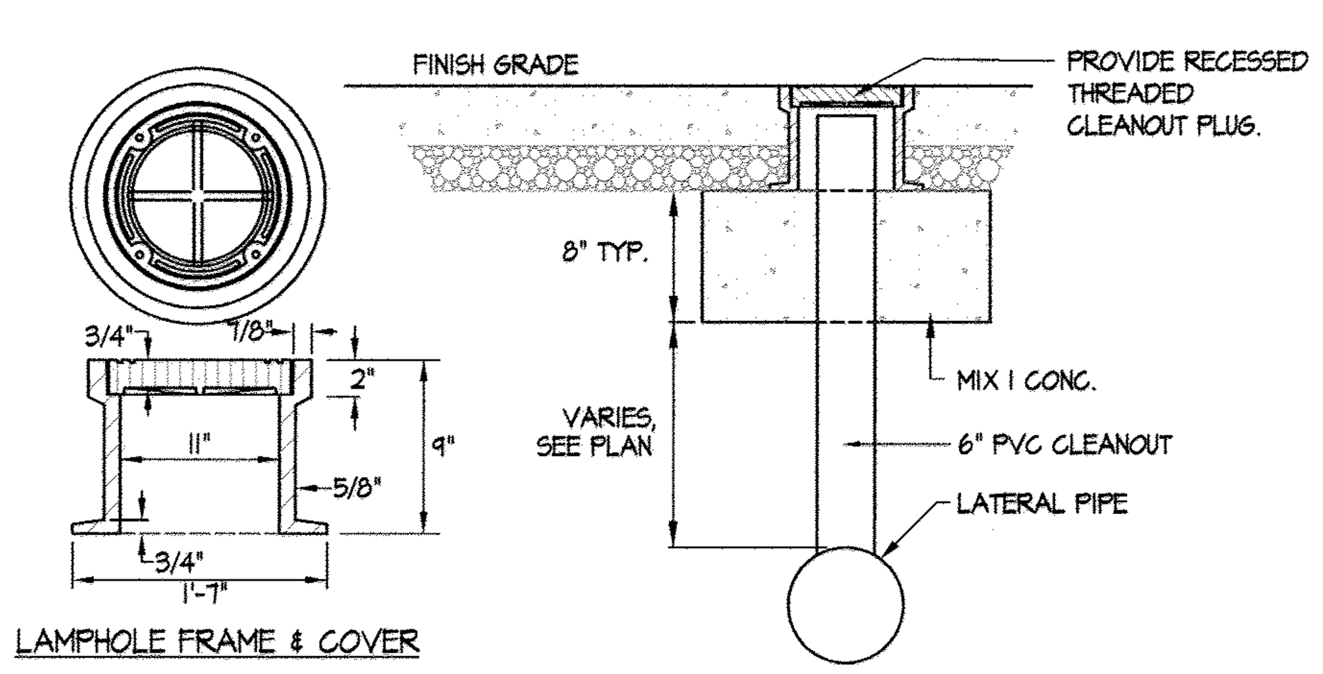
(10) DUMPSTER ENCLOSURE GATE DETAIL

NOT TO SCALE



(11) CHAIN LINK FENCE BRACE & ROD ATTACHMENTS -ROUND CONSTRUCTION

NOT TO SCALE



(12) CLEANOUT DETAIL

NOTE: MATERIAL SHALL BE GREY IRON. CASTING. CASTINGS MUST BE MACHINED ON BEARING SURFACES.

NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR	12/4/08 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	12/1/08 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	12/4/08 DATE

ADDRESS CHART

PARCEL #	STREET ADDRESS					
PARCEL A	7010 BROOKDALE DRIVE					
SUBDIVISION NAME: BROOKDALE INDUSTRIAL PARK				SECTION / AREA: N/A		LOTS / PARCELS: Parcel A
PLAT No.: 20330	BLOCK No.: 4/5	ZONE: CE	TAX MAP No.: 43	ELECT. DIST.: 1		CENSUS TRACT: 6012.02
WATER CODE: B01			SEWER CODE: 2350000			
OWNER: KINSLEY HOLDINGS INC. 6254 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841						

Site Details

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

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11/14/08

SITE RESOURCES incorporated

Comprehensive Land Planning & Site Design Services

14315 Jarrettsville Pike • Phoenix, Maryland 21131

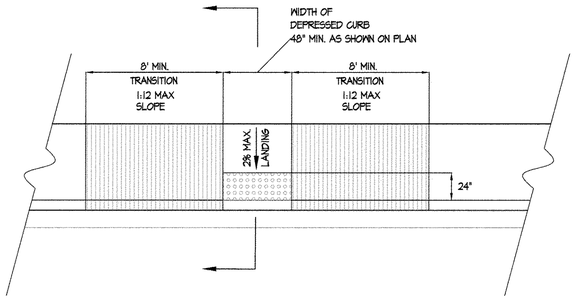
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM	CONTRACT NO.:
DESIGNED BY: KPR	SCALE: AS SHOWN
CHECKED BY: REM	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C3.01 5 OF 24

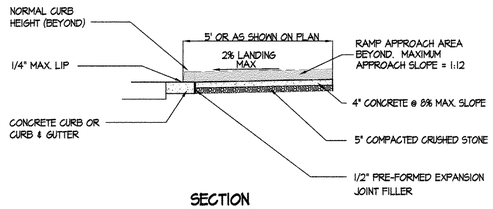
SDP-08-031

\\Projects\projects\07\07033-Brookdale Industrial Park Parcel A\dwg\C3.01_Site_Details.dwg, 11/13/2008 2:06:29 PM, KPR

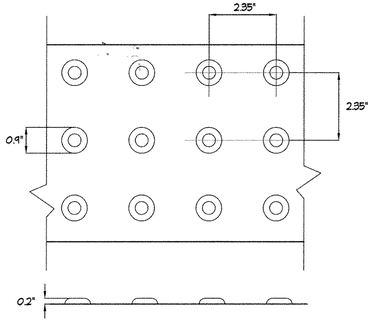
SURFACE TEXTURE OF ALL CONCRETE RAMPS SHALL BE COARSE BROOMING OR OTHER NON-SKID TYPE FINISH. TRUNCATED DOME DETECTABLE WARNING STRIPS SHALL BE INSTALLED FOR ALL RAMPS IN ACCORDANCE WITH MARYLAND STATE HIGHWAY ADMINISTRATION STD. NO. MD-655.40



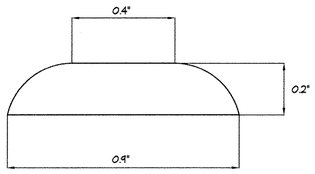
PLAN



SECTION



DOME SPACING



DOME SECTION

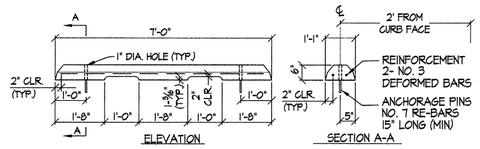
WHERE ISLANDS OR MEDIANS ARE LESS THAN 6 FEET WIDE, THE DETECTABLE WARNING SHOULD EXTEND ACROSS THE FULL LENGTH OF THE CUT THROUGH THE ISLAND OR MEDIAN

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 3.0" FROM THE BACK OF THE CURB. TRUNCATED 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.

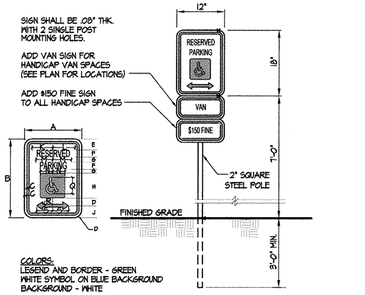
12 CURB RAMP DETAILS

NOT TO SCALE



13 CONCRETE WHEEL STOP DETAIL

NOT TO SCALE

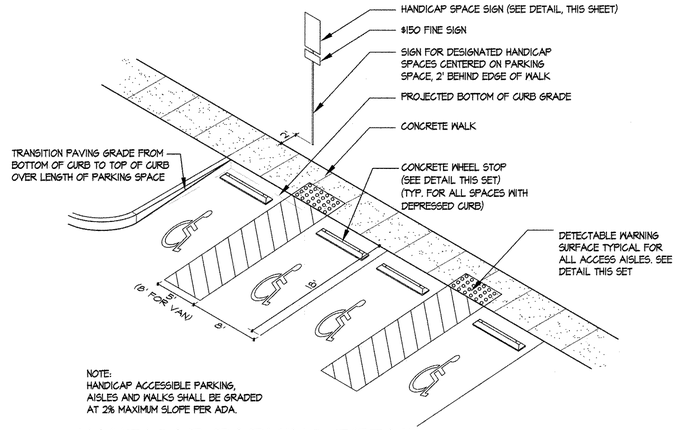


SIGN SIZE	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
STD	12	18	1/2	1-1/2	2	2 C	1	6	2-1/2	4-7/8

SIGN SIZE	DIMENSIONS (INCHES)						
	L	M	N	P	Q	R	S
STD	9	4-1/4	3	1/2	4	3/4	3-7/8

14 HANDICAP PARKING SIGN

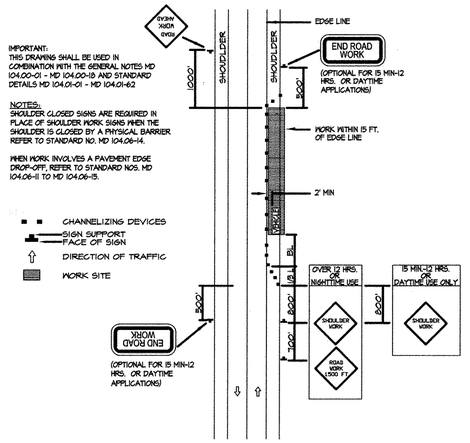
NOT TO SCALE



15 HANDICAP PARKING DETAIL

NOT TO SCALE

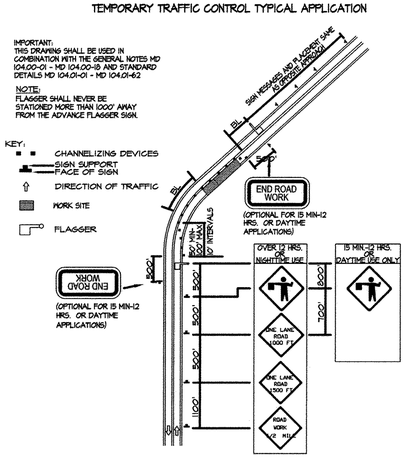
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION



SHOULDER WORK/ 2-LANE, 2-WAY EQL/ LESS THAN 40 MPH

STANDARD NO. MD 104.02-02

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

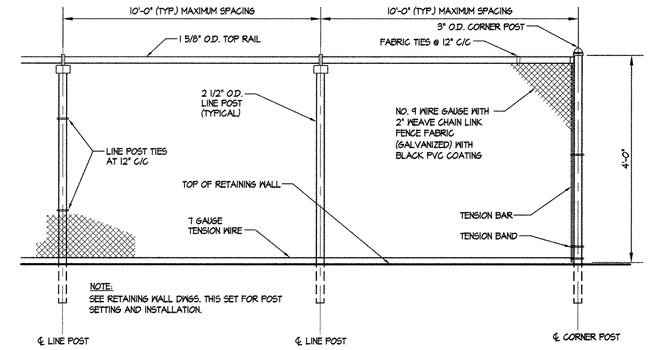


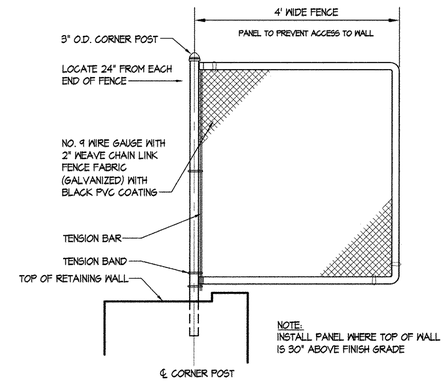
FLAGGING OPERATION/2-LANE, 2-WAY EQL/LESS THAN 40 MPH

STANDARD NO. MD 104.02-10

16 MAINTENANCE OF TRAFFIC (MOT) PLAN

NOT TO SCALE





17 CHAIN LINK FENCE - 4' HT.

NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR	DATE 12/3/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 12/1/08
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 12/4/08

ADDRESS CHART

PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME				SECTION / AREA	LOTS / PARCELS
BROOKDALE INDUSTRIAL PARK				N/A	Parcel A
PLAT No.	BLOCK No.	ZONE	TAX MAP No.	ELECT. DIST.	CENSUS TRACT
20330	4/5	GE	43	1	6012.02
WATER CODE			SEWER CODE		
B01			2350000		

OWNER: KINSLEY HOLDINGS INC.
6254 REYNOLDS MILL ROAD
SEVEN VALLEYS, PA 17360 (717) 741-3841

Site Details

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

PROFESSIONAL ENGINEER STEPHEN GARY GROENE No. 21131 STATE OF MARYLAND 1/14/08

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. 21131, EXPIRATION DATE: 09/30/09.

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM/MAS	CONTRACT NO.:
DESIGNED BY: KPR	SCALE: AS SHOWN
CHECKED BY: REM	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C3.02 6 OF 24

SDP-08-031

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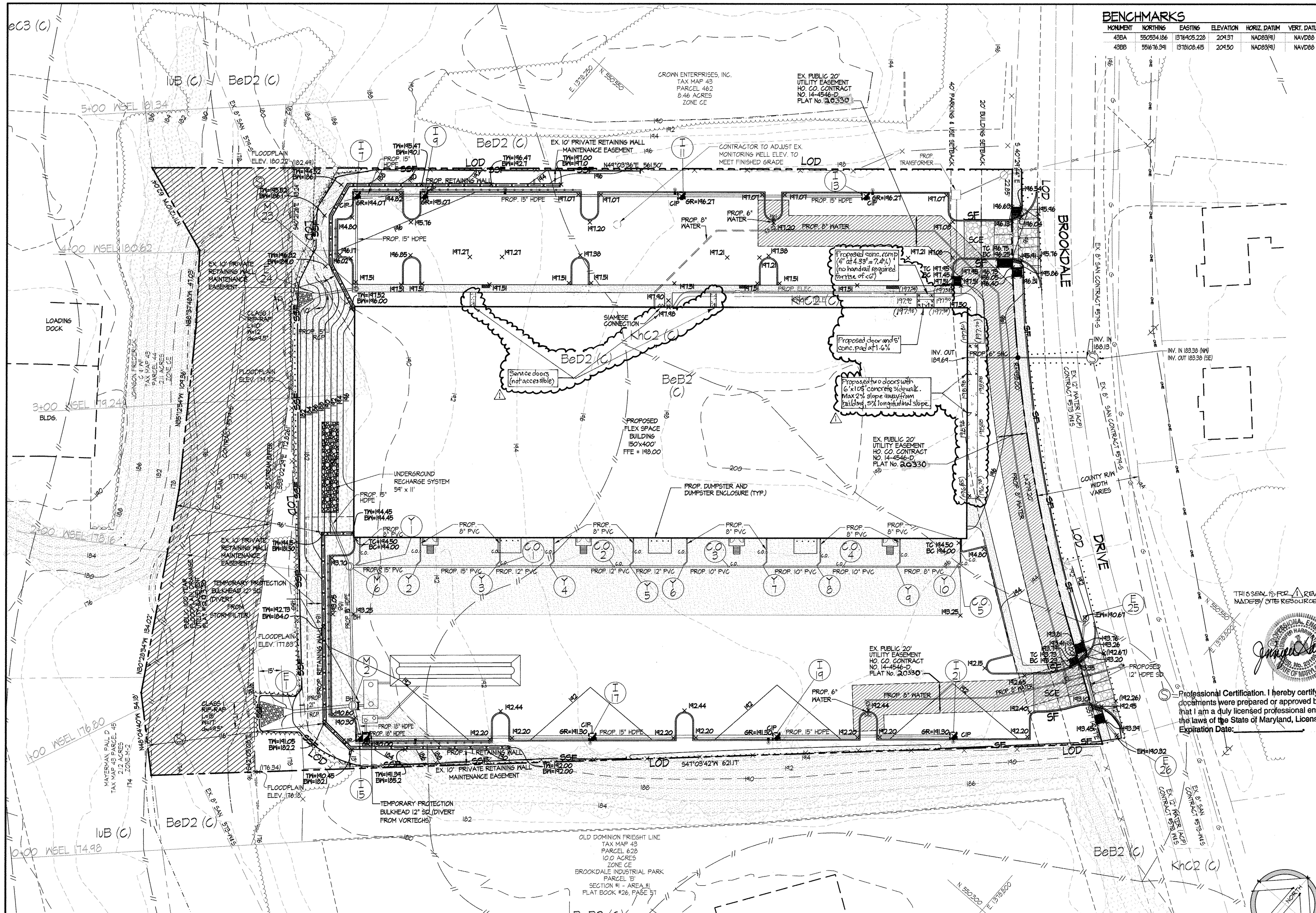

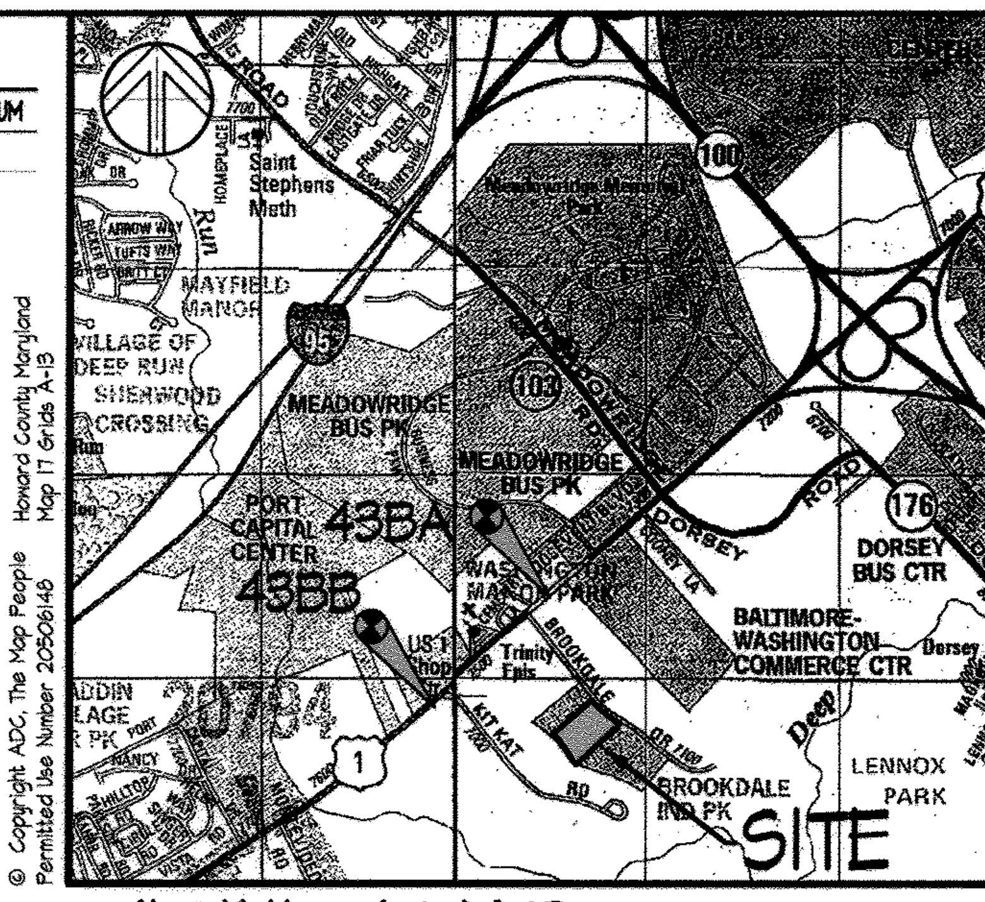

VICINITY MAP 1"=2000'

BENCHMARKS

MONUMENT	NORTHING	EASTING	ELEVATION	HORIZ. DATUM	VERT. DATUM
43BA	550534.186	1376905.228	209.37	NAD83(91)	NAVD88
43BB	551676.391	1378108.415	209.50	NAD83(91)	NAVD88

LEGEND

- PROPERTY LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING PAVING
- PROPOSED CURB
- PROPOSED CONCRETE WALK
- EXISTING STORM DRAINS
- PROPOSED STORM DRAIN
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING WATER
- PROPOSED WATER
- PROPOSED BUILDINGS
- EXISTING BUILDINGS
- SILT FENCE
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM
- CURB INLET PROTECTION
- SPOT ELEVATIONS
- LIMIT OF DISTURBANCE
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EX PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT
- SOILS LINE
- EXISTING STEEP SLOPES 15% - 25%
- EXISTING STEEP SLOPES GREATER THAN 25% IN A CONTIGUOUS AREA LESS THAN 20,000 SF
- EXISTING 20' WIDE WATER UTILITY EASEMENT 14-4546-D

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. ________ Expiration Date: ________

Grading & Erosion & Sediment Control Plan

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

1 5/25/16 revision to approved SDP see general note #33.

NOTE:
PROPOSED SITE DISTURBANCE
(LOD) = 189,268 SF (4.34 AC)

SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/4/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/1/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

~~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 — DATE 11/25/08

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."

SIGNATURE — DATE 11/14/08

STEPHEN CROWE
PRINT NAME

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

SIGNATURE — DATE 11-14-08

ROBERT A. KINSLEY
PRINT NAME

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME: BROOKDALE INDUSTRIAL PARK				SECTION / AREA: N/A	LOTS / PARCELS: Parcel A
PLAT No.: 20330	BLOCK No.: 4/5	ZONE: CE	TAX MAP No.: 43	ELECT. DIST.: 1	CENSUS TRACT: 6012.02
WATER CODE: B01			SEWER CODE: 2350000		
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

PROFESSIONAL ENGINEER STEPHEN GARY CROWE Reg. No. 29181 STATE OF MARYLAND — 11/14/08

"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. 29181, EXPIRATION DATE: 06/13/09."

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(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM/MAS	CONTRACT NO.:
DESIGNED BY: GDS	SCALE: 1" = 30'
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DATE: NOVEMBER 17, 2008	SHEET C4.01 7 OF 24

SDP-08-031

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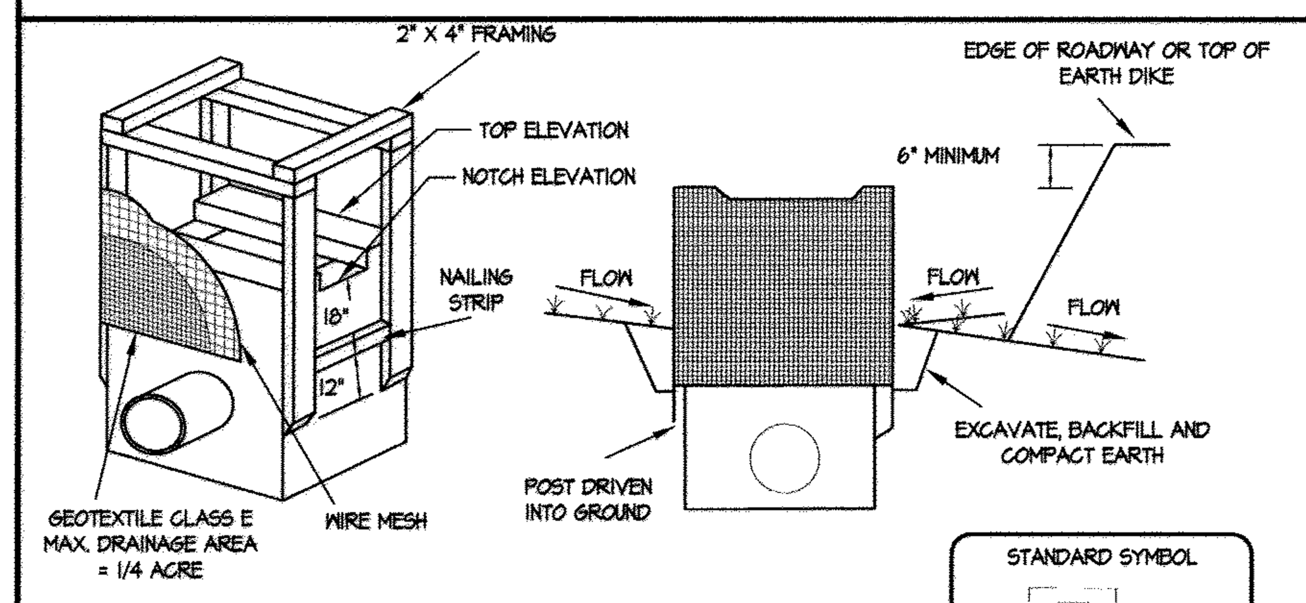
DETAIL 23A – STANDARD INLET PROTECTION



Construction Specifications

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.

2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.

3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.

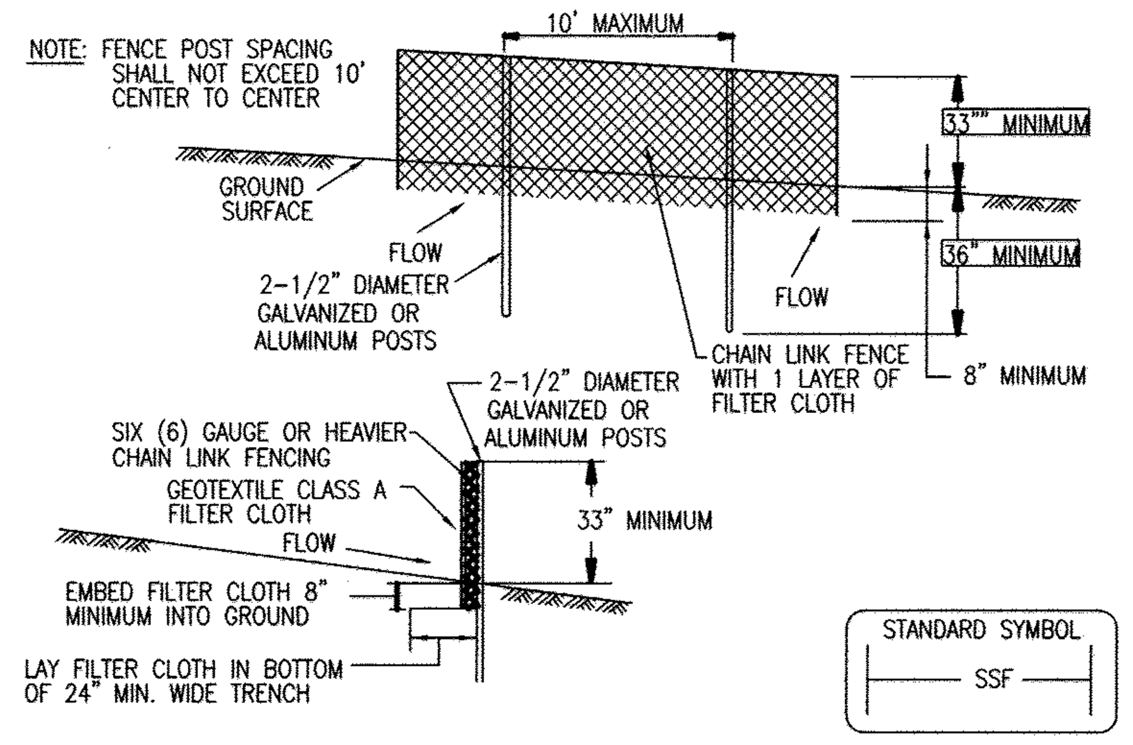
4. Stretch the Geotextile Class E tightly over the wire mesh with the geotixtile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.

5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.

6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

U.S Department Of Agriculture Soil Conservation Service	Page E-16-5	Maryland Department Of Enviroment Water Management Administration



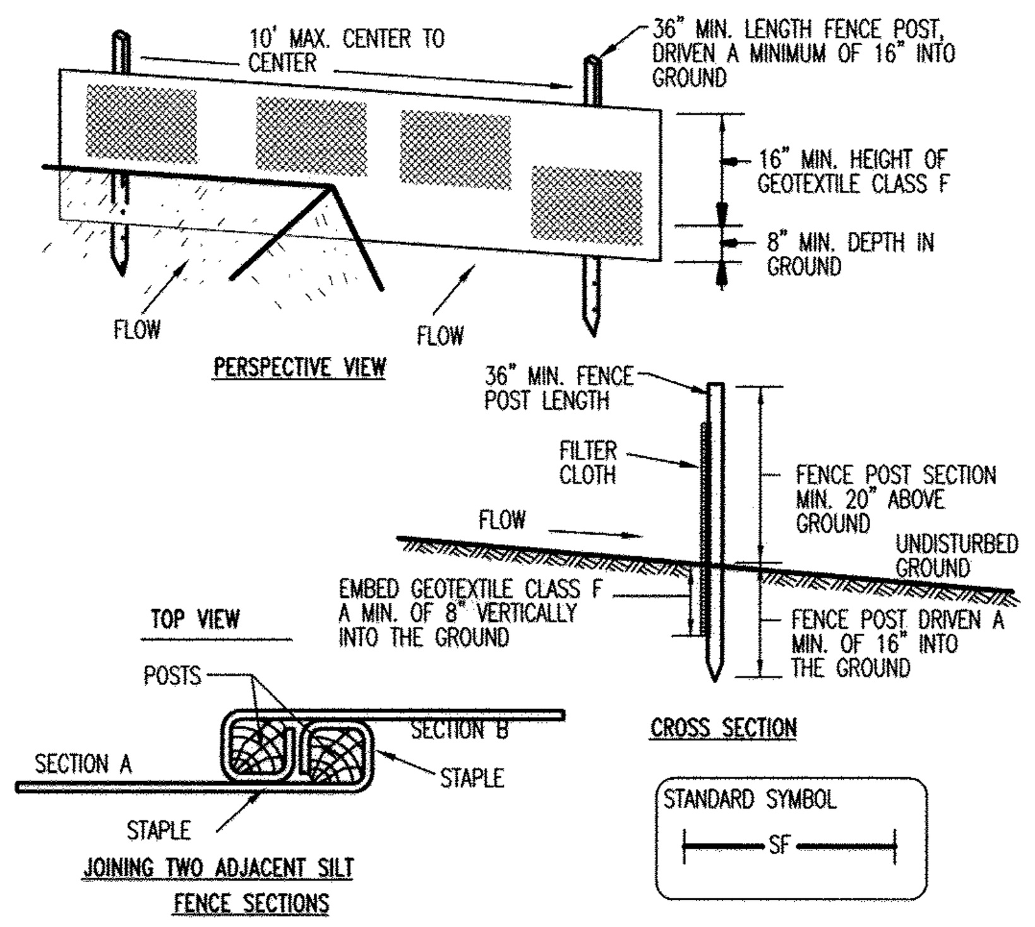
CONSTRUCTION SPECIFICATIONS

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



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.

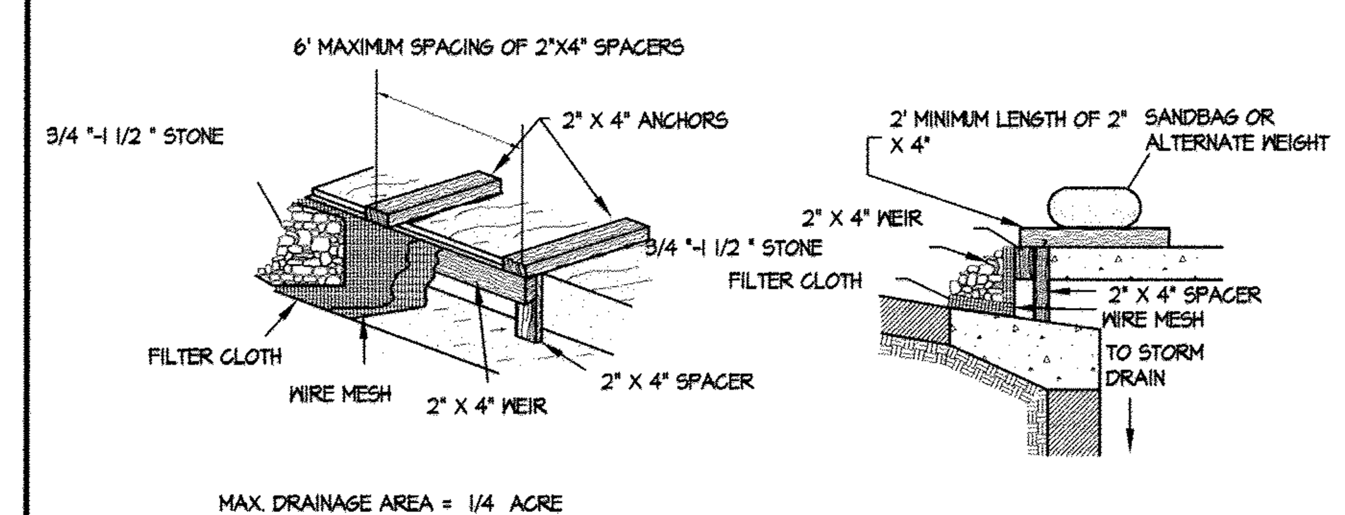
CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE LB. MIN. STRENGTH	BURST STRENGTH PSI MIN.
F (SILT FENCE)	0.40 – 0.80*	90	190

* US STD. SIEVE CW-02215

SILT FENCE

E-153 E-153-A NOT TO SCALE

DETAIL 23C – CURB INLET PROTECTION (COG OR COS INLETS)



Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.

2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.

3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.

5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.

6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.

7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

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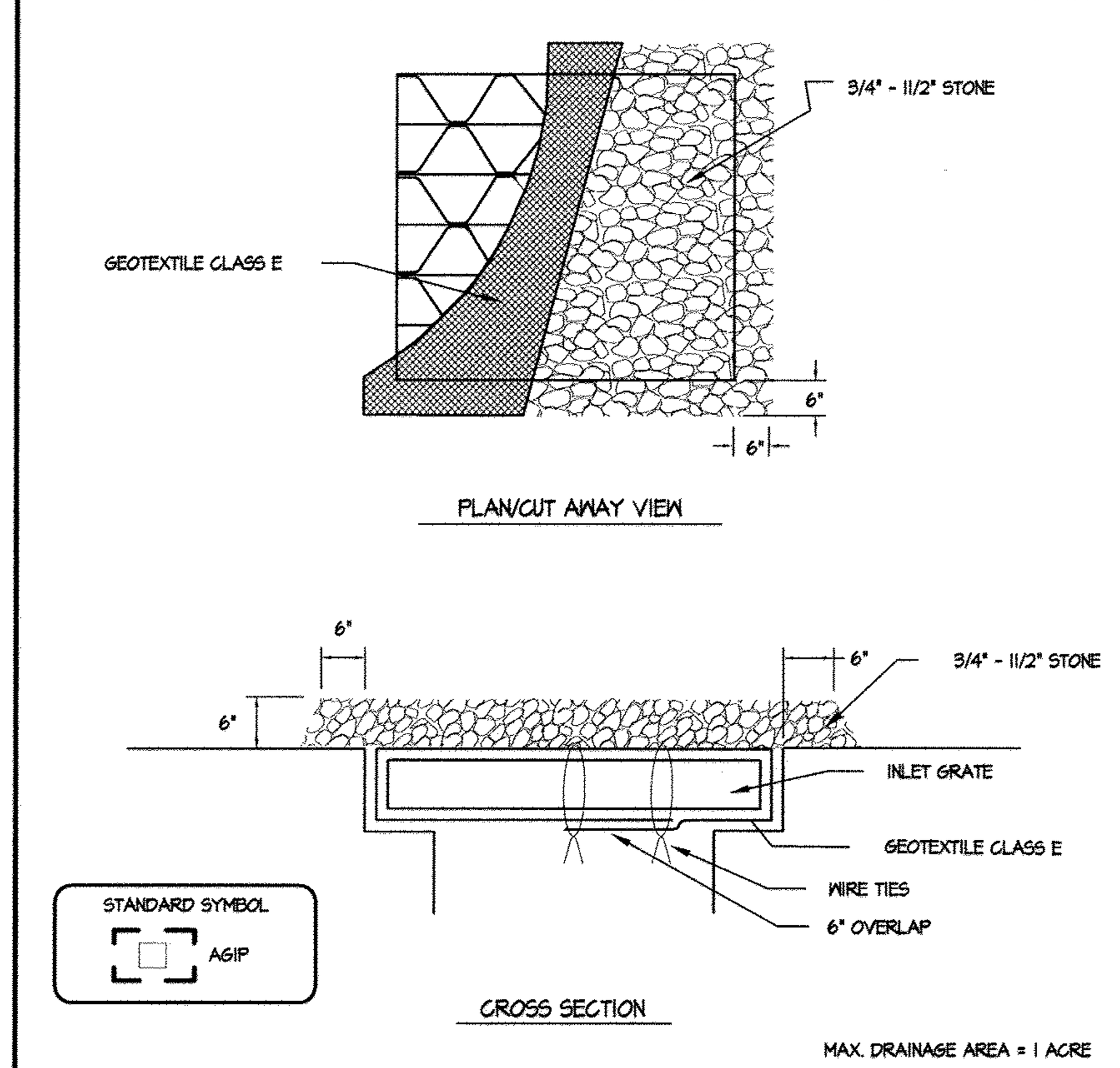
DETAIL 23B – AT GRADE INLET PROTECTION



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.

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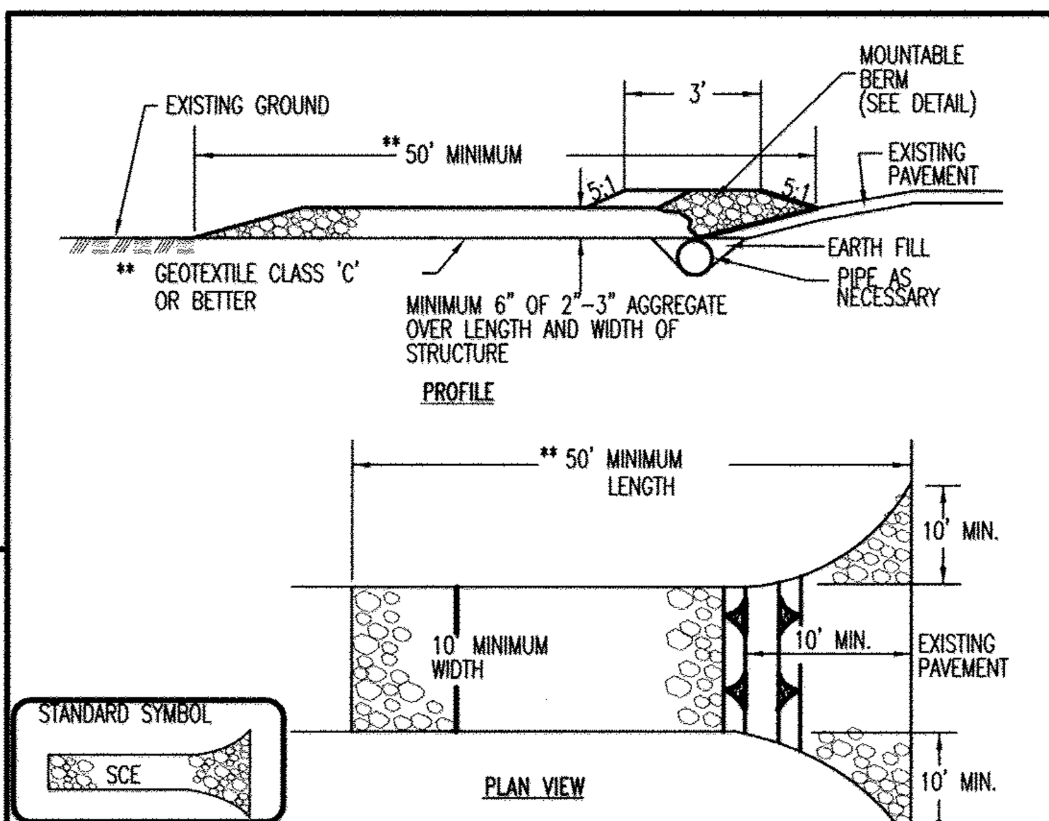
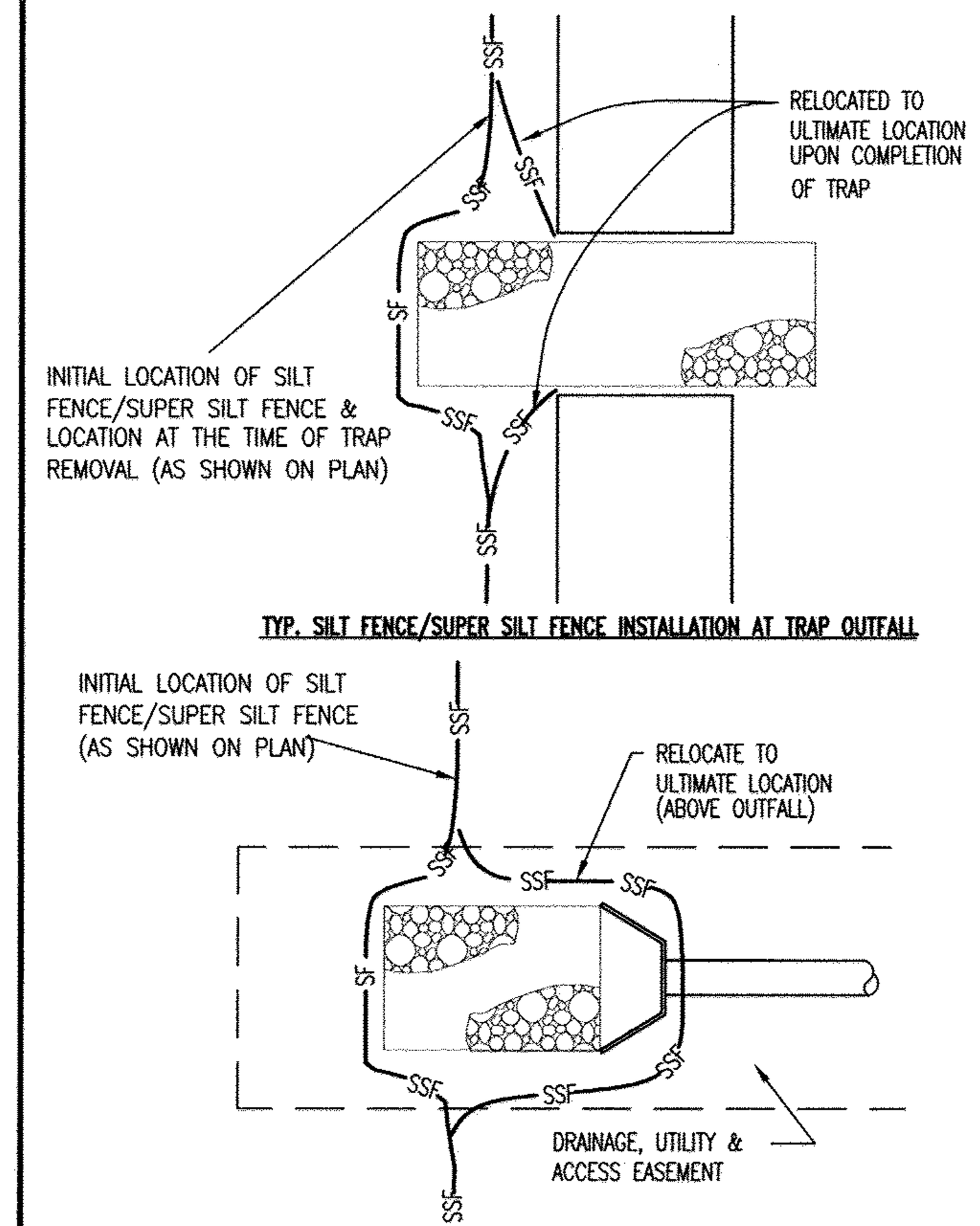


CONSTRUCTION SPECIFICATION

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 SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
6. LOCATION – A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.

STABILIZED CONSTRUCTION ENTRANCE

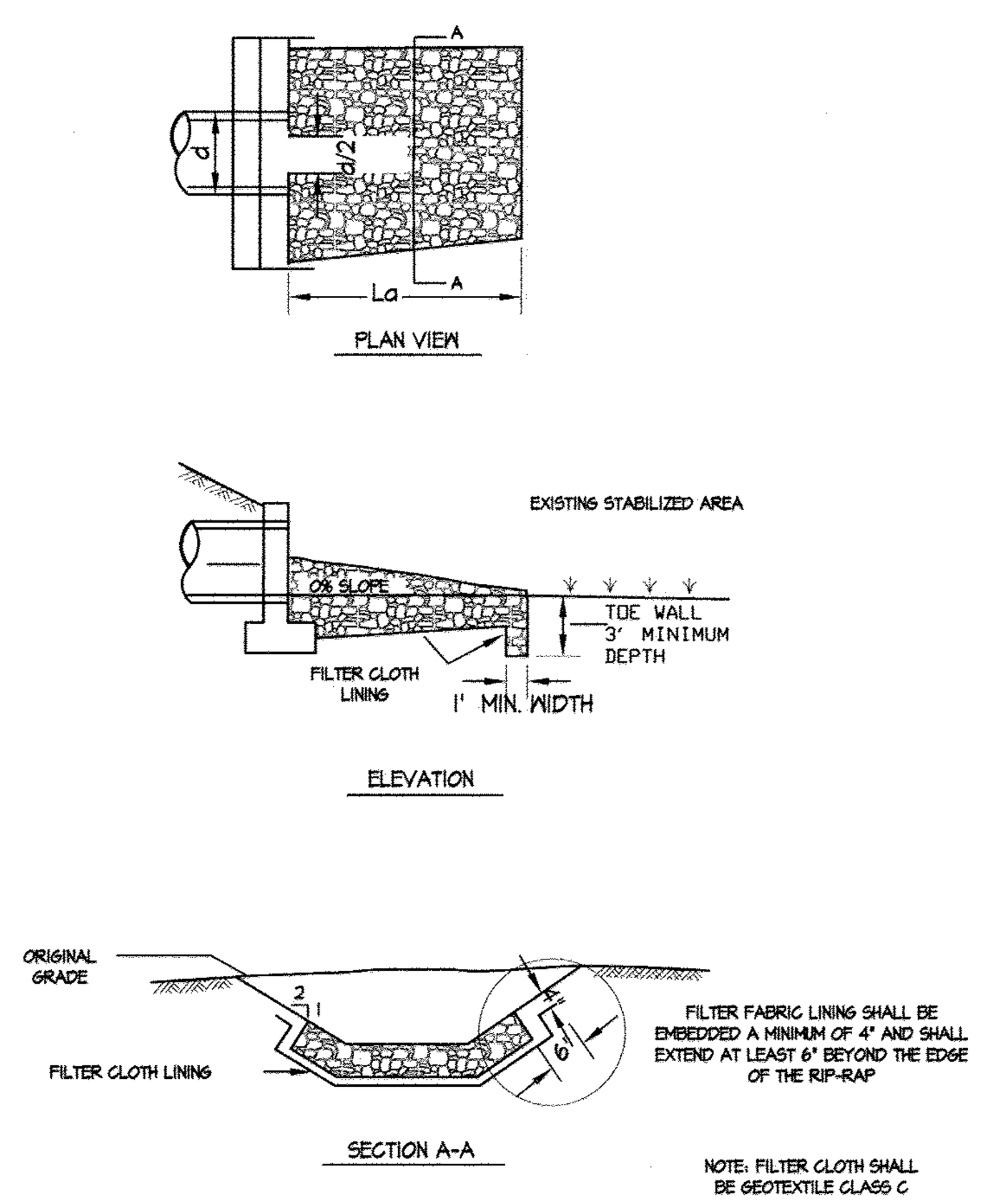
F-173 NOT TO SCALE



SUPER SILT FENCE OUTFALL PROTECTION

NOT TO SCALE

DETAIL 27 – ROCK OUTLET PROTECTION 3



Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and rades. 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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~~REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.~~

~~USDA - NATURAL RESOURCES CONSERVATION SERVICE~~ [illegible] DATE

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

[illegible] 11/25/08

HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE

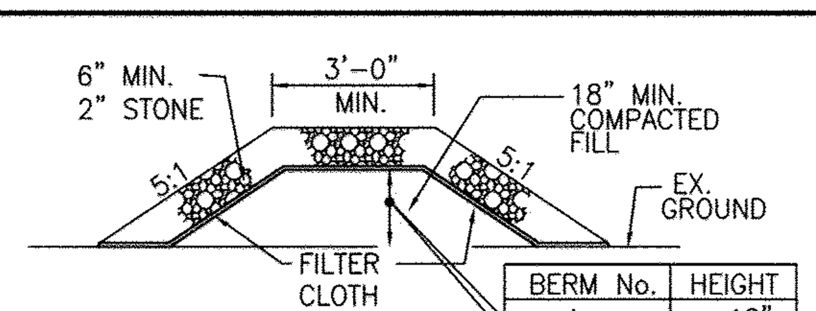
"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

ENGINEER 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 DATE



BERM No.	HEIGHT
A	18"
B	30"

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

MOUNTABLE BERM

MTBERM.DWG NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING & ZONING

[illegible] 12/4/08

DIRECTOR DATE

[illegible] J.P. 12/1/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[illegible] 12/4/08

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME BROOKDALE INDUSTRIAL PARK			SECTION / AREA N/A	LOTS / PARCELS Parcel A	
PLAT No. 20330	BLOCK No. 4/5	ZONE CE	TAX MAP No. 43	ELECT. DIST. 1	CENSUS TRACT 6012.02
WATER CODE B01			SEWER CODE 2350000		
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

Erosion & Sediment Control Details

Brookdale Industrial Park

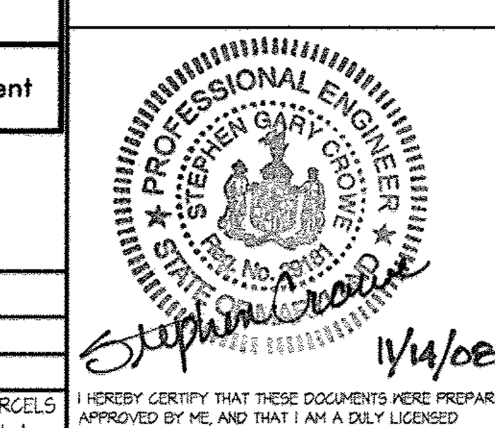
Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS



[illegible] 11/14/08

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. 29181, EXPIRATION DATE: 06/13/09."

SITE RESOURCES incorporated

Comprehensive Land Planning & Site Design Services

14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM	CONTRACT NO.:
DESIGNED BY: GDS	SCALE: AS SHOWN
CHECKED BY: SGC	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C4.02 8 OF 24

SDP-08-031

\\Projects\projects\07\07033-Brookdale Industrial Park Parcel A\dwg\C4.02_ESC_Details.dwg, 11/13/2008 2:21:14 PM, KPR

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:	5.00	Acres
Area Disturbed:	4.38	Acres
Area to be rooted or paved:	3.42	Acres
Total Cut:	5,052	Cu. Yds.
Total Fill:	5,052	Cu. Yds.
Offsite Waste/Borron 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. Harron 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. Harron 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 applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching -- Apply 1-1/2 to 2 tons 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 to the 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 lieu 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 Gablon 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 / OPERATION

1. Assure that Grading Permit and all other necessary permits are obtained from owner.	2 DAYS
2. Notify Howard County Department of Public Works at least 48 hours before start of work. Contact Miss Utility at 1-800-257-7777 at least three days in advance of starting work.	3 DAYS
3. Clear and grub the minimum area necessary to install stabilized contruction entrance and all other sediment and erosion control measures shown on this plan, including super silt fence.	1 WEEK
4. Notify sediment control inspector & engineer upon completion of these installations.	2 DAYS
5. With the permission of the sediment control inspector, strip & stockpile topsoil, clear and rough grade for construction of the new building and parking area.	6 WEEKS
6. Install storm drain system. Connections to Vortechs and StormFilter System at I-15 and M-2 are to be bulkheaded until fine grade. (See ESC & SWM approved plans for location). Inlets I-15, I-17, I-19 and I-21 are to be temporary blocked with "super silt fence".	4 WEEKS 4 WEEKS
7. Install remaining utilities.	1 WEEK
8. Construct fine grade all remaining disturbed areas.	2 WEEKS
9. Remove temporary "super silt fence" at inlets I-15, I-17, I-19 and I-21. Fine grade & install base course for parking area. Install curb & gutter and concrete walks.	1 WEEK
10. Fine grade and permanently stabilize all remaining pervious areas with permanent seed & mulch.	2 WEEKS
11. Install bituminous paving surface course for parking. Install new plant material.	1 WEEK
12. Upon stabilization of the site, and with the permission of the sediment control inspector, remove sediment control measures. In accordance with the approved stormwater management plans, flush storm drains.	1 WEEK
13. Upon stabilization of the site, remove super silt fence and all bulkheads.	2 DAYS
14. As Built plans and computations to be submitted to approving agencies within 30 days of completion.	1 MONTH

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 **.30 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.

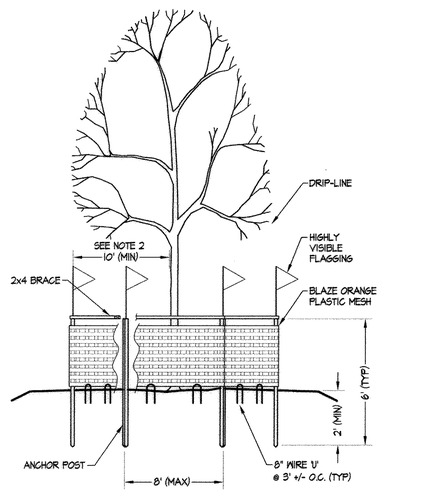
Silt Fence
Class F geotextile fabrics for silt fence shall have a 50 lb./in. minimum tensile strength and a 20 lb./in. minimum tensile modules when tested in accordance with MSMT 509. The material shall also have a 0.3 gal./sf./min. flow rate and seventy-five percent (75%) minimum filtering efficiency 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.



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

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/4/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/1/08
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

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 — DATE 11/25/08

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."

Stephen Crowe — ENGINEER — DATE 11/14/08

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 11-14-08

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME			SECTION / AREA	LOTS / PARCELS	
BROOKDALE INDUSTRIAL PARK			N/A	Parcel A	
PLAT No. 20330	BLOCK No. 4/5	ZONE CE	TAX MAP No 43	ELECT. DIST. 1	CENSUS TRACT 6012.02
WATER CODE 801		SEWER CODE 2350000			
OWNER: KINSLEY HOLDINGS INC. 6254 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

Erosion & Sediment Control Details

Brookdale Industrial Park

Parcel A

PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

STEPHEN GARY CROWE — No. 21397 — STATE OF MARYLAND — PROFESSIONAL ENGINEER
Stephen Crowe 11/14/08

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. 21397, EXPIRATION DATE: 09/30/09.

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY:	AM
DESIGNED BY:	GDS
CHECKED BY:	SGC
DATE:	NOVEMBER 17, 2008
CONTRACT NO.:	
SCALE:	AS SHOWN
SRI PROJECT NO:	07033
SHEET	C4.03 9 OF 24

SDP-08-031

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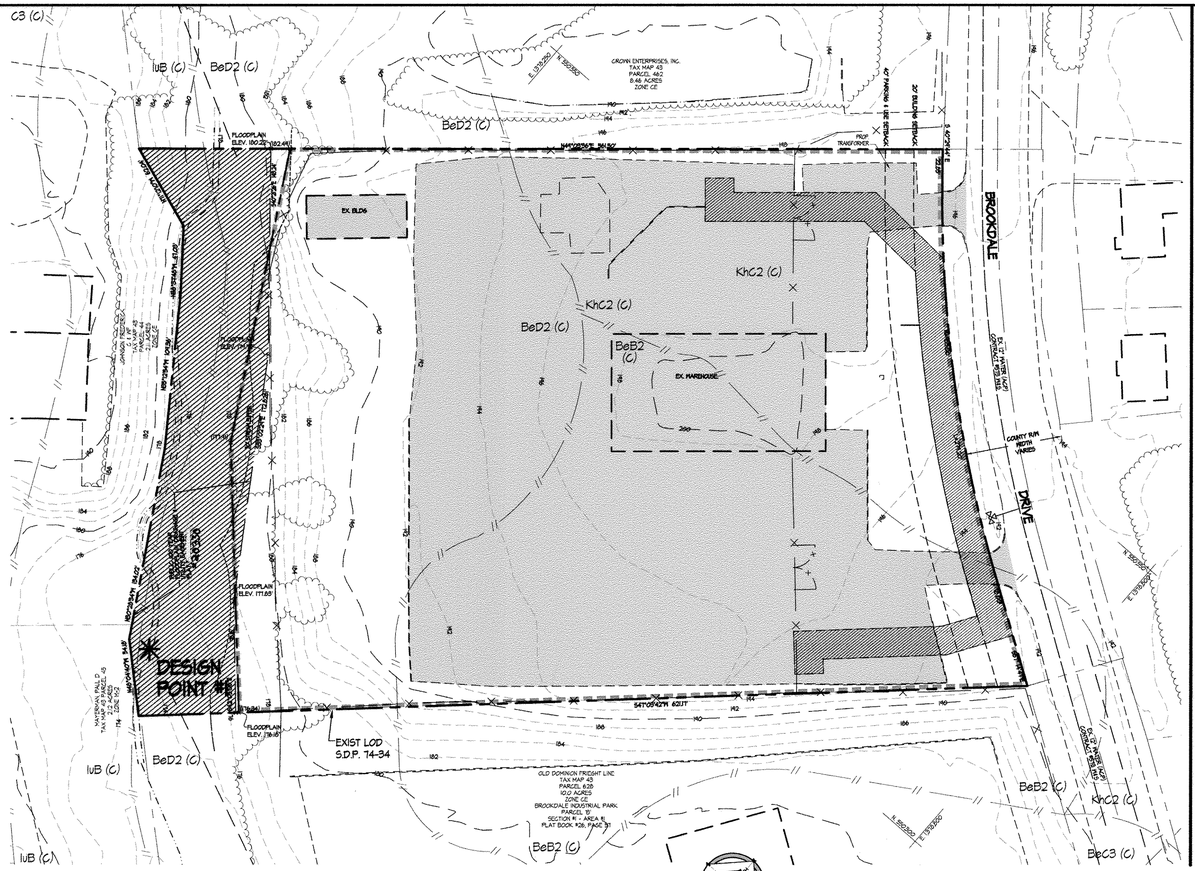
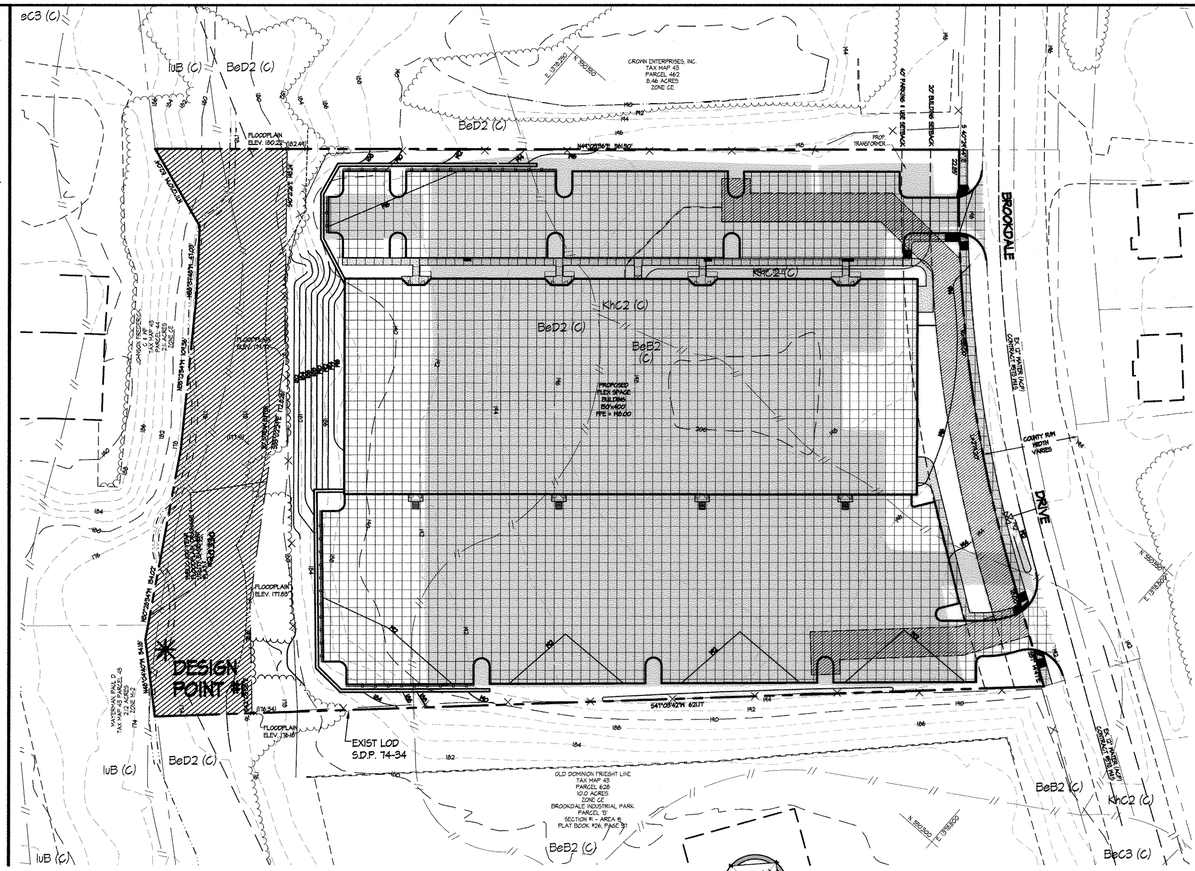


EXISTING CONDITIONS

SCALE: 1"=50'



PROPOSED CONDITIONS

SCALE: 1"=50'

SITE DATA:

1. Owner / Developer / Applicant Information and Address:
   Kinsley Holdings Inc.
   RR1 Box 1314A
   Seven Valleys, PA 17360

   Contact Name & Phone: Mike Jeffers
   (717)-741-8408

2. Property Information:
   Election District: 1
   Tax Map 43
   Tax Account Number: 01-175742
   Site Address: 7010 Brookdale Drive
   Elkridge, MD 21075

3. Zoning: GE
   Watershed: Patapsco

4. Site Area: 5.00 Ac. +/-

5. Prop. Disturbed Area: 189,268 SF (4.34 Ac.+/-)

6. Existing Imp. Area: 124,581.60 SF (2.86 Ac.)

   Proposed Imp. Area: 150,717.60 SF (3.46 Ac.)

7. Earthwork: *
   Cut: 5,052.40 cy. +/-
   Fill: 5,052.40 cy. +/-

   * THIS INFORMATION IS NOT FOR BID PURPOSES, BUT IS AN ESTIMATE TO BE USED EXCLUSIVELY BY GOVERNMENTAL AGENCIES REVIEWING THIS PLAN.

8. The proposed disturbed area on the site is not located within a 100yr flood plain per FIRM MAP PANEL 40 (Dated December 4, 1986).

9. NPDES ID PT.: N. 550,399.88 E. 1,378,434.51

SOILS CHART - ON-SITE

SYMBOL	NAME	HYDROLOGIC SOIL GROUP
BeB2	BRANDYWINE LOAM	C
BeD2	BRANDYWINE LOAM	C
KhC2	KEYPORT SILT LOAM	C
luB	IUKA LOAM	C

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/4/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/4/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

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

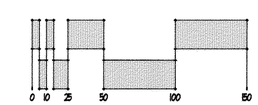
DEVELOPER'S CERTIFICATE

"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 11-14-08

LEGEND

- PROPERTY LINE
- EXISTING CONTOURS (348 / 350)
- PROPOSED CONTOURS (348 / 350)
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING PAVING
- PROPOSED CURB
- PROPOSED WALKS
- PROPOSED BUILDINGS
- EXISTING BUILDINGS
- SOILS LINE (BeB2 // BeD2)
- EXISTING IMPERVIOUS
- PROPOSED IMPERVIOUS
- EXISTING LIMIT OF DISTURBANCE ARE BASED ON S.D.P. 74-34, 4.92 AC.
- EX. PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT
- EX. PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT
- DRAINAGE DIVIDE
- EXISTING 20' WIDE WATER UTILITY EASEMENT 14-4546-D



ADDRESS CHART

PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME				SECTION / AREA	LOTS / PARCELS
BROOKDALE INDUSTRIAL PARK				N/A	Parcel A
PLAT No.	BLOCK No.	ZONE	TAX MAP No	ELECT. DIST.	CENSUS TRACT
20330	4/5	GE	43	1	6012.02
WATER CODE		SEWER CODE			
B01		2350000			

OWNER: KINSLEY HOLDINGS INC.
8294 REYNOLDS MILL ROAD
SEVEN VALLEYS, PA 17360 (717) 741-3841

Stormwater Management Drainage Area Map

Brookdale Industrial Park

Parcel A

PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

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. 21181, EXPIRATION DATE: 09/13/09.

STEPHEN GARY GROME — No. 21181 — STATE OF MARYLAND — PROFESSIONAL ENGINEER

11/14/08

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM/MAS	CONTRACT NO.:
DESIGNED BY: GDS	SCALE: 1" = 50'
CHECKED BY: SGC	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C5.01 10 OF 24

SDP-08-031

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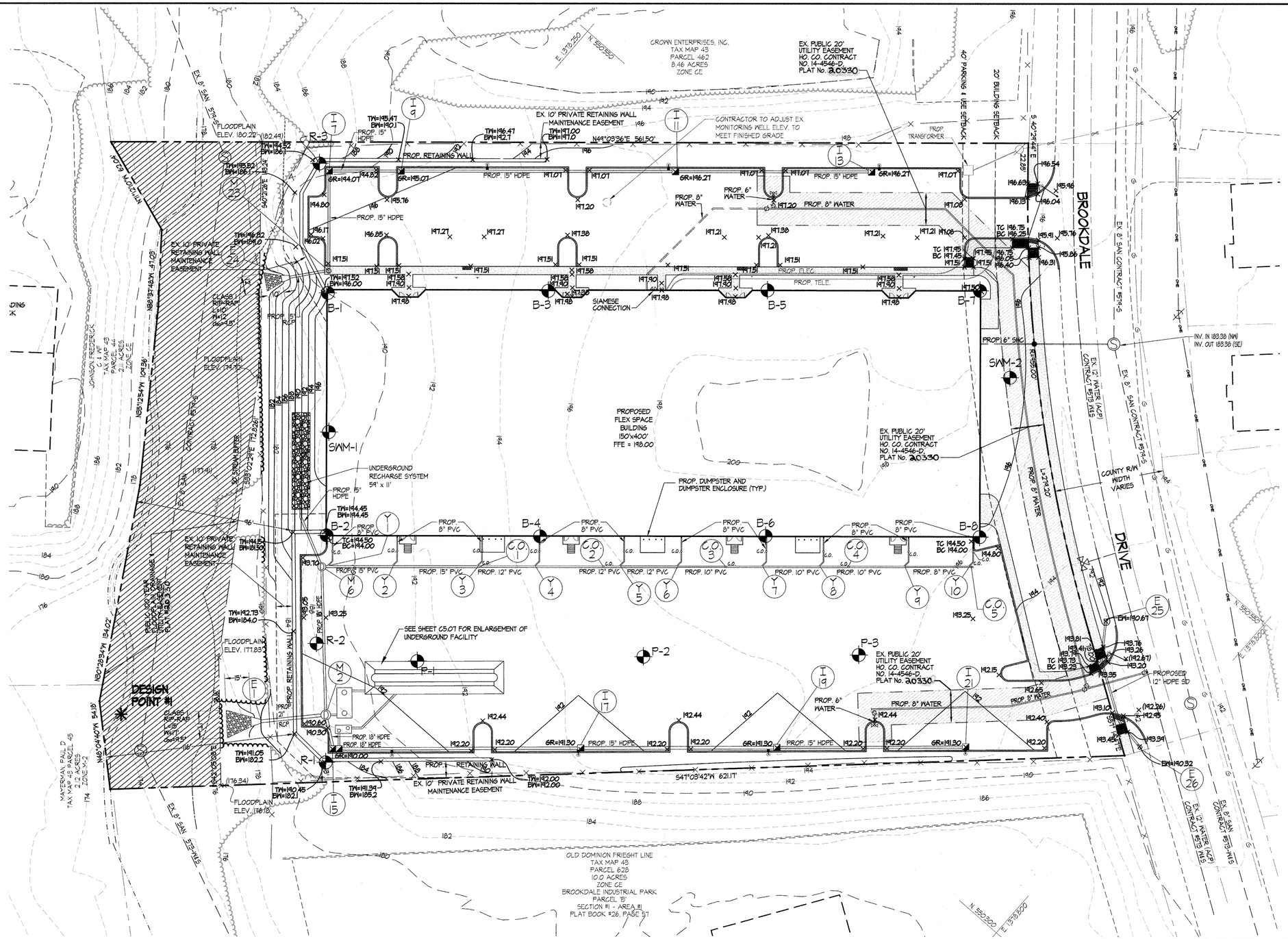

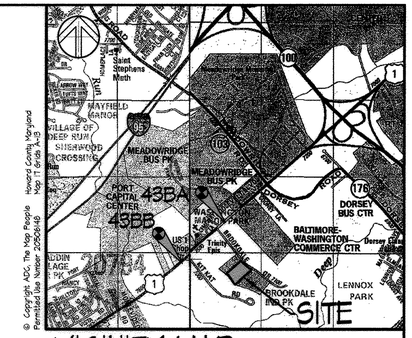

VICINITY MAP

1"=2000'

BENCHMARKS

MONUMENT	NORTHING	EASTING	ELEVATION	HORIZ. DATUM	VERT. DATUM
43BA	550534.186	1376405.228	209.97	NAD83(91)	NAVD88
43BB	551616.391	1378108.415	209.50	NAD83(91)	NAVD88

LEGEND

- PROPERTY LINE
- EXISTING CONTOURS (350 / 348)
- PROPOSED CONTOURS (350 / 348)
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING PAVING
- PROPOSED CURB
- PROPOSED CONCRETE WALK
- EX. 15" SD — EXISTING STORM DRAINS
- PROP. HDPE — PROPOSED STORM DRAIN
- EX. 8" SAN — EXISTING SANITARY SEWER
- PROP. 8" SAN. — PROPOSED SANITARY SEWER
- EX. 8" WATER — EXISTING WATER
- PROP. 8" WATER — PROPOSED WATER
- PROPOSED BUILDINGS
- EXISTING BUILDINGS
- B-1 — PROPOSED SOIL BORINGS
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EX PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT
- EXISTING 20' WIDE WATER UTILITY EASEMENT 14-4546-D

NOTE:

1. All debris is to be kept out of the SWM facility during and after construction.

SWM SUMMARY - DESIGN POINT 1

Drainage Area To Facility = 1.51 Ac.
Impervious Area Managed = 1.43 Ac.

	Required	Provided	Notes
Water Quality Volume (WQv)	4,944.06 CF	5016.00 CF	
Recharge Volume (Rev)	609.84 CF	649.00 CF	

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR	DATE 12/5/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 12/1/08
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 12/4/08

NOTE : IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENGAGE A LICENSED PROFESSIONAL ENGINEER TO CERTIFY THE STORMWATER MANAGEMENT FACILITY AND TO PREPARE AND SUBMIT AS-BUILT DRAWINGS.

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."

Stephen Crowe — 11/14/08
Signature of Engineer — Date

STEPHEN CROWE
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 of Developer — 11-14-08 Date

ROBERT A. KINSLEY
Printed Name of Developer

0 10 20 30 50 100
SCALE: 1" = 30'

ADDRESS CHART

PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME			SECTION / AREA	LOTS / PARCELS	
BROOKDALE INDUSTRIAL PARK			N/A	Parcel A	
PLAT No.	BLOCK No.	ZONE	TAX MAP No.	ELECT. DIST.	CENSUS TRACT
20330	4/5	GE	43	1	6012.02
WATER CODE		SEWER CODE			
B01		2550000			

OWNER: KINSLEY HOLDINGS INC.
8259 REYNOLDS MILL ROAD
SEVEN VALLEYS, PA 17360 (717) 741-3841

Stormwater Management Plan

Brookdale Industrial Park

Parcel A

PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

PROFESSIONAL ENGINEER — STEPHEN GARY CROWE — No. 21631 — STATE OF MARYLAND

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. 21631, EXPIRATION DATE: 09/13/09.

Stephen Crowe 11/14/08

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM/SRB	CONTRACT NO.:
DESIGNED BY: GDS	SCALE: 1" = 30'
CHECKED BY: SGC	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C5.02 11 OF 24

SDP-08-031

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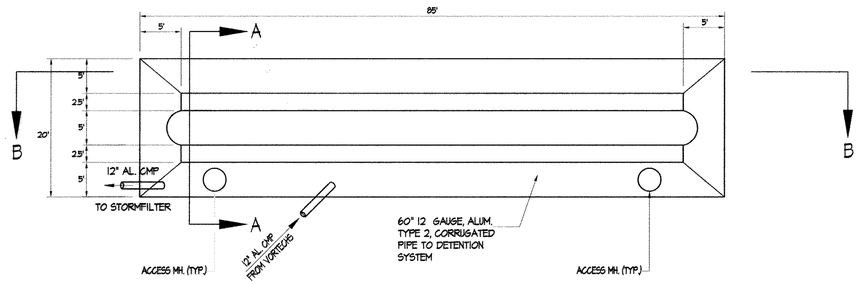
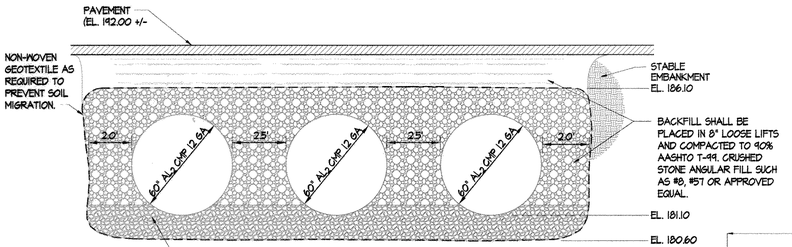


PLAN VIEW

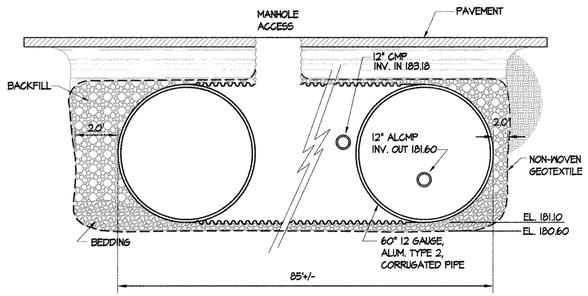
NOT TO SCALE



*SELECT BACKFILL IS DEFINED AS NATIVE SOIL EXCAVATED FROM TRENCH, FREE OF ROCKS, FOREIGN MATERIALS AND OR FROZEN EARTH.

CROSS SECTION A-A

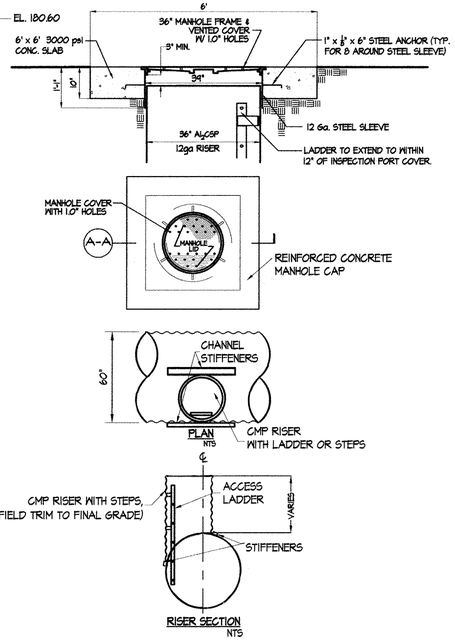
NOT TO SCALE



CROSS SECTION B-B

NOT TO SCALE

1 DETENTION SYSTEM DETAILS



NOTES:
1. THE CONCRETE CAP SHALL BE SIZED AND DESIGNED BY OTHERS SO THAT THE LOADS ARE TRANSMITTED TO THE SOIL, AND NOT THE RISER.
2. THE CONCRETE CAP SHALL BE SIZED TO PROVIDE AN ADEQUATE BOTTOM AREA BASED ON THE ALLOWABLE BEARING CAPACITY OF THE SOIL.
3. THE FLEXIBLE JOINT MATERIAL (RECYCLED VINYL OR EQ.) TO BE STIFF ENOUGH SO THAT THE CONCRETE CAN NEVER ENGAGE WITH THE RISER CORRUGATIONS.

DETENTION SYSTEM ACCESS MANHOLE DETAILS

NOT TO SCALE

GENERAL NOTES

1) STORMFILTER BY CONTECH STORMWATER SOLUTIONS; PORTLAND, OR (800) 548-4667; SCARBOROUGH, ME (877) 907-8676; ELKRIDGE, MD (866) 740-3318.
2) FILTER CARTRIDGE(S) TO BE SIPHON-ACTUATED AND SELF-CLEANING. STANDARD DETAIL DRAWING SHOWS MAXIMUM NUMBER OF CARTRIDGES. ACTUAL NUMBER REQUIRED TO BE SPECIFIED ON SITE PLANS OR IN DATA TABLE BELOW.
3) PRECAST VAULT TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C857 AND C858. DETAIL DRAWING REFLECTS DESIGN INTENT ONLY. ACTUAL DIMENSIONS AND CONFIGURATION OF STRUCTURE WILL BE SHOWN ON PRODUCTION SHOP DRAWING.
4) STRUCTURE AND ACCESS COVERS TO MEET AASHTO H-20 LOAD RATING.
5) STORMFILTER REQUIRES 2.3 FEET OF DROP FROM INLET TO OUTLET AND 0.84 FEET OF DROP FROM UPSTREAM INLET TO TRANSFER PIPE. IF LESS DROP IS AVAILABLE, CONTACT CONTECH STORMWATER SOLUTIONS.
6) INLET, OUTLET AND TRANSFER PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR. PRECAST STORMFILTER VAULT EQUIPPED WITH EITHER CORED OPENINGS OR KNOCKOUTS AT INLET, OUTLET AND TRANSFER LOCATIONS. TRANSFER PIPE TO EXTEND FROM UPSTREAM FACE OF DOWNSTREAM BAFFLE WALL THROUGH OUTLET BAY TO SECOND VAULT. TRANSFER PIPE TO BE SET LEVEL AND INSTALLED BY CONTRACTOR.
7) PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS. IF A SHALLOWER SYSTEM IS REQUIRED, CONTACT CONTECH STORMWATER SOLUTIONS FOR OTHER OPTIONS.
8) ANTI-FLOTATION BALLAST TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR, IF REQUIRED. BALLAST TO BE SET ALONG ENTIRE LENGTH OF BOTH SIDES OF THE STRUCTURE.
9) ALL STORMFILTERS REQUIRE REGULAR MAINTENANCE. REFER TO OPERATION AND MAINTENANCE GUIDELINES FOR MORE INFORMATION.

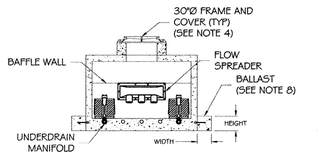
8' x 16' PRECAST STORMFILTER DATA

STRUCTURE ID	1
PEAK FLOW RATE (cfs)	2.15
# OF CARTRIDGES REQUIRED	20
CARTRIDGE FLOW RATE (15 OR 7.5 gpm)	7.5
MEDIA TYPE (CSF, PERLITE, ZPG)	CSF

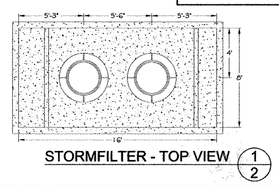
PIPE DATA:	IE	MATERIAL	DIAMETER
UPSTREAM INLET PIPE	181.60	ALCMP	12"
DOWNSTREAM OUTLET PIPE	179.60	HDPE	12"

RIM 192.00' +/-
192.00' +/-

LADDER	YES
ANTI-FLOTATION BALLAST	WIDTH / HEIGHT
	18" / 12"
NOTES/SPECIAL REQUIREMENTS:	



STORMFILTER - SECTION VIEW (B / 2)



STORMFILTER - TOP VIEW (1 / 2)

THE STORMWATER MANAGEMENT StormFilter® U.S. PATENT No. 5,322,629, No. 5,707,527, No. 6,027,639 No. 6,649,045, No. 5,624,576, AND OTHER U.S. AND FOREIGN PATENTS PENDING

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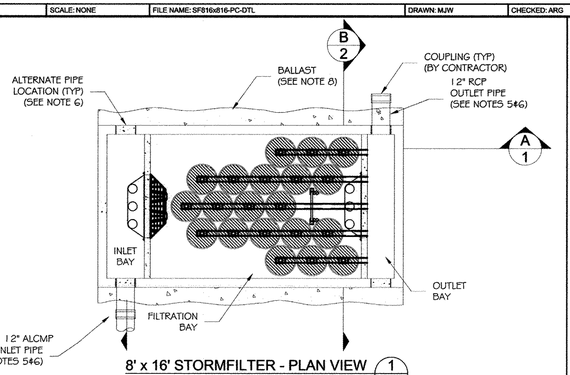
contechstormwater.com

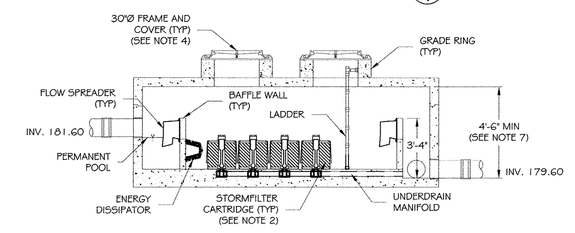
8' x 16' PRECAST STORMFILTERS
TOP AND SECTION VIEWS, NOTES AND DATA
STANDARD DETAIL

DRAWING 2 2/2

DATE: 11/16/05 | SCALE: NONE | FILE NAME: SF816x816-PC-DTL | DRAWN: MJW | CHECKED: ARG



8' x 16' STORMFILTER - PLAN VIEW (1 / 1)



8' x 16' STORMFILTER - SECTION VIEW (A / 1)

THE STORMWATER MANAGEMENT StormFilter® U.S. PATENT No. 5,322,629, No. 5,707,527, No. 6,027,639 No. 6,649,045, No. 5,624,576, AND OTHER U.S. AND FOREIGN PATENTS PENDING

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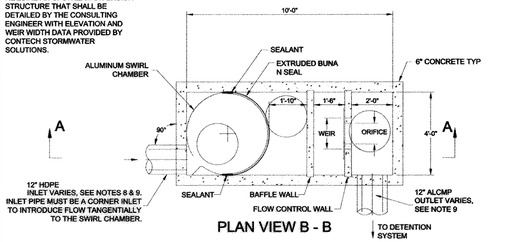
contechstormwater.com

8' x 16' PRECAST STORMFILTER
PLAN AND SECTION VIEWS
STANDARD DETAIL

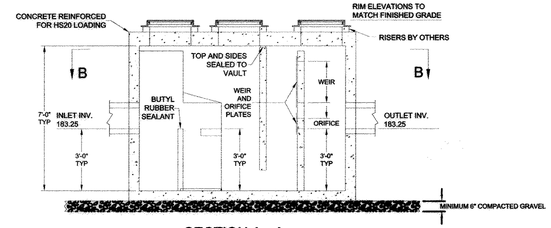
DRAWING 1 1/2

DATE: 09/29/05 | SCALE: NONE | FILE NAME: SF816-PC-DTL | DRAWN: MJW | CHECKED: ARG

NOTE:
VORTECHS SYSTEMS INSTALLED IN A BYPASS CONFIGURATION REQUIRE AN UPSTREAM DIVERSION STRUCTURE THAT SHALL BE DETAILED BY THE CONSULTING ENGINEER WITH ELEVATION AND WEIR WIDTH DATA PROVIDED BY CONTECH STORMWATER SOLUTIONS.



PLAN VIEW B - B



SECTION A - A

NOTES:
1. STORMWATER TREATMENT SYSTEM (SWTS) SHALL HAVE:
   PEAK TREATMENT CAPACITY: 2.8 CFS
   SEDIMENT STORAGE: 1.2 CU YD
   SEDIMENT CHAMBER DIA: 4' MIN
2. SWTS SHALL BE CONTAINED IN ONE RECTANGULAR STRUCTURE
3. SWTS REMOVAL EFFICIENCY SHALL BE DOCUMENTED BASED ON PARTICLE SIZE
4. SWTS SHALL RETAIN FLOATABLES AND TRAPPED SEDIMENT UP TO AND INCLUDING PEAK TREATMENT CAPACITY
5. SWTS INVERTS IN AND OUT ARE TYPICALLY AT THE SAME ELEVATION
6. SWTS SHALL NOT BE COMPROMISED BY EFFECTS OF DOWNSTREAM TAILWATER
7. SWTS SHALL HAVE NO INTERNAL COMPONENTS THAT OBSTRUCT MAINTENANCE ACCESS
8. INLET PIPE MUST BE PERPENDICULAR TO THE STRUCTURE
9. PIPE ORIENTATION MAY VARY; SEE SITE PLAN FOR SIZE AND LOCATION
10. PURCHASER SHALL NOT BE RESPONSIBLE FOR ASSEMBLY OF UNIT
11. MANHOLE FRAMES AND PERFORATED COVERS SUPPLIED WITH SYSTEM, NOT INSTALLED
12. PURCHASER TO PREPARE EXCAVATION AND PROVIDE CRANE FOR OFF-LOADING AND SETTING AT TIME OF DELIVERY
13. VORTECHS SYSTEMS BY CONTECH STORMWATER SOLUTIONS: PORTLAND, OR (800) 548-4667; SCARBOROUGH, ME (877) 907-8676; LINTHICUM, MD (866) 740-3318.

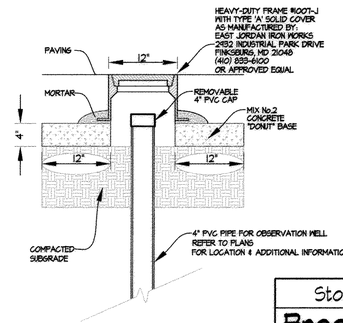
PROPRIETARY INFORMATION - NOT TO BE USED FOR CONSTRUCTION PURPOSES

This CADD file is for the purpose of specifying stormwater treatment equipment to be furnished by CONTECH Stormwater Solutions and may only be transferred to other documents exactly as provided by CONTECH Stormwater Solutions. Title block information, excluding the CONTECH Stormwater Solutions logo and the Vortechs Stormwater Treatment System designation and patent number, may be deleted if necessary. Revisions to any part of this CADD file without prior coordination with CONTECH Stormwater Solutions shall be considered unauthorized use of proprietary information.

CONTECH STORMWATER SOLUTIONS
contechstormwater.com

STANDARD DETAIL
STORMWATER TREATMENT SYSTEM
VORTECHS® MODEL 2000
U.S. PATENT No. 5,759,415

DATE: 10/4/06 | SCALE: NONE | FILE NAME: STD2K | DRAWN: JBS | CHECKED: NDG



2 CLEANOUT FRAME & COVER

SCALE: 1" = 1'-0"

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."

Stephen Crowe — Signature of Engineer — 11/14/08 Date

STEPHEN CROWE — 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 of Developer — 11-14-08 Date

ROBERT A. KINSLEY — Printed Name of Developer

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

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — 12/4/08 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 12/1/08 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 12/4/08 DATE

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME			SECTION / AREA	LOTS / PARCELS	
BROOKDALE INDUSTRIAL PARK			N/A	Parcel A	
PLAT No. 20330	BLOCK No. 4/5	ZONE CE	TAX MAP No. 43	ELECT. DIST. 1	CENSUS TRACT 6012.02
WATER CODE	B01	SEWER CODE	2950000		
OWNER: KINSLEY HOLDINGS INC. 6254 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

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. 21931, EXPIRATION DATE: 09/15/09.

Stephen Crowe — 11/12/08

Stormwater Management Details

Brookdale Industrial Park

Parcel A

PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY:	MAS / SRB	CONTRACT NO.:	
DESIGNED BY:	GDS	SCALE:	AS SHOWN
CHECKED BY:	SGC	SRI PROJECT NO:	07033
DATE:	NOVEMBER 17, 2008	SHEET	C5.03 12 OF 24

SDP-08-031

\\Projects\projects\07\07033-Brookdale Industrial Park Parcel A\dwg\C5.03_SWM_Details.dwg, 11/13/2008 3:22:46 PM, KPR

GENERAL CONSTRUCTION SPECIFICATIONS

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.

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 tired 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).

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.

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.

Corrugated Metal Pipe

1. Materials - (Polymer Coated Steel Pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and it's appurtenances shall conform to the requirements of AASHTO Specification M-245 & M-246 with watertight coupling bands or flanges.

   Materials - (Aluminum Coated Steel Pipe) - This pipe and it's appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when solid and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

   Materials - (Aluminum Pipe) - This pipe and it's appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.
2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.
3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

   All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accomodate bandwith. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

   Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene band.
4. 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.
5. Backfilling shall conform to "Structure Backfill".
6. 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.

GENERAL NOTES

1) VOLUME STORMFILTER BY STORMWATER MANAGEMENT INC. (SMI), PORTLAND, OREGON (800) 548-4667.
2) FILTER CARTRIDGE(S) TO BE SIPHON-ACTUATED AND SELF-CLEANING. STANDARD DETAIL DRAWING SHOWS MAXIMUM NUMBER OF CARTRIDGES. ACTUAL NUMBER REQUIRED TO BE SPECIFIED ON SITE PLANS OR IN DATA TABLE BELOW
3) PRECAST VAULT TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C857 AND C858. DETAIL DRAWING REFLECTS DESIGN INTENT ONLY. ACTUAL DIMENSIONS AND CONFIGURATION OF STRUCTURE WILL BE SHOWN ON PRODUCTION SHOP DRAWINGS.
4) STRUCTURE AND ACCESS COVERS TO MEET AASHTO H-20 LOAD RATING.
5) VOLUME STORMFILTER REQUIRES MIN 2.9 FEET OF DROP FROM INLET TO OUTLET. IF LESS DROP IS AVAILABLE, CONTACT SMI.
6) INLET AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
7) PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS. IF A SHALLOWER SYSTEM IS REQUIRED, CONTACT SMI FOR OTHER OPTIONS.
8) ANTI-FLOTATION BALLAST TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR, IF REQUIRED. BALLAST TO BE SET ALONG ENTIRE LENGTH OF BOTH SIDES OF THE STRUCTURE.
9) ALL STORMFILTER SYSTEMS REQUIRE REGULAR MAINTENANCE. REFER TO OPERATION AND MAINTENANCE GUIDELINES FOR MORE INFORMATION.

DETENTION SYSTEM OPERATION AND MAINTENANCE

1. INSPECT INSIDE OF PIPES AND STRUCTURES FOR DEBRIS OR SEDIMENT REMOVAL. ALL VISUAL INSPECTION SHALL BE PERFORMED AFTER EACH SIZABLE STORM EVENT. INSPECTIONS SHOULD BE PERFORMED BY THE OWNER USING PERSONNEL EXPERIENCED IN THE MAINTENANCE OF EACH ELEMENT.
2. THE OWNER(S) OF THE BMP SHOULD KEEP A FILE CONTAINING ALL INFORMATION PERTAINING TO REPAIR, REPLACEMENT, AND MAINTENANCE OF THE BMP. FILES SHOULD BE READILY ACCESSIBLE TO PARTIES PERFORMING MAINTENANCE ON THE BMP AND LOCAL REGULATORY AGENCIES.
3. THE PIPES AND STRUCTURAL ELEMENTS OF THE UNDERGROUND DETENTION SHOULD BE THOROUGHLY INSPECTED ONCE A YEAR. SEVERAL OF THE STRUCTURAL ELEMENTS MAY NEED MORE FREQUENT INSPECTIONS. THE INSIDE OF THE STRUCTURE SHOULD BE INSPECTED FOR CRACKS, SPALLING, JOINT FAILURE OR LEAKS A MINIMUM OF ONCE PER YEAR. IF SIGNS OF CRACKS, LEAKS, MISALIGNMENT, SAGGING OR SETTLEMENT OF THE STRUCTURE OR RELAY PIPE ARE OBSERVED, A CIVIL ENGINEER OR GEOTECHNICAL ENGINEER SHOULD BE RETAINED TO DETERMINE THE PROBABLE CAUSE AND RECCOMENDED REMEDIATION.
4. THE UNDERGROUND PIPES AND RELAY PIPES SHOULD BE INSPECTED FOR DEBRIS OR SEDIMENT ACCUMULATION AFTER EVERY MAJOR STORM EVENT. ANY SEDIMENT OR DEBRIS SHOULD BE REMOVED TO PREVENT BLOCKAGE.

STORMFILTER OPERATION AND MAINTENANCE

1. THE FACILITY SHALL BE INSPECTED TWICE ANNUALLY - MARCH AND SEPTEMBER. VISUAL INSPECTION OF ALL COMPONENTS SHALL BE COMPLETED BY THE OWNER. ALL DRAINS SHALL BE OPENED BY THE OWNER ONCE A YEAR. THE OWNER SHALL KEEP NOTES OF EACH INSPECTION.
2. ALL APPURTENANCES SHALL BE KEPT FREE OF TRASH.
3. CORRECTIVE MAINTENANCE IS REQUIRED ANYTIME A FACILITY DOES NOT DRAIN WITHIN SEVENTY-TWO (72) HOURS.
4. ALL REQUIRED MAINTENANCE SHALL BE PERFORMED BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE OWNER'S EXPENSE.
5. INSPECTION/MINOR MAINTENANCE:
   - ONE TIME PER YEAR
   - AFTER MAJOR STORMS
6. MAJOR MAINTENANCE:
   - ONE TIME PER YEAR
   - IN THE EVENT OF A CHEMICAL SPILL

   FREQUENCIES SHOULD BE UPDATED AS REQUIRED.

   MAJOR MAINTENANCE INCLUDES:
   - CARTRIDGE REPLACEMENT
   - SEDIMENT REMOVAL

   IMPORTANT: IF VAULT ENTRY IS REQUIRED, OSHA RULES FOR CONFINED SPACE ENTRY MUST BE FOLLOWED.

   WARNING: IN THE CASE OF A SPILL, THE WORKER SHOULD ABORT MAINTENANCE ACTIVITIES UNTIL THE PROPER GUIDANCE IS OBTAINED. NOTIFY THE LOCAL HAZARD CONTROL AGENCY AND STORMWATER MANAGEMENT INC. 1-800-548-4667 IMMEDIATELY.
7. MATERIAL DISPOSAL: THE ACCUMULATED SEDIMENT FOUND IN STORMWATER TREATMENT AND CONVEYANCE SYSTEMS MUST BE HANDLED AND DISPOSED OF IN A MANNER THAT WILL NOT ALLOW THE MATERIAL TO AFFECT SURFACE OR GROUND WATER. IT IS POSSIBLE FOR SEDIMENTS TO CONTAIN MEASURABLE CONCENTRATIONS OF HEAVY METALS AND ORGANIC CHEMICALS (SUCH AS PESTICIDES AND PETROLEUM PRODUCTS).

   SEDIMENT AND WATER MUST BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE WASTE DISPOSAL REGULATIONS.

   PART OF ARRANGING FOR MAINTENANCE TO OCCUR SHALL INCLUDE COORDINATION OF DISPOSAL OF SOLIDS (LANDFILL COORDINATION) AND LIQUIDS (MUNICIPAL VACUUM TRUCK DECANT FACILITY, LOCAL WASTEWATER TREATMENT PLANT, ON-SITE TREATMENT AND DISCHARGE).

   OWNERS SHOULD CONTACT THE LOCAL PUBLIC WORKS DEPARTMENT AND INQUIRE ABOUT HOW THE DEPARTMENT DISPOSES OF THEIR STREET WASTE RESIDUALS.

CONSTRUCTION NOTES:

1. A PRECONSTRUCTION MEETING MUST BE HELD BETWEEN THE CONTRACTOR AND THE INSPECTION AGENCY TO REVIEW THE PLANS AND ANSWER QUESTIONS REGARDING CONSTRUCTION AND/OR INSPECTION PROCEDURES.
2. BEFORE WORK CAN BEGIN, THE CONTRACTOR MUST RECEIVE A WRITTEN NOTICE FROM THE STORMWATER MANAGEMENT SECTION.
3. ON ALL SITES WHERE STORM WATER MANAGEMENT FACILITIES ARE TO BE CONSTRUCTED, THE PERMITEE SHALL REQUEST THAT THE CITY REPRESENTATIVE BE THERE TO INSPECT THE WORK.

   THE ENVIRONMENTAL ENGINEER SECTION MUST BE NOTIFIED OF THE VARIOUS STAGES OF WORK TO BE DONE ON THE FACILITY. ONCE THE INSPECTION HAS BEEN COMPLETED AND CERTIFIED BY THE ENGINEER IN ACCORDANCE WITH APPROVED PLANS, THE CONTRACTOR MAY PROCEED TO THE NEXT STAGE. CALL (410) 396-4456 PRIOR TO 10:00 A.M. ON THE PRECEEDING DAY TO ARRANGE FOR INSPECTION.
4. ALL PROPOSED CONTRACTS THAT CONTAIN STORM WATER MANAGEMENT SYSTEMS ARE REQUIRED TO HAVE A PERFORMANCE BOND PRIOR TO ISSUANCE OF A PERMIT.
5. THE ESTIMATE OF STORM WATER MANAGEMENT CONSTRUCTION COSTS.
6. MUST PROVIDE A DESCRIPTION OF ALL MATERIALS, SOURCE OF MATERIALS, AND NAME OF SUPPLIERS.
7. CERTIFICATE OF COMPLIANCE TO CERTIFY THAT LISTED MATERIALS HAVE BEEN MANUFACTURED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
8. THE OFFICE OF PERMITS NEEDS COPIES OF ALL PERMITS RELATED TO THE PROJECT.
9. GEOTECHNICAL ENGINEERS MUST MONITY EARTH WORK ASSOCIATED WITH STORM WATER MANAGEMENT INSTALLATION.
10. UPON COMPLETION OF THE STORM WATER SYSTEM INSTALLATION TWO (2) PRINTS AND ONE (1) REPRODUCABLE MYLAR COPY OF AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE ENVIRONMENTAL ENGINEERING SECTION. THE AS-BUILT DRAWINGS SHALL BE AFFIXED WITH A STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER'S WRITTEN CERTIFICATION THAT THE AS-BUILT DRAWING TRULY REPRESENTS EXISTING FIELD CONDITIONS INCLUDING BUT NOT LIMITED TO LOCATIONS, SIZES, DIAMETERS, LINE AND GRADE AND ELEVATIONS.
11. FINAL INSPECTION OF THE COMPLETED STORM WATER SYSTEM SHALL BE REQUESTED AFTER THE SUBMISSION AND APPROVAL OF AS-BUILTS BY THE ENVIRONMENTAL ENGINEERING SECTION. THE REQUEST SHALL BE FILED WITHIN A MINIMUM OF 48 HOURS PRIOR TO DESIRED TIMES OF INSPECTION.
12. UPON SUCCESSFUL COMPLETION AND FINAL INSPECTION ACCEPTANCE OF THE STORM WATER SYSTEM BY THE DEPARTMENT OF PUBLIC WORKS HOLDING THE CONSTRUCTION BOND, THE BOND WILL BE RELEASED.

NOTE : IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENGAGE A LICENSED PROFESSIONAL ENGINEER TO CERTIFY THE STORMWATER MANAGEMENT FACILITY AND TO PREPARE AND SUBMIT AS-BUILT DRAWINGS.

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/3/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/1/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

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 — Date 11/14/08

STEPHEN CROWE
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 of Developer — Date 11-14-08

ROBERT A. KINSLEY
Printed Name of Developer

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME			SECTION / AREA	LOTS / PARCELS	
BROOKDALE INDUSTRIAL PARK			N/A	Parcel A	
PLAT No.	BLOCK No.	ZONE	TAX MAP No.	ELECT. DIST.	CENSUS TRACT
20330	4/5	GE	43	1	6012.02
WATER CODE		SEWER CODE			
B01		2350000			
OWNER: KINSLEY HOLDINGS INC. 6294 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

Stormwater Management Notes

Brookdale Industrial Park

Parcel A

PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

PROFESSIONAL ENGINEER — STEPHEN GARY CROWE — No. 21391 — STATE OF MARYLAND

11/14/08

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. 21391, EXPIRATION DATE: 09/13/09."

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM / SRB	CONTRACT NO.:
DESIGNED BY: GDS	SCALE: AS SHOWN
CHECKED BY: SGC	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C5.04 13 OF 24

SDP-08-031

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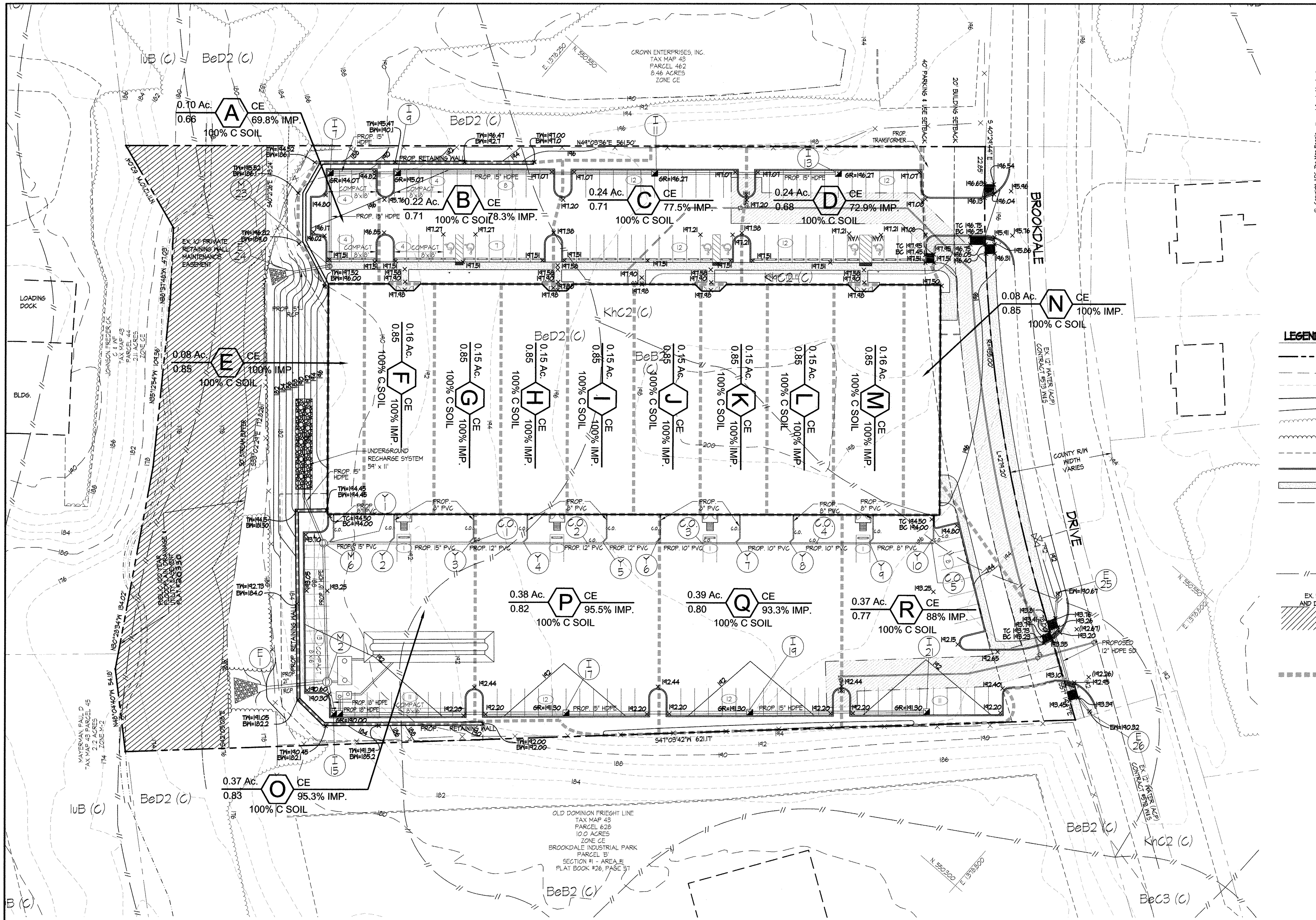
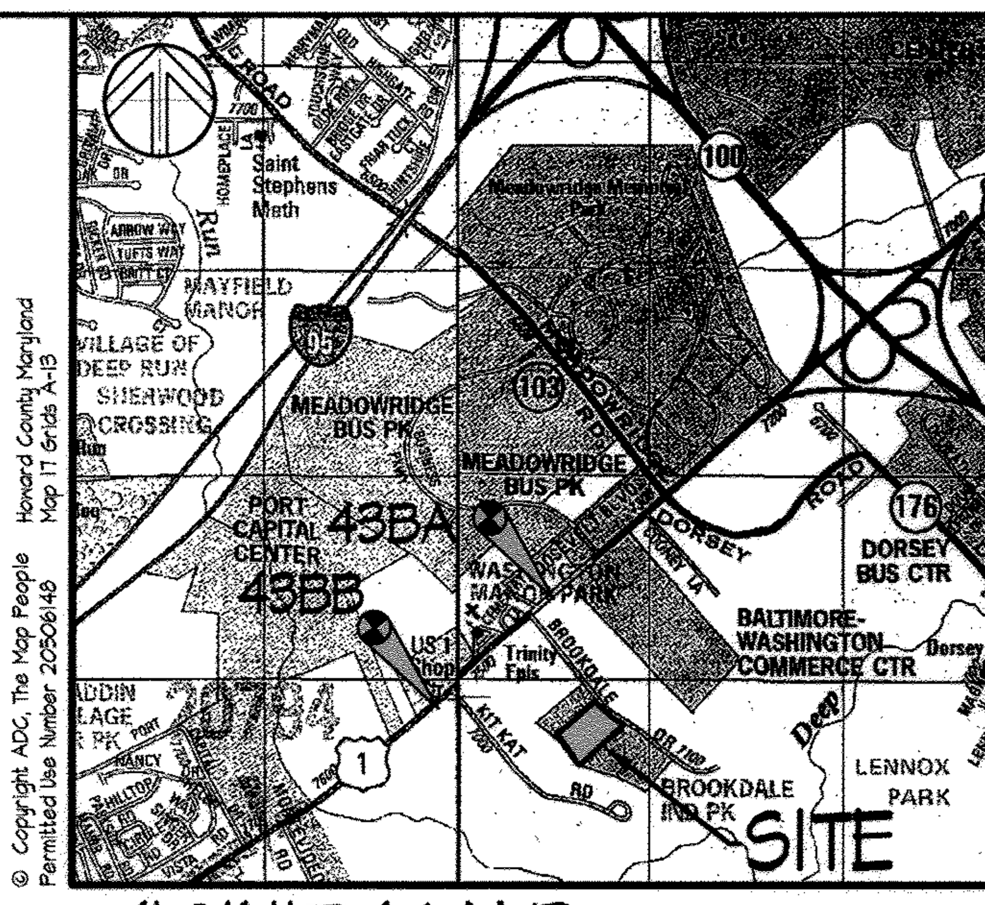




VICINITY MAP 1"=2000'

LEGEND

- PROPERTY LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING PAVING
- PROPOSED CURB
- PROPOSED CONCRETE WALKS
- EX. 8" WATER — EXISTING WATER
- PROPOSED BUILDINGS
- EXISTING BUILDINGS
- NeB2 / GcB2 — SOILS LINE
- EX. PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT — EX PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT
- EXISTING 20' WIDE WATER UTILITY EASEMENT 14-4546-D
- DRAINAGE DIVIDE

APPROVED: DEPARTMENT OF PLANNING & ZONING

[illegible] DIRECTOR	12/4/08 DATE
[illegible] CHIEF, DEVELOPMENT ENGINEERING DIVISION J.P.	12/1/08 DATE
[illegible] CHIEF, DIVISION OF LAND DEVELOPMENT	12/4/08 DATE

SCALE: 1" = 30'

NORTH

ADDRESS CHART

PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME: BROOKDALE INDUSTRIAL PARK				SECTION / AREA: N/A	LOTS / PARCELS: Parcel A
PLAT No.: 20330	BLOCK No.: 4/5	ZONE: CE	TAX MAP No.: 43	ELECT. DIST.: 1	CENSUS TRACT: 6012.02
WATER CODE: B01			SEWER CODE: 2350000		
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

Storm Drain Drainage Area Map

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

PROFESSIONAL ENGINEER STEPHEN GARY CROWE Reg. No. 29181 STATE OF MARYLAND

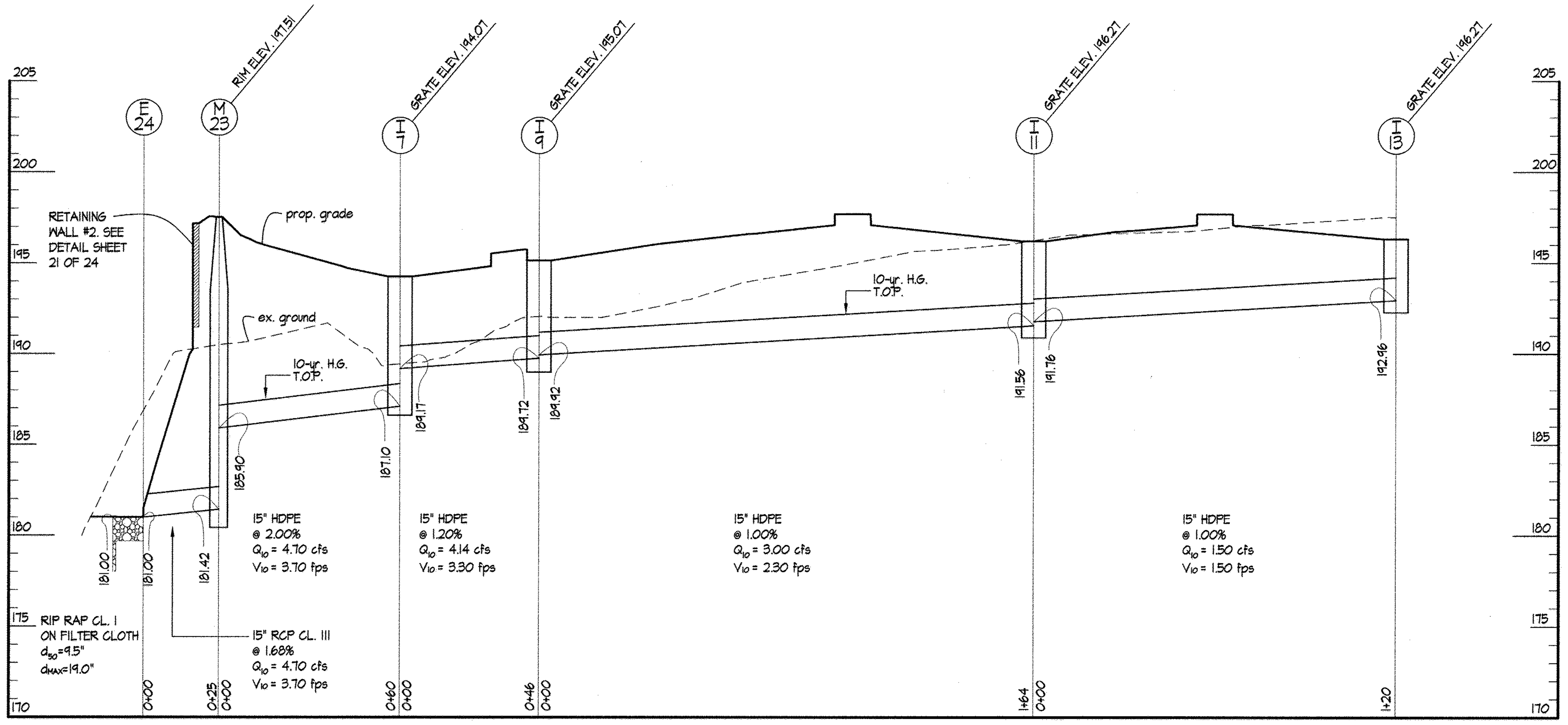
[illegible] 11/14/08

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. 29181, EXPIRATION DATE: 06/13/09.

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

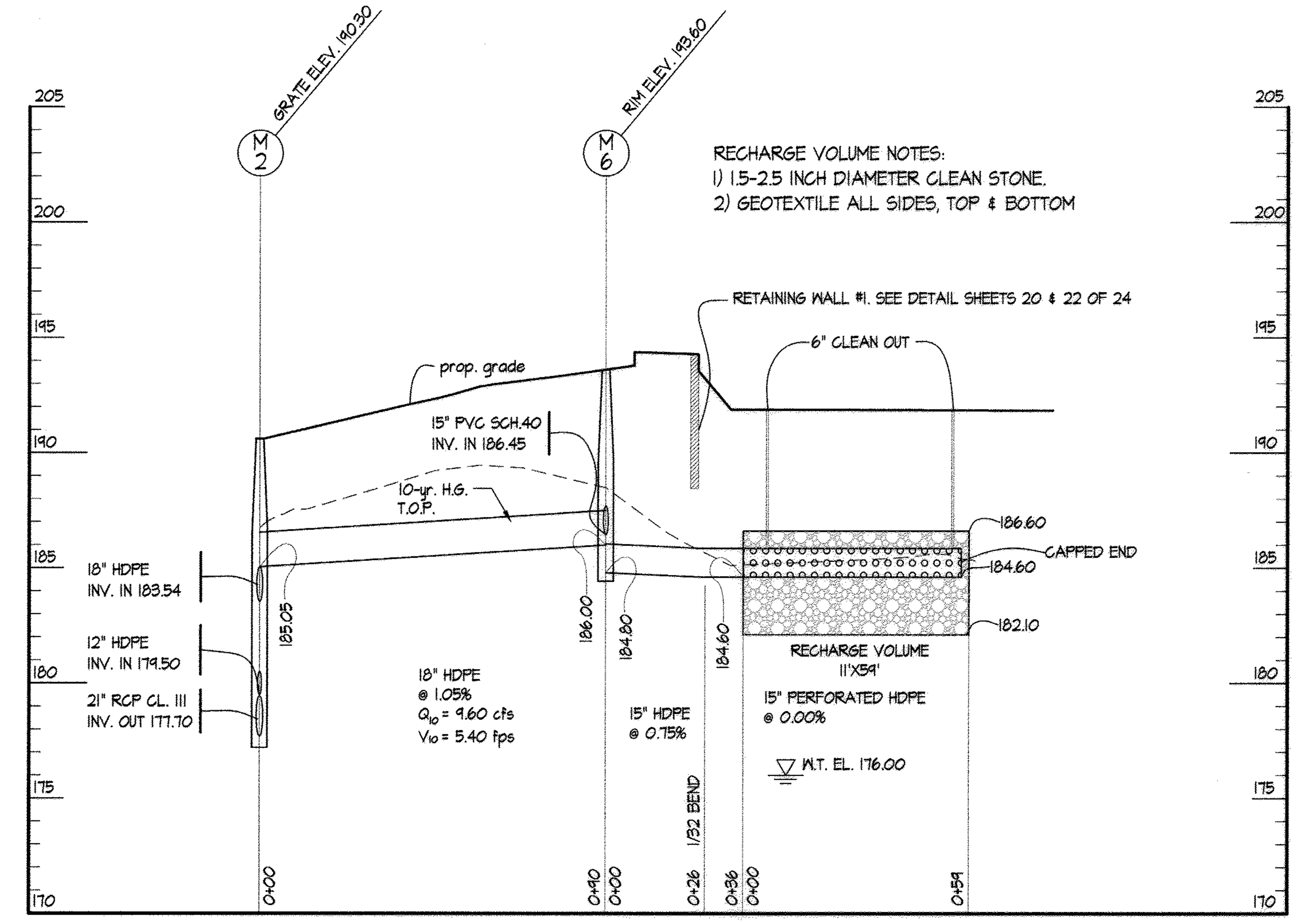
DRAWN BY:	AM/MAS	CONTRACT NO.:	
DESIGNED BY:	GDS	SCALE:	1" = 30'
CHECKED BY:	SGC	SRI PROJECT NO: 07033	
DATE:	NOVEMBER 17, 2008	SHEET C5.05	14 OF 24

SDP-08-031



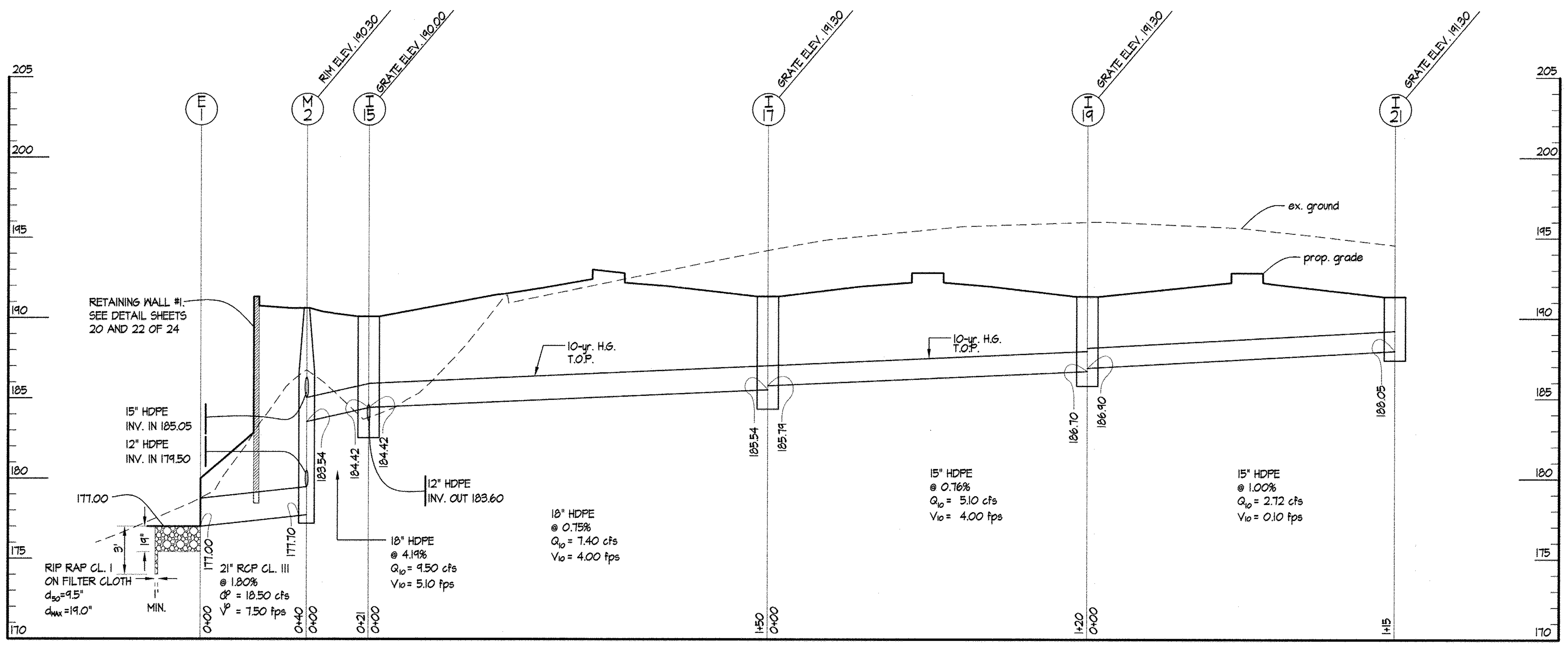
STORM DRAIN PROFILE I-13 TO E-24

SCALE: HORIZ: 1"=30'
VERT: 1"=5'



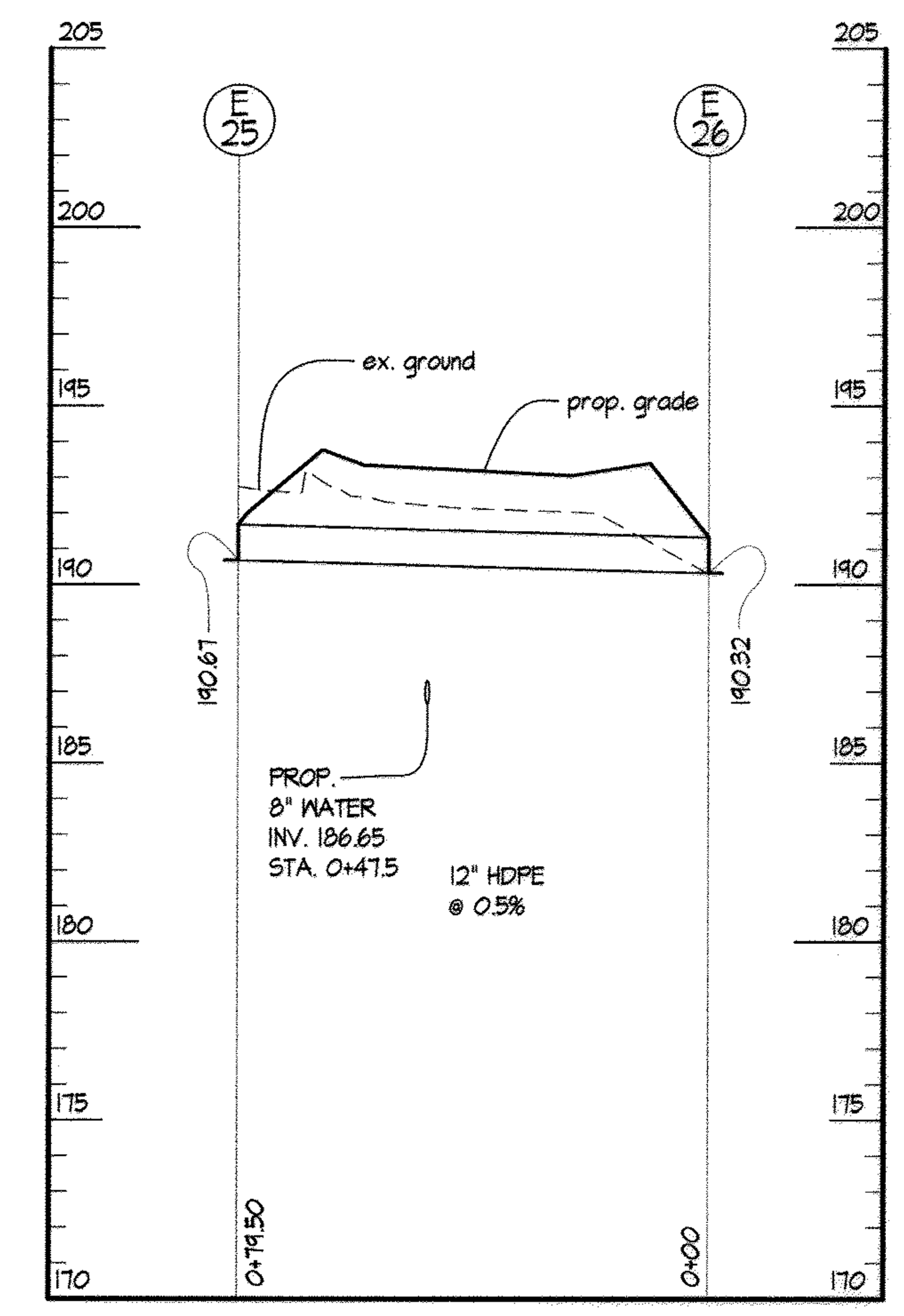
STORM DRAIN PROFILE M-2 TO RECHARGE

SCALE: HORIZ: 1"=30'
VERT: 1"=5'



STORM DRAIN PROFILE I-21 TO E-1

SCALE: HORIZ: 1"=30'
VERT: 1"=5'



STORM DRAIN PROFILE E-25 TO E-26

SCALE: HORIZ: 1"=30'
VERT: 1"=5'

APPROVED: DEPARTMENT OF PLANNING & ZONING

[illegible] 12/4/08
DIRECTOR DATE

[illegible] J.P. 12/1/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[illegible] 12/4/08
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME BROOKDALE INDUSTRIAL PARK			SECTION / AREA N/A	LOTS / PARCELS Parcel A	
PLAT No. 20330	BLOCK No. 4/5	ZONE CE	TAX MAP No. 43	ELECT. DIST. 1	CENSUS TRACT 6012.02
WATER CODE B01			SEWER CODE 2350000		
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

Storm Drain Profiles

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

PROFESSIONAL ENGINEER STEPHEN GARY CROWE Reg. No. 29181 STATE OF MARYLAND

[illegible] 11/14/08

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SITE RESOURCES
incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY:	MAS	CONTRACT NO.:	
DESIGNED BY:	GDS	SCALE:	AS SHOWN
CHECKED BY:	SGC	SRI PROJECT NO:	07033
DATE:	NOVEMBER 17, 2008	SHEET C5.06	15 OF 24

SDP-08-031

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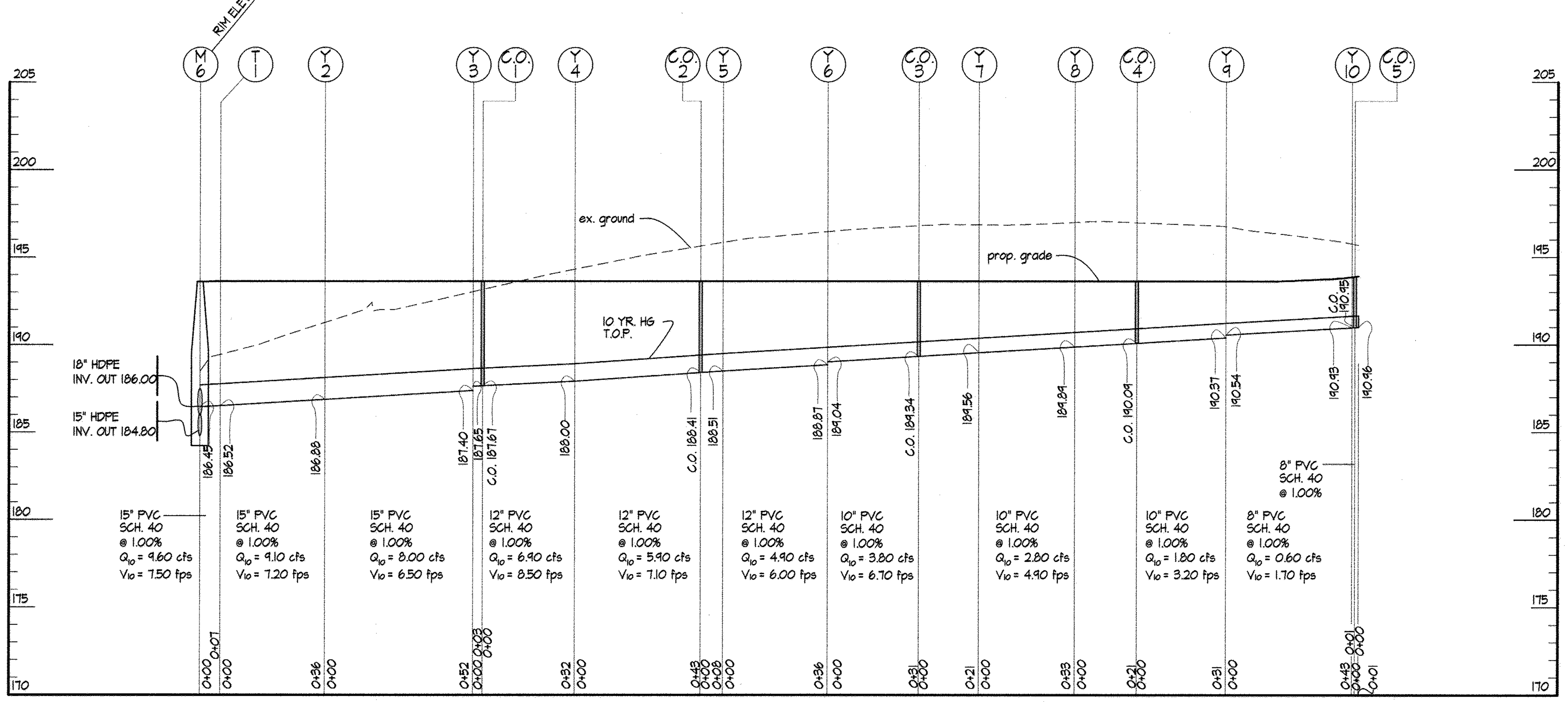
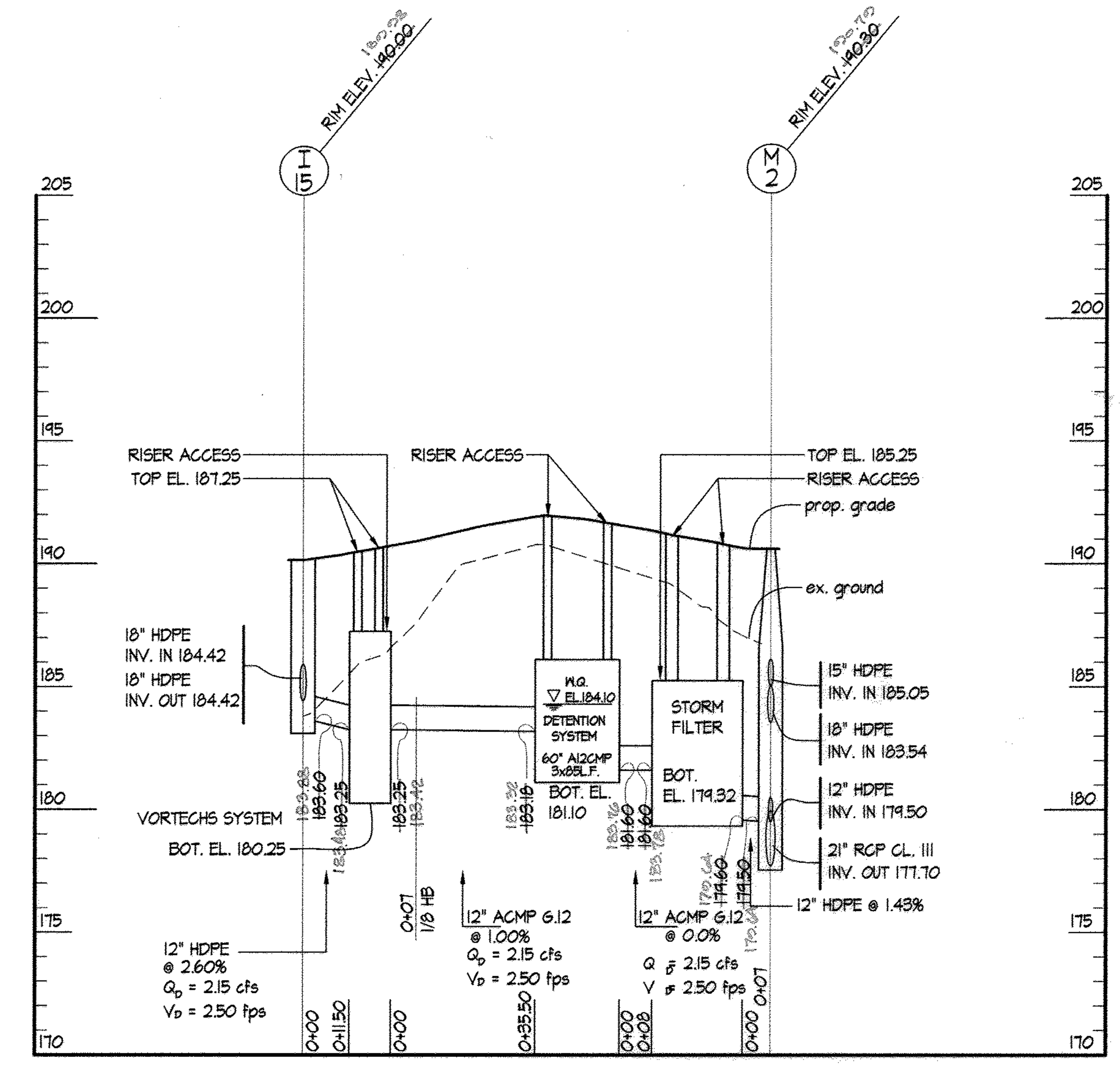


1 STORM DRAIN PROFILE Y-10 TO M-6

SCALE: HORIZ: 1"=30'
VERT: 1"=5'

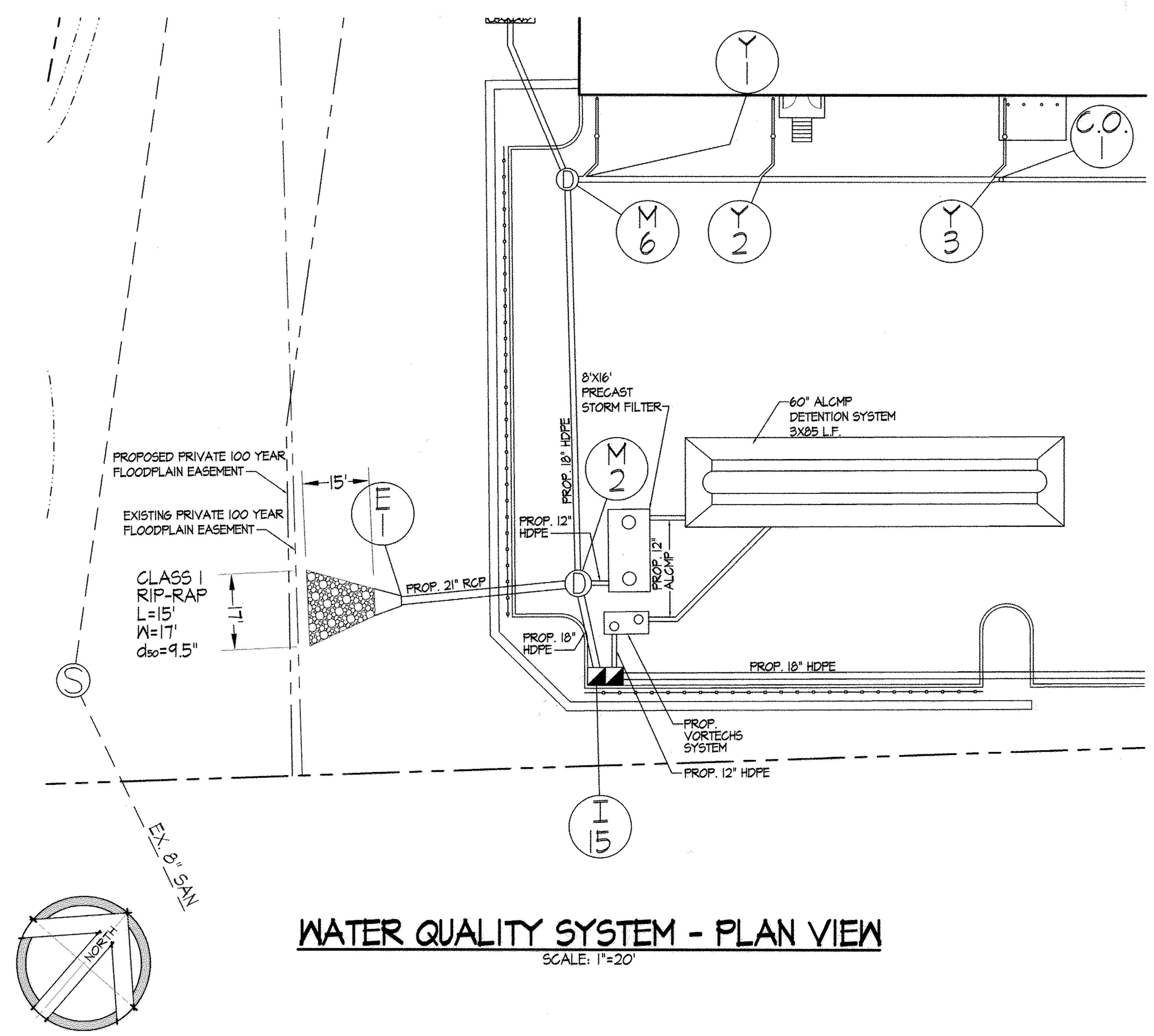


2 WATER QUALITY SYSTEM PROFILE I-15 TO M-2

SCALE: HORIZ: 1"=30'
VERT: 1"=5'

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE NO.	TYPE	TOP/GRATE ELEVATION	INVERT IN	INVERT OUT	COMMENTS
E-1	CONCRETE END SECTION - DETAIL D-5.51	-	-	177.00	
M-2	60" STANDARD PRECAST MANHOLE - DETAIL G-5.12	190.30	185.05 / 183.54 / 179.50	177.70	
M-6	48" STANDARD PRECAST MANHOLE - DETAIL G-5.12	193.60	186.45	184.80 / 186.00	
I-7	HOWARD CO. TYPE 'S' COMB. INLET - D - 4.32	194.07	189.17	187.10	
I-9	HOWARD CO. TYPE 'S' COMB. INLET - D - 4.32	195.07	189.92	189.72	
I-11	HOWARD CO. TYPE 'S' COMB. INLET - D - 4.32	196.27	191.76	191.56	
I-13	HOWARD CO. TYPE 'S' COMB. INLET - D - 4.32	196.27	-	192.96	
I-15	HOWARD CO. TYPE DOUBLE 'S' INLET - DETAIL D-4.23	190.00	184.42	183.60 / 184.42	
I-17	HOWARD CO. TYPE 'S' COMB. INLET - D - 4.32	191.30	185.79	185.54	
I-19	HOWARD CO. TYPE 'S' COMB. INLET - D - 4.32	191.30	186.90	186.70	
I-21	HOWARD CO. TYPE 'S' COMB. INLET - D - 4.32	191.30	-	188.05	
M-23	48" STANDARD PRECAST MANHOLE - DETAIL G-5.12	197.51	185.90	181.42	
E-24	CONCRETE END SECTION - DETAIL D-5.51	-	-	181.00	
E-25	CONCRETE END SECTION - DETAIL D-5.51	-	-	190.67	
E-26	CONCRETE END SECTION - DETAIL D-5.51	-	-	190.32	



WATER QUALITY SYSTEM - PLAN VIEW
SCALE: 1"=20'

APPROVED: DEPARTMENT OF PLANNING & ZONING
[illegible] 12/4/08
DIRECTOR DATE
[illegible] J.P. 12/1/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[illegible] 12/4/08
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

STATE OF MARYLAND GEORGE EDWARD NAGEL PROFESSIONAL LAND SURVEYOR 21052
[illegible] 06/21/2016

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME: BROOKDALE INDUSTRIAL PARK			SECTION / AREA: N/A	LOTS / PARCELS: Parcel A	
PLAT No.: 20330	BLOCK No.: 4/5	ZONE: CE	TAX MAP No.: 43	ELECT. DIST.: 1	CENSUS TRACT: 6012.02
WATER CODE: B01			SEWER CODE: 2350000		
OWNER: KINSLEY HOLDINGS INC. 6254 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

Storm Drain Profiles

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

PROFESSIONAL ENGINEER STEPHEN GARY CROWE STATE OF MARYLAND Reg. No. 29181
[illegible] 11/14/08

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. 29181, EXPIRATION DATE: 06/13/09.

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY:	CDS	CONTRACT NO.:	
DESIGNED BY:	GDS	SCALE:	AS SHOWN
CHECKED BY:	SGC	SRI PROJECT NO:	07033
DATE:	NOVEMBER 17, 2008	SHEET C5.07	16 OF 24

SDP-08-031

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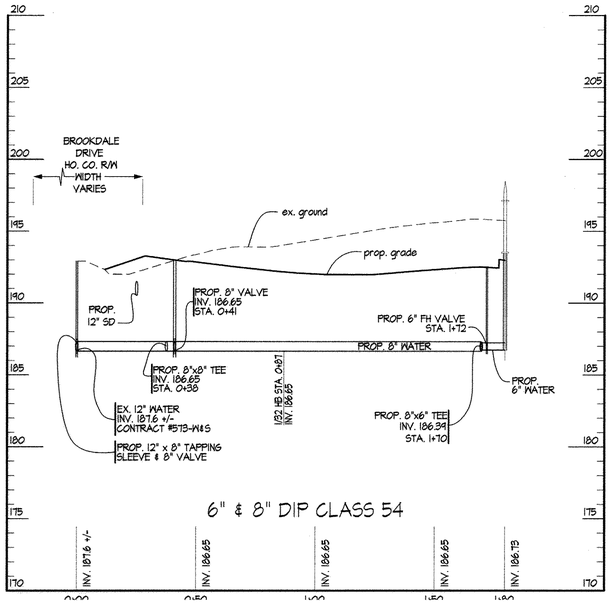
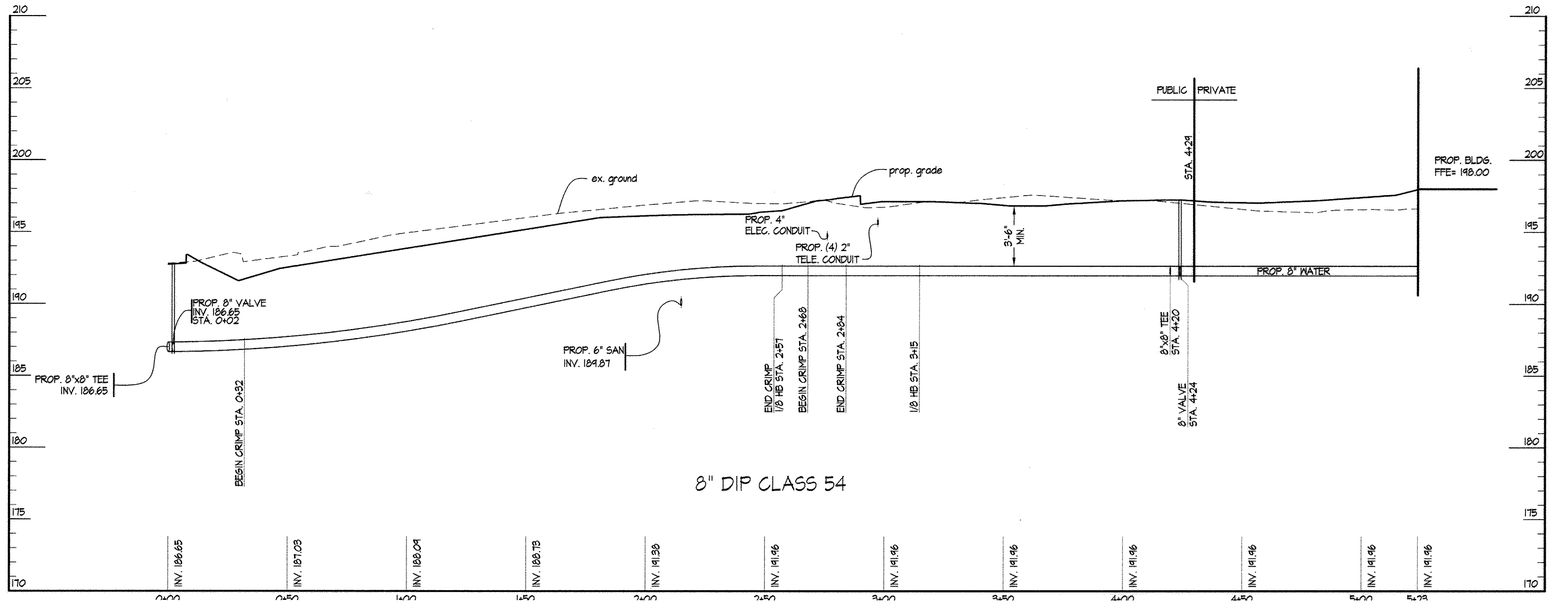


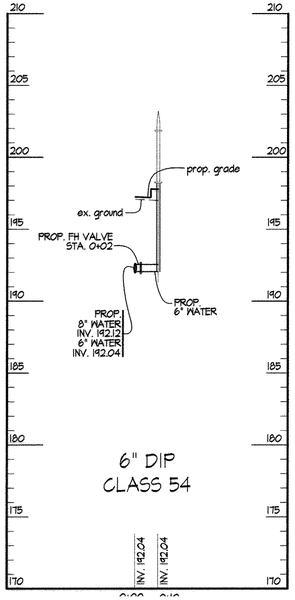
1 WATER PROFILE

SCALE: HORIZ: 1"=30'
VERT: 1"=5'



2 WATER PROFILE

SCALE: HORIZ: 1"=30'
VERT: 1"=5'



3 WATER PROFILE

SCALE: HORIZ: 1"=30'
VERT: 1"=5'

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/4/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/1/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

NOTE:
The proposed water utilities shown on these drawings are for informational purposes only and shall not be used for construction. See Water Contract 14-4546-D for water line construction.

ADDRESS CHART						
PARCEL #	STREET ADDRESS					
PARCEL A	7010 BROOKDALE DRIVE					
SUBDIVISION NAME				SECTION / AREA	LOTS / PARCELS	
BROOKDALE INDUSTRIAL PARK				N/A	Parcel A	
PLAT No.	BLOCK No.	ZONE	TAX MAP No.	ELECT. DIST	CENSUS TRACT	
20330	4/5	GE	43	1	6012.02	
WATER CODE			SEWER CODE			
B01			2550000			
OWNER: KINSLEY HOLDINGS INC. 6251 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841						

Water Profiles

Brookdale Industrial Park

Parcel A

PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

PROFESSIONAL ENGINEER * STEPHEN GARY CROWL * REG. No. 21031 * STATE OF MARYLAND

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. 21031, EXPIRATION DATE: 09/30/09.

11/14/08

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: AM	CONTRACT NO.:
DESIGNED BY: GDS	SCALE: AS SHOWN
CHECKED BY: SGC	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C5.08 17 OF 24

SDP-08-031

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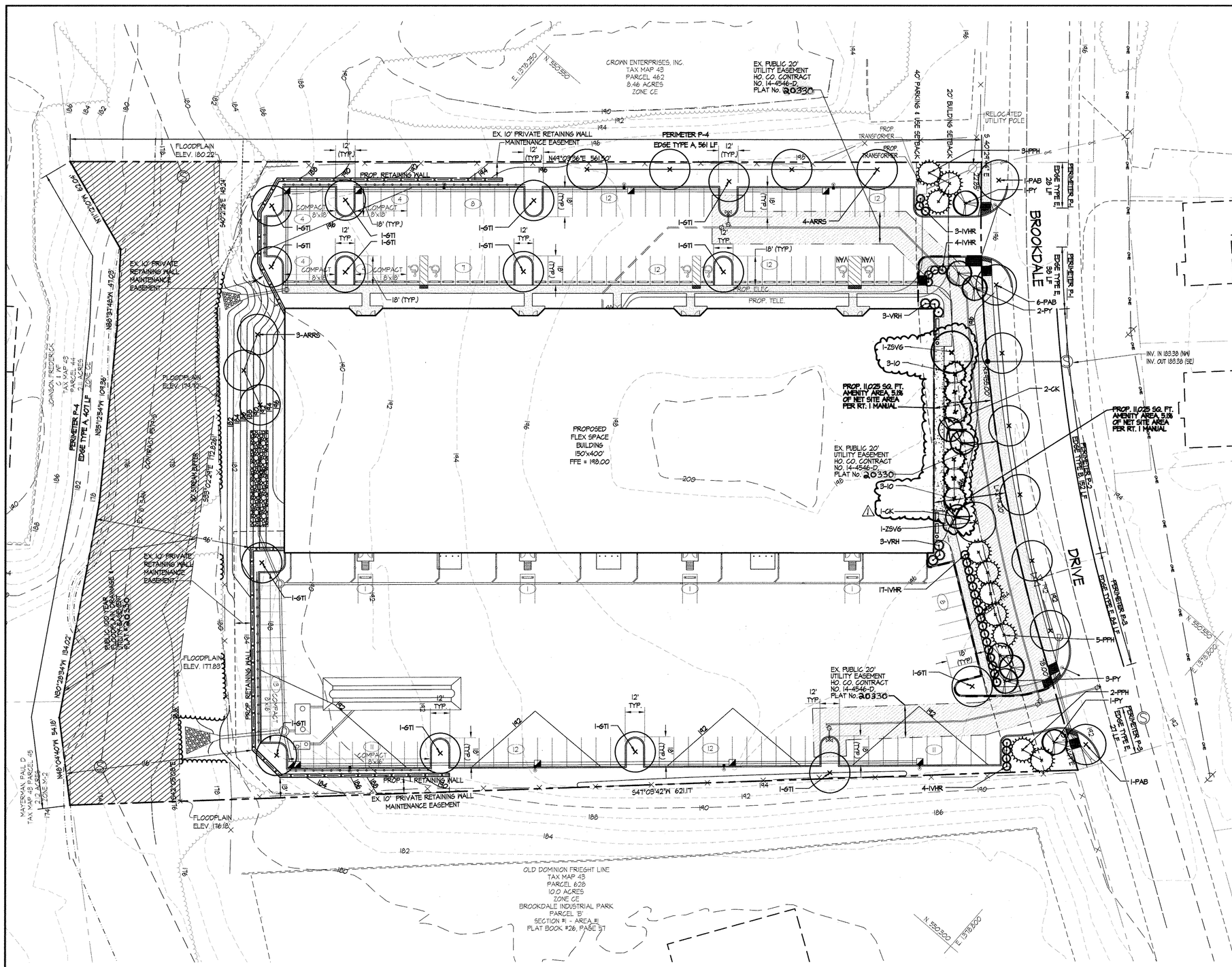
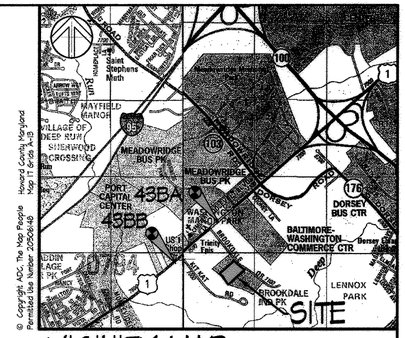




VICINITY MAP

1"=2000'

BENCHMARKS

MONUMENT	NORTHING	EASTING	ELEVATION	HORIZ. DATUM	VERT. DATUM
43BA	550634.186	1316405.228	209.37	NAD83(91)	NAVD88
43BB	551676.341	1318108.415	209.50	NAD83(91)	NAVD88

LEGEND

- PROPERTY LINE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING PAVING
- PROPOSED CURB
- PROPOSED CONCRETE WALKS
- EX. 15" SD — EXISTING STORM DRAIN
- PROP. 30" RCCP — PROPOSED STORM DRAIN
- EX. 8" SAN. — EXISTING SANITARY SEWER
- PROP. 8" SAN. — PROPOSED SANITARY SEWER
- EXISTING WATER
- PROPOSED WATER
- PROPOSED BUILDINGS
- EXISTING BUILDINGS
- PROPOSED SITE LIGHTING
- PROPOSED GUARDRAIL
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EX. PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT
- EX PUBLIC 100 YR. FLOODPLAIN AND DRAINAGE & UTILITY EASEMENT
- PROPOSED AMENITY AREA
- EXISTING 20' WIDE WATER UTILITY EASEMENT 14-4546-D
- PROPOSED PLANTING

SCALE: 1" = 30'

NORTH

THIS SEAL IS FOR ⚠1 REVISIONS MADE BY SITE RESOURCES, INC.

STATE OF MARYLAND — KEVIN PAT RICK RILEY — No. 3231 — REGISTERED LANDSCAPE ARCHITECT — 5/25/10

STATE OF MARYLAND — KEVIN PAT RICK RILEY — No. 3231 — REGISTERED LANDSCAPE ARCHITECT — 11/17/08

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/1/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/12/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

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

NAME KPRiley — DATE 11/17/08

Note: Landscape surety in the amount of $8,850.00 has been posted as a part of the Developer's Agreement.

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 11-14-08

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME			SECTION / AREA	LOTS / PARCELS	
BROOKDALE INDUSTRIAL PARK			N/A	Parcel A	
PLAT No	BLOCK No.	ZONE	TAX MAP No	ELECT. DIST.	CENSUS TRACT
20330	4/5	GE	43	1	6012.02
WATER CODE			SEWER CODE		
801			7350000		
OWNER: KINSLEY HOLDINGS INC. 6291 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

Planting Plan

Brookdale Industrial Park

Parcel A

PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

⚠ 5/25/10 revision to approved SDP see general note #33.

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: KRM	CONTRACT NO.:
DESIGNED BY: KPR	SCALE: 1" = 30'
CHECKED BY: REM	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C6.01 18 OF 24

SDP-08-031

\\Projects\projects\07\07033-Brookdale Industrial Park Parcel A\dwg\C6.01_Planting_Plan.dwg, 11/13/2008 2:42:17 PM, KPR

PLANTING SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	COMMENTS
ARRS	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2.5"-3" CAL.	AS SHOWN	7	
CK	CORNUS KOUSA	KOUSA DOGWOOD	8' HT.	AS SHOWN	3	
GTI	GLEDITSIA TRIACANTHOS VAR. INERMIS	THORNLESS HONEYLOCUST	2.5"-3" CAL.	AS SHOWN	14	
IO	ILEX OPACA	AMERICAN HOLLY	6' HT.	AS SHOWN	6	
IVHR	ILEX VERTICILLATA 'HARVEST RED'	HARVEST RED WINTERBERRY HOLLY	30" HT.	AS SHOWN	28	
PPH	PICEA PUNGENS 'HOOPSII'	HOOP'S BLUE SPRUCE	8' HT.	AS SHOWN	10	
PAB	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANETREE	2.5"-3" CAL.	AS SHOWN	8	
PY	PRUNUS X YEDOENSIS	YOSHINO CHERRY	2.5"-3" CAL.	AS SHOWN	7	
VRH	VIBURNUM RHYTIDOPHYLLUM	LEATHERLEAF VIBURNUM	36" HT.	AS SHOWN	6	
ZSVG	ZELKOVA SERRATA 'VILLAGE GREEN'	VILLAGE GREEN JAPANESE ZELKOVA	2.5"-3" CAL.	AS SHOWN	2	

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 SHEET C6.01 FOR PLANTING PLAN.
11. 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 LANDSCAPE 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. TREES ARE NOT TO BE INSTALLED CLOSER THAN 6' TO ANY EDGE OF PAVEMENT, CURB OR SIDEWALK.
17. LANDSCAPE SURETY IN THE AMOUNT OF $8,850.00 HAS BEEN POSTED AS A PART OF THE DEVELOPER'S AGREEMENT.

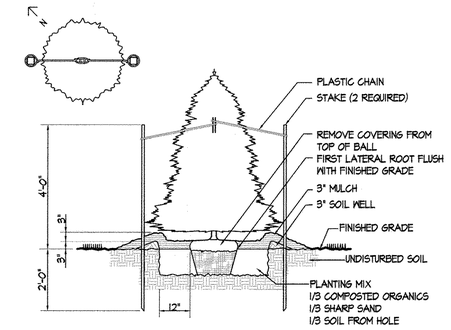
SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS (PERIMETER P-1)	ADJACENT TO ROADWAYS (PERIMETER P-2)	ADJACENT TO ROADWAYS (PERIMETER P-3)	ADJACENT TO NON-RESIDENTIAL (PERIMETER P-4)	TOTAL
LANDSCAPE TYPE	E	B	E	A	
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	66	152	111	968	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	YES, 543 LF	
CREDIT FOR WALL, FENCE, OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED					
SHADE TREES	2	3	3	7	15
EVERGREEN TREES	0	4	0	0	4
SHRUBS	17	0	28	0	45
NUMBER OF PLANTS PROVIDED					
SHADE TREES	0	2	1	7	10
EVERGREEN TREES	3	6	7	0	16
OTHER TREES (2:1 SUBSTITUTION)	3	3	4	0	10
SHRUBS (10:1 SUBSTITUTION)	7	6	21	0	34
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)					

NOTE: 10 EVERGREENS (2:1) HAVE BEEN USED AS SUBSTITUTES FOR 5 REQUIRED SHADE TREES NOT USED. 2 EVERGREEN TREES (10:1) HAVE BEEN USED AS SUBSTITUTES FOR 11 REQUIRED SHRUBS NOT USED.

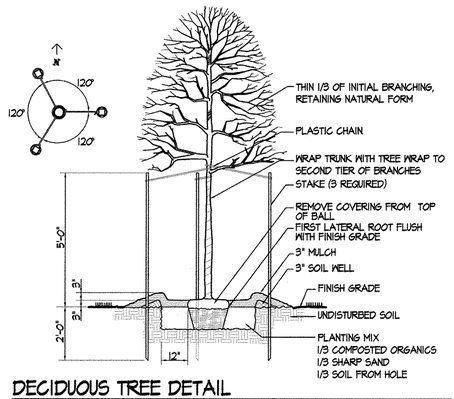
SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	150
NUMBER OF TREES REQUIRED	8
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	 13 0
NUMBER OF ISLANDS REQUIRED	8 (1600 SF)
NUMBER OF ISLANDS PROVIDED	10 (2000 SF)



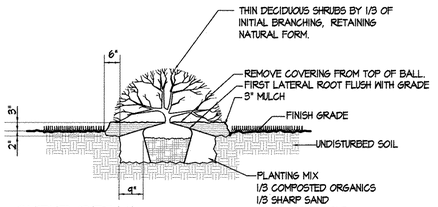
EVERGREEN TREE DETAIL

N.T.S.



DECIDUOUS TREE DETAIL

N.T.S.



SHRUB DETAIL

N.T.S.

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/4/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/1/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

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 11-14-08

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

NAME — DATE 11/12/08

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME				SECTION / AREA	LOTS / PARCELS
BROOKDALE INDUSTRIAL PARK				N/A	Parcel A
PLAT NO	BLOCK No.	ZONE	TAX MAP No	ELECT. DIST.	CENSUS TRACT
20350	4/5	GE	43	1	6012.02
WATER CODE			SEWER CODE		
B01			7350000		

OWNER: KINSLEY HOLDINGS INC.
6259 REYNOLDS MILL ROAD
SEVEN VALLEYS, PA 17360 (717) 741-3841

Planting Details & Notes

Brookdale Industrial Park
Parcel A
PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

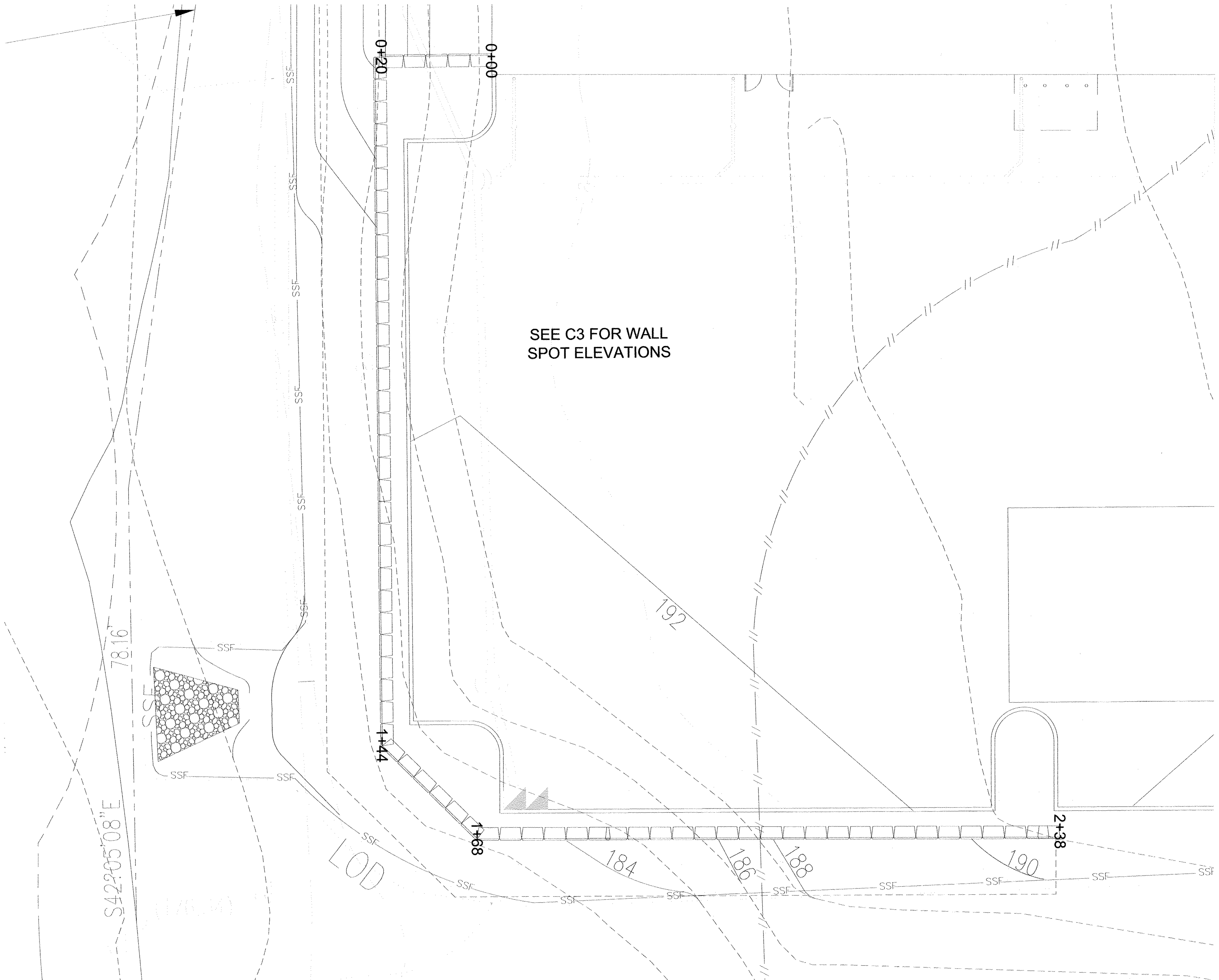
DRAWN BY: KRM	CONTRACT NO.:
DESIGNED BY: KPR	SCALE: AS SHOWN
CHECKED BY: REM	SRI PROJECT NO: 07033
DATE: NOVEMBER 17, 2008	SHEET C6.02 19 OF 24

SDP-08-031

\\Projects\projects\07\07033-Brookdale Industrial Park Parcel A\dwg\C6.02_Planting_Plan_Details.dwg, 11/13/2008 4:30:19 PM, KPR

INDEX OF DRAWINGS

20 GENERAL PLAN WALL #1
21 GENERAL PLAN & ELEVATION WALL #2
22 ELEVATION WALL #1
23 DETAILS
24 NOTES & DETAILS



GENERAL PLAN WALL #1

SCALE 1 INCH = 10 FT

GRAPHIC SCALE
5 0 5 10
(in Feet)
1 inch = 10 ft.

STATE of MARYLAND
BRUCE G STEGMAN
No. 13981
REGISTERED
PROFESSIONAL ENGINEER
11-17-08

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR	DATE 12/4/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION	J.R. 12/1/08 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	12/4/08 DATE

ADDRESS CHART

PARCEL #	STREET ADDRESS
PARCEL A	7010 BROOKDALE DRIVE

SUBDIVISION NAME	SECTION / AREA	LOTS / PARCELS
BROOKDALE INDUSTRIAL PARK	N/A	Parcel A

PLAT No.	BLOCK No.	ZONE	TAX MAP No.	ELECT. DIST.	CENSUS TRACT
20330	4/5	CE	43	1	6012.02

WATER CODE	SEWER CODE
B01	2350000

OWNER: KINSLEY HOLDINGS INC.
6259 REYNOLDS MILL ROAD
SEVEN VALLEYS, PA 17360 (717) 741-3841

WALL #1 GENERAL PLAN

Brookdale Industrial Park

Parcel A
PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

STEGMAN ENGINEERING, pc
35 East Avenue
Red Lion, Pennsylvania 17356
Voice 888.333.1566 FAX 717.244-3070
www.StegmanEngineering.com

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. 13981, EXPIRATION DATE: JULY 2008."

SITE RESOURCES
incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: NZ	CONTRACT NO.:
DESIGNED BY: BGS/NZ	SCALE: AS SHOWN
CHECKED BY: BGS	SRI PROJECT NO: 07033
DATE: JUNE 02, 2008	SHEET 20 OF 24

SDP-08-031

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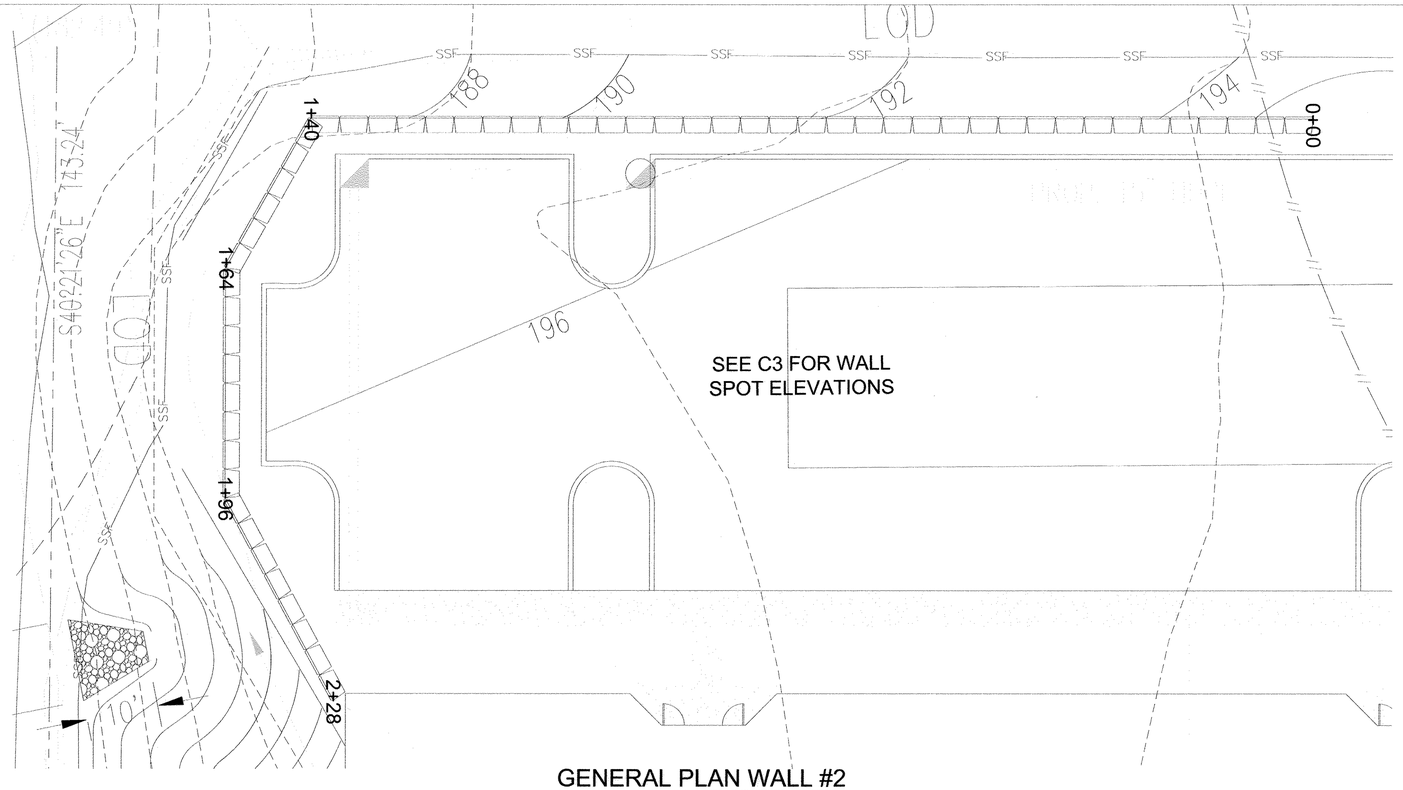

GENERAL PLAN WALL #2

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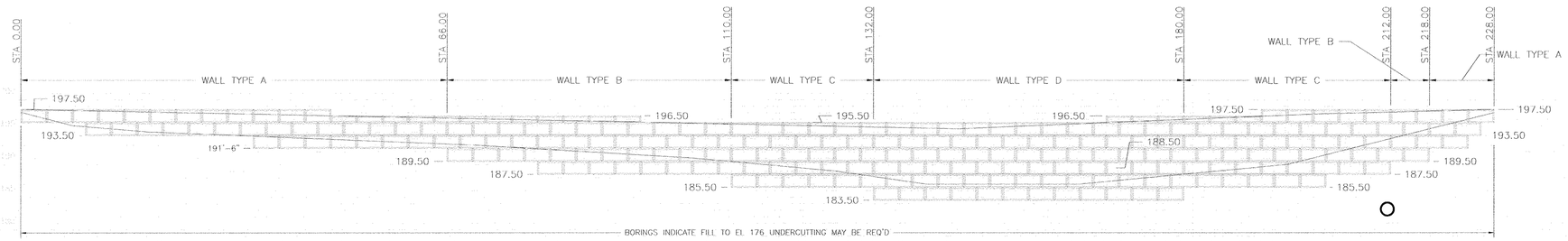


ELEVATION WALL #2

SCALE 1 INCH = 10 FT

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/3/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE J.R. 12/1/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

GRAPHIC SCALE

9 0 5 10

(in Feet)

1 inch = 10 ft.

STATE OF MARYLAND — BRUCE G. STEGMAN — No. 13981 — REGISTERED PROFESSIONAL ENGINEER

12-17-08

ADDRESS CHART						
PARCEL #	STREET ADDRESS					
PARCEL A	7010 BROOKDALE DRIVE					
SUBDIVISION NAME				SECTION / AREA	LOTS / PARCELS	
BROOKDALE INDUSTRIAL PARK				N/A	Parcel A	
PLAT No.	BLOCK No.	ZONE	TAX MAP No.	ELECT. DIST.	CENSUS TRACT	
20330	4/5	CE	43	1	6012.02	
WATER CODE		SEWER CODE				
B01		2350000				
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841						

WALL #2 GENERAL PLAN & ELEVATION

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

STEGMAN ENGINEERING, pc
35 East Avenue
Red Lion, Pennsylvania 17356
Voice 888.333.1566 FAX 717.244-3070
www.StegmanEngineering.com

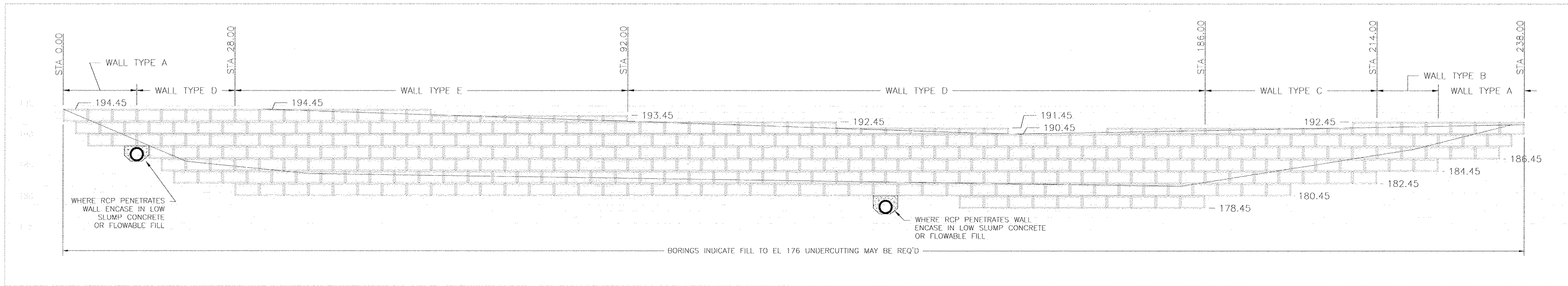
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 13981, EXPIRATION DATE: JULY 2008."

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: NZ	CONTRACT NO.:
DESIGNED BY: BGS/NZ	SCALE: AS SHOWN
CHECKED BY: BGS	SRI PROJECT NO: 07033
DATE: JUNE 02, 2008	SHEET 21 OF 24

SDP-08-031

D:\Active Projects\Kinsley\Brookdale\Brookdale.dwg, PLAN WALL 2, 11/12/2008 3:11:11 PM, GSE5.0, 1:1



ELEVATION WALL #1

SCALE 1 INCH = 10 FT

GRAPHIC SCALE

5 0 5 10 20

(in Feet)
1 inch = 10 ft.

APPROVED: DEPARTMENT OF PLANNING & ZONING	
DIRECTOR	12/4/08 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	J.P. 12/1/08 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	12/4/08 DATE

STATE of MARYLAND — BRUCE G. STEGMAN — No. 13981 — REGISTERED PROFESSIONAL ENGINEER

11-17-08

ADDRESS CHART						
PARCEL #	STREET ADDRESS					
PARCEL A	7010 BROOKDALE DRIVE					
SUBDIVISION NAME: BROOKDALE INDUSTRIAL PARK					SECTION / AREA: N/A	LOTS / PARCELS: Parcel A
PLAT No.: 20330	BLOCK No.: 4/5	ZONE: CE	TAX MAP No.: 43	ELECT. DIST.: 1	CENSUS TRACT: 6012.02	
WATER CODE: B01			SEWER CODE: 2350000			
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841						

WALL #1 ELEVATION

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

STEGMAN ENGINEERING, pc
35 East Avenue
Red Lion, Pennsylvania 17356
Voice 888.333.1566 FAX 717.244-3070
www.StegmanEngineering.com

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SITE RESOURCES
Incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: NZ	CONTRACT NO.:
DESIGNED BY: BGS/NZ	SCALE: AS SHOWN
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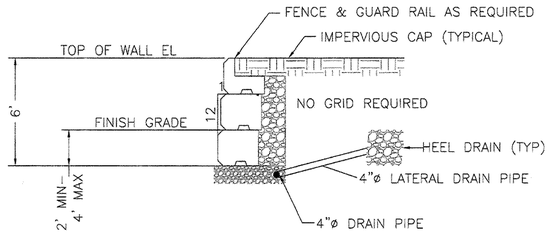
DATE: JUNE 02, 2008	SHEET 22 OF 24

SDP-08-031



SECTION A 6 FT OR LESS WALL HEIGHT
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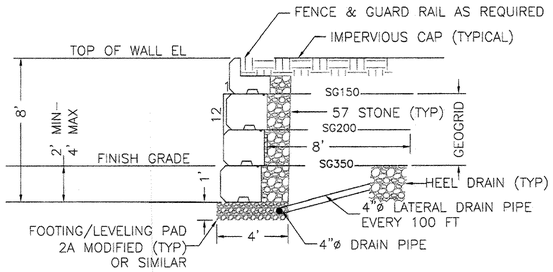
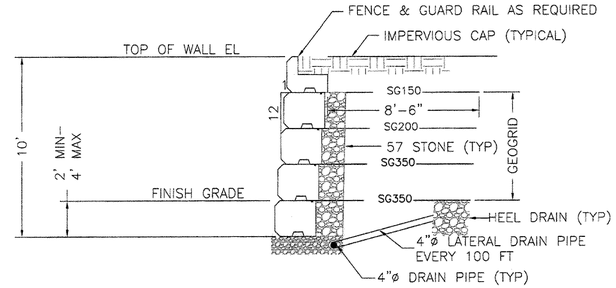


SECTION B 8–FT WALL HEIGHT
SCALE ¼"=1'–0"



SECTION C 10–FT WALL HEIGHT
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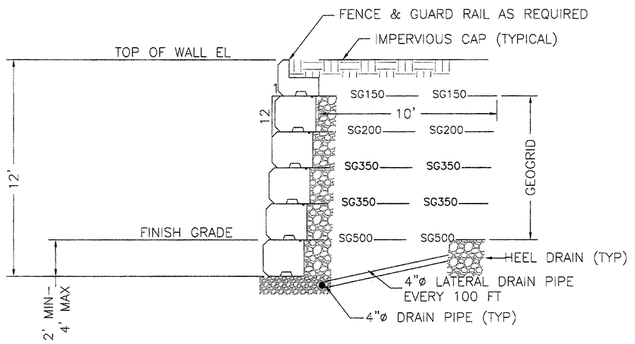

SECTION D 12 FT WALL HEIGHT
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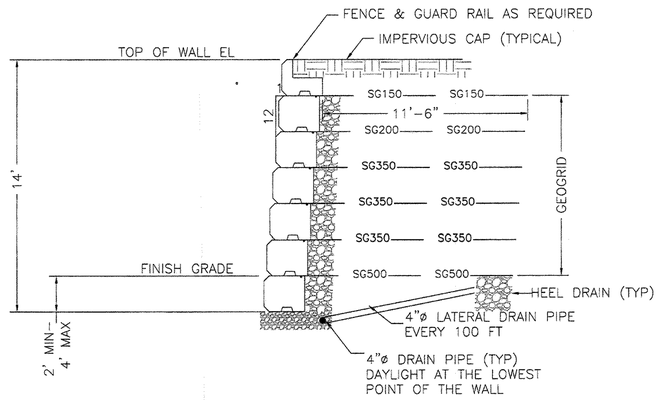

SECTION E 14 FT WALL HEIGHT
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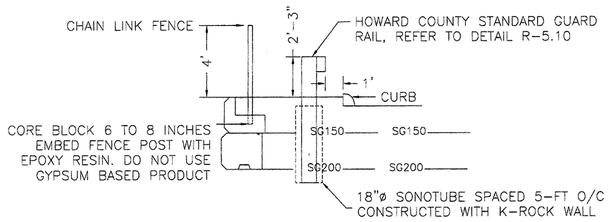
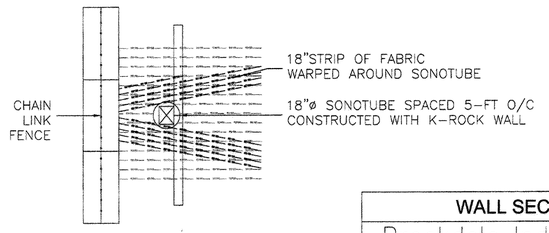


ELEVATION VIEW



PLAN VIEW

FENCE AND GUARD RAIL DETAIL
SCALE ¼"=1'–0"

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/4/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/1/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

STATE OF MARYLAND — BRUCE G. STEGMAN — No. 19981 — REGISTERED PROFESSIONAL ENGINEER
11-7-08

ADDRESS CHART					
PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME				SECTION / AREA	LOTS / PARCELS
BROOKDALE INDUSTRIAL PARK				N/A	Parcel A
PLAT No.	BLOCK No.	ZONE	TAX MAP No.	ELECT. DIST.	CENSUS TRACT
20330	4/5	CE	43	1	6012.02
WATER CODE		SEWER CODE			
B01		2350000			
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741–3841					

WALL SECTIONS

Brookdale Industrial Park
Parcel A
PROPERTY OF
Kinsley Holdings Inc.
1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

STEGMAN ENGINEERING, pc
35 East Avenue
Red Lion, Pennsylvania 17356
Voice 888.333.1566 FAX 717.244-3070
www.StegmanEngineering.com

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. 19981, EXPIRATION DATE: JULY 2009."

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
14315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: NZ	CONTRACT NO.:
DESIGNED BY: BGS/NZ	SCALE: AS SHOWN
CHECKED BY: BGS	SRI PROJECT NO: 07033
DATE: JUNE 02, 2008	SHEET 23 OF 24

SDP-08-031

PART 1 - GENERAL

1.01 REFERENCES

A. American Association of State Highway & Transportation Officials (AASHTO)
B. American Society for Testing and Materials (ASTM)
C. National Concrete Masonry Association (NCMA)

PART 2. GENERAL REQUIREMENT

A. Work shall be in accordance with local, state, or federal codes, safety regulations and unless otherwise noted
B. Any damage to existing facilities will be repaired by the contractor at no cost to the Owner.
C. Procedures for the protection of excavations, existing construction and utilities shall be established prior to foundation installation.
D. The Contractor is responsible for providing such covering, shielding, and barricades as required to protect bystanders and passersby, equipment, supplies, from dust, debris, and other causes of damage resulting from construction, any damage shall be restored to the Owners satisfaction.
E. All references to the Owner herein shall be construed to mean KINSLEY CONSTRUCTION or their designated representative. All references to the Geotechnical Engineer shall mean STEGMAN ENGINEERING.
F. All work presented on these drawings is to be completed by the contractor unless otherwise noted and/or agreed to with the Owner. The Contractor must have considerable experience in performance of work similar to that described herein. By acceptance of this assignment, the Contractor is attesting that they have sufficient experience and ability, and knowledgeable of the work to be performed and that they are properly licensed, registered, and/or insured to perform this work.
G. The Contractor is responsible for dissemination of contract information to any subcontractors, including revisions. The Contractor is responsible for coordination with other trades, contractors, and manufacturers.
H. Work shall be supervised by personnel knowledgeable and experienced with the proposed work type. Construction shall be in accordance with generally accepted installation practices and in a good workmanlike manner. Time is of the essence for this work/contract
I. Contractor is required to have all necessary inspections performed by the Local Building Code Official or an approved agency.
J. Design assumes field inspections will be performed to verify that construction materials, installation methods and assumed design parameters are acceptable based on conditions existing at the site.
K. All hardware assembly manufacturers' instructions shall be followed; any contradiction between the manufacturer's instructions and these drawings shall be immediately brought to the attention of the Engineer.
L. Contractor is solely responsible for means and methods of construction, including, but not limited to: layout, initiating, maintaining, and supervising all safety precautions and programs in connection with the work, including excavation support systems. Contractor is solely responsible for insuring the work complies with all applicable safety codes and regulations. Contractor is required to maintain a near and orderly site, remove and dispose off site all rubbish, waste materials, litter, and foreign substances daily.
M. Access to the site may be restricted. Contractor is solely responsible to coordinate the construction activity, including work schedule, material delivery with the Owner.
N. Modifications details represent typical conditions. All dimensions, elevations, or similar existing conditions shown on the drawings shall be field verified by the Contractor prior to beginning any material ordering, fabrication, or construction work. Any discrepancies shall be immediately brought to the attention of the Engineer. Discrepancies must be resolved before the Contractor is to proceed with the work.
O. All materials furnished shall be new and of good quality, free from faults and defects and in conformance with these drawings. All substitutions must be properly approved and authorized by the Engineer prior to ordering and/or installation.
P. Contractor is responsible for disposal for any material to be removed, or similar excess material.
Q. Site Conditions
1) The Contractor shall notify the appropriate utility one-call to mark underground utilities

PART 3. PRODUCTS

3.01 MATERIALS

A. Geogrid Reinforcement:
1) Miragrid 3xt, 5xt, 7xt, and 8xt; as manufactured by Mirafi Construction Products
2) Strata Grid SG150, SG200 SG350, & SG500
3) Leveling Pad Base.
4) Aggregate Base: Crushed stone or granular fill, such as PENNDOT 2A or equivalent.
5) Base Thickness: 12 inches (minimum Compacted Thickness).
6) Base Width: 36 inches minimum
7) Drainage Aggregate: Clean crushed stone or granular fill, such as AASHTO #57 or equivalent.
B. Backfill: onsite soils or imported fill consisting of granular material and meeting the following graduation as determined in accordance with ASTM D448:

Sieve Size	Percent Passing		
4 inch	100 to 85	No. 4	100 to 20
No. 40	0 to 60	No. 200	0 to 35

Liquid Limit less than 40%, Plasticity Index less than 10%

C. Impervious Material: Clayey soil or other similar material which will prevent percolation into the drainage zone shall not be used.
D. Drainage Pipe: 4" Corrugated HDPE. The pipe may be covered with a geotextile filter fabric to function as a filter.

PART 4. EXECUTION

4.01 EXAMINATION

A. Examine the areas and conditions under which the retaining wall system is to be erected, and notify the Engineer in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.
B. The plan view of the proposed segmental retaining walls shown on this drawing have been prepared based on dimensions and physical parameters provided in the wall location key based on an electronic drawing provided and prepared by the SITE ENGINEER. These design drawings represent the structural elements and integral components of the wall system. The plan view of the walls are presented for convenience only and should not be relied upon for stakeout of the walls or grading of the site.
C. All plan views indicate the face of wall locations, at the bottom of the wall. The Engineer has taken reasonable measures to show the construction elements pertinent to the wall design, however, the final location of all existing and proposed utility lines must be taken from the site grading and utility plan(s).
D. Construction inspection of these walls is required by personnel qualified in segmental retaining wall construction and shall include maintaining detailed records of subgrade and backfill soil approval, density testing, and correct geogrid placement. A statement that the wall has been constructed in accordance with these plans and specifications shall be submitted to the Engineer, upon completion of the walls by the Professional Engineer overseeing the inspection.
E. All utilities and associated structures which are to be located within the reinforced zone of the wall must be installed in conjunction with construction of the retaining wall
F. Refer to the geotechnical exploration by Herbst/Benson & Associates.

4.02 PREPARATION

A. Ensure surrounding structures are protected from the effects of wall excavation.
B. Excavation support, if required, is the responsibility of the Contractor, including the stability of the excavation and its influence on adjacent properties and structures.

4.03 FOUNDATION PREPARATION

A. Excavate foundation soil as required for footing or base dimension shown on the Drawings.
1) The foundation subgrade should be compacted to 95% of the Modified Dry Density of the soil as determined by ASTM D1557.
2) The Inspection Agency will examine foundation soil to ensure that the foundation subgrade is firm and stable and meets or exceeds the allowable bearing capacity of 4,000 psf. Remove any soil which is weak and yielding and backfill with suitable compacted backfill soils.
3) The Inspection Agency will determine if the foundation soils will require special treatment or correction to control total and differential settlement.
4) Fill over-excavated areas with suitable compacted backfill, as recommended by the Inspection Agency
B. FILL was encountered at (geotechnical exploration by Herbst/Benson & Associates).

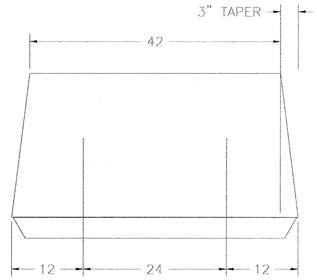
B-1	EL 177	R-2	EL 176
B-2	EL 178	R-3	EL 176
R-1	EL 179		

4.04 BASE COURSE PREPARATION

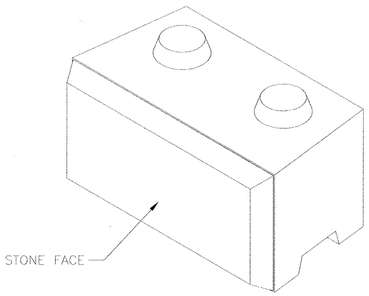
A. Place base materials to the depths and widths shown on the Drawings, upon undisturbed soils, or foundation soils prepared in accordance with Article 3.03.
1) Extend the leveling pad laterally at least 6 inches in front and behind the lowermost concrete retaining wall unit.
2) Provide aggregate base compacted to 6 inch thick (minimum).
3) Compact aggregate base material to provide a level, hard surface on which to place the first course of units.
4) Prepare base material to ensure complete contact with retaining wall units. Gaps are not allowed.

4.05 ERECTION

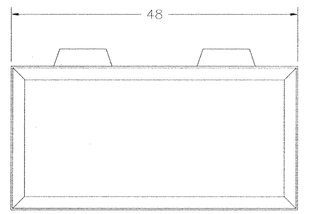
A. General: Erect units in accordance with manufacturer's instructions and recommendations, and as specified herein.
B. Place first course of concrete wall units on the prepared base material. Check units for level and alignment. Maintain the same elevation at the top of each unit within each section of the base course.
C. Ensure that foundation units are in full contact with natural or compacted soil base.
D. Place concrete wall units side-by-side for full length of wall alignment. Alignment may be done by using a string line measured from the back of the block. Gaps are not allowed between the foundation concrete wall units.
E. Place 12 inches (minimum) of drainage aggregate between, and directly behind the concrete wall units. Fill voids in retaining wall units with drainage aggregate.
F. Remove excess fill from top of units and install next course. Ensure drainage aggregate and backfill are compacted before installation of next course.
G. Check each course for level and alignment. Adjust units as necessary to maintain level and alignment prior to proceeding with each additional course.
H. Install each succeeding course. Backfill as each course is completed. Pull the units forward until the locating surface of the unit contacts the locating surface of the units in the preceding course. Interlock wall segments that meet at corners by overlapping successive courses. Attach concrete retaining wall units at exterior corners with adhesive specified.
I. Install geogrid reinforcement in accordance with geogrid manufacturer's recommendations and the shop drawings.
1) Orient geogrid reinforcement with the highest strength axis perpendicular to the wall face.
2) Prior to geogrid reinforcement placement, place the backfill and compact to the elevation of the top of the wall units at the elevation of the geogrid reinforcement.
3) Place geogrid reinforcement at the elevations and to the lengths shown on the Drawings.
4) Lay geogrid reinforcement horizontally on top of the concrete retaining wall units and the compacted backfill soils. Place the geogrid reinforcement within one inch of the face of the concrete retaining wall units. Place the next course of concrete retaining wall units on top of the geogrid reinforcement.
5) The geogrid reinforcement shall be in tension and free from wrinkles prior to placement of the backfill soils. Pull geogrid reinforcement hand-taut and secure in place with staples, stakes, or by hand-tensioning until the geogrid reinforcement is covered by 6 inches of loose fill.
6) The geogrid reinforcements shall be continuous throughout their embedment lengths. Splices in the geogrid reinforcement strength direction are not allowed.
7) Do not operate tracked construction equipment directly on the geogrid reinforcement.
8) At lease 6 inches of compacted backfill soil is required prior to operation of tracked vehicles over the geogrid reinforcement. Keep turning of tracked construction equipment to a minimum.
9) Rubber-tired equipment may pass over the geogrid reinforcement at speeds of less than 5 miles per hour. Turning of rubber-tired equipment is not allowed on the geogrid reinforcement.
J. Install impervious cap.
1) Final grading at top of wall should allow for positive drainage surface water away from the wall. Final grading may include either a swale or allow for sheet flow over the top of the wall.



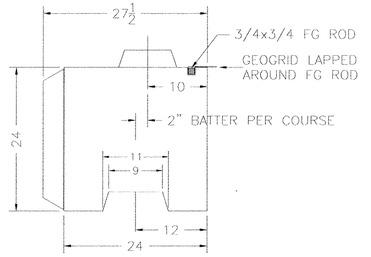
TOP VIEW



ISOMETRIC VIEW



FRONT VIEW



SIDE VIEW

KINSLEY K-ROCK BLOCK
SCALE 1"=1'-0"

PART 5.

5.01 BACKFILL PLACEMENT

A. Place backfill, spread and compact in a manner that will minimize slack in the geogrid reinforcement.
B. Place fill within the reinforcement zone and compact in lifts not exceeding 6 to 8 inches (loose thickness) where hand-operated compaction equipment is used, and not exceeding 12 inches (loose thickness) where heavy, self-propelled compaction equipment is used.
1) Only lightweight hand-operated compaction equipment is allowed within 4 feet of the back of the retaining wall units. If the specified compaction cannot be achieved within 4 feet of the back of the retaining wall units, replace the reinforced soil in this zone with drainage aggregate materials.
2) Minimum compaction Requirements for Fill Placed in the Reinforced Zone
(a) Compact to 95 percent of the soil's Modified Proctor maximum dry density (ASTM D1557).
(b) Moisture Content: Within 2 percentage points of the optimum moisture content for all wall heights
(c) At the end of each day's operation, slope the last level of compacted backfill away from the interior (concealed face of the wall to direct surface water runoff away from the wall face.

5.02 CAP UNIT INSTALLATION

A. Cut cap units as necessary to obtain the proper fit.
B. Backfill and compact to top of cap unit.

5.03 WATER MANAGEMENT

A. All walls will be constructed with a minimum of 12 inches of drainage aggregate, as specified, directly behind the wall facing.
B. All walls will be constructed with a 4 in diameter drain tile placed at the lowest possible elevation within the 12 inches of drainage aggregate. This drain tile is referred to as a Toe Drain.
C. Should groundwater seeps be encountered within the excavation, the wall shall be constructed with an additional 4 inch drain pipe at the back bottom of the reinforced soil mass. This drain tile is referred to as a Heel Drain
D. TOE DRAIN
1) Drain Pipe should be located at the back of the rock drain field behind the wall as close to the bottom of the wall as allowed while still maintaining a positive gradient for drainage to daylight, or a storm water management system
2) A minimum one percent gradient shall be maintained on the placement of the pipe with outlets on 50 ft center, with a maximum height above the grade at the toe of the wall of no more than 6 inches.
E. HEEL DRAIN
1) The purpose of the heel drain is to pick up any water that migrates from behind the retaining wall structure at the cut and route the water away from the reinforced mass during the construction process.
2) The piping used at the back of the reinforced mass shall have a one percent gradient over the length and the entire length of the pipe may be vented at one point and should not be tied into the toe drain.
3) Where active groundwater seeps are encountered, a heel drain, consisting of AASTHO No. 57 stone,12 inches in thickness and extending from the base of the wall to an elevation at least 12 inches above the active groundwater seeps, should be installed.

5.04 AS-BUILT CONSTRUCTION TOLERANCE

A. Vertical alignment: ± 1.5" over any 10.0' distance, maximum 3.0" over the entire length of the wall.
B. Wall Batter: within 2 degrees of design batter.
C. Horizontal alignment: ± 1.5" over and 10.0' distance. Corners, bends and curves: ± 1.0 foot to theoretical location.
D. Bulging: ± 1.25" over any 10.0' distance.

5.05 FOUNDATION PREPARATION

A. Excavate foundation soil as required for footing or base dimension shown on the Drawings, or as directed.
1) The foundation subgrade should be compacted to 95% of the Modified Dry Density of the soil as determined by ASTM D1557.
2) The Inspection Agency will examine foundation soil to ensure that the foundation subgrade is firm and stable and meets or exceeds the allowable bearing capacity of 3,000 PSF. Remove any soil which is weak and yielding and backfill with suitable compacted backfill soils.
3) The Inspection Agency will determine if the foundation soils will require special treatment or correction to control total and differential settlement.
4) Fill over-excavated areas with suitable compacted backfill, as recommended by the Inspection Agency.

5.06 BASE COURSE PREPARATION

A. Place base materials to the depths and widths shown on the Drawings, upon undisturbed soils, or foundation soils prepared in accordance with Article 3.03.
1) Extend the leveling pad laterally at least 6 inches in front and behind the lowermost concrete retaining wall unit.
2) Provide aggregate base compacted to 6 inch thick (minimum).
3) Compact aggregate base material to provide a level, hard surface on which to place the first course of units.
4) Prepare base material to ensure complete contact with retaining wall units. Gaps are not allowed.

5.07 ERECTION

A. Place first course of concrete wall units on the prepared base material. Check units for level and alignment. Maintain the same elevation at the top of each unit within each section of the base course.
B. Ensure that foundation units are in full contact with natural or compacted soil base.
C. Place concrete wall units side-by-side for full length of wall alignment. Alignment may be done by using a string line measured from the back of the block. Gaps are not allowed between the foundation concrete wall units.
D. Place 12 inches (minimum) of drainage aggregate between, and directly behind the concrete wall units. Fill voids in retaining wall units with drainage aggregate.
E. Remove excess fill from top of units and install next course. Ensure drainage aggregate and backfill are compacted before installation of next course.
F. Check each course for level and alignment. Adjust units as necessary to maintain level and alignment prior to proceeding with each additional course.
G. Install each succeeding course. Backfill as each course is completed. Pull the units forward until the locating surface of the unit contacts the locating surface of the units in the preceding course. Interlock wall segments that meet at corners by overlapping successive courses. Attach concrete retaining wall units at exterior corners with adhesive specified.
H. Install geogrid reinforcement in accordance with geogrid manufacturer's recommendations.
1) Orient geogrid reinforcement with the highest strength axis perpendicular to the wall face.
2) Prior to geogrid reinforcement placement, place the backfill and compact to the elevation of the top of the wall units at the elevation of the geogrid reinforcement.
3) **Attach grid using approved connection detail such as 1x1 fiberglass rod in square slot; lap grid around the FG rod.**
4) Place geogrid reinforcement at the elevations and to the lengths shown on the Drawings.
5) Lay geogrid reinforcement horizontally on top of the concrete retaining wall units and the compacted backfill soils. Place the geogrid reinforcement within one inch of the face of the concrete retaining wall units. Place the next course of concrete retaining wall units on top of the geogrid reinforcement.
6) The geogrid reinforcement shall be in tension and free from wrinkles prior to placement of the backfill soils. Pull geogrid reinforcement hand-taut and secure in place with staples, stakes, or by hand-tensioning until the geogrid reinforcement is covered by 6 inches of loose fill.
7) The geogrid reinforcements shall be continuous throughout their embedment lengths. Splices in the geogrid reinforcement strength direction are not allowed.
8) Do not operate tracked construction equipment directly on the geogrid reinforcement.
9) At lease 6 inches of compacted backfill soil is required prior to operation of tracked vehicles over the geogrid reinforcement. Keep turning of tracked construction equipment to a minimum.
10) Rubber-tired equipment may pass over the geogrid reinforcement at speeds of less than 5 miles per hour. Turning of rubber-tired equipment is not allowed on the geogrid reinforcement.
I. **Install impervious cap.**
1) Final grading at top of wall should allow for positive drainage surface water away from the wall. Final grading may include either a swale or allow for sheet flow over the top of the wall.

5.08 BACKFILL PLACEMENT

A. Place backfill, spread and compact in a manner that will minimize slack in the geogrid reinforcement.
B. Place fill within the reinforcement zone and compact in lifts not exceeding 6 to 8 inches (loose thickness) where hand-operated compaction equipment is used, and not exceeding 12 inches (loose thickness) where heavy, self-propelled compaction equipment is used.
1) Only lightweight hand-operated compaction equipment is allowed within 4 feet of the back of the retaining wall units. If the specified compaction cannot be achieved within 4 feet of the back of the retaining wall units, replace the reinforced soil in this zone with drainage aggregate materials.
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(a) Compact to 95 percent of the soil's Modified Proctor maximum dry density (ASTM D1557).
(b) Moisture Content: Within 2 percentage points of the optimum moisture content for all wall heights
(c) At the end of each day's operation, slope the last level of compacted backfill away from the interior (concealed face of the wall to direct surface water runoff away from the wall face.

5.09 WATER MANAGEMENT

A. All walls will be constructed with a minimum of 12 inches of drainage aggregate, as specified, directly behind the wall facing.
B. All walls will be constructed with a 4 in diameter drain tile placed at the lowest possible elevation within the 12 inches of drainage aggregate. This drain tile is referred to as a Toe Drain.
C. Should groundwater seeps be encountered within the excavation, the wall shall be constructed with an additional 4 inch drain pipe at the back bottom of the reinforced soil mass. This drain tile is referred to as a Heel Drain
D. TOE DRAIN
1) Drain Pipe should be located at the back of the rock drain field behind the wall as close to the bottom of the wall as allowed while still maintaining a positive gradient for drainage to daylight, or a storm water management system
2) A minimum one percent gradient shall be maintained on the placement of the pipe with outlets on 50 ft center, with a maximum height above the grade at the toe of the wall of no more than 6 inches.
E. HEEL DRAIN
1) The purpose of the heel drain is to pick up any water that migrates from behind the retaining wall structure at the cut and route the water away from the reinforced mass during the construction process.
2) The piping used at the back of the reinforced mass shall have a one percent gradient over the length and the entire length of the pipe may be vented at one point and should not be tied into the toe drain.
3) Where active groundwater seeps are encountered, a heel drain, consisting of AASTHO No. 57 stone,12 inches in thickness and extending from the base of the wall to an elevation at least 12 inches above the active groundwater seeps, should be installed.

5.010 AS-BUILT CONSTRUCTION TOLERANCE

A. Vertical alignment: ± 1.5" over any 10.0' distance, maximum 3.0" over the entire length of the wall.
B. Wall Batter: within 2 degrees of design batter.
C. Horizontal alignment: ± 1.5" over and 10.0' distance. Corners, bends and curves: ± 1.0 foot to theoretical location.
D. Bulging: ± 1.25" over any 10.0' distance.

APPROVED: DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE 12/4/08

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 12/1/08

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 12/4/08

STATE OF MARYLAND — BRUCE G. STEGMAN — REG. NO. 13961 — PROFESSIONAL ENGINEER

12-17-08

ADDRESS CHART

PARCEL #	STREET ADDRESS				
PARCEL A	7010 BROOKDALE DRIVE				
SUBDIVISION NAME				SECTION / AREA	LOTS / PARCELS
BROOKDALE INDUSTRIAL PARK				N/A	Parcel A
PLAT No.	BLOCK No.	ZONE	TAX MAP No.	ELECT. DIST.	CENSUS TRACT
20330	4/5	CL	43	1	6012.02
WATER CODE			SEWER CODE		
B01			2350000		
OWNER: KINSLEY HOLDINGS INC. 6259 REYNOLDS MILL ROAD SEVEN VALLEYS, PA 17360 (717) 741-3841					

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. 13961, EXPIRATION DATE: JULY 7 2008."

NOTES & DETAILS

Brookdale Industrial Park

Parcel A

PROPERTY OF

Kinsley Holdings Inc.

1st ELECTION DIST, HOWARD COUNTY, MD

REVISIONS

STEGMAN ENGINEERING, pc
35 East Avenue
Red Lion, Pennsylvania 17356
Voice 888.333.1566 FAX 717.244-3070
www.StegmanEngineering.com

SITE RESOURCES incorporated
Comprehensive Land Planning & Site Design Services
16315 Jarrettsville Pike • Phoenix, Maryland 21131
(410) 683-3388 • fax (410) 683-3389

DRAWN BY: NZ	CONTRACT NO.:
DESIGNED BY: BGS/NZ	SCALE: AS SHOWN
CHECKED BY: BGS	SRI PROJECT NO: 07033
DATE: JUNE 02, 2008	SHEET 24 OF 24

SDP-08-031

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